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MATERIALS MANAGEMENT REVIEW

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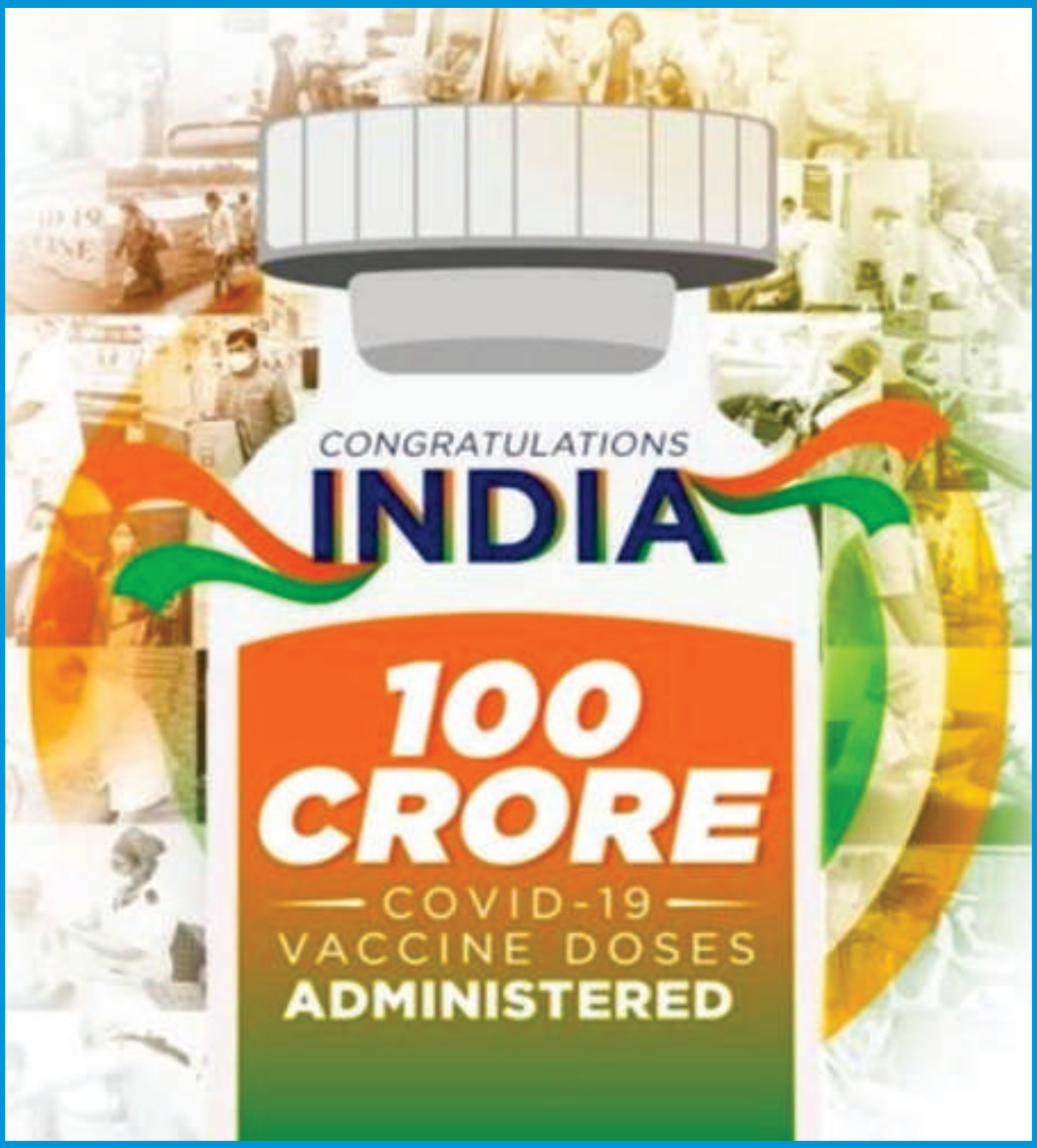
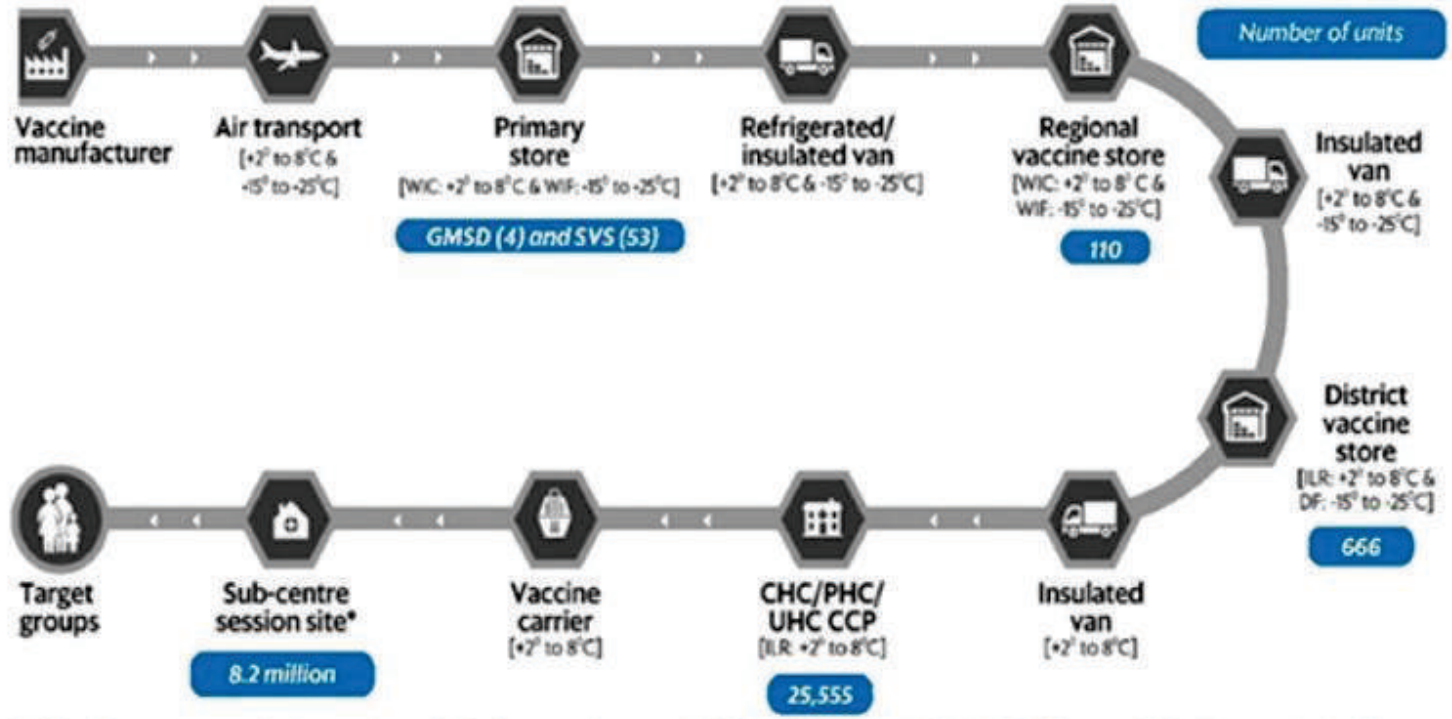


Vaccine Distribution Network in India

Vaccine cold chain distribution network in India



GMSD = Government medical store depot; SVS = State vaccine store; WIC = Walk-in cooler; WIF = Walk-in freezer; CHC = Community health centre; PHC = Primary health centre; UHC = Urban health centre; CCP = Cold chain point; ILR = Ice lined refrigerator; DF = Deep freezer; *in some of the states, selected sub-centres also function as CCP

Source: 'National EVM Assessment 2018' by NCCVMRC-NIHFW & UNICEF; 'Comprehensive Multi-Year Plan 2018-22: Universal Immunization Programme' by MoHFW

From the Desk of The National President

Dear Members,

Greetings from National President!!

India achieved 1 billion milestones for administering COVID vaccination on 21.10.21. This is a remarkable achievement for our nation and another step towards becoming Atmanirbhar Bharat. This stupendous feat was appreciated byone and all. Efficient Supply Chain Management is an integral part of any such initiative where the product has to reach the masses. Last mile connectivity to people residing in remote locations, hilly areas and difficult terrane was provided by our dedicated healthcare workers. We salute to all the stake holders who all made this happen. Government has set the target to achieve another billion doses of vaccination in another 3-4 months' time. Once this milestone is achieved, majority of our adult population will be covered under the vaccination.

World economy is facing challenging times on several fronts and India cannot remain insulated by these developments. Power situation is grim due to shortages of coal. Energy demand is increasing day by day due to revival of manufacturing activities due to improvement in the Pandemic situation. Automobile industries are facing challenges due to non-availability of Semiconductor chips. Due to closure of various mining activities in China triggered by excessive pollution, there is a severe shortfall in various raw material which is crucial for various industries such as Petrochemical, Fertilizer, Chemical etc. There will be supply side constrain which will become grim over next few months. This has posed a lot of challenges to the SCM professionals to arrange the various raw material for the industries. Due to rising fuel prices, logistics cost is increasing. Developing alternate material, indigenization, sourcing from various Geographical location etc are some of the steps to mitigate the risk to some extent.

On the IIMM front, this admission session (July to Dec), we have achieved highest ever admission in our two AICTE course of 240 admissions adding up to a cumulative yearly number of over 400+ admission. Although we are much short of our approved quota of 800 seats annually, but this is the highest ever number achieved since the inception of these courses. This could not have been achieved, without the whole-hearted support of our staff of education wing, various IIMM branches and course coordinators. Notice for election to NEC for 2021-23 has been issued and the stage is set for election of the new NEC team through Postal Ballot. I wish all the contending members the very best. With Pandemic situation improving, I am sure the new NEC team will be able to work with their full potential towards betterment of IIMM over next two years' time.

I take this opportunity to wish all members of my extended IIMM family A very Happy Diwali and a Prosperous New Year.

MALAY MAZUMDAR
National President, IIMM
Email: Malay_mazumdar@yahoo.co.in

From the Desk of Chief Editor

Dear Members,

Recently i.e. in October 2021, India achieved a marvelous feat of 100 crore Covid 19 vaccination mark and many countries watched in awe how India with two self produced vaccines could administer a humongous task of vaccination to a billion people in 9 months. One can not see any better example of 'Atmanirbhar Bharat'. Besides, giving Indians a safety net of 100 crore vaccination, this achievement will give us a lot more confidence in handling such crises in future.India's vaccine campaign is a living example of 'Sabka Saath, Sabka Vikas, Sabka Vishwas aur Sabka Prayas'and determination of health workers, scientists,logistics industry and other citizens of the country..

People have spent these two years abysmally while many have lost their near & dear ones during this pandemic, others have lost their livelihood leaving economic activities to be paralyzed leading to fall in GDP to the tune of 23% in April 2020. The pandemic not only exposed India's devastating public health infrastructure like never before but also raised questions on the capabilities of handling the Covid 19 Pandemic which at one stage seemed to be exaggerating during 2nd wave.

Though, vaccination is one of the key measures of controlling the pandemic, but equally important are the services provided by professionals in logistics & supply chain sector in making this vaccination drive successful besides acting as a lifeline to common people in meeting the daily but essential requirements. It is commendable on part of logistics and supply chain professionals that despite numerous infrastructural challenges like cold chain network facilities, they could meet the demand of Vaccination Drive.

In the backdrop of the global pandemic, the Indian logistics and supply chain sector have evolved from being a support sector to a high impact sector. From advancement in warehouse management systems, use of robotics, AI, ML and IoT for inventory management, tracking and order placements, routing schedules etc. have all drastically altered the logistics and supply chain operations, across the country. The rise of third party logistic service providers have further raised the bar, with introduction of value-driven services that are backed with strong technology-driven innovations, are also redefining the sector.

The country is at a critical juncture right now and we need to accomplish a high vaccine coverage with the full 2-dose course. We need to remain vigilant and keep looking for new virus variants. Needless to say, we should not get complacent with the 100 crore vaccination feat as 'the worst is not over yet' and those who have not been vaccinated yet should come forward to get the vaccine to complete this safety net. Success of the vaccination program has enhanced the reputation of supply chain professionals in a big way and will open many opportunities for them in the times to come.

I wish all of you a very happy Diwali and other festivals ahead.

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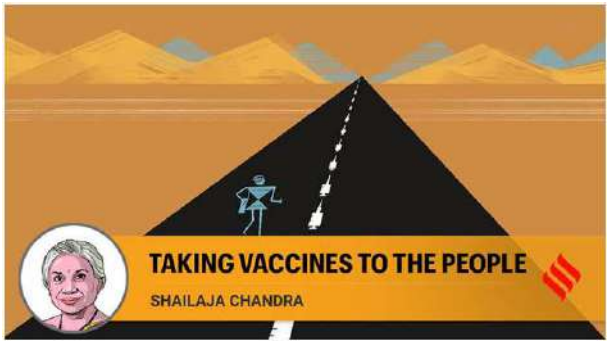
THE STORIES THAT SHOW HOW INDIA ADMINISTERED 100 CRORE COVID VACCINES

SHAILAJA CHANDRA,
FORMER SECRETARY, HEALTH MINISTRY

Shailaja Chandra writes: They demonstrate great resilience, ingenuity and persistence. The momentum must not flag as the war is far from over



Among the large states, Kerala, Uttarakhand, Gujarat, Madhya Pradesh, and the UT of Ladakh have achieved 90 per cent coverage with the first dose.

This article is a candid account of where we stand, having just crossed the stupendous 100 crore vaccination milestone. Some verifiable stories of grit and ingenuity will show how difficult it was.

Six factors are majorly responsible for last week's achievement. First, all states were eager to immunise eligible citizens. That matters. Second, India had the manufacturing capacity to produce the vaccines. Most of the world does not. Third, despite avoidable confusion around May, once the central purchase of vaccines for those above the age of 44 commenced, the process of procurement, cold chain upgradation, logistic planning and online training of vaccination teams (cascading down to millions of health workers) was executed splendidly across both the public and private sectors. Fourth, every jab was linked through the Aadhaar card to the CoWin app, making tracking easy and fudging impossible. Fifth, local teams showed imagination to overcome enormous geographic obstacles. Sixth, there was unanimous public support — crucial for success.

First, the big picture. Goa, Himachal Pradesh, Sikkim and the Union territories of Chandigarh, Jammu, Kashmir, the Andaman and Nicobar Islands, Lakshadweep and Dadra and Nagar Haveli (DD & H) have achieved 100 per cent vaccination. Their smallness must not diminish the success of complete immunisation executed in the most inaccessible habitations. Reaching small, isolated groups of tribal people living on different islands in the Andaman archipelago and persuading them was far from easy. Up north in mountainous Himachal Pradesh, hundreds of minuscule settlements dotting the mountain cliffs, visible only from a helicopter, had to be reached somehow. In the west, the tribal people of DD &H, mostly unseen, living within forest groves, had to be located and jabbed. Achieving 100 per cent immunisation in such inaccessible pockets was not tiny.

Among the large states, Kerala, Uttarakhand, Gujarat, Madhya Pradesh, and the UT of Ladakh have achieved 90 per cent coverage with the first dose. The story, however, is not very encouraging for Bihar, Uttar Pradesh, Jharkhand, and the Northeastern states of Manipur, Meghalaya, and Nagaland where only 65 per cent of the population or less, have been vaccinated with the first dose. This is worrying because the populations of UP, Bihar and Jharkhand alone represent one-fifth of India. The remaining large states fall somewhere between the 65 per cent and 90 per cent levels and the speed of immunisation does not appear to be in top gear. In fact, the CoWin app clearly exhibits how tardy the offtake of the second dose has been — almost everywhere. Summing up, a little more than 30 per cent adults are fully vaccinated, about 45 per cent have received only one dose and 25 per cent have not had even one dose.

Even so, behind millions of successful inoculations lie stories of great resilience. Examples from two high-performing states illustrate this. Madhya Pradesh has only half the population density of the

national average. The state is home to 46 tribal groups. Mohammed Suleman, the state's additional chief secretary (health), told me, "We realised that even as the urban areas were getting saturated, the rural areas were lagging. The district administrations then identified schools and community halls in every settlement, following the electoral polling booth strategy. Based on detailed mapping, each district scheduled outreach camps for two days for each hamlet falling within the gram panchayat. Each team had to vaccinate 5,000 adults within two weeks. One example will explain the challenge. GawariaFaria hamlet has just 400 inhabitants. It falls in Sogat village, located some 60 kilometres from the Alirajpur district headquarters. ReenaSengar, the local auxiliary nurse midwife, led the team on an 8-kilometre uphill trek after which they camped in a primary school. They conducted scores of vaccinations each day, which is the story of hundreds of interior villages in Madhya Pradesh."

Amitabh Avasthi, the principal health secretary in Himachal Pradesh, recounted an experience involving vaccine hesitancy. The people of Malan, a remote village in Kullu district, had refused vaccination until their deity (devta) agreed. The Deputy Commissioner walked for six hours to personally convince the deity. After much persuasion, the devta finally approved, after which 1,000 people got vaccinated in a single day. In another village Bara Bhangal, unconnected by road, the DC requisitioned the state helicopter to enable the vaccines to be administered." Avasthi, however, added, "Without support from the Gompas (religious leaders) and his Holiness the Dalai Lama, it would not have been possible. Himachal's 100 per cent vaccination was rewarded with special congratulations from the PM."

If remoteness in India is a challenge, so is population density. The Mumbai Municipal Commissioner I S Chahal told me, "Mumbai reached close to 100 per cent single-dose vaccination by adopting a unique model. BMC's tripartite Memorandum of Understanding with the corporates, the private hospitals and the Corporation resulted in free vaccinations being administered by private hospitals to 10 lakh slum-dwellers. That helped."

In Delhi, with a population of over 25 million, Monica Rana, director, family welfare, explained, "Delhi has covered more than 85 per cent of its adult population with at least one shot and 46 per cent with two shots. With thousands of unorganised pockets, it would have been impossible to provide vaccination services within walking distance.

Take, for example, a densely populated area like Mohan Garden in southwest Delhi, with a population of around 1.2 lac people. We had to operate six vaccination sites simultaneously every day using two local schools to vaccinate more than 1,200 people on a good day — all within walking distance."

Battles are being won every day. But the war is far from over. Presently the CoWin app displays huge peaks and troughs state to state and week to week. In the last few weeks, the vaccination numbers have fallen steeply everywhere. Whatever the reasons — festivals, vaccine availability, organisation, staff or something else — maintaining the momentum will be the biggest challenge for India's vaccination drive.

A billion jabs have rightly given cause for celebration. While saluting everyone who had a hand — big or small — in this feat, it is good to remember that we have miles to go before we sleep.

This column first appeared in the print edition on October 27, 2021 under the title 'Taking vaccines to the people'.

Source: Indianexpress.com

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SUPPLIES TO/FROM SEZ

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SEZ : Overview

Special Economic Zones (SEZ) in India is a specially delimited enclave. Most importantly, the economic laws in this geographical area are different from the prevailing laws in other parts of India. An SEZ is **deemed as a Foreign Territory for matters that relate to the Trade Tariffs, Duties, and Operations**.

To instill confidence in investors and signal the Government's commitment to a stable SEZ policy regime thereby generating greater economic activity and employment through the establishment of SEZs, a comprehensive SEZ policy was Introduced.

SEZ Introduction :

India was one of the **first in Asia** to recognize the effectiveness of the Export Processing Zone (EPZ) model in promoting exports, with **Asia's first EPZ set up in Kandla in 1965.**

With a view to overcome the shortcomings experienced on account of the multiplicity of controls and clearances; absence of world-class infrastructure, and an unstable fiscal regime and with a view to attract larger foreign investments in India, the **Special Economic Zones (SEZs) Policy was announced in April 2000.**

As an export promotion scheme entitled '**Special Economic Zone' (SEZ) was introduced in the Export and Import (EXIM) Policy which came into effect from 1.4.2000.**

This policy intended to **make SEZs an engine for economic growth** supported by quality infrastructure complemented by an attractive fiscal package, both at the Centre and the State level, with the minimum possible regulations.

SEZs in India functioned from 1.4.2000 to 09.02.2006 under the provisions of the EXIM / Foreign Trade Policy and fiscal incentives were made effective through the provisions of relevant statutes.

SEZ Act & Rules

The **Special Economic Zones Act, 2005**, was passed by Parliament in May, 2005 which received Presidential assent on the 23rd of June, 2005.

After extensive consultations, the SEZ Act, 2005, supported by SEZ Rules, came into effect on 10th February, 2006, providing for drastic simplification of procedures and for single window clearance on matters relating to central as well as state governments.

It was based on the **SEZ model in China**, which is quite successful in terms of export competitiveness, employment generation, GDP growth, and attracting foreign investment.

The SEZ Act 2005 envisages **key role for the State Governments in Export Promotion** and creation of related infrastructure. A **Single Window SEZ approval mechanism** has been provided through a 19 member inter-ministerial SEZ Board of Approval (BoA).

The SEZ Rules. 2006 provide for:

"Simplified procedures for development, operation, and maintenance of the Special Economic Zones and for setting up units and conducting business in SEZs

The Main Objectives of the SEZ Act are:

- **Generation of Additional Economic Activity**
- **Promotion of Exports of Goods and Services**
- **Promotion of Investment From Domestic and Foreign Sources**
- **Creation of Employment Opportunities**
- **Development of Infrastructure Facilities**

It is expected that this will trigger a large flow of foreign and domestic investment in SEZs, in infrastructure and productive capacity, leading to generation of additional economic activity and creation of employment opportunities.

The Salient Features of the SEZ scheme are:

- A designated duty-free enclave to be treated as a

territory outside the customs territory of India for the purpose of authorised operations in the SEZ.

Ø No licence required for import.

Ø Manufacturing or service activities allowed.

Ø The SEZ unit shall achieve Positive Net Foreign Exchange to be calculated cumulatively for a period of five years from the commencement of production.

Ø Domestic sales subject to full customs duty and import policy in force.

Ø SEZ units will have freedom for subcontracting.

Ø No routine examination by customs authorities of export/import cargo.

Ø SEZ Developers /Co-Developers and Units enjoy Direct Tax and Indirect Tax benefits as prescribed in the SEZs Act, 2005.

Incentives for SEZs to Enhance Exports and Promote FDI

Ø Duty free import/domestic procurement of goods for development, operation, and maintenance of SEZ units.

Ø 100 percent income tax exemption on export income for SEZ units under Section 10AA of the Income Tax Act for first five years, 50 percent for the next five years, and 50 percent of the ploughed back export profit for the next five years. (**Sunset Clause for Units become effective from April 1, 2020**.)

Ø Considering the impact of COVID-19 and lockdown restrictions across India, the government has extended timeline for newly established units in SEZs to claim tax incentives to **September 30th, 2020** provided the letter of approval has been issued on or before 31st March 2020.

Ø Tax holiday for SEZ developers in a block of 10 years in 15 years under Section 80-IAB of the Income Tax Act. (**Sunset Clause for Developers has become effective from 01.04.2017**)

Ø Tax exemption for offshore banking units in SEZ.

Ø Exemption from Central Sales Tax, Service Tax, and State Sales Tax. These have now been subsumed into the Goods and Services Tax (GST) and supplies to SEZs are zero rated under the IGST Act, 2017.

Ø Single window clearance for Central and State level approvals.

Ø Exemption from minimum alternate tax (MAT) under section 115JB of the Income Tax Act. **(withdrawn w.e.f. 1.4.2012)**.

Ø Exemption from capital gains tax – Subject to Conditions.

Supply from DTA to SEZs : Treated as Export for DTA

According to **Section 2 (m)(ii) of the SEZs Act**, 2005 supplying goods, or providing services, from the Domestic Tariff Area (DTA) to a Unit or Developer shall be treated as export.

Supply from DTA to SEZs : Not Treated as Import for SEZ

As per**Section 2 (o) of the SEZ Act** Supply from DTA to SEZs is **Not Treated as Import from SEZ point of view.**

Supply from SEZs to DTA : Not Treated as Export for SEZ

Section 2 (m)(ii) of the SEZs Act, 2005, is **Not considers Supply from SEZs to DTA as Export for SEZ.**

Supply from DTA to SEZs or SEZ to DTA : Treated as Inter-State Supply

Section 7 (5)(b) of the IGST Act, 2017 says – Supply of goods or services or both made to or by a Special Economic Zone developer or a Special Economic Zone unit shall be **treated to be a supply of goods or services or both in the course of inter-State trade or commerce**.

According to the above said provisions **supply made to or supply made by SEZ unit shall always be treated as inter-state supply.**

Contrary Provisions

As per **Circular No. 48/22/2018-GST; Dated the 14th June, 2018 : Supplies from DTA to SEZ is Always Treated as Inter-State Supply.**

However, as per **Advance Ruling No. KAR ADRG 2/2018; 21/03/2018;**

In Re Gogte Infrastructure Development Corporation Ltd. (AAR Karnataka)

The Hotel Accommodation & Restaurant services being provided by the Applicant, within the premises of the Hotel, to the employees & guests of SEZ units, cannot be treated as supply of goods & services to SEZ units in Karnataka & hence the supply is treated as **intra state supply and are taxable accordingly.**

In another **Advance Ruling No. KAR ADRG 37/2019; 16/09/2019**; **In re Carnation Hotels Private Limited (GST AAR Karnataka)** following Ruling was made which is contrary to the other Ruling mentioned above.

a. Whether accommodation service proposed to be rendered by the applicant to SEZ units are liable to CGST and SGST or IGST?

The accommodation service proposed to be rendered by the applicant to SEZ units are **covered under the IGST** as it is an inter-State supply as per **section 7(5)(b)** of the **Integrated Goods and Services Act, 2017**.

b. If the accommodation service to SEZ are covered under IGST Act, can these be treated as zero rated supplies and the invoice be raised without charging Tax after executing LUT under section 16?

Since the accommodation service supplied to an SEZ are covered under IGST Act, the same can be **treated as zero rated supplies** and the **invoice can be raised without charging Tax after executing LUT under section 16.**

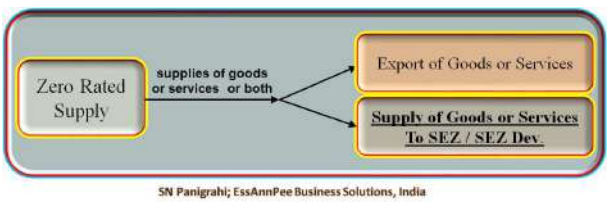
Zero Rated Supply:

As per **Sec 2(23) of IGST Act:** "**zero-rated supply**" shall have the meaning assigned to it in section 16;

Sec 16. (1) of IGST Act : "zero rated supply" means any of the following supplies of goods or services or both, namely:—

(a) export of goods or services or both; or

(b) supply of goods or services or both to a Special Economic Zone developer or a Special Economic Zone unit.



Whether Any Supply to SEZ is Treated as Zero Rated?

In the advance ruling of Coffee Day Global Ltd; AAR-Karnataka dated 26-07-2018, it has been ruled that "**Supply of goods, which are not being covered under authorized operations as sanctioned to SEZ unit, shall not be done at Zero Rate".**

In this regard, the provisions of **section 4(2) and section 15(9) of the SEZ Act, 2005** are referred to which provide that each SEZ Unit is allowed to carry out predefined activities which are certified by the proper office of the SEZ (termed as '**Authorized Operations**') to be eligible to avail the benefits of being in the Special Zone.

Though the IGST Act, in section 16(1)(b) does not categorically say that the supplies of goods and services should be for authorized operations, it is implicit therein when it says that the supplies are for the SEZ Developer or SEZ Unit.

SEZ Authorized Operations

SEZ unit or developer can undertake '**Authorized operations**' which are specified in the **Letter of Approval** issued by Development Commissioner of SEZ.

As per Sec 2 (C') of SEZ Act,

"**Authorised Operations**" means operations which may be authorised under sub-section (2) of section 4 and sub-section (9) of section 15;

Sec 4 (2) of SEZ Act

After the appointed day, the Board may, **authorise** the **Developer to undertake in a Special Economic Zone**, such operations which the Central Government may authorise.

Sec 15 (9) of SEZ Act

The Development Commissioner may, after approval of the proposal referred to in sub-section (3), grant a letter of approval to the person concerned **toset up a Unit and undertake such operations** which the Development Commissioner may **authorise** and every such operation so authorised shall be mentioned in the **Letter of Approval**.

Authorized operations include setting up, operation, maintenance and expansion of Unit. Goods for construction of building for setting up unit can be included in letter of approval. Any question as to whether any goods are required for authorized operation or not shall be decided by Development Commissioner – MC&I (DC) Instruction No. 3; (F No. 5/1/2006-EPZ) dated 24-3-2006.

Default Authorized Operations:

The BOA was appraised that Consequent to Implementation of GST Act, some State Governments are not extending the benefits of IGST exemption for Default Services. Since SEZs are Exempt from IGST and the matter was placed before 80thBoA meeting held on 17th Nov'2017. The Boa after deliberations, approved the Reiteration of the Default Authorized Operations which were earlier approved vide Ministries Letter No: D.12/25/2012- SEZ dated 16thth Sep'2013 and subsequent letter of Even Number dated 19th Nov'2013, 19th June, 2014 and July, 2014 vide which a List of 66 Services were permitted as Default Authorized Services.

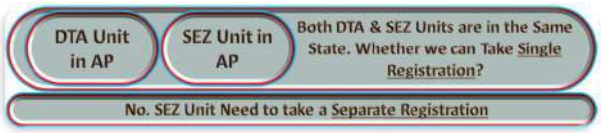
Ministry of Commerce & Industry, Department of Commerce (SEZ Section) Vide F.No. D.12/19/2013-SEZ; Dated 2nd Jan'2018, Approved the 66 Default Authorized Operations.

GST Registration for SEZ:

Persons Liable for GST Registration - SECTION 22 CGST Act & Rule 8 of CGST Rules

Registration provisions under GST Law shall be applicable to SEZ unit the same provisions as applicable to the Regular Tax Payer.

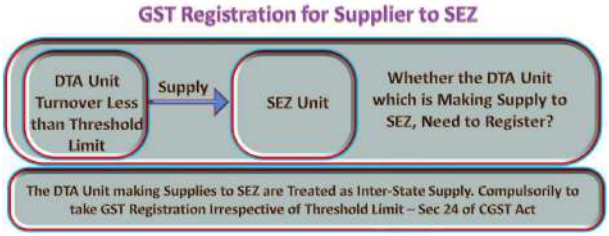
Both DTA & SEZ Units are in the Same State. Whether we can Take Single Registration?



Second Proviso to section 25(1) of CGST Act, inserted vide CGST (Amendment) Act, 2018 w.e.f. 1-2-2019

A person having a unit in a Special Economic Zone or being a Special Economic Zone developer shall have to apply for a **separate registration**, as distinct from his place of business located outside the Special Economic Zone in the same State or Union territory

GST Registration for Supplier to SEZ



Compulsory GST Registration In Certain Cases - SECTION 24 of CGST Act

Notwithstanding anything contained in **Section 22(1) of CGST Act**, the following categories of persons shall be required to be registered under the GST Act,–

(i) persons making any **Inter-State Taxable Supply**;

(ii) .....

Refund of Taxes for Supply to SEZ Units / SEZ Developers

The Registered Supplier to SEZ has Two Options –

1. Option – 1 :**Without Payment of GST** under LUT and then **Claim Unutilized ITC Refund as per Sec 16(3)(a) of IGST Act.**

2. Option - 2 :**With Payment of GST** and then **Claim Refund of IGST Paid as per Sec 16(3)(b) of IGST Act.**

The first Option pertains to refund of unutilised ITC for which the registered person has to supply under Bond/ LUT (as prescribed in Rule 96A of CGST Rules)and in the second Option supply has been made after payment of Tax (IGST). In both the cases, refund can be applied under Section 54 of the CGST Act, 2017 read with Rule 89 or Rule 96 , as the case may be, of the CGST Rules, 2017.

SEZ unit / developers shall not claim any refund against ITC :

The Hon'ble Appellate Authority, GST, Andhra Pradesh, in Re: **Vaachi International Pvt. Ltd. [Order No. 4990 of 2020 dated February 10, 2020]** held that the **SEZ**

unit/developers shall not claim any refund against input tax credit (ITC) involved in supplies received by them from non-SEZ suppliers and GST Law facilitates eligibility for refund claim to suppliers who made supplies to SEZ unit/developers with payment of tax as zero rated supply under Section 16(1) of the Integrated Goods and Services Tax Act, 2017 (IGST Act).

Rule 89(1), the second proviso unambiguously stipulates that in respect of supplies to SEZ units/ developers, the refund "SHALL" be claimed by suppliers of goods to the SEZ unit or developer only. Further, Rule 89(2)(f) prescribes that SEZ unit/developers shall not avail input tax credit on the supplies received by them from non SEZ suppliers and refund would be claimed by supplier to SEZ unit/developer only.

Thus, a conjoint reading of all the above provisions undoubtedly point towards a conclusion that SEZ unit/ developers shall not claim any refund against the ITC involved in supplies received by them from non SEZ suppliers. The Act facilitates eligibility for refund claim to the suppliers who made supplies to SEZ unit/ developers with payment of tax. The AA has rightly adhered to these provisions and rejected the refund claim in legitimate manner. In addition to this, it is to be observed that the appellant contentions of their eligibility regarding refund against the zero-rated supplies received by them, is found to be not tenable.

Supply of Goodsfrom SEZ to DTA

Sec.30 of SEZ Act 2005 provides that any goods removed from Special Economic Zone to the Domestic Tariff Area shall be chargeable to **duties of customs** including anti-dumping, countervailing duty and safeguard duties under the Customs Tariff Act 1975, similar to levy of customs duty on such goods imported.

Further, Sec. 53 of the Act provides that the Special Economic Zone shall be deemed outside the customs territory of India for the purpose of undertaking the authorized operations.

Hence, the **goods cleared from SEZ to DTA, which is deemed as import to India, is Charged to Customs duty under Customs Tariff Act, 1975**, which **includes Integrated Tax** in terms of **Sec 3 (7)** of the said Act.

The Custom Department is empowered to charge IGST as is leviable under section 5 of the IGST Act, 2017. In this respect section 3 (7) of The Customs Tariff Act is reproduced as under:

Any article which is imported into India shall, in addition, be liable to integrated tax at such rate, not exceeding forty per cent. as is leviable under section 5 of the Integrated Goods and Services Tax Act, 2017 on a like article on its supply in India, on the value of the imported article as determined under sub-section (8).

Thus, goods removed from SEZ to DTA are liable to custom duty and integrated tax (IGST) according to provisions as stated in SEZ Act and Customs Tarif Act.

Goods Supplied from SEZ to DTA is considered as import for the DTA unit, therefore the DTA has to File Bill of Entry with Customs at SEZ and Pay the relevant Customs Duties to clear the Goods.

Supply of Services from SEZ to DTA

Sub-section (1) of Section 53 of the SEZ Act, 2005provide that "A **Special Economic Zone shall, on and from the appointed day, be deemed to be a territory outside the customs territory of India"** for the purposes of undertaking the authorised operations. Thus, any Supply of Services from SEZ to DTA shall be **Treated as Import of Services by the DTA**.

Definition: Import of Services under GST Law

Section 2(11) of **IGST Act 2017** defines Import of Services as follows:

Import of services means the supply of any service where-

(i) The **supplier of service is located outside India (SEZ** in this case **which deemed to be a territory outside the customs territory of India)**
(ii) The **recipient of service is located in India(DTA);** and
(iii) The **place of supply** of service is in India;

Import of services **attracts GST under Reverse Charge Basis**. **Notification Nos. 13/2017-CT (Rates) and 10/ 2017-IT (Rates) dated 28-6-2017**

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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IOT CONTRIBUTION IN SUPPLY CHAIN MANAGEMENT

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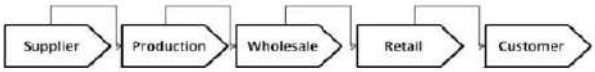
Each company defines performance in a different way based on specific indicators in line with its strategic perspectives and tactical structure. In order to enhance the Performance Indicators, companies tend towards the use of multiple Information Systems such as ERP, WMS, APS, TMS or other similar existing systems to keep their exploitation under control. Supply chain Management is the heart of the modern corporation. The Internet of Things (IoT) is a revolution in the field of Information and Communication Technologies (ICT), with the aim of extracting, transferring, storing, processing and sharing the necessary information at every logistics activity. In addition, it is important to automatically communicate and share each operation related to the logistics flows to the actors involved for a better collaboration and interoperability improvement in the Supply Chain. In this paper, we give an approach of the IoT use in the Supply Chain Management to ensure the convenience of its activities and that it is thus collaborative and communicative.

This paper concerns an approach for using the IoT in the logistics flows management to enhance performance indicators. Today, the logistics systems are identified as the core element of supply chain management, which requires improvements to existing operating practices. The importance of providing continuous traceability in the supply chain has made it difficult to identify, track and control the flows in the chain in Real Time, knowing that the SC is a complex environment where reactive decisions must be made following the occurrence of uncertain events. Therefore, The IoTs offer a new approach to collect, transfer, store and share information. So, the Supply Chain brings with better collaboration and communication between stakeholders in order to optimize the overall costs and to increase the revenue through enhancing services . In this study, we present the set of definitions related to the concepts of the Supply chain related to the IoT, also put a special focus on the main logistics performance indicators. The last section will give a model using a multi-agent and deal with the exploitation of connected objects in the management of logistics flows within the framework of a value system, we II. RELATED WORK

A. Overview of the Supply Chain Management:- the Supply Chain Management concept has appeared since 1980s , in order to abolish the old concepts - which must be put into questioned– that limited logistics in few functions (i.e. warehousing and Transport). Since, the SCM has become a crucial pillar of innovation in the management of material, financial and informational flows from supplier level to production, distribution until the final customer as shown in the figure.



The SCM's principle is to maintain cooperative relationships between stockholders by developing structured logistical links to achieve overall performance up to the end customer. This supply chain is essentially set up to efficiently and efficiently produce and make products available to end consumers by creating values throughout the whole process, based on the performance of each stakeholder, but each entity directs the supply chain to its own account in order to achieve its own goals and promote its interests - this problem and generally spread among SMEs. The second common problem in the logistical process concerns uncertainty in forecasting and planning, as each stage in the Supply chain requires a high level of stock to avoid stock-outs. Moreover, to get rid of inventory changes that are constantly going to generate over-stock, thus, this phenomenon is called "Bullwhip effect". SCM assumes the integration and collaboration of the set logistics activities, whose purposes is to plan, control and manage material or non-material flows. Thus, companies get hold of some tools, such as Enterprise Resource Planning (ERP), Advanced Planning System (APS), Warehouse Management System (WMS), and Transport Management System (TMS). Most of them are struggling and defeated by the current SC challenges (e.g. coordination and overall supply chain governance, collaboration...), these tools must deal with risk management and decision-making at the local and global level for a decentralized supply chain; which require the interoperability of logistics networks with the constraints of standards heterogeneity. Hence the necessity of using new ICTs (developed or under-development) linked to IoT. Researchers estimate that the IoT will reach billion units by 2020, and will consider all supply chain partners and linked operations, from production line and warehousing to retail and delivery. Industrial enterprises tend to invest in the IoT to set up and optimize their workflows, to reduce their factory

costs and improve supply efficiency. In the next section, we will describe in detail the concept and functioning of the IoT.

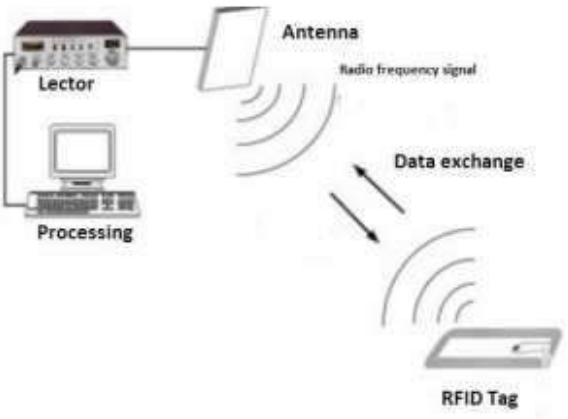
B. Internet of Things (IoT) The Internet of Things (IoT), also called the Internet of Everything or the Industrial Internet, is a new technology paradigm ideated as a global network of machines and devices able to interact with each other. Recently, the world has experienced an impressive development of the multimedia world. This is due to the technical and technological progress and major innovations that have revolutionized the world of telecommunication, IT cloud (i.e. Cloud Computing), social media, Internet of Things....

Currently connected or intelligent objects are used everywhere, while the Internet usually is not extended beyond the electronic world, the Internet of Things represents the exchange of information and data from devices present in the real world to the Internet. They invaded the world and affected our personal and professional lives. They generate billions of information that must be processed and analyzed then stored to make them usable. According to Cisco 50 to 80 billion connected devices will be in circulation worldwide in 2020. In fact, a connected object is an object whose primary purpose is not to be computing devices or web access interface but that the addition of an internet connection has added additional value in terms of features, information and interaction with its environment. Today, connected objects begin to take part in our daily lives and are translated into several and different objects in multiple fields of application.

C. Architecture of IoT Different models with various supports IoT technologies can illustrate the Internet of Things architecture. It serves to illustrate how they are interconnected in different scenarios. The figure 2 illustrates the role of the various processes of the architecture of IoT:

- Sensors to transform a physical quantity analog to a digital signal.
- Connect allows interfacing a specialized object network to a standard IP network (LAN) or consumer devices.
- Store calls made to aggregate raw data produced in real time, Meta tagged, arriving in unpredictable ways.
- Present indicates the ability to return the information in a comprehensible way by humans, while providing a means to do it and / or interact

RFID for Identification and Tracking In the literature, researchers focus on the emphasis of the RFID in the Supply chain field to increase the availability of stock in the warehouse and to optimize the overall costs that represent an important indicator for performance SC improvement. RFID technologies are emerging in areas as diverse as logistics. The incorporation of such devices into industrial products could lead to a world in which objects communicate and interact with each other and with humans, i.e "the Internet of things".



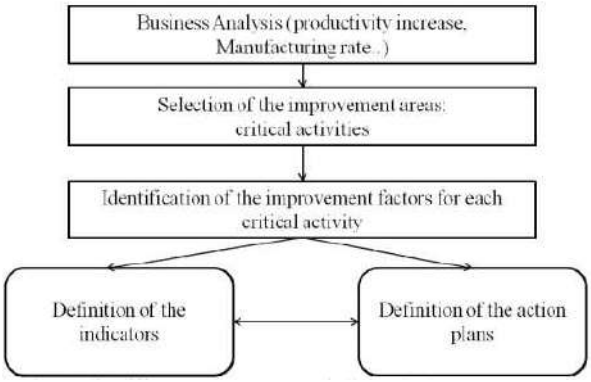
According to our literature researches, N.Mitton et al. categorize RFID tags and describe the different types of this mutant technology coming along with burning research topics with sample application. There are two types of RFID tags; Passive RFID: it is a tag that retro-modulates the wave coming from the interrogator to transmit information. It does not include RF transmitters. The passive tag generally uses the wave (magnetic or electromagnetic) coming from the interrogator to supply the on-board electronic circuit. In addition, the active RFID tags known by their autonomy and embark an RF transmitter. The communication with the interrogator in this case is peer-to-peer type. This type of tag usually has a power source and is often coupled with a temperature or humidity sensors.

Thus, the main issue of the industrial manufacturing is the high cost of the RFID tags that limits the use of this technology. While companies strive to label each product to ensure better traceability and easy inventory, and make the use of barcodes an outdated application, which opens up new avenues for research to explore. The RFID is basically used to provide solutions to problems related to Bullwhip effect mentioned in the second section, thus the benefits of using such a technology in the SCM can be summed up as : Inventory accuracy, diminishing error rate, Customer relationship management, Security, Productivity gains, Tracking enhancement and Real time visibility of the overall SC components.

According to surveys, the RFID solution has helped enterprises to increase the availability of stock in their stores, improve the efficiency of their retail and logistics platforms. For instance, Decathlon saw an 11% increase in sales from July 2014 to July 2015, and the company attributes part of that growth to the RFID deployment. In fact, Decathlon began a global rollout of an RFID solution for tracking throughout its supply chain. Today, RFID is improving efficiencies in all Decathlon facilities

with 1,030 stores and 43 warehouses. The company has tagged 1.4 billion items.

B. Logistics performance indicators Logistics performance indicators allow a clear, qualitative, and quantitative analysis of the company's processes and enable us to identify the irregularities at each level of the SC, thus propose the necessary improvements that lead us towards a continuous improvement approach.



A communicative supply chain is based on a set of performance indicators (KPI) aggregated to the deployment of RFID in warehousing and management inventory, in this part we will define the different indicators related to RFID that can constitute a system of indicators (dashboard) in the logistics chain of an industry such as : -

KPI in warehousing and management inventory: Costs, Inventory level, Inventory turns, Delivery time, Good returns, Stock-out condition, Service level, Resource optimization;

KPI in production: Cost, Lead time, Quality, Productivity, Service level;

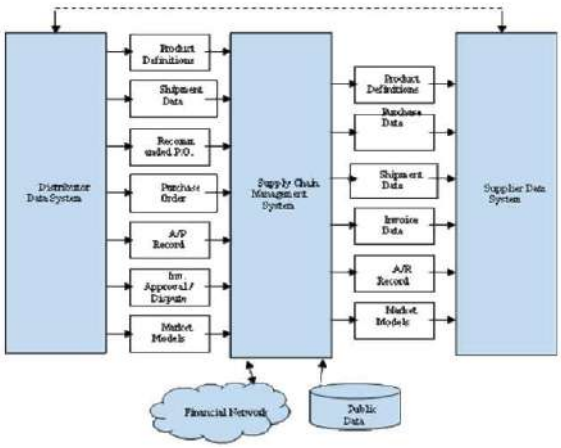
KPI in transport: Route optimization, Quality, Operating costs, Delivery time.

It is noteworthy that major issue is related to the warehousing and management inventory. Consequently, the majority of researchers in this field has focused on this weak point, thus highlighting the leading causes of its failures and the effects of using IoT to get over the inventory inaccuracy. However, this IoT technology is still facing struggles, inasmuch as a good RFID functioning, IT infrastructure must be able to deal with the huge amount of data generated by millions of transactions and transformations. The amount of information is not only huge; it is also accessible "instantly". In addition, several labels can be read simultaneously.

In addition, to measure the performance all along the Supply Chain, taking into account all the stakeholders within, we must mainly collect the measurements and data from different decision-making systems. Consequently, researches are currently oriented towards the development of an interoperability platform for the different systems aggregated to logistics objects and devices based on IoT technologies and Cloud Computing.

INTEGRATED SUPPLY CHAIN MANAGEMENT Mein-Kai Ho et al. described a centralized Supply chain management System as a system that comprises a connectivity module that electronically communicates with enterprise data Systems within one or more Supply chains. The connectivity module receives part definitions and shipment data from the various data Systems.

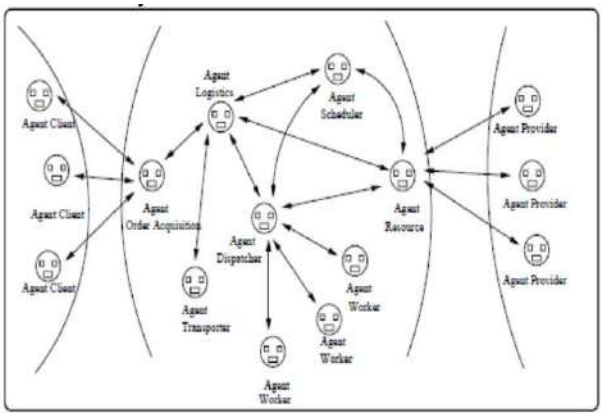
A data alignment module generates a mapping between the part definitions of the various enterprises, and translates electronic data received from the enterprises in accordance with the mapping. A Vendor Managed Inventory (VMI) module generates electronic orders based on the shipment data to provide automated control over inventor levels within the Supply Chain. A market analysis module generates market penetration models for the enterprises. The Figure 6 shows all components of the Integrated Supply Chain Management.



Supply Chain Management has already been achieved through a multi-agent system. Shen and Norrie present a set of platforms and achievements with agents. This is more than one of the research areas of the Enterprise Integration Laboratory at the University of Toronto. We propose their decomposition of Integrated Supply Chain Management. Several agents will intervene in this application.

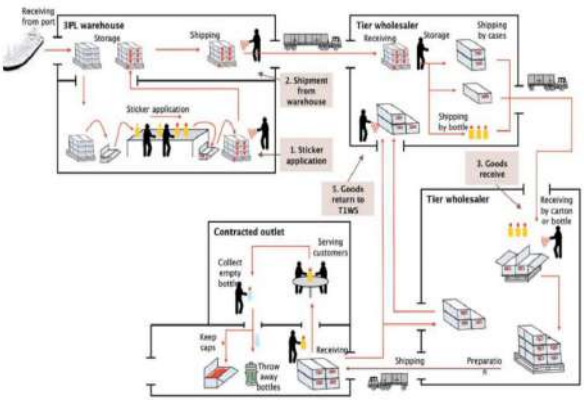
- An agent Client, that places order orders, modifies them and cancels them.
- An agent Order acquisition, that receives orders from the agents Client, manages the interactions with them, and places the orders with the agent Logistics. It negotiates the constraints imposed by the agent Client with the agent Logistics and informs the agent Customer of any delay in the delivery of his order.

- An agent Transport, that takes care of the transportation of raw materials and manufactured products between the different production lines according to the defined plan. It also ensures the delivery of the product to the customer.
- An agent Scheduler, that defines the product's production plan and indicates to agent Logistics if the constraints on the delivery of the product are acceptable or not. This plan is able to vary if the agent Dispatcher or agent Resource indicates that there are problems or delays causing the plan to be updated.
- An agent Resource in charge of the factory supply and the supplier relationship.
- An agent Dispatcher that distributes the tasks to the agents Worker based on the scheduling that has been done by the agent Scheduler and informs it if a production delay is expected.
- An agent Worker that performs the production orders of the agent Dispatcher. If a problem occurs on his machine, it informs the agent Dispatcher.
- An agent Provider that provides the raw materials necessary for the manufacture of the products. It negotiates with the agent Resource, the cost and the delivery time. The agent Provider is actually an agent Order acquisition from another company.



A NEW APPROACH OF LOGISTIC MANAGEMENT An enhanced Real-Time visibility into the product physical flows is a crucial step to ensure a proper Business Management. From this necessity derives the idea to design new applications able to ensure and enhance the tracking function and to avoid stock-out and over-stock generated by increasing swings in inventory i.e. using RFID tags or GSM tags. Nowadays, firms are trying to make their processes intelligent by improving the inventory function in order to avoid stopping the activities of the warehouse when the quantities in stocks can be obtained directly by census of the number of products present in a perimeter. This technology is already widely deployed in several industries (e.g. Decathlon and Amazon). The figure 4 shows an example of the overall architecture of the solution where RFID technology is used to ensure the tracking in the SC of a wine wholesaler. This section presents the main components of the platform and related technologies. Indeed, we will focus on the main functions such as RFID entification, tracking and labelling, communication, transmission and data sharing.

The model bellow is an IoT based wine bottles routing inventory and SCM information sharing system that involves: RFID tags, position, handled readers and other similar kind of devices. The installed database has the central position in the divided system, it can insure the communication between suppliers and distributors whereby loading and inventory workers. As we can see the RFID helps the company to optimize pick-up and delivery routes between delivery workshops and warehouses. It also optimizes the resources of the handling by determining the most appropriate equipment, and aim to reverse logistics as well.



Today, logistics is an integrative philosophy of flows management technologies. Indeed, Supply Chain Management is an important part of the scope of new technologies and concepts related to IoT. However, firms have a lot of challenges and struggles in terms of privacy, security, data explosion, integration and sharing on Cloud platforms.

It is the era of Big Data. Therefore, the IoT uses sensors and devices that generate massive amount of data that need to be processed and stored as well. Consequently, researchers and practitioners aim today to improve the performance of networks in terms of throughput and energy consumption to convey data from sensors as well as the improvement of algorithms in the processing of large volumes and heterogeneous data.

This research is contributing to the improvement of logistics performance by using the new technologies aggregated into the Internet of Things, which present today a new trend in the architecture of the information systems whose standards and protocols of communication is subjected to the voluminous mass and diversity of data sources.

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MRO INVENTORY MANAGEMENT – AN INTRODUCTION

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1. Introduction : In spite of the fact that we have manycapital intensive Manufacturing companies functioning in our country, this author is of opinion that we have not given MRO Inventory Management,its due recognition and importance. And it is only sad to notice that we have failed to realise its creditable importance in our growth. Despite the fact that even the developing countries of Asia have advanced in this field, we are yet to follow suit. Of course, if we want to succeed in our ambitious endeavour of achieving World Class Performanceobjective in industrial production and growth, we haveto follow the path taken by our competitors, without delay.More importantly, the technical literature both in the form of Books and research Articles published in this field in our country is limited. The ensuing sections of this article will give an introduction to MRO Inventory Management.

2. Flow of Materials in Manufacturing Environment : A Typical Flow of Materials in Manufacturing Environmentas given in figure 2.a. will help us study and understand the Material Flow and the concept of MRO clearly in Manufacturing Environment.

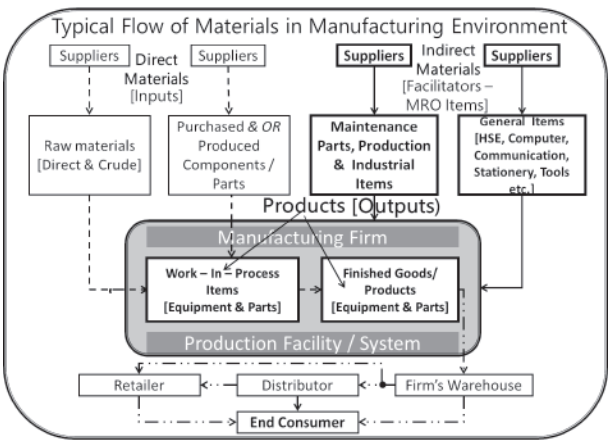

Figure: 2.a.

2.1. Materials (or Items) : Oxford Dictionary defines **Material** as "The matter from which a thing is or can be made" while Cambridge Dictionary states that **it** is "A physical substance that things can be made from". Both the dictionaries define Material as input (Raw Materials) to manufacturing processes only. But in practice in manufacturing organizations, the term **Material** is used with a wider meaning. Joseph D. Patton Jr in his book Maintainability and Maintenance Management, Page 13, Instrument Society of America, 1980,defines Material, as"All items used or needed in any business, industry or operation as distinguished from personnel". In the above definition, term Materials is equated with term Items. In practice Materials and Items are used synonymously.

Definition:

The term **Materials (or Items)** in a manufacturing organization stands for all the inanimate things and objects purchased and or produced for Current Operations and or kept in Stock for Future Sales and or Captive Consumption.

Materials are generally classified as Direct Materials,Indirect Materials and Products. It is to be realized that as it is primarily an Accounting Control Classification, it is noteasily amenable to other control measures especially Inventory Controlof Indirect Materials.

2.1.1. Direct Materials(Production Materials)

Materials used to manufacture the Products, come under this classification. These become integral part/(s) of the final product and can be traced to specific product or job. Typically this class of materials include Raw Materials and Components procured from Suppliers and produced in-house. And thus the cost of the materials is identifiable and chargeable directly to the final product or job.

2.1.2. Indirect Materials (Non-Production Materials or Facilitating Materials)

Indirect Materials do not become integral part/(s) of final products. However they are highly essential for manufacturing the products because they include Materials for aiding the Production Equipment and Facilities Operating and making them Available at rated capacity as per Production Schedule. Further they include Materials for facilitating and or accelerating Chemical Manufacturing Processes.As these materials do not become integral parts of Products or Jobs (Services), the cost of which is not identifiable with or directly chargeable to a specific product or job. Hence

the cost is captured as overhead in a specific period and apportioned subsequently on some rational basis to all the products manufactured and or jobs completed in the same periodas that of data capture.

2.1.3. Finished Products (Production Outputs)

Definitions of Product given in Oxford and Cambridge dictionaries state that it is manufactured or refined by industrial processes and stocked for future sale. The Products of a manufacturing organization consists of Finished Products (Equipment Units and Service Parts) and Work-In-Process materials (Semi-finished Equipment Units and Service Parts). And these are the materials for satisfying the Customer Demands. The Customers can be other Manufacturing organizations, Distributors, Retailers or End Consumers (End Users).

3. MRO Items– What Does It Stand For?

The abbreviation MRO has two prevalent versions of expansion among Maintenance and Materials Management professionals in Industrial Manufacturing sector and they are: 1] Maintenance, Repair and **Overhaul** Items and 2] Maintenance, Repair and **Operation / Operational / Operating** Items**.**Operational and Operating are two variants of Operation only. The former is used mainly in Aviation Industry while the latter has its popularity among capital intensive Manufacturing Industries such as Oil and Gas, Chemical, Petrochemical, Power Generation, Fertiliser, Cement etc

In both theabove mentioned expansions, **Maintenance**and **Repair** are common terms.**Overhaul** and **Operation (Operational** and**Operating)**are two distinct designations in the two expansions. These denominationsare explained further in the following sub sections:

3.1. M in MRO stands for Maintenance

Maintenance is described by John E. Day, Jr. a renowned Maintenance Engineer, as "The act of maintaining. To keep in an existing state: **preserve**from failure or decline, **protect etc**." (Richard D. Palmer, Page 122, Maintenance Planning & Scheduling Handbook, 3rd Edition, McGraw-Hill, 2003). This definition is well in line with the dictionary definitions of Maintenance: "the process of preserving a condition or situation or the state of being preserved" (Oxford) and "the work needed to keep a road, building, machine, etc. in good condition" (Cambridge). Thus the emphasis is to retain or preserve the equipment in the original or existing condition and to protect it from further performance deterioration. And these measures can be proactive and preventive in nature. In this juncture it is only apt to analyze a couple of definitions of Preventive Maintenance (PM).

In Page 15, **Maintainability and Maintenance Management,**Joseph D. Patton, Jr,defines PM as "Actions performed in an attempt to keep an item in a specified operating condition by means of systematic inspection, detection, and prevention of incipient failure". Another definition of **Preventive Maintenance**as given in **BS EN 13306:2010** is quite relevant: **"**Maintenance carried out at predetermined intervals or according to prescribed criteria and intended to reduce the probability of failure or the degradation of the functioning of an item".

BS EN 13306:2010 further defines **Overhaul** as follows: **"**Comprehensive set of **preventive maintenance** actions carried out, in order to maintain the required level of performance of an item. Overhaul may be performed at prescribed intervals of time or number of operations". As Overhaul itself is an integral part and subset of Preventive Maintenance, there is no need to mention it separately in the expression MRO. And thus, according to this author,**Operations** is the right expansion of "**O"** in the expression of MRO and **not at all Overhaul.**

3.2. R in MRO stands for Repair

John E. Day, Jr. describes Repair as: "To restore by replacing a part or putting together what is torn or broken: fix, rejuvenate, etc.". (Richard D. Palmer, Page 122, Maintenance Planning & Scheduling Handbook, 3rd Edition, McGraw-Hill, 2003).Another definition by Joseph D. Patton, Jr. given in his book Service Parts Management, Page 12, 1st Edition, 1984, Instrument Society of America, is as follows: "Restoration or replacement of parts or components as necessitated by wear, tear, damage, or failure; to return the facility, equipment, or part to efficient operating condition". These definitions are in harmony with those given by the dictionaries: "restore (something damaged, faulty, or worn) to a good condition" (Oxford) and "to put something that is damaged, broken, or not working correctly, back into good condition or make it work again" (Cambridge).

BS EN 13306:2010 defines **Repair** as**: "**Physical action taken to restore the required function of a faulty item. Repair also include fault localization and function checkout" and **Corrective Maintenance** as**: "**Maintenance carried out after fault recognition and intended to put an item into a state in which it can perform a required function". These definitions make Repair and Corrective Maintenance synonymous and so it is established that **R** denotes **Repair** (**Corrective Maintenance)** in MRO.

3.3. O in MRO stands for Operations

A few commonly used expansions of term MRO are given below:

1 **"**Maintenance, Repair, and**Operating**"**{** 1] APICS Dictionary, Page 52, 2] IIMM, Glossary, Page 172,

3] JR Tony Arnold, et al., Page 259, 4] Eugene C. Moncrief, et al., Page 15, 5] Joel D. Wisner, et al., Page 32, 6] Peter Baily and David Farmer.Page 53.**}**

2 "Maintenance, Repair, and**Operations**". **{** 1] Philip Slater; Page 8, 2] Sunil Chopra, et al; Page 17, 3] P Gopalakrishnan et al. Page 27.**}**

3 "Maintenance, Repair, and **Operational"{** 1] JR Tony Arnold, et al., Page 257.**}**

Now it is important to analyze the meanings of terms **Operations, Operational**and **Operating** in standard Dictionaries. Oxford, Cambridge, Longman and Collins Dictionaries give more or less similar connotations for these terms when used withItems of Production Facility, Equipment and Plant. However the term **Operations**gives a better implication of relatedness with the proper Operation ofPlant and Equipment as well as the Manufacturing Operation. In fact, both types of **Operation** are required for smooth functioning of Production Equipment and Facility. Based on the above fact, this author strongly suggests to use the term**Operations**instead of the widely used termOperating, in MROItems to give the real and full implication of grouping.

3.4. MRO Expansion

Definition: MRO stands for Maintenance, Repair and Operations.

3.5. MRO Items : Materials classified under MRO are termed MRO Supplies, MRO Products, MRO Materials, MRO Items etc. This author prefers the term "MRO Items" and it is used in this article. In Industrial parlance, Maintenance and Materials Management professionals use the terms Materials and Items synonymously, with Items being the frequent choice. It is only apt to note thata comprehensive definition of Item can be generated based on the definitions from a few standard sources, the references of which are given after the suggested definition: "Item is a generic term used to identify a distinct single thing or specific entity of materials, kept in stock in an organization for future use. Items may be any unique manufactured and or purchased materials, products, parts, components, assemblies, subassemblies, accessories, groups, equipments, intermediate or attachments." Item is identified by this definition in this article. [Donald Waters, Page 4,Joseph D. Patton, Jr. Page 6, IIMM Glossary, Page 146, 2nd Edition, and APICS Dictionary, 9th Edition, Page 46].

Definition: MRO Items include those Items which are needed for the proper and safe Maintenance, Repair and Operation of Production Facility (Plant, Equipment and System) and Auxiliary Systems directly supporting and or aiding Production Operations, in addition to those required for facilitating and or accelerating the Chemical Manufacturing processes.

Major MRO Items include:

- Spare Equipment Units, Spare Parts, Special Tools and Equipment Accessories for Production Facility, Plant and Machinery. They can be Unique (Captive) parts, Standard parts, Commercial partsand Production & Industrial Consumables.
- Spare Equipment Units, Spare Parts, Accessories, Special Tools and Consumables for Fire and Safety System.
- Materials for facilitating and or accelerating Chemical Manufacturing Processes: Catalysts and Production Chemicals.
- Spare Equipment Units, Spare Parts, Accessories, Special Tools and Industrial Consumables for Auxiliary Systems for Operating and Supporting Production:
  - Material Handling Vehicles and Systems in Production Plant and Warehouse,
  - Cooling Water Plant,
  - Instrument Air System,
  - Hydraulic System,
  - Plant Electrical System,
  - Cooling, Heating and Ventilation System of Plants, etc.
- House Keeping and Cleaning materials and Consumables for Plant.
- Industrial and General Consumables for Plant use etc.

In a capitalintensive industrial organizations, there will be thousands of units of various kinds of Equipment and Systems; and thus the total number of the Itemsmentioned above can be in the order of Hundreds of Thousands. May be 90% to 95% or even more of MRO Items can be Spare Parts and Spare Equipment **(Spares)** as is evident from the list of Items detailed above.

MRO Items can have unit prices ranging from couple of Rupees to Tens of Lakhs of Rupees. Infact, many low value Items can be highly**Vital**to the functioning of the Plant and Equipment and their unavailability can cause extreme production loss.This author has observed that when these are classified as Indirect Materials, many employees inadvertently attach a wrong connotation to these Items as unimportant ones. Under these circumstances, for effecting efficient and effective Inventory Management, it is not at all pragmatic and realistic to classify these items just as Indirect Materials.

To avoid this undesirable situation, it is only advisable to classify these as MRO Items.But the classification of Indirect Materials is quite relevantfor Financial and Cost Accounting.

4. MRO Inventory Management : MRO Inventory Management is explained in two stages such as MRO Inventory and MRO Inventory Management.

4.1. MRO Inventory : Inventory has four meanings as per Cambridge Dictionary and they are: 1] A detailed list of all the Items, 2]The amount of stock of goods, 3] The value of Items, and 4] The counting of all the goods, materials, etc. stocked in an organization. In this article,the definition of MRO Inventory is given as follows:

Definition: MRO Inventory indicates the total number of MRO Items Stocked for future Consumption as per Company Stocking Policy and their amounts of Stock, including Nil Stock, in an Organization at the time of consideration.

4.2. MRO Inventory Management : This author's quest for an authentic definition ofMRO Inventory Managementrevealed the fact that there is no comprehensive and proper definition readily available. This led to the author's critical analysis and review of the definitions of Inventory Managementas applicable to all Items in general, as available in some of the standard sources, the references of which are given below.

References:

'$ Tony Arnold et al., Pages 254& 259, Introduction to Materials Management, 6th Edition, Pearson, 2010;a$ Donald Waters, Page 7, Inventory Control and Management, 2nd Edition, John Wiley, 2003;b$ James F. Cox III et al., Page 45, APICS Dictionary, 9th Edition, 1998;c$ MK Bhardwaj, Page 143, Glossary of Purchasing and Materials Management, 2nd Edition, IIMM, 2002; d$Peter Wanke, Federal University of Rio de Janeiro, Page 9, Production And Inventory Management Journal (APICS), Volume 49, No 1, 2014; e$P. Gopalakrishnan and Abid Haleem, Page 127, Handbook of Materials Management, 2nd Edition, PHI, 2015 and f$Douglas K. Orsburn, Page 314, Spares Management Handbook, 1st Edition, McGraw Hill, 1991.

The studyrevealed two points: '$ There are wide variations among the definitions given by these sources and a$ the definitions lacked completeness. Hencethis author's endeavor toevolve a proper and comprehensive definition of it,is rightly justified. Before proceeding further, it is quite natural and logical to analyze the activities involved in **MRO Inventory Life Cycle**at the End User Side, as the basis for developing the definition. As **Spares** have all the specific stages in the Inventory Life Cycle, their case is described in 4.2.1. as a typical example. Other MRO Items need not go through all these stages of Inventory Life Cycle shown in the figure 4.2.1.a., and hence Spares have been selected to represent all the MRO Items in this context.

Now it is only mandatory to define **Spare** before proceeding further. This author has developed the following definition:

Definition:

Spares: Spares can be Items such as individual Parts, Modules, Subassemblies, Assemblies, Functional Units or Equipment Unit itself and uniquely identified as per the Manufacturing Bill of Materials of the Actual Equipment or Systems in service, and kept in Stock for future replacement of the original installed Item removed due to Life Expiry, Worn out, Weakening, Damage or Malfunctioning during Maintenance and Repair of Equipment, Systems or Spares themselves. The Spare should be Form, Fit and Function interchangeable completely with like Item removed, without any attachment or modification of the Item, Equipment or Systems and compatible to be integral with the Equipment or Systems in which the Spare is to be installed. Further the Spare may be repairable or non-repairable. Spares can be either Captive Parts or Standard Parts or Commercial Parts. Spare Part, Spare Item, Service Part, Repair Part and Maintenance Part are synonyms of Spare.

This definition has been evolved by combining the personal experience of this author in planning and controlling Sparesto the level of nearly Hundred Thousand Items, in Chemical and Oil &Gasindustries,with the substances derived from the critical study of definitions of terms such as Spare Part, Repair Part, Service Part etc. given by variousauthorsin theirbooks, the references of thoseare given in the ensuing paragraph:

References:

'$ Joseph D. Patton, Jr, Pages 12, 13, and 14 Service Parts Management, 1st Edition, 1984, Instrument Society of America.a$ Douglas K. Orsburn, Pages 319 and 320, Spares Management Handbook, 1st Edition, 1991, McGraw-Hill, Inc. b$James F. Cox III et al., Page 87, APICS Dictionary, 9th Edition, 1998.c$ MK Bhardwaj, Page 236, Glossary of Purchasing and Materials Management, 2nd Edition, 2002, Indian Institute of Materials Management. d$ P. Gopalakrishnan and Abid Haleem, Page 227, Handbook of Materials Management, 2nd Edition, 2015, PHI Learning Private Limited. e$ Lt. General S. S. Apte, Page 24, Spare Parts Management. f$ Philip Slater, Page 9, Spare Parts Inventory Management, 1st Edition, 2017, Industrial Press, Inc. g$ Adin B Thomas, Page 31, Stock Control in Manufacturing Industries, 2nd Edition, 1980, Gower Press, Teakfield Limited. h$ Page 517, Dictionary of

Engineering, 2nd Edition, 2003, McGRAW-HILL. i$ David Lowe, Page 226, Dictionary of Transport and Logistics, 1st Edition, 2002, Kogan Page. Plus Oxford, Cambridge, Merriam-Webster and Collins Dictionaries.

4.2.1. Spares' (typically an MRO Item) Inventory Life Cycle at End User Side

There are seven (7) distinct stages in the Inventory Life Cycle of Spares at the User End. These are shown as a self-explanatory Stock – Time Curve model (drawn **Not-to-Scale**) in figure 4.2.1.a.**:**

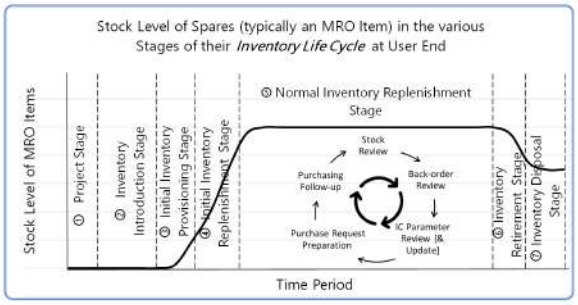

Figure 4.2.1.a.

4.2.2. Major Inventory Management Decisions during the Inventory Life Cycle of Spares

The Major Inventory Management Decisions to be taken in each stage are given in table 4.2.2.a.

Inventory Life Cycle Stage	Major Inventory Management Decisions
① Project Stage	Collection of Technical and Purchasing Data related to Equipment and their Parts, Matrix Bill Of Materials of Equipment with Tag Numbers and Technical Literature and Equipment Manuals with emphasis on Data Correctness and Completeness.
② Introduction Stage	Decision on What to Stock and Preparation of Master Data Management with Initial Inventory Control (IC) Parameters. IC (Inventory Control) Parameters are: Inventory Planning Category, Review Frequency, Re-Order Level, Minimum Stock, Service Level, Safety Stock, Maximum Stock, Economic Order Quantity, Standard Order Quantity, etc.
③ Initial Provisioning Stage	Decision on Order Quantities for Initial Provisioning and Where to Store
④ Initial Operation Stage	Decision on Replacement of Commissioning Spares (Optional) and Replenishment of Spares as needed with IC Parameter Updating.
⑤ Normal Operation Stage	Decisions on What and When to Reorder and How much to Reorder based on Inventory Control Parameters of Review Frequency, Service Level, Reorder Level etc. And updating of IC Parameters of Spares.
⑥ Retirement Stage	Identification of Surplus Quantities of Spares, , Obsolescent, Obsolete and Unwanted Spares with Quantities and IC Parameter Updating.
⑦ Disposal Stage	Scrapping and Disposal of Unwanted Quantities of Spares and or Unwanted Spares and IC Parameter Updating.

Table 4.2.2.a.

4.3. Definitions of MRO Inventory Management and MRO Inventory Control

Again the definitions of MRO Inventory Management and MRO Inventory Controlhave been developed by merging the personal experience and knowledge of this author in planning and controlling Spares to the tune of nearly Hundred Thousand Items, in Chemical and Oil & Gas industries, with the essential ideas derived from the critical study of definitions of Inventory Management given by various authors in their books, the references of those are given in 4.2. above.

Definition:

MRO Inventory Management is a highly important organizational function responsible for Planning and Controlling of MRO Items especially Spares, for ensuring the Availability of Items as required by the Internal Customers (Maintenance and Operations departments) and also for obtaining Optimum Inventory Levels, in line with the Management Approved Optimization Criteriasuch as Highest Customer Service, Optimum Inventory Cost and Minimum Plant OperationCost etc., from the Birth through Growth to the Death of the Items. It establishes Organization specific Policies, Procedures and Standard Operating Practices and ensures their adherence in carrying out the activities such as: Collection of Technical and Commercial Data related to Plant and Machinery, Instituting Master Data Management,Provisioning of Items, Stock Management withappropriate Service Level, Periodical Inventory Analysis and Review, Scrapping and Disposal of Items, Maintaining Up to Date Inventory Data, Performance Evaluation, etc.

Definition:

MRO Inventory Control is the most important and the central function of MRO Inventory Management, responsible for Planning and Controlling of MRO Items especially Spares, for ensuring Highest Customer Service, Optimum Inventory Cost and Minimum Plant OperationCost with Optimum Inventory Levels. The Inventory Control activities are carried out based on the established Organization specific Policies, Procedures and Standard Operating Practices. They include Stock Status Review, Demand Forecasting and Requirement Determination, Inventory Control Parameter Updating, Stock Replenishment for the pre-defined Service Level, Purchasing follow-up, Periodical Inventory Analysis and Review, Maintaining Up to date Inventory Data, etc.

4.3.1. Major Objectives of MRO Inventory Management

The major objectives are:

* Highest Customer Service achieved with Maximum Plant Availability,
* Minimum Plant OperationCostobtained with Maximum Production at Required Quality and
* Optimum Inventory Costattained withInventory Optimization.

These objectives are achieved by co-ordinating with other functions namely Purchasing, Operations, Maintenance and Warehousing.

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INBUILT RESILIENCE IN THE SUPPLY CHAIN - COVID PERSPECTIVE

MR. NEELESH KUMAR MISHRA
SR. MANAGER, TATA STEEL
FORMER HON. SECRETARY OF IIMM JAMSHEDPUR

Just as 9/11 brought significant improvementsin security systems related to the Aviation domain, COVID-19 also gives tremendous opportunity for improvement, which may have long-lasting impact. Almost half of businesses operating at the World Trade Centre could not survive the shock of the bombing attack, which indicates how severely disruptions impact organizations and expose the vulnerability of the supply chain. Supply chains are the backbone of an economy, and henceplanning agile supply chains is a strategic decision not only for organizations but also for nations. The current business environmentcompels supply chains to be more robust,agile and productive. In this context, this paper tries to identify key enablers that make an organization's supply chain agile and resilient. With the help of a detailed interview-based literature review, we suggest six parameters essential for any organization to ensure inbuilt resilience in the supply chain.

Most of the supply chains are global and the current restrictions in travel and movement of the material makes it more difficult for companies to maintain a healthy flow of raw material and services for production. A report published by Dan & Bradstreet2020) highlights that 51,000 companies across the globe have one or more direct suppliers,and more than 5 million companies have one or more tier-two suppliers, in Wuhan,COVID-19's epicenter. Adding to this, 938 of the Fortune 1000 companies have tier one or tier-two suppliers in the Wuhan Region.

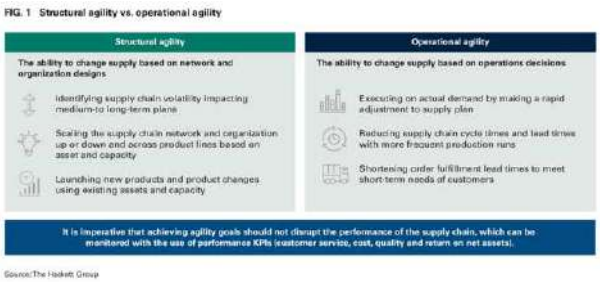
Given the current situation where Governments, businesses, and individuals are struggling to procure basic inputs, the COVID 19 pandemic, and the ensuing volatility has forced us to confront the fragility of the supply chain. It puts forward an urgent need to take a hard look at the entire value chain, reimagine, and re-design a smarter and stronger supply chain for tomorrow's needs.

Where is the ray of hope? -While some of the segments like tourism, construction, hotels, manufacturing, automobile, etc. in the country are struggling to survive, there are a few other businesseswhich are flourishing, for example humanitarian logistics, hospitals, food supply chain, and surprisingly steel industries. As the pandemic has crucial medical implications the economic boom in the sector is natural, however to understand the real impact, we need to focus on other sectors and Industries such as steel, metals, or telecommunication, which do not show direct significant impacts of the pandemic. In particular, steel prices have gone up almost 70 to 80% up in the last 8 months, and some companies have booked the highest ever profit in FY'21, which makes the steel sector an interesting case for researchIndia is currently the second-largest producer of crude steel in the world and may soon be the second largest consumer after China. Many Steel firms in India have fully integrated operations from mining to marketing and have less exposure to the disruptionsarising from outside. Steel firms' horizontal and vertical integration in the supply chain helped many organizations to perform reasonably well even during COVID -19 related supply chain disruptions. As the entire world is running behind cost-efficient technology and steel is a cost-intensive industry we must understand the critical decision-making parameters for steel industry.

Understanding the Agility -Supply chain Agility is an ability measured on both the demand and supply sides of the supply chain. The main areas to check agility are flexibility in managing new products, customer service, offering cost-effective solutions, maintaining quality standards, and profitability of the organization. The agility of the organization can be checked with the help of few questions like

1. How fast an organization can respond to variation in demand or supply?
2. To What extent the supply chain can it adjust itself in terms of short-term and long opportunities in the market?
3. How quickly a new product can be e design developed tested and distributed?

a perfect example of agility could be the Vaccination drive to combat Covid-19 as many countries and companies quickly developed the vaccine, tested it across diverse populations, and ensured distribution along with governments. If we look closely, we will observe that agility itself has two legs, structural agility, and operational agility.



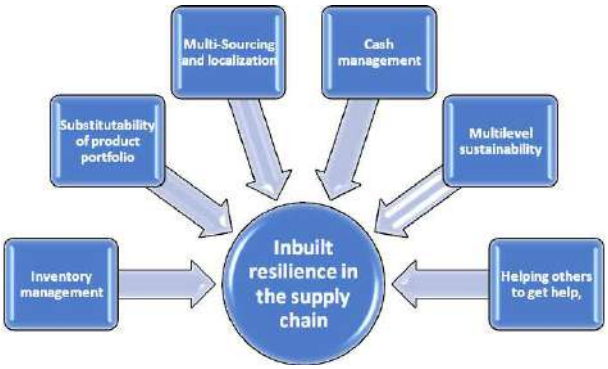
The Hackett group explained that while structural agility helps an organization to scale production based on market demand or adjust it considering the threats and is more of a medium to a long-term plan and strategy implementation, operational agility is more related to Rapid decision-making and utilization of assets to meet actual and unexpected market demand.

The operational agility helps the organization in satisfying the scaling expectation of customers and managing the product line complexities. An Agile supply chain must have the capability to manage an Omnichannel distribution network, shorter product life cycles, the ability to manage the global complex supply chain.

However, the question arises is whether agility is good enough or do we need something else to quickly take the hit re-adjust ourselves and come back to the new normal? There comes the resilience of the supply chain.

Resilience - Resilience in the supply chain is defined by its capacity for resistance and recovery. This not only helps the organization to sustain the impact of disruption but also quickly recover from it. The recovery pattern of the economy main follows different curves L, V, W or any other. L type recovery is a long-time recovery and V is a short-term recovery while W indicates multiple shocks and recoveries. In India, the lock downs were imposed in many rounds and W type of recovery was expected. The resilience allows an organization to bounce back. Understanding resilience becomes more important considering the covid-19 and various geopolitical supply chain disruptions. An organization can have multiple ways to inbuilt resilience in their supply chain, in the subsequent area, we will discuss quite a few of them.

After getting a basic understanding of disruption, resilience, agility, and economic recovery patterns, we interviewed many supply chain professionals involved in decision-making. We found out six key parameters which may help an organization built resilience in its supply chain. These supply chain professionals were involved in decision making and they did help their organizations during the covid-19 and insured smooth operations so far.



1. **Inventory management -**Since Toyota in Japan invented the just in time (JIT) concept of inventory to reduce the overall cost of operation, most of the other organizations have also focused on reducing the inventory level by lean manufacturing. However, reducing the inventory level also increases the potential vulnerability of the supply chain. Covid-19 have posed organization to increase their inventory levels, as also horizontal and vertical integration of the organization. It has been observed that the organization which has good control over their entire supply chain or having an integrated manufacturing plant are less exposed during travel or business restrictions.So the first fact these supply chain professionals did was taking control over inventory - either by maintaining the inventory inside organization or taking control of inventory of suppliers at the time of disruption.

2. **Substitutability of raw material and product portfolio** - During the lockdown manufacturing unit was forced to look for substitutes in their operation. Many organizations started using similar raw material which was available closely like the use of Silico- Manganese in place of Ferro Manganese or LDO in place of Coal. Product substitutability can also be observed in the normal phenomena when the cost of any commodity goes up forcing many industries to start looking for a close-by substitute. Product substitution should be a part of the design strategy of a manufacturing unit and the changeover cost should be a critical parameter while designing the operation plan. Most of the supply chain professionals confirmed that the changeover cost of substitute reduces if the same thing is kept in mind while developing the plant.

3. Multi-Sourcing and localization - The automotive industry in 2011 give a shock to the entire world when a natural disaster hit Japan and Thailand and many companies started to realize that they have to have multiple sources of supply for the same component. In 2020, due to Covid restrictions were implemented and a sudden demand for domestic supply sources has emerged. Policies made by the government like Make

in India also encourages sourcing the material from local supply partners. While established economies try to outsource the work and labor-related activities to cost-effective countries, Covid-19 restrictions and the right balance of government policies have given a different perspective.

Sourcing from a nearby supplier reduces geographical dependence and global Business trends; even if local supply sources may be more expensive but they may have a better delivery lead time. Most of the supply chain decision-makers factored this during the COVID-19 crisis

4. **Cash management** - Cash management has also come up as a key factor during the covid-19. Many of the organizations deferred their payment cycle and requested their supply partners to extend the normal payment term. Banks were asked to reduce recovery mechanisms and 3 months extensions were also provided on EMI's. Collection of cash became difficult during the lockdown and marketing and sales were pushed hard for cash management.

Industries have also taken it seriously as one of India's largest business houses has recently announced that it will be a debt-free organization in the next 10 years. Although capital intensive Industries like steel and manufacturing heavily rely upon bank financing which also helps these industries to ensure lesser competition in terms of high entry barriers in the industry. While software companies may have less cash involved in comparison to manufacturing but the concept of being cash-rich and debt-free remains equally important for both.

5. **Multilevel sustainability -**The sustainable organization has multiple levels of inbuilt sustainability throughout its supply chain. Sustainability is mainly defined at three levels. Economic sustainability, environmental sustainability, and social sustainability. While economic sustainability talks about price competitiveness assured quality of the product, robust supply chain, and digital networks. Environmental sustainability has a deeper risk associated with it.

Worldwide prices of some commodities got impacted when the governments are making policies related to closing the units which were not environmental friendly. This certainly raises an alarm towards ensuring environmental sustainability different countries are being conscious of environmental norms. Social sustainability is more related to towards development of society, generating and ensuring a sustainable supply of manpower with a suitable social standard of living. A perfect example where India is facing the non-availability of next-generation workers is the transportation segment. The transportation segment is facing an acute shortage of drivers because the infrastructural development of the people associated with the industry has never been given due importance. So a resilient supply chain must ensure a socially sustainable atmosphere for the workers and motivate the next generation towards the business.

6. **Helping others to get help,visibility and Transparency**- Different agencies like Government, external stakeholders, NGOs, logistics partners, warehousing solutions, policymakers, liasoning agents, and suppliers play significant roles at the time of crisis. Covid-19 has taught us the importance of hygiene and related contractual clauses in day-to-day operations. The importance of additional capacities in the pharmaceutical industry, availability, and mobility of testing kit, temperature-controlled vehicle, and green supply chain, etc. have tested the agility of the system.

The role of regulating authorities and policymakers is also very important as in India some of the industries we are given consent to operate and others were fully closed during the lockdown. Developing an entire ecosystem of partnership and coordination between different agencies to ensure production is the next task at hand. Digital tools, faster communication, and transparency in the supply chain also help many organizations during Covid-19. Companies quickly adapting work-from-home scenarios, IT-enabled cloud computing, and digital Supremacy of some organizations did help in making a platform where the entire supply chain can come together and make decisions jointly.

As a part of the **concluding remark**, we would like to reiterate that while it is difficult to predict the date of the next 'Black Swan' but with the help of the above-mentioned steps for enabling agility and resilience, a supply chain can be made reasonably sustainable. Although the cost of operation may go up by some of these initiatives, the capability to sail through the economic turmoil makes the industry player more robust and resilient.

Considering the scenarios of mimetic isomorphism and pressures from many stakeholders in the upcoming future many industries will adopt more risk-averse inbuilt agile supply chain options. This study can help all the stakeholders from the supply chain to think through and build a future-ready company.

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4 TIPS TO SAFEGUARD AGAINST CORRUPTION AND THEFT IN PROCUREMENT

RICH WEISSMAN, CONTRIBUTOR

It doesn't take much for an unscrupulous supplier to take advantage of a naive planner, logistician or engineer to put companies in jeopardy.

Modern supply chain management includes many employees from other tangential disciplines. Most have little to no procurement training, including business ethics.

Over time, the procurement profession has found its integrity footing and overcome its past sordid reputation of grifting and pay-to-play supplier selection. But now, it's worrisome that those new to the supply chain might be ripe for unethical supplier behavior.

It doesn't take much for an unscrupulous supplier to take advantage of a naive planner, logistician or engineer to put companies in jeopardy. Some, remembering the stereotypical purchasing agent, may think they are now in position to accept gifts, or even extort a supplier.

Here are four things that procurement teams can address today to safeguard the supply chain from theft, corruption and ethical lapses.

1. Adopt or create a code of conduct : Procurement needs to strongly lead on the issue of integrity in the supply chain. Many buyers and organizations have adopted the Institute for Supply Management's comprehensive Principles and Standards of Ethical Supply Management Conduct.

Create and publish a statement of ethical behavior for the supply chain management function. Incorporate rules and expected behaviors for anyone with direct and indirect supplier contact, including those in operations, logistics and finance. If your company has a values statement, be sure elements of the code of conduct are incorporated. Seek to add a procurement related ethics statement to your company's mission statement. Discipline or terminate those caught violating the policy. Expect nothing less than ethical behavior.

2. Set expectations with suppliers : I believe that most suppliers are fundamentally honest. But there may be rogue salespeople that try to gain influence or more sales with gifts or bribes.

In the past we saw "holiday letters" to suppliers warning them that holiday gifts to buyers were not permitted. While I saw fewer cookie platters in the coffee room, I did hear buyers brag about the gifts that they accepted at home.

Be clear with suppliers and their employees about your year-round ethical standards. Stress the importance of ethical practices to downstream suppliers as well.

3. Be realistic about relationship building

Sometimes accepting gifts and lunch are not a sign of corruption, but part of an ongoing buyer-seller relationship. There may be a gray area around culture and travel that needs some interpretation. Let's call it business courtesies.

Suppliers from Japan would present small intricately wrapped gifts to buyers and management. These gifts would have nominal value, but it was an important cultural obligation for the supplier. While this technically violated the no gifts policy, it was determined that the harm to the relationship needed to be considered. Often small gifts were given to the supplier as well, as a sign of mutual respect.

As a road warrior, I had an expense account that covered all my travel to suppliers. We often shared meals as part of the visit, but separate checks were awkward and not a comfortable solution. Alternating who paid for meals was. And often, I used my expense account to treat suppliers to lunch or dinner for a job well done, an important part of the business relationship.

4. Watch for red flags : I worked with a planner who was away on vacation. He told me he had gone to Florida and stayed in a supplier's condo. I had a manager who did the same thing and bragged about it. And he had his airfare paid for as well.

Another time, the general manager of a large electronics company called me, upset that I had rejected the gift of a gas grill for my new home. He said I had to take it or risk ruining the business relationship. The supplier relationship withstood this ethical breach, but I requested a new sales representative, one who didn't presume that "all buyers take gifts." As we focus on the ethical and social supply chain, let's ensure our policies and behavior set the right example. But also be on the lookout for those who are dishonest. They could just be down the hall or waiting in your lobby.

This story was first published in our weekly newsletter, Supply Chain Dive

Source: Supply Chain Dive

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2022: FUTURE TECH IN SUPPLY CHAINS

GEORGIAWILSON

Leading consultants weigh in on the future global technology trends that will define the advancement of supply chains in 2022

Experiencing no shortage of shocks to supply chains, most disruptions outside of COVID-19 and the global financial crisis have been industry specific. "We've seen flooding disrupt the electronic components supply chain, hurricanes disrupting the chemicals industry, or earthquakes disrupting the automotive sector just to name a few. Global production networks that took shape to optimise costs and efficiency often contain hidden vulnerabilities—and external shocks exploit those weaknesses," reflects Knut Alicke, Partner at McKinsey & Co.

Global events such as COVID-19 have exposed existing challenges across business operations and pushed organisations' ability to adapt to dramatic shifts in supply and demand. "All of this is occurring against a backdrop of changing cost structures across countries and growing adoption of revolutionary digital technologies in global manufacturing," adds Alicke.

With most companies, before the pandemic, accelerating the digital transformation of their customer journeys and value chains, McKinsey & Co,. "expects digital technologies to be at the core of the next normal, enabling organisations to better meet the needs of their customers, and improving the agility and responsiveness of operations without increasing their costs," says Alicke.

"During the crisis, many companies have been able to overcome staff shortages by automating processes or developing self-service systems for customers. These approaches can accelerate workflows and reduce errors—and customers often prefer them. Digital approaches can transform customer experience and significantly boost enterprise value when applied end to end.

"Companies are also taking a closer look at the suppliers in their value chain in order to gain a better understanding of their production footprint and financial stability. In fact, in a McKinsey survey of supply chain executives, two-thirds of respondents reported asking key suppliers whether they have business continuity plans in place, and an overwhelming 93% reported that they plan to take steps to make their supply chains more resilient, including building in redundancy across suppliers, nearshoring, reducing the number of unique parts, and regionalising their supply chains," adds Alicke.

The Pace of Digital Transformation in Supply Chains

With recent events exposing the complexity and inherent vulnerabilities in global supply chains, "the scale and pace of change was unprecedented, for example online grocery deliveries increased more in the first 10 weeks of lockdown than in the previous 10 years," says Matthew Burton, Supply Chain & Operations Leader, EY EMEIA.

"Supply chain has since become a boardroom priority for many companies. This has triggered a new wave of technology investment focusing on building supply chain intelligence, resilience and agility to better respond to events, risks and opportunities."

Adding to Burton's comments, Brian Houck, Partner and Mark Hermans, Managing Director Operations Consulting at PwC explains that the industry is "at a significant crossroad in the adoption of supply chain technology. With the growth in cloud technology, artificial intelligence (AI) and machine learning (ML), we are seeing a shift from the supply chain tech approach with discrete applications (e.g. Transportation Management System (TMS), Warehouse Management System (WMS), Demand Planning) to an evolving platform approach.

"Old approaches of black box and on-premise software can't keep the pace of our clients' businesses. Organisations must raise the bar on supply chain efficiency, agility, and resilience to meet customer demands in the most cost-effective manner, and supporting technology needs to adapt with the same agility."

With the pace of digital transformation accelerating for nearly every organisation, "technology is more strategically important than ever before for businesses," adds Steve Davenport, Global Technology Lead for Supply Chain & Operations at Accenture. "In fact, our research shows that 64% of supply chain executives report the pace of digital transformation for their organisation is accelerating. As a result of the rapid digital transformation, we've seen growing investments in data, AI and digital twin technologies to power supply chains.

"In the coming months, businesses will be able to prioritise the idea of learning from the future. New sources of data and AI driven models can be applied across companies' product development, supply chain, and sales lifecycles to give them greater confidence, knowing they are on the right path to growth. Ultimately, learning from the future can help companies prepare for risks."

2022: Future Tech in Supply Chains

"Over the past 18 months, leading organisations have developed the ability to rapidly adapt business models and supply chain ecosystems to live with a high degree of volatility and disruption. In many cases, driven by

necessity, companies used this period to increase overall investment in digital supply chain technologies and replace legacy platforms in order to gain end-to-end visibility and bring risks under control," says Burton.

"Moving into 2022, we expect to see companies move from 'survive' to 'thrive', with priorities moving away from managing risk and disruption and towards exploiting future growth. To accelerate this growth, innovation and investment will target winning in the market with new products, service offerings and consumption models. This will require digital technology to build new capability around (1) designing for consumer perceived value (both product and experience), (2) driving scale and efficiency through new distribution models including direct to consumer, click and collect and subscription, and (3) harnessing the power of the full supply chain ecosystem by improving interconnectivity across customers, partners and suppliers," Burton continues.

Adding to Burton's comments, Chris Andrews, Supply Chain Transformation Leader, EY UK says "in 2022, we expect businesses to continue investing in building the 'intelligent foundation', improve end-to-end visibility and better enable risk management and decision making when it comes to their supply chains. There is a recognition that the volatility and disruption witnessed in recent years will continue to be facts of life, requiring businesses to have the ability to ingest, process and make sense of billions of data points to stay ahead and remain competitive."

As companies continue to build out their existing supply chain technology capabilities, Andrews expects to see "further investment in (a) **advanced planning solutions** to better sense changes in demand and supply and accelerate the ability to respond, (b) **end-to-end control tower** to enable real-time visibility of supply chain performance, risks, opportunities and events and allow leadership teams to make better informed end-to-end decisions, (c) **cognitive automation** platforms to make real-time recommendations, predict outcomes and make supply chain decisions autonomously within the context of agreed boundaries and business rules, creating the self-driving supply chain."

Agreeing with Andrews, Alicke adds, "the next generation of supply chains is based on advanced technologies, like AI, Internet of Things (IoT), and robot process automation (RPA), and has the potential to transform manual repetitive tasks into highly automated processes with superior performance. However, these approaches will only be successful if the right roles are embedded in an appropriate organisation structure. In the supply chain organisation of the future, we will find new organisational units supporting end-to-end supply chain management: predictive demand management, end-to-end supply planning and execution, no-touch order management, operational logistics, advanced network and configuration, and data mastery."

"In 2022 companies will begin to realise that the original use for AI/ML is not returning the expected value and results due to weaknesses in underlying data and hesitancy to fully trust these engines. This will not stop investment in AI/ML, but will result in a repositioning of where and how to apply the technology. We believe that the concept of 'self-healing' supply chain data will emerge, shifting focus on AI/ML to help identify and correct data issues in real-time. This will enable supply chain leaders to spend less time debating the quality of the data and more time driving actions. As a result, these innovations will pave a path for AI to become a standard by 2023/2024 for front-end technologies," adds Houck and Hermans. Emerging from the pandemic, companies are already moving to provide value and building the foundations to scale and drive the next level of intelligence and automation, "we expect three new technology trends to continue to emerge. **First** is technologies related to improving visibility and collaboration around sustainability in the extended supply chain. This is largely driven by the increased commitments companies are making in driving towards net zero carbon emissions and the extension of this commitment to Scope 3, which includes their external suppliers and their respective value chains," says Gustav Mauer, Consumer Products Supply Chain Leader at EY UK.

"**Second** is a renewed interest in revitalising product lifecycle management (PLM) technologies to support the volume and rate of innovation ramp-up required to meet the ever-increasing consumer need for new products and services. The **third** technology trend is in the area of risk and cybersecurity where companies will really push hard to bring cyber security beyond just their corporate IT systems into their factories and warehouses' operational technology (OT) environments. This trend is driven by the increased number of cyber attacks and the significant vulnerability of these physical environments due to their increased level of reliance on technology," adds Mauer.

Other priority technologies expected for 2022 include cloud, digital twins, and augmented reality (AR) technologies.

"Cloud is a top-priority technology for supply chain executives, cited by 42% of executives surveyed by Accenture earlier this year. The fact is, the pandemic opened the eyes of enterprises to a new reality and cloud is now at the core of the company, not just the periphery. The hyperscalers will start to be seen by customers as strategic supply chain ecosystem partners, providing innovative capabilities and services well beyond cloud hosting of traditional supply chain vendor software. Technology is no longer just one vehicle for success—it's the vehicle all possible success depends on," says Davenport.

"In addition to cloud, we believe more businesses will implement digital twin technology. This will allow for businesses to gather, visualise, and contextualise data from across their physical assets and projects, bridging their physical operations and digital capabilities. This new and improved line-of-sight across business operations is critical for businesses to remain agile in the ever-changing global environment. Technologies like augmented realities (AR) will also continue to gain traction, as AR provides access to data and digital systems enabling businesses to in turn be more efficient, accurate and safer," concludes Davenport.

Source:supplychaindigital.com

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A RESILIENCE METHODOLOGY: HOW SUPPLY CHAINS BECOME MORE RESILIENT

SAMPAD RATH

A Resilience Methodology: How Supply Chains become more Resilient

Many corporations are struggling to keep themselves ticking over due to the immense effect of the coronavirus pandemic on global supply chains. Since they themselves are dealing with workforce shortages, cash deficits, or blocked warehouses, many manufacturers are no longer reliable. Adding to this are the problems that impact many similar service providers, such as logistics. Therefore, the risk of supply chain breaks has risen significantly. So how can they be avoided?

Supply chains need to be more flexible, stable and stronger : The development just described also revealed the high susceptibility to breakdowns of complex supply chains. Although individual industries such as the food industry, manufacturers of farm and harvest machinery, or hardware stores have come through the crisis reasonably well so far, supply chains need to be built in the future to be more durable and resilient. To this end, at least part of the supply chains must be restored in order to work stably in the crisis situation and to be ready for a new normal after the pandemic. Experience has shown after all that supply chains face the greatest obstacles when after an extraordinary situation, market volume picks up again.

In general, understanding the changed behavior of consumers, avoiding single-sourcing strategies, and shortening and stabilizing supply chains by concentrating heavily on local, regional, or country specific suppliers is critical. Benchmarks that are decisive are:

- The number of vendors,
- A blend of manufacturers,
- The strategic value of such materials or items.

In addition, metrics are also essential, such as time-to-recover i.e. the period from the supplier's failure to replace it or time-to-survive, i.e. the quantity of materials kept in stock to keep production going.

Strong measures to improve resilience in the supply chain : For the required changes, a methodical procedure with these four main aspects is appropriate:

1. Risk Analysis : After the recession, many supply chains need to be reactivated quickly. You would have to analyze, though, to what extent, at least to some degree, they can be replaced by other, less dangerous alternatives. Overall in terms of quantity and countries of origin, this relates to determining the supplier mix. In addition, attention should be given to the relationship between warehousing and just-in-time delivery.

However, the desired higher degree of supply chain protection and stability would have to be balanced against higher costs in certain cases. Therefore, it is more important to disperse existing stocks sensibly rather than building up new defense stocks in order to prevent increased capital commitment in economically crucial times. In addition, the use of smart forecasting and optimization systems for inventory management should be considered by businesses to align distribution capacities and stock levels.

2. Emergency Case Plans : The German government submitted a risk assessment for an emergency scenario triggered by the SARS pandemic as early as 2013. Similar notions may have been established by other countries. Nevertheless, the supply chains of most businesses here and there were not prepared for such a situation. Therefore, contingency strategies for coping with the economic crisis or other emergencies should now be established at the latest, so that supply chains can be stable and resilient. In particular, the goal is to identify possible options for reaction and to define alternatives for sourcing.

3 Sourcing Strategies : The concrete design of a supply chain needs to be assessed on the basis of the aforementioned risk analysis and the derived emergency plans. Diversification of the supplier base, avoidance of geographical dependencies, management of inventories and distribution of stocks, and even potential improvements to the company's own depth of value development are the most important points here.

4. Co-operation : The current crisis has shown that soft factors are also essential and helpful, such as mutual support. The sharing of materials and personnel, the awareness of interdependence, greater accountability, and the disclosure and transfer of data outside the walls of the business ensure greater consistency in the supply chains that benefit everyone.

5. Diversify base of Suppliers : A simple way of addressing heavy reliance on a single medium- or high-risk source (single plant, supplier, or region) is by incorporating additional sources at locations that are not vulnerable to the same risks. Some companies have been inspired by the U.S.-China trade war to move to a "**China plus one**" strategy to spread production between China and a country like Vietnam, Indonesia, or Thailand

in Southeast Asia. But regional issues such as the Asian financial crisis of 1997 or the tsunami of 2004 call for wider geographical diversification.

A regional strategy to manufacture a significant proportion of key products within the area where they are consumed should be considered by managers. By moving labor-intensive jobs from China to Mexico and Central America, North America could be served. Companies could increase their dependency on eastern EU countries, Turkey, and Ukraine in order to supply Western Europe with products used there. Chinese companies that want to secure their global market share are already looking for low-tech, labor-intensive development in Egypt, Ethiopia, Kenya, Myanmar, and Sri Lanka.

Different logistics strategies would also be required to move production from China to Southeast Asian countries. Unlike China, these areas also do not have effective high-capacity ports capable of handling major markets with the largest container vessels or direct marine liner services. This would mean greater transshipment to markets via Singapore, Hong Kong, or other hubs and longer transit times.

6. Keep an Intermediate stock or Safety Inventory : If alternative suppliers are not immediately available, a company can decide in the meantime, in what type, and where along the supply chain, how much extra stock to carry. Of course, security inventory, like any inventory, brings the risk of obsolescence with it and ties up cash as well. It runs counter to just-in-time replenishment and lean inventories, the common method. The benefits from such activities, however, have to be balanced against all the costs of the interruption, including the loss of sales, the higher prices that will have to be charged for goods which are unexpectedly in short supply, and the time and effort needed to secure them.

7. Take advantage of Innovation in Method : Some might ask their suppliers to travel with them as businesses relocate parts of their supply chain, or they might bring some production back in-house. Any path is a chance to make substantial process changes, such as transplanting a production line or setting up a new one. This is because you can unfreeze the operational habits as part of the adjustment and review the design assumptions underpinning the initial phase (For businesses with current production lines, one problem is that when those assets are completely depreciated, managers may be inclined to maintain them rather than invest in new, more efficient plants and equipment: because the expense of depreciation is no longer taken into account in the measured cost of production, the marginal cost of raising production in idle-capacity plants is lower).

We can also develop new strategies for resilience management in supply networks beyond supply chain optimization. Cooperation platforms are one example, enabling businesses, for example, to serve as virtual central warehouses and exchange product information. In this way, collaboration can be coordinated and made operationally useful by technical support on an overall basis.

Source:sourcingandsupplychain.com

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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.

CAPACITY PLANNING – KEEPS YOUR PRODUCTS STOCKED AND CUSTOMERS HAPPY

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This article is originally published on optimoroute.com. **We are happy to announce that Sourcing and Supply Chain has extended Content Partnership along with optimoroute.com**. OptimoRoute is an online Route Planner for Delivery and Field Service. With OptimoRoute you can plan the most efficient routes and schedules with multiple stops per route.

In an ever-changing world, it might feel like you need a crystal ball to plan for your company's future. How could you know how much product you'll need to order in three months, six months, or a year if orders haven't come in yet? How do you adapt to evolving customer expectations? Or scale your business fast to avoid stock-outs if a surge of orders comes in?

The answers to these questions are simpler than you might think. Successful businesses of all types use capacity planning to answer similar questions every day.

What is Capacity Planning?

Capacity planning is the practice of planning production and workforce needs to make sure your supply chain is equipped to meet demand. Capacity planning lets businesses know how and when to scale, helps identify bottlenecks, and mitigates risk.

The 3 types of Capacity Planning : The three types of capacity planning make sure you have enough, but not too much, of three major resources for both the long- and short-term. You'll want to plan weeks, months, or even a year in advance.

1. Product capacity planning : Product capacity planning ensures you have enough products or ingredients for your deliverables. For a florist, this would be flowers, vases, and cards. For a pool maintenance company, this would be things like chlorine that are required to do the job.

2. Workforce capacity planning : Workforce capacity planning ensures you have enough team members and work hours available to complete jobs. This type of planning will also show you when you need to hire more employees and help you determine how far in advance you need to start recruiting based on the length of your onboarding process.

3. Tool capacity planning : Tool capacity planning ensures you have enough tools to complete jobs. This includes any trucks, assembly line components, or machinery you need to manufacture and deliver your product.

How to start Capacity Planning : There are three basic steps to capacity planning.

3 steps for Capacity Planning

1. Measure : First, you'll need to measure the capacity of your resources. How many deliveries can each of your drivers make in a given period? How many orders can fit onto each of your trucks? How many hours does it take your fleet manager to plan 50 deliveries? It's important to answer these types of questions as accurately as possible because the rest of your plan will be based on these numbers.

2. Analyze : Once you have accurate measurements, you can spend time analyzing this information. Making graphs will help you understand the numbers and make demand forecasting easier.

3. Formulate : The final step is taking all of the information you've gathered and formulating a plan. You can make calculations to see how much it will cost to fund new projects or hire a full-time employee vs. bringing on seasonal part-time workers. You could also calculate the ROI for upgrading a piece of machinery or adding assembly lines to your production facilities. The formulation stage helps you see what the likely outcomes are for various options, so you can make the best decision.

How is Capacity Planning different from Resource Planning?

Resource and capacity planning sometimes get confused with one another, but they are different things – and you need both. Capacity planning is more high level and helps you determine what and how many resources you need to meet demand. Resource planning takes the number of resources available (as determined by your capacity planning) and allocates them to individual projects.

Little Posy Co. – Manages Capacity planning before Valentine's Day

For example, let's say you run a flower shop like The Little Posy Co., and Valentine's Day is your busiest time of the year. You would use capacity planning to determine if you need to hire more employees, bring on seasonal workers, or increase your stock of flowers before February 14. Once you've determined how many workers and how much stock you'll have in February, you would use resource planning to allocate those resources. So, if most of your demand is for vases of red and pink posies, you could allocate the largest portion of your resources to creating those floral arrangements.

The Benefits of Capacity Planning for Modern Business

Capacity planning helps you deliver on the things that are important to your customers. Incorporating this type of strategic planning into your process will help you meet due dates, effectively scale your business, and increase your bottom line.

Reduces stock-outs : Customers don't like to wait, and if they don't have to, they won't. The internet has made it easy for consumers to find products somewhere else if you're out of stock, so you need to reduce stock-outs if you want to minimize customer churn.

In 2004, the Harvard Business Review published the results of a global study where they assessed the behaviors of more than 71,000 customers faced with stock-outs. Depending on the retail category, 21% to 43% of consumers went to another store to purchase an item if it was out of stock. You could lose a third of your potential sales for an item if it's out of stock and, worse yet, that customer may never come back.

Capacity planning can help you avoid stock-outs, and the more you do it, the better you will understand your unique demand. The capacity planning process will help you see how demand fluctuates during different seasons (such as holidays) or how it is affected by events (like kids going back to school). You'll be able to use this insight as a guide for overall decision making and supply chain management.

Increases delivery capacity : McKinsey and Company published a 104-page compendium that illustrates the importance of delivery capacity. Shoppers not only want to be able to have products and food delivered to their door; they want quick turnaround times, which means your delivery process needs to be operating at maximum efficiency. McKinsey's report explains that e-commerce has made up more than 40% of retail sales growth in the United States since 2016, and it isn't showing any signs of slowing down.

As online sales grow ever more popular, delivery capacity is becoming an essential component for many businesses. In another global consumer study conducted by Oracle Retail, 92% of retail shoppers said they would like or love "free one-day delivery by whatever means is most expedient." Capacity planning ensures you have the workers available to deliver products whenever needed, keeping your business competitive.

Identifies process inefficiencies : When you start capacity planning, you have to ask, "what is the maximum capacity of this resource?" Whether you're looking at people, equipment, or products, you'll gain insight into what factors limit capacity, and you'll be able to easily spot bottlenecks that can be fixed or improved.

For example, let's say you run a delivery business. Capacity planning reveals that the amount of time it takes your fleet manager to plan routes is preventing your business from being able to take on more deliveries. You realize that even though you have the trucks, drivers, and products to deliver more orders, your fleet manager requires a lot of lead time in order to effectively plan routes for new orders. You could use this insight to replace your manual planning system with route optimization software. In fact, one of our clients doubled their scheduling capacity by doing just that.

Southern Star is in charge of transporting natural gas to seven states in the U.S. In a single week, Southern Star's 250 technicians can perform up to 2,500 maintenance activities on pipelines that span 5,800 miles. Capacity planning helped Southern Star spot inefficiencies in their scheduling process. As a result, they started using OptimoRoute, and now they are able to fit 100% more tasks into pipeline maintenance and service schedules.

Facilitates risk management : At its core, capacity planning is a roadmap for your business. Both short- and long-term capacity planning help businesses understand their strengths, weaknesses, and limitations. You'll be able to make informed decisions about how fast you should scale your business, when is the best time to launch a new product, and when you need to hire new employees.

Capacity planning will better prepare you to overcome obstacles, too. No matter how much planning you do, you'll still need to be able to respond quickly when unexpected challenges arise. If your supplier suddenly goes out of business or three of your 10 drivers come down with the flu, you'll need to have high-level plans in place to use as a guide, so you can make smart adjustments quickly.

Optimoroute is providing best solutions in logistics industry and Capacity Building domain

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WTO UPDATE

DDG ZHANG: COOPERATION IN TRADE AND INVESTMENT NEEDED TO REVITALIZE WORLD ECONOMY

Speaking at the World Investment Forum of the United Nations Conference on Trade and Development on 22 October, Deputy Director-General Xiangchen Zhang underlined the importance of international cooperation on trade and investment to enable economies, including developing and least-developed countries, to recover from the COVID-19 pandemic. "Trade and investment serve as twin engines to power the world economic recovery from the pandemic," he said. "Expanding trade and investment and strengthening economic resilience will require more trade and investment cooperation — at the multilateral, plurilateral and regional levels." His full remarks are below.

Excellencies,
Distinguished panellists,
Ladies and gentlemen,

Good morning. I am very pleased to join you today and would like to applaud UNCTAD's efforts to organize this high-level World Investment Forum — as well as this session on "The Investment, Trade and Development Nexus" together with the WTO. This year marks the third time that we hold this session together.

I would like to begin by reassuring that trade and investment have been phenomenal drivers of economic growth and poverty reduction in many parts of the world over the past 30 years. In particular, participation in global value chains has been a force for economic diversification, job creation and development. With servicification and digitization, global value chains have made trade and investment flows increasingly interlinked and mutually reinforcing. They are the "two sides of the same coin".

The imperative to recover from the COVID-19 pandemic has made this twin role of trade and investment flows more important than ever before. The pandemic has brought massive disruptions to all aspects of our social and economic lives. In particular, it has acted as a massive 'stress test' both for the world trade and investment — causing unprecedented shocks to global value chains. In 2020, the value of global trade in goods and services fell by 9.6%. Global investment was hit much harder — with FDI flows falling more steeply, by 35%. Greenfield projects in developing countries which are key for industrial and infrastructure development fell by 42% in 2020.

Today's hyper-connected global economy has made the world more susceptible to shocks — but it has also made it more resilient when they strike. The multilateral trading system has again stood the test of time more than many expected as its core principles and rules helped to prevent the world from sliding into a full-fledged protectionism.

Specifically, the reality check shows that while the pandemic brought strains on the global value chains, and there are problems, e.g., semiconductor scarcity and port backlogs, there has been no such as a total breakdown. The dip in world merchandise and services trade during the pandemic has been significantly smaller than the one during the 2008-09 global financial crisis. Goods have continued to flow across borders, as many economies have gradually begun to recover albeit unevenly. Services trade such as sectors related to travel and leisure, business, financial and telecom services witnessed growth of 6% in 2021 due to their ability to go online. Foreign direct investment flows rebound less quickly than trade flows largely because investors' confidence is more prone to uncertainty.

With technological advancement and waves of digitization, trade and the investment nexus become even stronger. They serve as twin engines to power the world economic recovery from the pandemic. Particularly, they are crucial for developing and least-developed countries with small internal markets and limited ability to spur recovery through fiscal stimulus packages. They are vital to operate the much-needed shift towards a more sustainable, greener, and digital economy — to build forward better and enhance resilience. This is a pressing imperative in the face of increasingly frequent and more intense natural and man-made disasters.

On the trade front, it cannot be emphasized enough of the important enabling role of the services sectors.

Services and services trade are glue and inputs to GVCs with increased value addition to GVC exports. On the investment front, FDI patterns have shifted towards more resilient and diversified supply chains as well as sizeable recovery investment packages, notably on the energy transition, green technologies, digital and physical infrastructure, and health. Therefore, support for manufacturing, services, digitization and environmental sustainability are priorities and need to be elevated in the national development policy agenda.

At the same time, expanding trade and investment and strengthening economic resilience will require more trade and investment cooperation — at the multilateral, plurilateral and regional level. A transparent, predictable, and business-friendly environment is key for trade and investment to flourish. Next to existing WTO Agreements, ongoing "Joint Statement Initiatives"(so-called 'JSI') on Services Domestic Regulation, e-Commerce, and Investment Facilitation for Development aim at reducing trade and investment costs, and enhancing transparency and predictability of national regulations and administrative procedures. WTO recent studies have shown that there is a positive correlation between reduction of red tape and the improved economic performance and gains.

Let me briefly elaborate on the negotiations on the Agreement on Investment Facilitation for Development.

The initiative aims to improve the overall investment and business climate — making it easier for investors to invest, conduct their day-to-day business and expand. Since their start, participants have explicitly excluded market access, investment protection and investor-State dispute settlement from the negotiations. Special and differential treatment and technical assistance and capacity-building are built in as key pillars of the Agreement to benefit developing and least-developed Members in their implementation.

Discussions are currently ongoing among over one hundred WTO Members from all regions and at all levels of development. Participating Members in the initiative are aiming to achieve a concrete outcome by the next WTO Ministerial Conference to be held in Geneva in just over a month. Ultimately, facilitating investment is in everyone's best interest.

Let me conclude with two brief remarks.

- First, we will be able to overcome the current pandemic — and emerge stronger from it — only through more cooperation, more transparency and more capacity-building;
- Second, we will be able to reduce the funding gap to achieve the Sustainable Development Goals only if trade and investment are facilitated to thrive jointly and expand sustainably.

In both, the WTO and UNCTAD have a critical role to play. I am therefore extremely pleased to see today that our two organizations stand ready to reinforce and deepen our cooperation to achieve these common goals.

Thank you for your attention.

Source: WTO Website

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COMMODITY INDEX

Commodities	Days's Index	Prev. Index	Week Ago	Month Ago
Index	3516.0	3516.7	3498.2	3359.9
Bullion	7476.5	7513.5	7529.4	7064.0
Cement	2497.5	2497.5	2431.1	2431.1
Chemicals	2407.3	2407.3	2407.3	2239.0
Edible Oil	3130.7	3130.7	3142.5	3171.6
Foodgrains	2557.9	2544.2	2551.2	2527.9
Fuel	3921.8	3907.2	3854.0	3630.9
Indl Metals	1920.0	1920.1	1920.1	1920.0
Other Agricom	2457.4	2457.4	2457.4	2455.9
Plastics	3389.5	3389.5	3324.8	3011.9

Source: ETIG Database dated 29th October 2021

DIGITAL INDIA NOW A WAY OF LIFE, SAYS MODI

Our local tech solutions have the potential to go global, he says.

Digital India mission, launched five years ago, was not being seen as any regular government initiative and had now become a way of life, especially for the poor and marginalised and those in the government, Prime Minister Narendra Modi said on Thursday. He asserted that 'technology first' was their governance model.

"India is uniquely positioned to leap ahead in the information era. We have the best minds as well as the biggest market. Our local tech solutions have the potential to go global... It is time for tech solutions that are designed in India but deployed for the world," he said in a virtual address to Bengaluru Tech Summit 2020.

Addressing the summit, Australian Prime Minister Scott Morrison said India and Australia have unlimited possibilities of working together in space research, critical minerals, 5G, Artificial Intelligence, quantum computing and much more.

Mr. Modi claimed that at the peak of the **COVID-19** (**coronavirus**) lockdown, it was technology that ensured that the poor received proper and quick assistance. "It is technology that gave confidence that we could vaccinate our large population in a short period of time. Technology has also played a vital role in the success of world's largest healthcare scheme **Ayushman Bharat**", he said.

Talking of the government's **Swamitva scheme**, he observed that it was an ambitious scheme to give land titles to millions of people in rural areas and would be achieved through technology like drones. "This will not only bring to an end many disputes but will also empower people. Once property rights are given, technology solutions can ensure prosperity."

Cybersecurity solutions

With rapid increase of tech use, data protection as well as cybersecurity became very important, the Prime Minister pointed out. He called on the youth to play a big role in devising robust cybersecurity solutions which, he noted, could effectively "vaccinate digital products against cyber attacks and viruses."

He said, "We are in the middle of information era and change was 'disruptive and big'. Achievements of the industrial era are in the rear view mirror, and now, we are in the middle of information era. Future is coming sooner than anticipated." The government had taken measures to ease the compliance burden on the IT industry.

Highlighting the differences between the industrial age and the information age, he said that in the information era, the first mover did not matter; the best mover did, and "anyone can make a product any time that disrupts all existing equations of the market." In the industrial era, boundaries mattered but the information era was "all about going beyond boundaries."

Technology was also setting the pace for the defence sector to evolve, Mr. Modi said adding that from software to drones to UAVs, technology was redefining the defence sector.

India-Australia partnership

Mr. Morrison said they would soon launch the Australia-India cyber and critical technologies partnership grant programme. "The relationship between India and Australia is going from strength to strength; we share a deep desire to succeed and see our region prosper in peace and safety, as ultimately that is all our technology ambition is all about, the prosperity and safety of us all".

The two countries were working together for an open, free, safe and secure Internet. They have signed the landmark Australia-India Technology Framework on cyber and cyber-enabled technology, Mr. Morrison stated.

Australia believed that technology held the key to new science, medical research, reduction of carbon emission and tackling of global climate change, and it was now at the forefront of foreign policy, security and defence. "It is pushing us to new frontiers in civil liberties and law, in data privacy and protection. That is why the countries like Australia and India are coming together to work on the new technology challenges and opportunities," Mr. Morrison added.

Source: The Hindu

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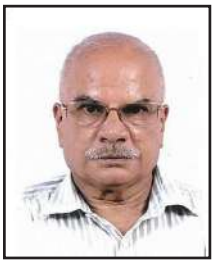

IMPLEMENTING: MANAGING: COMPLIANCE ACROSS SUPPLY CHAIN

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ABSTRACT OF THE STUDY/REVIEW:

Supply chain normally does rely upon vendors for supply, provide good service, allow vendors, suppliers, allowing vendors, suppliers also to continue their supply in supply chain. Vendor or supplier compliance is all about setting up the requirements for any vendor or suppliers in the organization, with an attempt to have an perfect order, able to resolve the perfection in supply chain.

Vendor compliance is important in any organisation, that reliance on proper delivery, shipping, as supplies are considered to be vital for most of the organisation, having a policy of compliance, to help, also to ensure that the vendors or suppliers will deliver the materials, components, products in the required time. Improving supplier compliance in supply chain, is to access the capability, information on supplier, data management, is the most critical starting point in managing contracts, also monitoring the contracts among the suppliers in supply chain.

Supply chain in order to assess the compliance ratio, is on the disputed invoice in hand to the total invoice that is paid, the total difference between the price that is paid upon the invoice to the price quoted by the vendor or supplier. Supply chain compliance on audit, is the effective way a delivery, in any organisation, is complied with a social responsibility, principles, that helps the brands, ensuring that the suppliers from the own organisation, adhere to the ethical practices in supply chain.

Key Words: Vendor compliance: Supplier compliance: Compliance on audit: Ethical practices: Data management: Monitoring the Contracts:

INTRODUCTION: Supply chain awareness is considered as an important factor in compliance, in understanding the supply chain, including suppliers, sub-contractors, the materials, the parts, products, as well as the relationship of obtaining the materials, parts, products, into a centralised system , in order to bring awareness of the products, materials, parts in supply chain.

Supply chain compliance is a never a onetime activity, it is done in the right way, as the strategic management, process have to be defined, which is repeated with vendors or suppliers, who are involved in organisation supply chain. Supply chain regulation, authorities to see that the complete documentation, compliance, with highly qualified data, also to ensure that the data are collected, through the assessment of audits, data management, results, accessible, to that the help suppliers compliance, or assessment with centralised management compliance with the objective of achieving the best in supply chain management. Existing vendors in supply chain, should necessarily be assessed to insurance, safety, environment, sustainability, legal, financial implication, that may help to improve the visibility, trust, relationship, as the required documents should be stored at a single location, so as to manage in accessing with data, so as to monitor, analyse, vendors compliance in supply chain. Supply chain implementing supplier compliance, managing vendors, payments, on behalf of customers, able to mitigate risks, caused by suppliers with non-compliance, to have to continue with supplier performance, improve, significantly exceed target in line with better documentation, delivery, reducing, variability, with reduced freight cost, improving product availability, performance with vendor behaviour in supply chain.

PURPOSE OF THE STUDY: Supply chain investing in a dashboard compliance solution, provides the organisation to integrate data, collected from various sources or systems, to be utilized, stored in a central warehouse, so that they can be extracted when in use, or communicates in supply chain. Supply chain can thus eliminate the time spent on the data for the purpose of business, the data available manually, to create a better report for key factors of compliance dashboard, also the filter the required data to generate reports in supply chain. The collected data provides the organisation, utilize the data to monitor the key indicator performance in supply chain.

Supply chain bringing more resilient, provides an opportunity to adjust to various tendencies, while considering a regulatory risk, compliance, measures, corruption, fraud, controls on import, export, sanctions, environmental governance, that require compliance in supply chain. The requirement of compliance having liability in labour, health, safety laws, with procurement activities may become liable to receive favours, misuse of assets, process fake purchase order, invoice, manipulate legitimate document are also liable to generate misconception, so as to bring about regulatory, compliance in supply chain.

Procurement compliance was to bring together the function, of setting standards, through cost savings, supplier management, contract compliance, risk management, with the best use of the available technology, procedures, policy in supply chain.

LITERATURE REVIEW: Supply chain should recognise 80% of the role in procurement as an important process for collaboration, efficiencies, ensuring better corporate policies, to work with third party logistics, data provider to implement make sure that the data is not outdate, but accurate, but reliable, if it is confirmed to be global data, also to verify that the suppliers globally, are doing their utmost best, so as to identify the areas of expose, also protect supply chain.

Supply chain compliance risk about 60% does incur in financial loss, legal penalties, as the organisation, does use third party logistic, their technologies, as a part of the operation in their supply chain. Supply chain customers, regulators, expect about 80% transparency, of the products, market share, compliancy, also the complete knowledge of the product, procurement, substance, materials,

ingredients, flow paths, also sourcing, with real-time visibility in supply chain.

RESEARCH METHODLOGY: Supply chain regulations are increasingly scrutinizing compliances as a result audits have become a statutory, effective, execution, implementing operation of business thereby highlighting the cost of operation in supply chain. Supply chain continuous improvement helps to ensure an appropriate remedial measure, also periodic evaluation on compliances of measurement of the ethics, the failures, breaches, also the implementation of effectiveness of the organisation, either with the implementation of better compliances, also bring progress, so as to avoid disruption, risk in supply chain.

Supply chain rapid progress, the changes with the status of present global compliances, have the uncertainty, have compelled the organisation, to achieve power to spend more time on compliances, also assurance from suppliers in supply chain. Supply chain adopting traditional methods, evaluation, risk, disruption policies, also the measuring success based on the past assumption, have also been able to instigate operational, legal, continuity in organisation business, also go ahead with better compliance, to increase certainty, bring in standardization, and also bring in better communication, transparency with suppliers, assurance, material disclosures as condition in supply chain.

Compliance in supply chain with existing technology, third party can improve the work-flow, without any changes, as compliance, continues to change, adopt new requirements, as per the growing needs, also integrate in to the required systems, maintain work-flow, to improve the performance in supply chain.

RESULTS: Supply chain compliance comes in operation, when choosing new procedures, the legalities, for safe business operation, as any non-compliance results in disruption, with negative impact, likely to damage the organisation prominence, product in supply chain. Supply chain in order manage compliances requirement effectively, needs sufficient knowledge, also access to information, ability to interpret, the impact on the compliance requirement with capacity to the potential risks in supply chain.

Supply chain suppliers have necessarily to be updated upon compliance policies, procedures, within the organisation, to be encouraged with also non-compliances in order to identify, disruption, risks, so as resolve identification in supply chain.

Supply chain supporting procurement compliance, consideration, to support the organisation business, strategy is to improve competition, with better internal controls, finance, also identify, exploit, the opportunities for better improvement, better relations in supply chain.

Efficient procurement compliances is to ensure that the organisation follows the procedure of proper ordering, approvals, regulating the complex procedures of suppliers, as in the requiring of raw-materials, spare parts for manufacture products in supply chain.

Compliance in supply chain with increase dependence on valuation of market data, provides the objective to identify, measure, monitor, manage uncertainties, with transparent, pricing, to eliminate discrepancy, reliable on data, transparent, across supply chain.

DISCUSSIONS AND FINDINGS;

Supply chain compliance on most critical ability in the responses, is the inability to obtain proper raw materials, needed for manufacturing, products, also the inability to purchase, import, products, for any emergency requirement in production.

Supply chain has also the compliance for the decrease in demand, of the products, which may rather result in slow progress of movement of products, goods, idle investment in capital, inventory.

Supply chain disruption in logistic due to epidemic, political conditions, instability, of the downstream suppliers, creating environmental, social, governance, risk to the organisation, addressing risk arising out of any new regulation, will only have impact on data security, also affect the compliance of the organisation in supply chain.

Supply chain should take the compliance at the tactical level, following strategic guidelines, to identify, negotiate, terms, beneficial to the organisation, as this varies from supplier to supplier, with tactical negotiations, as they should be able to balance the expectations, challenges of the organisations in supply chain.

FUTURE WORK/CONCLUSIONS:

Supply chain strategic decisions are made by organisations, to establish manufacturing locations, which are to be operated with compliance in supply chain. Supply chain tactical decisions are normally taken up to know how the products are produced, cost, with quality, so as to bring in compliance in supply chain.

Supply chain tactical decisions, does require good knowledge, methods to be adopted, proper inventory management, with innovative ideas in supply chain, with good compliance to save time, on the capital invested, with innovative ideas, with proper effort of the organisation in supply chain.

Supply chain should take the compliance of the strategic cost, benefits, with global suppliers, try to adopt strategic policies to take advantage of the international supplies, providing quality products at competitive price in supply chain.

Smart digitalization, can build resilience, compliance, increase end-to-end, visibility, ultimately optimises, global technological, innovation, allow logistic to not only improve, if not done right, with new solution, elevate opportunities, make logistic competitive with growing increase in business in supply chain.

SOURCES OF INFORMATION FROM ELECTRONIC MEDIA:

1. **MANAGING SUPPLY CHAIN AND PRODUCT COMPLIANCES COMPLEXTIES: Metricstream thrive on risks:**
2. **REGULATORY COMPLIANCE IN GLOBAL CHAIN PINSET: Dr. Eike W.Grunet: Rachtsanwait Partner:**
3. **WHAT IS SUPPLY CHAIN COMPLIANCE RECIPROCITY: Published by Reciprocity: February 26th 2019**
4. **MITIGATING COMPLIANCE RISK IMPLICATION GLOBAL SUPPLY CHAIN: Deloitte:**

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MINISTRY OF ROAD TRANSPORT AND HIGHWAYS DELIBERATIONS -PM GATI SHAKTI - NATIONAL MASTER PLAN FOR MULTI MODAL CONNECTIVITY

The two-day event to mark the launch of ambitious "PM Gati Shakti - National Master Plan (NMP)" for multi-modal connectivity concluded today. The event was launched by Prime Minister Shri Narendra Modi on Wednesday.

While inaugurating the event on Wednesday, the Prime Minister stressed that the people of India, Indian industry, Indian business, Indian manufacturers, Indian farmers are at the centre of the Gati Shakti campaign. It will give new energy to the present and future generations of India to build the India of the 21st century and will remove the obstacles in their path, he pointed out.

The Prime Minister highlighted the need for holistic and integrated development across departments to create next generation infrastructure by fostering 'will for progress, work for progress, wealth for progress, plan for progress and preference for progress'.

In his concluding remarks today , Secretary MoRTH Shri GiridharAramane said ease of living should be facilitated by whatever Government is doing. Giving the example of Metro rail, he said unless the Metro station has access to residential colony, the common man will not be able to use it.

Stressing upon the need for unified thinking in planning of each infrastructure project, Shri Aramane said. "While planning / conceptualizing itself, the unity has to come into the thinking of various Ministries and Departments. That's a crucial point which Hon'ble Prime Minister underlined for which he made us available a digital platform, which can provide as an integrative way of conceptualizing and planning various infrastructure projects."

Breakout sessions were held on the theme of "Strengthening the National Master Plan", which saw engagement with more than 50 representatives from the industry, including eminent personalities such as Chairman SBI Shri Dinesh Kumar Khara, MD APM Terminal Pipavav Shri JakobFriis Sorensen and President NHBF Shri Vinod Kumar Agarwal. The event commenced with a presentation by Additional Secretary (Highways) Shri Amit Kumar Ghosh. The presentation delved deep into 3 sub-themes: "Developing an institutional framework for planning", "KPI Design and monitoring progress" and "Stakeholder engagement and benefits for citizens".

In his presentation, the Shri Ghosh covered learnings from Indian and global examples on the 3 sub-themes and potential frameworks for solutions. This was followed by group discussions on the three themes. Joint Secretary (Logistics) MoRTH Shri Suman Prasad Singh and Joint Secretary & MD NHIDCL Shri Mahmood Ahmed were key discussants during the group discussion. These discussions were moderated by Shri Prakash Gaur, CEO NHLML, Shri R.K. Pandey and Shri Manoj Kumar, both Members of National Highway Authority of India (NHAI). Various suggestions were received on all 3 sub-themes and are being analyzed by the Ministry for implementation. Speaking at a breakout session on "Stakeholder engagement and benefits for citizens", AS (Highways) MoRTH Shri Amit Kumar Ghosh said structured and well-coordinated engagement process is required to address needs of stakeholders. To avoid missing out key stakeholders on the ground, a careful mapping needs to be conducted for every project going forward," he said

ABOUT NATIONAL MASTER PLAN: The National Master Plan aims at bringing in holistic planning and development across the country. All economic zones and infrastructure developments depicted in a single integrated platform will provide spatial visibility of physical linkages to promote comprehensive and integrated multi-modal national network of transportation and logistics with the aim to enhance ease of living, ease of doing business, minimize disruptions and expedite cost efficient completion of works. NMP will boost economic growth, attracting foreign investments and enhance the country's global competitiveness there by enabling smooth transportation of goods, people and services and creating employment opportunities.

The National Master Plan will also aid concerned Ministries/Departments to prioritize connectivity enhancements for ensuring last mile connectivity to economic zones in a defined time frame. The development of a GIS based ERP system, in collaboration with BISAG-N (Bhaskaracharya National Institute for Space Applications and Geo-informatics), will enable all stakeholders and the Network Planning Group consisting of Infrastructure connectivity Ministries in spatial planning, evidence-based decision-making, administration and effective monitoring of the Master Plan on a periodic and real time basis. With over 200 layers, the Portal will provide visibility of all the critical network linkages and support the Network Planners for decision making for better efficiencies in the logistics sector.

Source: PIB

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TECH-BASED SOLUTIONS TO EMPOWER THE INDIAN MSME LANDSCAPE

Overview – MSMEs Sector in India Micro, Small and Medium Enterprises (MSMEs) in India play a pivotal role in generating employment opportunities at lower capital cost, reducing regional imbalances and promoting industrialisation in rural areas. Almost all sectors in India including MSMEs are undergoing significant transformation owing to digital initiatives brought about by new-age technologies such as artificial intelligence, data analytics, machine learning and financial & accounting intelligence. New-age technologies are also spurring new business models in MSMEs such as the following: Brego—provides real-time insights from a firm's financial data; LendenClub—connects lenders and verified borrowers through its platforms; and Meesho—enables small businesses to sell products online through social media channels. Most of these technologies are designed to help MSMEs automate and generate intelligence from their daily operations or connect with stakeholders (such as financial institutions, buyers or suppliers) to help them increase productivity and innovate further.

The pandemic has also pushed this sector to uptake newer technologies and innovate for growth and survival. In the last quarter of 2020, Dun & Bradstreet surveyed 250 small business owners to understand the impact of COVID-19 on their operations. 54% respondents stated that they have managed to reduce operational costs through digitisation of daily activities and 51% revealed that adoption of new technologies/ digitisation has enhanced their competitive positioning. The advent of competitive services, multichannel distribution models, involvement of multiple stakeholders and multimodal needs have made it crucial for MSMEs to have greater visibility of their operations, while monitoring the quality and delivery of goods, to avoid any hiccups.

Key Stats of MSMEs in India: India has ~63 million MSMEs. The 73rd National Sample Survey (NSS)—conducted between 2015 and 2016—revealed that the MSME sector has generated 11.10 crore jobs across the country, contributing to ~22% jobs in India. Among states, Uttar Pradesh and West Bengal are the largest contributors to the MSME sector (with 14% each), followed by Tamil Nadu and Maharashtra at 8% each.

Estimated Number of MSMEs (by Activity)

Activity	Estimated Number of Enterprises (in lakh)			Share (%)
	Rural	Urban	Total	
Manufacturing	114.14	82.50	196.65	31
Electricity*	0.03	0.01	0.03	0
Trade	108.71	121.64	230.35	36
Other Services	102.00	104.85	206.85	33
All	324.88	309.00	633.88	100

*Non-captive electricity generation and transmission
Source: MSME Annual Report 2020-21

About 36% MSMEs operate in the Trade sector, followed by Other Services (33%) and Manufacturing (31%).

MSMEs contribute significantly to India's Gross Domestic Product (GDP) growth. As reported by the Ministry of Statistics & Programme Implementation (MOSPI), the sector's contribution to the GDP at current prices (for 2014-15 to 2018-19) stood as the following:

Share of MSME Sector in India's GDP (%)

Liberalised FDI Policies & Government Schemes Uplifting MSMEs : India has liberalised FDI policies that now permit 100% FDI under the automatic route in most sectors including MSMEs. The FDI policy on 'Single Brand Product Retail Trading' has lent a major boost to the MSME landscape in India. The policy mandates sourcing 30% goods from India, especially MSMEs in village & cottage industries, artisans and craftsmen. Acknowledging the significant contribution of MSMEs to India's economic growth, the government also supports the sector with timely business loan schemes and relief packages.

For instance, in May 2020, Rs. 20 crore (US$ 2.66 million) economic relief package was announced for MSMEs. In June 2020, a credit guarantee scheme called the 'Distressed Assets Fund – Subordinate Debt for Stressed MSMEs' was announced to extend credit facility through lending institutions to stressed MSMEs. This scheme (earlier valid until March 2021) has now been extended until March 2022. Various other loans (specific to MSMEs) such as Micro Units Development and Refinance Agency (MUDRA) Loans and National Small Industries Corporation (NSIC) subsidies are facilitated by the Government of India since 2015. Nationalised banks such as Kotak Mahindra, ICICI and SBI are also offering specialised loans for the development of MSMEs since many years.

Contribution of Tech-based Platforms in the MSME Growth Trajectory : Government intervention in the MSME landscape is generally limited to dealing with the financing issues of MSMEs. And, this is precisely why the new-age start-ups have stepped in. Emerging tech-based platforms are now helping MSMEs upscale and integrate their operational capabilities. Most tech-based platforms specialise in various domains, helping them cater to various facets of MSME operations such as planning supply chain & logistics, channelising workflow among interlinked departments and monitoring product quality.

Numerous start-ups and technology firms focused on providing new-age technology solutions—such as providing data insights, artificial intelligence, augmented reality (AR), machine learning and the Internet of Things (IoT)—are now helping MSMEs harness the full potential of tech deployment in their operations. More than 50% MSMEs in India are in rural areas and it is imperative for tech solutions to meet their existing requirements despite challenges such as limited internet reach, and lack of adequate capital, technology and innovation. Some prominent tech enablers empowering MSMEs in financial & operational services are listed below.

Tech-based Financial Solutions Lenden Club – Founded in 2015, LenDenClub is a peer-to-peer platform that connects lenders and verified borrowers. It facilitates small-ticket loans through its platform Instamoney to MSMEs that have limited financial support from banks. So far, the company has serviced 2 million clients and disbursed >Rs. 10 billion (US$ 132.8 thousand).

Brego – Established in 2019, Mumbai-based Brego is helping MSMEs get real-time insights from their financial data through a mobile-based SaaS application. The app provides easy access (via mobile phones and even web browsers) to key financial parameters such as sales, receivables, profit & loss and cash flow to stakeholders, providing visibility of their financial operations. The app also enables business owners to share real-time reports with team members, clients and vendors through WhatsApp or email.

PayNearBy – Launched in April 2016, PayNearBy provides a variety of financial and non-financial digital services to local retailers. The firm currently serves 15 lakh+ retailers and plans to expand this base to 5 million stores across Tier I & II cities and rural towns in the near future. Retailers can avail various facilities such as cash deposit & withdrawal, money transfer, savings, insurance, travel, digital payments and government benefits.

Numerous other players such as MSwipe, RazorpayX, RXIL, Algo360, Cashinvoice and Happy Loans are empowering the MSME sector with their fintech offerings.

Tech-based Operational Solutions Meesho – Founded in 2015 and headquartered in Bengaluru, Meesho enables small businesses and individuals to sell products online through social media channels such as WhatsApp, Facebook and Instagram. In August 2020, Meesho also partnered with fintech start-up Klub to provide financing solutions for MSMEs. Interestingly, Meesho recorded 750% growth in user base last year during its flagship festive sale event alone, with 60% demand driven by tier 4+ markets including remote locations in the country.

Alignbooks – Established in September 2016, Alignbooks is a cloud-based accounting software designed to help MSMEs automate their invoicing system. So far, the firm has serviced over 30,000 MSMEs in India and processed over 15 lakh invoices for customers. Alignbooks has also released an offline version of its software to cater to the population with limited internet in rural areas.

Tradeindia – Set up in 1996, with a mission to help SMEs go digital, Tradeindia is India's largest online B2B platform that connects buyers and suppliers. The company also provides payment protection plans (TI Pay), Collateral Free Loans (TI Lending) and Logistics (TI Logistics) and is the first company in the country to provide e-commerce and solutions for booking domains, SSL, Adword, SMO and FB Promotion to SMEs.

Locus – Founded in 2015, Locus uses machine learning & proprietary algorithms to automate complex supply chain decisions. In April 2020, the firm launched a free tool 'QuickStart,' which is a self-serve lite version of the product suite designed to help MSMEs improve their supply chain during the pandemic.

Tech giants such as Amazon and Flipkart are also empowering MSMEs with their tech offerings. For example, Flipkart has launched several initiatives to support MSMEs—the Samarth Programme, which is onboarding Indian artisans, weavers and handicraft producers onto e-commerce; and partnership with the Federation of Indian Chambers of Commerce & Industry (FICCI) through which it launched a series of workshops for MSMEs. Similarly, in July 2021, Amazon launched 'Digital Kendras' to boost MSME business owners and educate them on the benefits of digitising their operations. As of April 2021, Amazon has digitised 2.5 million SMEs in India. Tech giant Dell frequently addresses MSME challenges and supports the sector through its technology advisors. The company has been organising 'MSMEs Day' on its platform every year since 2019. Other giants such Walmart and Google have also joined the initiative of empowering the MSME community.

The Road Ahead… A survey conducted in 2020 by Endurance International Group, an IT services company, revealed that 30% MSMEs have launched their business websites or tied up with e-commerce platforms and >50% MSMEs have adopted video conferencing tools to ensure business continuity since the pandemic-induced disruptions. MSME is one of the most crucial sectors in the Indian economy, accounting for 48% annual exports, contributing 30% to the GDP and being a major employer. Tech-based solutions have immense potential to enrich MSME businesses. According to the Cisco India SMB Digital Maturity Study 2020, digital adoption will enable SMEs to add US$ 158–216 billion to India's GDP by 2024. Interestingly, India's technology start-up ecosystem is also fuelled to revolutionise the entire business system backed by favourable government policy, ever-growing consumer base and increased technology skillset among the educated young population. India has about 7,000+ technology start-ups and their numbers are spiralling every year (by 35-40%). Uptake/adoption of tech-based solutions is expected to accelerate the MSME outreach to a wider customer base that can be accessed only through digital marketing and AI solutions

Spurce: IBEF

NITI AAYOG – UNDP LAUNCH HANDBOOK ON SUSTAINABLE MANAGEMENT OF PLASTIC WASTE FOR ULB'S

NITI Aayog and UNDP India launched a handbook to promote sustainable management of plastic waste in the country.

The report, titled 'NITI Aayog-UNDP Handbook on Sustainable Urban Plastic Waste Management', was released on 11th October, 2021 by NITI Aayog Vice Chairperson Dr Rajiv Kumar, CEO Shri Amitabh Kant, Shri. Rameshwar Prasad Gupta, Secretary Ministry of Environment Forest and Climate Change, Special Secretary Dr K. RajeswaraRao, and Ms. Shoko Noda, Resident Representative, UNDP India.

The report has been jointly developed by UNDP India and NITI Aayog, in consultation with eminent experts and leading organizations in the domain of plastic waste. The discussion for the Handbook was initiated in February 2021. This was followed by over 20 virtual stakeholder consultations, including Urban Local Bodies, Recyclers, Corporates, Civil Society Organizations, Academia, managed by UNDP. The format included expert interviews, focussed group discussions, and technical workshops covering 14 Indian cities and 4 South East Asian cities. The Handbook presents best practices and examples from cities in India and Southeast Asia which face similar infrastructure and plastic waste challenges.

Dr. Rajiv Kumar, Vice Chairperson, NITI Aayog emphasized, "Generating mass awareness is the key for achieving sustainable plastic waste management in the cities.He further added "The Indore model of spreading mass awareness and explaining importance of waste management at household levelneeds to be adoptedby other cities. It will be the key to make plastic waste management a people's movement." He further added that innovations which will eliminate the drudgery of rag picking and provide a better quality life for these workers should be encouraged. This will make waste recycling more efficient."

Shri Amitabh Kant, CEO, NITI Aayog emphasized, "The Urban Local Bodies across the country face tremendous pressure to provide efficient waste management services in the midst of an unprecedented scale of urbanisation that India iswitnessing. The country has leapfrogged in sanitation sector, and similarly we need to create a massive Jan Andolanaround plastic waste management to achieve complete recycling of our waste."

He further added that "The handbook covers crucial components for sustainable urban plastic waste management including, technical models, recovery facilities, IEC and digitisation, and good governance."

Dr Rajeswara Rao, Special Secretary, NITI Aayog, said "NITI Aayog has constituted 11 committees for bringing circular economy in various areas of waste management. With complete recycling of plastic waste followed by extraction of valuables and mixing it with virgin materials, the transition to a circular economy in plastic waste sector will be completed." He further added, "Social inclusion of informal workers is crucial for sustainable plastic waste management. Promoting entrepreneurial opportunities and development of waste pickers cooperatives are important initiatives for formalisation of informal workers in the waste management sector."

Shri R.P Gupta, Secretary, MoEFCC highlighted "Only about 9% of the total plastic produced globally gets recycled, about 12% is incinerated and energy is recovered, and rest about 79% gets into land, water, and ocean and pollutes the environment." He further added "Phasing out single use plastic is crucial and to the extent possible, plastic items for which alternatives are available needs to be abandoned. The handbook on Sustainable Urban Plastic Waste Management will play a major role in fulfilling the goal of reducing the use of plastic and increasing plastic waste recycling, and also ensuring that plastic waste is brought to minimal"

"The Plastic Waste Management programme at UNDP promotes the collection, segregation and recycling of all types of plastic waste to protect our environment and create a circular economy for plastics. The programme also ensures the wellbeing and financial inclusion of waste pickers, one of the

most critical stakeholders in the waste value chain," shared Ms. Shoko Noda, Resident Representative, UNDP India.

She added, "The programme is aligned with the principles of Swachh Bharat Mission 2.0. We are happy to share our learnings in this Handbook and provide urban local bodies with replicable models. UNDP is committed and proud to partner with the Government of India, NITI Aayog, state governments and other development partners for this great initiative to ensure sustainable plastic waste management.

"**Sustainable Urban Plastic Waste Management: Summary**

Urban local bodies (ULBs) are mandated under the Municipal Solid Waste Management Rules, 2016, and the Plastic Waste Management Rules, 2016, to manage municipal solid waste and plastic waste at the city level.The handbook is a repository of 18 case studies/best practices from India, including 4 from south Asian countries divided into four major components, including a) Technical models for recycling, b) Material Recovery Facilities (MRF), c) Governance for effective plastic waste management, and d) IEC and Digitization. The book covers every aspect of the entire plastic waste management service chain and will enable Urban Local Bodies and other stakeholders involved in the sector to learn from the successful business and service models covered under this handbook to plan for efficient plastic waste management in their cities according to their requirements and guidelines.

Component I: Technical model for plastic waste recycling and management

This component based on an integrated and inclusive approach by involving different stakeholders and their social benefits, covers, a) Development of a baseline system of plastic waste management at the city level , b) Systems approach for promoting recycling of plastic waste at the city level, c) Stakeholder identification and partnerships, d) Development of regulatory need-gap analysis and proposals for the holistic management of plastic waste

Component II: Material Recovery Facility – For improved plastic waste management implementation

This component explains the complete functioning of a material recovery facility (MRF), beginning from site identification, construction and waste processing mechanisms at the MRF.

Component III: Institutionalization of MRFs in governance bodies

The mainstreaming of waste pickers in the plastic waste management system would result in improved socio-economic conditions for waste pickers and increased recognition in society. This requires the institutionalization of various recommended models and waste pickers by ULBs for long-term sustainability. Some of the major activities are linking services of the waste pickers with MRFs, capacity building, making them financially literate and opening bank accounts for them, linking them to various social protection schemes, providing occupational ID cards, health benefits and personal protective equipment while working, providing facilities like creches or play areas and other basic child education facilities, and creating self-help groups.

Component IV: IEC and Digitalization

This component includes the development of knowledge management mechanisms by establishing an in-built adoptive feedback system from different stages of plastic waste value chain. It also involves the identification of various technology platforms, or technical service providers, linkages with relevant stakeholders such as bulk waste generators (BWGs), recyclers and waste pickers, and the development of protocols for more effective online reporting, monitoring and information exchange.

Various models including, development of entrepreneurial opportunities for waste pickers, development of waste pickers cooperatives to build their own non-profit organization, development of a blended workforce combining waste pickers and non-waste pickers etc. are covered under the handbook. The models detailed in this Handbook aim to bring sustainable plastic waste management into practice. The various systems approach detailed out in the report are aligned with the Swachh Bharat Mission 2.0 and the Plastic Waste Management Rules, 2016 and 2018. These models ensure compliance with regulations and improve resource utilization. The models not only focus on managing plastic waste but also on social inclusion and protection for waste pickers by improving their socio-economic conditions. To implement these models, the role of different stakeholders such as ULBs, recyclers, service providers, brand owners and waste pickers are detailed in this Handbook.

Source: Niti Aayog

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SCALE, BUYING POWER HELP BIG COMPANIES NAVIGATE SUPPLY CHAIN DISRUPTIONS

SARAH ZIMMERMAN, ASSOCIATE EDITOR

Dive Brief:

- Scale and buying power have allowed large companies to keep shelves stocked and stay ahead of shortages better than small businesses, according to recent comments by executives on earnings calls.
- Domino's CEO Rich Allison said in an earnings call last week that smaller, independent restaurants "are less able to buy with the scale and ... lock in pricing as the larger players like we are."
- Executives at Lowe's and Levi Strauss made similar comments in September. Levi Strauss CEO Chip Bergh said the company's size was a "competitive advantage," while Lowe's CFO David Denton said "the scale and breadth of our supply chain" allowed the company to avoid shortages.

Dive Insight:

When it comes to navigating shortages during the pandemic, deep pockets and strong supplier relationships give big businesses an advantage.

"Larger companies, simply based on their larger size and the associated resources and buffers, have generally had an easier time to navigate the pandemic than smaller firms," said Tobias Schoenherr, a professor of purchasing and supply chain management at Michigan State University.

Buying power gives bigger businesses the upper-hand when it comes to negotiating with suppliers, allowing them to lock in long-term contracts at more cost-effective prices. Levi's negotiated most of its product costs through the first-half of 2022 "at very low single-digit inflation," according to Bergh, and the retailer has avoided some of the biggest impacts from rising cost of cotton as a result.

Suppliers tend to give large companies "preferential treatment," said Schoenherr, because of the "clout associated with their larger spend volumes."

Levi Strauss' size and the volume of its orders, for example, helped create strong relationships with suppliers. "Our vendors can think about this demand being there for a long, long time," said Denton.

Larger entities are also better equipped to keep up with supplier cost increases when they do happen. Domino's Allison said rising commodity costs are part of the reason why independent shops are less able to buy with scale.

"I suspect that there is a lot of pressure on the [profit and loss] among some of the independents and smaller regionals out there," Allison said in the earnings call.

Still, that doesn't mean small businesses haven't been able to adapt. Smaller firms were quick to innovate and transform their business models when the pandemic first hit, like when distilleries and breweries changed gears to begin producing hand sanitizer.

That entrepreneurial spirit "can be a significant advantage for smaller firms to be more agile and responsive, and to make decisions quickly to pivot into new directions," Schoenherr said.

This story was first published in our Procurement Weekly newsletter.

Source: www.supplychaindive.com

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NEW E-COMM POLICY TO ADDRESS E-MARKETPLACES' NON-COMPLIANCE: GOVT TO PARLIAMENT

Synopsis

"The new e-Commerce policy seeks to address such non-compliance," minister of state for commerce and industry Som Parkash told Rajya Sabha, adding that traders, retailers and industry associations have made complaints that have been forwarded to relevant government agencies for necessary examination and investigation.

The government informed **Parliament** on Friday that the **new e-Commerce policy** seeks to address non-compliance by marketplace e-commerce entities regarding **deep discounting**, **predatory pricing** and misuse of market dominance.

"The new e-Commerce policy seeks to address such non-compliance," minister of state for commerce and industry Som Parkash told **Rajya Sabha**, adding that traders, retailers and industry associations have made complaints that have been forwarded to relevant government agencies for necessary examination and investigation.

He said that the **Competition Commission of India** is in receipt of certain information where e-Commerce companies are alleged to have entered into anti-competitive agreements or abused their dominant position, and necessary action is being taken.

In a separate reply, he said comments from many stakeholders on draft e-Commerce policy have been received relating to definition of e-Commerce, role of marketplace entities and liabilities of e-Commerce companies, among other related issues

INDIAN FOOTWEAR SIZING

TheDepartment for **Promotion of Industry and Internal Trade** (DPIIT) has initiated the Development of 'Indian Footwear Sizing system' in consultation with **Central Leather Research Institute** (CLRI), Chennai, Rajya Sabha was informed.

"The responsibility of its compliance will continue with the Bureau of Indian Standards," Parkash said in a written reply.

The development includes anthropometric survey, statistical analysis and development of an Indian foot sizing system and involves foot bio-mechanics and gait study, materials identification, lasts fabrication, development of design patterns and comfort parameters, wear trials, generation of specification, taking into consideration all the regional variations, variations due to gender, age and health condition towards indigenisation of key products.

The government told Parliament that high tariffs faced by Indian exporters in key markets such as EU & UK as compared to zero duty access given to competing nations like Bangladesh and Cambodia is affecting India's exports performance.

"Textile industry has been hugely affected due to outbreak of Covid-19 pandemic," Minister of State for textiles Darshana Jardosh told Rajya Sabha

In a separate reply, the minister said that the global pandemic has adversely affected the textile sector due to restriction on social gathering, migration of labourers, disruption of supply chain, thus affecting all the stakeholders from farmers to traders/ exporters in the value chain.

"Due to the unorganized and decentralized nature of the textile sector, the data with regards to production capacity lying idle with the agencies spread in rural areas across the country is not available," Jardosh said.

She said imports from both Bangladesh and Sri Lanka have fallen in FY21 is as compared to preceding year, replying to a question whether it has come to the ministry's notice that huge production capacity is lying idle in textile and clothing industry due to sluggish exports, poor domestic demand and growing imports from Bangladesh and Sri Lanka.

Source : economictimes.com

HOW AUTOMATED PACKAGING MAKES E-COMMERCE BETTER

KONSTANTIN BOHMEYER
VICE PRESIDENT OF CONSUMER PRODUCTS WITH ARVATO SUPPLY CHAIN SOLUTIONS NORTH AMERICA

In the rapidly growing world of e-commerce, where guaranteed one- or two-day delivery times are now the norm, warehouse automation and similar tactics are becoming key differentiators. Retailers and brands are continuously looking for new ways to keep up with ever-increasing order volumes and customer expectations for fast deliveries.

Today's warehouse automation market offers more choices than ever before. All of them need to be taken into consideration in order to make an automation initiative successful.

By deploying different types of automation to supplement manual processes in warehouses, a third-party logistics provider can effectively speed up quality fulfillment times. Among the options to consider is a packaging machine.

An automated packaging machine that produces correctly sized boxes can enhance the customer experience. Consumers receive small products in oversized boxes far too often. Oversized boxes create the need for wasteful void fillers, such as air pillows or bubble wrap. Packaging a tiny product in a large box increases brand shipping or transport costs, reduces volume capacity, and is bad for the environment.

A wrongly sized box might be caused by human error (e.g., a warehouse associate selecting an incorrect size). But it can also be the result of a system issue, where the dimensions of the product aren't accurately recorded in an electronic system, which then pairs the product with an oversized box.

With the surge in e-commerce volume, capacity increases and output consistency have become key warehouse metrics. The increase has only been intensified by the COVID-19 pandemic, which gave many consumers no other option than to shop online. That trend continues even as in-person shopping restrictions are loosening up.

Now that more people are becoming used to the convenience of online shopping, things will never be the same. In a consumer-driven environment, brands and their logistics partners need to prepare long-term solutions for dealing with peak season rushes, rather than being solely dependent on seasonal temp workers.

By implementing an automated packaging system in the warehouse, 3PLs have the opportunity to create as many as 1,000 customized boxes per hour for single and multi-line orders. Products are measured by a 3D scanner so that they can be matched with custom-fit boxes. A shipping label is then automatically applied to the box, and the package is moved to the outbound shipping area.

Producing a unique, perfectly sized shipping box eliminates the need for void fillers. This improves productivity while optimizing labor and reducing shipping costs. Removing plastic, such as bubble wrap, air pillows and tape, also makes the shipping process more environmentally friendly.

This type of automation could be a good fit if products to be fulfilled meet the following criteria:

- Small-parcel delivery for B2C e-commerce is the ideal type of operation for an automated packaging line;
- A high percentage of single line orders can benefit more from this type of automation, even though multi-liners can also be processed;
- Variable product sizes can take full advantage of the unique, right-sized shipping carton for every order, and
- To achieve a positive return on investment, brands need to be able to process at least 5,000 orders or more per day.

If these criteria are met, up to 90% of the manual pack-out operation can be replaced with an automated packaging machine. Depending on seasonal and promotional spikes, there's still a need to maintain manual pack-out, with the automated line producing a consistent output per shift.

The desire for sustainable packaging solutions is especially noticeable in today's fast-growing e-commerce world. Consumers, many of whom receive multiple packages every week, are increasingly expecting "green" packaging from brands.

Having the correct packaging is essential for creating brand awareness. Outer packaging provides a great opportunity for brands to make positive and impactful first impressions on their customers. 3PLs can further enhance their value-added services by integrating advanced software and hardware into their packaging systems. These can be utilized to print logos or trademarks directly onto boxes. They can even go a step further and create personalized marketing messages, often by using a brand's customer database.

Last but not least, it's important to note that returns are an inevitable part of the customer journey. Customers might not like the way their product looks, might not be satisfied with a product's fit, or might want to make a return for a wide range of other reasons. Returns have become particularly common in e-commerce. Warehouse automated packaging machines can be used to create resealable boxes. These are easy to open, close and reseal, in case a package needs to be returned.

There's a wide selection of tools out there for helping brands select the right kind of packaging, many of which are eco-friendly (e.g., using sustainable void fillers and paper tape). When analyzing key factors, such as logistics challenges and the warehouse environment, a brand or retailer might find that an automated packaging system that creates tailor-fit boxes, eliminates the need for plastics, and enables desired capacity increases is the ideal solution.

Source:www.supplychainbrain.com.

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REAL-TIME SUPPLY CHAIN VISIBILITY: CHALLENGES, OPPORTUNITIES AND BENEFITS

Modern-day supply chains are complex and expansive, thanks to diverse supplier networks, customers peppered across the globe, varying compliance requirements, and logistical challenges

JOHN STANLY

According to a survey conducted in 2020 when the current crisis was at its peak, 75 per cent of organizations reported disruption in their supply chains. Around 44 per cent of them lacked a clear strategy to deal with it.

Modern-day supply chains are complex and expansive, thanks to diverse supplier networks, customers peppered across the globe, varying compliance requirements, and logistical challenges. Running operations smoothly and averting risks was hard already.Knowing what's happening in your supply chain is vital, especially during and after market disruptions like these. Supply chain leadership must be enabled to assess immediate tradeoffs between service levels and demand in order to make precise decisions and adapt to unexpected change. And that's where supply chain visibility (SCV) plays a significant role.

According to a Gartner report, over 50 per cent of businesses have not yet actively started building a roadmap for supply chain digital transformation. Having a 360-degree view of the entire supply chain network is of paramount importance. The lack thereof can result in supply chains being disorganized, expensive and inefficient.

For example, consider tracking materials, components, assemblies, and end products from the supplier to the manufacturer and to the customer. The entire process typically involves multiple parties, technologies, logistical service providers and extensive paperwork.

Even if one cog in the wheel doesn't work—say, an unforeseen delay in delivering a component to the production facility (and no one in the chain has real-time visibility)—it causes a domino effect and results in snags or delays in subsequent operations.

Key challenges in supply chain visibility

Businesses have struggled due to a lack of comprehensive visibility in their supply chain networks. Common challenges arising as a result include lack of supply chain planning, integration, and execution; inefficiency in organizing, processing, and managing data; limited availability of useful insights due to technological constraints; lack of synergy between automated systems and manual operations; inability to predict and prepare for risks; inconsistencies in the flow of data between stakeholders; and lack of a single data model to connect vital information from disparate planning and execution systems.

How does real-time supply chain visibility benefit stakeholders?

The year 2020 revealed the vulnerabilities in global supply chains. Transparency and visibility in all aspects of the supply chain are key to preparedness and responsiveness during crises.

For manufacturers, supply chain visibility can help in planning production operations and ramping up capabilities. Real-time visibility can give manufacturing companies excellent insights about production volumes, manufacturing inefficiencies, and raw material sourcing or procurement.

For suppliers, key information and real-time updates about order backlogs can help them strategize or tweak their inventory management processes.

For logistics vendors, visibility means real-time information about cargo batches, consignments, and delivery status. This can let them manage day-to-day operations and track the movement of goods more efficiently.

For the end consumer, it keeps them in the loop about the entire cycle, helping them stay updated about the dispatch and delivery status. Real-time visibility keeps them in the know and enhances customer experience.

From source to destination, having complete visibility of your supply chain is critical in order to ensure that the system works like clockwork. Real-time supply chain visibility can deliver benefits in areas ranging from production planning to order tracking and data integration.

Why real-time supply chain visibility has become indispensable

Here are a few reasons why supply chain visibility has become necessary for today's businesses.

Transparency: Gaining visibility into the supply chain means ensuring complete transparency through the process. This is invaluable for all the different stakeholders involved.

Efficient execution: Getting real-time updates about every stage of the supply chain can enable enterprises to plan and execute strategies more efficiently.

Customer service: Real-time supply chain visibility can help organizations deliver and maintain exceptional levels of customer service. And it is all about customer experience, isn't it?

Minimized inefficiency: Identifying and resolving issues in real time is integral to reducing inefficiencies and navigating potential obstacles.

Informed decisions: Supply chain visibility can help business owners make decisions that are backed by data and insights, thus ensuring smart planning, agile operations, and future-proof strategies.

Improved savings: The availability of real-time data and insights at different stages can help save costs and increase revenues or profits. EY consultants have seen 20-25 per cent reductions in inventory costs, thanks to improved visibility through the supply chain.

5 surefire ways to increase real-time supply chain visibility

Better visibility means assimilating all the data, processing it quickly, and delivering relevant information, in real time. Doing so allows stakeholders make smarter decisions and exercise more control over their respective processes in the supply chain.

Create a unified data model: The foundational element in increasing real-time visibility is a consistent, unified data model to extract, cleanse and load both internal and external data from across your supply chain. The data model enables automation, predictive analytics and new business models, and is the base for building the control tower over your supply network.

Establish a single AI-enabled supply chain control tower: If getting an end-to-end view of the supply chain is the challenge, consider an immersive supply chain management software. Complex demand-and-supply networks and volatile market dynamics beg for real-time visibility and unification.

Your best bet is implementing a single platform that consolidates and converts data into actionable insights. Leveraging AI-powered technology can help predict future outcomes and suggest appropriate plans of action, augmenting the planning, collaboration, and execution aspects of your supply chain.

Focus on customer experience: Customers today expect more from businesses on all fronts. Ironing out aspects such as payment, tracking, delivery and fulfillment can help you deliver a remarkable customer experience, thus improving customer loyalty, and gaining a competitive edge in the market.

This is only possible when you have a high degree of supply chain visibility.

Encourage your employees to adapt to new systems: It is also essential that you train business associates and employees to embrace new SCV technology, data visualization tools, and analytical dashboards and stay updated on the latest trends in this space.

Teams that are willing to adopt innovative solutions, use cloud-based systems, and establish strong workflow processes are more likely to stay on top of their supply chain visibility game.

Invest in automation, predictive analytics and virtual technologies: While reconfiguring your supply chain might seem nearly impossible, you can reinvigorate the system strategically. Digital technologies like robotic process automation (RPA), the Internet-of-Things (IoT), machine learning (ML) and artificial intelligence (AI) algorithms have brought about a fresh wave of possibilities regarding what can be achieved with data.

Identify your major supply chain needs and implement the right mix of technologies to drive maximum benefits within your budget. Transform unstructured data into intelligent insights and automate the supply chain to help create tangible value. Aim for reduced manual effort, shorter turnarounds, improved decision-making, and better revenues.

To sum up, real-time supply chain visibility is absolutely priceless because it helps you not only stay on top of things today, but be ready for the future with a preemptive outlook. Trends such as automation, data-backed planning and forecasting, and real-time crisis management will prove to be key disruptors in the supply chain space.

Boosting the value of the supply chain by improving real-time visibility will continue to be a top priority for forward-looking enterprises that want to accelerate their operations, save costs, and emerge victorious from the slump.

Opinions expressed by Entrepreneur contributors are their own

Source: Entrepreneur

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THE FUTURE OF GLOBAL SUPPLY CHAINS & SUSTAINABLE OPERATIONS

JOE HENDERSON

Sustainable operations are changing, and we're seeing a shift from a pure lowest-cost focus to one of sustainable supply chains that are purposefully designed around diverse performance metrics.

Sustainable Supply Chains

Did you know that it takes around 2,700 liters of water to create a single cotton shirt? This amount of water is equivalent to 900 days of one person's consumption. But where is it consumed?

It's used in a variety of places. It starts in the field when the cotton crop is irrigated and then continues when wet processing the raw cotton fibers through cleaning, and finally when dying the finished yarn or fabric. If you were to build this supply chain, would you know where - and how much - water was consumed and in which steps?

A few years ago this may not have been important to your firm. This is likely because many indirect impacts were hard to identify and quantify, or they were not a priority as companies focused on removing cost from their supply chains. This direction is changing, and we're seeing a shift from a pure lowest-cost focus to one of sustainable supply chains that are purposefully designed around diverse performance metrics.

The Hidden Cost of Goods

Do you know:

- **How much waste you create?**
- **How many greenhouse gases you produce?**
- **How reliant you are on fossil fuels to move your goods?**
- **How eco-conscious your suppliers are?**

Balancing the cost of goods and the diverse metrics to monitor your efforts requires you to create a sustainable supply chain - one that will protect your consumers, the environment, and the brand value that you've created. When Levi's set out to address use of water in their finishing processes, they were able to develop their WaterLess initiative that removed 96% of water consumption from jeans finishing.

To change our supply chains, different ways of thinking will be necessary.

Get the latest on global supply chains in a post-pandemic world by listening to this on-demand HBR webinar featuring Willy Shih, Professor at Harvard Business School.

Designing for Lowest Cost to Serve

From the 1990s through the mid-2010s, getting cost out of your supply chain was the singular mission. As the supply chain encompasses a large portion of the spend in many organizations, this was a natural target for focused fiscal controls. However, this often came with a tangible tradeoff as it introduced harmful ecological outcomes, lengthened transportation lanes, and was generally unconcerned with byproducts of production. To scale and stay competitive, companies pursued the lowest-cost supply chains for sound, rational business principles as it made sense in times of fierce market competition to remove cost, improve margins, and increase shareholder value. Some of this was also driven by the financial-centric KPIs by which these companies were graded and that investors rewarded.

The old adage of 'what is measured gets managed' was the rule. When attempting to balance the complexity in defining impacts with the difficulty in creating measurements, tracking the data, and being able to reliably show the impact of a global supply chain, supply chain planners went with what they knew. Fragmented supply chains - ones with a combination of direct control and outsourced services - along with global footprints and emerging data technologies meant starting these early initiatives might have been difficult, imprecise, incomplete, or all of the above.

It used to make sense, but the nature of competition and access to data has evolved, making more sustainable supply chains attainable.

Due to efforts in public records accessibility, transparency in multi-echelon global supply chains, and public and nonprofit advocacy, it has become increasingly easy to get the information needed to

assess your direct supply chain's current sustainability and to incorporate good benchmarks for estimating the impact of your end-to-end value chain. With this increased access to information, what can we measure?

It used to make sense, but the nature of competition and access to data has evolved, making more sustainable supply chains attainable.

Supply Chains Create Diverse and Manageable Impacts

Supply chains create a wide variety of outputs that offer opportunities for reduction or elimination as you pursue a better sustainability footprint.

Emissions

	Greenhouse Gas	Global Warming Potential (GWP)
1.	Carbon dioxide (CO_2)	1
2.	Methane (CH_4)	25
3.	Nitrous oxide(N_2O)	298
4.	Hydrofluorocarbons (HFCs)	124 – 14,800
5.	Perfluorocarbons (PFCs)	7,390 – 12,200
6.	Sulfur hexafluoride (SF_6)	22,800
7.	Nitrogen trifluoride (NF_3)[3]	17,200

Emissions comprise a huge category of greenhouse- and ozone-depleting gases that companies can manage and control. While CO2 is generally considered the shorthand, there are actually a number of common exhausts such as hydrofluorocarbons which are regulated and incredibly damaging. Analyses are often constrained to the direct impact of transportation, but a thorough analysis will incorporate the production environments as well. For example, coffee roasting results in a large amount of nitrous oxide as an unavoidable byproduct of the process.

Packaging

The consumption of packaging is of great concern for an environmentally conscious supply chain. Are you using virgin materials? How much is going into the product and how much is in your shipping containers? Circular supply chains recapture as much of this material as possible and reuse it directly - pallets and filler materials - or have strong recycling and repurposing programs when not. The public's reduced preference of plastics due to their often single-pass life in a supply chain is imparting pressure on firms to reduce or eliminate it entirely. This is an overlooked part of the process and primed for reengineering for the greater good.

Byproducts

Byproducts have gained an incredible focus in recent years. Remember that cotton t-shirt? The water used in its creation isn't necessarily lost. Improvements in recapture and filtration technology means that water may not be single pass anymore. When it leaves the facility, good environmental stewards have factored that in and removed large quantities of contamination. Unfortunately, not all byproducts can be mitigated or removed from today's processes. You should address the reality of the process even if there is no immediate solution for it and measure these materials.

These categories are among the vast field of opportunity to identify, measure, and report on the impacts of supply chains. Getting critical on identifying not just what you do, who you serve, and what you serve them, but also the knock-on effects that are so often overlooked, will prime an organization to answer the next questions on the path to a more sustainable supply chain: what's important, and, where do we begin?

Explore what enterprises expect from the modern supply chain by reading this whitepaper by The Hackett Group, The Digital Supply Chain's Evolving Role In The Enterprise Agenda.

Companies and Consumers Seek Change

There isn't a single narrative on the necessity of this change. Many companies approach this as necessary to align with their own internally driven core values and brand. Other companies respond to external pressures from changing social demands or the direct activist intervention of their investors. Whatever the reason, the rallying cry of sustainable supply base practices are becoming center to many companies' stated goals for the next 10 to 20 years as they seek the middle path of delivering on customer needs while doing so in as environmentally friendly a way as possible. Firms from IKEA and BMW to P&G and Apple have not just identified targets but also announced specific programs to get there.

Consumers are becoming more mindful of sustainable supply chain practices. A survey identified that 47 percent of internet users had dropped products or services that didn't align with their personal values. Many brands have responded in kind by increasing the amount of transparency reporting on their programs, creating new product lines based around eco-friendly materials or improved environmental impacts, and in their creation of near-term emissions zero or neutral goals.

Operating a globally-distributed network requires awareness of and compliance for a number of environmental regulations. Recent trends in the E.U. specify that regardless of where your headquarters resides, you will have to comply with policies that are specific to where your goods are ultimately sourced from or sold into. The 2013 Timber and 2018 Conflict Mineral laws in the E.U. bloc added a degree of complexity to managing supply chains because it mandates careful tracking and reporting on country of origin as well as the processes by which harvesting occurred. This too extends into how greenhouse gas (GHG) emissions are tracked. The E.U., Canada, and the United States have all developed guidance and measurement criteria for Scopes 1, 2, and 3 emissions tracking and reporting.

Whatever motivates your goals, today's consumers will most likely support and reward your sustainability efforts.

A Recipe for Sustainable Supply Chains

A structured approach to avoidance, monitoring, detection, and mitigation is the recipe to move sustainability from aspiration to an implemented competitive advantage. These are some of the best practices as you begin to change your operations:

1. **Find and recruit diverse support**

   All pushes for sustainability are driven by executive buy-in, employee advocacy, and consumer commitment. Generate a goal and ensure that everyone from leadership to the people making better decisions are committed to your firm's role as a change agent.

2. **Measure and benchmark**

   There is a reason we continue to say, "That which is measured gets managed" - it works. Model your supply chain, attribute metrics to activities, create waste assessments in BOMs, and baseline your footprints. Build transparent assessment and the more comprehensive your measures and acknowledgements become, the more opportunities you'll identify for improvement.

3. **Include your suppliers**

   Mapping diverse and complex global supply chains requires honest partnerships. Information transparency isn't perfect and the best way to get information is to ask for it. Work with your suppliers to acquire Scope 3 measures and collaborate with them on the mitigation of those impacts. Drive stronger partnerships with shared responsibilities and identify who your best suppliers are as you pursue sustainable supply chain goals.

4. **Balance KPIs in models and score cards**

   There can be a strong push toward trying to do everything, yet a mature organization will find the optimal balance between increasing cost and reducing impacts. Some initiatives will save on both as the cost of extended supply chains is often matched by a focus on cost per unit. Adjusting the balance between cost controls and impact reductions provides a menu of potential options for creating a series of improvement initiatives.

5. **Set targets and prioritize quick wins**

   Identify the quick wins and the simplest changes on your path to build a sustainable supply chain. This can give credibility to budding programs; for example, in many instances it has been found that up to 40% reduction in harmful emissions can be delivered for a 2%–4% increase in the cost of production. Ideally, make a public statement of the goal and demonstrate the commitment.

6. **S.M.A.R.T. goals**

   The same logic of personal goals applies to sustainability initiatives. Make sure goals are S.M.A.R.T.: specific, measurable, attainable, relevant, and time-bound, otherwise they can fail to create the behavioral change that delivers results.

7. **Sustain the sustainability**

   Design sustainable supply chain programs that not only correct the existing course, but also put in safeguards to monitor your supply chain and raise flags when something is amiss. For example:

§ Has a supplier's behavior changed?

§ Have your country of origins declarations shifted?

§ Are you reading concerning news sentiment shifts?

§ Has your model shown that your transactional activity would cause increased emissions or waste?

Trust, but verify, continuously.

8. **Integrate with product development and onboarding**

Problems you don't make don't have to be fixed.

Proactively add elements to your contracts and supplier onboarding, setting out clear values, goals, and expected adherence to them. Create thoughtful recipes and bills of material that remove undesirable components and raw materials and consider the sourcing of the ones you keep in. Do product sampling and facility tours early. Implement irregular, asynchronous auditing practices. Implement machine learning tools to detect trends in information or malfeasance in provenance.

Sustainable Course Correction is Gaining Speed

Sustainability principles are not a well developed muscle that supply chains have perfected since the Industrial Revolution. Developing a more sustainable supply chain is new, it's challenging, and there will be missteps, but the benefits are real. Many firms jumped early to driving measurable success and are now doubling down on their programs. IKEA, Mars, Brambles, and others are not just setting goals but meeting them and going further. In Brambles 2025 sustainability vision, the company is proposing not just mitigation and elimination but moving into a phase of "regenerative supply chain" where they become carbon negative and forest additive.

Consumers are willing to abandon brands that do not change and will pay a premium for an ethically and sustainably sourced product. There is a shift in socially-conscious investing that is also altering the financial mix of these programs. Legislation reintroduced this year to improve transparency to ESG focused funds makes it clear where retirements are invested, and allows for the creation of purely ESG investment vehicles. So while consumers are speaking with their wallets, they are about to have fund managers who represent them, speaking with their combined retirements as well. When paired with investor activism, top-down change can be driven by a firm's future access to growth capital.

Sustainability is good for growth too. Brands that position sustainability demonstrated four percent growth compared to one percent growth for brands that did not embrace these principles. This trend is also disproportionately driven by younger consumers such as Millennials and Generation Z who actively seek out sustainable products and companies. Consumer willingness to bear the cost of these programs can help overcome the balance sheet hesitancy that holds companies back. While doing the right thing isn't free, it will be embraced by a motivated consumer base.

Learn how proactive risk mitigation begins at the very foundation of your global supply chain network design, read our whitepaper: Risk, Resiliency, and Supply Chain Modeling.

Sustainable Together with Coupa

With the growing importance of sustainable supply chains, the market is moving away from lowest-cost as the only way forward. Improved information systems that tie together the entire spend management process from acquisition to disposition enables supply chain analysis only dreamed of in previous years.

As the leader in Business Spend Management (BSM), Coupa embraces the challenge of extracting the maximum amount of value from this information bounty. The Coupa platform's end-to-end, open architecture helps tackle the challenges of piecing together the whole picture from distributed functional systems of record. Accelerated model building frameworks enable Coupa customers to reduce time lag and process friction to a minimum. Creating functionally focused interfaces that are connected to prescriptive intelligence accelerates the speed of turning identified opportunity into behavioral change. Modern modeling tools powered by artificial intelligence and scalable cloud infrastructure make the largest problems solvable and - better yet - ensure your information is on a living breathing platform that drives awareness and empowers change.

With Coupa's robust, cloud-delivered collaborative applications, your planning team in Germany has the same information as your production management team in Brazil that is delivering goods to your retail stores in Australia. Explore what it means to localize and shorten your supply chain. Introduce new suppliers to shorten lanes and reduce emissions impacts. Source and onboard alternative packing materials and then simulate what this means for your production sites.

The largest resistance to change in an organization - your functional executors - can be overcome by making change easy and baked into the process. Each user has the power to reconsider the right flow path dynamically. This approach also ensures that no decisions are made in a vacuum and that decisions are harmonized against the rest of your value chain. Individual decisions, empowered by global awareness, driving decisions in support of your goals.

Let's work together to ensure that our interconnected global supply chains are as sustainable as possible

Source: www.supplychain247.com

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SECTION 70 INQUIRY VS SECTION 6(2)(B) PROCEEDINGS TO BE TREATED AT PAR OR NOT UNDER GST LAW

PARVEEN KUMAR MAHAJAN
TAXGURU

Inquiry under section 70 Vs Proceedings under section 6(2)(b) of the CGST Act, 2017 to be treated at par or not under the GST law

The article is discussing the case whether the inquiry may be conducted for any person by two different authorities on the same subject-matter under section 70 of the CGST Act whereas according to the provisions contemplated under section 6(2)(b) no proceedings shall be initiated by the proper officer under the CGST Act on the same subject matter if where a proper officer under the SGST Act or the Union Territory Goods and Services Tax Act has initiated any proceedings on a subject matter.

The matter has been discussed in detailed in the case of G.K.Trading Company v. Union of India by the Hon'ble High Court of Delhi.

Section 70 –

7**0**(1) The proper officer under this Act shall have power to summon any person whose attendance he considers necessary either to give evidence or to produce a document or any other thing in any inquiry in the same manner, as provided in the case of a civil court under the provisions of the Code of Civil Procedure, 1908 (5 of 1908).

(2) Every such inquiry referred to in sub-section (1) shall be deemed to be a "judicial proceedings" within the meaning of section 193 and section 228 of the Indian Penal Code (45 of 1860)

Section 6(2)(b) –

(2) Subject to the conditions specified in the notification issued under sub-section (1),—

(a) .....;

(b) where a proper officer under the State Goods and Services Tax Act or the Union Territory Goods and Services Tax Act has initiated any proceedings on a subject matter, no proceedings shall be initiated by the proper officer under this Act on the same subject matter.

The words "subject-matter", "proceedings" and "inquiry" have not been defined either under the State G.S.T. Act or the Union Territory G.S.T. Act or the C.G.S.T. Act.

The word "**inquiry**" in section 70 has a special connotation and a specific purpose to summon any person whose attendance may be considered necessary by the proper officer either to give evidence or to produce a document or any other thing. It cannot be intermixed with some statutory steps which may precede or may ensue upon the making of the inquiry or conclusion of inquiry. The process of inquiry under section 70 is specific and unified by the very purpose for which provisions of Chapter XIV of the Act confers power upon the proper officer to hold inquiry. **The word "inquiry" in section 70 is not synonymous with the word "proceedings", in section 6(2)(b) of the U.P.G.S.T. Act/C.G.S.T. Act.**

Provisions of section 70 has been enacted for collecting evidence in matters involving tax evasion which may also lead to confiscation. After inquiry is completed and materials for tax not paid or short paid or erroneously refunded or input tax credit wrongly availed or utilized, by reason of fraud or wilful misstatement or suppression of facts or otherwise are found, then it may lead to demands and recovery under section 73 or section 74, as the case may be. **When action for assessment, demand and penalty etc. including action under section 73 or 74 is taken, that shall amount to proceedings referable to Section 6(2)(b) of the Act but the inquiry under section 70 is not a proceeding referable to Section 6(2)(b) of the Act.**

The words "subject-matter" used in Section 6(2)(b) of the Act has not been defined under the Act. In the case of Ballabh Das v. Dr. Madanlal [1970] 1 SCC 761 (para-5), Hon'ble Supreme Court interpreted the words "subject-matter" in the context of Civil Procedure Code where also these words have not been defined. **Hon'ble Supreme Court held that:**

"The expression 'subject-matter' has a reference to a right in the property which the plaintiff seeks to enforce. That expression includes the cause of action and the relief claimed. Unless the cause of action and the relief claimed in the second suit are the same as in the first suit it cannot be said that the subject-matter of the second suit is the same as that in the previous suit. ……. …… Mere identity of some of the issues in the two suits did not bring about an identity of the subject-matter in the two suits.

Section 6(2)(b) of the C.G.S.T. Act prohibits separate initiation of proceedings on the same subject-matter by the proper officer under the C.G.S.T. Act when proceeding on the same subject-matter by the proper officer under the State Act has been initiated, whereas section 70 of the U.P.G.S.T./C.G.S.T. Act merely empowers the proper officer to summon any person in any inquiry. **The word "proceedings" used in section 6(2)(b) is qualified by the words "subject-matter" which indicates an adjudication process/ proceedings on the same cause of action and for the same dispute which may be proceedings relating to assessment, audit, demands and recovery, and offences and penalties etc. These proceedings are subsequent to inquiry under section 70 of the Act.** The words "in any inquiry" used in section 70 of the Act is referable to the provisions of Chapter XIV, i.e. Section 67 (power of inspection, search and seizure), section 68 (inspection of goods in movement), section 69 (power to arrest), section 71 (access to business premises) and Section 72 (officers to assist proper officers). **Therefore, proper officer under the U.P.G.S.T. Act or the C.G.S.T. Act may invoke power under section 70 in any inquiry. Prohibition of Section 6(2)(b) of the C.G.S.T. Act shall come into play only when any proceeding on the same subject-matter has already been initiated by a proper officer under the U.P.G.S.T. Act.**

The conclusions of the Hon'ble Court are reached as under:

(i) The word "inquiry" in section 70 has a special connotation and a specific purpose to summon any person whose attendance may be considered necessary by the proper officer either to give evidence or to produce a document or any other thing. It cannot be intermixed with some statutory steps which may precede or may ensue upon the making of the inquiry or conclusion of inquiry. The process of inquiry under section 70 is specific and unified by the very purpose for which provisions of Chapter XIV of the Act confers power upon the proper officer to hold inquiry. The word "inquiry" in Section 70 is not synonymous with the word "proceedings", in section 6(2)(b) of the U.P.G.S.T. Act/ C.G.S.T. Act.

(ii) The words "any proceeding" on the same "subject-matter" used in section 6(2)(b) of the Act, which is subject to conditions specified in the notification issued under sub-Section (1); means any proceeding on the same cause of action and for the same dispute involving some adjudication proceedings which may include assessment proceedings, proceedings for penalties etc., proceedings for demands and recovery under section 73 and 74 etc.

(iii) Section 6(2)(b) of the C.G.S.T. Act prohibits a proper officer under the Act to initiate any proceeding on a subject- matter where on the same subject-matter proceeding by a proper officer under the U.P.G.S.T. Act has been initiated.

In other case **M/s SIDDHI VINAYAK TRADING COMPANY Vs UNION OF INDIA AND 2 OTHERS – 2021-VIL-155-ALH –**

The Central Authority issued summon under section 70 of the CGST Act whereas the State Authority initiated proceedings under section 74 of the UPSGST Act against the petitioner. The petitioner objected for two parallel proceedings.

The initiation of the proceeding for imposition of tax and penalty was with the issuance of the notice under Section 74 as contained in Chapter XV of UPGST Act and the inquiry under Section 70 of the Act was independent.

Conclusion

That provisions contemplated under section 6(2)(b) of the CGST Act shall not be applied on summons issued relating to any inquiry under section 70 of the CGST Act. **Inquiry shall not be equated with proceedings. Both are differed in the eye of law.**

Thus, summons may be issued by the different authorities to the person for any inquiry (might be the same) under section 70 of the CGST Act but proceedings following the inquiry shall not be initiated for the same matter by both authorities i.e. Central and State at the same time.

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BRANCH NEWS

JAMSHEDPUR BRANCH

AGM-2021:-The Annual General Meeting of the Indian Institute of Materials Management (IIMM) concluded on 25 September 2021 at Telco Club following the rules of Corona. A large number of Institute members participated on the occasion. Chairman Mr. Shambhu Shekhar while presiding over the meeting welcomed all the respected members.Before the welcome address, he asked the members present to remain silent for a minute and pray for the peace of all those souls who lost their lives in this Corona period.

The Chairman started the meeting after the quorum was full. At the outset he welcomed the Chief Guest and members present. He requested the house to adopt the Agenda. He said that the copy of the Record notes of the last AGM has been circulated to all members. He requested the house to confirm the Record notes of the last AGM. It was proposed by Mr. G R Murti and seconded by Mr. K C Jha and unanimously confirmed.

He welcoming the members present, he while discussing today's difficult situation said that today there are many big challenges for the supply chain managers. Supply chain management has played an important role in the Corona era in India - whether it is medicine, oxygen or vaccination.

Our country has helped every citizen through a strong supply chain. For this, I sincerely respect all those government officials, doctors and service and sanitation workers, who have rendered their service day and night. Many even lost their lives in this effort.

Our course coordinator made arrangements to teach the students through electronic medium, then our head quarter continued the studies by conducting online exams. I thank all the teachers and the course coordinators for their efforts. I would like to express my gratitude to my executive committee who always supported me in fulfilling all the responsibilities.Secretary Mr. Neelesh Kumar Mishra presented the annual report on the various activities held during the year by the help of a power point presentation.

Honorary Treasurer Mr Rajeev Kumar presented the 'Annual Accounts' for the year 2020-21. Hon. Treasurer Mr Rajeev Kumar asked the house if any clarification is sought by the members. No questions came. Hon. Treasurer Mr Rajeev Kumar then requested the house to receive, consider and pass the accounts for the year 2020-21ending 31.03.2019. Mr. A K Srivastava proposed and Dr TAS Vijayraghvan seconded the proposal and the accounts were passed by the house.

On this occasion a new executive committee was formed which is as follows:

Chairman	- Mr. Rana Das
Vice President	- Mr. Siddharth Das
Secretary	- Mr. Rajeev Kumar
Honorary Treasurer	- Mr. Naveen Kumar Singh
Executive members:	- Mr. G. V. Sreeram Kumar, Mr. Sarosh Vazifdar, Mr. Nilesh Kumar Mishra, Mr. Anand Das, Mr. Santosh Kumar Dubey

Full Time Invited Member - M/s Sanjeev Raman,
Members of the National Executive - Ms. AK Srivastava, Dr. T. A. S. Vijay Raghavan, Mr. G. Rama Murti, Mr. Shambhu Shekhar.
Course Coordinator - Mr. Ganesh Dutt Pandey

L toR:- Mr Rajeev Kumar, Mr Shanbhu Shekhar, Mr Rana Das, Me Neelesh Kumar Mishra

A minute silent for and pray for the peace of all those souls who lost their lives in this Corona period Lto R:- Mr Rajeev Kumar, Mr Rana Das, Me Neelesh Kumar Mishra, Mr Shanbhu Shekhar

Senior Members awarded during AGM

Mr. G D Pandaybeing felicitated By My Neelesh Kr. Mishra

Mr. A K Srivastavabeing felicitated By Mr. Neelesh Kr. Mishra

Mr. G R Murti being felicitated By Mr. Rajeev Kumar

Dr. T. A. S. Vijay Raghavan being felicitated By Mr. Naveen Kumar Singh

New Elected Members (L to R) – Anand Das, D N Jha, Rajeev Kumar, G R Murti, N K Singh, S. Vazifdar, G D Panday, A K Srivastava, S Shekhar, Rana Das, S Dash, G V Sriram Kumar, T. A. S. Vijay Raghavan, N K Mishra, S K Dubey

EC Members with Life members

Chairman (Rana Das) Address to Members

New Chairman Mr. Rana Dash thanked the executive committee for electing him. He said that the global completion, rising conflict and declining demand of the consumer products are the biggest cause of slowdown of the economy in India. However with the help of modern techniques and international support India is going to be one of the economic powers in the coming future. As the functioning of Jamshedpur Branch is concerned he said that the branch had been working fine in past and under the past dynamic Chairman Mr. Shambhu Shekhar it is developing day by day. However he was concerned about the declining admission in GDMM Regular. With the introduction of PGDMM and PGDSCM & L courses recognised by AICTE are having good admission and the future of these courses is bright. He said that Jamshedpur Branch has a very special status in the eastern region. He also expressed his satisfaction on the rising membership.

Vote of Thanks was proposed by Mr. S.Dash.

Vice Chairman (S Dash) Address to Members

Rajeev Kumar Conduct Lecturer Program at Indian Steel and Wire Product Manufacturer

Rajeev Kumar Conduct one day lecturer program at **Indian Steel and Wire Product Manufacturer (ISWP)** about safe material handling through Artificial Inelegancy system and the Speaker was Mr. Rajeev Kumar. Mr. Rajeev Kumar is an EC Members and Secretary of IIMM Jamshedpur Branch. Mr. Kumar explains how automation system implements with material handling equipment and how to collect its process data to further analysis. In today's scenario we want fast equipment but we also want safe equipment which can guide the operator and also alarm the system. And during failure of the system, we have sufficient set of data to analyse the failure, so that we can modify the system. This lecturer session was attended by more than 50 people.

Neelesh Kumar Mishra Conduct Lecturer Program at ICFAI Business School (IBS), Hyderabad

Neelesh Kumar Mishra Conduct one day lecturer program at **ICFAI Business School** (**IBS**), **Hyderabad about**the use of social networks in order to market a company's products, such as through Facebook or Instagram ads, using influencers, or otherwise building a presence online to engage with customers. Designing the digital transformation journey for any organization and benchmarking the implementation. Mr. Neelesh Kumar Mishra is an EC Members and former Hon. secretary of IIMM Jamshedpur Branch. Mr. Mishra explains impact of **social media** and **digital transformation** on companiesand how to collect its process data to further analysis.

KANPUR BRANCH

IIMM Kanpur branch have organised Annual General Meeting on 18th September 2021 in Kanishka Hotel opposite HAL Township Kanpur prier 21 days advance notice to all members for the year 2020-21along with Election of New Branch Committee of Kanpur branch for the year 2021-23. The welcome address and entire programme was compared by Mr. Kailash Nath, National Councillor. The present committe was called to share the dais.

Mr. Prashant Suri, Chairman of Kanpur branch requested to start AGM for the year 2020-21. The Balance Sheet for the year 2020-21 was presented by Dr.P.K.Mehrotra, Hony. Secretary in absence of Hony. Treasurer Surendra Kumar which was First by Mr Dinesh Chandra Mishra and Seconded by Mr. Ravi Ranjan subsequently passed by all present members by clapping.

As per agenda point the election result of new Branch Committee for the year 2021-23 was declared by Election Officer. The un opposed new branch Committee of Kanpur is as follows:-

1. Mr. Sanjay Awasthi	Chairman
2.Mr.Abhishek Kandpal	Vice Chairman.
3.Mr..Kailash Nath	Hony. Secretary
4.Mr.Abhishek Rai	Hony. Treasurer
5.Mr.Gopi Krishna Agnihotri	N.C.
6.Mr. Saurabh Chaturvedi	N.C.
7.Mr.Gurmeet Singh Bhatia	Executive Member
8.Mr.Sampurnanand Sharma	Executive Member
9.Mr.Ravi Ranjan	Executive Member.

The elected Office bearers have resumed the charge of their post.

The vote of thanks was given by Hony. Secretary Dr.Pankaj Kumar Mehrotra and AGM was concluded followed by High tea and refreshment.

New branch Committee of IIMM Kanpur branch for the year 2021-23

From left:- Mr. Ravi Ranjan ,E.M. Mr.Sampurnanand Sharma , E.M. Mr. Gopi Krishna Agnihotri N.C. Mr.Sanjay Awasthi, Cairman , Mr.Abhishek Kandpal, Vice Chairman, Mr. Kailash Nath , Hony. Secretary. (Mr. Saurabh Chaturvedi, N.C. Mr. Abhishek Rai , Hony.Treasurer and Mr. G.S.Bhatia E.M. Could not covered in picture)

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HYDERABAD BRANCH

Hyderabad Branch AGM was held on September 26, 2021 at The Veg Park, Hyderabad. After confirming the quorum, Mr Md Ziauddin, Chairman welcomed the members and Mrs Suvarna Sudagoni, Hon. Secretary presented the Annual Report on the activities and functioning of the branch 2020-21. Audit Report; Income & Expenditure account & Balance Sheet of the Branch for the FY:2020-21 presented by Mr LV Prasad, Treasurer and the Audit Report was approved by the Members.

Election Officer, Mr C Harinath then took over and declared the New EC Team for the year 2021-23:

From Left to Right – Mr K Ramakrishna, Mr P Surender Kumar, Mr P Mahender Kumar, Mr Md Ziauddin (Immediate Past Chairman), Mr D Dasaradha Reddy, Mr S Janardhan Rao (Newly elected Chairman), Mrs Suvarna Sudagoni, Mr K Purna Chandra Rao, Mr P Somayajulu & Mr BhS Murthy

Newly Elected EC Team Members (2021-23):

S No.	Name	Position
1.	Mr Sadineni Janardhan Rao	Chairman
2.	Mrs Suvarna Sudagoni	Vice Chairman
3.	Mr K Purna Chandra Rao	Hon Secretary
4.	Mr P Somayajulu	Hon Treasurer
5.	Mr P Mahender Kumar	National Councillor (NC)
6.	Mr SN Panigrahi	National Councillor (NC)
7.	Mr D Dasaradha Reddy	National Councillor (NC)
8.	Mrs Shaheen	EC Member
9.	Mr K Ramakrishna	EC Member
10.	Mr P Surender Kumar	EC Member
11.	Mr BhS Murthy	EC Member

Mrs Suvarna Sudagoni proposed Vote of Thanks.
"Sarve Janah Sukhino Bhavantu"

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★(Send 1 additional photo for I-Card)

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Name of Organization _____

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Educational Qualification _____

Work Experience (Start with present position)
(Please attach separate sheet where necessary)

Year	Year to	Position	Company / Organization

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I undertake to abide by all rules & regulations of IIMM as on date and to be revised in future.

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Date: _____

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Designation & Company _____
Mobile: _____
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Designation & Company _____
Mobile: _____
Email: _____
Dated: _____

BRANCH CHAIRMAN

Prepared by Sanjay-IIMM, Delhi Branch

EXECUTIVE HEALTH

6 SIMPLE STRATEGIES TO FIGHT SEASONAL ALLERGIES

JOEL FUHRMAN, M.D.

Joel Fuhrman, M.D. is a family physician, New York Times best-selling author and nutritional researcher who specializes in preventing and reversing disease through nutritional and natural methods.

It's that time of year again, when the cool evening temperatures, changing color of leaves and blooming ragweed trigger allergies and send many running for allergy medications to relieve sneezing, running noses, puffy eyes, itchy throats, wheezing and hacking coughs. However, a nutritarian diet – can offer greater relief this time of year, along with other life-long benefits. A study of 56 different countries found that populations with higher intake of vegetables and other nutrient-dense plant foods had lower rates of allergies and asthma, whereas populations with higher rates of tobacco use, trans fat intake, and acetaminophen use had higher rates of allergies and asthma.[1]

Pollens from grass, trees, and weeds are the primary culprits that provoke an allergic response this time of year. The immune system is the body's defense system against irritants, toxins and infections. In this case, it malfunctions by overreacting to these harmless airborne substances. It produces antibodies to launch an attack, which leads to inflammation and cold-like symptoms.

A nutrient-dense, plant-rich eating style, with a variety of immune-supporting phytochemicals, is required to maintain a properly functioning immune system. This is the key to fighting off seasonal allergies.

Here are 6 strategies to boost your immune health, tone down the inflammatory response and minimize your discomfort:

1. **Limit your exposure.** As tempting as it might be to sleep with the windows open on those crisp autumn nights, you're better off keeping the windows closed and the pollen out.
2. **Increase your antioxidant levels.** High blood levels of carotenoids, including beta-carotene, are associated with a lower likelihood of seasonal allergies in adults.[2] Higher intake of antioxidant nutrients, such as vitamin C and beta-carotene, is associated with reduced seasonal allergies in children.[3] [4] For these anti-allergy nutrients to be most effective, they should come from a variety of colorful fruits and vegetables, not supplements.
3. **Make a green smoothie part of your daily routine.** Blending vegetables into a smoothie allows you to pump up your consumption of greens and boosts your body's ability to absorb the nutrients. This helps to normalize the immune system. Watch how easy it is to make this delicious Got Greens smoothie.
4. **Ensure adequate levels of vitamin D.** Scientists have found that Vitamin D has biological actions in almost every cell and tissue in the human body. When you are trying to limit your exposure to the outside elements, the healthiest and most effective way is to supplement with vitamin D3. Vitamin D adequacy is necessary to normalize the hyper-active immune response in allergies.
5. **Supplement wisely.** Make sure you are not deficient in B12 and zinc and include turmeric and certain supplemental phytochemicals, such as rosmarinic acid and luteolin from the Perillafrutescens seed, may provide additional help for the nose and eye irritation characteristic of seasonal allergies.[7] [8] [9]
6. **Increase omega-3 intake.** Omega-3 fatty acids (ALA, DHA and EPA) support the immune system and reduce inflammation. Higher omega-3 intake (primarily ALA and EPA) and blood omega-3 levels have been associated with reduced risk of seasonal allergies in adults.[5] [6] In addition to a healthy diet that includes, flax, chia, and walnuts, I recommend using a clean, algae-derived DHA-EPA supplement.

Scientists have determined that an inadequate consumption of plant-derived nutrients leads to cellular toxicity, DNA damage and immune system dysfunction. When you make the switch to a nutrient-dense, Nutritarian diet you can repair your immune system. Over the years, I have observed hundreds of my patients who improved or resolved allergy symptom in addition to a wide variety of other benefits after following a high-nutrient diet-style. It takes time, but you can slowly reduce the severity of your allergies, and over time achieve complete relief from allergies.

Sources:

[1] Asher MI, Stewart AW, Mallol J, et al. **Which population level environmental factors are associated with asthma, rhinoconjunctivitis and eczema? Review of the ecological analyses of ISAAC Phase One.** Respir Res 2010, **11:**8.

[2] Kompauer I, Heinrich J, Wolfram G, Linseisen J. **Association of carotenoids, tocopherols and vitamin C in plasma with allergic rhinitis and allergic sensitisation in adults.** Public Health Nutr 2006, **9:**472-479.

[3] Seo JH, Kwon SO, Lee SY, et al. **Association of antioxidants with allergic rhinitis in children from seoul.** Allergy Asthma Immunol Res 2013, **5:**81-87.

[4] Rosenlund H, Magnusson J, Kull I, et al. **Antioxidant intake and allergic disease in children.** ClinExp Allergy 2012, **42:**1491-1500.

[5] Nagel G, Nieters A, Becker N, Linseisen J. **The influence of the dietary intake of fatty acids and antioxidants on hay fever in adults.** Allergy 2003, **58:**1277-1284.

[6] Hoff S, Seiler H, Heinrich J, et al. **Allergic sensitisation and allergic rhinitis are associated with n-3 polyunsaturated fatty acids in the diet and in red blood cell membranes.** Eur J ClinNutr 2005, **59:**1071-1080.

[7] Takano H, Osakabe N, Sanbongi C, et al. **Extract of Perillafrutescens enriched for rosmarinic acid, a polyphenolic phytochemical, inhibits seasonal allergic rhinoconjunctivitis in humans.** ExpBiol Med (Maywood) 2004, **229:**247-254.

[8] Ueda H, Yamazaki C, Yamazaki M. **Luteolin as an anti-inflammatory and anti-allergic constituent of Perillafrutescens.** Biol Pharm Bull 2002, **25:**1197-1202.

[9] Yamamoto H, Sakakibara J, Nagatsu A, Sekiya K. **Inhibitors of ArachidonateLipoxygenase from Defatted Perilla Seed.** Journal of Agricultural and Food Chemistry 1998, **46:**862-865.

SOURCE: WELLNESS.COM

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