

MATERIALS MANAGEMENT REVIEW



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Risk Factor

Many industries fear disruptions if supplies stall

MOST EXPOSED

- ① Pharmaceuticals
- ② Electronics
- ③ Mobiles
- ④ Auto parts
- ⑤ Electrical machinery
- ⑥ Organic chemicals
- ⑦ Some exports

Trade With China

In FY19 (\$ B)

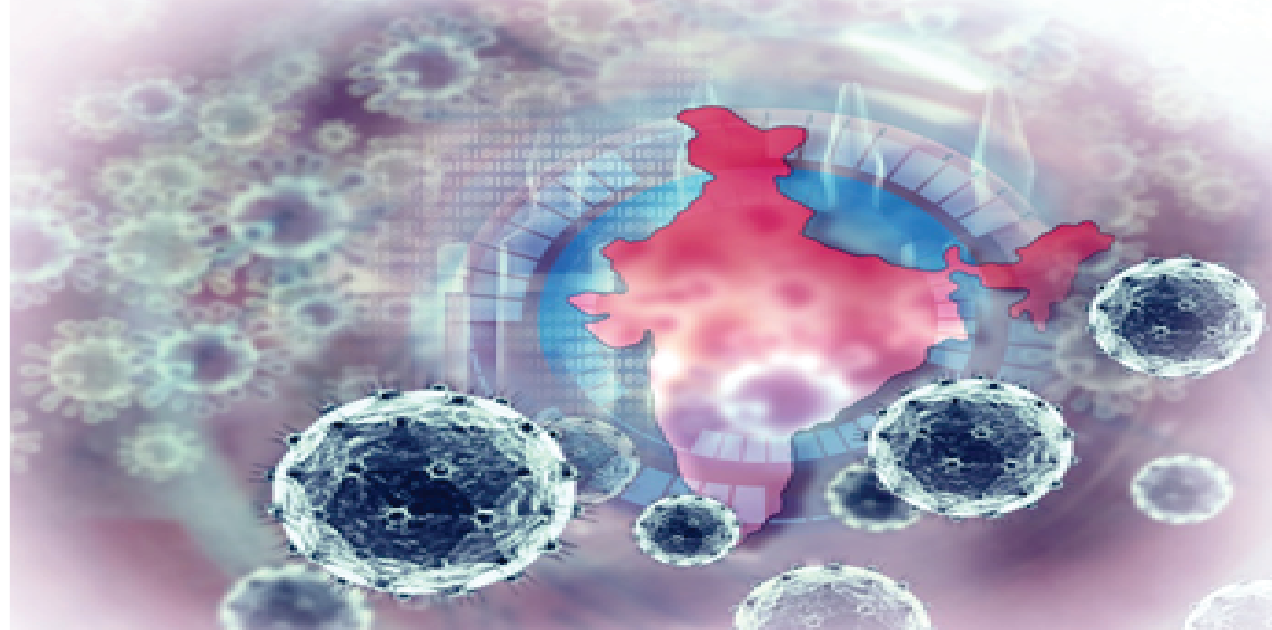
Exports
16.8

Imports
70.3

SUPPLY ISSUES

Some industries have only up to 2 weeks of components

Pharma prices are already up in some cases



From the Desk of The National President

Dear Members,



Greeting from National President!!

The entire world is passing through difficult days. Covid -19 virus has now become wide spread and is declared as Pandemic. This has resulted into a Panic reaction across the world which has badly affected several sectors of the economy such as aviation industry, tours and travels, hotels & Restaurants, Entertainment Industry, various sporting activities etc. The downturn is reflected in the stock exchanges in several countries, as financial meltdown has severely affecting the business sentiments. Indian Government has been really proactive to take drastic measures to prevent further spread of this disease by putting a blanket ban in allowing foreign nationals in India except under few specific categories as well as restricting Indian nationals to travel to other countries.

While several sector of the economy is getting affected as a result of this meltdown, there are few areas which have proved to be beneficial for Indian economy. Low Crude and Natural Gas prices globally has significantly reduced India's import bill as close to 85 % of our energy needs are met through imports. There is also a boom in the healthcare sector and various consumer goods industry. SCM professionals across Industries are faced with a challenge to make the goods and services available for their Industries. Delivery schedule from overseas companies situated in some of the badly affected countries are disrupted. SCM professionals should convert this adversary into opportunity by developing alternate local vendors for import substitute or find alternate source from less affected countries.

Against this backdrop, looking to the current business scenario, this year the theme for the MM day celebration is finalized as “ **Use of emerging technology in SCM in a slowdown environment**”. This theme will trigger a thought process among the SCM professionals to counter the adverse scenario by proper use of technology. Various IIMM branches have already started their preparations to celebrate the IIMM foundation day by conducting various events during the MM week, which will be beneficial for the members associated with the respective branches. I appeal to all members across 52 branches to use this opportunity by conducting several events to improve the visibility of the IIMM branches. We will be able to increase our footprint by making such collective efforts.

With Warm Personal Regards

A handwritten signature in black ink, which appears to read 'Malay Mazumdar'. The signature is stylized and fluid.

Malay Mazumdar

National President, IIMM

Email: Malay_mazumdar@yahoo.co.in

From the Desk of Chief Editor



Dear Members,

Since the early days of Public Procurement, Government Sector have often relied on lowest-bid (L1) process of publically-advertised/tendered enquiries. During the course of time, drawbacks of L1 Procurement Process starts surfacing specially, shortcomings in quality, reliability and service. Central Vigilance Commissions, also believe that, L1 system, also called as Least Cost Selection System, may not be the most appropriate and capable method of delivering the desired outcomes specially in high impact infrastructure projects or for setting up of complex processing unit or purchase of a state of art Machine/Equipment.

CVC is of the view that, a bidder with better credentials, tends to quote higher prices to meet economies of scale for superior product and after sale services. The L1 system stands good for Routine Procurement, but for high Impact and Technological Complex Procurement where the need of the hour is Innovation, quality, speed, efficiency and Operationality, we need to think of alternative Procurement Strategies like Quality cum Cost Based Selection (QCBS), Quality Based Selection (QBS), Quality cum Least Cost Selection (QLCBS) and Life Cycle Costing.

In Quality cum Cost Based Selection (QCBS), higher weightage say 70:30 or 80:20 are assigned to quality parameters of the product or technical credentials of a bidder in high impact or technological complex procurement, which may include experience, manufacturing capability, availability of state of the art machinery, systems, domain expertise, design etc vis-a-vis the price offer. This method is capable of selecting vendors with superior credentials, who in turn will be capable of delivering higher quality output.

The Quality-Based Method simply focuses on quality whereas price can be mutually agreed upon. In case of Quality cum Least Cost Based Selection (QLCBS), best bidders could be shortlisted based on quality and then price bids of top three or more could be opened and lowest bidder could be awarded the contract.

Life Cycle Costing refers to recurring costs on maintenance and operation may, and at times, it outweighs the initial cost considerations. In such cases, a superior quality infrastructure asset with lesser maintenance, higher productivity, higher uptime backed by financial instruments like bank guarantees should be considered.

However, the above, Procurement processes need to define Strategic objectives to be fulfilled in public procurement, including various considerations such as environmental, social and economic. The consideration of other bidders against L1 may invite abusive and coercive practices leading to increase in corruption. Therefore, transparency will be very important in such processes. Procurement agencies should include such clauses in very simple and clear language.

A handwritten signature in black ink, consisting of a stylized 'M' and 'B' followed by a horizontal line.

(DR. M.K. BHARDWAJ)



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FUTURE OF BUSINESS: CIRCULAR ECONOMY: ROLE OF SUPPLY CHAIN

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Abstract : This paper highlights that the future of business, circular economy and the role of supply chain. The paper is written on conceptual basis considering the secondary data. The subject experts' views and professionals' from industry opinions were considered. Manufacturing shifts such as. Economics of production, Consumer demand, Nature of products and Economics of value chain were discussed. Emerging areas of future business were also discussed. Further, circular economy and its relevance were discussed. The restorative or regenerative by intention and design principle also discussed. The value creation process in circular economy was highlighted with examples. Finally, the role of supply chain was discussed. The Berkeley Supply Chain Management in Bear Buy process and key activities involved were discussed. The paper also talks about the four Vs in supply chain management. Industry 4.0 technologies such as IoT, AI, machine learning, deep learning, data analytics, data security and safety, virtual stores etc were highlighted. The paper has been concluded by highlighting digital technology and its relevance to supply chain management.

Key words: digital technology, circular economy, manufacturing shifts, Industry 4.0 technologies.

Introduction : Business is not going to stay same in the future. Business firms are going to face challenges in terms of technology, practices in commerce and trade and emerging new areas of business. According to Sprint Business's Ivo Rook, Senior Vice President, Internet of Things and Tom Andriola, Chief Information Officer at the University of California System the most significant trends and technologies that will be impacting businesses over the next few years, are: Internet of Things, Security and privacy, Drones and autonomous vehicles, Artificial Intelligence and software bots, Self service automation, Mobile apps for communications, collaboration and reporting, Robotics in manufacturing and service. Technology is advancing

in those areas. So, the companies are more concentrating to invest in those areas for better results.

In these times, when the digital revolution is no longer novel and technology has penetrated every aspect of our lives, it goes without saying that disruption is the name of the game. And that's in virtually every industry. Technology has changed everything from taxi cabs to gambling, even dramatically altering the way we socialize with one another. As we fast approach the third decade of the 21st century, there are four schools of technology that hold the promise to not just disrupt, but transform the way we all approach day-to-day business. They are: i. Artificial Intelligence, ii. Internet of Things (IoT), iii. Data Science and Data Analytics and iv. Block chain.

Right now, the biggest issue is data breaches," Beck (CEO and founder of Ophtherium, a global research and development company) said. "All companies dealing with centralized data storage, any kind of data storage, they'll adopt blockchain tech first to get away from liability of storing data in one location." "Next few years more and more companies will start implementing blockchain in their phase one," Beck said. "It has already started and it will continue going [1].

Future of Business: Manufacturing

Manufacturing is no longer simply about making physical products. Changes in consumer demand, the nature of products, the economics of production, and the economics of the supply chain have led to a fundamental shift in the way companies do business. Customers demand personalization and customization as the line between consumer and creator continues to blur. Added sensors and connectivity turn "dumb" products into "smart" ones, while products increasingly become platforms—and even move into the realm of services.

As technology continues to advance exponentially, barriers to entry, commercialization, and learning are

eroding. New market entrants with access to new tools can operate at much smaller scale, enabling them to create offerings once the sole province of major incumbents. While large-scale production will always dominate some segments of the value chain, innovative manufacturing models—distributed small-scale local manufacturing, loosely coupled manufacturing ecosystems, and agile manufacturing—are arising to take advantage of these new opportunities.

Meanwhile, the boundary separating product makers from product sellers is increasingly permeable. Manufacturers are feeling the pressure—and gaining the ability—to increase both speed to market and customer engagement. And numerous factors are leading manufacturers to build to order rather than building to stock. In this environment, intermediaries that create value by holding inventory are becoming less and less necessary. Together, these shifts have made it more difficult to create value in traditional ways. At the same time, as products become less objects of value in their own right and more the means for accessing information and experiences, creating and capturing value has moved from delivering physical objects to enabling that access. Four important shifts in manufacturing are: i. Economics of production, ii. Consumer demand, iii. Nature of products and iv. Economics of value chain [2].



Figure 1 Four Shifts in Manufacturing

What are the trends during the future of business?

According to research findings: i. Collaboration will help to shape firms shared future – high level of collaboration is the key. ,ii.Who will do the work: Robots or Humans?. Companies are going to face many challenges in terms of people performance, purpose, potential and personalized plan. One size will not fit many people. Iii. What will drive changes

in production? Make vs Buy decisions, economics of scale, outsourcing vs insourcing etc. iv. How must we respond as consumption habits change? Data driven decision making is more prevalent than heuristic approach.

Circular Economy

The linear economy has to change. We must transform all the elements of the source-make-delivery- return /waste system: how we manage resources, how we make and use products, and what we do with the materials afterwards. Only then can we create a thriving economy that can benefit everyone within the limits of our planet.

Circular economy it's a new way to design, make, and use things within planetary boundaries. Shifting the system involves everyone and everything: businesses, governments, and individuals; our cities, our products, and our jobs. By designing out waste and pollution, keeping products and materials in use, and regenerating natural systems we can reinvent everything.

A circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems and business models.

Such an economy is based on a few simple principles, as shown in Figure 2. First, at its core, a circular economy aims to design out waste. Waste does not exist: products are designed and optimized for a cycle of disassembly and reuse. These tight component and product cycles define the circular economy and set it apart from disposal and even recycling, where large amounts of embedded energy and labour are lost. Second, circularity introduces a strict differentiation between consumable and durable components of a product. Unlike today, consumables in the circular economy are largely made of biological ingredients or 'nutrients' that are at least non-toxic and possibly even beneficial, and can safely be returned to the biosphere, either directly or in a cascade of consecutive uses. Durables such as engines or computers, on the other hand, are made of technical nutrients unsuitable for the biosphere, such as metals and most plastics. These are designed from the start for reuse, and products subject to rapid technological advance are designed for upgrade. Third, the energy

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

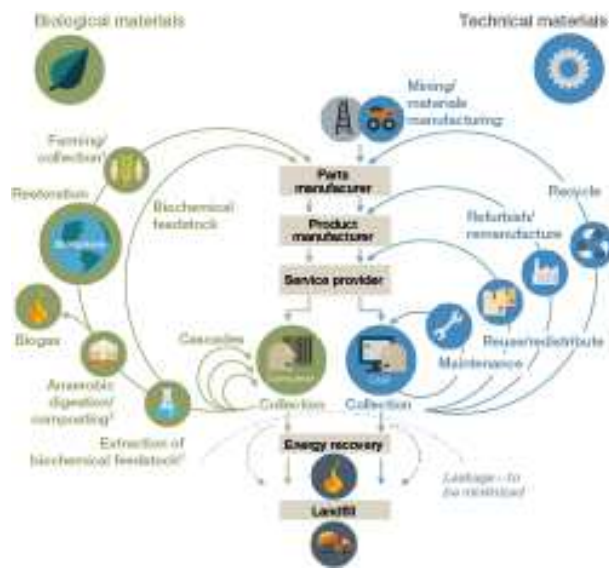


Figure 2: The circular economy—an industrial system that is restorative by design

These principles all drive four clear-cut sources of value creation that offer arbitrage opportunities, i.e. ways to take advantage of the price difference between used and virgin materials in Figure 3.

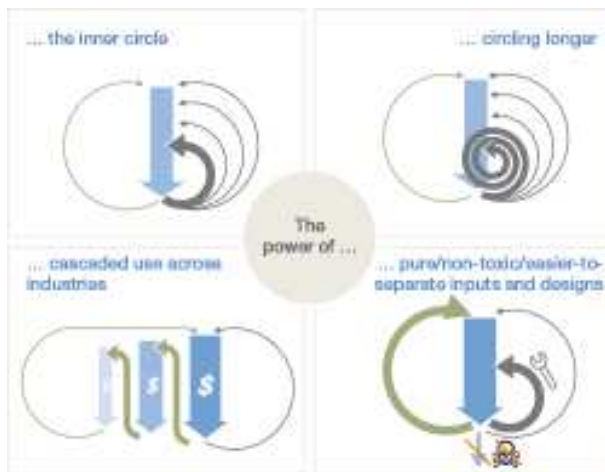


Figure 3: Sources of value creation for the circular economy

These four ways to increase material productivity are not merely one-off effects that will dent resource demand for a short period of time when these circular setups are introduced. Their lasting power lies in

changing the run rate of required material intake. They can therefore add up to substantial cumulative advantages over a classical linear business-as-usual

Effect of circular system on primary material demand in widget market
Volume of annual material input required



Effect of circular system on material stock and landfills
Cumulative volume of material used

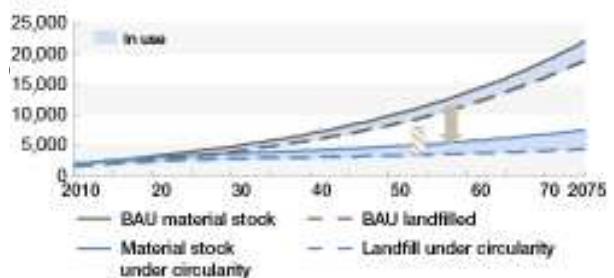


Figure 4: A circular economy would not just ‘buy time’ but also reduce the amount of material consumed to a lower set point

A number of businesses are already thriving on it. Innovative products and contracts designed for the circular economy are already available in a variety of forms—from innovative designs of daily materials and products (e.g. biodegradable food packaging and easy-to-disassemble office printers) to pay-per-use contracts (for tyres for instance) [3].

Role of Supply Chain

Manufacturers are facing intensifying challenges from both local and international competitors in the marketplace. In order to survive, manufacturers must be able to manage the dynamic market variables and satisfy their customers better than their competitors. Recent investigations have started to look in a more detailed manner at particular management techniques and practices to provide better advice on how these manufacturers should react to this challenge. One of the alternatives that seek to leverage manufacturers’ ability to compete is developing a high standards relationship starting with their customers and ending with their vendors, which defines the term supply chain management (SCM) [4].

According to SCOR model, the major process components of supply chain are: plan- source- make- deliver- return. The cost containment is possible by adopting the right strategy in sourcing. i.e., bulk buying, system contract, strategic partnership by signing long term business agreements (LTBAs) / Rate Contracts etc. By adopting lean distribution channel, further cost reduction is possible. Backward integration and Forward integration are more relevant strategies to adopt for cost reduction and uninterrupted supply of material.

Berkeley Supply Chain Management in Bear Buy process talks about various process components in it. The details are shown in Table 1 below. [5]

Table 1 Bear Buy Process Flow

Activity	Process Flow
Cart	Shopping
Requisition / Purchase Requisition	Requisition Creator, Authorization, Approval, Purchasing
Purchase Order	Supplier
Order Fulfilment	Receiving Goods / Services
Voucher Entry, Review & Approval	Invoice, 2way match (Voucher matching and PO matching, Voucher Approval
Payment Status	Payment

(Source: Berkeley Supply Chain Management, 2018)

In future, companies are not going to compete by offering products and services, but their supply chains are going to compete. Companies are going to concentrate both on upstream and downstream supply chains. Collaboration and adoption are important, companies are already in the process of implementation. Four Vs in a supply chain are: velocity, variability, variety and value. FMCG Companies are more concentrating on distribution side, whereas engineering companies are more concerned about supply side (sourcing) to gain competitive advantage.

Conclusion

Business firms are going to face many challenges in

the coming years in terms of technology, business practices and concentrating on new emerging areas of business. Industry 4.0 technologies are also going to bring more challenges and commitments to manufacturing sector in particular. Technology challenges such as IoT, AI, Machine Learning, Deep learning, Data driven decision making etc are the focus areas for the firms. It is also seen that there is a shift manufacturing such as I. Economics of production, ii. Consumer demand, iii. Nature of products and iv. Economics of value chain. Linear economics should change with circular economy. A circular economy is an industrial system that is restorative or regenerative by intention and design. This brings lot of alternate material usage in product development and material processing. Customer expectations are increasing day by day, low price, more varieties, low supply lead time and more customization further brings challenges to business firms. In this area, supply chain is going to play a vital in gaining competitive advantage and earn business excellence. Supply chain configuration, metrics driven supply chain performance and all the business entities should be seamlessly integrated. Technology and business should be properly embedded. Supply chain role is vital for future business and to improve the economic growth and development.

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SUPPLY CHAIN RESILIENCE IN A VUCA WORLD

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VUCA – Volatility, Uncertainty, Complexity, Ambiguity— may well be old as a thought, but the acronym is more apt than ever in describing today's world.



In fact, the above four elements have become intrinsic in today's business environment.

- **Volatility** implies frequent and unexpected changes: For instance, Globalization is the driving force of demand volatility.
- **Uncertainty** in business is a situation in which the degree of risk, the magnitude of events and situations, conditions and consequences are not known or unpredictable.
- **Complexity** - caused by a range of factors often the result of rising customer expectations for faster lead times, expanded products and services and tailored experiences.
- **Ambiguity** - arises from not having the appropriate processes and systems in place to respond **"as required"** to actual demand.

"The old mind-set sees things are calculable, 'predictable'. But that analysis seems to come up with the incorrect answers so often now – on Trump, Brexit or the recent outbreak of corona virus, for instance."

It has become apparent that the management skills set and mind sets needed to cope with this new world are quite different from those that sufficed in the past.

Charles Darwin once said: **"It is not the strongest of the species which survive nor the most intelligent, but the species most responsive to change."** Today, if we don't respond to change, we will fade away. Clearly, responding to change by building resilience is important to survive and thrive in this VUCA world.

Nowhere is that truer than in Supply Chain. Being at the forefront of the supply chain, sourcing and procurement professionals play a key role in managing VUCA related Supply Chain risks- by building a **"Resilient Supply Chain"**.

What is Supply Chain Resilience?



Resilience is the "Shockproof" protection our supply chains need. Supply chain resilience is "the ability of a supply chain to both resist disruptions and recover operational capability after disruptions occur."

As mentioned above, resilience consists of two critical but complementary system components: the capacity for resistance and the capacity for recovery.

- **Resistance capacity** is the ability of a system to minimize the impact of a disruption by evading it entirely (avoidance) or by minimizing the time between disruption onset and the start of recovery from that disruption (containment).
- **Recovery capacity** is the ability of a system to return to functionality once a disruption has occurred. The process of system recovery is characterized by a stabilization phase after which a return to a steady state of performance can be pursued. The final achieved steady-state performance may or may not reacquire original performance levels and is dependent on many factors.

Why Supply Chain Resilience?

Normally, Supply chain disruptions have adverse effect on both revenue, time and costs. Resilient supply chains incorporate event readiness, can provide an efficient response, and often can recover to their original state or even better post the disruptive event in a short span.

Many times, Supply chain Resilience may turn **"Risk into opportunity"**.

Supply Chain Resilience provides opportunity, as a company's ability to adapt in difficult circumstances is a true source of competitive advantage and precisely defines a winning approach to risk responsiveness.

In Short, as Sachin Tendulkar told in one of the interviews **"It's just being a step ahead of your opposition"**.

Even, the risks and disasters that we (India) face, because of the recent Black Swan event "COVID-19" can be turned into an opportunity, if we have (build) the resilient supply chains in our systems.

Covid-19 demands new lines of production, from Drug industry to automotive and Freight agencies & data analytics for meeting assorted scenarios across the world.

Building resilient supply chains in our system will not only help us to tide over the crisis, but also help us to turn "Adversity to our advantage".

How to build a resilient supply chain?

A good supply chain resilience strategy has four elements: Culture, People, Process & Technology.

Culture: It is the organizational culture that plays a vital role in developing and adopting any strategy.

Culture, must be aligned with strategy. Cultural change is difficult, but not impossible. Some new behaviours are easily accepted and some may not be accepted at all. People love freedom, and consensus removes accountability, in many cases. But accountability is critical for achieving the desired results. The various behaviours are all interlinked and all the behaviours cannot be developed at a time. Culture often has unwritten rules, is predicated on shared behaviour and develops over time as a result of how people respond to events.

There are several issues that will crop up whenever there is a change. **Resistance** will be especially strong if the organization/ team features a **history of success**.

If employees love their organizational culture and feel being appreciated, they would go extra mile without being asked. **Flatter organizations** enable leaders to be closer to the action.

Leaders take the initiative to speak vision to the team, build trust & enable action and are primarily responsible for the way people respond and handling changes. Hence, the **leaders' behaviours** greatly influence the organizational culture, that embrace change and in building **agile organisations**.

People: Organizations need **“not enough manpower, but enough skilled manpower”** for establishing resilient supply chains to tackle “VUCA” situations.

Supply chain professionals should be exposed to curated learning opportunities.

Sourcing & Procurement professionals shall be grouped into **“Tactical Sourcing”** professionals & **“Strategic Sourcing”** professionals.

“Tactical sourcing” team focus on short-term goals and should be experts in their specific commodities markets. This means they are constantly responsive to new products, supply chain developments, pricing changes and other market activities. Such awareness can help mitigate issues related to cost increases and material shortages.

“Strategic Sourcing” work with a long-term view, roadmap & goal. This team will not handle price negotiations or the short-term business of their “tactical sourcing” parallels. This team's focus will be on building relationships with suppliers at the top level by understanding their core business strategies and proactively approaching these partners with opportunities for mutual reward.

Further, organisations should boost **“Collective Intelligence”**.

Having diversified teams, with high collective intelligence will help to cover organisation's bases.

Process:

“What gets measured gets managed”.

Majority of the organizations measure the efficiency of procurement (only) on cost savings & not on supplier performance, sourcing strategy etc. Hence it is ingrained

in each & every procurement professional to minimize & manage costs and at the end of the day, they do not manage their suppliers well.

The coronavirus break out has taught us — once again — that a robust supplier-monitoring system that maps sub-tier suppliers is need of the hour for today's supply chain and sourcing professionals. Now, companies worldwide scramble to identify which of their “invisible” lower-tier suppliers — those with whom they don't directly deal — are based in the affected regions of China.

Many companies are probably also regretting their decision to rely on a single company for items they directly purchase. Though, purchase managers know the risks of single sourcing, they do it anyway in order to secure their supply or meet a cost target. Often, they have only limited options to choose from, and in majority of the cases, those options are only in China.

Takeaways

- Stay away from single-source relationships and work to expand supply network.
- Companies should implement Supplier Relationship & Performance Management.
- Companies should invest in monitoring of their global suppliers, including second- and third-tier suppliers.
- Maintaining good working relations with the supplier and following “Collaborative Planning Forecasting and Replenishment (CPFR)” approach will help to manage VUCA related risks.

Technology: Technology can help organizations complete these processes more easily and accurately.

New technologies, such as artificial intelligence and natural-language processing, have made extensive supplier monitoring affordable and readily accessible. Real-time analytics and decision support tools, including enterprise resources planning and electronic data interchange platforms, can help provide baseline data which, in turn, justifies investments in spend, supplier and commodity analysis. Together, these provide enriched accurate data sets that can help managers to better understand the dynamics of the procurement process; make decisions related to needs, production schedules, logistics, and delivery requirements; anticipate issues & threats, including shortages and respond quickly to disruptions.

Conclusion: Inevitably, things will go wrong. However, it's how we respond to hitches and uncertainties in our supply chain- that will keep it evolving. Capture any lessons learnt on the risks that occurred and how we responded & tackled them, to create that database of best practices. These learning are to be fed into supply chain management strategy, driving chances of future success.

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#CHANGES IN INCOTERMS[®] 2020 : HOW TO USE THE TERMS#

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The Incoterm Rules or **International Commercial Terms** are a series of pre-defined commercial terms published by the **International Chamber of Commerce (ICC)** (@iccwbo) widely used in international commercial transactions. With the Intension to institutionalize best Practice of using Uniform Set of Rules in the International Transactions, **International Chamber of Commerce, First published in 1936** a set of **Three (3) Letter Acronyms to describe Delivery Terms**. From 1980 onwards INCOTERMS are **Revised once in every 10 Years**.



The Incoterms[®] 2020 Rules, the 9th revision comes into effective from 1st January, 2020.

Incoterms[®] are Adopted by over 120 countries.

A series of **Three-letter Trade Terms** of Incoterms Rules are intended primarily as a uniform set of rules to clearly clarify & communicate the **Obligations : Responsibilities, Costs and Risks** associated with the Transportation and Delivery of Goods. .



Because they address issues relating to import and export by buyers and sellers in international commercial transactions, **Incoterms[®] rules are most appropriate for use in Sales Contracts & International Shipping**.

What Do INCOTERMS[®] Do?

Three (3) Letter Acronyms Representing Trade Terms Commonly used for International Sales Transactions are to Standardize, Define Responsibility, Outline Costs, Determine Delivery Point & Transfer Risks & Reveal Gaps



Right use of **INCOTERMS[®]** ensure smooth Sales Transaction Across Borders and avoid Potentially Costly mistakes. Incoterms define the **Responsibilities, Costs and Risks** to be borne by buyers and sellers for the sale of goods in International Transactions. The terms are structured to increase incrementally the obligations (control, risk and cost) on one party while decreasing the obligations of the other, depending on the specific term chosen.

INCOTERMS[®] Used: To Estimate Costs, Quote the Prices, Negotiate & Finalize Contracts, To Select & Finalize Forwarders & Shipping Lines, For Preparing Documents like Invoice, B/L etc., Working out Cash Out-Flows, Finalize Payment Terms, Export Shipping Credits & Bank Transactions, Understand the Risks etc



Each INCOTERM clarifies which party (either Buyer or Seller) is **Responsible for**:

Ø Each term clarifies which party is **Responsible for**:

- Ø Packaging, Marking, Labelling
- Ø Loading & Unloading
- Ø Inland freight (transportation within the origination country)
- Ø Forwarder Selection
- Ø Export Clearance
- Ø Carrier Selection and Scheduling
- Ø International Freight
- Ø Insurance
- Ø Import Clearance
- Ø Import Duties & Taxes
- Ø Delivery at Specified Place etc

Incoterms Define

Responsibilities, Transfer of Risks and allocation of Costs in connection to delivery of a consignment from seller to buyer.

- Ø Up to which place the risks are borne by seller.
- Ø Up to which place the costs are borne by seller.
- Ø Which responsibilities are borne by the seller.
- Ø Which responsibilities are borne by the buyer.

What are the main changes in Incoterms 2020?

There are seven (7) keys changes to the 2010 Incoterms, specifically:

- Ø DAT Incoterm changed to DPU
- Ø Change of insurance in CIP/CIF
- Ø Costs are clarified
- Ø Security in relation to transport is now clearly detailed
- Ø Provisions to allow for own transport rather than assuming 3rd party transport
- Ø FCA, FOB and Bills of Lading

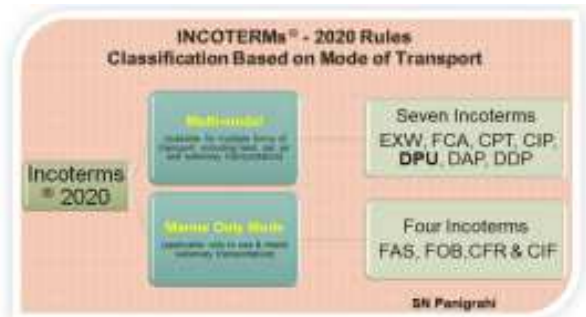
Presentation and design is much more user friendly

11 Incoterms® 2020 Rules: Grouping

Incoterms® are Grouped into Four : “E” Terms; “F” Terms, “C” Terms, “D” Terms



Incoterms® are also Grouped based on Mode of Shipment : Multi-Modal & Marine only



Incoterms® Chart Showing Responsibilities, Cost & Risk Transfer

INCOTERMS® 2020											
By	Marine (Water) Transport						Multimodal Transport				
SN	EXW	FCA	FAS	FOB	CIF	CIP	CPT	DAP	DPU	DDP	DDP
Panigrahi	Ex Works	Free Carrier	Free Alongside Ship	Free On Board	Cost, Insurance & Freight	Carriage, Insurance & Freight	Carriage & Freight	Delivered at Place	Delivered at Place Unloaded	Delivered Duty Paid	Delivered Duty Paid
Transfer of Risk	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel	When the goods are loaded on board the vessel
Responsibility & Cost	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Insurance	No	No	No	No	Yes	Yes	No	No	No	Yes	Yes
Customs Clearance	No	Yes	No	No	No	No	No	No	No	Yes	Yes
Export License	No	No	No	No	No	No	No	No	No	No	No
Import License	No	No	No	No	No	No	No	No	No	No	No
Export Tax	No	No	No	No	No	No	No	No	No	No	No
Import Tax	No	No	No	No	No	No	No	No	No	No	No
Export Duty	No	No	No	No	No	No	No	No	No	No	No
Import Duty	No	No	No	No	No	No	No	No	No	No	No
Export License	No	No	No	No	No	No	No	No	No	No	No
Import License	No	No	No	No	No	No	No	No	No	No	No
Export Tax	No	No	No	No	No	No	No	No	No	No	No
Import Tax	No	No	No	No	No	No	No	No	No	No	No
Export Duty	No	No	No	No	No	No	No	No	No	No	No
Import Duty	No	No	No	No	No	No	No	No	No	No	No

SN Panigrahi

What INCOTERMS® - 2020 Do Not Define?



How to use INCOTERMS® - 2020

4 Tips on How to use Incoterms Correctly:

- \$ Choose the Right Rule
- \$ Mention Place of Delivery Immediately After the Term
- \$ Refer to the Appropriate Version of the Incoterms e.g. **FOB Navasheva, India, Incoterms 2020.**
- \$ Incorporate them into the Contract as well as the LC, Invoice, B/L, Customs Documents



It is possible to add clauses or change the wording of Incoterms.

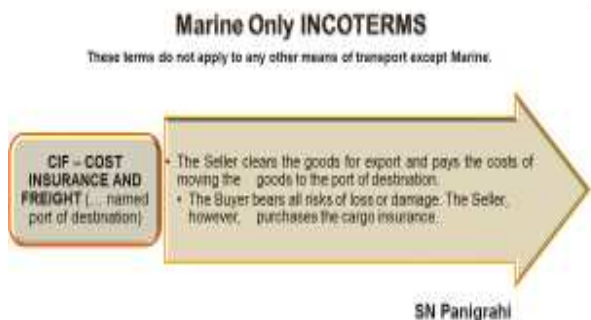
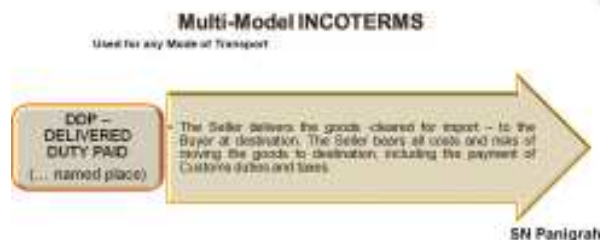
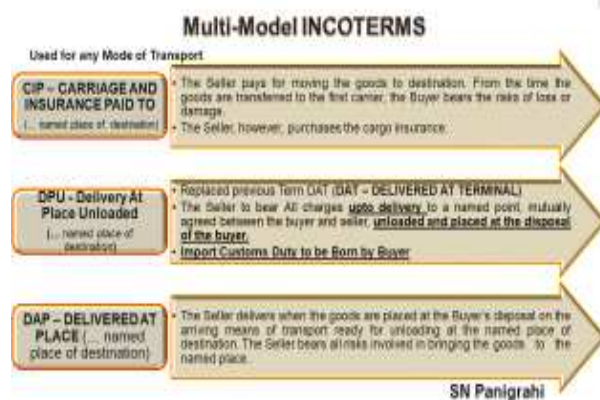
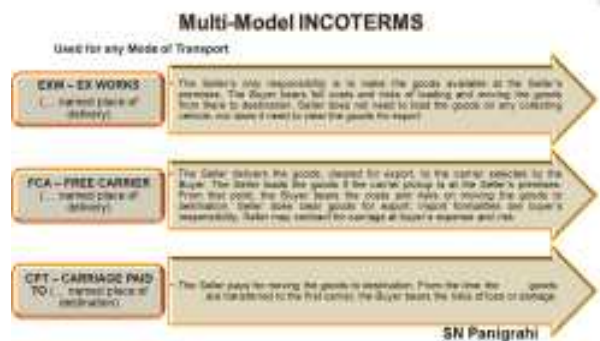
Examples:

CFR Charleston port USA incl. THC, CUC, ISPS in Charleston

FCA Vienna Airport loaded on aircraft

DDP Hanoi Vietnam VAT unpaid

INCOTERMS® - 2020



Can I still use Incoterms® 2010 after 1st January, 2020?

Yes, all contracts using any incoterms are valid if they are agreed upon by all parties to the transaction, and correctly identified on the export-related documents.

Although the ICC recommends using Incoterms® 2020/ beginning January 1, 2020, parties to a sales contract can agree to use any version of Incoterms after 2020.

They need to clearly specify the chosen version of Incoterms being used (i.e., Incoterms® 2010, Incoterms® 2020, or any earlier version).

The Article can be viewed @ Slide Share @ the below Link

<https://www.slideshare.net/SNPanigrahiPMP/changes-in-incoterms-2020-how-to-use-the-terms-by-snp-panigrahi>

and on YouTube @ below Link

<https://www.youtube.com/watch?v=qYbOV4Q9KxM>

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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DECISIONS TAKEN BY UNION CABINET

Cabinet approved Updating European Union Alternative Investment Fund Managers Directive (AIFMD) MoU signed between SEBI and Financial Conduct Authority (FCA), United Kingdom: The Union Cabinet has approved the proposal of Securities & Exchange Board of India (SEBI) to sign an updated Alternative Investment Fund Managers Directive (AIFMD) MoU signed between SEBI and Financial Conduct Authority (FCA), UK, pursuant to UK's exit from the European Union on 31st January 2020.

Major impact

The UK exited the EU on 31st January 2020. FCA, UK had submitted to SEBI that no transitional measures would be available if the amended MoU is not signed before the date when the UK exits the European Union (Brexit), and requested SEBI to sign an updated MoU as early as possible. As such, the proposal is not expected or intended to have any effect on employment in India.

Cabinet approved Elevation of BISAG as BISAG(N) under MEITY, Government of India: The Union Cabinet has approved Elevation of Bhaskaracharya Institute of Space Applications and Geoinformatics (BISAG), Gujarat as Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG(N)) under Ministry of Electronics & Information Technology (MEITY), Government of India.

Benefits

- To maintain efficiency and innovation of services, the current skilled manpower working at BISAG may join the national level institute on as-is and where-is basis.
- To facilitate implementation of expanded scope of activities
- To facilitate implementation of expanded scope of activities and efficient rollout of GIS projects.
- To facilitate implementation of expanded scope of activities, aid research & development and technology development.
- Facilitate development planning and good governance through spatial decision support systems.

Cabinet approved the Constitution of an empowered

"Technology Group": The Union Cabinet has approved the Constitution of an empowered "Technology Group".

Details

Cabinet has approved constitution of a 12-Member Technology Group with the Principal Scientific Adviser to Government of India as its Chair. This Group is mandated to render timely policy advice on latest technologies; mapping of technology and technology products; commercialisation of dual use technologies developed in national laboratories and government R&D organisations; developing an indigenisation road map for selected key technologies; and selection of appropriate R&D programs leading to technology development.

Major Impact

The Technology Group will :-

- render the best possible advice on technology to be developed for a technology supplier and the technology procurement strategy;
- develop in-house expertise in aspects of policy and use of emerging technologies; and
- ensure sustainability of public sector technology developed/being developed at PSUs, national labs and research organisations.

Implementation strategy and targets

The three pillars of the work of the Technology Group include:

- Policy Support;
- Procurement Support; and
- Support on Research and Development proposals.

The Technology Group intends to ensure :-

- that India has appropriate policies and strategies for effective, secure and context-sensitive exploitation of the latest technologies for economic growth and sustainable development of Indian Industry, in all sectors;
- to advise the Government on priorities and strategies for research on emerging technologies across sectors;
- to maintain an updated map of technology and

technology products available, and being developed, across India;

- iv. to develop indigenization roadmap for selected key technologies;
- v. to advise the Government on its technology supplier and procurement strategy;
- vi. to encourage all Ministries and Departments as well as State Governments to develop in-house expertise in policy and use aspects of emerging technologies such as data science and artificial intelligence, and to this end develop an approach to training and capacity building
- vii. to formulate policies for sustainability of public sector technology at PSUs/Labs while encouraging cross-sector collaborations and research alliances with Universities and Private Companies; and
- viii. to formulate standards and common vocabulary to apply in vetting of proposals for R&D.

Cabinet approved Constitution of 22nd Law Commission of India for a term of three years: The Union Cabinet has approved Twenty-second Law Commission of India for a period of three years from the date of publication of the Order of Constitution in the Official Gazette.

Benefits

The Government will have the benefit of recommendations from a specialised body on different aspects of law which are entrusted to the Commission for its study and recommendations, as per its terms of reference.

The Law Commission shall, on a reference made to it by the Central Government or suo-motu, undertake research in law and review of existing laws in India for making reforms therein and enacting new legislations. It shall also undertake studies and research for bringing reforms in the justice delivery systems for elimination of delay in procedures, speedy disposal of cases, reduction in cost of litigation etc.

The Law Commission of India shall, inter-alia, :-

- a. identify laws which are no longer needed or relevant and can be immediately repealed;
- b. examine the existing laws in the light of Directive Principles of State Policy and suggest ways of improvement and reform and also suggest such legislations as might be necessary to implement the Directive Principles and to attain the objectives set out in the Preamble of the Constitution;
- c. consider and convey to the Government its views on any subject relating to law and judicial administration that may be specifically referred to

it by the Government through Ministry of Law and Justice (Department of Legal Affairs);

- d. Consider the requests for providing research to any foreign countries as may be referred to it by the Government through Ministry of Law and Justice (Department of Legal Affairs);
- e. take all such measures as may be necessary to harness law and the legal process in the service of the poor;
- f. revise the Central Acts of general importance so as to simplify them and remove anomalies, ambiguities and inequities;

Before finalizing its recommendations, the Commission will consult the nodal Ministry/ Department (s) and such other stakeholders as the Commission may deem necessary for the purpose.

Cabinet approved the Assisted Reproductive Technology Regulation Bill 2020: The Union Cabinet has approved a historic Bill for the welfare of Women in the Country – the Assisted Reproductive Technology Regulation Bill 2020. This follows the introduction in Parliament of the Surrogacy Regulation Bill 2020, and the approval of the Medical Termination of Pregnancy Amendment Bill 2020. These legislative measures are path breaking steps to protect women's reproductive rights.

Once the Bill is enacted by the Parliament, the Central Government shall notify the date of the commencement of the Act. Consequently, the National Board will be constituted.

The National Board shall lay down code of conduct to be observed by persons working at clinics, to set the minimum standards of physical infrastructure, laboratory and diagnostic equipment and expert manpower to be employed by clinics and banks.

The States and Union Territories shall constitute the State Boards and State Authorities within three months of the notification by the Central Government.

The State Board shall have the responsibility to follow the policies and plans laid by the National Board for clinics and Banks in the State.

The Bill also provides for National Registry and Registration Authority to maintain a Central database and assist the National Board in its functioning. The Bill also proposes for a stringent punishment for those practising sex selection, sale of human embryos or gametes, running agencies/rackets/organisations for such unlawful practices.

Benefits

The major benefit of the Act would be that it will regulate the Assisted Reproductive Technology services

in the country. Consequently, infertile couples will be more ensured/confident of the ethical practices in ARTs.

Cabinet approved Revamping of “Pradhan Mantri Fasal Bima Yojana (PMFBY)” and “Restructured Weather Based Crop Insurance Scheme (RWBCIS)” to address the existing challenges in implementation of Crop Insurance Schemes: The Union Cabinet has approved revamping of “Pradhan Mantri Fasal Bima Yojana (PMFBY)” and “Restructured Weather Based Crop Insurance Scheme (RWBCIS)” to address the existing challenges in implementation of Crop Insurance Schemes.

It is proposed to modify certain parameters/provisions of ongoing schemes of PMFBY and RWBCIS as under:

- a. Allocation of business to Insurance Companies to be done for three years (Both PMFBY/RWBCIS).
- b. Option shall be given to States/UTs to choose Scale of Finance or district level Value of Notional Average Yield (NAY) i.e. NAY* Minimum Support Price (MSP) as Sum Insured for any district crop combination (Both PMFBY/RWBCIS). Farm gate price will be considered for the other crops for which MSP is not declared.
- c. Central Subsidy under PMFBY/RWBCIS to be limited for premium rates upto 30% for unirrigated areas/crops and 25% for irrigated areas/crops. Districts having 50% or more irrigated area will be considered as irrigated area/district (Both PMFBY/RWBCIS).
- d. Flexibility to States/UTs to implement the Scheme with option to select any or many of additional risk covers/features like prevented sowing, localised calamity, mid-season adversity, and post-harvest losses. Further, States/UT can offer specific single peril risk/insurance covers, like hailstorm etc, under PMFBY even with or without opting for base cover (Both PMFBY/RWBCIS).
- e. States not to be allowed to implement the Scheme in subsequent Seasons in case of considerable delay by States in release of requisite Premium Subsidy to concerned Insurance Companies beyond a prescribed time limit. Cut-off dates for invoking this provision for Kharif and Rabi seasons will be 31st March and 30th September of successive years respectively (Both PMFBY/RWBCIS).
- f. For estimation of crop losses/admissible claims, two-Step Process to be adopted based on defined Deviation matrix” using specific triggers like weather indicators, satellite indicators, etc. for each area along with normal ranges and deviation ranges. Only areas with deviations will be subject to Crop Cutting Experiments (CCEs) for assessment

of yield loss (PMFBY).

- g. Technology solutions like Smart Sampling Technique (SST) and optimization of number of CCEs to be adopted in conducting CCEs (PMFBY).
- h. In case of non-provision of yield data beyond cut-off date by the States to implementing Insurance Companies, claims to be settled based on yield arrived through use of Technology solution (PMFBY alone).
- i. Enrolment under the Scheme to be made voluntary for all farmers (Both PMFBY/RWBCIS).
- j. Central Share in Premium Subsidy to be increased to 90% for North Eastern States from the existing sharing pattern of 50:50 (Both PMFBY/RWBCIS).
- k. Provisioning of at least 3% of the total allocation for the Scheme to be made by Government of India and Implementing State Governments for administrative expenses. This shall be subject to an upper cap fixed by DAC&FW for each State (Both PMFBY/RWBCIS).
- l. Besides above, Department of Agriculture, Cooperation and Farmers Welfare in consultation with other stakeholders/agencies will prepare/develop State specific, alternative risk mitigation programme for crops/areas having high rate of premium. Further, as the scheme is being made voluntary for all farmers, therefore, to provide financial support and effective risk mitigation tools through crop insurance especially to 151 districts which are highly water stressed including 29 which are doubly stressed because of low income of farmers and drought, a separate, scheme in this regard would also be prepared.
- m. The concerned provisions/parameters of scheme and operational guidelines of the PMFBY and RWBCIS shall be modified to incorporate the above said modifications and shall be made operational from Kharif 2020 season.

Benefits

With these changes it is expected that farmers would be able to manage risk in agriculture production in a better way and will succeed in Stabilizing the farm income. Further, it will increase coverage in north eastern region enabling farmers of NER to manage their agricultural risk in a better way. These changes will also enable quick and accurate yield estimation leading to faster claims settlement.

These changes are proposed to be implemented from Kharif’ 2020 Season throughout the Country

(Source : PIB, GoI)



CIRCULAR ECONOMY FOR PRODUCTIVITY AND SUSTAINABILITY

By and large, today's manufacturing takes raw materials from the environment and turns them into new products, which are then disposed into the environment after use. It is a linear process with a beginning and an end. In this system, limited raw materials eventually run out. Waste accumulates, either incurring expenses related to disposal or else polluting—indeed. In a circular economy, however, products are designed for durability, reuse and recyclability, and materials for new products come from old products. As much as possible, everything is reused, remanufactured, recycled back into a raw material, used as a source of energy, or as a last resort, disposed of.

India has the opportunity to save money, make money and do good by adopting the principles of the circular economy. It has the opportunity to leapfrog other economies and establish a leadership position. Traditionally, the Indian economy has been one where reusing, re-purposing and recycling have been second nature. In a world that is increasingly running out of natural resources, this thinking is an asset that must be leveraged by businesses, policymakers and citizens in an organized manner and expanded to include other elements to make the economy truly circular.

Several building blocks of circularity are deeply ingrained in Indian habits, as exemplified by the high rates of utilization and repair of vehicles and the distributed recovery and recycling of materials post-use. Often handled informally, these activities provide the only source of livelihoods to some of the poorest populations. By turning these existing trends into core development strategies, India could generate significant economic savings, massively cut down on carbon emissions.

Restorative and regenerative by design, a circular economy aims to keep products, components, and materials at their highest utility and value at all times. A circular economy is a continuous cycle that preserves and enhances natural capital, optimizes resource yields, and minimizes system risks by managing finite stocks and renewable flows. The concept of circular economy, a metaphor that neatly resonates with Mahatma Gandhi's ardent lifelong quest for efficiency in production, sufficiency in consumption and what he could well have called "conservancy" of resources and 'deficiency' in wastes, captures well the desirable characteristics of the future we will all have to live in – and how to get there.

The world's growing and the increasingly affluent population has caused an overuse of resources, higher price levels and increasing market volatility. An ambitious long-term vision of a circular economy, built on the current strengths of the Indian market and engaging business, policy, and education in its realization, could, on the contrary, provide the basis for a regenerative development path towards long-term prosperity.

A circular economy reduces resource dependency and resource use, including energy thereby reining in production costs, narrowing market exposure and limiting costs stemming from resource extraction and generation. It additionally leads to the introduction of economically viable methods of reducing pollution, and separating harmful from reusable waste material.

THE PRINCIPLES OF CIRCULAR ECONOMY

Principle 1: Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows.

A circular economy enhances natural capital by encouraging flows of nutrients within the system and creating the conditions for regeneration of soil and other living systems. Whenever possible, utility is provided virtually or as a service rather than as a physical product. When resources are needed, the circular system favors technologies and processes that use renewable or better performing resources. The circular economy seeks to address several challenges to natural capital:-

1. Threatened stock and variable quality of fresh water.
2. Soil degradation.
3. Loss of biodiversity
4. Depletion of fish stocks and degradation of marine ecosystems.

Principle 2: Optimize resource yields by circulating products, components, and materials at their highest utility at all times, in both technical and biological cycles.

This entails designing for refurbishing, remanufacturing, and recycling to keep products, components, and materials circulating and contributing to the economy.

As in a linear system, increasing yields is useful and requires ongoing system improvements. But unlike a linear system, a circular system would not compromise effectiveness – which requires a fine balance between efficiency and long-term resilience. The circular economy seeks to address several resource challenges.

- 1. Materials consumption:** If India maintains the economic development pace of the past few decades, it stands to more than triple its demand for resources by 2030. This process could be effectively contained by adopting the circular economy principles.
- 2. Nutrient loss:** The deterioration of soil due to loss of nutrients is a significant trend in India and this could be reduced for effective gains.

Principle 3: Foster system effectiveness by revealing and designing out negative externalities.

The negative externalities of economic activity include land degradation; air, water, and noise pollution; release of toxic substances; and GHG emissions. A circular economy would reveal the cost of these externalities – in other words, outline their risks and potential economic impact.

TOWARDS CIRCULAR ECONOMY BY 3R PRINCIPLE

Circular consumption is an indispensable part of a circular economic system for sustaining the economic growth and mitigating environmental degradation and resource depletion. The challenge to put circular consumption into practice can be addressed by 3R Principle that is based on Reduce, Recycle and Reuse. The principle reflects on the scope for converting wastes into valuable products and making the Mission Zero Waste a reality. This Mission emphasizes 100% scientific waste management in 400 targeted cities of the country.

Solid Waste Management

In respect of Indian Solid Waste Management scenario it is indicative that MSW Generation is estimated to be 1.43 lakh Tonnes per day. Of this MSW Processed/Treated is about 35,602 Tonnes per day (24.8%). Further, No. of wards with 100% D2D (Door to Door) collection being achieved has been in 61,846 (73% of wards) and that the No. of wards with 100% Source Segregation are 30,749 (36% of wards).

Table 2.1: The typical composition of Municipal Solid Waste in India

Type	Total (Metric Tonnes)	%
Biodegradable	62,510	47%
Paper	10,640	8%
Rubber	11,970	9%
Metal	1,330	1%
Glass	1,330	1%

Rags	6,650	5%
Others	5,320	4%
Inert	33,250	25%

The Government of India Policy Interventions to encourage conversion of Waste to Wealth and various Ministries and Departments are engaged in the implementation process. In this regard 35% funding is being provided as Viability Gap Funding/Grant by Government of India for all Solid Waste management projects like

- Waste to Compost,
- Waste to Energy,
- Plastics in Road Construction,
- Construction and Demolition Waste Management

In addition are the development and notification of six Waste Management Rules, 2016 and capacity building initiatives in cities for various stakeholders. These Rules are concerning Solid Waste Management, Plastic Waste Management, Construction and Demolition Waste, Hazardous Wastes, Bio-Medical Wastes, Electronic Wastes Management.

Further, is the initiative in India on Swachh Survekshan (i.e. Cleanliness Survey) for cities, and development of the star rating system to achieve garbage free cities.

Many countries have started practicing circular economy and lessons can be learnt on futuristic approaches like clustering ULBs of South Australia, for effective integrated solid waste management, where larger ULBs could lead the action is worth following.

In Ambikapur, India administrative reforms like habitation clusters, contract management, partnerships, open technology sourcing, renewable obligations and awareness campaigns, etc. can result in novel and customized solutions to the waste problems towards a closed loop waste cycle.

Perspectives on industry initiatives on 3R also are reflected upon and highlighted in Figure 1.0 below.

Figure 1.0: A pictorial feature of industry initiatives on 3R



In essence, it is to be highlighted that the behavioral change in society are pivotal to be achieved by various interventions including infrastructural, financial and technological initiatives which could help progress towards a zero waste society within the framework of circular economy.

Reducing Water Pollution

The significance of water security is linked to various sustainable development goals. Water is critical for socio-economic development, healthy ecosystems and for human survival itself. The pressure on the global water resources (both surface and ground water) is increasing due to growing gap between water supply and demand, anthropogenic water pollution and climate change impacts. Urban centers in the Asia Pacific regions are highly vulnerable to water security issues and urban resilience is a concern internationally. The concern regarding water sharing disputes (Domestic and international) was also an issue to be tackled. On the domestic water consumption side, focus should be on development of innovative water saving appliances. Rainwater harvesting will be the corner stone of the urban circular water economy development.

Advancing 3Rs and circular economy encourage the use of treated water and sustainable use of water resources to achieve a number of benefits such as the safe drinking water and effective sanitation system, among others. As regards wastewater reuse applications the key is innovations in wastewater treatment and recycling technologies. A perspective on this is outlined in figure 2.0.

Figure 2.0: Waste water treatment and reclamation perspective



To achieve the circular water economy option, there is a need to revisit the conventional centralized water and wastewater treatment to decentralized system which promotes better water reuse applications.

There are other innovative solutions like Phyco-remediation that refers to the use of algae for treating wastewater. Algae are green, microscopic plants that survived extremely harsh, prehistoric environmental conditions and helped produce oxygen on earth and

bring down the earth's temperatures. Nature also uses algae to treat rivers and lakes. Since millennia, our civilizations have spawned near rivers, but pollution had never been a problem because of the remediation work carried out by algae. However, because of the surge in population growth, construction of dams and barrages and especially because of the addition of industrial effluents, the pollution loads in rivers have shot up significantly. The experimental outcomes were encouraging when micro-algae based water treatment technology was used with a 10 Km stretch of river Mausam at Malegaon and 0.4 Acres Lakshmi Tal at Jhansi on sample basis.

Preventing Land Pollution

The problem of land degradation is due to open dumping, open burning, spillages of oil and other contaminants etc., and other causes such as deforestation, over grazing, agricultural activities, industrialization, over exploitation for fuel wood etc.

The land pollution has a number of adverse effects on the physical, chemical and biological properties of the land that reduces its productivity. Further, the land becomes breeding ground for disease causing insects and vectors. Open burning and illegal dumping also allow the percolation of harmful substances in the food chain.

It has also been seen from the record that more than 35% of the fifty biggest landfill sites are located in the Asia and the Pacific.

There is huge potential for implementing 3R and circular economic development strategies to prevent physical and chemical degradation of land as well as effective utilization of organic waste and biomass for sustainable farming and energy. Remediation of already polluted land, rehabilitation of deserted lands, landfill mining, utilization of organic waste and biomass for sustainable farming, continuous mass campaign to prevent open burning, waste recovery through composting and enforcing appropriate legislation encouraging earning from the waste recovered materials, are some of the solutions. It is required to have a national target for respective States, national and state level strategies and policy development, robust supply chain and technological support to prevent the land degradation for realizing circular economy.

Prevention of Air Pollution

Air pollution is an intensifying environmental challenge in Asia and the Pacific, where uncontrolled, unmonitored and unregulated biomass burning and open burning from open dump sites is still inevitable. Air pollutants like particulate matter, black carbon, methane, etc. are released to the atmosphere, essentially interrelated to short-lived climate pollutants (SLCP) or greenhouse gas emissions with significant impacts on human health, agriculture, forests, and

habitats. Air pollution affects environmental health, social, and economic aspects. Exposure to air pollution in outdoor and indoor costs USD 5.11 trillion per year and has consequential health impact in terms of non-communicable diseases i.e. stroke, heart disease, respiratory disease and lung cancer.

In terms of trans-state air pollution from biomass burning creating haze required green agriculture system for utilization of biomass residue. Sustainable management of air emissions and air quality management strategies are key to achieve circular economy.

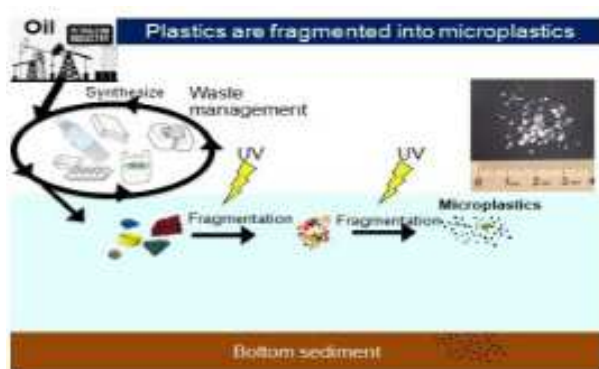
Protection of Coastal and Marine Ecosystem

Impact on coastal and marine ecosystem due to poor waste disposal practices, in particular the plastics waste, is a major concern. Scientific studies say more than 5 trillions of plastics are floating in ocean, whereas much more are deposited and accumulated in bottom sediments. They bring toxic chemicals to organisms such as fish and shellfish, causing concern about food security. Disposal of micro-plastics to the ocean has major impacts on the marine ecosystem as these materials are ingested by marine organisms causing severe food security issues.

There is a need to consider wide spectrum of 3R options as part of circular economy to reduce the generation of plastic wastes. Among them, reduction of production of unnecessary single-use plastics could be helpful, considering long-term environmental impacts.

Indian stake holders can learn from Global initiatives such as Clean Seas Campaign and North West Plastic Action Plan (NOWPAP) for solving the issue. In this context strengthening the policies related to marine pollution, capacity building of local and national bodies, development of marine research and development activities and raising awareness can be critical.

Figure 3.0: Plastics in Oceans and Water Bodies – Impacts and Pathway to food chain



Greening of Small Manufacturing Enterprises (SME)

Greening of SMEs is important to achieve decoupling

economic progress vis a vis resource consumption leading to circular economy. It is indicated that SMEs are the major contributors worldwide to industrial activity as part of supply chains and that significant pollution is also generated by SMEs. A perspective on Resource Efficient Cleaner Production (RECP) initiative and the challenges faced in effecting behavioral change in SMEs and obtaining responsiveness towards modernization reflected upon, with recognition that technology costs can be a deterrent, and that governmental initiatives and support can enable and assist SMEs towards green industrial development.

In order to green SMEs, a concept of GLEAN (Green Lean) which is a combination of Material Flow Cost Accounting (MFCA) and Lean Management, developed by NPC could be put into practice. The application of MFCA in production has been demonstrated in SMEs and the implication of adopting MFCA with LEAN is that it clearly leads to higher process efficiency and reduction/elimination of waste. The fundamental strategy behind implementing MFCA with LEAN is the evaluation of the operations and activities in terms of efficiencies. Since MFCA is a management accounting method, it does not automatically resolve this loss. In fact, it is necessary to clarify the cause of the loss occurring in each process and change the design, materials/parts, manufacturing method, processing, equipment, etc., and to eliminate the cause, for which PDCA (Plan, Do, Check and Act) approach of LEAN Principles when clubbed with MFCA fits well in the framework and delivers sustainable outcomes to help SMEs to achieve resource efficiency.

CAPTURING THE BENEFITS OF CIRCULAR ECONOMY

The Circular Economy is a new way of creating value, and ultimately prosperity. It works by extending product lifespan through improved design and servicing, and relocating waste from the end of the supply chain to the beginning-in effect, using resources more efficiently by using them over and over and only once.

Indian businesses are well placed to lead the way in the transition. Businesses stand to realise substantial profit from the circular economy opportunities. Five recommendations could guide companies seeking to capture this value.

- Build circular economy knowledge and capacity.
- Innovate to create new products and business models and demonstrate their success.
- Integrate circular economy principles into strategy and processes.
- Collaborate with other businesses, policymakers, and the informal economy.
- Invest in circular economy opportunities.

Profit opportunities for businesses through increasing innovation and demand for new business services.: By applying circular economy principles, businesses

could generate new ideas and explore new ways of working, especially in digital technology. Indian innovation hubs could help businesses implement new approaches and capture new profit opportunities.

Material cost savings and reduced exposure to resource price volatility. A circular economy would significantly lower costs for businesses related to the use of virgin materials. Less material use would also reduce their exposure to volatile raw materials prices and strengthen resilience.

Economic growth. As mentioned above, circular economy practices are making more productive use of material inputs (including looping of products, components, and materials) and increasing revenue from emerging circular activities. While some sectors (e.g. the material extraction industry) would expect reduced activities, overall more activity would happen across the economy, boosting economic growth.

Benefits for Citizens

- 1. Lower cost for products and services.** In the circular economy scenario, cash-out cost in the three focus areas would be ¹ 14 lakh crore (US\$ 218 billion, 11% of India's GDP) lower in 2030 and ¹ 40 lakh crore (US\$ 624 billion, 30% of India's GDP) lower in 2050, compared with the current scenario.
- 2. Greater utility and choice.** The additional choice or quality that circular models provide would enhance the utility, or benefit experienced by customers. Choice increases as producers provide systems that enable tailoring products or services to better meet customer needs. For example, applying circular economy principles in mobility would give customers more vehicle options, without increasing the number of vehicles on the road.
- 3. Reduced negative externalities,** e.g. congestion, pollution. The analysis suggested beneficial impact from applying circular economy approaches to address issues like congestion, pollution, and ill health.

CIRCULAR ECONOMY'S OPPORTUNITIES IN INDIA

1. Cities and construction: As India invests in long-term infrastructure to improve citizens' quality of life, for example through the Smart Cities Mission, it could incorporate circular economy principles into the design of the infrastructure needed to provide water, sanitation, and waste services at scale, creating effective urban nutrient and material cycles. More systemic planning of city spaces, integrated with circular mobility solutions, can contribute to higher air quality, lower congestion, and reduced urban sprawl. Flexible use of buildings and urban spaces, enabled by digital

applications, can increase utilization rates, getting more value out of the same assets. Higher efficiency and lower overall building and infrastructure costs could also help meet the housing needs of the urban poor without compromising safety and quality.

Circular economy principles can contribute to this construction activity in ways that create economic value and decouple development from the use of virgin, non-renewable resources. Renewable and recycled materials and modular construction methods can minimize waste and reduce construction costs. Buildings can be designed to be adaptable to changing needs and contribute to the regenerative urban ecosystem during their use phase (energy generation, connection to nutrient cycling systems, etc.).

2. Food and Agriculture: India can adopt a regenerative, restorative agricultural system that combines modern technology with traditional practices to meet India's growing food demand. There is an urgent need for an agricultural system framework which retains natural capital, boosts economic and ecological resilience, and delivers a stable supply of fresh, healthy, and diverse food to India's growing population besides closing the gap in nutrient loops.

Leveraging the current small-farm structure, India could create large-scale networks of farmers, interconnected and symbiotic in their practices and committed to regenerative approaches. Combining local knowledge and traditional methods (like working with a large variety of species) with modern technology (like precision farming, and digitally enabled asset and knowledge-sharing systems) could increase yield while significantly decreasing requirements for resources such as water, synthetic fertilizers and pesticides.

Reducing food waste across the supply chain could make the Indian food system even more effective. This would require optimizing production and digitising food supply chains to match supply and demand more easily. Urban and peri-urban farming can bring food production closer to consumption, reducing food waste and transportation requirements. Composting and an aerobically digesting food waste with no other valuable use and post consumption nutrients (those contained in human excreta) allows restoration of nutrients to the soil and production of energy.

3. Mobility and vehicle manufacturing: Circular economy principles can contribute to a mobility system that would meet the growing needs of the Indian population, especially in cities, while limiting negative externalities, such as GHG emissions, congestion, and pollution.

Taking reparability, remanufacturing, and recycling into account in vehicle design and creating the appropriate

reverse cycle infrastructure can reduce the need for virgin, non-renewable resources and energy. Building vehicles that rely on zero-emission propulsion technology could reduce negative externalities like GHG emissions, pollution, and dependence on imported fossil fuels. As car ownership is currently low, adoption could be rapid as ownership expands.

A multimodal, door-to-door, on-demand mobility system, embracing vehicle-sharing trends and leveraging digital innovation, could provide efficient and effective transportation with high vehicle usage and occupancy rates. Mass transit as the backbone combined with other forms of transport – including vehicle as a service – for convenient last-mile connectivity can create convenient door-to-door journeys. Technological innovation can help plan these journeys and make travelling safer and faster.

POLICY INITIATIVES : Government of India has done substantial work towards Policy interventions and formulation such as

1. Notification of National Ambient Air Quality Standards;
2. Formulation of environmental regulations / statutes;
3. Setting up of monitoring network for assessment of ambient air quality;
4. Introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blend etc;
5. Promotion of cleaner production processes.
6. Launching of National Air Quality index by the Prime Minister in April, 2015;
7. Implementation of Bharat Stage IV (BS-IV) norms in 63 selected cities and universalization of BS-IV by 2017;
8. Decision taken to leapfrog directly from BS-IV to BS-VI fuel standards by 1st April, 2020;
9. Taxing polluting vehicles and incentivizing hybrid and electric vehicles;
10. Comprehensive amendments to various Waste Management Rules including Municipal Solid Waste, Plastic Waste, Hazardous Waste, Bio-medical Waste and Electronic Waste notified; .
11. Notification of Construction and Demolition Waste Management Rules;
12. Ban on burning of leaves, biomass, municipal solid waste;
13. Promotion of public transport network of metro, buses, e-rickshaws and promotion of car pooling, Pollution Under Control, lane discipline, vehicle

maintenance;

14. Revision of existing environmental standards and formulation of new standards for prevention and control of pollution from industries;
15. Regular co-ordination meetings at official and ministerial level with Delhi and other State Governments within the NCR;
16. Issuance of directions under Section 5 of Environment (Protection) Act, 1986 and under Section 18(1)(b) of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981;
17. Installation of on-line continuous (24x7) monitoring devices by major industries.
18. Preparation of action plan for sewage management and restoration of water quality in aquatic resources by State Governments;
19. Implementation of National River Conservation Plan for abatement of pollution in identified stretches of various rivers and undertaking conservation activities which inter-alia include interception & diversion of raw sewage, construction of sewerage systems, setting up of sewage treatment plants, low cost sanitation facilities, education and awareness creation, community participation, electric/improved wood crematoria and river front development.
20. India's National Manufacturing Policy focuses on promotion and adoption of Green technologies and Green manufacturing especially with its MSMEs.
21. Government of India has embarked upon an initiative of creating 100 smart cities across the country and waste management & resource conservation are significant part of this important initiative.
22. Government of India is in process of finalizing national goals under UN's sustainable development goals.
23. Government of India has promoted the concept of Zero Effect Zero Defect Effect in order to achieve Green economic growth.
24. Government of India has emphasized focused on Development of MSMEs and making them competitive and sustainable in order to achieve increased economic growth in manufacturing sector.

The following actions are required to lead the way to transition to Circular Economy:-

1. Set direction and show commitment.
2. Create enabling regulatory frameworks and

remove policy barriers.

3. Represent the interests of groups like the informal sector, or facilitate collaborative initiatives among businesses, the public sector, and other stakeholders
4. Support circular models through public procurement and infrastructure.
5. Embed circular economy principles into education.
6. Conduct research and pilot projects to create a knowledge base and establish proof points.

The following dedicated activities during the Productivity Week Celebration shall play important supporting roles in realizing the desired actions to bring circular economy into the system:

1. On Foundation day, you may invite a High Dignitaries to chair the panel sessions on how to bring consciousnesses to accelerate the implementation of the concepts in their respective units.
2. Conduct internal workshop on the selected theme to capture the various initiatives undertaken.
3. Conduct Seminar/Conference on Circular Economy with the support of experts from Academia, MSME, Consultants as knowledge partners, etc.
4. Invite NPC to co-sponsor/co-chair events like “Youth Festivals”, Debates” or other competitions on the theme selected.
5. Invite NPC to co-chair Productivity Improvement Committees of the organization.
6. Conduct Talk Show on the achievements, way forward, outcomes of Industry 4.0 through Community Radio/local TV channels

The following information is essentially required:

1. Schedule of activities planned during the productivity week like date of event, title, objective, venue, etc.
2. Details of publicity undertaken before/after the events like posts on social media, organization’s website, newspaper, etc.
3. Details of activities conducted successfully like date of event, title, details of Invited Guests, attendance of participants, significant highlights, outcomes achieved, etc.

Source : NPC



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.

LOGISTICS FUTURE POWERED BY TECHNOLOGY: WIN-WIN FOR CLIENTS

RUCHI DOGRA
CO-FOUNDER AND DIRECTOR OF FREIGHTCRATE TECHNOLOGIES PVT. LTD

Overall, the advent of technology forces is leading to a culture of decision making based on data and not gut-feel. The gains in both quality and performance as delivered in a technology-powered logistics value chain is realised by both buyers and providers, writes **Ruchi Dogra**.

Today, it is not one unique identifiable technology that can create a quantum impact on the logistics industry. Combinations of technologies which are at the tipping point of mass adoption by the industry are the key drivers to the change that is happening from within the logistics industry.

Simple automation, which seemed like a panacea for all logistics related issues, is no longer the natural option. The way automation is impacting the logistics industry and its value chain is evident from the emerging new business models which are disrupting the traditional norms.

The empowered executive : Employees of logistics providers and user companies are much more aware, utilising toolsets and systems that enable them to deliver more. Whether it is performing mundane routine tasks or high-value activity of decision making, automation has enabled create both time and decision support systems to prioritise and focus on ensuring the shipments are not just planned but are delivered in planned parameters.

IoT, AI, Data Analytics : Internet of Things (IoT) has the potential to be the greater disrupter, enhance process & efficiency by offering greater visibility and control of the process in the supply chain system. Optimising the cost, reducing cycle times, transparent and efficient documentation – all these are seen as a minimum basic requirement today. The supply value chain is employing IoT to ensure that all relevant data is generated in a uniform and manageable dashboard format. Decision making support from AI algorithms and modelling is a norm for supporting decision making.

Experience, experience, experience : Integration of all areas of business activity is imperative for small or big enterprise. Smart decision making, efficiency gains, timely execution and transparent pricing models that impact profitability are both demanded and delivered by the logistics industry's new age providers. It all about enabling businesses who use logistics to plan, operate long-term, re-organise their business models, and

market acquisition strategies. All of these leading to improved experiences for shippers, carriers and value-added logistics players in the value chain.

Information flow is faster, cheaper and transparent : All participants want to have information for their own use, in their own format, and at no cost. Is this possible? Yes, and it is being delivered using the advancements of artificial intelligence (AI), machine learning, and implementation of business intelligence systems. Sharing of data in a standardised format and making available decision dashboards that can be easily understood are the norms. This development is enabling movement of information at a fast pace as required by the buyer, shipper and other providers within the logistics supply chain. The underlying systems create a level of transparency which is acceptable to all and improving further day-by-day.

Transformation through digitisation : The moving parts of the logistics are not just the goods that flow within but the data that is created, generated and dynamically changes in during the course of logistics operations. Logistics services intermediaries of the new age are adept at using technology to interpret this dynamic data to provide cost-effective methods of shipment. Modelling and machine learning are aiding suppliers to deliver shipments efficiently and inexpensively to their clients. This transformation is self-propelled and unstoppable. The challenges it poses in terms of data magnitude and security are growing but not a hindrance.

The growth in new age logistic intermediaries armed with technology edge is here to stay and provide an edge to their clients. Whether it is ad-hoc, regular or long-term planned shipments, the ability to provide a quote electronically in a standardised format is enabling the logistics players to capture the opportunity with instant price modelling.

Clients of providers and clients of buyers are both relying upon the technology-enabled transparent and standardised data availability. This is creating a unique business model within the industry enabling spot pricing, efficient logistics routing and above all a satisfying experience for all involved in the value chain.

Source : www.itln.in

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HOW E-PROCUREMENT IS TRANSFORMING THE LANDSCAPE OF INDIAN BUSINESSES?

The E-Procurement system helps an organization to manage its relationships with its valuable suppliers

SANJAY PURI, CEO, C1 INDIA

In recent times cloud has been an integral part of turning big data into meaningful insights. Cloud-based data management has made it easier for businesses of all sizes to flawlessly integrate software and hardware to create a unified data environment. Cloud-based tech and the IoT will continue to play important parts in the development of e-procurement platforms for 2020 and beyond.

The backbone of process optimization and strategic sourcing is to get data analyzed thoroughly in real-time and with utmost accuracy. So, Big data will play and will continue playing a big role in procurement organizations.

The other upcoming trend is Blockchain, which will further enhance automation massively and improve cyber security to processes ranging from procure-to-pay (P2P) to contract management to financial and inventory audits. Though, it hasn't reached the desired stage as other new technologies but this'll change in 2020 as more procurement teams embrace the dynamism and the increased security, the blockchain moves from an optional add-on to a core part of next-gen automation and security software.

As procurement teams are increasingly relying on technology to extract maximum savings and value from the supply chain, internal process optimization, and actionable insights, it becomes more critical than ever to protect these systems from tampering, manipulation, corruption, and outright destruction. So, cyber security is another trend that will be in priority in the upcoming years to safeguard sensitive information and for the smooth functioning of organizations.

Nowadays the procurement function is at the centre of business process management, helping all business units to minimize waste and expenditure while maximizing value. This transformation is perhaps the most crucial in the history of procurement and it will keep growing in years to come.

Sectors using E-procurement and what benefits are they reaping from the E-procurement service.

The requirement of e-Procurement solutions is not industry-specific. Large, midsize and growing companies across industry verticals that need cost savings will certainly benefit from the e-procurement system. E-procurement eliminates the cost of procurement resources and empowers the organisations to achieve efficiency, transparency and effectiveness in procurement. Construction and Real Estate are some of the sectors rising actively at the e-Procurement front.

Market predictions (For the next 3 yrs)

The emphasis on maximizing return on investment (ROI) and value creation, backed by minimal waste and expense, will remain a top priority for procurement professionals worldwide.

Experts at research firms have developed a variety of roadmaps defining the future of procurement. Gartner, for example, has predicted that by 2022:

- 50 % of existing spend analysis and procurement tools will be replaced by AI-driven, cloud-based purchasing platform.
- 75% of all B2B one-off spend (i.e. "tail spend") will be made in online marketplaces such as Amazon.
- All best-in-class procure-to-pay services will include built-in chatbots and virtual assistants to further enhance and streamline procurement while improving security and compliance.

How Indian companies/startups can leverage from E-procurement to grow their businesses.

The E-Procurement system helps an organization to manage its relationships with its valuable suppliers. It provides a range of built-in management tools to help control costs and ensure maximum supplier performance for those who use it. It provides a hassle-free and efficient way to maintain an undisturbed and a constant line of communication with potential suppliers during a business process.

It helps with the decision-making process by keeping relevant information neatly organized and time-stamped.

Through e-procurement, all transactions are easier to track because they are made over the internet and managers can instantly see who made what purchases without having to wait for a monthly revolving credit statement to be issued.

E-procurement saves times. Buyers just have to go on the internet and place an order on the portal and the rest is taken care without any hassle. Since suppliers receive the order in real-time, the order fulfilment gets much quicker than the traditional methods of procurement.

The article has been authored by Sanjay Puri, CEO, C1 India

Source : C1 India

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HOW BLOCKCHAIN IS REVOLUTIONISING PROCUREMENT AND SUPPLY CHAIN IN INDIA

AKASH HEGDE, COMMUNITY

- Efficient management of procurement and supply chain systems is crucial for business operations
- Businesses have acknowledged the importance of digital transformation to revamp their supply chain systems
- Blockchain adoption is gaining traction and the momentum will sustain through the new decade

The procurement and supply chain industry is infamous for the complexity of the processes involved in keeping it functioning smoothly. Inefficiencies in data flow and the fact that systems are seldom integrated with very little interoperability often result in the creation of data silos. Despite sizeable investments in digital technologies, most companies still have limited visibility about the movement of goods and produce across their supply chains.

The culprit, in most cases, is the gap that exists between the systems in use within organisations and those across organisational boundaries. Companies are using electronic data interchange (EDI) and XML messaging to maintain the flow of information across their networks and outside company boundaries.

But the point-to-point messaging system has its flaws as data flow is not seamless across different departments.

Efficient management of procurement and supply chain systems is crucial for business operations, and an inefficient supply chain can severely impact the bottom line of the company. How can an organisation revamp its outdated supply chain systems? How can it track the source of the produce and ascertain the credibility of its vendors? More often than not, business leaders are perplexed by these questions. These are not

easy questions to answer.

New age customers are more vigilant and vocal in raising concerns over product quality and authenticity. This has created the demand for greater clarity over the product's origin and journey. Most organisations find it challenging to answer these concerns due to the notoriously complex supply chain systems that they have in place.

Blockchain technology has the potential to transform the way companies go about their supply chain management. While adopting new technology and driving change in legacy processes can be a bit overwhelming, the risk of delaying these improvements can prove to be costly. With the emergence of distributed ledger technology, procurement and supply chain leaders have started exploring applications built on blockchain to gain operational efficiencies and enhance the productivity of their teams.

Explaining Blockchain : Blockchain is a fascinating new technology that has quickly grown in popularity since its origin a decade ago. With all the hype and debate about cryptocurrency and blockchain, people sitting on both sides of the fence have plenty to argue about.

However, one aspect that all parties would unanimously agree upon is the sheer usefulness of this technology – the most significant innovation since the internet. Interestingly, blockchain technology has disrupted every industry, be it retail, healthcare, or manufacturing, and it is expected to transform the lives of almost everyone on the planet within a few decades.

Blockchain technology started almost a decade back as a platform on which cryptocurrencies function. According to Don & Alex Tapscott, authors of Blockchain Revolution (2016), "The blockchain is an incorruptible digital ledger of

economic transactions that can be programmed to record not just financial transactions but virtually everything of value.”

Utilizing a sophisticated algorithm, it provides the security needed to transfer digital assets anonymously while keeping a log of information safe. With the use of an immutable distributed ledger, all the participants of a blockchain network can have access to the same information. Additional information can be added, but the original data cannot be altered. Transactions are recorded on the distributed ledger with the consent of most of the blockchain network participants.

Blockchain And Supply Chain: A Match Made in Heaven: Businesses have acknowledged the importance of digital transformation to revamp their supply chain systems and reap the benefits of emerging technologies. Manual processes are resource-intensive, prone to human error and have sky-high operational costs. Digitization and process automation is necessary for seamless integration with blockchain networks. How can blockchain technology benefit complex supply chain management systems? Well, to benefit from this digital transformation, procurement and supply chain management needs to become more agile and resilient.

Supply Chain Implementations On The Blockchain: *Shanghai and Guangdong, the two busiest ports in the world, doing a business of almost 1.5 trillion annually, are using blockchain technology to streamline the process while ensuring the legitimacy of any ships entering or exiting ports.

****According to the World Economic Forum, streamlining information through blockchain has the potential to increase trade by 15%.***

By leveraging blockchain technology, Farmer connect and IBM is partnering with coffee manufacturers and brands to establish efficiency and fairness in the coffee supply chain, and to meet customer expectations around the traceability of each bean from farm to factory.

MediConnect blockchain solution removes counterfeit medication from circulation and

simplifies its distribution to pharmacies.

Implementing Blockchain Logic Within Supply Chain : By utilising blockchain-enabled industry solutions, inefficiencies and financial sustainability issues in procurement and supply chain management systems can be simplified and addressed adequately. Blockchain technology allows information to be updated almost instantly and it can be tracked in real-time. Separate points in the chain allow for spotting the current location of the shipment along with its condition and size.

With the availability of this information in advance, a vehicle can be reserved and space can be allocated within the warehouse to accept delivery of the goods. Moreover, smart contracts can be created to manage the multi-step procure-to-pay process with global vendors. These contracts can be used to automate certain functions that will enhance efficiency. For instance, smart contracts can be used to automatically pay out vendors once the three-way matching of goods receipt, invoice and purchase order has been completed.

Creating Supply Chain Vision : Blockchain adoption is gaining traction and the momentum will sustain through the new decade. But distributed ledger technology is not the panacea that can eliminate every environmental and ethical issue that supply chain professionals face.

Factors such as the lack of interoperability and standardization are responsible for the slow adoption of blockchain technology. To leverage blockchain technology efficiently, it is crucial to first digitally transform the organisation by building scalable and stable systems. Once the supply chain system is digitised with the creation of information highways, it becomes much easier to employ blockchain-based technology solutions.

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Source : INC42



THE ECONOMICS OF AN EPIDEMIC

*A focus on long term investment is crucial.
There is a flight to safety, and traditional safe havens.*

The Chinese Year of the Rat, 2020, is meant to be a time of prosperity. Instead, Covid-19 ushered in a historic market fall, leading to a screeching halt for the longest bull market in U.S history, and the steepest one day fall since the 1987 stock market crash.

In India, the initial impact of the virus was likely to play out through trade channels, however, due to the recent increase in the number of local cases detected, India will experience a slowdown in domestic demand as well. As the number of cases of Covid-19 in India rise, the economic impact is expected to accrue from both demand and supply side. Aviation and tourism are the first to experience a slowdown in addition to every blue-chip company across India that has global interdependencies and drivers abroad from IT to banks, power to telecom.

The stated number of infections in India on the face of it seems to be a gross underrepresentation of the magnitude of the issue here. The density of the population in India and the lack of effective testing mechanisms could cause further volatility in the markets. Slow down due to social distancing can devastate growth- or cause contraction, as many sectors are experiencing, the impact of which could last years to come.

Opportunity in volatility : The situation is evolving so rapidly, giving little room to absorb the implications of each new development before the next one comes to light. However, capital market fundamentals remain the same. At present, it is hard to ascertain when the markets will stabilize, but there are risk mitigation strategies that investors can adopt during such volatile times.

A focus on long term investment is crucial. There is a flight to safety, and traditional safe havens. With valuations at a five-year low and earnings forecasts and growth tempered amidst such volatility, it may be a good time to start investing in stocks that have faced severe price correction. The end to this carnage might not be around the corner, holding upwards of 25 percent in cash is a prudent risk mitigation method at the current juncture.

The market sell-off may be short-lived, and stocks with good quality management and high levels of governance might come out stronger, making them a compelling investment opportunity. As historically experienced by long-term investors in previous crashes. As long as this investment is systematic and structured with a long-term outlook, investments now could lead to outperforming portfolios over the long term.

Additionally, India has an opportunity to close the gaping gap that coronavirus has caused in the supply chain by accelerating manufacturing activity. This could prove to be a long term boon for brand India while creating job opportunities.

Accountability in markets : Even as the flagship fund of the largest hedge fund globally, Bridgewater Associates, is down 20%, I continue to hold that it is possible to outperform not just competition, but the markets as a whole. For example, we've outperformed the Nifty by 15%, and not just the Nifty but several other indices.

It is possible to preserve client capital amidst the COVID-19 meltdown, a black swan event no less, by relying on the fundamentals - mitigating risk while seeking opportunity in the volatility. Wealth management as an industry has evolved and we are witnessing a shift from product-driven to a client-driven approach. What helps in outperforming the indices is being structurally client aligned and aiming to be all-weather fund, forsaking some of the gains in extremely bullish markets by maintaining a certain level of cash and hedges at all time.

Going forward, we can expect HNIs to not only judge their asset managers based on their historical fund performance but also their appetite for risk and volatility. Recent occurrences have established interdependencies that topple markets come rapidly, and in such times, a certain comfort with volatility needs to be embraced. In such a changing paradigm, HNIs will increasingly seek fund managers who have a knack of finding opportunity in times of volatility, who run a more balanced portfolio.

Market Recovery : While it cannot be ascertained when the markets will recover as the shock is driven by sentiment, we do expect relief as governments take unprecedented action to contain the disease and ease market tension. While the markets might continue to stay in a bear phase over the next six months or so, we see a drift in investor sentiment wherein funds with an inherent metric that takes advantage of volatility can provide an artificial floor to overall fund performance.

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Source : Businessworld.in

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TRANSFORMING 21ST CENTURY SUPPLY CHAIN DEMANDS WITH ADVANCED TECHNOLOGY

*Manual management of the supply chain is no longer possible for
large growth-oriented businesses*

SUNNY NANDWANI

FOUNDER AND MANAGING PARTNER AT ACUVER CONSULTING

The success of any contemporary business today depends on fulfilment. Timely delivery of the product on offer has been as old a business practice as retailing itself. This whole process of procuring, storing and delivering is what is today known as 'Supply Chain Management' in the industry. Ever since trade and commerce started, it has been the prerogative of the business owners or managers to ensure uninterrupted management of the supply chain. In the 21st century, trade is no longer local or regional, but it has transcended geographical boundaries.

Picture this, when we visit a supermarket or the neighbourhood mall for shopping, it is quite likely that your shopping cart would contain products ranging from Coffee from Mexico to cotton clothes from India, electronic goods from China, tea from Darjeeling, chocolates imported from Europe and so on. This shows you the range and diversity of products and its respective sources in a retail store. Now imagine how the company must manage the sourcing of these products from different locations from around the globe, the transport, the storage to the delivery and all in a timely and efficient manner depending on demand and market conditions.

Large retailers, as a result, need to constantly work in tandem with scores of vendors/buyers scattered across a vast geographic region. Manual management of the supply chain is no longer possible for large growth-oriented businesses.

The total global volume of digital data is set to reach 44 zettabytes by the year 2020. On average, internet users share over 2.5 million pieces of content on Facebook along with more than 300,000 tweets and more than 204 million text messages.

It is nothing short of a data Tsunami that businesses all over the world are dealing with. Despite the daunting challenge, the brands need to dive in and extract actionable insights from the data.

It is this twin impact of global synchronization of the fulfilment chain and analysis of mind-boggling data volumes that necessitates the integration of advanced tech into the Supply Chain Management. Let us look at some of the key aspects of SCM that is being overhauled by technology.

Cheaper and Optimized Logistics: For retailers, especially eCommerce companies, one of the biggest challenges is the cost and efficiency of logistics. While the big eCommerce brands and major retail chains deploy cutting-edge technology such as automation and self-propelled machines at their warehouses, they must at times contend with poor

logistics networks. As a result, there is a lot of scope for improvement needed in the way the delivery logistics for millions of orders are being handled. There is a dire need to get things delivered faster, cheaper and with better precision. This is where tech-enabled shipping solutions help by identifying the fastest and the shortest delivery route, thus, cutting down transportation cost, labour cost and carbon footprint. In fact, it is interesting to note that the problem is not a resource crunch, but more so underutilization of resources available.

Intelligent and Robotically Automated Warehouses: Technology is now not only optimizing the way goods are delivered, but also how they are stored. There are millions of pieces stashed in a major fulfilment centre and machines like self-driven forklifts and robots work independently to ensure timely and accurate movement of the same. They are remotely controlled by advanced CCTV monitoring and capable of raising an alarm if something suspicious or unsafe takes place. These smart machines bring down costs and provide better productivity with seamless operation.

For a retailer, another major challenge is to manage and seamlessly integrate operations between warehouses located thousands of miles away from each other. This is where the 'Smart Warehouse Management Systems' are being merged with 'Order Management Systems' to create a superior experience. From the moment a customer wraps up their purchase process, to the point the delivery is confirmed, the whole process is orchestrated by technology in a touch-free manner. Such technology integration eliminates problems such as a wrong delivery address, overbooking of orders or accumulation of excess inventory.

Today, machine learning tools can provide the real-time and continuous forecasting of demand and supply scenarios. Hence, the warehouses are becoming smarter and more efficient.

Overcoming Language Barriers: Another major barrier that technology has removed is the language issue. Global trade results in a lot of diverse languages' data being collected. It is impossible to manually process such huge data volumes and that's where the evolution of Natural Language Processing (NLP) is proving to be a major boon in segregating and analysing the data. It also helps businesses extract meaningful insights which might have been otherwise lost due to foreign languages. This has resulted in seamless functioning of SCM between various countries such as India, China, Russia and the USA on a real-time basis.

Real-Time Inventory Visibility: Today customers are going mobile at breakneck speed and as a result, most major retailers sell via mobile apps apart from their main websites and offline stores. Also, there is a rapidly growing trend of hybrid retail that merges the offline and online channels to provide an Omni-channel experience to the customers. A person might spot a product on the website but try to order it later via the mobile app or walk into the retailer's physical outlet to purchase it. In such an Omnichannel scenario, it is imperative that the inventory visibility must be real-time integration between all the channels. The sophisticated technology-driven interfaces today make it possible to provide Omni-channel visibility on a real-time basis. Inventory is managed digitally and the moment a product goes out of stock, it goes offline as well. This eliminates the chances of receiving any further orders for products out of stock. It also leads to a faster delivery routing as the AI-powered system automatically locates the product and works out the shortest delivery route while instructing the concerned warehouse to ship the order to the customer. The entire process takes place digitally and in the blink of an eye. Such highly advanced SCM systems are essential in

the Omni Channel retail environment since they facilitate precise order placement and delivery.

In Conclusion

To sum up, 21st century Supply Chain Management is far more dynamic and crucial than ever before. Businesses are global and compete to ensure faster, cheaper and more accurate processes. Today's businesses must deal with a huge and widely spread customer base and they need to rely upon advanced technologies to meet their goals and grow!

We have seen how AI and cloud tech is expanding its footprint in Supply Chain Management. With the experiments regarding driverless trucks, drone delivery systems and so on, it is evident that in the future Supply Chain Management solutions will become even more automated.

Source : Entrepreneur.com

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EXCISE DUTIES ON PETROL, DIESEL MAY NOT BE RAISED DESPITE REVENUE PRESSURES

GULVEEN AULAKH

The government had in July last year raised excise duty and cess on both petrol and diesel by Rs 1 per litre each. Petrol attracts excise duty of Rs 17.98 per litre and diesel Rs 13.83 per litre.

The government is not looking to raise excise duties on petrol or diesel, or to increase basic customs duty on crude despite revenue pressures, apprehensive that such a move could derail the recovery seen in some segments of the economy, a senior official said.

At this juncture, recovery is still fragile...There is a need to avoid shocks," the official told ET, confirming there is no plan to increase duties on crude and petrol and diesel.

However, a final call on the any change in duties will be taken at the highest political level.

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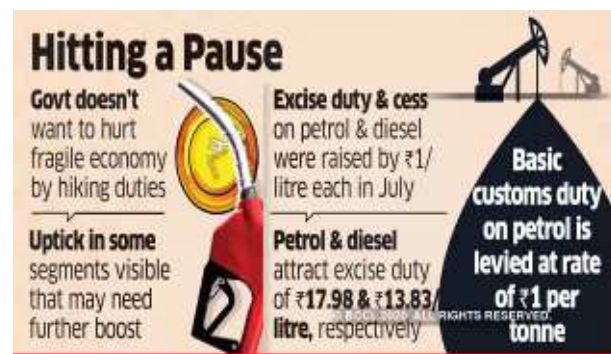
Basic Customs Duty on crude petroleum is levied at the rate of Rs 1 per tonne. Besides, there is countervailing duty also of Rs 1 per tonne and National Calamity and Contingency Duty of Rs 50 per tonne. A social welfare surcharge at the rate of 10% is also levied on all.

Global crude prices on Monday witnessed the biggest drop in prices since the 1991 Gulf War. Brent fell to \$31.02 per barrel while India's crude basket prices hit \$45 per barrel. Indian basket represents the average of

Oman, Dubai and Brent crude.

India imports about 85% of its oil requirement and this plunge in prices will have a positive impact on its import bill. In the past, the government had refrained from passing fall in prices to consumers and instead raised excise duties on petrol and diesel to collect more tax.

"We are keeping a close watch," a second official said.



The government believes that the economy has bottomed out and there are some signs of a pickup in some segments that need to be encouraged. Indian economy grew 4.7% in the December quarter, its slowest pace in nearly seven years, declining further from an upwardly revised 5.1% in the previous quarter.

Source : Newspaper

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FOOD AND BEVERAGES DISTRIBUTION IN SUPPLY CHAIN

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In supply chain the ways of improving food and beverages distribution is the concept of transportation, and the model applicable in supply chain management is the proper or improper handling transportation system, with chances of handling losses, cold storage, and competitive market. In supply the food and beverages distribution is with a difficult market to produce high quality of products, low cost in products, without the cost of suppliers taken as an advantage in supply chain, and should be able to accommodate uncertainty, variation in supply chain performance, sharing information which is important for performance in supply chain.

INTRODUCTION: In supply chain beverages distributions producers like food products, are being pressurized in multiple directions. Retailer's powers have grown significantly as grocery, and the retail outlets consolidated into fewer larger supply chains. The importance of weights as a measure, in transportation to demand more favorable prices and services has affected in supply chain activities. Meanwhile consumer's gains have remained an eager to try new drinks with flavor, and ingredients encouraging startups to enter the market and compete with established beverage manufacturing and distributing.

Supply chain and more specifically distribution have become key facts in the remaining useful in the beverage manufacturing. By cutting down cost in supply chain, improvement in the areas of distribution will be able to increase the profitability, and competitive advantage in supply chain. Beverage companies cannot ignore market trends, and preference but the battlefield is often as much the distribution network as it is the consumer

Other distribution possibilities are that many beverages, like dairy beverages, being possible exceptions, have sufficiently long shelf life to allow them to be stocked, and sold through outlets, other than larger high retailer supply chains. Convenience stores can stock different brands, and sell them at a premium to consumers. These stores in supply chain often operate outside the normal super market hours, catering to consumers, who accept or even seek the single service purchase with a higher price.

Vending machines use similar logic, and machines function round the clock, requiring little manual

maintenance, and intervention.

The incessant thirst and requirement of many new consumers, for new beverages, combines with the trends to source locally, and naturally open doors for small producers in the catering centre have to retain their continuity of supply chain. Technology driven initiatives have to bring in improved results in supply chain. Better forecasting and optimization of predictive and prescriptive analysis are now available affordable in which reality with application, service of vendors offering high performances, low outlay solutions. Beverage distributors and producers can leverage big data any in other industry which have affects on distribution in supply chain.

Much of inventory optimization looks at inventory levels holistically across the supply chain while taking into account the impact of inventory at any level. Although good commercial does a lot to reduce unnecessary stocks, more needed to combat the inefficiencies, created by an isolation that is kept in a way that hinders communication in distribution management, separating beverages stock by the type or location as an example in supply chain.

Beverages distribution considers all levels and locations, in a distribution network to identify the best places to hold stock, possibly with good delivery vehicles, and not just the requirement in warehouses, to keep inventory as low as possible without undue impact on customer satisfaction, integrated business planning.

Beverage distribution have many sources of data from which to generate business planning, sales marketing, operations, finance, which are a part of supply chain system. Organization may be using different system to process their own part of the data in isolation from other department. Integrated planning software platform that makes best use of the total resources for the higher effectiveness in reaching business goals is important in supply chain.

In supply chain food and beverages distribution face a unique set of challenges, as they are labor intensive, and low production oriented. The provision of stock keeping units, and storing, as slow moving items, mount up in stocks. The most important is that customer and consumer, demand is driving to more frequent and complex deliveries in supply chain. Despite

the challenges in supply chain, the organization is poised to greatly benefit by the new automation, and technological changes to be implemented in supply chain.

LITERATURE REVIEW:

Competition in the beverages industry is increasing on all fronts, price, and service, as a result distributors need to understand the requirement of retailers, and assess the strength of the competitors and the requirements in supply chain. The importance of performance management, of meeting the needs of the wholesalers, retailers, is based on the integration on the number of concepts of customer service. In supply chain food and beverages reach the table after passing through complex supply chain, as it moves from growers, producers, processing factories to a network of wholesale food, distributors to a network of best large inventory, shelf stage packaged food. In supply chain they command high margins since the shipping, storage, and costs are lower. In supply chain they are less prone to spoilage, and damage during shipping and expensive equipment is not required to prevent wastage. Package food and beverages are distributed in large crates and boxes, and they are required proper handling in supply chain.

In supply chain procurement of food and beverages includes heavy focus on putting in place, the right structure, and the right approach to logistics.

In supply chain the four pillars of sustainable advantage is to empower strategic sourcing, and procurement in any organization. The first is the affordability, and we have to improve it, if we are standing still even if we are ahead, it may happen to be caught in sustainability in supply chain, and are that all the products should be sustainable to the end, since it is the future from the environment, and consumer point of view. In supply chain reliability it is the alternative sources that we need in food and beverages distribution, and should have reliability, in supply chain, and if any alternative source as to provide customers, with products no matter in what adverse supply chain is affected. The next part is the consumer is the most important in food and beverage distribution, and in supply chain, the right people, creating right talent, mindset, and the right approach with empowerment and motivated consumer.

In supply chain food and beverages customer expectations of faster fulfillment and increasing supply agility continue to grow, drive significant challenges for business with rigid fulfillment network to cost to effectively respond to supply chain.

In supply chain food and beverages distribution orders are in bulk and stock piling, products can be an efficient way to cut back on waste, as well save on investment in the long run, as the organization can use the items, that they have stock piled for the future, minimizing subsequent orders, keeping accurate stock level

information, and checking the stock regularly and this will ensure that the organization have not ordered to overstock the products.

Organization in supply chain of food and beverages distribution can spend together a perfect plan by analyzing the waste that is a part of supply chain, and as to the production of product, waste generated, and then bring in the difference to control, ensure safety methods to handle waste management in material supply chain.

RESEARCH METHODOLOGY:

Uplifting within supply chain is using wasted materials for new needed products is something all organizations should make an attempt in supply chain, and dispose of unwanted goods by undergoing better audits, and understand the re-used category in food and beverages distribution, and enable organization to better supply chain, with good communication with suppliers which should be regular habit in supply chain.

In efficient inventory management in food and beverages distribution industry results in spoilage of products which leads to a vicious cycle, reducing sales profit margins, and customer satisfaction.

In supply chain organization in food and beverages distribution demand for an accurate demand forecasting process in order to maximize accurate production efficiency to minimize inventory, optimize distribution, streamline procurement, and being confidence of growth in supply chain.

In supply chain management food and beverage distribution the amount of inventory required for customer service, product quality, and ability to predict demands and produce the product, in accordance with supply chain requirement.

Warehouse management in food and beverage distribution, is not considered a unique demand, as the variability in customer service, targets, lead time, on the product which will result in high inventory costs, in misaligned network, it is because storage facilities, are no longer optimized in terms of capacity location.

In supply chain replenishment planning in food and beverages distribution, is the output from inventory, and demand planning provides a better visibility of the products, demand from customer, and material requirement, and the action needed by supply chain manufacturing products to satisfy the market demand.

In supply chain management food and beverage distribution, manufacturing are taken up to manage inventory at locations of the customer to guarantee immediate replenishment as it can develop cost effective strategic and ensure better customer service, minimizing costs.

In supply chain food and beverages, distribution

continues to increase complexity, and speed, having to find business solution, enterprise resources planning, to go into the depth of data capabilities which has the need to support supply chain management, with the capacity to leverage the Internet of Things, and to drive the organization.

Sales and operation management planning in food and beverages distributions organization is aligning the supply chain demand, while taking into consideration the final objective of the organization, and at transforming from finance, sales promotion, marketing, procurement, transportation in the food and beverage distribution industry in to one robust central resource for analysis, and decision making in supply chain.

RESULTS:

In food and beverages distribution organization the supply chain process is to streamline cycle of planning complete multi-divisional analysis in a period of time so as to avoid contingency risk, competition, when market situation change in supply chain.

In advanced planning, scheduling food and beverages distribution become more driven demand, and thus making them shift to frequent changes in production. As this market requirement must be balanced with production efficiency, changeovers in product become a difficult constraint, to optimize, which places ever great pressure on manufacturing organizations become more agile and to minimize lost production time, and capacity. Changes can be minimized by proper packaging of the products, and optimizing the manufacturing process in supply chain.

In supply chain in food and beverages the use of predictive, prescriptive, cognitive analysis can lead to competition. Data is the most important to make prediction, prescriptive analysis is to maximize profit, minimizes cost, cognitive involves automation through artificial intelligence, machine learning, and data is an important that is used in advanced analytic through internal sources.

DISCUSSIONS AND FINDINGS:

Cold storage management chain is an essential aspect in many food and beverage distribution, and in supply chain has entered a new era, characterized by temperature controlling, tracking, monitoring with help of technology like the internet of things.

In supply chain management of food and beverage, distributors face the challenge in supply chain analytics that creates numerous supply chain organizations. Omni-channel retailing (a multi channel sales approach that provide the customer with integrate customer experience) has located new purchase avenues, consumer shopping, in demand in supply chain. Inventory loss has become a concern on safety stock in food and beverage distribution budget, in supply chain.

In supply chain the greatest strategy to work with food and beverage distribution is to meet the current and future goals, and to identify the strategy to supply operations efficiency in third party logistic in supply chain.

FUTURE WORK/CONCLUSIONS:

In supply chain growth and development of food and beverage distribution is rapidly increasing by the rate of consumption of the products, highly in demand, processed food and beverages, convenience food and beverages, out of season food and beverages which have created potential employment opportunities in supply chain.

In supply chain food and beverages distribution, have developed location facilities, closer to bruying of the products, high growth of markets, and lower production, cost, and highly competitive market, lower production cost, in a highly competitive market. In supply chain every effort has been taken to retain long-term sustainability in the distribution of food and beverages in supply chain.

PURPOSE OF THE STUDY:

Food and Beverages distribution in supply chain have added various sides of the value chain, by shifting power within the supply chain from the perceptive of manufacture to retailers with the on-going consolidation of various wholesalers, distributors, retailers, concentrating more on the market share power in retail distribution, increasing leverage of demand price, service, in supply chain technology, in terms of food and beverages supplier.

Food and beverage distribution has been surveyed from strategic initiatives, technology investment, priorities to the effective program such as efficient consumer response, vendor managed inventory in supply chain.

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SOURCE OF INFORMATION: THE HINDU/MINT/TOI/ ECONOMIC TIMES/BUSINESS STANDARD SOURCE OF INFORMATION FROM ELECTRONIC MEDIA:

- 1. FIXING THE BIG PROBLEMS IN FOOD AND BEVERAGE SUPPLY CHAIN:**
- 2. OPERATION MANAGEMENT OF LOGIC IN SUPPLY CHAINS:**
- 3. SUPPLY CHAIN INTEGRATION IN THE MANUFACTURING:**





SUPPLY CHAIN DIGITAL TRANSFORMATION

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Introduction:- Supply chain management is becoming increasingly more complex as logistics operations span across greater distances and extended partner networks, while consumer expectations become increasingly demanding and innovative competitors squeeze profit margins for more established players. To address these issues, technology solutions are playing a more and more critical role in enabling organisations to optimise supply chains, increasing efficiency, productivity and of course, revenue and profit.

Supply chains must invest in advanced technology solutions and automation techniques if they are to survive and grow in the modern world of commerce. The most important capabilities that we will focus on in this paper – and are currently the areas of greatest challenge for many businesses – will include:

The Evolution of Technology in the Supply Chain

Visibility – the ability to view and monitor in real-time all aspects of the supply chain, such as inventory management, goods movement, partner performance and quality of service.

Predictive Capabilities – being able to accurately forecast supply and demand in support of lean, agile and demand-driven delivery methods.

Unified Control – superior management of the extended supply chain network across multiple sites, geographies and external partnerships.

Collaboration – enabling effective communication and collaboration across the supply chain network as a whole to gain greater efficiencies than are possible from focusing only on individual operations.

Speed & Quality of Service – increasing customer satisfaction and reducing cost-to-serve by ensuring goods and services are delivered in the fastest and most efficient way.

Agility – designing a flexible supply chain that is ready and able to adapt to the accelerated pace of change by ensuring new technology integration is as easy and seamless as possible.

For the logistics industry, this provided the means and the opportunity to put previously theoretical operational models into practice, setting the stage for improved planning and optimisation. Various models were developed during this period, including the Toyota Manufacturing Program. In 1983, Oliver Wight expanded on Orlicky's work and developed Manufacturing Resource Planning (MRP II), bringing concepts such as master scheduling, rough-cut

capacity planning and sales & operations planning into the classical MRP practices.

This enabled vast improvements in logistics planning and execution and helped to raise executive awareness of the potential for logistics optimization. With the right investments in trained professionals and innovative technology, there was clearly an opportunity to drastically improve company profitability – a fact that still hasn't changed today.

This shift in perception is reflected in the fact that by 1989, approximately one-third of the entire software industry at the time was MRP II solutions sold to American industry (\$1.2 billion of software).

Moving into the 1990s, this decade was characterised by two major changes – the introduction of Enterprise Resource Planning (ERP) systems and the rapid globalisation of the supply chain (particularly due to the growth of offshore manufacturing).

ERP systems built on the success of MRP systems, but extended functionality to integrate the multiple disconnected databases that existed in almost every business. Despite some significant struggles with the initial installation and configuration of these systems, the result of ERP adoption was a massive increase in the availability and accuracy of data for planning.

As we entered the new millennium, the 2000's and beyond became an era of heightened connectivity. The explosion of the internet and a dramatic reduction in the cost of transferring information opened the door for new technologies, platforms and services to further revolutionise supply chains.

One prominent example from this period was the catalysation of Radio-Frequency Identification (RFID) technology. Just prior to the turn of the century in 1999, MIT launched their Auto-ID Centre to further the development of low-cost RFID tags and applications and in 2002, completed the first successful move of an RFID-tagged pallet from a Unilever to a Walmart distribution centre. Although the popularity of RFID technology saw a dip towards the end of the decade it has seen a resurgence in more recent years, largely attributable to the project having led to not only the creation of Electronic Product Codes (EPCs), but crucially, forming the foundation of what would come to be known as the Internet of Things (IoT).

Digital Technology in the Supply Chain

CLOUD COMPUTING : "The Cloud" has revolutionised the approach to enterprise IT in almost every industry. It provides the ability to harness essentially unlimited on-

demand resources and services in a cost-effective, easy-to-manage and dynamically scalable way. There are two models that are most commonly used to consume cloud-based services.

Infrastructure-as-a-Service (IaaS) : IaaS involves the provision of base infrastructure, primarily computational power and data storage. It enables organisations to “rent” IT capability as required, either instead of or in addition to, owning and maintaining an on-premises data centre.

Software-as-a-Service (SaaS) : SaaS is the provision of a complete encapsulated application or service, typically licensed per number of users. The SaaS provider hosts the software in a secure private cloud, allowing multiple users and entities secure access via a web browser to deliver a uniform experience across the board. Both models offer a huge range of benefits for organisations that include, but are not limited to, the following areas.

Global Connectivity, Communication & Collaboration : Cloud-based technologies offer an unparalleled way to connect people, processes and partners across the supply chain network. By providing a single instance of an application with global accessibility, previously siloed operations across multiple sites can be integrated to provide a uniform experience across the entire business, with significantly increased visibility.

The flexible yet secure method of delivery also provides the opportunity to give external partners access to selected shared systems and information, increasing collaboration and efficiency across the supply chain network. This allows organisations to work together to focus on optimising the supply chain as a whole, rather than the individual parts.

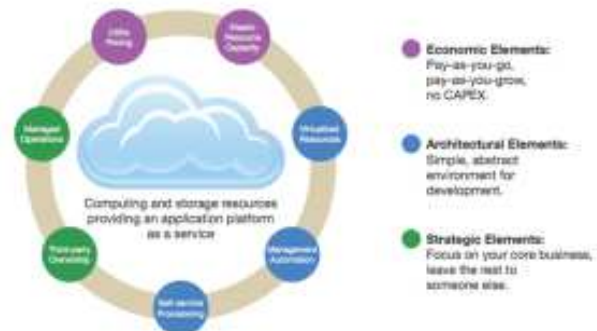
Flexible, Scalable, On-Demand Infrastructure : On-premises infrastructure, particularly at enterprise scale, is often extremely rigid. As businesses grow organically, additional resources are generally bolted-on, rather than truly integrated. As they grow through mergers and acquisitions, the disparate hardware acquired can result in siloed operations and redundant equipment. Fluctuations in demand mean that at least some hardware usually sits idle and unused, waiting “just-in-case” demand rises.

The “pay-as-you-go” model of the cloud enables organisations to dynamically scale environments and resource availability up or down as required, to achieve the best balance of cost and performance. With nothing more than a credit card, virtual machine instances can be spun up in moments, or additional storage buckets can be made instantly accessible to the business.

Reducing the Total Cost of Ownership : Adopting cloud services can have a dramatic impact to business expenditure. Many companies are looking to leverage the cloud as a way to reduce the physical footprint of on-premises data centres and their associated costs. Aside from the huge upfront investment, the day-to-day running costs of a data centre – power, lighting, cooling, security, monitoring and maintenance, upgrades, etc. – must be accounted for as well.

With both IaaS and SaaS models, these burdens are all shifted to the Cloud Service Provider (CSP), who will operate and maintain the equipment, ensuring the company has

access to the latest and greatest technologies. Because CSPs typically provide these services on a “pay-as-you-go” basis, organisations will only pay for the resources they are actually using. This creates an extremely cost-effective solution that allows IT budgets to shift from large CAPEX models to predictable OPEX models.



THE INTERNET OF THINGS

The Internet of Things (IoT - in business, also referred to as the “Industrial Internet of Things”, or IIoT) encompasses a network of smart, interconnected objects that can provide real-time visibility and detailed information on the surrounding environment.

This is achieved through the use of a range of sensors able to provide information on objects and the surroundings, integrated with microcontrollers (MCUs) for embedded processing power and RFID technology that enables communication with the wider network.

These smart objects constantly feed data to a central management system, enabling the integration of all relevant information across the supply chain to help businesses to understand the interdependencies within individual operations, as well as across the wider network.

This means IoT enabled supply chains can eliminate visibility gaps, as data from hundreds, thousands, or even millions of connected smart objects can be used to continuously monitor processes and operations across multiple sites, regions and service partnerships, all in real-time.

IoT enabled devices can also sense constraints or exceptions that may impact service levels. When used in conjunction with other technologies such as advanced analytics and machine learning, autonomous control systems can then automate certain decision-making processes and initiate suitable adjustments and resolutions instantly, without the need for manual intervention.

Some of the key areas where IoT can provide the transparency needed to gain the further insights businesses require for optimising the supply chain are:

Asset tracking – Using tracking technologies to determine the real-time location of shipments, equipment and assets.

Fleet management – Using tracking technologies to connect all fleets and collect real-time data about their mileage and performance.

Inventory and warehouse management – Monitoring data from long-range networks to determine the activity level

within the warehouse facility.

Vendor management – Using data gathered from asset tracking tools to gauge the performance of vendors.

Predictive maintenance – Equipping machinery with sensors to determine if they need to be fixed ahead of time.

VIRTUAL & AUGMENTED REALITY

Although Virtual Reality (VR) and Augmented Reality (AR) technologies are more commonly associated with the gaming industry, we have begun to see a wider adoption of them in commercial situations for their ability to supplement the visual experience of users.

Although similar, the two technologies differ somewhat in their applications. VR involves providing a completely simulated environment that the user can engage with using a linked controller or a range of gestures. AR however involves overlaying images, objects or text on to the user's view of their own surroundings.

Virtual Reality : Virtual reality technology is currently used most heavily at the customer end of the supply chain. This may be due to how the user interacts with the technology, most often making use of a wearable headset with a self-contained screen that delivers an immersive experience.

More recently, the advances in the power of smartphones have also been leveraged in an effort to make the technology more accessible to consumers. Users can simply 'plug' their smartphone into a compatible headset for the full VR experience at a considerably cheaper price than before.

Of course, this approach does severely limit the user's ability to interact with their surrounding physical environment. This may play a part in restricting the use of VR technology to certain situations, such as providing immersive shopping experiences to consumers wanting to browse from the comfort of their own home.

By recreating an entire store in a virtual world, customers can navigate up and down the aisles, browsing the selection of products on display and even interacting with them on the shelves. Replicating the live shopping experience in this way not only provides something special for the customer, but the data gathered from monitoring their behaviour can provide useful insights that can be applied across both the virtual and physical realms.

Augmented Reality : Augmented reality technology has an arguably wider-ranging set of applications within commercial activity than virtual reality, quite possibly due to the way that we operate and interact with the technology.

Similar to VR, users most frequently interact with AR through wearable "smart-glasses". These smart-glasses however contain transparent lenses on which a digital display can be overlaid to supplement the user's field-of-vision. This means the user can interact with the world around them and the AR device simultaneously. Most smart-glasses incorporate additional scanning or imaging hardware to further enhance the device's ability to engage with the surrounding environment and deliver valuable information to the user.

Smart-glasses have seen particular efficacy in warehousing

and distribution. Equipping the workforce with these devices can drastically increase efficiency and productivity, while also reducing training cycles for new employees.

ADVANCED ROBOTICS : Although robotics has been around for some time and has seen a high degree of usage within manufacturing, use of the technology lower down the supply chain has been limited. With the newer breeds of robotics becoming more commonplace however, this has started to change. More advanced robotics are enabling some of the most futuristic-seeming capabilities of the modern supply chain.

Autonomous Vehicles : Recent years have seen significant advances in autonomous vehicles and self-driving capabilities. While the technology still has a way to go before we see wide adoption of it (including overcoming all the regulatory hurdles such a paradigm shift entails), it won't be long before fully autonomous vehicles are a regular feature of our roads.

Perhaps the first commercial iteration we are likely to see will be semi-autonomous convoys of trucks – a road train, if you will. With a single driver controlling the lead vehicle, each additional truck behind will be linked remotely and follow the example set by the human controller – accelerating, braking, steering all under autonomous control. These convoys will allow businesses to make significant cost savings from reduced labour and increased fuel efficiency, while also contributing to reduced congestion on our road networks.

Drones in the Air : Inevitably when we talk of drones these days, the mind leaps to images of flying vehicles, from the basic hobbyist's quadcopter to the military's advanced UAVs. Drone technology is certainly well beyond its infancy, however we are still yet to see widespread commercial adoption of the technology.

For businesses to view the technology as a viable and profitable solution, drones will need to be operated autonomously in much the same way as self-driving vehicles. Regulation and perfecting the technology to ensure it operates safely are the main hurdles to overcome, but trials are already well underway to overcome these challenges. Once the technology has matured, its potential to revolutionise the transportation of small goods will be significant. This was recognised by some of the earliest adopters and developers of the technology, who include some of the largest ecommerce giants on the planet.

Drone delivery will drastically reduce transportation costs (labour, fuel, vehicle maintenance, road/toll charges) and environmental impact (CO2 emissions, traffic congestion), while enabling almost instant gratification for consumers with delivery times of 30 minutes or less. It will also enable (and indeed, already has enabled) greater and easier access to remote areas, allowing vital goods such as medical supplies to be delivered to distant communities or disaster-hit areas.

Drones on the Ground : Even though airborne drones are perhaps more prevalent in the public eye, drones on the ground can also offer significant value. Without the regulatory issues facing flying objects, they can also be implemented immediately – indeed many organisations already make use of these types of drones, particularly in

warehousing and distribution.

Drones in warehousing are currently used for the movement and basic handling of goods. They typically operate and access the stored goods from either above or underneath, depending on the type. A major benefit of accessing goods in this way is the elimination of walkways between racks, enabling greater utilisation of floor space and optimisation of inventory. Drones operating from underneath will move around the warehouse floor along designated paths or programmed routes, with sensors for object detection and collision avoidance. To this end, they may also communicate with each other to some extent.

Drones operating from above will move around via a fixed grid of tracks that align with the stock layout beneath. These drones tend to go beyond being simply communicative and become collaborative, effectively replicating a swarm within a hive. They will work together to access select goods buried deep in layers of racking and enable more selective picking than can be achieved with floor-based drones.

BIG DATA & ANALYTICS

Advanced analytical capabilities are quite simply a “must-have” for effective modern supply chain management. They are the cornerstone of successful optimisation strategies in both localised operations and across the wider supply chain network. In many respects, analytics is a fundamental capability for the further application of many of the other technologies described here.

The applications of analytics throughout the supply chain are vast and as such, must be approached with specific objectives in mind. It is crucial to define the strategic business objectives first, then to identify what insights will help drive those objectives, before defining the best analytical models to use and selecting the data sets required. These objectives can (and often should) be part of a larger goal and strategy, but without clear direction companies will run the risk of “paralysis by analysis”. A recent report by The Hackett Group identified four main areas that are the focus of efforts to utilise analytics across the supply chain.

- Reduce Costs
- Optimise production and sourcing to reduce total landed costs
- Analyse product cost variances
- Assess the impact of commodity prices on the supply chain
- Analyse customer or channel “cost to serve”
- Improve Quality
- Identify and resolve quality defect trends and root causes
- Improve visibility to inventory across the enterprise
- Analyse product returns
- Track and analyse product traceability
- Improve Service
- Measure and analyse transportation performance
- Measure and improve distribution performance
- Analyse customer service level performance
- Optimise Inventory
- Optimise inventory levels to balance working capital investment with service levels
- Analyse demand patterns and create forecasts using

internal and external data

- Analyse forecast accuracy performance

To achieve these goals, there are several accompanying areas of technological focus for organisations at every stage of the supply chain. The overall trends we see here are;

The extension of collaborative functionality to enable analytics across wider geographies, business units and partners – including enhancing core Enterprise Resource Planning (ERP) functionality and deploying virtual collaboration platforms for internal and external use.

The integration of multiple disparate systems to enhance end-to-end visibility throughout the supply chain – including platforms to better manage omnichannel planning and fulfilment, improve transaction flows with customers and suppliers, in addition to leveraging data available from machines for analytics.

The use of more sophisticated supply chain models and tools to reduce costs through process optimisation and improved service – including deploying cognitive and artificial intelligence, as well as demand sensing software to improve agility.

MEASURING ANALYTICS MATURITY



BLOCKCHAIN : Blockchain is perhaps the most forward-looking technology discussed in this paper. While blockchain has gained considerable traction in the last few years, most notably due to the rise in prominence of Bitcoin, the technology is still maturing as its applications across various industries outside of financial services are better understood.

The blockchain (protocol) is a distributed, shared digital ledger that records data such as transactions or events in a series of sequential blocks. Multiple copies of this ledger exist across multiple computers (or nodes), each updated and validated in real-time by network participants.

Users can access and view information on the blockchain at any time but are restricted from editing or deleting information. Every new block in the chain is linked back to all of the previous blocks, enabling a secure record of every touch-point and interaction that is directly attributable to individual contributors.

This makes it practically impossible to interfere with information in the blockchain as a permanent, immutable record of every transaction or event is stored in the ledger and visible to every other participant.

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EVOLUTION OF PROCUREMENT / SUPPLIER MANAGEMENT

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A Glimpse of how Procurement evolved:

Facts: As per a research data, skilled procurement professionals are only 10 % of the total graduates each year, research speaks out that right guidance from the universities have been not to the graduates on procurement or in supply chain management in choosing their domain. Why, the guidance or the education on procurement and SCM is not been carried in any university is because it has always taught as a downstream program of the business, but the fact is "It is downstream value chain activity".

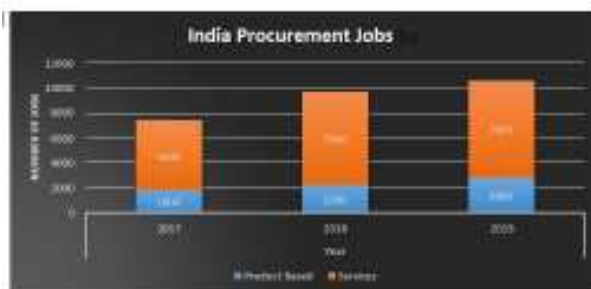
So, the most important and effective way of education is to explain the graduates how procurement works in real time scenario. Even before that, it is essential for everyone to know what the types of procurement are and how it impacts the business in day to day activities.

Basically, procurement has two critical segments based on the industry requirement, one is Direct and the other is Indirect, both has different tools and way of approach which ultimately plans the road map for supply chain success.

Direct procurement and indirect procurement				
F E A T U R E S	Types			
	Direct procurement		Indirect procurement	
	Raw material and production goods		Maintenance, repair, and operating supplies, outsourcing	
	Capital goods and services			
	Quantity	Large	Low	Low
F E A T U R E S	Frequency	High	Relatively high	Low
	Value	Industry-specific	Low	High
	Nature	Operational	Tactical	Strategic
	Examples			

In India, every year IT service companies enable creation of about 1 Crore jobs, in which procurement has now gained an ascending demand in the Indian market. As per recent studies, every year 30,000 jobs for procurement and supply chain is been posted and the average compensation is from 9, 25,000 to 11, 25,000 INR.

So, there is no wrong in stating procurement will be one of the finest profession in recent times.



From the above chart, the concept of procurement is more prevalent in Service based organizations than a product based company.

Evaluation from Material Men to Procurement Professionals: Early 1800's, Material Men was the terminology used to buy goods and service in mining industry. Later during the World war, procurement was the terms revolved around the order placement for raw materials, services to simply keep the economy running. Procurement was once considered as an occupation, but spurred by the rise of Industry globalization, it has evolved as a recognized profession.

On an average, in fact a research in the Michigan state in early 90's claims the important reason behind procurement been a profession is 70% of manufacturing unit purchase products or goods from outside suppliers and 40% of the non-manufacturing source their products from outside suppliers.

Thought process is to make procurement integrated as a strategic planning process in the business to eliminate the unethical approach between suppliers and the stake holders.

Below displays the key process of procurement in olden days, (without system utilization)



Modern Age Procurement:

Ever since the era, where negotiation was bread and butter of the procurement, attaining sustainable success in the global competitive and versatile market, requirement of new strategies and capabilities has been always a big -league .To grow strong and survive, any organization requires to form an ecosphere of supplier and stake holders that, in the aggregate, make them a stronger system in this exceptional market. Now this article will represent how efficient and collaboratively supplier management can influence the decision of business.

The important aspects of procurement is not just satisfying the requirement, it is front and foremost to manage and mitigate the risk associated with the extended supply chain capabilities. At sometimes, supplier management need to

leverage supplier to drive innovations. Most of the supplier management or procurement professional has to eliminate the scope of transaction job and provide strategic advice to business partners.

Modern day procurement had driven cost cutting analysis, supplier due diligence and supplier performance metrics has a key value driver in attaining and achieving the organization goal. Now a day's procurement along with technology has been a boon in the industry of supply chain and procurement allowing company to leverage of larger data for spend analysis, adhere to compliance through policy and drive efficient operations for business.

After technology has taken over a dominant role in procurement, all the requirement of the business partner has of yesterday and it is tough to deal with it!!!! After interaction with procurement icons in the key industry, I accept the below five facts are the proactive measures to sustaining with the stake holder's needs,

- Identify the area's which can be a repetitive purchase.
- Expectations are changing with the business partners – Keep our self ahead.
- Mutual beneficial
- It delivers bigger opportunities – Increase in savings, new innovative ideas etc.
- Technology can simply the process.

Irritating it again "Procurement is not only savings ", it's about creating bigger opportunities, delivering quality in terms of service and putting yourself ahead in the market.

How Supplier Management / Procurement Team Works:

Contents:

- Introduction
- Purpose of supplier management
- Contract Implementation

Introduction: Procurement set forth the foundation for implementation of consistent approach towards the execution of contracts across various commodities which in turn contribute value chain to the company.

As business is diverse with different functional units, procurement team requirement was classified under IT and Non- It as commodity. Both the commodity has different learnings, different approaches to attain the core value of business.

Also it determines how well a company executes their value driven process in order to achieve the objectives in line with their compliance.

Better procurement is sustainable procurement.



Purpose of supplier management: Over the period of my experience in procurement, I only came across a bad note on procurement by the Business Partners and the users. They have a perspective that procurement is a time – consuming process, and it does not add value either to the company or to their stake holders.

I always want to convey this in direct to the stake holders and the business partners / users that a procurement team represent the company to an outsider, where we have to be very careful on each and every step we progress. Why? It's as simple it directly hits the reputation of your company.

We still get many request from the user as urgent, but we do carry those requirements in a proper way with the supplier and get it done whereas our question was why it was not pre-planned? - When a production manager requires an ample amount of time to make the product, how a procurement professional can execute it without any processing time?

Therefore not deviating much, purpose of supplier management are:

- Ensure a contract is successfully executed
- Provide a formalized method of monitoring supplier performance against Contract requirements
- Ensure that there is clarity of the roles and responsibilities by all parties relating to contract and supplier management
- Monitor overall compliance by all parties to the terms of the agreement and
- Contract, refining and improving KPIs, SLAs and service delivery.
- Honest, open communication between the supplier and the Council, delivering Improvements to both parties
- Improve and develop relationships with key supplier representatives.
- Mutual trust and understanding, open communications and a joint approach to Managing delivery
- Realize estimated and planned savings through continuous monitoring of spend
- Identify potential additional savings and benefits through proactive contract and Supplier management.
- Co-ordinate the supply chain.
- Provide a focus for development of initiatives / innovation.
- Deliver learning and knowledge transfer.
- Drive continual improvement.

Apart from the above mentioned, the foremost important aspects of supplier management is communication and avoid gaps in communication.

Conclusion: In the above article, we have witnessed the evolution of Procurement, but this is just a glimpse of it. Procurement is still consider as a transactional job which is consider as one of the key employment opportunities. Most imperative thing here is to understand that there is a vast differentiation between procurement and Sourcing. It should be kept in mind, however, that this procurement management system must run efficiently and smoothly for all benefits to be reaped. The key to this would therefore be an efficient system as well as the right supplier and resources. For the purpose of procurement management, there should be a team of highly trained individuals, if procurement management plays a key role.

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CRISIS MANAGEMENT – SUPPLY CHAIN PLANNING DURING COVID19

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SCM Mangers might be at the process of catching up with the “way fwd actions need to be taken” ,once we all overcome this COVID19 , the time line of which is unknown / not in anybody’s control, as no mathematical proportions are working up. Hence, first let all our SCM domain concentrate on day to needs by deciding upon “ Supply Chain Planning during this COVID19, as crisis management.

The onset and the spread of the coronavirus shall lead to alterations to run supply chains and businesses . This is a truly, an unseen combined humanitarian and an economic crisis.

It is in this light that a function/profession hitherto taken for granted has come into the limelight. Logistics and supply chains keep the world economy and global trade humming. However, given the massive lockdowns and the socio-economic costs of these decisions, supply chains are coming under severe stress. Moreover, no risk model could have predicted this nature of shocks and effects that this virus would bring with it.

So, in this scenario, what can we do as demand planners, logisticians, sourcing, and supply chain professionals? As we all know, there is no easy and clear answers. However , it is a good time to revisit the 3Vs known to SCM domain ie – Visibility, Velocity and Variability., which all gets divided in to : Strategic and Tactical responses.

Any endeavor and immediate thought at this stage should be towards controlling variability and increasing system wide visibility and velocity. Therefore, we see the following as “ some thoughts and suggestions” that may help. As brought above , these have been divided into “Strategic Response” and “Tactical Response”.

Strategic Response

Supply Chain Design: It is a must and worthwhile , that we go back to the respective planning boards

and take a quick in depth look at the existing supply and distribution networks and all the connects/ links across the SCM

Vital and Key areas to focus on:

- o Demand planning
- o Demand aggregation
- o Number of product groups
- o Product and Inventory classification
- o Customer segments
- o Warehousing and physical distribution coupled with logistics infrastructure

Any supply chain these days is designed to be responsive, agile and flexible – whether on the supply side or the demand side. Moreover, customer fulfilment / order management is primarily governed by a combined Push-Pull strategy. In most industries (other than those operating in Make-To-Order and Engineer-To-Order environments) use Push-Pull based strategies.

Given that the current scenario is highly uncertain it is necessary to focus on customer as well as product segmentation based on “Push” and “Pull”.

Products with a steady demand can be stocked based on forecasts. However, for products with uncertain demand, we need to use a consumption-driven approach. It is here that this kind of pure “Pull” based strategy might work very well for companies.

Operations Excellence Philosophies/ thoughts : Pull-based systems such as Lean and TOC (Theory of Constraints) could be implemented. Daily distribution requirement plans (DRP) could be generated for movement of products through the primary supply chain modes/ methods , keeping in view the time lines . Inventory norms or buffers would need to be calculated for the relevant Stock Keeping Units, as

we all , generally follow . It is essential to ensure product availability in the primary chain through efficient replenishment/ stocks rebuilding , planning.

At this time, it is essential for the planner to devise inventory rationing/allocation based on defined crisis management business rules. This will surely enable optimized allocation and distribution of critical products to the key distributors or retailers in the chain. This approach is particularly effective for essential needs like CPG, food, health care and pharmaceutical companies where availability of essential items is of utmost importance.

Omnichannel Distribution:

From a distribution standpoint, it is recommended to adopt an omnichannel approach where a mix of online and physical distribution can be used to reach the end customer/consumer. Most companies are using online channels but brick and mortar stores continue to play a major role.

Tactical Response

The demand planner needs to focus on two key metrics: Availability % and OTIF % (On Time & In Full-delivery (or Product Fill Rates). These metrics need to be efficiently monitored on a daily basis. Close coordination with the transportation teams is very important. Given the daily consumption and distribution patterns, there could be a higher proportion of LTL (Less Than Truck Loads).(In crisis management this LTL is very important ,though unit transportation cost vary)

As mentioned earlier, for demand side management and order fulfillment, it is essential that production systems and strategic suppliers are to be more and more flexible. Lean production systems can facilitate this . (thanks to shorter operational lead times and quick changeovers.)

Tools & Techniques:

Given the current uncertain and evolving situation, demand planners need a system that aids in dynamic planning through the use of scenario analysis and “What-If” analysis. A flexible planning approach is needed and even short term forecasts need to be reviewed and to get on to planning boards to implement .

S&OP (Sales & Operational Planning) /IBP (Integrated Business Planning):

These meetings need to take place often – daily or weekly basis. This will help to get a grip on pipeline and channel inventories, service levels and product availability and its movement.

Risk Management Tools:

This is the right time to invest in a risk management tool or system (as thought to be fit to match with needs) that can model the impact of potential risks across the supply chain. The output from this system can be used as an input for integrated supply chain planning and also very importantly the Logistics planning.

Summary/Coclusion

At the stage of concurring the crisis , we all know by virtue of SCM domain knowledge/ SCM systems , there is no magic bullet/ trump cards for demand planners and supply chain professionals to solve current problems. But what to do and what we can do is review the supply chain design and associated strategies in addition to the planning and distribution systems in the light of the push-pull boundary.

- o Daily visibility into consumer/customer consumption is essential. Focus on two key metrics: Fill Rates/OTIF % and Availability %
- o S&OP/IBP meetings need to be more frequent. It is good idea to invest in risk management tools and systems.
- o The aim should be to minimize variability and increase system-wide velocity and visibility. Transportation and distribution operations are the key differentiators.
- o Inventory allocation and rationing needs to be adopted based on segmented products and customer profiles.
- o Last but not least planners need tools to enable dynamic planning. These tools include “What-If” and “Scenario Planning”.

All said and done / to be done, all will need to wait and watch how this crisis evolves over the next two to three months and measure and calibrate our supply chain strategies accordingly. Approach will differ based on once own industry type.

CARE AND NEED : TO BE @HOME for to be SAFE against COVID19.





WORK LIFE BALANCE & ART OF LIVING (AOL)

An Entrepreneur's perspective on Quality of Life and Living

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We are living in a highly stressed interconnected world. One wrong click can completely disturb and destabilize our life and living. Under these circumstances, clarity of thought and calmness in action are the prerequisites. The book is about how the personal life we live is driven by the forces of the external world around and our own inner world of thoughts, emotions and intellect constantly battling for their own space.

Work Life balance is in tactfully balancing the pulls and pressures of the outer and the inner world of ours, so as to lead a happy, healthy personal life. With an introduction to the different parameters like family, profession, environment, personal well-being, control over thoughts, senses and sense gratification which all have an influence on the personal life that we live and that influence our decisions, relationships and attitudes, the book offers a set of prescriptions for a balanced life that can bring joy and cheer to not only oneself but also to those around us.

This is not a book to be read like a novel.

The book contains 282 prescriptions for a healthy and happy life, little nuggets of wisdom. Some dosage have to be repeated, some are to be taken with altered composition; There is no fixed course nor is it necessary to swallow in specific order. There are no time schedules and further not necessarily, all will be applicable to you- Choose what is relevant, think over and digest slowly so as to lead a healthy and happy life. Remember, we only live once.

Every rose bush has its thorns. Art of living is in plucking the roses without getting hurt by the thorns and in enjoying the fragrance

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The book is self-published by Mr. Ananthraman. S, a Chemical Engineer from UDCT, Bombay (now known as ICT, Mumbai). An illustrious corporate career of 11 years, an entrepreneurial journey of a quarter century and an exciting 16 years as Auditor, Consultant & Trainer in the Realms of Quality, Safety and Environmental Management Systems sums up his professional life. Presently he is engaged in offering advisory and on Line consultancy in the above fields.

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“THE IMPACT OF CORONAVIRUS ON SUPPLY CHAIN RESPONSE MITIGATION IN INDIA”!

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Abstract: *Coronavirus* outbreak was first reported in Wuhan, China on 31 December, 2019. Before analysis in detail about the impact, first, let us study about coronavirus. *Coronavirus (CoV)* is a large family of viruses that causes illness. It ranges from the common cold to more severe diseases like *Middle East Respiratory Syndrome (MERS-CoV)* and *Severe Acute Respiratory Syndrome (SARS-CoV)*. The novel coronavirus is a new strain of virus that has not been identified in human so far. WHO is working closely with global experts, governments, and other health organisations to provide advice to the countries about precautionary and preventive measures.

We can't ignore the fact that the outbreak of COVID-19 in China is expected to have a significant **impact on the economy globally including economic slowdown, trade, supply chain disruption, commodities, and logistics.**

With over 8,85,689 (Approx) cases as 1st Apr 2020 infected cases alone in China, CoronaVirus, a global health epidemic has created a panic situation around the globe. **The number of deaths due to coronavirus has crossed the toll of 1,000, the total confirmed cases are more than 60,000** approx and it's spreading its infective course onto the surrounding territorial nations of China. While people are talking about the reeling impact of the virus on human life, the massive disruption to the economic activity of various countries is also worth mentioning. The biggest supply shock is handed over to the Indian supply chain market, with **13.7% of the Indian imports at risk due to the outbreak in China.**

The biggest question over here is, **"With India importing goods worth more than USD 356.77 billion from China, now with the extended shutdown of factories, how is the Indian market going to brace itself with this Chinese supply shock?"**

Key Words : (Coronavirus, Economic, Supply Chain,

Health, Impact)



I. Introduction : Impact of Coronavirus on the Indian Supply Chain Economy Up to a large extent, it will impact the Indian industry. **In imports**, the dependence of India on China is huge. Of the top 20 products (at the two-digit of HS Code) that India imports from the world, China accounts for a significant share in most of them.

India's total **electronic imports** account for 45% of China. Around one-third of machinery and almost two-fifths of **organic chemicals** that India purchases from the world come from China? For automotive parts and fertilisers China's share in India's import is more than 25%. Around 65 to 70% of active **pharmaceutical** ingredients and around 90% of certain **mobile phones** come from China to India.



II. The Importance Of China In India's Foreign Trade Market : China has been the largest source of imports for the Indian market since 2004-05, according to the Center for Monitoring Indian Economy (CIME) database. Furthermore, as per the latest annual data of the Indian import available, 13.7% of the country's total imports is from China. **As per an analysis of the World Bank's World Integrated Solution database, the average share held by Chinese imports is:**

1. **40% of India's capital goods**
2. **1/5th of the consumer goods**
3. **15% of the intermediate goods**

This data is powerful enough to understand the fact that any major disruption in China will cast a glooming investment impact on the supply chains, manufacturing, and supply of the consumer goods market. Furthermore, the Chinese units are an integral export market for India. According to the data released by CIME, **China is the third-largest export market for India, after the US and the United Arab Emirates.** The biggest setback will be suffered by the raw material export division of the country if China doesn't recover from the Coronavirus disruption. With China acquiring more than 10.03% of India's export potential, the raw materials producer will be slapped by the slowdown in the Chinese manufacturing units. *"India will suffer not only because its health care system might be overloaded, but also because efforts to contain the virus will be disruptive. This will, in turn, lead to an increase in the price of the commodities. It will also lead to rising interest rates because the policy response to the supply-shortage inflation is to dampen the demand."*



Figure 1: The following graph shows the average share of China in India's trading expeditions in the last five years, from 2014-2018. With Chinese industries going for a prolonged shutdown, the consequences of it will impact the Indian import and export market drastically. This can lead to both, short-term and long-term impacts on the Indian economy, the future of which is very gloomy.

III. The Indian Import Market To Suffer The Economic Nightmare Of The Decade



Figure 2: The persistent prevalence of the locked doors of the Chinese manufacturing units will hamper the Indian import market far more than its exports. Furthermore, the total value of the India-China imports in 2018-19 was \$87 billion, 18 times more than that in 2002-03 (\$4.8 billion).

Corona Virus was first reported in China, in December, eclipsing the global death toll from its variant, SARS, that started in China almost two decades ago. Since most of the factories are locked, the production units are sitting idle in China.

According to Ajay Sahai, Director, Federation of the Indian Export Organizations, those Indian sectors that maintain a low inventory, like electronics, might start experiencing the trade trauma of the outbreak in Wuhan, China shortly.

Furthermore, the Indian economy, mostly imports, is highly dependent on its northern neighbor, China, mostly because of the establishment of trade links between the two countries. *The trade scale has expanded to more than 18 times, from \$4.8 billion in 2002-03 to \$87 billion in 2018-19.*

Since most of the phone companies, depend on parts, that are imported from China, they will soon run out of the electronic components, within 15 days. The initial plan was to import parts every month, but with the worsening situation, ramifications like price surge, supply shortage, and slow demands are a bit obvious aftermath.

IV. How CoronaVirus Outbreak Will Impact the Supply Chain Structure Of India?

As per the India Ratings and Research, the economic shock of the CoronaVirus on the Indian supply chain wasn't predicted to be such a disaster. Also, it is said that if the virus is contained in China over the next three to four months, the impact on the Indian supply chain could be higher than that during the 2003 SARS outbreak.

Product	Import Dependence	China's share in Indian imports	Sectors that are most likely to be affected	Risk assessment
APIs	High	High	Pharmaceuticals	Moderate: Indian units have an inventory supply of only one to two months. Further, the market is not dependent on Chinese imports.
Antibiotics	Moderate	Very high		
Electronic Goods	High	High	Electronics and Telecom	Moderate: The large supply of various critical components depend on the Chinese market.
Capital Goods	Moderate	Moderate	Capital Goods	
Acrylic and Knitted fabrics	Moderate	Moderate	Textiles	Moderate: The Indian textile market is not dependent on Chinese vendors. However, small and medium-sized enterprises depend on Chinese imports of fabrics.
Fertilizers	Moderate	Moderate	Fertilizers and agro-commodities	Moderate: India imports 77% of the total phosphatic acid and potassium-based fertilizers from China. Furthermore, China accounts for 30% of the world's phosphatic fertilizer production.
Auto and Auto components	For electrical and engine components: high Overall: low	moderate	Auto	High: Most of the auto components used in automobiles are imported from China. Furthermore, China supplies over 70% of the total demand.

Figure 3: The following table shows the quantum nature of impact on various import sectors of the Indian market. The correlation is dependent on the nature of the business activity and the presence of suppliers in the rest of the world. Very High- above 75%, High- 50-75%, Moderate-25-30%, Low-below 25%

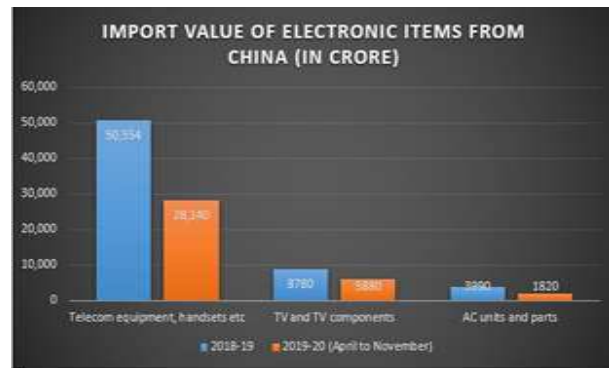


Figure 4: The following shows the import costs of electronic items from China. Although in the last five years, the in-house productions of these items have improved, the need for low-cost raw materials is still set on the Chinese vendors.

The impact of the CoronaVirus can be devastating for various sectors of the Indian market. *Among imports, organic chemicals will be the most affected commodities since India imports 40% of its organic chemicals from China.* Although mobile handsets, the largest category by sales value in the Indian market, is still untouched by any immediate threat. However, if the conditions further than February, it will surely hamper the electronics sector of the country. In 2019, 158 million units of smartphones were shipped from China and only 145 million were sold. All in all, these sectors will experience a swell up in their production over the near medium term.

V. Corona Virus Threatens To Stall The Asian Economy: *China accounts for 11% of the global import and 13% of the global exports in 2018. If the outbreak continues for more than two quarters, it will highly impact China's industrial activity due to a fall in labor availability and low consumer demand.*

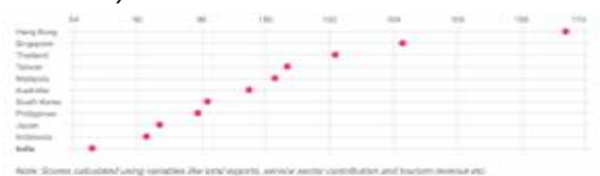


Figure 5: The Indian economy will get impacted by the massive outbreak of the CoronaVirus. India will, however, remain insulated as compared with the other Asian countries. India is the least exposed and dependent on the Chinese vendors amongst the others, and so its supply chain will not be impacted in the near term. However, if the virus is transmitted in the next three to four months, then the disruptions will be much worse than the 2003 SARS outbreak.

Furthermore, with China being the 2nd ranked nation with the highest GDP, it will experience a 0.5%-point decline in its economic growth this year. This will lead to a 0.2%-point decline in the expansion of GDP in the 10 countries of Southeast Asian Nations including China, South Korea, and Japan.

VI. Is CoronaVirus an Opportunity for India?

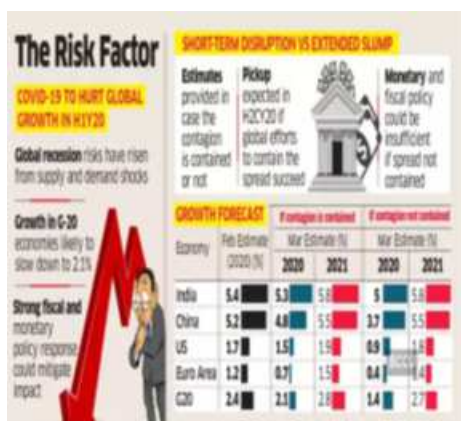
While the hard commodities sector is facing a tough blowout from the CoronaVirus outbreak due to a pause in their imports, the soft commodities market of India is currently on a boom. Global buyers are exploring the Indian market **for ceramics, homeware, fashion and lifestyle goods, and furniture.**

Indian manufacturers and exporters of such goods have received an increasing number of inquiries, mostly from the **US and European Union**, to replace China as a supplier. Even the **textile market is ready for a boom, enough to compete with China.**

Furthermore, Indian exporters of **chemicals, engineering goods, and marine products will benefit the most from the CoronaVirus outbreak.**



Figure 6: With China suffering through the atrocities of the infective Coronavirus, India can grab this opportunity to turn the world manufacturers into their market. Indian companies can use advantages like lower labour costs (one-third of China, availability of skills, and knowledge of developing components to enable manufacturing and not just assembling). The Indian market can accelerate its exports as well.



VII. India's total electronic imports account for 45% of China. Around one-third of machinery and almost two-fifths of **organic chemicals** that India purchases from the world come from China? For automotive parts and fertilisers China's share in

India's import is more than 25%. Around 65 to 70% of active **pharmaceutical** ingredients and around 90% of certain **mobile phones** come from China to India. **Coronavirus (COVID-19)** : Therefore, we can say that due to the current outbreak of coronavirus in China, the import dependence on China will have a significant impact on the **Indian industry.**

China's share in total imports to India

Organic chemicals	37%
Inorganic chemicals	13%
Medicinal & Pharma products	36%
Dyes	28%

Source: <https://commerce.gov.in>

VIII. In terms of export, China is India's 3rd largest export partner and accounts for around 5% share. The impact may result in the following sectors namely **organic chemicals, plastics, fish products, cotton, ores, etc.**

We also can't ignore that most of the Indian companies are located in the eastern part of China. In China, about 72% of companies in India are located in cities like **Shanghai, Beijing, provinces of Guangdong, Jiangsu, and Shandong.** In various sectors, these companies work including **Industrial manufacturing, manufacturing services, IT and BPO, Logistics, Chemicals, Airlines, and tourism.**

It has been seen that some sectors of India have been impacted by the outbreak of coronavirus in China including shipping, pharmaceuticals, automobiles, mobiles, electronics, textiles, etc. Also, a **supply chain** may affect some disruptions associates with industries and markets. **Overall, the impact of coronavirus in the industry is moderate.**

According to CLSA report, **pharma, chemicals, and electronics businesses may face supply-chain issues and prices will go up by 10 percent.** The report also says that India could also be a beneficiary of positive flows since it appears to be the least-impacted market. Some commodities like metals, upstream and downstream oil companies, could witness the impact of lower global demand impacting commodity prices.

According to **CII, GDP could fall below 5% in FY 2021** if policy action is not taken urgently. It is said that the government should take some strong fiscal stimulus to the extent of 1% of GDP to the poor, which would help them financially and also manage consumer demand.

In the third quarter (October-December) growth is slowed down to 4.7% and the impact of COVID-19 will further be seen in the fourth quarter.

FICCI survey showed 53% of Indian businesses have indicated a marked impact of COVID-19 on business operations. And 42% of the respondents said that up to three months could take for normalcy to return.

Let us have a look at the sector-wise impact on Indian industry Chemical Industry: Some chemical

plants have been shut down in China. So there will be restrictions on shipments/logistics. It was found that 20% of the production has been impacted due to the disruption in raw material supply.

China is a major supplier of Indigo that is required for denim. Business in India is likely to get affected so people securing their supplies. However, it is an opportunity. US and EU will try and diversify their markets. Some of the business can be diverted to India which can also be taken as an advantage.



IX. How does Coronavirus spread?

1. **Shipping Industry:** Coronavirus outbreak has impacted the business of cargo movement service providers. As per the sources, per day per vessel has declined by more than 75-80% in dry bulk trade.
2. **Auto Industry:** Its impact on Indian companies will vary and depend upon the extent of the business with China. China's business no doubt is affected. However, current levels of the inventory seem to be sufficient for the Indian industry. If the shutdown in China continues then it is expected to result in an 8-10% contraction of Indian auto manufacturing in 2020.
3. **Pharmaceuticals Industry:** Despite being one of the top formulations of drug exporters in the world, the pharma industry of India relies heavily on import as of bulk drugs. Due to the coronavirus outbreak, it will also be impacted.
4. **Textiles Industry:** Due to coronavirus outbreak, several garments/textile factories in China have halted operations that in turn affecting the exports of fabric, yarn and other raw materials from India.
5. **Solar Power Sector:** Indian developers may face some shortfall of raw materials needed in solar panels/cells and limited stocks from China.
6. **Electronics Industry:** The major supplier is China in electronics being a final product or raw material used in the electronic industry. India's electronic industry may face supply disruptions, production, reduction impact on product prices due to heavy dependence on electronics

component supply directly or indirectly and local manufacturing.



7. **IT Industry:** The New Year holidays in China has been extended due to coronavirus outbreak that adversely impacted the revenue and growth of Indian IT companies.
8. **Tourism and Aviation:** Due to the coronavirus outbreak, the inflow of tourists from China and from other East Asian regions to India will lose that will impact the tourism sector and revenue.
9. So, now you may have come to know about coronavirus. An outbreak of COVID-19 impacted the whole world and has been felt across industries. World's second-largest economy China became standstill. Its outbreak is declared as a national emergency by the World Health Organisation. **In India**, the impact may felt through **supply chain disruptions** from China and also as regional players, who imports from China.

X. What Level Of Impact Will CoronaVirus Have On The Indian Market?

The impact of the CoronaVirus on the Indian economy is ongoing speculation around the world. Indeed, an uneven calm is still prevailing amongst businesses, **including India, as the outbreak, has the potential to derail bilateral trade worth \$87 billion. Furthermore, \$70 billion worth of goods is imported by India on an annual basis.** With China as the second-largest trading partner of India, the dependency index of the latter on the former has the power to shut down the local markets and shops.

However, India might have found its importing options apart from China, the outbreak will have a significant impact on the Indian markets. It is predicted by many economists, that CoronaVirus can further slowdown the already struggling economy of India. But others believe that it is a great opportunity for India to scale up their game. What happens next can either be beneficial for India or disastrous.

XI. References :

1. CII/ FICII website
2. Economic times
3. Google.co.in
4. Hindustan Times
5. The Hindu
6. Times of India
7. Wikipedia.com

BRANCH NEWS

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AURANGABAD BRANCH

IIMM Aurangabad have conducted a full day training program on “ **Improving Cost & Quality Through Manufacturing Excellence**”. On **20th Feb. 2020**; at Marathwada Auto Cluster, Waluj Aurangabad. Chief Guest for this program was Mr. Sanjay Sanghai, Vice President of Endurance Group, Aurangabad.



Mr.S.J.Sanghai V.P. Endurance Group addressing to participants



Shrikant Muley offering Memento to Mr. Gaurav Swarup

Five Technical Session were organized . Discussions are summarized as per details below.

Session – I - CNC & VMC Machines: Speaker **Mr.Gaurav Swarup- MD of Marshall Machines Ltd**

Entrepreneur guidance for selecting right machine, Difference between CNC & Conventional Machines with respect to Cost, Quality, Flexibility and Performance. Latest Trends and Up gradations. Annual maintenance

contracts, and activities to be taken care of as a part of AMC, Scheduling of AMC, Warranty / Service and Spare Parts availability.

Session – II – TOOLING: Speaker Mr.M.Rajesh - AGM, Marketing & Sales, Motherson Techno

Difference between branded and non branded tools, Physical properties of cutting tools, Typical Grade Chart, how to read and use it, Role of Rigid & Precise holding tools, Focus for reduction in machining time per part and advancements in cutting tools.

Session – III – HIGH PRECISION MACHINE VICE : Speaker : **Mr. Nilesh Chandak- Marketing Executive, Skyline Distributors**

Product features, Scope of application – Conventional and CNC Controlled milling machines for efficient machining, Type of VICE, and brief on precision chucks.

Session – IV – FIXTURES : Speaker : **Mr.Shridhar Navghire - MD, ASR Industries**

Fundamentals of Fixtures, Role of Fixture in Manufacturing Industry, Purpose and Elements used in fixture and benefits of good quality fixtures.

Session – V – OIL & LUBRICANTS : Speaker : **Mr. Vishwajeet Singh - AGM (TS) - Indian Oil Corporation Limited.**

Selection of good quality Oil and Lubricants, Cutting oil & its types – Mineral, Semi – Synthetic and Synthetic, Purpose of cuttings fluids, Properties of cutting oil and Safety and environmental effect.

Around 170 delegates from 65 different Industries like Endurance Group, Bagla group, Morganite, Endress+Hauser, Aurangabad Electrical, Marathwada Auto Compo Ltd., Rucha Engineering and their vendors, Dhananjay Group, Mahaveer Industries, Morgan Crucible, Upturn Engineers, SMB Engineers, Madhura Die Cast and other Automobile ancillaries based at Aurangabad alongwith Engineering Colleges faculties and students also had attended this program.

Vice Chairman Mr.Sushant Patare briefed about the branch activities and focus areas of IIMM. He also appealed for becoming IIMM members to delegates, who are not IIMM members.

Introduction to the faculty was done by Executive Committee member Mr. M. Phanikumar. Proceedings and vote of thanks were done by Mr. Santosh Pande.

Along with Chairman Mr. K. Srihari, Vice Chairman Mr. Sushant Patare & Hon. Secretary Mr. Shrikant Muley, National Council Members Dr. Narendra Joshi, Treasurer Mr. Lalit Lohade, Mr. R D Jaulkar and EC Members Mr. Yogesh Koshe, Mr. Santosh Pande, Mr. Paras Mutha, Mr. Ameya Kolte took efforts to make this training program successful.

Support of Mr. Umesh Dashrathi, Managing Director of Rucha Group of Industries who is also Chairman of Marathwada Auto Cluster where the program was arranged along with support of IIMM Advisor Dr. Abhay Kulkarni – JNEC College were the one of the key success factors behind this program. Program was concluded by national Anthem.

HYDERABAD BRANCH

1. We, IIMM Hyderabad are on the Road of Progress in carrying out IIMM activities under the concept of - "Done, Doing, will be Done". From this edition of Branch News, we are showcasing "IIMM Education-Student Zone" as a leading Para, followed by other activities of the branch.
2. **IIMM Education - Student Zone:**
 - 2.1. Admissions (Jan/Feb 2020): Total Students: 19 (PGDMM-10, PGDSCM&L-8, PGDMM (LE)-1).
 - 2.2. IPSCM Exams: Are being held at our branch and will continue up to 21st March.
 - 2.3. December 2019 Exam Results: Through this platform we congratulate all the students for their PASS in concerned Exams.
3. **Other Branch Activities:**
 - 3.1. Branch Monthly EC Meetings and NHQ NC Meetings: We are proceeding with regular Monthly EC Meetings and reviewing activities and deciding future course of actions. IIMM Hyderabad made its presence through Mr. P. Mahender Kumar, NC Member at NC Meeting held on 23-02-2020 at NHQ. He had also presented the activities of South (in the absence of Dr. Rabi Narayan Padhi, VP South).
 - 3.2. Membership Drive: Through the Admissions of Students, getting added 18 Full Members.
4. **Management Development Programs (MDP)/ Workshops during March 2020:**
 - 4.1. The first MDP is: on 08-03-2020. The Subject was "GST on REAL ESTATES & Works Contract - A COMPLETE ANALYSIS". The Trainer is Mr. SN Panigrahi, An International Consultant, Corporate Trainer, Mentor, GST guru and Life Member of IIMM Hyderabad. The Program Director: Mr. CHLV Prasad, (General Manager, Advait Retiring Homes), Treasurer, IIMM Hyderabad. This MDP was arranged keeping in view good developments being made by Real Estate Organizations in providing required housing and commercial space in

Hyderabad, to make them fully update on GST aspects. The attendance has touched figure of +50. The participants also include Tax Consultants besides Delegates from Real Estate Companies / Builders. The feedback from the participants is very encouraging. The program summary was done by Mr. A. Preetam Kumar, NC Member.

GROUP PHOTO of above program



- 4.2. The second MDP is: Two days MDP on 14th and 15th March. The subjects were A-Z Exports-Imports Management (EXIM) and Key Highlights of BUDGET: 2020-2021. The Trainers / Faculty includes Mr. SN Panigrahi, Mr. A. Preetam Kumar, NC Member and Mr. MD. Ziauddin, Chairman. The program Directors: Mr. DD Reddy, Vice Chairman, Mr. A. Preetam Kumar, NC Member. The participants include Materials Management Heads, SCM Executives, Consultants, from different organizations and entrepreneurs (seeking good opportunity to be successful in Exports-Imports Business). The feedback from the participants was very positive. The total program was summarized at the end by Mr. P. Mahender Kumar, NC Member.

GROUP PHOTO of above program



- 4.3. We have issued Certificate of Participation to all Delegates / Participants of above two MDPs.
- 4.4. Both the above two programs were piloted by Mr. MD. Ziauddin, Hon. Chairman with full support from Ms. S. Suvarna, Hon. Secretary. Here we would like to compliment our very senior Member Mr. P. Somayajulu for doing excellent in roads to mobilize maximum Delegates.
5. Other supportive presence done to promote IIMM activities through networking discussions directly / indirectly: Mr. A. Preetam Kumar, NC Member, has participated and delivered key note address during the "Workshop on Contracts & Arbitration" on 6th and 7th Feb 2020 organized by NMDC Ltd.

He had also delivered a talk on 17-02-2020 on "TechTrends -2020, what's Next-Entrepreneurs to Know" at the International Trade Organization (at Hosapete).

6. We continue to thank our entire MMR team, under the leadership of Chief Editor & Publisher Dr. MK Bharadwaj ji for encouraging IIMM Hyderabad continuously by publishing our Branch News and Articles of IIMMians – IIMM Hyderabad.

**** LET US ALL BE SAFE FROM "COVID-19" BY FOLLOWING ALL PRECAUTIONS BEING PROVIDED / PUBLISHED.**

JAMSHEDPUR BRANCH

IIMM Jamshedpur in the Month of Feb-Mar 2020 : GDMM Batch 2018-2020 completed Final year Project Training Program which was conducted at various organisation.
Training Details

 Mr. Irfan Alam Tata Power, Jamshedpur	 Mr. Roshan Thakur Tata Steel, Jamshedpur
 Mr. Sharique Anaeel Brahmananda Narayana Multispeciality Hospital, Jamshedpur	 Mr. Sharique Anaeel Brahmananda Narayana Multispeciality Hospital, Jamshedpur
 Mr. Dhiraaj Kumar Long Product Mill, Jamshedpur	 Mr. Prakash Goswami Tata Steel, Jamshedpur

All students completed his project on allocated time and company also provided the Project Training Certificate. The project training duration was 2 to 3 month. Out of these projects two projects have selected as a best project by the company also.

Participation of IIMM Jamshedpur at "Global Leadership & Research Conference" at Amity University : Cdr Sanjeev Raman, EC Member, Jamshedpur Chapter was invited as speaker

at **5th Global Leadership Research Conference (GLRC 2020)** on "**Digital Transformation and Disruptive Innovation: Drivers for Future Business Growth**" during **February 25th - 27th 2020** at **Amity University Noida**. The event was inaugurated by General VK Singh (Retd), Honourable Minister of State for Road Transport and Highways. The conference had four parallel tracks namely, Finance, Human Resource, Marketing and Operations.



The **Operations and Quality Forum**, in which he was invited as guest speaker, focused to share ideas, problems and solutions in areas of Operations Management and Quality. The event was attended by distinguished speakers and delegates from industry, academia, government and research organizations. Cdr Sanjeev Raman highlighted that the technology changes is rapidly transforming the working environment putting tremendous pressure on the organization's most critical asset- its people. Organization focus is now shifting more towards creating a value-based organization which can earn the trust of the people at large. Business organizations are fiercely protecting the organization's credibility and reputation to ensure that the society's conviction remains intact. The focus is on building a positive organization with equal emphasis on People, Profit and Planet for its continued sustainability.

EC Meeting of Month Mar-2020 : IIMM Jamshedpur organized the Monthly EC Meeting (Mar-2020) on 16-Mar-2020 at Residence of Senior NC Member Mr. A K Srivastava. Following members were present in meeting, Mr. Shambhu Shekhar, Mr. Neelesh Kumar

Mishra, Mr. Rajeev Kumar, Mr. Naveen Kumar Singh, Mr. G D Pandey, Mr. D N Jha and Mr. Sanjeev Raman. Some special invited was also present from various organizations. Mr. A K Srivastava welcome to all the EC Members and Guest and Vote of thanks is given by Mr. Sanjeev Raman.



In meeting Shambhu Shekhar explain about future training program at various organizations and fix the target date to conduct the training program. IIMM Jamshedpur also decided to conduct internal audit activity as soon as possible. Secretary Mr. Neelesh Kr. Mishra present all activity conducted in last month. Mr Naveen Kumar explained about the lecturer program of IIMM Jamshedpur. And Mr. Rajeev Kumar present that education activity and progress of the institution.

IIMM Jamshedpur Conduct Lecturer Program at TATA STEEL



IIMM Jamshedpur Conduct the lecturer program at TATA STEEL about safe material handling through Artificial Inelegancy system By the Speaker Mr. Rajeev Kumar. Mr. Rajeev Kumar is an EC Members and Treasurer 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 analyze the failure, so that we can modify the system. This lecturer session was attend by more than 50 person.

MUMBAI BRANCH

Indian Institute of Materials Management. Mumbai

Branch organised one-day training program for M/s Ultratech at Hotel Tunga International, Mumbai on 29th Feb 2020 on the topic "Contracts Management and Administration".



The training covered the following topics: Basics of Contract management, Types contract, Typical Contract clauses and Contract Administration. The faculty for the program were Mr. Alok Ranjan Sarkar, Advisor - IIMM (Ex GM - Materials & GM Engineering & Projects BPCL) and Mr. Swapnil Dubey, Sr. President, Procurement (Yes Bank).

The session outline was prepared keeping in mind the significant categories being managed by the Ultratech procurement team. The program covered various facets of Contract management and the sessions were highly interactive. The sessions covered many practical and real life examples, as relevant to the audience.



Participants with IIMM Faculty

The initial session attempted to set the base for the need and importance of Contract. Also, specific issues around nature of the contract, stamping requirements, key stakeholders for the contracts were covered in the session. The session ended with a real case study of Thyssen vs. SAIL which highlighted the importance of proper specifications during contracting.

The next session covered various types of contracts as relevant to the Project category of spend and the applicability of each type in different scenarios. The session also covered merits and demerits of each type of contracting. Each type of contract has nuances which would help the procurement team members decide which contract is best fit for the specific scenario encountered.

The next session started with how Digitalisation and technology can help in contract negotiations and lifecycle management. The session also covered the key contract clauses and the boiler plate clauses. The session covered drafting of such clauses and typical samples of such clauses. The session had interactive scenario based small-group activity where each team identified key clauses which would apply in the specific scenario. This helped the team understand the relative importance of key clauses in specific real life procurement situations.

The final session covered details of Contract Administration and closure. The session included 3 different case studies on Liquidated Damages and the interpretation of the clauses when tested in courts. The session had relevant content on specific areas of interest for the Ultratech Procurement team on topics like Price Variation clause, Net Price determination and Risk Purchase Clause.

Post all the sessions, the participants attempted MCQ based Quiz which covered most of the topics covered during the session but also some general situations faced by the procurement teams. The feedback obtained at the end of the program was very encouraging (91% rated Good and Excellent) and directional with suggestions for improvement for similar future programs. The Program was co-ordinated by Dy. Director IIMM Mumbai Branch, Mr. R. B. Menon and his team at Mumbai Branch Office.

VADODARA BRANCH

Seminar on 'Materials & Manufacturing' topic at EDII, Ahd in NOV'19 : We received Invitation from Dr.Sajikumar, Director of **Entrepreneurship Development Institute of India**, Ahmedabad to take sessions on 'Materials & Manufacturing' topic for their Trisem-II Students of PGDM-BE course in 2018-20 batch, who had selected above topic in their course. We requested them for sending mail to us to discuss in our EC Meeting wherein it was decided to comply as per last year. Thereafter, we intimated them for sessions on above topic by Mr.K.B.Walvekar. Later, schedule for sessions was discussed with faculty to complete lectures in Week-2 & Week-4 of NOV'19 as students would have exams in first half of DEC'19 and so it was decided Four Sessions per day on **9/11/19 & 23/11/19**

which was agreed by EDII authorities. On the first day, Dr.Sajikumar shared faculty profile in his introductory talk with students (about **25 Nos.**). The students appreciated both sessions & were satisfied with Faculty's Presentation. They thanked for Ref. Mtrl. given to them in our Folder comprising of our Information, Course Brochure. Thus, the Seminar was mutually successful.

Training Prog. at DEEPAK PHENOLICS LTD. in DEC'19: One day In-house training programme on '**Inventory Management**' topic was organised on **11th Dec'19** at Plant premises of **DEEPAK PHENOLICS LTD.** in **GIDC Dahej, Vill. Ambheta, Tal. Vagra, Dist. Bharuch** for **30 Nos.** of participants from Purchase, Stores, Engineering & QC Dept. wherein faculty Mr.L.L.Notani conducted the training programme. Mr.Dharmendra Patel-Sr. Mngr. Stores had sent mail to us in Nov'19 regarding training need for their personnel wherein points to be covered in above topic had been planned & sent for their approval. Thereafter, commercial aspect alongwith schedule was finalized & forwarded to them for confirmation. The Presentation & Exercises for participants had been sent by Faculty for Ref. Mtrl. booklet preparation by us. The training programme was successfully completed with Excellent feedback received from participants who assured to attend our future training programmes as some students had done GDMM-R course from our branch. The Participation Certificates were distributed to participants by Mr.Notani and their Unit Head.



Mr.Dharmendra Patel being felicitated with Participation Certificate.

GETRI Training Programme in DEC'19 : The training programme of First Batch in 2019-20 for Five Days on '**MATERIALS, INVENTORY & STORES MGMT.**', '**PROCUREMENT & SPARE PARTS MGMT.**', '**LEGAL ASPECTS IN PURCHASING**' Topics had been organised on **16th, 17th, 18th, 19th & 20th December 2019** at GETRI in Vadodara for participants of **DGVCL, MGVCL, PGVCL, UGVCL & GETCO, GSECL** from all over Gujarat by Three Faculties - **Mr. L.L.Notani, Mr. H.M.Bhatt & Mr.Avadhoot Sumant**. The participants (about **26 Nos.**) informed that training programme was appreciable & knowledge gaining with their queries being resolved by faculties which would be helpful in their job. They intimated that this was unique training programme attended by them till now. The Feedback Report from participants about Training Programme & Faculties was Satisfactory as Trng. Prog. Contents like Ref. Mtrl.,

Exercises & Case Studies given to participants by putting up on GETRI's Website for future usage. The Director of GETRI, Ms. Alka Chaudhary Yadav & Exec. Engr. of GETRI, Mr. R.C. Patel attended Felicitation Programme on Final Day of Training Programme.



Mr.L.L.Notani taking Session on 1st,3rd,5th Day of Trng.Prog.



Group Photos of Participants from DGVCL, MGVC, PGVC, UGVCL & GETCO, GSECL

Book Launch Programme of PDSM Course in JAN'20 :

In our endeavour to upgrade our Course Curriculum, we had initiated updation of PDSM Course Subjects wherein Mr.L.L.Notani In his passion to share indepth knowledge & vast experience, got associated with us to compile 'STORES MANAGEMENT' Book wherein its Launch Programme had been organized on **2nd JAN'20** at Hotel Grand Mercure Surya Palace with Mr.S.K.Anand as Chief Guest alongwith other Dignitaries from Materials, Supply Chain fields gracing the programme. Also, Professionals from various PSUs, Corporates, Industries had been invited to attend the programme. The Book Contents comprising of Chapters with relevant Topics, Pictures, Exercises having attractive Cover Page & Acknowledgement of Mr.Notani's efforts, were well appreciated by Invitees. The family members of Mr.Notani wherein his Son's family from US had come for visit & were invited to join the programme. The Book Launch was done by Mr.S.K.Anand-Project Head at Deepak Phenolics Ltd.-Dahej, Mr.Malay Mazumdar-National President-IIMM, Mr.Lalbhai Patel-Former President of IIMM & Director of IFPSM, Mr.K.B.Walvekar-Chairman of IIMM,Vadodara branch & other Professionals alongwith young Grand Daughters of Mr.Notani. We acknowledged the efforts of Mr.L.L.Notani for exhaustive coverage of relevant topics in this Book & very much thankful to him & his Team Members for time devotion & sincere dedication in

preparation of this Book.



Dignitaries lighting the Lamp at Inaugural Prog.



'Stores Management' Book Launch Prog. underway by Dignitaries & Invitees.

Evening Talk held on 11th JAN'20 : An Evening Talk on 'Digital Well-Being For Tomorrow' topic was held on **11/01/20** at our Conference Hall by **Mr.Ramkesh Meena** which was attended by about 40 members. Mr. Ramkesh Meena has done B.Tech.(ECE) with Honors from Rajasthan University and M.Tech.(ECE) from Malaviya National Institute of Technology from Jaipur. He is Exec. Engr. in ONGC at Vadodara with 8+ years experience. He is Hon.

Secretary at Indian Society for Training & Development and also Member of Computer Society of India, Vadodara Chapter. He is Faculty for Specialized Training of Graduate Trainees at ONGC. He has also delivered sessions at ONGC, L&T, BMA, NAIR, ISTD, Colleges, etc.

The Talk covered the following points -

- **Technological Disruptions & Advancements, Changing Global Dynamics for Work, Workforce & Workplace.**
 - **Cyber Space – Brief, Data, Privacy, Facts & Figures, Emerging Concerns, Incidents & Case Studies.**
 - **Social Media – Presence, Impact, Profiling, Concerns, Optimal Utilisation, Incidental Learning.**
 - **Cyber Security Tips, Password Management, Digital Detox, Techniques, Way Ahead.**
- The following were Takeaways for Persons attending the Evening Talk –
- **Incidental Learning, Live Demos with Examples.**
 - **Cyber Safety & Wellness Tips.**
 - **Fraud Safety Alertness, Sharing of Best Practices**

Training Programme for GETCO Participants in JAN'20 at GETRI : The training programme for Two Days on 'INVENTORY & STORES MANAGEMENT' Topic had been organised on **20th, 21st Jan.'20** at **GETRI** in Vadodara for **GETCO** participants from all over Gujarat wherein the Faculty, **Mr. L. L. Notani** conducted Training Prog. on both days. The participants (**28 Nos.**) appreciated the training programme & informed that it was knowledge enhancing as solutions given by faculty for their problem areas would be helpful in their career. The Feedback Report from participants about Training Programme & Faculty was Excellent and very much Satisfactory as Trng. Prog. Contents, Exercises & Reference Mtrl. had been given to participants in CD form for future usage.

Training Workshop at CII-Rajkot in JAN'20 : We had received intimation in DEC'19 from Mr.Jayesh Parekh-Exec. Officer at **CII-Rajkot** to conduct Half Day Workshop with 'Excellence in Purchasing & Negotiation Skills' topic in JAN'20 wherein it was decided to schedule it on 28th JAN'20 from 2 PM to 6 PM. The Team from IIMM Vadodara br. comprising of Mr.H.M.Bhatt, Mr.Rakesh Desai & Mr.Rajesh Vasayani started from Vadodara to reach the venue in time on that day. We started workshop at about 2 PM wherein their former Chairman, Mr.Hemant Shaparia shared profile of our Faculty, Mr.H.M.Bhatt & gave details about Workshop Topic. He requested participants to be interactive & get clarity on their queries. Mr.H.M.Bhatt initiated the presentation on 'Procurement Management' topic with **28 participants** attending the workshop. The participants in age group of 30-40 years were eager to gain knowledge & got clarification of their doubts during the session. There was interaction between Participants & Faculty during Refreshment Break. Then, the workshop restarted with completion of pending topic & concluding the session with 'Negotiation Skills' topic coverage.



Mr.H.M.Bhatt taking Session at Trng. Workshop

Thereafter, Exercise Sheet was distributed to participants which was duly completed by them. Later, Mr.Rajesh shared IIMM Corporate Presentation with

participants which was appreciated by them & informed them about Vadodara branch Activities, Courses conducted by us & Membership Benefits. Also, they were intimated about our plan to start IIMM operations by initiating Chapter with 15 Members & then starting full fledged Branch with 25 members at Rajkot which interested them. Lastly, Mr.Jayesh Parekh delivered Vote of Thanks to our Faculty & IIMM Vadodara branch Team for conducting such workshop there and also thanked participants for attending this workshop with request to extend support for such programmes, in future. Thus, the knowledge enhancing CII Workshop was successfully completed with participants appreciating the Topic Contents & Faculty Experience.

Evening Talk held in FEB'20 : An Evening Talk on 'Retirement Pension & Tax Planning' topic was held on **06/02/20** from 6.30 PM onwards at our Conf. Hall by **Mr.Nehal Pandya** which was attended by about 35 members. Mr.Nehal Pandya has over 20 Years of experience in Financial Markets and Wealth Advisory Services. His profile includes senior postion at companies like NJ INDIA INVEST, ICICI PRU AMC, IIFL & ROYAL BANK OF SCOTLAND (ABN AMRO BANK). He holds Post Graduate Degree in Business Management (PGDBM) from M.S.U, BARODA. He is founder of 'PROMINENT FINANCIAL' with a vision. He foresaw the need for mutual funds that performed regardless of market environment and provided financial professionals & his investor clients with flexibility needed to respond to both changing market conditions & changing personal investment goals. He saw the need for an investment firm that listened to its clients, understood their challenges & anticipated solutions to solve their problems. He introduced **Prominent Financial Wealth Relationship (PFWR)** which represents finest standard of relationship advisory, offering an enhanced level of service to the most demanding elite to help make the most of "every opportunity" to grow Wealth.



Mr.K.C.Joshi welcoming Mr.Nehal Pandya with Flower Bouquet.

GETRI Training Programme in FEB'20 : The training programme of Second Batch in 2019-20 for Five Days on '**MATERIALS, INVENTORY & STORES MGMT.**', '**PROCUREMENT & SPARE PARTS MGMT.**' and '**LEGAL ASPECTS IN PURCHASING**' Topics was organised on **17th, 18th, 19th, 20th & 21st February 2020** at GETRI in Vadodara for participants of **DGVCL, MGVL, PGVL, UGVCL & GETCO, GSECL** from all over Gujarat conducted by Three Faculties - **Mr.L.L.Notani, Mr.H.M.Bhatt & Mr.Avadhoot Sumant**. The participants (**32 Nos.**) intimated that training programme was excellent & knowledge enriching with their queries being answered by faculties which would help in their job. They informed that this was best training programme attended by them till now. The Feedback Report from participants about Training Programme & Faculties was Very Good and Satisfactory as Trng. Prog. contents like Ref. Mtrl., Exercise Mtrl.& Case Studies given to participants by putting up on Website of GETRI for future usage and hard copies given for further reference & sharing with their subordinates. The following Photos highlight the memorable moments during five days' training programme

Industrial Exhibition & Business Networking Programme COLOSSEUM-2020 in MAR'20 : The Exhibition of Industries & Service Providers for Business Networking was organized by **Business Network International (BNI)**-Baroda Chapter on **7/3/20** at Grand Tulip on Sama-Savli Road, Baroda with 'Synergising Human Relationships with Industry 4.0' Theme wherein about 20 Stalls & 5 Kiosks were put up on Display for Visitors from Industries, Organisations, etc. The Key Note Speaker, Mr.Devdutt Pattanaik shared his expert talk by giving examples from his vast experience which was interesting to all. Also, the Guest Speakers,

Mr.Akshaya Goyal & Pankaj Harvansh shared their views about theme.



IIMM Committee Members alongwith Mr.Shashi Vispute at Colosseum-2020 Programme.

Mr.Shashi Vispute, Event Co-ordinator visited our office on 16/2/20 for meeting with Core Committee Members wherein it was decided to participate & associate with them as Associate Partner wherein they offered Complimentary Kiosk at Venue to create awareness about our activities like Educational Courses, Training Programmes, Individual Memberships, etc. amongst Visitors. The Full Day Programme from 9.30 AM to 6 PM was memorable as we attended alongwith Committee Members (Mr.Lalbai Patel-Director, IFPSM, Mr.Arvind Parmar-Hon.Secretary, Mr.Manoj Patel-Hon.Treasurer) and Mr.Rajesh Vasayani-Course Co-ordinator from Vadodara Br. Staff wherein the required details were shared with visitors, who appreciated our activities & were interested in our membership wherein membership forms were shared with them for doing the needful. The Event Memento was presented to us by them during Felicitation Programme.

COMMODITY INDEX

Commodities	Days's Index	Prev. Index	Week Ago	Month Ago
Index	2734.0	2733.2	2787.1	2841.4
Bullion	5225.2	5225.2	5576.3	5918.1
Cement	2431.1	2431.1	2431.1	2431.1
Chemicals	1870.0	1870.0	1954.1	1827.9
Edible Oil	1859.8	1842.8	1860.4	1953.0
Foodgrains	2485.7	2483.7	2462.1	2498.4
Fuel	2492.2	2492.2	2507.8	2581.9
Indl Metals	1918.8	1918.7	1918.8	1918.9
Other Agricom	2282.5	2282.5	2289.8	2262.9
Plastics	1688.8	1688.8	1731.3	1731.3

Source: ETIG Database dated 20th March, 2020



भारतीय सामग्री प्रबंधन संस्थान Indian Institute of Materials Management

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EXECUTIVE HEALTH

PRACTICAL TIPS FOR CORONAVIRUS PREVENTION, AND HOW NOT TO PANIC

GIDEON MEYEROWITZ-KATZ
HEALTH NERD-14 MARCH 2020

Despite urgent containment efforts, it has become apparent that SARS-CoV-2, and the disease it causes - COVID-19 - have spread to pretty much every country across the globe. While some countries are reporting small numbers so far, it is almost certain that everyone will, eventually, see an outbreak nearby.

The question on everyone's lips is the same: "What can I do to protect myself from coronavirus?"

The unfortunate answer is, not all that much. Despite the vast numbers of people telling you to boost your immune system with everything from vitamin C injections to sex, in all likelihood the only thing that will significantly impact your risk of getting COVID-19 is washing your hands and trying not to touch your face.

What you can do, what everyone can do, however, is help to protect society. This doesn't mean that you personally won't catch the disease, although it may reduce your risk somewhat, but what it really means is that fewer people will get sick, and when they do they will be better cared for. So, here are some practical things that you can do to help limit the spread of the new coronavirus.

Social distancing: Social distancing is a pretty simple idea - we come into close contact with a lot of people, all the time. Hugs, kisses, the occasional warm breath of a stranger on your neck during your morning commute.

When practising social distancing, rather than getting in close, try to stay at a distance. Instead of kissing an acquaintance, use a much cooler fist bump. Replace hugs with air-fives (remember to make the sound effect). Don't breathe on people on the train if you can avoid it*.

All small things, but they can have a disproportionate impact on how the virus spreads. This in turn could vastly alter the nature of the epidemic from a disaster to something much more easily handled.

Prepare at work/school : One of the big things about infectious diseases is that they spread best when lots of people are around. In particular, this includes schools and workplaces, where children and adults are forced into small, sweaty rooms together.

So, prepare to take action to reduce the risk of spreading disease. Schools may close, but probably not all of them, and not forever. You can reduce the risk to society by making sure kids stay at home when they're sick, and enforcing simple rules like washing hands on a schedule during school hours.

Workplaces are a similar story - if you're an employee, make plans to work from home. You may not have to, but it's a good idea. If you're a boss, be realistic - people are going to get sick sooner or later. Make sure people have sick leave, and find ways to keep to business going if staff have to stay home for some time. Start holding what meetings you can by distance, and try to ensure that when people get together they aren't forced into small spaces with no ventilation.

Practice at home : Early information out of China indicates that one of the ways that coronavirus spreads is through the household. Now, it's obviously impossible to be entirely distant from your family, despite the hopeful dreams of many millennials, but there are things you can do to help prevent the virus from spreading among your friends, family, and weird roommates.

If you do get sick, isolate yourself from the family. Take precautions when caring for sick loved ones. Wipe down shared surfaces more often. Try not to let your kids stick their hands directly into your mouth quite so often.

Wash your hands, don't touch your face, sneeze and cough responsibly. I know, I know, I already said this. But it is worth saying again. Washing your hands, not touching your face, and avoiding coughing on everyone else are some of the main ways that you can help to lower your risk of infection, and protect everyone else as well.

Stay safe : Overall, don't panic, but don't disregard the news entirely either. These are some reasonable, straightforward steps that we can all take to help reduce the burden on health services in the weeks ahead.

It's also important to remember not to blame people when they do spread the disease. There is no magic bullet against viruses like this, and even the best precautions will only reduce the risk. Apportioning blame may feel good, but ultimately it will only make infection control harder as people try to hide their symptoms from the ravaging masses.

Stay safe, and remember: we're all in this together.

*Note: I haven't suggested an alternative here because you shouldn't be doing this anyway. It's gross. Stop that.

Gideon Meyerowitz-Katz is an epidemiologist working in chronic disease in Sydney, Australia. He writes a regular health blog covering science communication, public health, and what that new study you've read about actually means.

Source : sciencealert.com

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