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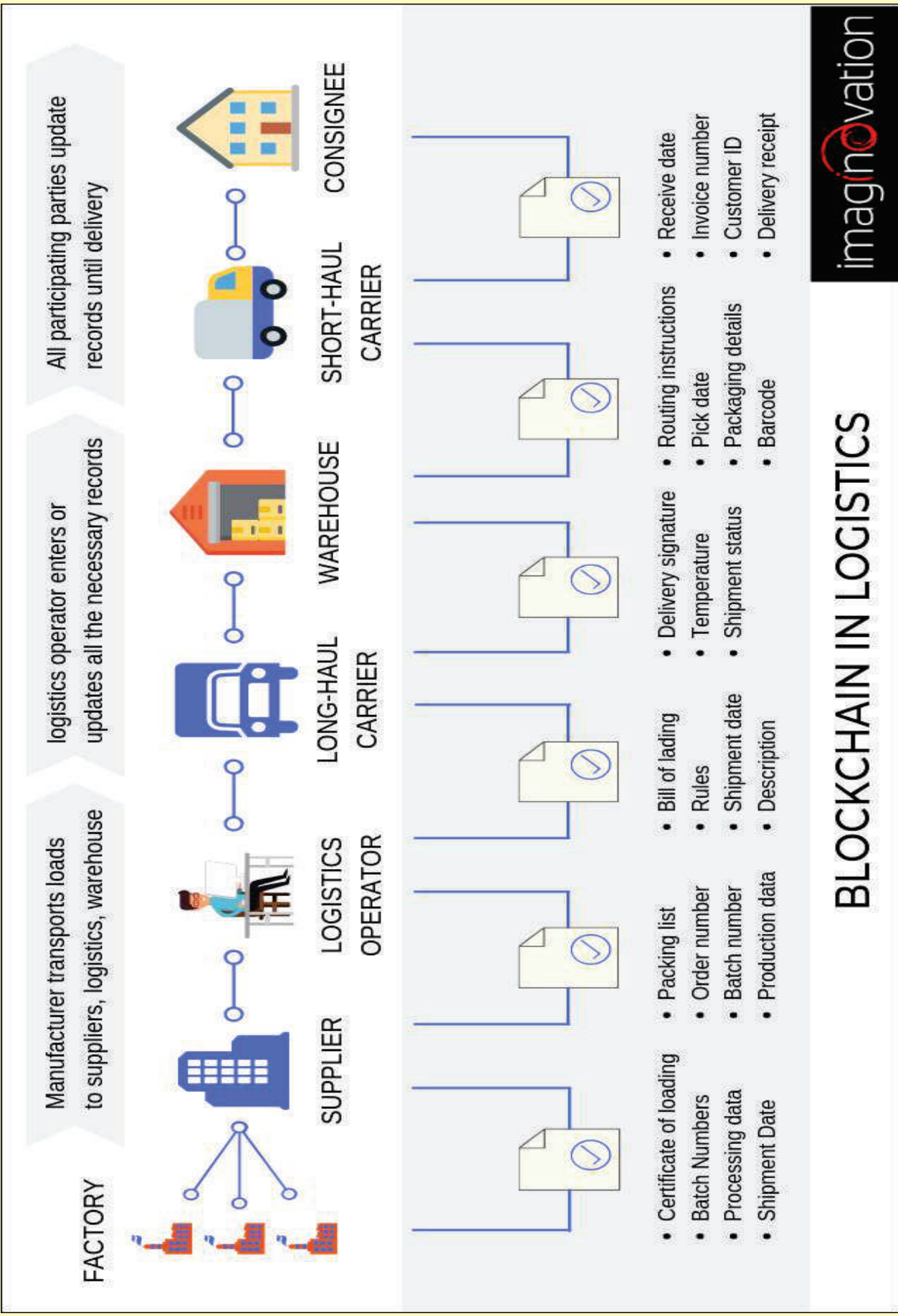
October 2021

NEW NORMAL 2021: TECH LOGISTICS TRENDS



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From the Desk of The National President



Dear Members,

Greetings from National President!!

As we are entering the festive season in India, signs of positivity is spreading all across. Economy is showing upward trend. GDP is slowly catching up with the pre COVID level. Average rate of vaccination which was abysmally low @20 lakh doses per day in May 21 has significantly increased over 70 lakh doses per day in September 21. Within next one month, India will touch a figure close to 100 crore doses. A benchmark of 2.5 Crore doses was achieved on PM Modi's birthday. This is no mean task which also shows the agility of supply chain in administering vaccine doses to large cross section of population across various strata of society. Since the COVID positivity rate has reduced, restriction on movement of people is being gradually removed. With increase in mobility of people, businesses such as travel and tourism, restaurants, other hospitality sectors are getting revived. However we should not lower our guard in following COVID appropriate behavior since the fear of third wave is still not ruled out.

The Pandemic situation globally is still not within control. With several variant of COVID spelling havoc in many countries, partial lockdown is still in force in several countries. China which is in possession of majority of the Shipping Containers and vessels have recently closed down few of the port cities which were in the grip of pandemic. This has resulted into non availability of vessels thereby resulting into skyrocketing of logistical cost globally. With the ever increasing fuel cost, the shipping cost both in international and domestic transportation is increasing. SCM professions are having a tough time managing the logistic cost as well as making the timely availability of imported cargo for their organizations. With restriction being imposed on imports from China, alternate sourcing from other countries have become a compulsion. This has also resulted into increased cost of raw material.

As we are approaching end September 21, majority of the branches of IIMM have completed their AGM and elections of their new office bearers for the year 2021 – 23. Very soon we will start the consolidation of the branch balance sheet as well as initiate the NHQ audit. Our online examination started from 15th September for our various courses. This is the second successive examination being conducted online. This could not have been possible without the whole hearted support of my NEC colleagues as well as NHQ staff members.

I take this opportunity to wish all members of my extended IIMM family for the forthcoming festive seasons a good health, peace and prosperity.

With Warm Personal Regards

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

MALAY MAZUMDAR

National President, IIMM

Email: Malay_mazumdar@yahoo.co.in

From the Desk of Chief Editor



Dear Members,

We all have witnessed the significant changes made by corporate world during the ongoing Covid Pandemic to re-invent themselves to remain relevant. For instance, logistics industry, which used to be a fragile and unorganized sector few year back, is now harnessing a digitization shift and contactless operations whereas many customers, who used to buy offline are now preferring online mode of purchasing thereby creating a huge opportunity for business entities.

Future of logistics in India is good provided India recovers its economic transactions at a faster rate specially post Covid 19 era which goes hand in hand with movement of goods across the country. Secondly, E-commerce Business in India is growing exponentially and to support this growth further, warehousing infrastructure, which is an integral part of the E-commerce business should be strong. Furthermore, booming E-commerce sector have provided a platform to many startup logistics service providers like Delhivery, Blowhorn, Rivigo etc. to operate more locally with the unorganized logistics industry.

While infrastructure readiness and technology are expected to be the key enablers to the growth of Indian logistics industry, however, a number of other emerging trends in Logistics and Supply chain sector will facilitate this growth. For an instance, adoption of technology like Internet of Things (IoT), Automation, Blockchain, Cloud Computing, Artificial Intelligence (AI) and Robotics are expected to be game changer for tactical and operational decision making, fleet optimization, and routing and big data analysis thus enhancing quality, reducing cost and minimizing human intervention.

Govt. is also working upon logistics sector to hasten up the infrastructural developments like 150 acre multi modal logistics park along side of Indore – Ahmedabad National Highway. The aim of this Multi Modal Logistics Park is to increase the market availability of products made in the state to other states and abroad easier. Another remarkable reform recently launched by Govt. in the logistics Sector is Secure Logistics Documents Exchange (SLDE) Platform for digital exchange of logistics-related papers and a calculator for greenhouse gas emissions for choosing the sustainable and right mode of transport for freight movements.

Govt. has also recently inaugurated the Centre of Excellence in Logistics and Supply at NITIE, Mumbai, which will provide cutting edge research, knowledge-building and capacity building in Logistics and Supply Chain Management, through applied research and development activities which will help the logistics sector become more cost-effective, more competitive, create new jobs, export more, engage better with the world markets, expand outreach and bring more economic activity to India. All these initiatives are to be key enablers in Indian Ambition of USD 5 trillion economy. Let the SCM professionals contribute in the best possible manner and rise to the occasion.

H. K. SHARMA
mmr@iimm.org



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**Indian Institute of Materials
Management**

4598/12 B, 1st Floor, Ansari Road,
Darya Ganj, New Delhi - 110 002.
Phones : 011-43615373
Fax: 91-11-43575373
E-mail: iimmdelhimmr@gmail.com &
mmr@iimm.org
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CONTENTS

PAGE NO.

■ ENHANCING EFFICIENCY AND EFFECTIVENESS IN RETAIL SUPPLY CHAIN MANAGEMENT: DEVELOPING A CUSTOMER-FOCUSED APPROACH	6
■ ENTERPRISE RISK ASSESSMENT: A PRO-ACTIVE MEASURE TO ESTABLISH STRATEGIC PRIORITIES & TO TACKLE KEY BUSINESS RISKS	11
■ ETHICS IN CONTRACT MANAGEMENT – AN OVERVIEW	13
■ DESIGNING AND MANAGING LEAN SUPPLY CHAINS	17
■ PROJECT DEFINITION FOR A SUCCESSFUL INTERNET-ORIENTED IMPLEMENTATION OF ERP	20
■ PANIC BUYING @ MATERIAL MANAGEMENT	22
■ SPEND MANAGEMENT: SPEND ANALYSIS IN SUPPLY CHAIN	23
■ STRATEGIES FOR INTERNATIONAL SUPPLY CHAIN DISRUPTIONS	26
■ A CONVERSATION ON THE FUTURE OF ELECTRIC VEHICLES AND CHARGING INFRASTRUCTURE	28
■ ACCELERATING DIGITIZATION IN THE HEALTH AND LIFE SCIENCE SECTOR IN THE RIGHT WAY	30
■ NUCLEIC ACID TESTING (NAT) FACILITY IS A CONFLICT OF INTEREST AT VARIOUS GOVERNMENT MEDICAL RESEARCH INSTITUTE-A CASE STUDY	32
■ CAN INDIA BE THE NEXT GLOBAL MANUFACTURING HUB?	35
■ INDIAN TOUCH TO INDUSTRIES - INDIAN "LALA" STYLE-	40
■ COMMODITY INDEX	41
■ SEVEN QUALITIES TO ENSURE A SUCCESSFUL WMS IMPLEMENTATION AND LONG-TERM SUCCESS	42
■ WHY THE 2030 SUSTAINABLE DEVELOPMENT GOALS MATTER TO PACKAGING PROFESSIONALS	44
■ BLOCKCHAIN'S CRITICAL ROLE IN SUPPLY-CHAIN TRANSPARENCY	45
■ GEM PORTAL 2021 BUY & SELL ON GEM PORTAL	46
■ BATTLING THE BARRIER OF SCALE	48
■ EXPLAINED HOW THE CONTAINER CRISIS POSES MAJOR LIQUIDITY CHALLENGES TO SME EXPORTERS	49
■ BLOCKCHAIN OFFERS NEXT-GENERATION TRACEABILITY SOLUTIONS FOR SUPPLY CHAIN MANAGEMENT	50
■ BRANCH NEWS	52
■ EXECUTIVE HEALTH	57

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4598/12 B, 1st Floor, Ansari Road, Darya Ganj, New Delhi - 110 002.
Phones : 011-43615373 Fax: 91-11-43575373
E-mail: iimmdelhimmr@gmail.com & mmr@iimm.org
Website : www.iimm.org

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ENHANCING EFFICIENCY AND EFFECTIVENESS IN RETAIL SUPPLY CHAIN MANAGEMENT: DEVELOPING A CUSTOMER-FOCUSED APPROACH

PANKAJ M. MADHANI

ASSOCIATE DEAN & PROFESSOR, ICAI BUSINESS SCHOOL (IBS)

pmadhani@hawk.iit.edu

Introduction : Retailers offer a very wide range of goods, staple and changing fashion goods, from clothing to homeware, from accessories to furniture or white goods, often also food including fresh food. There are various retail formats (stores), such as grocery stores; specialty, apparel, and convenience stores; discount, entertainment, and quick-service restaurants. Major retailers closer to the consumer (e.g. Wal-Mart, Target, Best Buy, etc.) are now taking the lead where manufacturers once dominated supply chain issues (e.g. Proctor & Gamble, Unilever, etc.). Today, retailers are the controllers of product supply while still meeting real-time customer demand. Fierce competition in today's retail space with e-retailing and augmented expectations of customers has required retailers to invest in their supply chains for better performance. In the retail environment, market competition today takes place between supply chains rather than between individual retailers. Retailers' performance is affected by supply chain practices such as the use of technology, supply chain speed, customer satisfaction, supply chain integration, and inventory management.

Retailers are an essential part of the supply chain because of their proximity to customers. The retail supply chain's key aim is to bridge the gap between the point of production and the point of sale. Retailers now have various options to meet the needs of their customers (e.g. from stores, from warehouses, or directly from the suppliers, etc.). With the introduction of store brands or private labels, more retailers are developing deeper integration with manufacturers and even raw material suppliers. Supplier relationships in the upstream and customer relationships in the downstream are also important facets of retail supply chain management.

Retailers, usually face significantly more partners in the supply chain as a major retailer could have hundreds or thousands of vendors to supply its products compared to a much more controllable number for the manufacturers. A large-scale retailer uses several brands and suppliers for the same product category while it sources inventories from many suppliers. Thus, the retail supply chain management needs to have more ability to scale more effectively and efficiently for better supply chain coordination. As shown in Figure 1, wholesalers (vendors), warehouses (distribution

centers), retailers (stores), and customers are the four main components of a typical retail supply chain management network as they have direct linkages. The manufacturers and suppliers represent indirect linkages for the retail supply chain.

Retailers now control, organize, and manage the supply chain from production to consumption and thus contribute to the transformation of the retail supply chain. It has become important to understand supply chain management (SCM) from a retail perspective as with the evolution of power on the demand side, SCM is considered as the source of competitive advantage for retailers. Research works in this direction and discusses the contribution of retail supply chain management in enhancing customer value and service delivery as well as the profitability of retailers.

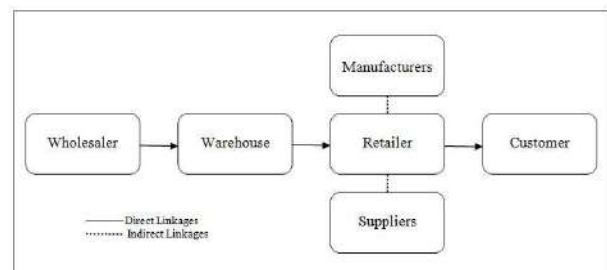


Figure 1: Retail Supply Chain Management Network: Direct and Indirect Linkages

(Source: Framework Developed by Author)

Customer-focused SCM: A Key Driver of Retail Success

The COVID-19 pandemic has caused a sudden and severe impact on retailers as they experienced a significant shock to both supply and demand on an unprecedented scale, compounded by statutory measures that restricted the movement of people and goods. During the COVID-19 pandemic, many retailers experienced stock shortages and unprecedented demand spikes (Madhani, 2021a). It has never been more important to manage supply and demand fluctuations in retail supply chains. With the increased demand and supply uncertainty, retail businesses have become extremely complex. Because of the shorter product life cycle (PLC) and the need to reduce the time to market, it is becoming increasingly necessary for retailers to deliver value to the customers. Increased competition from online shopping threatens the very existence of

many traditional retailers (i.e., physical B&M stores) (Madhani, 2021b). Hence, retail supply chain management is critical to retail success, end-consumer cost, and shareholder value.

Understanding the customer is vital to retail success, and customers are thus an integral part of retail supply chain management. The customer-focused approach in SCM boosts not only financial results but also improves customer satisfaction, operational performance, and overall firm performance. A customer-focused retail supply chain management succeeds in effectively capturing consumer attributes, market characteristics, systematically evaluating the customer value at each stage, detecting misalignments with consumer value, and adequately transforming products and processes to meet those requirements. The customer-focused approach in SCM boosts not only financial results but also improves customer satisfaction, operational performance, and overall firm performance. SCM is an integration of all activities associated with the flow of goods, starting from raw material to the final product reaching the customer. SCM emphasizes how to maximize the overall value of the retailer by better deploying and using the resources across the whole of the retail supply chain network. Hence, SCM can improve the performance of the retailer by integrating key business processes from end-users through suppliers and vendors by providing products, services, and information that add value to customers.

In recent years, retail supply chain management, in which the retailer assumes leadership of the entire channel, has become a hot topic in modern SCM. Today competition is not among products as it has shifted to supply chains from the level of products. The basic premise of SCM is that the performance of a firm depends more and more on its ability to maintain effective and efficient relationships with its suppliers and customers. SCM is the key to the success and survival of retailers in the competitive business environment. Today, retailers view SCM as a strategic tool to increase their competitive advantage. Retail supply chain management has been established as a sub-discipline of SCM.

Retailers' are making all-out efforts to push for lower costs, higher performance, and, eventually, a better customer experience. In today's competitive retail world, customers are constantly seeking more choice, better quality, and service, as well as quick and reliable delivery. Many industry-specific challenges are impacting the performance of the retail industry. As a result, retailers need to be customer-focused to generate value across their supply chain strategies. Retailers often take into account factors outside of their organization's limits to strengthen and maximize the competencies of their supply chain partners to generate more customer value and competitive advantages.

Retail Supply Chain Management: Building Customer-

focused Approach

The emphasis of the traditional retail supply chain has always been on how to cut operational costs for businesses by improving outsourcing, production planning, and logistics processes. Efficiency in cost policy is skewed toward accounting only the apparent costs, ignoring others that are difficult to quantify, such as flexibility, resilience, responsiveness, or more intangible concepts including a trust or loyalty effect. Efficiency in costs or cost-cutting is unquestionably essential in creating and delivering value, but it cannot be reduced to it. The method that minimizes costs is not always the best approach for maximizing value. While increased efficiency in the end-to-end retail supply chain will boost a retailer's competitiveness, it does not guarantee that the company will be a winner. The reasoning behind this is that increasing efficiency alone would not help the retailer to differentiate its products and services from those of its rivals. Each production and distribution operation in a traditional retail supply chain with multiple tiers of suppliers and customers is designed based on forecasted demand. Actual demand, on the other hand, is only created when a customer places an order. This means that each member of the retail supply chain must keep inventory on hand in anticipation of customer orders.

To ensure better customer service, each retail supply chain entity would typically "over-plan" inventory. This is referred to as the "bullwhip effect" as it explains how a small shift in demand downstream leads to exponentially larger demands as it passes upstream. Retailers can influence the performance of the whole supply chain as it represents the beginning node of the "bullwhip" effect. In reality, retail supply chain managers are now forced to pay more attention to the market and, in particular, individual customers, by focusing more on the service levels they offer, reducing response times, and addressing customers' unique needs. Because of this convergence of developments, managers are shifting away from a conventional functional orientation in their business practices to a more holistic approach in addressing the overall supply chain management. As retailers pursue competitive strategies based on supply chain factors other than costs, such as innovation, quality, or service, this competitive scenario is becoming more apparent.

Given how quickly the retail paradigm is changing in today's dynamic environment, now is the right time to rethink the vital dimensions of competitive priorities. Competitive priorities are studies to express the priority of operations selected from among the key competitive capabilities of various functions of the organizations and hence represent a strategic emphasis on developing certain intended competitive capabilities for the organizations. Competitive priorities are used to define the order in which activities are prioritized from among the key competitive capabilities of organizational

functions, and they can be represented in four ways: cost, quality, speed (or delivery time), and flexibility. Organizations can achieve high levels of customer satisfaction by delivering high value to their customers. Customer satisfaction is a reflection of operational elements such as efficient cost structures, quality products, speed, and responsiveness.

Customer-focused supply chains attempt to build on agility, adaptability, assurance, and alignment to do well along with multiple outcomes - often labeled as "competitive priorities" (Madhani, 2020a). Retail supply chains are much more customer-oriented when they focus on enhancing customer value and offer better service at a lower cost. The customer-focused retail supply chain's value-creation aspects are characterized by differentiation among value enhancement, risk reduction, flexibility, and value alignment (Madhani, 2021c). Table 1, shows major differences between traditional retail supply chains and customer-focused retail supply chains according to competitive priorities.

Table 1: Traditional Retail Supply Chains versus Customer-focused Retail Supply Chains

Sr. No.	Competitive Priorities	Traditional Retail Supply Chains	Customer-focused Retail Supply Chains	
			Characteristics	Attributes
1	<i>Responsive</i>	Moderate capability to respond to changes.	Strong capability to be both responsive as well as proactive to changes.	Value enhancement (Agile)
2	<i>Reliable</i>	Prioritize cost savings.	Concentrate on reliable and cost-effective supply chains.	Risk reduction (Assurance)
3	<i>Resilient</i>	Often restricted to a single or a small number of chains.	To ensure distribution, keep a limited set of multiple chains.	Flexibility (Adaptive)
4	<i>Realigned</i>	Participants are forced to choose between their interests and those of the supply chain.	Participants' interests are similar (or are designed to work together).	Value alignment (Aligned)

(Source: Tabulated by the author)

A customer-focused retail supply chain approach acknowledges the customer's inclusion in the retail supply chain process because it sees the customer as more than just a destination for supply chain operations, but as an active participant in the value-creation process. Incorporating the customer into the retail supply chain's structure and processes brings value to the whole network in terms of both customer satisfaction level and performance level, building a competitive advantage. The actual demand identified at the point-of-sale can be conveyed up the supply chain in a customer-focused retail supply chain strategy, significantly decreasing the amount of inventory that each retail supply chain partner has to manage to support customer service objectives. The focus of a customer-focused retail supply chain is to identify the critical combination of competitive priorities (quick

response, higher flexibility, higher reliability, and low cost) in retail supply chains that can help retailers to succeed.

Retail Supply Chain Management: Developing a Customer-focused Approach

Customer-focused retail supply chain management builds competitive capabilities by enhancing customer value through competitive priorities of responsiveness, resiliency, reliability, and realignment (Table1). These competitive priorities of customer-focused retail supply chain management are explained below:

Responsiveness : The combination of rigid, centralized management control and lack of resources at the store level creates a retail environment that is ineffective at the point of sale and hinders the entire retail supply chain's ability to respond to end customers' demands. To avoid such hurdles, responsiveness at a retail supply chain level may be created by the launch of concepts such as quick response, Just-In-Time (JIT), efficient consumer response, collaborative forecasting, planning, and replenishment, etc. These practices are expected to increase end-customer responsiveness through integration initiatives concentrating on collaboration, information sharing, and trust among retail supply chain participants. Close relationships with suppliers are critical for responsiveness, and retailers can profit from an informal network of strategic alliances that simultaneously improve productivity and agility. Thus, all stakeholders in the retail supply chain must be aligned and organized towards common objectives to achieve responsiveness to end consumers. Retailing, as the ultimate constituent of the retail supply chain directly facing end consumers, places a special focus on product availability and customer satisfaction

In the retail environment, RFID implementation increases cost efficiency as well as responsiveness-related performance, such as lead time reduction, accuracy improvement, and on-shelf availability, increased visibility, faster information flow, better information exchange, and simpler and faster product recognition (Azevedo and Ferreira, 2009). As a result, RFID helps in decision-making by providing management with information earlier and faster and with better quality (accuracy, relevancy, completeness, etc.) To increase supply chain responsiveness, retailers must understand exactly what consumers want, when and where demand happens, and provide the necessary information (e.g., demand forecasting, real-time sales data, consumer return and feedback, inventory status) to other upstream members. Responsiveness has become a prime attribute of customer-focused retail supply chain management as it enables retailers to

address volatility in customer and market requirements swiftly.

Reliability : Reliability is focused on assessing the probability of an unfavorable incident occurring. Risk management entails either lowering the likelihood of occurrence of disruptions or lowering the severity of their effects. There are two forms of supply chain risks: the first is caused by supply chain coordination, and the second is caused by supply chain disturbances. Retailers with strong supply chain risk management, experienceless interruption and react quickly when they occur. Risk prioritization is critical for better risk management since there are large numbers of risk variables and their direct and indirect interrelationships affect all retail supply chain partners. Risks in the supply chain can be classified as both external and internal. External risks include those related to suppliers and those that could impact demand, while internal risks include supply chain processes and control. The most important internal processes are those that add value to the chain, while the risks associated with control are those relating to the systems, standards, and commitment of the members.

Risk management strategies aimed at building a more reliable supply chain and include various approaches such as buffering (via inventory or capacity), mitigation (i.e. acts that minimize the probability of occurrence), and the use of contingency plans, which are triggered when a risk materializes. Retail supply chain management must maintain a reliable supply chain capable of handling any interruption and mitigating the effects of disruption. Uncertainties and disruptions can cause a variety of operational risks for retailers. The demand uncertainty attribute describes the unpredictability of a product's demand as a result of the quantity demanded and the variety of products available. The supply uncertainty attributes include quality, buying, and delivery, which relate to the characteristics of the procurement process. Demand and supply uncertainty is low in customer-focused supply chain management (Madhani, 2019).

Resiliency : Retail supply chain resilience may be described as the ability of a retail supply chain to manage a disruption without having a major effect on its ability to fulfill the supply chain goals and objectives. To cushion the detrimental effects of crises, retail supply chains must be able to cope with unexpected disruptive events, that is, to be resilient. By increasing redundancies, retailers will become more resilient. Supply chain flexibility is required in retail supply chain management due to the uncertainty in the retail environment. Retail supply chains must deploy a customer-focused approach to strengthen their ability

to adapt rapidly and cost-effectively to unanticipated market shifts and rising environmental turbulence.

Realignment : Retailers recognize the importance of looking beyond their own strengths to their suppliers and customers to increase market value through complementary competencies and capabilities. This movement shifts the retailers' attention from internal business processes to management across the retail supply chain management network and enhances realignment across the supply chain. Retail supply chain realignment refers to the process of consistently aligning the interests and priorities of retail supply chain partners by ensuring that their objectives are in line. Retailers deliver optimum supply chain performance when they uphold their priorities and achieve their own goals while realigning the needs of multiple retail supply chain partners in the network.

Effective retail supply chain collaboration benefits both the supplier and its retail customer. The supply chain collaboration is important to superior supply chain performance, the creation of competitive advantage, and the continuity of retailer-supplier relationships. The greater collaboration capability is linked to greater productivity and customer satisfaction, all of which lead to higher profitability. The increased levels of collaboration in the retail supply chain resulted in operational and relational improvements, which affected asset utilization, competitive position, organizational performance, and profitability. Supply chain success necessitates effective teamwork, trust, and rewards alignment. Thus, supply chain collaboration helps businesses perform better.

Enhancing Efficiency and Effectiveness in Retail Supply Chain Management

The rules for succeeding in the retail industry have changed as low prices and innovative products are not enough to give retailers a competitive edge, as they have become points of parity and the norm. In today's competitive arenas, customer value has become an increasingly powerful differentiators. To achieve a competitive advantage over their rivals, retailers must provide value to their consumers through either cost advantage (by performing activities more efficiently than competitors) or greater differentiation advantage (by uniquely performing activities in comparison to competitors). Retailers minimize costs, improve consumer satisfaction, trust, and loyalty, and eventually generate value for consumers by improving customer value through customer-focused retail supply chain management. Higher sales, profitability, and, eventually, differentiation advantages result from such cost reductions and improved customer satisfaction.

Retail supply chain management improvement efforts have centered on increasing efficiency and effectiveness, such as lower overall retail supply chain costs, improved capacity utilization, lower inventories, and on-time deliveries. Efficiency is defined as doing things correctly, while effectiveness is defined as doing the right things. Effectiveness defines the degree to which the actual outputs of the system match its desired outputs, while efficiency evaluates the ratio of the actual value of the outputs to the value of the actual inputs. Efficiency is a measure of how economically the supply chain's resources are used when providing a pre-specified level of customer satisfaction, while effectiveness is a degree to which a customer's expectations are met in the supply chain (Madhani, 2020b). The effectiveness can be increased by improving the customer value as consumer satisfaction is used to assess supply chain effectiveness. On the other hand, waste reduction, increase efficiency in the supply chain (Madhani, 2020c).

The entire retail supply chain network profits from customer-focused retail supply chain management. Customers benefit from customer-focused retail supply chain management because it increases responsiveness, resiliency, reliability, and realignment. In today's era of intense competition, it's critical to respond rapidly, be resilient, create reliability, and realign the priorities of retail supply chain participants. Furthermore, a high value in these four competitive priorities (responsiveness, reliability, resilience, and realignment) is only possible if supply chain participants effectively coordinate strategic sourcing, logistics management, information sharing, and relationship management. Supply chains become agile as a result of customer-focused retail supply chain management because they can respond rapidly and cost-effectively to rapid demand and supply volatility, adapt over time to market shifts, provide assurance through improved robustness and reliability, and align the priorities of all retail supply chain participants to build long-term competitive advantages.

Conclusion

Today's retail supply chains are dealing with a business environment that is becoming increasingly complex, competitive, and uncertain due to changing and unpredictable customer demand. As a result, there is a requirement to build customer focus in retail supply chain management. Customer-focused retail supply chain management improves a retailer's top and bottom lines by enhancing the retailer's ability to become more agile, assured, adaptive, and aligned to the dynamically changing environment, with a greater emphasis on the customer. A customer-focused retail

supply chain management affects retailers' success in terms of higher competitive priorities (responsiveness, reliability, resiliency, and realignment), better customer value, improved customer loyalty, and satisfaction, long-term customer relationships, increased customer retention, and boost in revenue and profit. Customer-focused retail supply chain management specifically focuses on customers; generates competitive advantages and improves retailers' performance. Improved retail supply chain efficiency and effectiveness would boost a retailer's overall productivity, produce more sales volume, and ultimately increase profits. All of these factors will contribute to the retail supply chain's competitiveness, and as a result, the business ecology of the entire retail supply chain's partners will shift and leads to a win-win situation.

REFERENCES

1. Madhani, P. M. (2021a). 'Enhancing retail workforce performance with real options approach', *The Journal of Total Rewards*, Vol. 30, No. 3, pp. 77-93.
2. Madhani, P. M. (2021b). 'Enhancing retail stores' performance: Managing compensation costs with optimal retail workforce sizing', *The IUP Journal of Business Strategy*, Vol. 18, No. 1, pp. 7-21.
3. Madhani, P. M. (2021c). 'Retail supply chain management: Building a customer-focused approach with competitive priorities', *The IUP Journal of Supply Chain Management*, Vol. 18, No. 2, pp. 7-27.
4. Madhani, P. M. (2020a). 'Customer-focused supply chain strategy: Developing 4Rs framework for enhancing competitive advantages', *International Journal of Services and Operations Management*, Vol. 36, No. 4, pp. 505-530.
5. Madhani, P. M. (2020b). 'Enhancing supply chain efficiency and effectiveness with Lean Six Sigma approach', *International Journal of Project Management and Productivity Assessment*, Vol. 8, No. 1, pp. 40-65.
6. Madhani, P. M. (2020c). 'Enhancing retailers' operations performance with Lean Six Sigma Approach', *The Journal of Contemporary Management Research*, Vol. 14, No. 2, pp. 1-25.
7. Madhani, P. M. (2019). 'Strategic supply chain management for enhancing competitive advantages: developing business value-added framework', *International Journal of Value Chain Management*, Vol. 10, No. 4, pp. 316-338.





ENTERPRISE RISK ASSESSMENT: A PRO-ACTIVE MEASURE TO ESTABLISH STRATEGIC PRIORITIES & TO TACKLE KEY BUSINESS RISKS

SN PANIGRAHI, PMP, PROJECTS, LEAN SIX SIGMA,
GST & FOREIGN TRADE CONSULTANT & TRAINER
snpanigrahi1963@gmail.com

An Enterprise Risk Assessment (ERA) is a Systematic and a Continuous Process of Pro-actively Identifying Potential Risks of an Organization and Assessment of their Impact and Likelihood of Potential Future Risk Events that are most Consequential to the Organization's Ability to execute its Strategy and Achieve its Business Objectives within a Stated Time Horizon.

What is Risk?

As per PMBoK of Project Management Institute (PMI), Risk is defined as "An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives".

ISO 9001:2015 defines risk as the effect of uncertainty on an expected result. An effect is a deviation from the expected – Positive or Negative.

From the above Two definitions, it is very clear that a Risks may have a Positive or Negative deviation from the expected. Risk is commonly understood to be negative or adverse effect in the general parlance. However, in risk-based thinking opportunity can also be found – this is sometimes seen as the positive side of risk. While discussing the Enterprise Risk Assessment, we shall discuss here mainly about Negative Risks.

Understanding Risks in an Organization

Risk is about what could happen and what the effect of this happening might be. Risk also considers how likely it is. Risk is assessed as a combination of the probability of occurrence and the severity of that if it occurs. That means, Risk is about how likely (frequently) it happens and what could happen and what the effect of this happening might be (Severity).

The risk-based thinking approach is likely to be much more effective in allowing organisations to become stronger, fitter businesses. The better your organization manages risks, the better prepared you are to face uncertainties. Risk-based thinking requires

companies to Evaluate Risk when Establishing Strategies, Taking up New Projects, Investing in New Ventures, Defining Business Processes, Controls and improvements, Adopting New Systems or even Assessing the Existing Businesses.

Enterprise Risk - Categories : Risks in an Organization may emerge from many areas of business: there may be Strategic Risks, Operational Risks, Technological Risks, Market Related Risks, Quality & Process Risks, Financial Risks, Economic Risks, Environmental Risks, Occupational Safety & Health Risks, Information Security / Cyber Risks, Legal Risks, Regulatory or Compliance Risks etc. as shown below with Examples.



Enterprise Risk Assessment Process

Enterprise Risk Assessment Process is an on-going process, having following Steps or Processes.

- **Deeply Understand Business of an Organization :**
 - Ø Understand the Business, the Operations & the Working Conditions, the Industry & Competition, Stakeholders etc.
- **Establish the Context, Circumstances & Set the Objectives:**
 - Ø Get clear Insights of Organization's Objectives and Goals to set the tone for understanding the Organization's Business Outlook.

Ø It is very essential that Establishing a clear link between Objectives, Risks and Selected Strategic Initiatives by aligning with Organization Priorities.

- **Gather Data / Information & Identify Major Risks:**

Ø Gather Data, Collect Relevant Information & Perspectives from the People **on the Ground** to understand what Risks could have the most Significant Impact on the Organization. It is a good practice to consider **what Drives the company's value during the strategy/objective setting.**

Ø Once the **key drivers** are identified, and then begin to identify risks that can potentially hinder the success of each key driver.

- **Prepare Risk Profile & Establish Risk Assessment Methodology:**

Ø A Risk Profile is an evaluation of an individual's willingness and ability to take risks. It can also refer to the threats to which an organization is exposed.

Ø A corporation's risk profile attempts to determine how a willingness to take on risk (or an aversion to risk) will affect an overall decision-making strategy. Provide a clear profile of major risks that can negatively impact the company's overall Business.

- **Analyse Risks - Understand & Evaluate Impact of Risks on Business:**

Ø Identified Risks are Carefully Analysed to determine both their Likelihood of Occurrence and Potential Impact on Business. **This is a quantitative analysis of the types of threats an organization faces with a goal of providing a non-subjective understanding of risk by assigning numerical values to variables representing different types of threats and the danger they pose.**

- **Develop Action Plans / Risk Response Strategies & Validate:**

Ø This is a Formalization of Risk Response Stage, where Formal Action Plans & Risk Measures for Risks falling outside the Acceptable Tolerance Levels are Finalised. **Once Potential Risks are Finalized & Analysed its Impact, Optimal Risk Response Strategies are Formulated with Consensus of all the Concerned Team Members.**

Ø Also Risk Champions / Owners are Identified and Assigned the Responsibility to them. Initiations are taken to Validate the Action Plans, Formalize Process of Audit & Business Continuity Planning.

- **Communicate the Strategy - Implement the Action Plans and Monitor Progress of Implementation:**

Ø Once the Risk Response Strategy is in Finalised, it must be Communicated to all the Concerned. Relevant information and data need to be constantly monitored and communicated across all departmental levels concerned.

Ø Measure, monitor, and communicate the effectiveness of the risk response strategies by utilizing any key risk indicators deemed effective by that organization.

- **Review Regularly & Update:**

Ø Risks are Dynamic in Nature, needs to Monitor and continuously update the **Real Risks**. Enterprise Risk Assessment is a Continuous; on-going & evolving process of Pro-actively and Pragmatically Document Risk Management Policies & Processes.

Risk Assessment - Concluding Comments:

Enterprise Risk Assessment Tool is used by organizations to Manage Risks Pro-actively and Seize Opportunities related to the achievement of their Objectives. Risk Assessment outcomes help Organizations to Establish Strategic Priorities and Activities to Tackle Key Risks. Increasing Awareness and Imbibing Risk Culture with Involvement of Top Management & Cross Functional Teams shall enhance the Organizations ability to Understand, Identify, and Develop Action Plans in Advance to Pro-Actively Manage Risks.

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.

You may also View @ SlideShare @ the Link Below:

<https://www.slideshare.net/SNPanigrahiPMP/enterprise-risk-assessment-a-proactive-measure-to-establish-strategic-priorities-to-tackle-key-business-risks-by-sn-panigrahi>

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ETHICS IN CONTRACT MANAGEMENT – AN OVERVIEW

PREM NARAYAN, IRSS , DEPUTY DIRECTOR GENERAL,UIDAI
LIFE-FELLOW MEMBER, IIMM, LIFE MEMBER,
IRILMM, MEMBER, QCI, premn2011@gmail.com

1.0 Introduction : Indian Railways donematerials purchases worth Rs.64000 croreduring 2019-20 towards the requirements for operation, maintenance and production etc. (excluding cost of ballast, track related items, materials supplied by contractors for civil construction works).

Zonal Railways and production units mostly procure the materials they need, but they depend on railway board for purchase of a few items. Out of the total purchases, 75% was done by zonal railways and production units and 22% was done on fuel purchases. Stores worth Rs 6500 crore were also purchased from the small scale and Khadi and Village Industries.

Considering that huge public money involved and large number of stakeholders' e.g. political executives, bureaucracy, public and private firms, public at large with varying and at times conflicting interests; it is worthwhile to examine ethical issues in contract management. Ethical aspects of contract management are similar in other central government departments too.

2.0 Legal Aspects of Purchase and Contract : Purchasing constitutes a legal contract between the buyer and the seller. Such contracts are governed by Indian Contract Act – IX of 1872. As per this act, for an agreement to become a legal contract there must be :-

1) Free consent of parties

Consent of a person is said to be free when it is not obtained by Coercion, Undue influence, Fraud, Misrepresentation of facts or Mistakes.

2) Between Parties competent to enter into contract

2.1 Rights of Equal Opportunities : According to rulings of Supreme Court, in view of rights of equality before law (Art. 14) and of carrying out a profession (Art. 19 (1) g), every citizen of India has a right to get equal opportunity to bid for a government contract. Extending these rights, courts expect that decision making in Government, including in purchasing should not be discriminatory or arbitrary. This of course also follows from the canons of financial propriety.

However, it also allows a reasonable criterion for eligibility of tenderers to be laid down.

The specifications and conditions of tender should therefore be carefully framed so as not to violate these

rights while ensuring supply of material from only a right source.

2.2 Objects of Contract : Object of a contract in purchasing is receipt of material or services by the Purchaser. Consideration (payment in most cases) is what the supplier gets for fulfilling the object of the contract. A contract without any consideration is not a legal contract. Such consideration and also the object of contract to be lawful these must not be forbidden or expressly declared void by law and of such nature that if permitted, it would defeat the provision of any law is fraudulent. Any contract which involves or implies injuries to the person or property of another is immoral or opposed to public policy;

Broadly speaking, a contract is an agreement between two parties enforceable by law, which confers personal rights and imposes personal obligations, which the law protects and enforces against the parties to the agreement. Accordingly, a general law of contract has been conceptualized. It has been influenced over a period of time, by a number of factors, amongst which

- (a) The moral factor and
- (b) Economic/business factor, are of greater importance than all others.

Squandering of public money in contracts has become an all-pervasive problem in India. Hence the moral factor of a contract assumes greater significance than the business factor and due importance needs to be given on transparency, systematic methods, clarity in perception, commitment to conform and finally, emphasis on good governance.

2.2.1 The Why of It

Although law and morality are distinct, yet, the law reflects, to a considerable extent, the moral standards of the community in which it operates. Two reasons have driven ethics to the foreground in the law of contracts –

- (1) The increasing demand for transfer of property from one to another and for the performance of services by one for another, both carried out through the law of contract
- (2) The growth of the institution of credit that has led to greater reliance than before on promises and agreements.

One of the most fundamental features of the law of contract is that the test to an agreement is objective and not subjective. The sanctity of contractual agreements is driven by a moral principle that one should not take advantage of an unfair contract, which one has persuaded another party to make under any kind of pressure. To this extent, it becomes incumbent on both parties to ensure that they contract in a most trustworthy and amicable manner so as to promote the 'free consent' concept of the Law. Such 'free consent', occurs when it is not caused by coercion, undue influence, fraud, misrepresentation or mistake.

"Ethical contracts, therefore, are the harbingers of good corporate governance and promoters of stakeholders' interest besides ensuring successful completion of projects, supplies, operations and services etc."

2.3 Government Contracts : What often distinguishes Government contracts from private contracts are the methodologies adopted in selecting the vendor, justifying the rate awarded and choosing the nature/quality of workmanship or supplies. There often tends to be a conservative approach in the Governmental procedures in all these methodologies, largely driven by a need for equality and the fact that the opportunity to serve an organization funded by the public must be open to all competent bidders to the contract provided they are able to supply /perform the contract at the least cost to the public and the requirements of the supply or the work are not extravagantly luxurious. These considerations bring out the ethical aspects of Governmental contracts sharply, in contrast to those executed for private parties where there is little or lesser emphasis on the ethical aspects of the exercise.

3.0 Ethics in Buying: The following code of ethics for buyers has been drawn by the Indian Association of Materials Management.

- o To consider first the total interest of the organization, in all transactions.
- o To be receptive to competent counsel and to be guided by such Counsel without impairing the dignity and responsibility of his office.
- o To buy without prejudice, seeking to obtain the maximum ultimate value for each rupee of expenditure.
- o To strive consistently for knowledge of the materials and process of manufacture and to establish practical methods for the conduct of office.
- o To abstain from malpractices.
- o To eschew anti-social practices.
- o To accord prompt and courteous reception, so far as conditions will permit, to all who call upon him, on a legitimate business mission.
- o To respect his obligations and to require that obligation to him and his concern are respected,

consistent with good business practice.

3.1 Ethics of Tendering : Every contracting agency must have a lawfully evolved Vision and Mission statement, wherein there is an explicit commitment to uphold ethical values of the business. Then and then only, can there be a likelihood of contracts and supplies getting executed in time and as per requirements originally estimated. Going by the essential traits of an executable contract, it becomes necessary for the party inviting tenders and, finalizing them to follow certain rules, regulations, assumptions and transparency in evaluation and awarding methodologies. These come into sharp focus when any vendor is denied an opportunity to quote for a work being executed and funded through funds raised through public taxation.

These rules and regulations must generally be evolved in a transparent manner, must be tested in law, executable in action and logical in content. They must be evenly biased towards both parties in the event of a need for interpretation and must also be free from ambiguity. Such being the case, tendering as a form of contract enabling mechanism, has all the characteristics of an ethical exercise which not only ensures right quality and quantity at the right price but also enable selection of the right vendor. Contract management becomes less complex and more goals oriented if the relationship between both parties are based on ethical principles.

4.0 Unethical Practices in Contract Management

4.1 Vendor Driven Contracts : Squandering of public money in contracts is not normally difficult to identify because, when either the rates are very high or the quality of work is poor, one is able to easily conclude that there is wastage of valuable taxpayers' money. What about works/supplies, which are not required at all in the first place? There is a carefully nurtured nexus between the supplier and a certain category of the buyer (more pronounced in the Government organization) which thrives on the projection of a false requirement of whatever supplies of material or type of work, which the vendor wishes to execute / supply (for reasons ranging from outdated models/versions, other cancelled orders, rejected stocks, or simply items of works / supplies where margins are relatively higher than other items).

A slightly varied version of this sort of unnecessary procurement or procurement in excess of requirement, driven by the vendor, is the ploy to indent and procure material of a specification which is much higher or superior to that actually required, merely because the margins in such items are higher.

4.2 Estimations : Very often, pressurized by the urgency to float tenders, the estimation wing of the buyer, finds if convenient to include clauses like "actual design and execution standards will be finalized as approved by the engineer at site, whose decision shall be final". This is no doubt, a careful strategy to save time but what is actually happening is that the ambiguity could cost the

seller a fortune in reality, later on. He is however, helpless and plays along in order to get the order, thus promoting the indecisiveness, lethargy or even the mischievous intent of the buyer who has legally safeguarded his interests through a clause, which supposedly has the mutual consent of both parties - a legally acceptable stand but one which smacks of unethical standards.

4.3 Tender Opening : Elaborate procedures exist for revealing to one and all, the comparative quotes of all bidders - usually, this is done in the presence of representatives of all bidders. What goes unnoticed is the fact that while all quoted rates is read out; special terms or counter offers are not - items, which have financial implications.

It is also necessary that when bidders try to coerce or prevent other competitors from bidding, arrangements are made to enable fair and open competition and participation through different strategies including making available the tender boxes at different locations / cities which are safely guarded and the much more recently introduced e-tendering system. Such measures instill all round confidence and enhance the ethics of the contracting efforts.

4.4 Evaluations : In many organizations, evaluation of offers is done by a team of officials who compose a tender committee and whose main role is to -evaluate the offers, recommend a suitable vendor and justify the rates at which the recommendation is being made including suggestion whether there is a need for negotiations in the event of the rates being higher.

The committee relies largely on a tender evaluation brief prepared with background information of the tender. The ethical issues in the briefing note centre around the need to be totally unbiased in the presentation of the details relating to the tenderer and the past rates. Ethics demand that a dispassionate view be taken both at the time of collecting data as well as analyzing it for making recommendations. Yet another ethical irregularity is committed when opportunity is denied to new vendors on grounds of inexperience or to existing working contractors on grounds of them being already overloaded

4.5 Unworkable /Low Rates : When quoted rates are far lower than estimated, there is hardly any attempt to ascertain from the vendors as to why they do so. Ethically and more so from the financial view point, it is necessary that the buyer benefits from the assessment of a seller quoting lower before condemning the low rate as unworkable. Denial of competition by this costly lapse actually is triggered by a preconceived notion that estimates are sacrosanct. New technologies, better financing means and other business strategies would often encourage vendors to quote low, especially in a cut throat competitive environment.

4.6 Negotiations : When it comes to quoted rates being higher than estimated, however, negotiations in

some organizations become the rule and are done in almost a very routine manner. When the first recommendation is invariably made for going in for a round of negotiations (even in cases where the rates are reasonable) for obtaining a further reduction, there is an inflationary tendency by even reasonable tenderer to quote high at the first instance. Ethics demand that such tendencies are curbed and efforts made by both parties to be true to their conscience – vendors would quote realistically and buyers would evaluate reasonably.

The unethical angle in negotiations wherein the lower suitable offer(s) is/are overlooked and higher (perhaps unsuitable) offers are recommended for negotiations has led to the CVC (Central Vigilance Commission) banning negotiations except where absolutely essential and that too only with the lowest. This cardinal rule has some exceptions and may not be suitable in all cases, but at least, it has helped curb certain unethical practices of “somehow, anyhow” placing orders on suppliers / sellers who do not deserve, both on the legal and contractual basis, any consideration, much less, an order.

CVC has issued guidelines on negotiation only with L1 due to incorrect practices in some of the central govt. depts., it was a system that if there are several manufacturers participating in open tender, counter offer would be given and the quantity would be rationalized over several vendors in proportion to the competitiveness of their bid. This rationalizing method adopted by govt. dept. was defective, as L1 would not get everything, which is due to him. Effective implementation of the policy to negotiate only with L1 ensured no hanky panky and brought transparency in procurement process.

5.0 Role of Technology in Improving Transparency : Unethical practices can be curbed to a large extent by bringing in more transparency and better security (lesser chances of corrupt practices) in the system of procurement through electronic tendering (e-tender) and electronic auctioning (e-auction). Electronic auctions (or reverse auctions) are conducted using internet-based software. ‘Reverse auctions’ are auctions where sellers bid to provide specified goods or services to a buyer. At core, the system provides the means for buyers to issue pre qualification questionnaires and invitations to tender by e-mail. Suppliers then respond via an internet-based interface to the system. The system can ensure that suppliers’ electronic responses are held securely until a particular time (the equivalent of “tender opening time”) when they are made available to the buying organisation.

While the system also offers additional functionality (such as document management and evaluation tools), organisations can choose the extent to which they make use of the system beyond its core functionality. The e-tender and e-auction system is fully password-protected- buyers and suppliers can only access it with a valid account name, user name and password.

Suppliers are only able to access the system in respect of tender exercises in which they have been invited to participate- they cannot “browse” tender activity. Materials Management Deptt. on Indian Railways has fully switched over to e-tendering and integrated Materials Management System has been adopted to ensure better transparency, uniformity, speed and paperless working.

6.0 Ethics in Purchase Practices at International Level : Government procurement guidelines of World Bank basically sum up the approaches in public procurement by various governments. The same has been adopted in WTO as guide line for government procurement. It mentions three types of tendering:

- a) Open tendering procedures are those procedures under which all interested suppliers may submit a tender.
- (b) Selective tendering procedures are those procedures under which, those suppliers invited to do so by the entity may submit a tender. This deals with short listing or registration of suppliers.
- (c) Limited tendering procedures are those procedures where the entity contacts suppliers individually, only under exceptional circumstances in view of urgency etc.

To ensure fairness, stress has also been placed on transparency aspect which includes publishing of contract award details etc.

7.0 Analysis of Contract Management in the Framework of Ethical Theories : The traditional approach to procurement is transactional approach. Indian railways also follow this approach. This approach can be categorized under Deontological approach to social contract theories. As per this theory an action is right if it conforms to the terms agreed upon, or rules for social well being negotiated by competent parties. Here competent authority enters into the contract by mutual consent in three steps:

- 1) A proposal (a tender notice) - This lays down the object of the contract and conditions relating to it.
- 2) An offer in response – This brings out considerations and conditions relating to it for performing the object of the tender
- 3) Acceptance of the offer – This completes the contract. In case acceptance is not exactly as per offer, it will become a counter offer – which needs to be accepted by the tenderer to become a contract.

However, this approach has its limitation because it is based on short term goal, exploiting competition, knowledge and expertise of supplier is not utilized to the fullest extent etc. This approach although is best suited for obtaining most favorable price but it does not exploit the capabilities of supplier. The relational approach adopted by private companies/ organizations to buying which exploits the potential of cooperation,

stresses upon collaboration and “team effects”, combine resources and knowledge between both supplier and purchaser. It results in more openness between supplier and purchaser as supplier is required to reveal his costing etc. and then only purchaser agrees for increase in cost.

Several developed countries especially Australia, UK and New Zealand etc. have started adopting approaches, which even go beyond the relational approach. Following conditions are being added in government procurement documents:

- ü Contract with tenderer who treat their employees in ethical employment standard.
- ü Assess a tenderer ethical employment behavior while maintaining fair opportunity for the market to compete.
- ü Influence cultural change in way contractors treat their employees.
- ü Reward competitive businesses that satisfy the ethical employment standard with government business.

Ethical theory applicable in above context is Extra-Organizational Ethics under System Development Ethics theories, which holds that an action is good if it promotes or tends to promote the improvement of collaborative partnership and collective global justice, creativity in the human and natural environments.

In future this will have impact on procurement done by railways because the advantages of relational approach far out weighs its disadvantage in obtaining lower price.

8.0 Conclusions : The ethical framework behind the existing procedure obviously has a strong deontological base. This is, although, very important in view of preventing fund leakages and optimum utilization of the public money in the process of purchase and contract, yet, it often makes the system too rigid and the greater objective of ‘ultimate good’ for the organization is missed. In order to take care of such greater goal, the procurement and contract procedure should have a strong element of teleological concepts in it and this may be possible by a gradual shift from the existing rule based contract to relation based contract with built in checks and balances and surveillance mechanism in it to guard against possible frauds. Design of such a system may be made practically feasible through involvement of all the stakeholders and sharing of risk and responsibility equally amongst them. Another important aspect in procurement and contract management is to see that the whole process always meets the triple bottom line needs in respect of social, environmental and economic requirements arising out of the procurement and contract. The ethical framework based on stakeholder concept has a great potential in curbing the problem of ethical egoism of an individual in the process of procurement and contract.

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DESIGNING AND MANAGING LEAN SUPPLY CHAINS

DR V K GUPTA

FORMER CEO INDIA, JMAM, JMA GROUP, TOKYO, JAPAN

PROFESSOR, IMT GHAZIABAD, INDIA

dr.vkgupta@gmail.com; vkgupta@imt.edu

“Through the use of Lean we are now a leader in our field, because we understand what our customers want – and can deliver it efficiently.” Paul Fraser – Head of Logistics, Fujitsu¹

In the global businesses of today the competition's major focus is not only among different companies but also among supply chains. Changes of technology and improvements of organizations are crucial for successful supply chain management (SCM), however, the major reason of improving SCM is not the execution of an information system (IS), but instead a change and a business processes integration². SCM in the terms of supply chain process maturity levels has grown due to an important condition which is information system development among organizations and process renovation. For the success of Lean Supply Chain Maturity of Business Processes (BPM) is prerequisite.

Supply Chain has grown over a time period. Some supply chain development stages have been³:

Markets (Arm's Length): Less production costs, more coordination costs

- Company can buy inputs from 3rd party specialized suppliers
- High standardization of inputs; no assets that are specific to transactions
- The only coordination mechanism are prices

Hierarchies (Vertical Integration): Increase in production costs, decrease in coordination costs

- Company generates the inputs that are required in-house (in the extreme, all inputs)
- Highly customized inputs involving increased transaction costs or dedicated investments, and need close coordination

Lean (Hybrid): Least costs of production and coordination; most efficient choice-new model economy wise

- Company acquires both customized inputs & standardized inputs
- Inputs that are customized often include dedicated investments
- Strategic alliances and partnerships present with collaborative advantage

Lean supply chain management is not only for the firms manufacturing products, but even for businesses wanting streamlining of processes by waste elimination and non-value added activities elimination. Firms have many areas in their supply chain at which wastage can be identified in terms of time, costs or inventory. In order to generate a more lean supply chain firms must examine each avenue of the supply chain⁴.

The triumph and downfall of supply chains are acknowledged in the market place by the products' end users. The right product delivery at the right time coming at the right price to the customer is not only essential to competitive success but even a crucial factor in order to sustain in the market.

Philosophy of Lean Supply Chain has its foundation as lowering the cost by getting rid of activities that do not add any value directly. Cost can be lowered in two ways: a. by identification and elimination of the not useful activities that are not adding any value and b. by efficiency enhancement of a needed activity causing the process throughput to be increased. A supply chain that is lean will have least levels of inventories in the system, minimal warehousing space needed to store these inventories, and shipments that are optimized in order to lessen the moving inventory cost⁵.

Some of the advantages of Lean Supply Chain are

1. Higher customer fill rate and more customer satisfaction
2. Visibility in Supply chain and higher performance measurement
3. Risk Management
4. Reduction of inventory velocity and inventory
5. Utilization of Kaizen/Continuous Improvement, 5S, and transportation cost reduction and Lean Six Sigma by distribution center: e.g.: utilize your own or the Transportation Management System (TMS) of your Third Party Logistics (3PL) provider partner for optimizing your freight to add value and lessen costs by making use of the most effective routes and lanes.
6. Higher performance by supplier: lead times reduction and generating reduction in cost as your suppliers are the experts in their respective fields.
7. Supplier Day Conference implemented by suppliers occasionally to identify areas of reducing costs

through Value Analysis.

8. Lowering in “Total Cost” of the complete supply chain

A lean supply chain includes several major features given below⁶:

Demand Management : Focusing on product demand is the guiding quality of the strategy for lean supply chain management. For any product having no demand to enter the supply chain effectively leads to wasted material, wasted manpower and wasted process.

To generate an ecosystem in which management of demand can be resourcefully carried out, start by identifying customer value. Customer value can be in the shape of the physical product itself, and the location and the delivery timing. On clear determination of these, one can start setting up a signaling system that is going to inform the supply chain as to the product demand status, and then the product can be pulled through the supply chain, rather than being pushed through.

Process Standardization : The objective of making processes standardizing is for providing the streamline flow that is required by lean supply chain management. Also value stream is required to be defined and the supply chain processes your product goes through being mapped as one manages it from generation to consumption. It is required to understand the requirements of resource and information at every processing point or transition point for determining the point where waste can or does exist and can be eliminated.

Product Standardization : Standardization of products is important for continuous flow of supply chain as it ensures that for a component, the company is not locked in to one vendor, and the same component can be used in various other products it manufactures.

Industry Standardization : It is required that standardization extends beyond the organization's own supply chain to the various components and processes that are used across the industry. This leads to reduction of waste in the supply chain management of the firm by reduction of the complexity and costs related to development of products and variation of products through interchangeability, and it decreases the required supporting information complexity.

Collaboration : Collaboration in the company and with outside suppliers and customers is essential for lean management of supply chain. Without it, the efficient flow of information and product will be difficult to be achieved.

Cultural Change : Management of Lean supply chain needs cultural changes usually. In the process, each participant has got to focus on reducing wastage; it must turn into a way of life, not just an aim to be achieved once as part of a new initiative of the organization.

Achieving a lean supply chain is a challenge that cannot be taken lightly. It needs changes in the behavior of people, business technology and processes.

Top executives in the company know that value can be added by lean, but even now a number of them haven't moved past the nascent education stage into the full-scale implementation of lean supply chain. One cause could be that the paradigm shift is yet to be made as to understanding how to implement lean. Metrics need to be involved to track objectives to enable success throughout the supply chain⁷.

In the context of lean, Value is termed as something that can be paid for by the customer willingly. Activities that add value change materials and information into the wants of a customer. Activities that do not add value use up resources and do not in any way directly contribute to the final outcome desired by the end customer. Hence, waste is seen as anything that fails to add value from the perspective of the customer. Process wastes examples are products that are defective, excess motion, processing steps, over-production, inventories, waiting and transportation. Lean principles concentrate on generating value by⁸:

- Finding value from the end customer's perspective
- Identifying a value system by:
 - o Determining all steps needed for value creation
 - o Value stream mapping
 - o Questioning each step by asking why five times
- Lining up value, generating steps so they happen in fast sequence
- Generating flow with competent, accessible, and adequate processes
- Pulling parts, materials, products, and information from customers
- Constantly aiming to improve to reduce and eliminate waste

Some of the steps to design and manage Lean Supply Chains are:

1. Finish all wastage in the supply chain so only value will remain
2. Take into account technology advancements for improving the supply chain
3. Make the usage of customer visible to every supply chain member
4. Decrease Lead Time
5. Generate a level flow/level load
6. Utilize pull systems, like Kanban
7. Grow velocity, throughput and decrease variation
8. Utilize process discipline and collaborate
9. Concentrate on complete fulfillment cost

The modern day supply chain has diverse products owing to mass customization, dynamism of production technology and frequently changing customer demand. Normally the customized process of supply chain requires an assemble to order (ATO) or make-to-order (MTO) kind of operation. By exhibiting control at upstream over the supply constraints, a material flow that is smooth can be got at downstream. Effectively managing operational constraints will result in speeding up of delivery for customers⁹.

Lean Supply Chain Components¹⁰¹⁰<http://www.tompkinsinc.com/lean-thinking-supply-chain/>
Accessed on May 1, 2016

Lean Suppliers : Lean suppliers are capable of responding fast to changes. Their prices are usually less because of the lean processes efficiencies, and their quality has reached the point that the next link inspection is not required. Lean suppliers are able to make delivery on time and they have a continuous improvement culture.

Lean Procurement : Some processes for lean procurement are automated procurement and e-procurement. E-procurement carries out strategic sourcing, bidding, transactions, and reverse auctions via Web-based applications.

Lean Manufacturing : Lean manufacturing systems are able to produce according to what the wants of the customer are, the quantity the customer wants, the time when the customer wants it, and with least amount of resources.

Lean Warehousing: Lean warehousing leads to ceasing of non-value added steps and wastage in processes of product storage.

Lean Transportation

- Mode selection that is optimized and pooling orders
- Combined multi-stop truckloads
- Cross-docking
- Right sizing of equipment

Lean Customers : Lean customers realize their business necessities and hence can identify meaningful requirements. They lay emphasis on speed & flexibility and also expect high delivery performance and quality levels.

The Role of the 3PL : The 3PL role will not only constitute transport and warehouse, but also be serving as a trusted partner in the journey of lean supply chain by implementation of lean in their operation (Pull Systems, Lean Six Sigma, 5S and Continuous Improvement,) specifying problems, executing solutions, and adding of value to complex supply chains.

Agile vs Lean Supply chains : Agile supply chain is made to be highly flexible for adapting quickly to changing situations. This methodology is essential for companies that want the ability of adapting to external economic changes that cannot be anticipated, such as economic swings, technology changes, or customer demand changes.

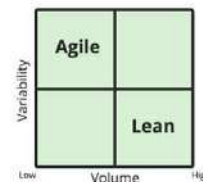
An agile supply chain implementation enables companies to rapidly adjust their sourcing, logistics, and sales¹¹.

Conclusions : For surviving and succeeding, lean is an essential and cooperative process. For growing and improving, supply chains must start adopting lean. There is need for an attitude of continuously improving in lean concepts with a certain bias for action. The lean concepts are applicable to every supply chain element,

including support departments like human resources, product development, finance, marketing, distribution, quality and purchasing. The major challenge is bringing all such areas out of their conventional silos and enabling them to work together for reducing waste and creating flow.

Agile vs Lean Supply Chain: Key Factors – Variability and Volumes

Agile vs Lean



Agility is needed in less predictable environments when volume is low and the need for variability is high.

Source <http://blog.procurify.com/2014/04/22/agile-lean-supply-chain-management/> Accessed on May 7, 2016

(Footnotes)

¹<http://www.fujitsu.com/in/Images/fujitsu-lean-supply-chain.pdf> Accessed on May 1, 2016

² <http://hrcak.srce.hr/file/32934>

Accessed on May 6, 2016

³ http://ocw.mit.edu/courses/aeronautics-and-astronautics/16-852j-integrating-the-lean-enterprise-fall-2005/lecture-notes/7_lean_sup_ch_mg.pdf Accessed on May 1, 2016

⁴ http://logistics.about.com/od/supplychainintroduction/a/Lean_SCM.htm Accessed on April 1 2016

⁵ <http://www.supplychainmusings.com/2010/10/lean-as-supply-chain-strategy.html> Accessed on May 1, 2016

⁶ http://www.plantservices.com/assets/wp_downloads/pdf/080428_VentanaResearch_LeanSupplyChain.pdf Accessed on May 1, 2016

⁷ <http://cerasis.com/2015/05/06/lean-supply-chain/> Accessed on May 7, 2016

⁸<http://www.tompkinsinc.com/lean-thinking-supply-chain/> Accessed on May 1, 2016

⁹<http://www.diva-portal.org/smash/get/diva2:515830/FULLTEXT01.pdf> Accessed on April 25, 2016

¹¹<http://blog.procurify.com/2014/04/22/agile-lean-supply-chain-management/> Accessed on May 7, 2016

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PROJECT DEFINITION FOR A SUCCESSFUL INTERNET-ORIENTED IMPLEMENTATION OF ERP

PRIYESH MISHRA

Project Definition for a Successful Internet-Oriented Implementation of ERP



With half-cooked methods, for example, pushing back-to-back connectivity issues, it would not provide the positive results of connecting ERP to an Internet connection, and the other way around. From the outset, the project must be presented accurately and carefully, both in terms of technical and cost/profit. This requires a two-pronged approach that incorporates a rich database of costs and programs as well as a well-defined collaborative design management process:

- Provide strong, well-thought-out answers to operational challenges, costs, and planning.
- Minimize the risk of installing equipment in new offices and software programs before thinking carefully about a good organization.

The astonishing number of organizations does not match the standard defined by these two characters. Therefore, it is not surprising that they face problems both in the use of ERP and in the use of the Internet. In the event that an organization does not have the right preparation to get results, then it is only natural that they will be disappointed with the outcome of any innovation.

Even large corporations fall into the trap of ignoring the recent results of the commitment they make, or to the potential for a decline. In 1997 the avon.com website was established, selling directly to customers for the first time. This has put pressure on a large number of 500,000 Avon vendors in the US. The results of their website were not encouraging. In terms of experience with new programs and advanced solutions, a sound approach basically consists of two stages.

Stage-1: The first step is a complete analytical task that can articulate project objectives, set basic performance parameters, and define rigorous performance standards to be considered.

Stage-2: At that point comes the establishment of cost and system the boundaries where the work should go. The description method recommended here is widely used.

Therefore, it must be accomplished by a team of skilled professionals, including design staff, costume actors, and editors, as well as information technology. The outcome of the first plan should be a summary of the processes, objectives, and priorities that represent the integration of all ideas – but more around the potential outcome and pitfalls.

The delivery of this planning phase in advance should be followed up promptly with the detailed development of conceptual development and the deployment of key change management strategies during project implementation. It should be noted that with the ever-increasing product life cycles and the rapid rate of technological migration, any process will generally be in a constant state of flux. Therefore, the system should be maintained in a consistent manner.

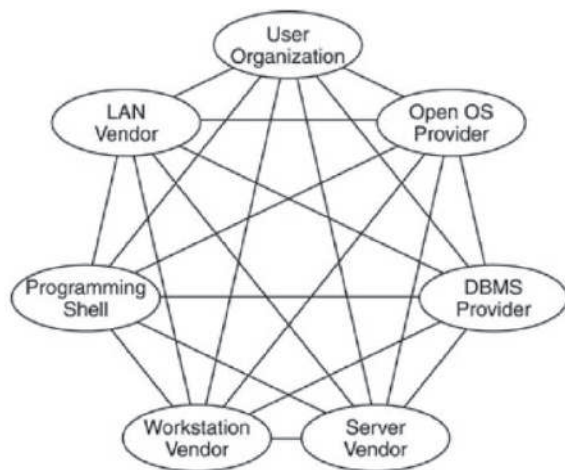
The experience of different approaches teaches that one of the most important risk factors is the point in time selection of the current process and the production tools required for all work equipment. Similarly, as it is important to keep open the changes that will be made to improve this selection during the implementation phase of the new institution. A few organizations have established live change management by task forces. This includes representatives of project managers and project team teams that meet weekly with the project manager and leading engineers.

- Costs and time tables are checked and options are made to include other features.
- Such meetings evaluate the impact on the plan for all proposed changes, before approving it.

The result of good planning and control is that it helps to improve performance faster. Proper implementation requires a well-prepared structure to accelerate successive activities and to avoid delays in bad practices. Tier-1 organizations are concerned about using project monitoring tools that can provide a critical approach.

Analysis tools are needed to determine the flow of strategies by modeling high-performance tasks. Real-time data should provide accurate information on such activities, as well as low sensitivity to changes occurring upstream. Some of the tools available today, such as the Critical Path Method (CPM), have been around since the 1960s, but are no longer effective because individuals and companies have short memories.

In short, here are the basics. In order to work critically, one must plan the various stages of an integrated solution, which aims to reduce the risk of inconsistencies in the first stages by identifying the key factors to be identified and by tracking their progress through the pipeline. Such guidance is needed to ensure the availability of time, product quality, and affordable use. Successful integration requires strong internal resource management, which is why ERP operations, and should provide the assurance that more suppliers will follow the deadline. The abundance of direct links to the Internet increases the challenge of the message conveyed by the two characters above. Drama mimics the early 1990s experience of moving from a single major vendor to a multi-vendor site, as a result of the transition to customer/server. With Internet marketing, ERP implementation is facing a much more complex situation than the one outlined below.



A web of vendor relations underpins a client/server solution; Internet Supply Chain is much more complex

Factors that could jeopardize a synchronized solution should be prioritized in the test sequence to avoid disrupting the schedule later. Integrating ERP software with CPM modeling helps create interactions between production facilities, procurement operations, asset management, and other systems. It also allows for the simulation of default editing rules and tracking methods.

A kingly flexible system should be available, linked to Internet-based ERP implementation, to assist in the identification, suitability, installation, and testing of all

components of an integrated system. This should be done by prioritizing critical issues that could hinder the operation or disrupt the core system, but without losing track of the relationship with the vendor.

Every ERP developer should remember the lessons learned from the 1950s in product management. For example, improving the layout of individual tools alone will not lead to overall product development because there is no separate machine. Therefore, the ultimate goal should be a well-functioning integrated system that not only performs efficiently but also achieves 99.9 percent or better end times.

Whether they point to Internet connections with their suppliers or not to attack the legacy of their legacy programs and processes, companies must use the best business solutions, when used properly, can play the role of organizational change driver. In addition to ERP programs and system-critical approaches, software examples on the shelf include:

- Procurement Management (SCM)
- Customer Relationship Management (CRM)

A well-crafted course that uses Web, ERP, CPM, SCM, and CRM software can provide integrated space with seamless access to a global database. The integration of the above-mentioned routes should lead to operational liaison with management staff, keeping in mind that the required systems are far from small.

Attention should also be given to the fact that the explosion of store layout plans and procurement management tools makes the task of their successful integration more complex. Many retailers offer customized production plans and business planning software as part of the transformation process, but these routes do not work together effectively – if they work collaboratively.

In conclusion, while off-the-shelf software helps to avoid tire replacements and can help reduce development costs, the user organization should do more homework to ensure that existing system products work well and that new acquisition work to interact, not only with those within its facilities but also with and above sales. Once this is achieved, it will allow the person to work closely with all his clients and suppliers and to be aware of the current status of all his products.

Such integration also makes it possible to identify potential leads to potential conflicts and ensure that emergency plans are in place. Without you, a lot of connections can occur at any time, anywhere, leading to inefficient use of automation technology, poor production performance, quality problems, little attention to resource requirements, and other system limitations.

Source: sourcingandsupplychain.com

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PANIC BUYING @ MATERIAL MANAGEMENT

KISHOR NAREWADI

MAHINDRA & MAHINDRA-FES

Kishornarewadi@yahoo.co.in

“15 to 30-minute queues at almost all petrol stations”

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

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

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

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

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



The easy access to social media and information at our fingertips, increases panic buying. It has rapidly become a worldwide incidence. There are some factors allied with panic buying. It is required to psychological understanding of this phenomenon. There is connection between negative feelings and unpredictable events, that lead to changes purchasing pattern. Uncertainty,

fear and anxiety, a lack of trust, the perception of the crisis are factors responsible for this phenomenon. Social behaviors and traditionalism, gaining control is a powerful determination in buyers' behavior. The person's perception of the stress is an important component.

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

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

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

Impact of panic buying: -

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

Approbations: -

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

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

-Jonatan Martensson



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SPEND MANAGEMENT: SPEND ANALYSIS IN SUPPLY CHAIN:

**PALLIKKARA VISWANATHAN FACULTY: N.C MEMBER OF IIMM
BANGALORE BRANCH E-MAIL vid_shy@yahoo.com**

ABSTRACT OF STUDY/REVIEW: When procurement and other supply chain related business functions works closely together the company's financial position or performances can only be seen as an improvement. More and more organization are gaining awareness of this, and are focused on closing the divide between procurement, and the rest of supply chain.

Supply chain spend analysis is a proactive way; to detect risk and for another it will allow to identify unnecessary spending; this helps to plug the holes of finance. There are two good reasons why supply chain spend analysis will help to foster procurement, in supply chain, and collaboration for another thing. If there are ways in which the procurement department can support, supply chain operations continuous spend analysis, is certainly something to consider.

In procurement system spend analysis is to reduce supply chain risk, and if it is used as a single sourcing strategy, the risk of over dependence may be quite transparent. On the other hand if there are multiple suppliers, then there are far less obvious risks, which can be expect supply chain spend analysis and this will bring help to bring these risk into relief, and enable you to take mitigating steps.

It is advisable, and easy to spend on with one supplier to the point where the supplier becomes over dependent on your business or vice-versa, and will create a greater infinity, risk if a change in your strategy cuts of the supply chain, primary source of revenue, and forces him out of the business.

Key Words: Continuous Spend Analysis: Procurement System: Sourcing strategy: Multiple suppliers: Supply chain Operations: Source of revenue:

INTRODUCTION: If an organization is over dependent on the supplier however, changes in its ability to supply, there is a liability to discontinue the business and this need not depend without critical materials goods and services.

Supply chain spend analysis can prevent situations arising from by notifying the overspending with supplier, and necessary action can be taken to reduce spending or activate risk reducing strategy.

Spend analysis to identify unnecessary spending-supply chain organization spend a lot of money, with suppliers of direct and indirect goods, and with service provider, and further more logistic part have their tendency, to be resourceful.

This is an advantage generally as it means that supply chain functions may take the path of least resistance when purchasing decisions, and if the practice is executed with the best intention, can undermine procurement efforts to manage organization spending.

Supply chain spend analysis, will allow procurement team to identify the cause better in spending in all its forms, while the intelligence gained from spend analysis, procurement can be determined how and why supply chain professionals, are by passing controls like preferred supplier contracts, agreed with purchasing. The new set of plans, were to implement new ways to curb unmanaged spending, preferably by making it easier for buyers to adhere to procurement policies and procedures.

PURPOSE OF SUDY: Concentration of Spend analysis on spend management, is the efforts on supply chain management, the aspect that the company can pay off during the bigger times, while its activity which is liable to benefits the entire organization, fostering confidence in the value of collaboration between procurement and logistic. In the functions of supply chain professionals, that can be undertaken to make better decisions on risk reduction, with the information gained from supply chain spend analysis, while procurement can address unnecessary spending to increase effectiveness of purchasing progress, on spend analysis, in just one way in which procurement and logistic, in the lesson that can work harmoniously to improve efficiencies, with the enhancement on financial performance, so as to improve the internal collaboration across functions. It is better for Supply

chain professionals, to get involved with procurement team more closely in the functions of supply chain with the outgoing process on spend analysis.

Spend analysis, on spend management, post information technology would need to be reported, aligned, with upscale for robust performances, in the new world of larger warehouse in supply chain. Spend analysis have to tool for seamless information flow between systems, and logistic providers system for visibility of inventory, track and trace in supply chain. The adoption of technology tools like the artificial intelligence, warehouse management system, Radio Frequency Identification system, SKU's level, barcode, will get deeper penetration in supply chain spend analysis, with specialized spend management, best in classic system of tools like supply chain network, optimizing, the last minute delivery optimization, increasing skilled labor, and increasing of real estate's prices will also force firms to go in for spend analysis, with automated and efficient warehouse.

LITERATURE REVIEW: Goods and Service Tax system is expected to unleash a plethora of opportunities for organized logistic service providers by about 80% in spend analysis in supply chain, with earlier logistic mover companies, which will definitely have an edge in the supply chain industry. But these opportunities come with few challenges for the industry, which need to be tackled smartly for gaining grounds in supply chain. Two major challenges which we for-see are talent availability, with control of cost of service in spend analysis, spend management, in supply chain, but in the long run the impact of Goods and Service Tax will have better advantage, for logistic service providers and its clients, partners in supply chain.

Cargo operation is considered to be a high cost affair, with spend analysis on spend management, as the total value of goods, with the proportion value have increased in the past few years, indicating structural inefficiencies. Factors attributed to the undue logistic cost, are congestion, transaction, with the infrastructure, on spend analysis on supply chain.

RESEARCH METHODOLOGY: Congestion at ports, inland road, and highways have direct impact on augmented cost, with the spend management, on spend analysis, also adhering with the explosion in cargo movements, as this have directly increased inventory costs, as delivery time of cargo increases, which also raises risk for marine cargo insurance, as the cargo in transit for extended period of time in spend management concludes as spend analysis in supply chain.

Transaction cost include various taxes, with insurance cost, of spend management in spend analysis in supply chain which is to be controlled with Goods and Service tax system, which is getting implemented in supply chain.

Infrastructure cost is part of the spend management; in spend analysis which is fast increasing, with the available infrastructure, as this is unable to absorb the impact of the supply chain. The high cost of terminal development in spend management of the infrastructure, have also concluded in spend analysis of spend management, along with relatively latest innovation in finalizing strategies which result in only moderate pace in supply chain spend analysis of spend management, have also become a complicated solution, as there is also lack of proper infrastructure in supply chain.

In cold chain logistics the contents are taken care, also well prepared specifically in order to protect the contents, so as to prevent them from deterioration, since customers has to be afforded with services including temperature controlled active and passive systems, and all temperature controlled storage units are to be monitored for temperature, with proper humidity levels, also with proper on line tracking system, while this spend analysis on spend management, in infrastructure should be found to be useful in supply chain.. Temperature sensitive cargo are stored safely in stored units which are suited for the type of cargo, that are necessarily stored under the temperature range, either containing medicines in temperature controlled storage units so that they are to be transported from storage to emplaned take off, so that all these services require spend analysis based on spend management in supply chain. .

RESULTS: Technology investment is the top priority for any warehouse, like internet of Things, Bar-coding scanning, data analytics, warehouse truck loading automation, advanced images, (3D printing) all aspects have considerable spend analysis, on spend management, with wireless network built between manufacturing, also the warehouses, as a part of an efficient spend analysis in spend management in supply chain. Warehouses, do face high expenditure cost due to wrong shipments done, this lead to reverse logistics, with inaccurate documentation, but robotic solutions can eliminate these challenges, and bring the logistics industry with its global peers, thus bringing in spend analysis, in spend management, on par with supply chain. Imagine if the warehouse needs to send out 50000 different products in day to different regions,

as also these products needs to be picked based upon different protocols, apart from high operational cost, with the complexity of operations, it this may be liable to bring errors, also bring about spend management, in spend analysis, as this can be liable to bring the cost for a robotic solution in supply chain.

Supply chain complexity has significantly increased, as this will continue not to be an easy task, so thus spend management, with spend analysis becoming a part of supply chain: Global manufacturing competitiveness forces companies to improve performances, thus eliminate waste. Increasing quality requirements require additional spend analysis, on spend management, so as to focus on additional with perfect manufacturing, also with good visibility in supply chain. Global sourcing opportunities reduce purchase price, but significantly increases spend analysis, on spend management, also risk, and disruption in supply chain. Commodity volatility is causing many companies to re-think network on spend analysis; with priority on spend management, in transportation in supply chain. Lean manufacturing pressures the entire supply, also the spend analysis, that requires an increased visibility in supply chain. Logistic capacity constraints increases pressure for efficient planning, with efficient spend analysis, on spend management, also keep the lead time reduction in supply chain.

DISCUSSIONS AND FINDINGS: Risk is a threat to damage, liability, loss or other negative occurrence that is caused by external and internal vulnerabilities are a part of spend analysis in spend management, in supply chain. Some of the common unplanned events which incur in spend analysis, spend management, is failures, suppliers non-delivery, transport disruption, is liable to increase cost or decrease in price due to bring in competitive activity, better market conditions, liable for currency failures in supply chain.

Big data is another concept which helps companies to make more sense of the supply chain ecosystem in spend analysis, and risk management. Big data and its analysis inform about the current and future congestion, weather, and accidents. In the sense big data helps to positively and build scenarios, and make decisions, before an incident and supply chain disruption occurs (avoiding supply chain failures caused by labor strikes), and spend analysis is a continuous process in supply chain, since the value of big data is the fluidity and rehabilitating the supply chain. Customer and consumers get their orders and are serviced on time. Big data became a reality through the availability of massive data sets on internet generated

by people using social media, as well as intelligence devices through internet of things, combined with increasing computing power, and also arrival of cloud computing, where spend analysis is given important in supply chain. Big data in supply chain include challenges of capturing data, data strategic data analysis and data sharing, for which spend analysis, on spend management, with the consent of management will help in supply chain.

FUTURE /CONCLUSIONS: Spend Management in the act of spend analysis promotes the overall efficiency, particularly in the areas of procurement, documentation, as this is liable to reduce the report generated, improve the relationship between the vendors, as they even more focus on the better aspects of supply chain.

Spend Management on spend analysis should also include examination of trends, which also establish the Key Performance Indicators, that had to be necessarily to be met with in order to maintain relationship with Key Performance Indicators, which can also be considered as a Quantitative measuring factor in supply chain.

Spend management in supply chain, giving preference to spend analysis, was necessarily to identify organization with overspending in which cost spend can be reduced in supply chain. Spend analysis in spend management can identify the contacts, turnaround meeting expectation, over payments, dues from any duplicate invoice in supply chain, compliances issue incurred, with any cost incurred, penalties, fees not paid, so as to identify such of system in supply chain.

SOURCING OF INFORMATION FROM ELECTRONIC MEDIA:

1. HOW TO CONDUCT A SPEND ANALYSIS TO REDUCE SUPPLY CHAIN COSTS: Author: Sarah Sinnet V.P. of Marketing and Technology:
2. 7 STEPS TO EFFECTIVE SPEND MANAGEMENT Author: Dhivani Parekh:
3. SPEND ANALYSIS: WHAT IT IS: HOW TO GUIDE & EXAMPLES (Tipath)
4. WHAT IS SPEND ANALYSIS MANAGEMENT AND ITS BEST PRACTICES? SAP Ariba:

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STRATEGIES FOR INTERNATIONAL SUPPLY CHAIN DISRUPTIONS

SUMIT WADHAWAN

This article was written in pre-covid times with the intention to device strategies against the major Supply Chain disruptions happened internationally. Ironically when you will go through the same, you will find it so relevant and perhaps this is the best prescriptive strategy to contain Covid19 disruption as well. Let's check it out.

In 2011, four major hurricanes made way across the Atlantic, causing disruption to supply chains. In Egypt's Alexandria and Damietta ports, cargo operations came to a virtual standstill during a period of civil unrest that forced their president out of power. Japan's historic 2011 earthquake and subsequent tsunami caused a major ripple effect in supply chains that transported approximately 22% of the world's silicon wafer supply and 60% of the world's critical auto parts.

Supply chain disruptions are inevitable after large-scale disasters and political unrest. While they're unavoidable, the more companies can do to improve their supply chain visibility and agility, the better prepared they are to mitigate the impact of the disaster as well as navigate around the daily disruptions, such as market fluctuations in capacity and pricing.

Below are a few key steps to prepare your company for events that disrupt the chain:

Change the mindset from Supply Chain Management to Exceptions-Based Management

In the world of logistics where supply chain visibility reigns, it's important to ask yourself why you need visibility. It's not enough to know that data is being integrated up and down the supply chain; what's valuable is how the data is used. Supply chain visibility gives companies access to data that can be used for tracking key performance indicators and other metrics. If there's an unexpected event that takes place along the supply chain, it's going to show in the numbers. Exceptions-based management takes advantage of the visible supply chain and uses the

data to identify a problem and make fast, accurate decisions based on this data.

Determine Visibility Levels

Another key step to event preparedness is to identify the key players or partners in the supply chain that need visibility and what level of visibility is needed. A nimble supply chain is reflective of the ease at which data is accessible. For a supply chain with many partners and ERP systems, this can be very complex. For example, the accounting department might require access to data that is used to determine the value of the perpetual inventory — or the inventory that is currently being transported. Or, suppliers at the point of origin might need access to the TMS in order to input the original booking data that follows that shipment all the way through the supply chain. By analyzing all the departments, partners, and ERP systems that can be integrated across the supply chain and by providing the various levels of access needed, these companies have fast access to data when needed in order to react quickly to supply chain disruptions.

Work with a provider with Strong Technology Integration Expertise

A supply chain is only as strong as the information pipeline that serves as its foundation. A robust transportation management system that is integrated with multiple data repositories is going to have more information that can be accessed and shared throughout the system. For this reason, it's important to think of logistics partners as technology partners first, as it takes skill and knowledge to integrate with multiple ERP systems across multiple borders.

Integration of ERP and purchase order systems into a global TMS system to give clients visibility all the way down to their purchase order and SKU levels. By having access to this depth of information, companies are able to rate their suppliers' performance regarding on-time shipping or categorize purchase orders and

shipments based on inventory needs. This dynamic environment for data management is only possible if the logistics company has the technological expertise and a transportation management system that is scalable to the complexity of the integration.

Incorporate Compliance Intelligence and Proactive Notifications into the System

A key to exception-based management is defining those exceptions and building the logic into the global transportation management system that can flag the data and build intelligence to proactively manage this information. There's a tremendous amount of power in the ability to get notifications on exceptions. If, for example, you're moving a significant amount of volume and experience a disruption, you don't have to sift through data to find the issue and manage the volume. The data is being pushed to you via proactive notifications. Proactive notifications should also define the trigger or response to specific types of exceptions, whether it's a late departure or a compliance issue for an export. The contingency should be built into the logic, so some of the decision-making has been pre-determined prior to the exception taking place.

This proactive intelligence emphasizes the power of the data, which is much more dynamic than a simple track-and-trace mentality that is often defined by visibility.

Use timely and accurate data as Upstream as possible

Another way to mitigate disruption or risk is to promote access to data that provides real upstream visibility. View the beginning point of the supply chain at the point of the purchase order issuance, which takes place long before the actual shipment. For example, ask customers to give access to their purchase orders long before shipments embark. This data is used to communicate to shipping lines the expected capacity needed three to five months down the road. This data is important for managing allocation plans, volume, and origins.

By accessing data sooner in the supply chain, such as booking details, volume, and origins, you can pre-plan to avoid some of the disruptive events that can happen in the marketplace related to capacity and pricing. Supply chain visibility is something that most companies can achieve, but what makes a supply chain resilient is real, upstream visibility of highly accurate data.

Identify important Key Metrics for Score Carding and Analysis

Score carding and tracking of key performance indicators are also important in identifying exceptions and circumventing disruption. For example, a comparison of actual shipping dates to planned shipping dates can be used to analyze the performance levels of origin suppliers. Measuring carrier accuracy and carrier performance are also crucial to determining capacity and timeliness. The challenge in looking at these metrics is being able to access repositories of data when working with multiple carriers, especially with international shipments that can cross multiple countries through a variety of modes.

It's important to ask logistics providers about relationships they have with organizations like INTTRA, which provides a web-based portal and data warehouse for shipping carriers. Some additional key metrics to consider are the landed cost of the product, down to the SKU, versus the standing cost of the product. This helps to identify the purchase price variance. To access this granular level requires integration with the company's accounting systems and understanding the accounting practices. Measuring transit times is also critical to supply chain best practices. Transit time is dependent on multiple factors, like the rate agreement based on capacity, level of standing with the carrier, speed of the transit, and comparisons to current price indexes. By managing a multitude of metrics, when an exception or severe disruption occurs, this data gives companies the agility to make alternate choices as needed.

Access to the right data gives companies the ability to make fast, accurate decisions based on evidence that can be used not only to manage events but to also circumvent disruptions on a daily basis that can be very costly to a company. The key success factor is having a mindset about supply chain management that is designed to identify the exceptions.

Real-time, upstream view of data, as well as access to historical data and forecasts, are an important combination in using supply chain visibility to proactively manage events that can quickly interrupt the supply chain.

Source: sourcingandsupplychain.com

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A CONVERSATION ON THE FUTURE OF ELECTRIC VEHICLES AND CHARGING INFRASTRUCTURE

TREVOR PAWL

Trevor Pawl, Michigan's Chief Mobility Officer, speaks with Dedrick Roper, Director of Public-Private Partnerships at ChargePoint — the largest network of electric vehicle charging stations in the U.S. — about the future of electric vehicles, highlighting the importance of advancing charging infrastructure.

Trevor Pawl, Michigan's Chief Mobility Officer, connected with Dedrick Roper, Director of Public-Private Partnerships at ChargePoint to discuss the future of electric vehicles, highlighting the importance of advancing charging infrastructure.

ChargePoint is the largest network of electric vehicle charging stations in the U.S., including stations throughout Michigan. It offers premium, convenient charging solutions for customers, employees, and fleets by manufacturing charging station hardware, developing software and network capabilities and providing nonstop driver support.

Pawl and Roper, who also serves on one of the electrification workgroup supporting the Michigan Council on Future Mobility and Electrification, discuss the benefits and challenges of advancing the EV industry, including what needs to be done to push toward a sustainable EV future.

See below for excerpts and key themes from the conversation and watch the full 30-minute conversation here:

Public-private partnerships are vital to advancing EV charging infrastructure, and Michigan has seen success in this space

Pawl: What are some innovative ways you've seen the public and private sector come together to advance charging infrastructure? And in the future, what would be a home-run public-private partnership?

Roper (ChargePoint): We've had a lot of experience working on various deployment programs throughout the nation, and it's kind of like the saying, 'it takes a village.' So, the state government, local government, utilities, charging operators, site hosts, etc — everybody coming together and bringing their own unique value, really spreading the burden, making sure everyone has skin in the game. From a state government perspective, that includes setting big goals, convening the stakeholders, bringing everyone together, providing the true north and then bringing in the utilities. Utilities are so critical to the build out of this infrastructure.

I think Michigan, the Department of Environment,

Energy and Great Lakes (EGLE) and utilities have done a great job with the Volkswagen settlement with the program structure. It was designed such that the utilities had one-third of investment, the state had one-third of investment and the private sector applicant had one-third of investment, and its resulted in a very low investment from the state — I believe 27% of those projects were built out on the corridors.

There's no silver bullet or one specific partnership. It's about bringing all the stakeholders together and working in the various regions to make sure that everyone's bringing their value and moving in the direction of that true north.

Developing the EV industry equitably requires collaboration with communities

Pawl: Energy equity is a critical issue here in Michigan as EV adoption rolls out across the country. How can we ensure the equitable development of the EV industry and provide pathways for low-income residents to not only have access to and own these vehicles, but to also know where the charging infrastructure is and have that charging infrastructure be no different than anywhere else?

Roper (ChargePoint): There have been a lot of states that have set mandates for investment in low income, disadvantaged communities. But that's not enough. I think it takes engagement with the local community groups that have been doing like-minded work — working on economic development, working on providing affordable housing — and really arming those groups with the education and the talking points about the benefits of electric vehicles.

Early adopters were really focused on the environment, and that's great, but there are other benefits to electric vehicles. For example, the handling and the ride experience are superior to gas vehicles and the total cost of ownership is lower than a traditional gas vehicle. It's a matter of connecting with the community groups that have been doing the work, that are the known entities, and arming them with the other benefits outside of the environmental factors that matter to the low-income family or that matter to the fleet operator with five vehicles. It's really about how you package the information and the communicators of that information.

Keeping the costs of charging electric vehicles as low as possible will help accelerate consumer adoption of EVs.

Pawl: How are you approaching mechanisms to reduce the total cost of ownership for electric vehicles? How can ChargePoint create pathways to increase the availability of EV charging without passing the financial burden to property owners, particularly in underserved areas?

Roper (ChargePoint): ChargePoint as a service is a subscription model, whereby we provide the charging station, the software and we guarantee uptime, and it's paid for on an annual basis as opposed to all upfront. So, this works really well for organizations that don't have a sufficient capital budget, you can roll it into your operating budget, and it's cheaper.

This is a product that we rolled out about two years ago and got a lot of good learnings from it. And now we're looking to make those products even more affordable, so that your annual payments are even less. But beyond that, your operating costs, electricity as a fuel, varies in the cost of goods. So, you can imagine, if you own a DC fast charger, and suddenly, you need to pump a lot of energy into a vehicle, you get hit with some demand charges from the utility. So, we've developed some power management tools that help charging station owners control that power. As more cars begin to plug in and request energy, we have tools and features that can kind of flatten that energy spike and keep the cost lower for you as a charging station owner.

And there are many other ways that we help drive down costs, such as the ability to overload circuits and the ability to overload panels while still operating the charging stations and being able to share power dynamically. The combination of all these software tools overall will help enable charging station owners to keep their fueling costs down over time.

Opportunities in Michigan to push electric vehicles forward

Pawl: What have you seen in terms of financial incentives around the country that have really worked for folks that you'd love to see in Michigan?

Roper (ChargePoint): First-come-first-serve rebates in earlier markets work really well, and they're really effective at attracting targeted investment. So, there are ways through your incentive program designed to identify priority communities, and some of those programs will offer an additional incentive for certain priority populations.

When there are federal investments, state investment, utility investments, I think it's really important for those agencies to work together to make sure that the incentive programs work well together so that you can have some stacking opportunities. You make sure that the private sector continues to invest, and it really helps the investment spread a lot further.

Focus on EV adoption at the local level to push toward an EV-future

Pawl: We're seeing a surge in investments and growth in EV manufacturing and EV adoption in Michigan and

across the nation. And this is stimulating the pipeline of public-private partnership opportunities that you're seeing. But the government can be slow, it can be not as strategic at times and can be saddled by legacy. Where is there room to grow as it relates to what state governments can do to be more proactive strategic partners in the clean energy transition? What can we be doing better?

Roper (ChargePoint): I think the government can do a better job at more regional focus on EV adoption, convening stakeholders in those areas, and really addressing the challenges at the local level. There's a different challenge in the urban community as opposed to the rural — there's no one-size-fits-all. So, the government can be slow at times, but the government is a great convener, and the government gets all these various stakeholders moving in the right direction. I think it needs to work on more convening, getting down to the local level and looking at the issues for that specific area with those specific utilities.

Charging infrastructure plays a key role in the business community

Pawl: Fleet owners and operators are increasingly exploring electrification opportunities. How are you looking at the build-out of multi-state charging networks, particularly along high-capacity freight routes? How are you seeing the industry address some of these larger freight needs?

Roper (ChargePoint): The regional collaboration across the states is great. Again, it's the true North, and it's getting everyone working together and thinking about the network across state lines. From an industry perspective, we are working with our peer networks to establish roaming agreements, and these roaming agreements enable drivers to seamlessly charge on multiple networks. We also have peer-to-peer agreements with the majority of the networks here in the U.S.

Fleet electrification can be a bit intimidating for fleet operators. So, coming in with the vehicles and the charging stations and really laying out a map to get you started, but also thinking about the future is helpful. When you're installing a charging station, you should always be thinking about what you will need in the future because it's easier to make those capacity and utility upgrades when you have the ground open than to come back and do that later. So, having the OEMs and the charging station operators come and meet with the fleet operator and lay out that whole roadmap, working together to handle everything from the technology and design to looking at the duty cycles of the vehicles, really putting that complete package together, is how we're going to move this market forward

Source : www.michiganbusiness.org/news

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ACCELERATING DIGITIZATION IN THE HEALTH AND LIFE SCIENCE SECTOR IN THE RIGHT WAY

GAURAV AGGARWAL, VICE PRESIDENT, GLOBAL LEAD - EVERYTHING ON AZURE SOLUTION STRATEGY & GTM AT AVANADE

Significant strides are being made for merging the latest digital outcomes in the healthcare and life sciences field, but there surely is disconnectedness of data which can prove to be a major drag in the system. It can turn productive collaboration much tougher.

The healthcare organizations are ramping up their digital activities, however, the efforts remain disconnected and disparate, misguided, and misplaced. The leaders/management must focus on how to derive new value using data as an asset to drive transformation and optimization for more effectiveness.

The dynamics of the healthcare ecosystem are witnessing a robust waking as the Covid 19 pandemic has cast unparalleled demands on the industry. While all other business is at a stall at the moment, the healthcare industry is continuously going through unprecedented adoption and innovation, demonstrating its resilience over time.

These innovations must stand the test of time and save human lives. An effective healthcare response during the pandemic commands catering to overall healthcare needs. The system is now overwhelmed by COVID-19 cases and should gear up for routine medical services that are being delayed or canceled.

The pandemic has proven to be the epitome of a multidimensional and multidisciplinary problem, which needs a concrete digital makeover integrating science and technology.

The application of digital technologies in pandemic management and response, highlighting ways in which successful countries have adopted and integrated digital technologies for pandemic planning, surveillance, testing, contact tracing, quarantine, and healthcare.

Digital health technology can facilitate pandemic strategy and response in ways that are difficult to achieve manually. However, due to the ongoing pandemic, healthcare and life sciences have accelerated their digital advancements. The players in this field would generally map and implement their digital strategy over one-to-years depending on the initiatives. However, these policies and regulations were being executed within a matter of days or weeks.

Advancement in the sciences and healthcare sector is constantly evolving. The results if packaged into a strategy and pushed into execution in a haste can have

damaging effects. An article in Gartner stated, "Optimization and modernization are the foundation for digital advancement. Healthcare and life science CEOs and boards of directors want to digitally transform and innovate and have learned that they cannot achieve their business growth goals using outdated technology. Legacy technology, when not well-integrated with systems of record and innovative IT applications, is a constraint on digital progress."

There has to be a balance and systems should be in place for healthcare staff to be able to deal with digitalization. How soon are the medical practitioners able to embrace the digital changes in their workflow is also a key reason for the slow assimilation of digital technologies in the healthcare regimen. This pushes the disengagement process between technology, healthcare staff and patients a bit further, leaving gaps still to be filled. Most of these changes are long lasting, so it has to be done eventually through training sessions, workshops of the medical staff and most importantly by monitoring the implementation system as it can have bearing effects on the healthcare system.

Significant strides are being made for merging the latest digital outcomes in the healthcare and life sciences field, but there surely is disconnectedness of data which can prove to be a major drag in the system. It can turn productive collaboration much tougher. There have been situations when hospital administration could not leverage data analytics to provide greater care to serious patients.

Another huge gap that is split wide open due to digitalization in the healthcare sphere, is adherence to privacy regulations. Though crores of rupees are being invested for rapid advancements for digitalization of medical organizations, interoperability is still not there today. This is critical as technology cannot enable communication between healthcare organizations, medical staff and the patients.

An article in Gartner expressed, "Value-based care is not just a payment mechanism — it is a fundamental systemwide shift from isolated health interventions to comprehensive population health. To succeed, CIOs must use technology to make care and population health management efforts person-centric. This includes, in some countries, bridging gaps between national health policy and funding models by taking cues from exemplar countries' successes in personalizing services to address consumers' social

determinants of health.”

The article further said, “Life science CIOs operate in a challenging environment fraught with rising development costs, volatile regulations and rampant medical innovations. CIOs’ engagement with business leaders is critical to ensure that IT’s efforts are result-focused and deliver the value of digital technology across the enterprise. Life science CIOs must optimize the deployment of value-oriented solutions, while also remaining compliant.”

The value of digital technology is nothing but ‘disruptive technology’. This can complicate, rather than simplify, the fundamental patient care and medical treatment process. This needs to be addressed. For medical practitioners and healthcare providers managing multiple technologies, platforms and access credentials etc can prove to be a headache if it is not user friendly, if it does not have required data access and if it doesn’t exchange analysis. The very foundation of the healthcare system is the “wealth of data” that is produced daily in different regions and geographies. Implementation of technologies, digitization etc are all useless if this data is not harnessed, analyzed and transformed into usable information eventually.

This sector needs practical technologies that help streamline communication between medical practitioners and patients, identify and provide information from its processes in the disparate health systems, and help channelize the volume of clinical data that is being captured at different platforms. These technologies should also accommodate the patients who need access easy-to-understand clinical records and access resources before engaging in self-care treatment programs.

The digital technologies will keep communication in the healthcare sector disconnected if it doesn’t allow reliable connectivity virtually anytime anywhere. This aspect is definitely lacking at the moment. According to a research survey by Accenture, “Healthcare organizations need to become more collaborative in creating new digital healthcare experiences to help customers feel engaged, important and informed.” About 45% of surveyors who were part of the Accenture survey said that rapid advancements in new technologies and scientific innovations are positioned to disrupt the industry. In other words it should be understood that digital technologies should make people feel comfortable that they feel safe and secure with their healthcare experience and data.

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Source: ETHealthworld.com



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.



NUCLEIC ACID TESTING (NAT) FACILITY IS A CONFLICT OF INTEREST AT VARIOUS GOVERNMENT MEDICAL RESEARCH INSTITUTE-A CASE STUDY

PROF. DEEPAK MALVIYA,

PROFESSOR & HEAD, DEPARTMENT OF ANAESTHESIOLOGY & CCM,

DR. RAM MANOHAR LOHIA INSTITUTE OF MEDICAL SCIENCES,

LUCKNOW drdm58@gmail.com

Key Words: Design, Build, Supply, Install, Finance, Operation, Maintenance and Transfer of Technology at no cost basis to the Institute against the purchase of reagents & consumables on donor basis, TTIs = Transfusion Transmitted Infections Window period of HIV, HBV & HCV and US-FDA approved State of Art Technology; MP-NAT & ID-NAT worldwide available, Anti competitive specifications & approach and Ethics of purchase.

Introduction : Nucleic Acid Testing (NAT) is not yet mandatory for screening blood units in India but it has been started in India to enhance Blood safety. Many Govt. Institute of national importance like AIIMS, New Delhi, Rishikesh, Jodhpur, Bhubaneshwar & Patna, AMU-Aligarh, SGPGIMS & KGMU, Lucknow have implemented Nucleic Acid Testing (NAT) for the purpose of blood safety. In fact, implementation of NAT is an innovative approach in Blood Banks for reducing the window period and identifying the true Sero-prevalence and incidence of Transfusion Transmitted Infections (TTIs) i.e. HBV, HIV and HCV. In other words, NAT is a highly sensitive way to reduce the window period of HIV, HBV and HCV and improves the blood transfusion safety.

Infectious Marker	ELISA Screening Window Period	NAT Screening Window Period
HIV	21 days	2.93 days
HBV	38 days	10.34 days
HCV	60 days	1.34 days

In India as per regulatory requirement of the Drug and Cosmetics Act of 1940, (1st Amendment Rules 1992), it is mandatory to test each donated unit of blood for markers of HIV-I and II, HBV, HCV, Malaria and Syphilis.

Need of NAT for Screening of Blood in India: The problem to Blood borne infections poses a major threat in all developing countries like India to safe blood transfusion due to less number of voluntary donations,

non-uniformity of screening policy, use of less sensitive assays tests for viral screening and high prevalence of viral diseases like Hepatitis B and C and HIV. According to Drugs and Cosmetics Act of India, it is mandatory to screen the Blood units for serological markers of HIV, HBV, HCV, Syphilis and Malaria. The need to enhance the Blood safety by introducing better “**State of art of technology**” for testing of blood units cannot be over looked. The traditional method of screening blood donations is known as Immunoassay (or Serology) testing for screening the Blood of all donors.

Impact of NAT for enhancing Blood Safety: Nucleic Acid Testing (NAT) is a molecular technique for screening blood donations to reduce the risk of Transfusion Transmitted Infection (TTIs) in the recipients. The purpose of introduction of NAT in Blood Banks is to providing additional layer of blood safety. In the developed countries it was introduced early 2000s. NAT is a highly sensitive test. There are two types of state of art technology is available in India or globally. One is known as Mini pool NAT (MP-NAT) and second one is known as Individual Donor (ID-NAT). Mini pool NAT (MP-NAT) performed on pooled samples, whereas ID-NAT testing each donation individually. ID NAT may be more sensitive as compared to pool testing. However, both the State of art technology are US FDA approved and worldwide well known.

Why NAT required in India: NAT Technology is a highly sensitive and advanced methodology for screening blood units. NAT is recommended for occult hepatitis and extremely important fact for India. Non Seroconversion or delayed Seroconversion disease is missed by Enzyme Linked Immuno Sorbent Assay (ELISA) but can be picked up by NAT. There is a “**conflict of interest**” between “**Mini Pool NAT versus ID NAT**” in India.

Economic benefits in India: “Blood is a drug”. It saves three lives from single safe blood donation. The cost of disease burden and treatment of HBV and HCV is very high and can’t be overlooked in view of millions of

carriers already in the country and the lack of facilities and resources of treatment including Hepatocellular Carcinoma (HCC) or liver transplantation.

Conclusion: NAT technique has a high impact on blood safety. The conflict of business between MP-NAT versus ID-NAT has adverse effect on constructive competition and Indian economy.

A brief note on bidding process in India: There are a variety of different methods of procurement of “**Goods & Services**” in a Government aided & funded Medical Research Institute / organization. All different modalities of procurement of Goods & Services can be used for specific task or depending upon the nature & aims of the Tender. Aim of the Tender helps in formulation of Scope of work, specifications, eligibility criteria, suitable terms & conditions etc. Tendering is a process by which competitive bids are invited from interested & eligible bidders. It is a common procurement process to obtain the rate of Goods & Services from prospective bidders.

At the same time, tendering is an important process by which a fair & best value is obtained. This requires clear project definition, specifications, scope of work of the Tender. Tendering process is adopted for fairness, clarity, simplicity and accountability and to ensure the “**True Competition**” is achieved. All bidders should be able to bid “**on an equal basis**”. Tendering process is not always easy to understand in every procurement activity, if “**Tender Inviting Authority**” (TIA) has made the “**Tendered Specifications of Requirement of NAT**” facility with the help of some experts, users & Doctors in such a way that can be fulfilled only by a specific firm or firm specific specifications cannot be quoted & offered by other bidders. It amounts to restrictive conditions under public buying rules.

Prime facie, it amounts to **Anti-competitive practices, Anti-Competitive specifications, Anti-competitive terms & condition, Anti-competitive agreement, Anti-competitive approach & methodology of procuring entity & Anti-competitive behavior of Tender Inviting Authority**. All unfair trade practices are going on in all leading Govt. Medical Research Institutes like AIIMS. It comes under the ambit of “**Competition Commission of India**” (CCI). The specifications were framed in such a way that only one firm fulfils the pre-condition(s). Success or failure of bidders largely depends on projected specifications and its evaluation criteria & methodology adopted.

The selection process on P-3 basis at AIIMS New Delhi, Rishikesh, Jodhpur, Bhubaneshwar & Patna

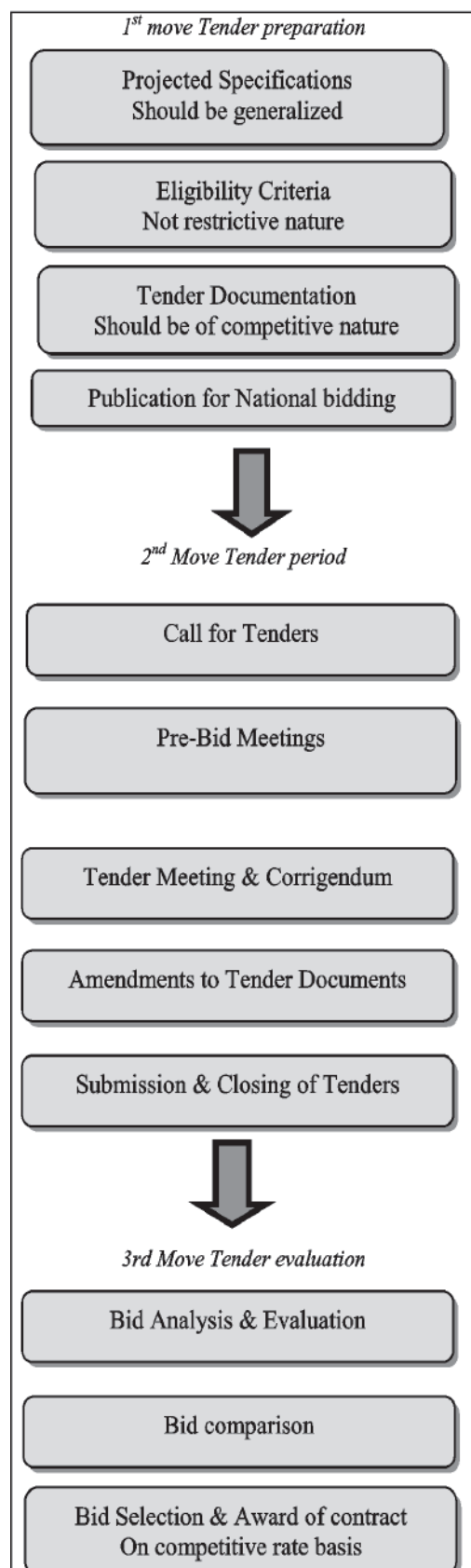
The selection process on P-3 basis at AIIMS New Delhi, Rishikesh, Jodhpur, Bhubaneshwar & Patna

Selection Process	Description	Restrictive Condition
On	AIIMS, New Delhi	System should ID-NAT
Proprietary	AIIMS, Rishikesh	
Article	AIIMS, Patna	
Basis	AIIMS, Jodhpur	
	Bids were invited by way of public advertisement with restrictive conditions It is self-evident from their NIT	
Selected / approved / Bidders	It is obvious from their procurement procedures that all AIIMS invited a pre selected & pre identified State of art technology. The tendered specifications were established & formulated for a particular firm. This is in contravention of the provisions of Competition Act-2002 as amended from time to time	
Pre-qualified Bidder	Pre-qualification criteria were framed in such a way that pre-known vendor will qualify.	
Direct purchase	Contract was awarded on Proprietary Article Basis. Not on competitive rate basis.	

Tender analysis report of AIIMS New Delhi, Rishikesh, Jodhpur, Bhubaneshwar & Patna

Document type	Description
Notice to Bidders	Almost None
Conditions of tendering	Restrictive Nature
Tender form and schedules	Not required in Proprietary Articles Due to Anti Competitive Specifications
Conditions of contract	Anti Competitive Agreement
Specifications	Not Generalized
Drawings	Mandatory to have the drawings & layout of proposed for NABL Lab
Additional information	Payment will be made on Valid test basis but the invoice will be made on BOQ basis Due to GST regulations

Process flow for open e-tender of NAT (SOP)



Key parameters for evaluation of NAT

Sl.	Particulars	1 st Bidder	2 nd Bidder	3 rd Bidder
1	Cost Per Test Reportable (CPTR) @ Rs...+ GST			
2	US FDA approved Yes/No	Yes/No	Yes/No	Yes/No
3	Country of Origin certification			
4	Name of India Agent/Importer			
5	Number of Installations in Govt. Institutes/Organizations			
6	Price pattern of tests on valid test basis	Yes/No	Yes/No	Yes/No
7	Support & Service in operation	Yes/No	Yes/No	Yes/No
8	Latest Restrictive conditions of Govt. of India that No Chinese Company can bid directly or through their Indian Agent	Yes/No	Yes/No	Yes/No
9	This refers to Office Memorandum No. F. No. 6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division, dated 23 rd July 2020. compilation	Yes/No	Yes/No	Yes/No
10	Fundamental Principles' of public buying has been amended by Govt. of India. Tender compliance report	Yes/No	Yes/No	Yes/No
11	Basis of procurement on Least cost basis (L ₁) / QCBS/ Single Source Selection (SSS) /Proprietary basis	Yes/No	Yes/No	Yes/No
12	Grounds of rejections of bid/ Cause of rejection			
13	Duration of contract 5 years or 10 years			
14	Gap Analysis report on existing system			
15	Lab infrastructure development support, NABL, Workshop, Seminar, Publications etc. Free of Cost/ Chargeable	Yes/No	Yes/No	Yes/No
16	Projected footfalls of donors in a Month / Year in the hospital			

Discussion:

Success or failure of a bidder largely depends on projection of specifications and its evaluation criteria. Bid of NAT should be on an equal basis.

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CAN INDIA BE THE NEXT GLOBAL MANUFACTURING HUB?

DR. KOGILA BALAKRISHNAN IS DIRECTOR, CLIENT AND BUSINESS DEVELOPMENT (EAST ASIA) AT WMG, UNIVERSITY OF WARWICK; ADJUNCT PROFESSOR AT MALAYSIAN NATIONAL DEFENCE UNIVERSITY; AND FORMER UNDER SECRETARY, MALAYSIAN MINISTRY OF DEFENCE.

SAURABH KUKREJA IS A WMG ALUMNUS WITH M.SC. IN MANAGEMENT FOR BUSINESS EXCELLENCE.

Summary: The COVID-19 pandemic laid bare the vulnerability of existing global manufacturing supply chains. It is likely to lead to global suppliers rethinking the resilience of their supply chain networks. Can India take advantage of this opportunity to bolster its industrial and commercial base? This issue brief sheds light on India's manufacturing lag and discusses the various policy initiatives taken by India to strengthen its manufacturing sector. It concludes by suggesting some measures that could help India leapfrog into achieving the status of a global manufacturing hub.

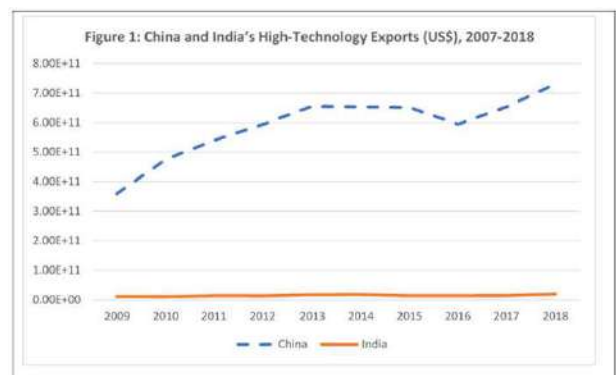
The COVID-19 pandemic has revealed the inherent weaknesses in the existing global supply chain and the over-reliance on China's manufacturing industry. Countries such as Japan and the United States (US) have announced their decision to "on-shore", or pivot, their supply chain out of China. The Japanese Government announced a supplementary budget of US\$ 2.2 billion for the fiscal year 2020 to assist Japanese companies in diversifying their production bases, primarily through the return of high-value manufacturing activities to Japan, or redirecting them to the Southeast Asian nations.¹ Currently, Japan relies on China for more than 20 per cent of its requirement of parts and materials, mainly electronic components such as motherboards, RAM chipsets and hard disk drives.² In this regard, Japan and India share strong security and trade relations underscoring the Indo-Pacific alliance. On September 3, 2020, Japan added India to the list of relocation destinations as part of its effort to move manufacturing bases out of China.³

Meanwhile, Prime Minister Narendra Modi has called on the Indians to seize the chance presented by the disruption to global supply lines. The Atmanirbhar Bharat Abhiyan (Self-Reliant India Movement) launched by Prime Minister Modi in May 2020 is aimed at merging the global with the local, generating manufacturing investment, and becoming the new global nerve centre of multinational supply chains in the post-COVID world.⁴ However, despite long-term aspirations to become a high-value manufacturing hub, India remains lagging in this area. The pandemic presents new opportunities for India to rethink its national industrial strategy, especially policies concerning the growth of its manufacturing sector. This leads to the question: can India position

itself to take advantage of the opportunity that awaits to be the next global manufacturing hub?

According to the United Nations Industrial Development Organisation (UNIDO), in 2019, India ranked 42 out of 152 countries, with manufacturing value added (MVA constant 2015 US\$) totalling \$430.25 billion, or equal to 15.5 per cent of its gross domestic product (GDP).⁵ At the same time, China ranked second with MVA (constant 2015 US\$) of \$4105.87 billion or equal to 28.8 per cent share.⁶ In 2019, India's manufacturing portfolio concentrated mainly on chemicals and chemical products (18 per cent); coke, refined petroleum products and nuclear fuel (13.6 per cent); food and beverages (9.4 per cent); basic metals (8.6 per cent); and motor vehicles, tractors and semi-trailers (8.1 per cent).⁷ China, however, has one of the most diverse manufacturing portfolios in the world with medium and high-tech industry value added at 41.5 per cent (2017). China's manufacturing composition (2019) consisted of basic metals (14.3 per cent); chemicals and chemical products (10.8 per cent); food and beverages (8.9 per cent); machinery and equipment (8.5 per cent); and radio, television and computer equipment (6.8 per cent).⁸ Figure 1 illustrates how China's high-tech export has been growing exponentially since 2007, while India's has remained flat.

Figure 1: China and India's High-Technology Exports (US\$), 2007-2018



Source: "High-Technology Exports (Current US\$)", The World Bank, 2007-2018 (Accessed May 12, 2020).

However, India's policy on foreign direct investment (FDI) and ease of doing business has improved tremendously since 2015. According to the World Bank's Ease of Doing Business Ranking 2020, India jumped 79 positions from 142 in 2014 to 63 in 2019. At the same time, China had climbed up from position 90 in 2014 to 31 in 2019.⁹ India would have to capture a place among the top 50 in the ranking to become a global player in manufacturing.

India's Manufacturing Lag

There are several reasons why India lags in the manufacturing sector. China has outperformed India, especially in areas critical to boosting manufacturing output such as starting new businesses, access to electricity, registering property, and performance in enforcing contracts.¹⁰ Additionally, the Chinese Government also pursues a strict performance-oriented approach to ensure that the industry stays productive and highly competitive. Interestingly, until the early 1990s, both countries shared similar levels of manufacturing and export capabilities. China's big leap came in 1978 when Deng Xiaoping announced the "Open Door" policy. China's long-term modernisation plan and market-oriented reforms created a strong private sector alongside state-owned enterprises. China built its base by slowly strengthening internal markets and bolstering the supply chain base of local industries to become the largest global manufacturer.

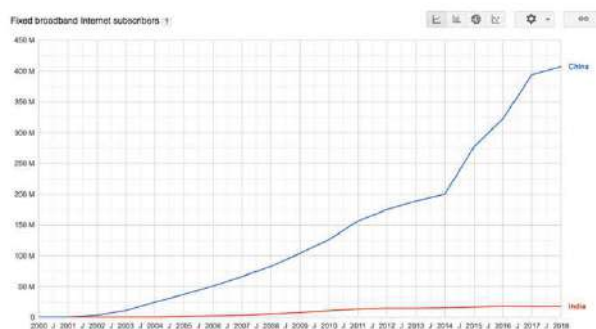
Pre-COVID, in 2019, China's FDI inflow stood at US\$ 140 billion, whereas that of India's stood at \$49 billion.¹¹ India liberalised its economy just over a decade after China in 1991, but the move was more cautious than that of China's, accompanied by sectoral caps. It was only in June 2017 that India abolished the Foreign Investment Promotion Board (FIPB), an inter-ministerial board that granted prior governmental approval in mandatory sectors. Currently, India allows FDI with foreign equity ownership up to 100 per cent through the automatic route for all sectors except for a few prohibited sectors.¹² For example, in the defence sector, foreign equity through FDI has been revised from 49 per cent in 2017 and capped at 74 per cent in 2020 as well as conditioned to obtain government approval beyond this figure based on access to modern technology.¹³

India's bureaucratic setup, however, continues to mire foreign companies due to weak legal and regulatory systems. In addition, land, labour and law largely fall under the State List, which foreign companies see as further hurdles as each state may use different systems of approval. India is still being flagged out for its complex regulatory environment. In contrast, China's leaner regulatory environment has been far more flexible at the state and regional levels. China's FDI policy, reduced logistical costs, faster on-line approval processes and e-filing, all translate into an effective business management process that appeals to foreign investors.¹⁴

India also continues to see a lack of investment in connectivity and in both physical and digital infrastructure development. This includes roads,

highways, ports and electricity generation. Most of India's manufacturing items are still transported using ground transport. Meanwhile, China has heavily invested in digital infrastructure development, especially in broadband connectivity. Until 2001, China and India had similar numbers of broadband users. However, after this point, China's numbers exploded (Figure 2).

Figure 2: Fixed Broadband Internet Subscribers for China and India, 2000-2018



Source: Fixed Broadband Subscriptions—China, India, World Bank Open Data, 2000-2018 (Accessed May 12, 2020).

Similarly, Internet users as a percentage of population for China drastically increased after 1998. China has invested in digital infrastructure to ensure upward social mobility, access to education, and in creating a better quality of life for its people, resulting in a workforce now able to contribute effectively to the economy and the high-value manufacturing sector. India has a pool of cheaper labour resource compared to China and other Asian countries, but the state and businesses have not channelled investments into the necessary human capital development to undertake high-value manufacturing activities.

India is also dependent on China for specific critical components. The cell phone industry, for instance, imports approximately 75 per cent of its components from China, with only 12 per cent being manufactured domestically. The chemical used to make cathodes and battery cells for electric vehicles, printed circuit boards, camera modules, and semiconductors are all imported from China.¹⁵ India has been less successful in developing industrial clusters focussed on research and development (R&D) and a diverse and high-quality supplier base, both of which are vital for enabling the growth of an advanced manufacturing and innovative technology sector. China has developed industrial clusters across the country since the 1950s. It has a robust industrial supply chain base coupled with universities supplying a skilled workforce in places like Shandong, Guangdong, Xinjiang, and Jiangsu.

In the Doing Business 2020 report, one of India's highlighted shortfalls was access to electricity. There have been constant issues with reliability of supply procedure, high power outage in factories, difficult access to line and high costs to get connected to the electrical grid. A 2010 study quoted that the electrical

shortage in India reduced the average plant's revenue by six to eight per cent and that the production surplus dropped by 10 per cent, of which roughly half is due to the cost of backup generators.¹⁶ To the contrary, China has improved tremendously in these areas but also additionally by investing in building significant new renewable energy production facilities and nuclear power plants.

India's Manufacturing Policy Initiatives

The Indian Government is committed to improving the ease of doing business and luring FDI into the country. In fact, since the outbreak of the COVID-19 pandemic, it has announced several measures and offered various incentives to attract global investment.¹⁷ According to the latest UN report on world investment, the FDI inflow in China, despite being the second largest recipient of FDI after the US, saw only a marginal increase of 2.1 per cent in 2019. On the other hand, the FDI inflow in India rose by almost 20 per cent in 2019.¹⁸ The COVID-19 supply chain disruptions and lessons learnt may further work to the advantage of India in terms of making it an alternative FDI destination.

India's journey in bolstering its manufacturing sector had been challenging, yet beset with opportunities. India has consistently pushed for policy reforms to increase the country's manufacturing output that lingered at 15–16 per cent of the total GDP since the 1980s. Although India has introduced industrial policy reform since 1948, the 1991 reform was most significant in driving structural shift, enabling the private sector to assume a much larger role in all sectors of the economy. In 2011, the Department of Industrial Policy and Promotion (DIPP) under the Ministry of Commerce and Industry introduced the National Manufacturing Policy (NMP). Its main objective was to enhance the share of the manufacturing sector in GDP from 16 per cent to 25 per cent by 2022, create 100 million jobs and support required skills development programmes. Other key objectives of the NMP included the creation of national investment manufacturing zones (NIMZ), development of small and medium enterprises (SMEs), implementation of industrial training and other skill upgradation measures, promotion of green manufacturing as well as rationalisation and simplification of business regulations.¹⁹

In September 2014, Prime Minister Modi launched the "Make in India" initiative to renew focus on 25 key sectors ranging from automobiles to information technology and business process management (BPM).²⁰ The initiative is built on four pillars: policy initiatives and new processes, robust infrastructure, focus sectors, and a new mindset approach.²¹ In May 2017, the Ministry of Defence's Defence Acquisition Council approved the "Strategic Partnership" model which enables private companies to tie up with foreign players in manufacturing high-tech defence equipment such as submarines, fighter jets, helicopters, and armoured vehicles in India.²²

The most recent policy initiative, announced by

Finance Minister Nirmala Sitharaman on May 17, 2020, under the Atmanirbhar Bharat Abhiyan (Self-Reliant India Movement) launched by Prime Minister Modi on May 12, targets reforms across seven sectors while emphasising self-reliance based on five pillars: economy, infrastructure, system, vibrant demography, and demand.²³ All these initiatives are an attempt to push for high-value manufacturing activities to be moved to India. For example, the government launched a Phased Manufacturing Programme (PMP) aimed at increasing the number of smartphone components produced domestically and to invigorate the mobile handset manufacturing industry. India has recently invested in several high-profile manufacturing sectors. For instance, Mumbai got its first metro coach manufactured by the state-run Bharat Earth Movers (BEM) in September 2019. In February 2019, the Union Cabinet passed the National Policy on Electronics (NPE) which targets \$400 billion worth of electronics manufacturing outcome for India by 2025.²⁴

Further, on May 12, 2020, Prime Minister Modi also announced a special stimulus package of Rs 20 lakh crore, which equals to 10 per cent of India's GDP, aimed at making India independent against tough competition in the global supply chain.²⁵ On May 17, Finance Minister Sitharaman announced detailed economic measures that included increased borrowing limits for state governments, from three to five per cent of the gross state domestic product; privatisation of public sector enterprise (PSEs), except in strategic sectors; and various incentives for micro, small and medium enterprises (MSMEs).²⁶

The series of policy reforms and notable improvements in the business regulatory framework has had a tremendous impact on the development of India's ability to attract FDI and trade in the manufacturing sector. In fact, the World Bank's Doing Business 2020 report ranked India as one of the 10 most improved economies in terms of ease of doing business score, especially due to reforms in paying taxes, trading across borders, and resolving insolvency.²⁷

Other positive developments included improvement in India's ranking in award of Construction Permits, from 184 in 2014 to 27 in 2019; and in Getting Electricity, from 137 in 2014 to 22 in 2019. Among 190 economies, India now ranks 13 in Protecting Minority Investors and 25 in Getting Credit.²⁸ The construction sector has seen the highest growth of FDI equity during the last two fiscals (FY 2017-18 to FY 2019-20) at 190 per cent, followed by the telecommunications sector at 67 per cent, the automobiles sector at 35.12 per cent, and the services sector at 17 per cent. ²⁹ India has also successfully moved towards online procedures and approval processes for tax filing platforms, property transfer, and showing greater transparency.

Conclusion

India has a huge young demographic, between 40-60 per cent of the country's population, which requires jobs. India would have to commit to more

policy reforms to be able to further scale up its manufacturing capacity. It must continue to significantly invest in the development of physical infrastructure and digital connectivity—high-speed train networks, new airports, seaports, roads, and broadband. It is important to offer efficient connectivity between industrial clusters and cities ensuring good transport links and logistics that support an effective and reliable industrial ecosystem, which meets the demand of the international supply chain.

India also needs to liberalise its education sector and invest in international education and research partnerships. These efforts should be fortified by a government-led public-private partnership investments in R&D, innovation, entrepreneurship, and the strengthening of the industrial supply-chain in high-value manufacturing sectors, which will contribute to the development of regional clusters. One such initiative is the C-130J programme that created a partnership between the Lockheed Martin research programme and Indian universities to work with local industries and mentors from the Defence Research and Development Organisation (DRDO) to help design specifications.³⁰

To support industrial clusters, India must consider prioritising investment into alternative renewable energy sources, such as solar and wind power. Currently, India is struggling to provide cheap access to electricity and clean water. Cheap renewable energy can generate capability and reach remote rural areas across the country; the surplus can be used for electric vehicles, such as scooters and rickshaws, which can then be locally produced for domestic and export markets. At the same time, these green technology related energy management initiatives will also address externalities such as high levels of carbon emission, pollution, and poor air quality and contribute towards sustainable manufacturing.

Additionally, there is a need to improve and follow-through India's regulatory reforms such as labour and land acquisition reform, commercial law approval processes and regulations, tax credits and grants for investors in the emerging high-value manufacturing technology as well as enforcement of contracts. India can also introduce incentives to encourage advanced technology innovations in areas such as 3D printing and automotive real-time processes in manufacturing.

Last, but not least, the Indian small and medium enterprises (SMEs) sector should be incentivised to become internationally competitive and export-driven. Both state governments and the central government must coordinate and introduce incentives that will draw FDI at regional levels, as has been seen in Telangana and Tamil Nadu. The government needs to further reduce red tape and overly complex approval processes and promote innovative and efficient business processes that will attract more foreign investors.

India can emerge as the next global manufacturing

hub. In times of deep economic crisis, such as the one brought on by the COVID-19 pandemic, a swift government intervention through strong fiscal response and injection of capital into the economy is necessary. While the economy as a whole needs significant support, the government must see this as an opportunity to strategically invest in high technologies for priority sectors such as agriculture, electronics and electrical equipment, including computers, telecommunication and space. It should inject aggressive economic incentives and review the current business practises to bring in more trade and investments into advanced manufacturing sectors.

At the same time, the commercial sector, especially electronics and electrical sectors, must be incentivised to attract FDI from global electronic component manufacturers, review existing business models, and invest in upskilling and retraining as a move to enhance overall industrial capability and capacity. India should now turn to greater public-private partnership collaborative model, where the government and industry take collective responsibility for promotion and growth of the Indian manufacturing sector. Finally, India should capitalise on its diaspora and international industrial partnership programmes, such as the Access India Programme (AIP) introduced under the United Kingdom India Business Council (UKBIC), to generate new opportunities for innovation and entrepreneurship.

Views expressed are of the author and do not necessarily reflect the views of the Manohar Parrikar IDSA or of the Government of India.

- 1. Takashi Tsuji and Kazuhiro Furuyama, "Japan preps first subsidy to company moving production out of China", Nikkei Asian Review, April 21, 2020 (Accessed June 21, 2020); and "Japan reveals 87 projects eligible for 'China exit' subsidies", Nikkei Asia, July 17, 2020 (Accessed September 30, 2020).
- 2. Eulises Quintero, "Top 10 Companies Outsourcing electronics manufacturing in 2019", Titoma, 2019 (Accessed October 15, 2020).
- 3. Takako Gakuto, "Japan adds India and Bangladesh to 'China exit' subsidy destinations", Nikkei Asia, September 04, 2020 (Accessed September 30, 2020).
- 4. "Let us resolve to make India self-reliant: PM Modi", narendramodi.in, May 12, 2020; "Aatmanirbhar Bharat merges the local with the global: PM Modi", narendramodi.in, September 03, 2020. For more details, see "Archives For Aatmanirbhar Bharat Abhiyan", narendramodi.in (Accessed October 16, 2020).
- 5. See Country Profile India, UNIDO Statistics Data Portal (Accessed October 15, 2020).
- 6. See Country Profile China, UNIDO Statistics

Data Portal (Accessed October 15, 2020).

- **7. Country Profile India**, n. 5.
- **8. Country Profile China**, n. 6.
- **9. "Doing Business 2015: Going Beyond Efficiency"**, World Bank, Table 1.1 Ease of Doing Business Ranking, 2014, p. 4 (Accessed October 22, 2020); and **"Doing Business 2020"**, World Bank, Table 0.1, Ease of Doing Business Ranking, 2020, p. 4 (Accessed August 25, 2020).
- **10. "Doing Business 2020"**, n. 9.
- **11. "Global FDI Flows Flat in 2019: Moderate Increase Expected in 2020"**, United Nations Conference on Trade and Investment (UNCTAD), Investment Trends Monitor, Issue 33, Figure 3, January 2020, p. 3 (Accessed November 05, 2020).
- **12. "Consolidated FDI Policy (Effective from August 28, 2017)"**, Ministry of Commerce, Government of India, Chapter 5: Sector Specific Conditions on FDI, p. 22 (Accessed September 30, 2020).
- **13. "Review of Foreign Direct Investment (FDI) Policy in Defence Sector"**, Press Note No. 4 (2020 Series), FDI Policy Section, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India, 2020 (Accessed October 16, 2020).
- **14. Alexander Chipman Koty, "China's FDI Policy: Wider Market Access, Regional Incentives Announced"**, China Briefing, October 09, 2018 (Accessed June 22, 2020).
- **15. Prabha Raghavan and Karunjit Singh, "Self-Reliant India: Which Sectors Depend on Imports, and Which Do Not"**, The Indian Express, May 14, 2020 (Accessed June 21, 2020).
- **16. "Doing Business 2020"**, n. 9, p. 31 (Accessed August 25, 2020).
- **17. See "Government of India's Measures to Boost Business, Improve EoDB & Welcome FDI During COVID-19"**, Strategic Investment Research Unit (SIRU), April 30, 2020. Also see **"After tax incentives, govt brings in FDI reforms to propel growth"**, The Times of India, August 28, 2019 (Accessed September 30, 2020).
- **18. "World Investment Report 2020: International Production Beyond the Pandemic"**, UNCTAD, June 2020, p. 36 (Accessed November 5, 2020).
- **19. "National Manufacturing Policy"**, Press Note No. 2 (2011 Series), Manufacturing Policy section, Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, Government of India, November 04, 2011 (Accessed October 19, 2020).
- **20. These 25 sectors include:** automobile;
- automobile components; aviation; biotechnology; chemicals and petrochemicals; construction; defence manufacturing; electrical machinery; electronic systems; food processing; IT and BPM; leather; media and entertainment; mining; oil and gas; pharmaceuticals; ports and shipping; railways; renewable energy; roads and highways; space; textiles and garments; thermal power, tourism and hospitality; and wellness. See **Sectors, Make in India** (Accessed September 17, 2020).
- **21. "Make In India: The Vision, New Processes, Sectors, Infrastructure And Mindset"**, Make In India (Accessed October 03, 2020).
- **22. Author's interview with a Lockheed Martin official based in South Korea, May 10, 2020. Also see "TATA Sikorsky JV Delivers First Fully Indigenous S-92® Helicopter Cabin"**, Lockheed Martin, October 24, 2013; and Manju V., **"First indigenous S-92 helicopter cabin by TATA Sikorsky JV"**, The Times of India, October 24, 2013 (Accessed October 23, 2020).
- **23. "Finance Minister announces Government Reforms and Enablers across Seven Sectors under AatmaNirbhar Bharat Abhiyaan"**, Press Information Bureau, Government of India, May 17, 2020 (Accessed June 23, 2020).
- **24. "Cabinet approves the proposal of National Policy on Electronics 2019"**, Press Information Bureau, Government of India, February 19, 2019 (Accessed October 24, 2020).
- **25. "Let us resolve to make India self-reliant: PM Modi"**, narendramodi.in, May 12, 2020 (Accessed October 16, 2020).
- **26. "Finance Minister announces Government Reforms and Enablers across Seven Sectors under AatmaNirbhar Bharat Abhiyaan"**, n. 23.
- **27. "Ease of Doing Business"**, Make in India; and **"Doing Business 2020"**, World Bank, p. 8, 10. (Accessed October 16, 2020).
- **28. "Ease of Doing Business"**, Make in India (Accessed October 16, 2020).
- **29. "Sectors Attracting Significant FDI in India in 2019-20"**, Make in India (Accessed October 19, 2020).
- **30. "Five Indian university teams accept Lockheed Martin challenge to design C-130J"**, Indian Defence Review, November 26, 2014 (Accessed November 03, 2020); **"C-130J Super Hercules"**, Lockheed Martin (Accessed November 05, 2020); and **"Indian university students participate in C-130J Super Hercules roll-on/roll-off competition"**, Business Standard, August 25, 2015 (Accessed November 05, 2020).

Source: <https://idsa.in/issuebrief/india-next-global-manufacturing-hub-kogila-saurabh-131120>

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INDIAN TOUCH TO INDUSTRIES

- INDIAN “LALA” STYLE-

RAJIVE GOEL, VICE PRESIDENT, HINDUSTAN COMPOSITES LTD,
goel@hindcompo.com

Corona pandemic has brought scores of industries in India to a new concept. The concept of understanding, hand-holding, peer support within the supply chain of the industries.

This concept is not new, and was prevalent in India in late 80's. The concept entails that all the stack holders in our supply chain (suppliers, customers and others) are part of a large family. And, every member in the supply chain faces issues of one type or the other; during such times the particular member is to be supported and hand-held. Such a member can be any of the supplier or the industry itself.

Through present paper, I want to highlight and elaborate the hand-holding of the industries by their respective suppliers and also vice-versa.

Professionalism & Modern Management Principle

With the advent of the opening-up of the Indian economy and subsequent globalization trends; many new business management concepts came into India and became part of the Indian business rules.

The advent of globalization brought many modern management principles. These management styles required that :

- 1) Codification of all the working rule and regulation
- 2) Writing everything in paper
- 3) Contract to be signed between the two parties
- 4) Possible business scenarios to be visualized and to be mentioned in details
- 5) Nothing is to be done beyond contract terms
- 6) No leeway or concession is to be allowed beyond contract terms
- 7) Strict rules for supplier industries, governing supplies
- 8) And, matching tough rules for purchaser industries, governing payment and off-takes

Most of the Indian industries are working as per above mentioned guide-lines. Either in collaboration or in association with various MNC industries.

Then corona pandemic comes, and it changes everything.

Indian Lala Style : The Indian Lala style envisages that each and everything cannot be visualized, codified and written down.

That to run Industries, we need mutual trust and understanding; and more of hand-holdings if the situation demands.

It's not that these new management concepts were new to Indian businesses. But, most of these concepts were prevailing in unwritten and in informal ways. These concepts were mostly driven by mutual understanding and trust build-up among industries and businesses at their owners' levels.

We may call this as “Lala style”.

Supply Cycle

The 1st and immediate impact of the corona was on supply side. With everything under lock-down, there was all-round chaos. This phase was explainable and understood.

However when the un-lockdown process started, then also things were not moving in tandem. There were multiple issues being faced by every industry and numerous challenges were cropping up.

During this phase, most of the industries faced these situations :

- 1) written commitments were not being honoured
- 2) formal POs not completed
- 3) pending orders not taken care of
- 4) supply time-lines were not honoured

And, then most of the business people realized that formal and standard business practices do not always work. And, bingo. We all realized the beauty of our old business style.

We realized that corona was an unforeseen and unpredictable phase. And to tackle that we require to be sensitive, empathic and accommodative towards each-other. In other words we realized the true essence of our old business systems, which were practiced by older generations of Indian business people.

- 1) Business partners, held meetings and resolved the issues in amicable way

- 2) As overall industrial situation was very dynamic and was evolving on everyday basis, it was also realized that a modified business agreement cannot be drafted. And the business has to work on mutual trust and understanding
- 3) Formal POs, which were issued earlier were not enforced and taken to court premises
- 4) Pending and running PO quantities were also not enforced
- 5) In multiple cases, new orders were issued with liberal supply terms or very less supply conditions
- 6) In many cases, earlier negotiated supply prices were either forgone or suitably modified
- 7) In multiple cases, suppliers also went out of the way to get the materials reach the customer end.

And, all the above was done with discussion, mutual understanding, acknowledging each-other's challenges. There was also less written things, and more of trust and spoken words.

The Indian Lala system was truly in full play.

Fund Cycle : The way corona impacted supply cycle, and it also impacted the fund cycle of industries.

As we all know, most of the industries in India work on the basis of credit-payment-cycle. And, unlike many foreign countries, these credits are not backed by any bank or financial instruments. So, when the corona pandemic hit, the fund movement across industry and market segments also got impacted.

Unlike foreign countries, most of the industries did not rush to courts to get the payment commitments honoured or fulfilled. Nor, the industries went to various other Govt. forums to get their dues settled. And, these money was all due and in true sense payable.

Again, our traditional Indian Lala style was in full play.

The two parties sat together or rather discussed together on some virtual platform. The fund scenario were accounted for and payment terms were suitable modified. Or in most cases the payment terms were left to evolving situations, again with mutual trust and understanding.

End-Note ;

Going by the above, I am not advocating or recommending that we all should revert back to the old style.

However, we should also realize and acknowledge that our traditional Lala style is not all that useless and to be forgotten. There is role and importance for both types of business styles and principles and relationships.

The modern business practices shall continue to play their role and shall guide us through most of our day-to-day business and industrial activities. And somewhere we have to preserve and maintain and nurture our traditional Lala style too.

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COMMODITY INDEX

Commodities	Days's Index	Prev. Index	Week Ago	Month Ago
Index	3348.2	3357.1	3435.2	3353.6
Bullion	7084.7	7154.8	7233.3	7337.9
Cement	2497.5	2497.5	2497.5	2497.5
Chemicals	1944.6	1944.6	1944.6	1902.5
Edible Oil	3182.2	3182.4	3172.7	3105.6
Foodgrains	2536.5	2535.6	2565.3	2566.0
Fuel	3603.8	3603.8	3603.8	3615.2
Indl Metals	1920.0	1920.0	1921.9	1919.9
Other Agricom	2437.7	2436.2	2437.7	2389.5
Plastics	2855.4	2855.4	2824.8	2428.6

Source: ETIG Database dated 23rd September 2021

SEVEN QUALITIES TO ENSURE A SUCCESSFUL WMS IMPLEMENTATION AND LONG-TERM SUCCESS

JEREMY HUDSON

Implementing new software is a challenge even with the best of software partners assisting, you will be launching a very complex project and you will never be able to assemble the perfect team for the task, so what defines a software partner?

Choosing the Right Software Partner : It's no secret, supply chain firms run most efficiently when high-quality, purpose-built software supports their operations.

But who is behind that software? Do you really know your software partner? How do you know you're getting the best value? How can you be sure your software partner has your best interests in mind?

To answer these questions, let's first examine what defines a software partner vs. a software provider, implementer, or integrator. From there, we can begin to look at the key qualities that mark a good one.

What is a Software Partner?

A software provider is someone who sells you the software itself. They give you permission to use the software and collect the associated fees. Whereas, a software implementer is the one who installs the software for you.

A software integrator, on the other hand, is someone who makes sure the software you purchased communicates with the other programs in your IT stack. They make sure your WMS communicates with your TMS, accounting system, etc. It is not unusual for one entity to provide two, or even all three of these services, at one time. That's where the lines begin to blur.

For the purposes of this article, we'll use the generic term "software partner" and use it to mean the entity that you purchase the software from who also implements and integrates that software.

Finding the Right Software Partner: Seven Essential Qualities : This sounds obvious but bears repeating. To ensure the best fit for your organization and

project, begin by assessing the qualities of your potential software partner during the selection process. Consider these seven qualities:

1. Long-term value

Supply chain software changes rapidly in response to technological advances, so think long-term;

- § **Does your potential partner understand your particular technology trajectory?**
- § **Are they capable, or have they already implemented solutions incorporating such technologies as robotics, AI, or the Internet of things?**
- § **Are they cognizant of what's changing in the supply chain industry and be able to bear with you into the future?**

2. Support : When it comes to support, you want a partner who will be there for you when the going gets tough;

- § **What kind of support do they offer?**
- § **Who answers the phone?**
- § **What does their support structure look like?**
- § **How do you engage?**
- § **How do they charge?**

After you meet the sales team, make sure you also get to know the support team.

3. Training : Once your product is up and running, how will your team get up to speed on the system – fast? What assets can your partner provide to teach you the software? As turnover occurs, what can they do to ensure your new hires learn the system quickly and consistently?

4. Integration : As previously mentioned, most supply chain companies run a number of different systems. Therefore, you need a partner that can ensure your new software plays well with your existing system(s), so that as orders come down through it, they get processed as quickly and efficiently as possible. Has

your partner participated in integration projects before? Who have they worked with in the past? Don't be afraid to ask.

5. Sustainability : A good software partner will do everything possible to ensure your self-sustainability. Learning the software is part of this. But, more importantly, your ability to resolve problems internally, update your system as new features and functions release, and take care of issues without waiting for hired help to come on the scene will go a long way to keeping you in the flow and self-sufficient.

6. Good Collaboration : Consider your software partner as an extension of your core team. Allow them to shoulder the project along with you and treat them with the same openness, trust, and respect you would expect from any long-term business partner. Seek out someone who is curious about your business, who asks questions, makes suggestions, and doesn't just accept the status quo as the best possible way forward. Find someone who takes an interest in your business and mission and isn't afraid to speak up. Make sure they comprehend your business, their business, and the road ahead.

7. Caution AND Creativity : When picking a software partner, pick one that is both cautious and creative at the same time. Cautious, in that they resist the temptation to introduce too much customization into your solution. This helps avoid getting written into an inescapable coding corner. It also avoids improperly compensating for a weakness in some other part of your process that has no business being written into the software itself. Creative, in that, they can imagine solutions within the confines of the software that extends its usefulness beyond what merely meets the eye.

Now that you have an idea of the qualities you're looking for, what else do you need to consider when searching for the right software partner?

Focus on the Relationship : Whatever services your software partner provides, you will always get the most out of your software investment when you have a healthy relationship with your chosen partner. You want someone who will demonstrate a vested interest in your success, which only comes if you apprise them of how you define "success" in terms of clear-cut KPIs. Share your goals with your software partner, so that they can help drive the results you want. Let them know what you think needs changing and what doesn't. Then, hold them accountable by

providing clearly defined KPIs upfront. This keeps the relationship clean and honest from the start.

Plan for the Future : With supply chain operations changing all the time, you'll want a partner who understands your technology continuum in the context of future operations. For instance, if you are a 3PL, and you have variable customer requirements for temperature-controlled vs. ambient shipping environments, you will need a software partner who first, grasps the issue and can then configure a solution that meets the changing nuances of your business.

After your software has been installed, you don't want to see revolving costs coming in every time a new customer comes on board or a change in plans unfolds.

In short, let them know what you see coming so that they can plan with you to mitigate inevitable costs as future requirements come to light.

Check References : When talking with a potential Software Partner, ask how other companies they've worked for in the past are doing and what lessons they can share from their experience that might make your operation more effective. A well-versed, experienced, software partner can become an incredible research resource as you continue to improve your own business.

Let's Make This Happen : The process of implementing new software is a challenge even with the best of software partners assisting. The truth is, you will be launching a very complex project and you will never be able to assemble the PERFECT team for the task. You can, however, assemble an excellent one.

If you properly vet your partner, communicate your goals through open discovery, take a long look at what's ahead – for your business and your technology stack – and keep an open mind going forward. New software implementations are a part of any growing, thriving supply chain organization. Make the most of your opportunities to improve.

Hopefully, by now it's clear that having a reliable, fully-vetted, and capable software partner can add great value to your supply chain software investment, from day one and well into the future

Source:supplychain247.com



WHY THE 2030 SUSTAINABLE DEVELOPMENT GOALS MATTER TO PACKAGING PROFESSIONALS

In September, the United Nations adopted a final roadmap for the 2030 Sustainable Development Goals (SDGs). Broadly speaking, SDGs are targets for governments, communities and institutions to further international development.

The 2030 agenda builds on the Millennium Development Goals set in 2000 and includes 17 goals touching on a variety of social, environmental and economic issues ranging from gender equality to accessible and affordable clean energy.

But do the 2030 SDGs have any impact on the work of packaging professionals? Yes and it's a renewed opportunity for the packaging industry to be part of the global solution.

Packaging plays a critical role in enabling development it helps food last longer, it can transport water to water-scarce areas and it dispenses medications to help people live healthier lives...just to name a few. These are some of the necessities that form the foundation of a quality life, and packaging is the tool that delivers and protects those basic needs.

While packaging solutions can enable a better world, we need to be mindful that packaging doesn't disappear into a vacuum. When packaging and products are sent to markets around the world, they are released into the hands of consumers.

Particularly in expanding markets such as India, China and Brazil social and economic transformations in cities result in increased consumer waste production. The World Bank reports that "more than 50 percent of the world's population lives in cities, and the rate of urbanization is increasing quickly." With limited space and high population density, waste management is a huge challenge that comes with urbanization. Without external, legislative requirements or economic drivers controlling the recovery of packaging, those materials often up as litter or buried in a landfill.

Many developing or underdeveloped areas still struggle with establishing a waste management infrastructure to recapture consumer waste and packaging materials. In response, the World Bank posits that "citizens and corporations will likely need to assume more responsibility for waste generation and disposal, specifically product design and waste separation." Companies and packaging professionals are poised to take the lead on sustainable development by focusing on a few key 2030 SDG goals, including Goal 11, Goal 12, Goal 14 and Goal 17.

Goal 11 aims to "make cities inclusive, safe, resilient, and sustainable." One of the key targets specifies to "reduce the adverse per capita environmental impact of cities by paying special attention to air quality and municipal and other waste management."

In a similar vein to urban waste management challenges, Goal 14 aims to "prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution."

These two targets are directly tied to waste management and litter control—tasks we often view as municipal or government responsibilities beyond the control of industry. But we're beginning to see the tide turning as more and more packaging professionals become interested in improving recovery rates of their packaging.

The Ocean Conservancy recently released a collective action plan to curb the leakage of plastics into the oceans involving a coordinated effort between industry, non-governmental organizations (NGOs) and government. In its report, the Ocean Conservancy found that a significant portion of marine debris comes from emerging markets and that most marine debris consists of low-grade and low-desirability plastic and plastic films that are not picked up by waste collectors due to their low market value and demand. Simply put, without a demand for these materials, they're tossed aside.

The collective action plan aims to bring together industry, NGOs and government because the solution to pervasive pollution needs to be multidimensional and involve cooperation from all parties and influencers throughout the supply chain. Packaging professionals in particular are in an advantageous position to make critical design choices that increase recovery of their products, such as structural integrity (flexible pouches that don't require tearing off an opening) and material preference (using a widely recyclable plastic).

Goal 12 speaks more intimately to the everyday work of the packaging industry. Goal 12 aims to "ensure sustainable consumption and production patterns" by "encouraging industries, businesses and consumers to recycle and reduce waste" and "supporting developing countries to move towards more sustainable patterns of consumption by 2030." The packaging industry can encourage sustainable production and consumption patterns by reducing unnecessary packaging and designing for sustainable end-of-life disposal options. This can take on a number of forms, ranging from designing for compostability, using widely recyclable materials, incorporating more recycled content, creating producer take-back programs, and encouraging packaging reuse or repurposing.

For the packaging industry, the 2030 SDGs and the UN are not key drivers that impact day-to-day work, but we're seeing a shift where sustainability is woven into the foundational ethos, the bottom line and future growth goals to drive business forward. With COP21 underway this December, 2015 has become a critical year for determining a path forward on global environmental sustainability. No singular entity can enact these measures alone, and that brings us to our last applicable goal: Goal 17, which aims to revitalize the global partnership for sustainable development with collaboration from governments, civil society and the private sector—packaging professionals included

Source: supplychainminded.com



BLOCKCHAIN'S CRITICAL ROLE IN SUPPLY-CHAIN TRANSPARENCY

ROBERT GALARZA, SCB CONTRIBUTOR

As global markets have expanded, supply chains have become increasingly complicated. Even the most basic ones involve numerous moving parts, each tied to specific times and locations.

Managing these complex systems is an art unto itself, but it all comes down to one fundamental principle: transparency, or being able to see exactly where an item in the supply chain is currently located, where it came from, and where it's going. And in the world of advancing technologies, there's no better tool for achieving this than blockchain.

Blockchain technology is best known for its role in support of cryptocurrencies like Bitcoin, functioning as a ledger that records and tracks transactions. But unlike a traditional ledger, blockchain exists on a distributed network that makes it instantly accessible by anyone in the network with the right permissions. And, most importantly, because blockchain transactions must be agreed to be made on each ledger across the network, they cannot be altered, hidden, or otherwise tampered with. In an era where shared reality can be hard to come by, blockchain represents an important example of indisputable truth.

Here's how these qualities make it uniquely suitable for supply-chain applications.

Transparency and Trust

Blockchain creates a unique record for every transaction within a supply chain. This solves one of the biggest weaknesses in today's enterprise resource planning systems. As information and inventory flows are codified and recorded in the blockchain ledger, supply-chain managers gain complete visibility into the transactional history between retailers and suppliers.

This also eliminates many blind spots that exist in traditional record keeping, and provides a level of visibility that improves coordination between parties. Back-and-forth communications are reduced, because there's a single source of truth that each party can refer to. Instead of calling a distributor to see whether a shipment is on its way, the ledger provides dynamic access to that information. Moreover, blockchain adds the vital factor of reliability to the equation. By their very nature, blockchain ledgers can't be altered unilaterally. They record any and all changes made, and require consensus among the network to make them, so even if an item is deleted, there will be a record of when it happened and who removed it.

Real-Time Visibility and Reporting : Immaculate record keeping gives blockchain the ability to combat one of the biggest pitfalls in supply-chain management: execution errors. Inventory mistakes, duplicate payments, lost shipments — all of these can be difficult to detect and even more difficult to track down after the fact.

Blockchain provides an identifying element to every step within a supply chain, and it does it in real time. This makes it possible to see mistakes when they happen, and to adjust instantly as necessary, whether it's correcting misinformation or updating schedules. This sort of early detection can avoid costly problem-solving later on.

Of course, some problems can only be discovered after the fact. If a shipment of lettuce is discovered to be contaminated by E. coli after it hits the market, a blockchain ledger will make it relatively easy to trace that contaminated sample's history all the way back to the farm that it came from. You'll be able to cross-reference everything it came into contact with, and begin your recall efforts with pinpoint accuracy. A blockchain ledger allows you to track recalls as they happen, providing full confidence that end consumers, as well as the brand's reputation, are being protected.

Blockchain's ability to provide unique identifiers for every step of a complex process sets it apart as the tool of choice for supply-chain managers. Imagine every transaction recorded with absolute certainty, and each item tracked accurately throughout the entire supply process. That's what blockchain gives you the capability to do, and no other technology comes close to providing that same level of trust and transparency.

While it may have come to prominence as a method of securing cryptocurrency transactions, blockchain is well-suited for use in supply-chain management and a host of other areas as well. It's only a matter of time before this cutting-edge technology becomes the industry standard, and "full visibility" goes from being a supply-chain manager's dream to everyday reality.

Robert Galarza is CEO of TruTrace Technologies (<https://trutrace.co/>) developer of a blockchain platform that tracks intellectual property for the cannabis industry.

Source : www.supplychainbrain.com

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GEM PORTAL 2021 | BUY & SELL ON GEM PORTAL

GeM Portal 2021: Indian Government's shift towards digitalization and encouraging maximum use of technology has open the new doors to development. In a past few years, we can see that India has shown a tremendous growth in implementation of technology in its various fields. The launch of **GeM Portal** is another milestone in its endeavour of making India a Digital nation.

GeM basically stands for Government e-Market Place. It is an online portal of Indian Government where common users i.e. buyers and sellers can easily procure goods and services. It is basically a virtual market where physical presence of users is not required. It is hosted by Directorate General of Supplies & Goods (DGS&D).

It is a technology enabled, user friendly and dynamic platform for the procurement of products & services by the Government Officials. The launch of GeM portal is an important step in transforming the way of Public Procurements as it is one of the top priorities of the current Government.

Using this portal, users that is various Govt. Ministries, Departments, PSUs, or other autonomous, statutory bodies operating under the Central Govt can procure good and services with ease through a single window system. It has been introduced to bring consistency and transparency in the govt procurement system.

GeM Portal 2021

Govt. e-Marketplace portal went live for users on 9th August 2016. The portal was rolled out by the Ministry of Commerce and is developed, hosted and maintained by DGS&D. All the Govt agencies and buy or sell both products and services through this portal. National e-Governance Division (Ministry of Electronics and Information Technology- MeITY) has also extended its technical support to the DGS&D in the development of the portal.

At present, there are nearly 150 product categories under which there is an availability of more than 7400 products. By this time, transactions of more than Rs.140 crores have been made by the users through this portal. Along with the aforementioned products selection of transport services is also available on this portal. Using this innovative portal, the public procurement system has been made fully cashless and cashless to ensure minimum interference of system driven e-market place

The Ministry of Finance has made the purchase through this portal which is done by the Govt users. This portal has enhanced the speed, efficiency, efficacy and transparency in the system of public procurement. The portal includes tools such as demand aggregation, reverse e-auction, e-bidding so that users can get best value of their amount invested in the purchase of the product.

In this article, you will be getting all the possible information about GeM portal such as the basic details of the portal, advantages, registration process, login process, facilities provided, and related information. So, to get an insight about this portal, you need to read this portal till the end.

Salient Features of GeM Portal

Checkout the key features of GeM given as under-

- Transparency
- Efficiency
- Secure & Safe
- Potential
- Savings

Facilities Provided by GeM

GeM is aimed to offer several services related to online public procurement by the Government. Check what are the services and facilities that are offered by the GeM portal to its users-

- This platform provides its users a virtual market place for buying a large number of common items.
- Provide users a platform whereby they can view, predict, compare and purchase services on flexible prices.
- A dynamic system for providing rating to the vendors.
- Provide a user-friendly dashboard where users can buy, make payment and monitor all the activities.
- Better return policy
- Online buying of services and goods when required.
- Listing of services and goods, categorisation of goods or services which are of common/ daily use.
- Single platform and one stop for all the orders and demands from the users.
- Better transparency, reliability and ease of buying goods and services.
- Facilitates bulk buying at reasonable prices and low value buying by using e-bidding or Reverse Auction process.

Advantages of GeM

GeM has potential benefits to both Buyers and Sellers. These advantages are shared below-

For Buyers

- Facilities transparency in the system and easy buying facility
- Buyers can make payment up to Rs.25000 for a purchase.
- Offers rich listing of products for individual category of goods/services
- Sellers are notified directly

- Provide integrated payment process
- Availability of price comparison and price trends from numerous suppliers
- A user-friendly dashboard to monitor supplies and transactions
- The maximum
- Ease to use search, select, compare and buy options
- Bidding can be done among a large number of sellers up to 3 lakhs
- For quick redressal of queries there is a user-friendly dashboard.
- To avail a service one can select, multiple consignee
- For Direct Purchase Mode is based on Pin code
- Users are provided with an option to get numerous consignee quantity and various locations.
- Sellers are notified about the cancellation of consignment/ contract or expiry of delivery period etc.
- Provides buyers an option to choose their bid duration and it could be from 10 to 12 days.
- There are currently 11 banks which has been enabled with GeM pool account
- Terms and Conditions are added through ATC library
- L1 purchase of amounts greater than INR 25000 and less than INR 5 Lakhs

For Sellers

Sellers are the backbone of GeM portal. Check how beneficial is this portal for Sellers-

- The first advantage is that, sellers get can easy access to National Level Public Procurement market.
- It provides seller a completely contact less and paperless platform
- Registration is compulsory free and no registration fee is charged for the sellers.
- There are some special policies and provisions for MSMEs, Start-ups, and Emporium products.
- For a single purchase order seller get a multiple invoice.
- Sellers can easily participate in reverse auctions and bids are that organised online.
- A proper online grievance redressal system
- The reason for rejection of contract will be shown to all registered sellers
- Sellers get easy access to various Government organisations and their department.
- Depending on market conditions, sellers can change Dynamic pricing price.
- The process of brand application and approval is also there for sellers.
- Sellers from J&K and North East are not required to pay ITR during bid participation.

How to register on GeM?

To avail services and to begin with purchase & sales activities on the portal one must register themselves

on the portal. Registration on GeM is a must for its users. Sellers and Buyers have to register separately on the portal. If you are wondering how to register on Govt e-Marketplace portal then you do not have to worry. Just go through the instructions mentioned below and complete the registration process.

Buyer Registration

- Visit the official website first.
- Now, on the homepage, click on Sign Up and select Buyer from the drop-down menu.
- Click on "Review Terms and Conditions" option.
- Read all the instructions and agree to the conditions.
- Enter your Aadhaar No. and mobile no. Provide the mobile as mentioned in the Aadhaar no.
- Verify the Aadhaar no. by clicking on respective option.
- Enter the OTP and click on verify button.
- A new pop-up option will open. Click on Close button.
- Now, an application form will open.
- Fill the required information in the application form.
- Enter your user id and password which you need to create as your login details.
- After confirmation, your account will be created and registration process will be completed.

Seller Registration

For seller registration, the process is quite similar to the process shared above. Check the process in brief shared as under-

- Go to the official portal and select Seller from the drop-down menu.
- Click on Review Terms and Conditions option.
- Read the instructions and agree to the conditions to proceed.
- Now, provide Aadhaar No. and Mobile no.
- Verify the mobile no. and Aadhaar no.
- Once application form is displayed, you have to fill the details.
- Create user id and password.
- Finally, seller registration will be over. Save the login details for further login.

How to Login on GeM Portal?

Once the registration process is over for both buyers or sellers, they can proceed with the login process. Check the GeM login process shared below-

- Navigate to the official website of GeM.
- Click on Login Button given on the homepage.
- Now, enter GeM Id and captcha code in the space provided.
- Click on "Submit" button.
- Finally, users (buyer/ seller) dashboard will open.

Source : economictimes.indiatimes.com



BATTLING THE BARRIER OF SCALE

AMITABH KANT IS CEO AND YUVRAJPATIL IS
PUBLIC POLICY CONSULTANT, NITI AAYOG.

Indian manufacturing has long suffered due its inability to scale up. We have been slow at adopting new technologies and often not been able to gain an early mover's advantage. Once the initial momentum is missed, and the global competition built, it is difficult to achieve a significant market share. As much as 70% of our exports are in the traditional segments, for which the world market has shrunk to just about 30%. We should instead be focusing on the sunrise segments, where there is an ample scope to grow and build a high market share.

For India to become a USD-5-trillion economy, our manufacturing sector has to sustainably grow in double digits. Our manufacturing companies must become an integral part of global supply chains by focusing on cutting-edge technology sectors, along with sectors of its core competency and high employment generation potential. If India has to grow at high rates for the next three decades, it needs to strategically focus on building a strong manufacturing base, with global champions capable of producing for the world. Nearly all the countries that have transitioned from low to high per capita income have managed this shift on the back of manufacturing and export-led growth.

The recently launched Production Linked Incentive (PLI) scheme—which has committed nearly ¹ 1.97 lakh crore (USD 26 billion) over the next five years, from FY 2021–22—is a gamechanger in this regard. It seeks to bring size and scale to India's manufacturing capabilities and exports in key sectors, while creating and nurturing global champions. The scheme incentivizes increasingly enhanced production for a limited number of eligible anchor entities, in the key sectors, within a limited timeframe. The scheme is expected to generate an incremental production of USD 520 billion over its predefined timeline of five years, making it one of the biggest timebound support initiatives of the government to boost growth in the manufacturing sector.

Given that the PLI scheme has pre-committed levels of investment and production, and the fact that it is timebound, it cannot be labelled as either an investment scheme or a subsidy scheme. It is different from previous such attempts due to its clear mandate of selecting only the most eligible sectors that can attract maximum investments and scale rapidly to provide the maximum returns in terms incremental production, employment generation and exports. Also, it specifically avoids the risk of spreading available resources thinly—a mistake that resulted in the Merchandise Exports from India Scheme (MEIS) from providing the expected boost to Indian exports.

With a focus on building a strong manufacturing segment, the PLI scheme is designed to identify and support upcoming technologies that are indicative of the largest economic opportunities of the next few decades. These include advance chemistry cell batteries, electronic and technology products, and solar photovoltaic modules—three critical areas for sustaining rapid growth in the futuristic

segments of digital economy, electric vehicles, and renewable energy, respectively. Robust large-scale manufacturing setups in these segments are essential for taking on Asian competitors that have made strong progress in one or more of these areas. These three sectors have an equally crucial role in bringing rural India into the mainstream grid of continuous electricity and high-speed digital connectivity. Manufacturing in sectors such as automobile and auto components, pharmaceuticals, telecommunications, white goods, and steel is rapidly becoming globally interconnected. These sectors are also important in terms of their strategic importance, contribution to GDP and employment-generation potential.

Finally, the scheme aims to generate massive employment by focusing on the development of labour-intensive sectors such as food processing and textiles—the current export basket of these two segments consists of a large volume of low-value products. Encouraging large manufacturers to bring technology and build capabilities for high value output is likely to rectify the situation by providing higher returns to upstream producers. It will also enable an increase in exports.

Beneficiaries of the PLI scheme are shortlisted on the basis of their commitment towards achieving scale, while meeting other specified performance parameters, such as minimum investments and minimum incremental production growth. The scheme is fully self-sustaining as the benefit is given to the selected company only after investment and production have taken place in India.

The PLI scheme is also expected to stimulate manufacturers to seize emerging international opportunities in the changing geo-political orientation of the world. It is expected to have beneficial spillover effects via the creation of a wide supplier base for the anchor units established under the scheme. Along with the anchor units, these supplier units will help to generate high primary and secondary employment opportunities.

In an increasingly interconnected world, manufacturing has been transformed into a series of dependent processes across multiple countries, which together form large global value chains (GVCs). With GVCs slowly shifting towards the East and due to the constantly evolving geopolitical dynamics in the world, there is massive opportunity for India to capture certain segments by leveraging its strengths and with dedicated support from the government. From the national perspective, the PLI scheme is a policy tool devised to attract investments in areas of strength and to strategically enter certain segments of GVCs, with an aim to bring scale and size in key sectors and create and nurture global champions.

Views expressed are personal.

Source: NITI Aayog.

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EXPLAINED | HOW THE CONTAINER CRISIS POSES MAJOR LIQUIDITY CHALLENGES TO SME EXPORTERS

SHREEJA SINGH

An international shortage of shipping containers is affecting the exporters globally.

Moneycontrol examines what led to the shipping container shortage, how is it posing liquidity challenges to exporters, particularly those in the SME (small medium enterprise) sector.

What led to a global shortage of containers?

Restrictions on international trade because of the COVID-19 pandemic led to a reduction in the number of active vessels in operation. This has reduced the number of containers being picked up and used, leaving many stuck at ports and inland depots.

What are the problems that have emerged as a result of the shortage of containers ?

Due to lesser containers available, their turnaround time has increased which is delaying shipments and elongating the business cycle. Further, this has sharply increased freight rates.

Due to the skewed demand-supply situation, with high demand and low availability of containers, freight rates have shot up significantly by 500 percent compared to previous year.

How is this posing a liquidity challenge to exporters, particularly the SME exporters ?

The global shortage of containers is causing liquidity problems for exporters, particularly the smaller ones. The scarcity of containers has caused a delay in shipments which has resulted in delayed payments to the exporters. Adding a blow to the same is the stark rise in freight rates. Hence, exporters have been forced to pay a high price for containers to complete the shipment of goods. The delay in payments is disrupting the cash-flow cycle.

As a result of the consecutive lockdowns in 2020 and 2021, the SME sector has been facing a wide range of issues like massive liquidity and supply crunch, shortage of labour and non-payment of dues.

One of the biggest challenges that SMEs face is the lack of finance and financial literacy among small-business owners. As per CRISIL's SME tracker, the credit gap between the available and required working capital has been widening since 2015. It has now further worsened due to disruptions in the cash flow cycles as a result of the pandemic.

SMEs continue to face liquidity crunch as there is a reluctance on the part of banks to lend to them as doubts about their repayment capabilities has created a fear loans becoming non-performing assets (NPAs).

As most SMEs are out of the ambit of the GST network, and the resultant lack of documentation, they are forced to borrow outside the formal banking system with high interest rates. This dries up their savings and credit, making it difficult to sustain operations.

Source: msn.com

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SAD DEMISE

Dr. Umesh Bahadur

It is informed with great shock that we have lost Dr. Umesh Bahadur, known person in the field of Materials Management, in academic circles and in the corporate world. He was Ex. Director in Tata Steel Jamshedpur and closely associated with IIMM Jamshedpur Branch for many years.

We all pray for his soul to rest in peace

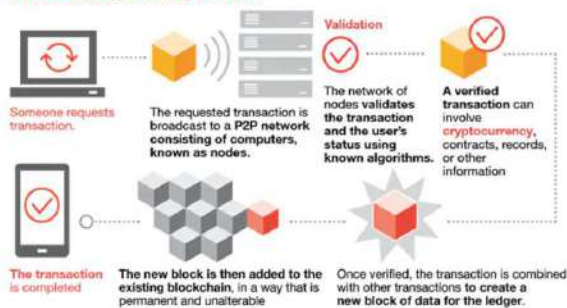
BLOCKCHAIN OFFERS NEXT-GENERATION TRACEABILITY SOLUTIONS FOR SUPPLY CHAIN MANAGEMENT

Blockchain is the new buzzword we are all aware of. Bitcoin and cryptocurrency are the most talked-about applications of blockchain that have raised many eyebrows in the financial sector. But beyond that, blockchain has wide applications in different fields. Supply chain management is one of them. Before going into the details of how blockchain based traceability is revolutionizing supply chain, let us understand what blockchain is and how it works.

Blockchain is an encrypted ledger of digital data that is continuously authenticated with every new change by linking transactions in the form of a chain. The entire process is automated and hence transparency and efficiency are ensured for various parties involved including – dealers, distributors, suppliers, and third parties. The information or data is stored digitally in blocks, spread over thousands or millions of computers through an integrated network having algorithms to authorise/ check the authenticity of transactions.

With each scan, a new block gets added to the chain, automatically updating the information in the distributed ledger network spread across multiple stakeholders. Hence, you don't have to manually add information, worry about manipulation or falsified information, plan against the bullwhip effect, or stand in the queue for information updates from other parties.

How blockchain works

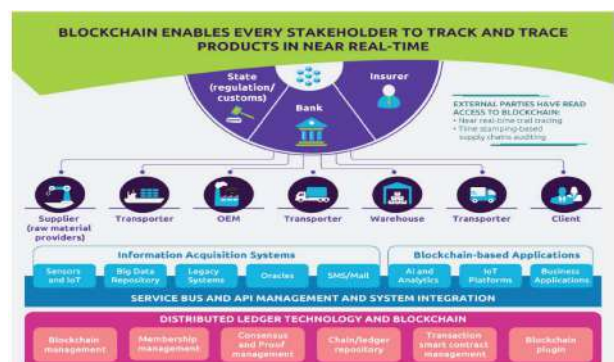


With this clarity on how blockchain works, let us see what it has to offer in supply chain management (SCM). The Council of Supply Chain Management Professionals (CSCMP) defines SCM as planning and management of sourcing, procurement, conversion/production, and management of logistics activities. It includes collaboration and coordination with multiple parties

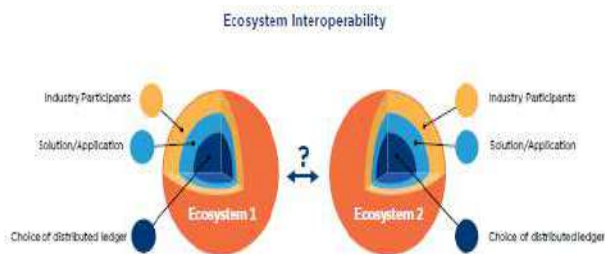
such as suppliers, distributors, stockists, other intermediaries, third-party service providers, and customers. With supply chain management becoming more complex due to globalization, competitiveness, increased number of SKUs, quality standards, etc., traceability is gaining traction.

With the help of GS1 standards and GS1 India's traceability solution, DataKartTrace, you can determine information of product in the supply chain, such as its location, source, destination, manufacturing details, expiry date or shelf life left, etc. GS1 is a trusted and authorized body founded by the Ministry of Commerce & Industry, along with apex trade bodies, to help Indian manufacturers adopt global barcoding standards. GS1 India's DataKartTrace enables continuous monitoring of a product as it moves from one node of the supply chain to another, and thus, helps in taking tactical, strategic, and real-time operational decisions. Having visibility helps make the system flexible and agile. It helps reduce time and effort by removing activities like manual recording, inaccurate pickups, inaccurate deliveries, etc., thus making the entire process much more accurate and faster.

In 2013, as per the Deloitte Global Supply Chain Risk survey, companies highlighted issues of low visibility with respect to their extended supply chains. Without traceability, one can encounter numerous challenges, such as difficulty in gathering product information, lack of product history, difficulty in complying with Regulatory norms, unstandardized information, etc. GS1 traceability standards when used along with blockchain technology help you record transactions faster and enables instant authentication.



Traceability using blockchain alone does not ensure a fool-proof solution to SCM problems. For example, if the data ingested is inaccurately fed by the user, then the results will be of no use. GS1 standards can enable automatic data capture using AIDC technology and hence, making the data capture accurate. They allow users to ingest incorrect information through a simple scan. Barcodes capture unique identification of products/consignments and links the same with relevant data, such as location, temperature, etc., for effortless sharing.



Blockchain provides a distributed ledger that catalogues transactions in an immutable, time-ordered manner whereas GS1 standards record and share the accurate data in a structured format, enabling interoperability between systems.



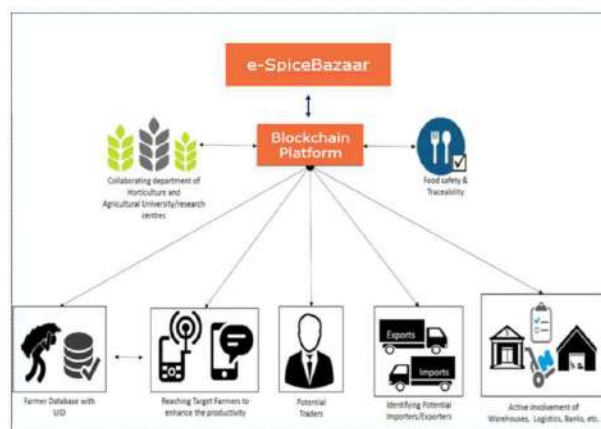
GS1 standards for identification and structured data enable blockchain users to have scalability and integrity in their supply chain. GTINs, coded into barcodes, also enable the linking of additional product information in shared/ individual systems, which can be stored securely and shared anytime.

The foundation of blockchain-enabled supply chains governed by GS1 standards promises success in the product journey from supplier to customer.

Recently, UNDP Accelerator Lab India, along with GS1 India and Spices Board have joined hands to develop a Blockchain-based Traceability, Quality Assurance, and

Trading System for Indian Spices. This will enhance eSpice Bazaar platform by ensuring food safety and improved quality. The project is supported by the Cabinet Office of Japan under the Japan SDGs Innovation Challenge 2020 .

During the pilot, farms and crops are being identified uniquely using GS1 identification and capture standards. The project is aimed at providing visibility to farmers in the spices value chain and their direct access to potential buyers, which will enhance their bargaining power and profits.



In another project, GS1 India has worked with NITI Aayog, the apex policy think-tank and change catalyst of the Government, on its pilot project that is aimed at ensuring the authenticity of pharmaceuticals using blockchain technology. The technology is used with unique identification standards of GS1.

The scope of the project enabled track and trace beyond traditional methods by allowing users to verify whether prescribed conditions for the transportation of drugs were maintained throughout the journey or not (through IoT sensors), and status was made available to stakeholders through a mobile application.

The project report titled: 'Blockchain: The India Strategy –Towards Enabling Ease of Business, Ease of Living and Ease of Governance' analyses the value of blockchain in facilitating trust in government and private sector interactions, followed by considerations for evaluating the blockchain use case for implementation. It also highlights possible challenges and lessons from NITI Aayog's experiences in blockchain implementation and showcases potential use cases that the ecosystem may consider.

Source:GS1 India

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BRANCH NEWS

CHANDIGARH BRANCH

Two days training program organised for whole Purchase team of M/S Steel Strip Wheels India Ltd by Chandigarh branch at Hotel Lemon Tree, Chandigarh on 10th and 11th September 2021. "Following topics were discussed with more than 25 participants.



Mr S. K SHARMA Former National President Mr Tej Magazine, Distinguish member and Mr O. P. Longia Former National President were faculty for two days training program. Feedback of participants was very encouraging.



Mr S. K.Sharma and Mr Tej Magazine with participants on concluding session on 2nd day.

Mr Sandeep Sharma Sr Executive Director of SSW India graced the inaugural session on first day and appreciated contents and delivery of training. "Purchasing as a profit center – New Age Thinking" "Purchasing Cycle, How it can be reduced?" "Vendor Performance Evaluation & Vendor Rationalization" "Supplier Relationship Management (SRM)" "Kraljic Model , Risk Vs Returns Strategies for sourcing," "Cost Vs. Price Analysis" "Export incentives and its utilization effectively in Import," "Import strategies for Cost Saving," "Modern Purchase Strategies (JIT, Green Buying, TQM, Zero defect etc)" "Cost Control Vs.

Cost Reduction Strategies" "Spend Analysis" "Inventory Management and inventory control," "IT technologies And Digitisation (AI, Data Analytics etc)" "Trend Analysis - rational of import vs export." "Evaluation of Purchasing Performance and" "To Develop Key Performance Areas For Sourcing."

PUNE BRANCH

Pune branch organized its **"7th Annual Supply Chain Management Awards"** virtually for the first time ever on August 8, 2021.

The event kickstarted with IIMM Film followed by a brief on the awards by the Hon. Secretary, Mr. Prasad Rao and opening speech by the Chairman, Mr. Terrence Fernandes.

The event was virtually viewed by over 200 participants from India & overseas.

The awards were in the category of:

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

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

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

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

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

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

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

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

Among the Conferred awards, the award for **Services provided during the Pandemic**, is conferred to **A.G Diagnostics Pvt. Ltd**. This is the first private Laboratory in Pune to get ICMR approval for COVID RT PCR. Over 2 lakh COVID RT PCR Tests are processed till date by A.G Diagnostics Pvt. Ltd. They have the state-of-the-art Pathology Laboratory & Diagnostic Centre spread across 16,000 sq. ft.

The **Outstanding Hospital** award, is conferred to **District Hospital, Pune** for their outstanding & excellent services being provided to citizens of Pune, especially to the below poverty line & lower middle class people. This hospital manages all sub district hospitals & health centers of Pune district. They perform all types be surgeries, be it cataract, bone replacement, to name a few. All you need is an aadhar card for availing the facilities at this hospital.

The **Unsung Heroes** award is conferred to **Snehalaya Institute for the Children with Multiple Disabilities**. Snehalaya, which means "Home of Love" is an Institute for the Children with Cerebral Palsy and Multiple Disabilities.

The **Lifetime Achievement** award is presented to **Mr. Pralhad Chhabria, Executive Chairman of Finolex Industries Ltd**. Mr. Prakash Pralhad Chhabria is a recognized industrialist with over three decades of hands-on experience, inducted as a Board Director in 1992 and took over as the Executive Chairman in 2012.

The event was concluded by National Councillor Mr. Shrivardhan Gadgil.





AGM-PUNE BRANCH : Pune branch under the Chairmanship of Mr. Terrence Fernandes held its 55th AGM virtually on 27th August 2021. The AGM was attended by 35 members.

The meeting began with a welcome note by the Chairman, briefing the members about the challenges faced by the branch during the Covid pandemic. In spite of the pandemic, Pune branch did its best by adding feather to its cap by organizing online courses of Supply Chain and related topics for a few well known MBA Colleges in Pune. Our 7th Annual Awards for Supply Chain Management was held virtually for the first time ever and was a grand success.

The Chairman's speech was followed by sharing of the Branch Activity Report in detail by the Hon. Secretary, Mr. Prasad Rao. We had 12 EC meeting during the year 2020-2021 and 3 Education Committee meetings. Several online programs and knowledge sharing session were conducted for the members. Educational activities include, in-house courses on Supply Chain and Industry Exposure certificate courses were also conducted.

The Elections for the EC team and NCs for the period 2021 to 2023 were held under the Election Officer Mr. Vivek Joshi (Past Chairman). We had received single nomination forms for each post and hence there were no elections and the Election Officer declared the new Committee unopposed for the year 2021-2023.

Following is the newly formed Executive Committee:

Mr. Shripad Kadam	Chairman
Mr. Shrivardhan Gadgil	Vice Chairman
Mr. Arjunsingh Rajput	Hon. Secretary
Mr. Prasad Rao	Hon. Treasurer
Mr. K. R. Nair	National Councillor
Mr. Mohan Nair	National Councillor
Mr. Amit Borkar	National Councillor
Mr. Suhas Gawas	National Councillor
Mr. Suhas Gare	Committee Member
Mr. Bhimrao Kadam	Committee Member
Mr. Shaji Joseph	Committee Member
Mr. Shreyas Dhore	Committee Member
Mr. Harshal Bardiya	Committee Member
Mr. Terrence Fernandes	Immediate Past Chairman, Ex-officio Committee Member



The new Chairman Mr. Shripad Kadam gave his opening speech and thanked the members for the trust put in him and promised to work for the growth and overall functioning of the branch.

The AGM and election process was concluded by the new Hon. Secretary Mr. Arjunsingh Rajput.

NEW DELHI BRANCH

Delhi Branch AGM was held on August 25, 2021 at The Institution of Engineers (India), New Delhi.

After confirming quorum, Mr. Narender Kumar welcomed the members and presented Accounts report on the activities and functioning of the branch 2020-21.

Income & Expenditure account and balance sheet of the branch for the FY 2020-2021 were presented by Mr. Narender Kumar and unanimously approved by the members present.

Election Officer Col Gopal Purdhani then took over and conducted the election for the post of Chairman. At the end of the election process, he declared Mr. Sanjay Shukla as the winner for the position of Chairman for the year 2021-23. Mr. Sanjay Shukla newly elected chairman then addressed the IIMM members.



Newly Elected Chairman (2021-2023)
Mr. Sanjay Shukla addressed to IIMM Members



Newly Elected Executive Committee Members Term
2021-2023

Left to Right – Mr. H K Sharma, Mr. Saurabh Negi, Mr. Sanjeev Kumar Bhatia, Dr. Suresh Kumar Sharma, Mr. Sanjay Shukla, Col Gopal Purdhani (Election Officer) Brig. Ashok Sharma, Mr. T G Nandakumar, Mr. Narender Kumar, Mr. Srideb Nanda & Mr. Harish Chander Dobriyal

Newly Elected IIMM EC Members (2021- 23)

S No.	Name	Position
1.	Mr. Sanjay Shukla	Chairman
2.	Mr. Srideb Nanda	Vice Chairman
3.	Mr. Sanjeev Kr. Bhatia	Hony. Secretary
4.	Mr. Narender Kumar	Hony. Treasurer

- | | | |
|-----|-----------------------|---------------------|
| 5. | Mr. H K Sharma | National Councillor |
| 6. | Mr. Suresh Kr. Sharma | National Councillor |
| 7. | Mr. TG Nandakumar | National Councillor |
| 8. | Brig. Ashok Sharma | National Councillor |
| 9. | Mr. Prem Narayan | E C Member |
| 10. | Mr. Saurabh Negi | E C Member |
| 11. | Mr. S Ravichandran | E C Member |
| 12. | Mr. Rahul Bhatia | EC Member |
| 13. | Mr. Harish C Dobriyal | EC Member |

Mr. Narender Kumar proposed vote of thanks.



IIMM Members at Auditorium

THIRUVANANTHAPURAM BRANCH

The Annual General Meeting of IIMM Thiruvananthapuram Branch for 2020-21 was held on 25-09-2021 (Saturday) at 11.00 AM at the IIMM office hall. After ascertaining the quorum, Chairman Dr. Koshy M George declared the meeting open. The meeting started with a silent prayer. The AGM observed one minute silence in memory of Shri N.Sarachandra Babu, Senior Member, IIMM, Thiruvananthapuram Branch who expired on 6th June 2021 due to the pandemic COVID-19.

Chairman welcomed the members gathered for the meeting. In his presidential address Chairman briefed the details of the activities conducted during the report period. He also expressed that due to the unprecedented pandemic COVID-19 we could not execute many of the activities as planned earlier. The COVID-19 pandemic presents what is undoubtedly one of the greatest challenges ever faced by international development and humanitarian organizations. There have already been major consequences for the world's poor and vulnerable, in terms of the direct impacts of the public health and mortality, and indirect impacts on social, economic and political systems. COVID-19 has a large dark side. But at the same time it has positive sides as well. It gives us opportunities for making changes to deeply rooted habits and changes. So we should try to make use of the opportunities instead of being panic.

Further, he gave an account of the programmes proposed for the current year including talks by eminent personnel on Materials Management on related subjects, Seminar on a subject of current relevance to materials management, etc. and requested all past Chairmen, NC Members and other members to actively

participate in hosting the functions as well as on our plan to enhance membership.

Secretary Shri M.G.Narayanan Nair presented the working report for 2020-21, which was discussed and unanimously approved by the AGM.

The Treasurer Shri S.Ananda Sivan presented the audited Statement of Accounts 2020-21 of the Branch. After detailed discussion the AGM unanimously approved the Statement of Accounts and Balance Sheet for the year 2020-21.

Since there were no nominations /contestants for the election of Office bearers for the period 2021-23, the Returning Officer Shri T K Joy upon discussion with the senior members presented a panel by general consensus which was unanimously approved by the AGM. The Returning Officer declared the election of Dr.Koshy M George as Chairman, Sri K Raveendraprasad as Vice-chairman, Shri M G Narayanan Nair as Hon.Secretary, Shri P C Sasikumar as Hon.Treasurer, Shri K G Nair and Shri M Janardhanan as NC Members, M/s.N Jayakumar, R Sivanandan, P L Jose, O Varghese and M R Premkumar as Executive Committee members and Shri M P Ramachandran as Course -Coordinator. The Chairman and other office bearers thanked the members for their wholehearted co-operation and support in the last term and solicited continued support and co-operation in the future also.

Vice Chairman, Shri K.Raveendraprasad proposed vote of thanks.

The meeting was followed by Lunch.



EXECUTIVE HEALTH

CONNECTED CARDIAC CARE : THE NEW NORMAL

PRATHIBA RAJU

Cardiac care is moving out of hospitals into homes, offices and outreach areas to the underserved areas; the real-time cardiac risk assessment with sophisticated AI algorithms cardio conversations have become data-insight conversations enabling quick decisions and timely clinical intervention.

Ashvanni Srivastava, COO, iMedrix Inc elucidates about the remote patient monitoring and mobile form factor powered by sophisticated algorithms that are disrupting the cardiac care, particularly by enabling anywhere anytime connects for the patients, with a real-time cardiac risk assessment, and quick access to expert medical advice.

What are the changes, big trends, or disruptions emerging in remote monitoring devices in the cardiovascular care space?

Cardiovascular diseases (CVDs) have overtaken cancer as the leading cause of death in India. The prevalence of CVDs and cardiovascular risk factors is increasing day by day. Early detection and management of CVD, particularly for high-risk individuals, monitoring and treatment with real-time response to acute situations is the biggest disruption happening. Cardiac care is moving out of hospitals, into homes and offices; and outreach areas to cater to the underserved.

In emerging markets or countries like India, the primary driver for remote monitoring in the CVD space is accessibility and real-time access to expert advice. The burden of CVD is particularly high in Asia (or among Asians). Studies have shown that heart failure condition at average sets in earlier among Asians than among western phenotypes. Amongst the non-communicable diseases (NCDs), cardiovascular disease is the leading cause of mortality accounting for nearly 17.9 million deaths worldwide and 2.58M deaths in India, annually (WHO Report on NCD Country profiles, 2018). Multiple reports and data confirm that almost 29-30% of the affected population is asymptomatic, attributing to late detection of the condition, and the high mortality rate.

Furthermore, COVID-19 has transformed and accelerated the pace of digital health adoption. Our belief is further endorsed as we witness consolidation across the globe - from Hillrom acquisition of Seattle's Bardy Diagnostics (\$367M), Philips's acquisition of BioTelemetry to transform the delivery of healthcare, and Bostin Scientific acquisition of Preventice - Remote Patient Monitoring (RPM) is the new normal.

How Remote Patient Monitoring cardiac devices are changing the practice of cardiology? Do you think this momentum is accelerated due to pandemic, if so how it is going to change the cardiology treatment?

Even before the pandemic, access to medical-grade tools and expert advice for cardiac care has been the biggest

challenge faced by at-risk patients especially when faced with life and death acute situations, considering these interventions were available only at a major clinical facility.

RPM solutions are disrupting the healthcare ecosystem by enabling anywhere anytime connects for the patients, with a real-time cardiac risk assessment, and quick access to expert medical advice. Further, with sophisticated AI algorithms cardio conversations have become data - insights conversations enabling quick decisions and timely clinical intervention. The markets are witnessing a fundamental shift of outpatient cardiac care; screening, early detection, diagnostics, decisions and services now available outside the traditional four-wall structures.

The pandemic has certainly enhanced the adoption of digital tools and next-gen technology by doctors and hospitals. This allows the health ecosystem to augment capacity, by increasing access, offer timely treatment, and manage compliance translating to improved outcomes and positively impacting life expectancy. Having experienced seamless clinical services from the comfort of one's home, RPM solutions, especially for cardiac care are in the direct line of sight for the hospitals, public health agencies, and the consumer.

Can you tell us about the cardiac ailments which can be aided by your diagnostic solutions, about the device accuracy in each ailment, cost-effectiveness of the product and benefits across the industry for patients and providers?

KardioScreen is US FDA cleared, accessible, affordable and accurate. It can diagnose any cardiac condition, which is possible with a traditional ECG machine, with the same accuracy with just a click of a button. It can be connected via mobile. Our ability to deliver clinical-grade EKGs in real-time, in harsh operating conditions without skilled operators is a significant edge over others. More importantly, our cost per ECG is typically 10-20x lower, thus making quality-affordable cardiac care available to a much larger population, especially the underserved, like never before.

With one of the largest and most diverse out of hospital EKG databases in the world, we are transforming cardiac healthcare with Artificial intelligence (AI), Cloud Technology, and Machine learning (ML) for a under 5-minute risk assessment, real-time diagnosis by the doctor, and accurate clinical decisions. With a reach across 15 countries, we will be able to generate more knowledge about the human body in the next 5 years. The device has been adopted for critical care of AIIMS Delhi.

What differentiators do you offer in respect to other products in the segment? How is it going to help cardio care particularly bridging the gap in healthcare in terms of doctor and patient ratio, healthcare infrastructure?

We help by treating the right patients and treating the

patients' right. Also, identify asymptomatic patients and manage population health. KardioScreen (iMedrix) is further democratizing heart health by putting a medical-grade, high-impact, life-saving device with a mobile form factor, powered by sophisticated algorithms that assist early detection and risk interpretation for the patient, assisted by a remote or on-premise doctor. The device literally "fits in the palm of your hand".

Currently, we are the leading six and 12 lead medical-grade, mobile ECG that is US FDA cleared. This is a big differentiator, especially with regards to quality, efficacy, and safety, the prime need in healthcare. KardioScreen has a robust AI engine that is currently in process for US FDA approval. The AI engine generates clinical intelligence both for the individual and at the cohort level; thus doctors can confirm the diagnosis within minutes and diagnose deep underlying conditions. In addition, cohort-level data alerts them to patients who need immediate attention, preventive care, medication, advanced diagnostics, etc. This assists the doctor manage the overall health of a cohort while getting deep insight into any individual.

The industry partners in MedTech, pharma, insurance and government/public health organizations, and private hospitals across India, SE Asia, Middle-East, Africa, and the US are leveraging KardioScreen for real-time AI risk assessment and data analytics that is the foundation for digital transformation and patient engagement. We collaborate with the Ministry of Health and public health agencies across India, Saudi Arabia, Philippines, Malaysia, Cambodia, Nigeria, etc., and leading hospitals and digital health companies in multiple ways including COVID isolation and post-COVID surveillance.

How will the cardiac diagnostic solution help in extending real-time risk assessment and telecardiology to hospitals and public health agencies? How this is going to help to transform and scale cardiac care access, across geographies.

Our purpose is to establish analytics leadership in cardiac care. Being fully mobile, the solution allows you to collect an ECG even for asymptomatic patients. This brings a huge advantage in early detection and hence early on risk assessment and management. Hospitals can focus their efforts on those deemed to be moderate and high risk while extending medication advice and wellness benefits to low-risk patients. Similarly, public health agencies can get a real-time on-ground view on disease prevalence, understand trends and re-calibrate care programs.

A case in point; we found that in multiple S.Asian/SE Asian and ME patients, undetected type II diabetes was quite prevalent. This was a result of ECG analysis by our AI algorithms. Thus, we can apply AI insights to not only heart disease but also key co-morbidities. In addition, we can point out variances between geographic or other demographic profiles.

Our innovative business model enables products and solutions to reach global populations. Our solution provides, digital and optimized tele-cardiology workflow, data triaging leading to higher accuracy using AI/ML algorithms, auto interpretation / AI classification - emergency, high, medium and low risk, real-time alerts - SMS, Email and Cloud notifications and real-time physician connect and collaboration

How important is the users' experience in the eHealth

platform? Where does KardioScreen fit in?

The user experience is paramount to the success of any digital health platform. Most platforms focus on what they want to say and the service they provide while focusing on speed, flow, and function. But critical is to focus on the insights each stakeholder wishes for, and access conveniently. KardioScreen is instinctive, smart and addresses the needs of patients, providers, payers, pharma, and public health (5P's of healthcare).

The key beneficiary, the patients, love that the care is provisioned for them, at home. Providers appreciate that they can diagnose and advise remotely, especially under the current pandemic. Payers value that member disclosures are accurate and compliance to a preventive program can be monitored and enhanced.

The device saves lives through instant, affordable access, anywhere, anytime with its medical-grade real-time cloud-connected solution. Additionally, it enables demographic insights, therapeutic insights, HF, and data modeling to estimate the risk and longitudinal and cohort level analytics at the click of a button.

Your diagnostic solution produces clinical-grade ECG traces and claims to be one of the largest and most diverse out of hospital EKG databases in the world. Can you brief us about the cybersecurity measures you put in place and how the technologies ensure secure patient data?

Technology is at the core of what we do as we work across geographies. Aspects like data privacy and compliance are more hygiene factors rather than "good to do" practices. KardioScreen has passed through the US FDA's rigorous risk assessment matrix, a third-party penetration test in the US, and is hosted at HIPPA compliant infrastructure. We have taken a significant number of proprietary security measures that make us the choice of industry majors worldwide. Additionally, we work with our clients in multiple ways based on their requirements as well as prevailing policies of the hospital or even the country, with a prudent view of client requirements, while ensuring absolute data integrity and privacy.

What are the key factors that will boost the market growth of smart wearable devices and mobile technology in India, particularly in the Home healthcare space?

The medical-grade multi-parameter wearable is only a matter of time. The price will be the USP and we need to hit the hardware cost under a 100-dollar mark, which is within striking distance. In addition, just like the smartphone era, services akin to Uber, Ola, Swiggy, etc. need to come into the medical side in full force - both for wellness and illness. This is bound to propel the technology innovation ahead. In any case, Moore's law has intersected medical, this inevitably becomes reality soon.

Having said that, trust is at the core of everything combined with convenience, ease, and comfort for driving consumer adoption. While value for consumers is paramount, innovative policies will be an imperative that, along with improved access, will substantially reduce the burden on the beneficiary.

Source: ETHealth.com

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IIMM HEADQUARTERS AND BRANCHES

IIMM NHQ : Plot No. 102 & 104, Sector-15, Instl. Area, CBD Belapur, Navi Mumbai-400614. Tel.: 27561754 / 2756 5831, Fax : 022-27571022
E-mail NHQ : iimnhq55@gmail.com, members@iimm.co.in E-mail Edu, Wing : iimmedu@iimm.co.in, Website : www.iimm.org

AHMEDABAD BRANCH

Indian Institute of Materials Management
C/o SaRaa Group of Companies
406, Kalasagar Shopping Hub,
Opp. Saibaba Temple, Near Sun N
Step Club, Sattadhar Cross Road,
Ghatodia, Ahmedabad-380061, Gujarat
Cell: 91-9909996711
iimmahmedabad@gmail.com

ALWAR BRANCH

Indian Institute of Materials Management
15, Shopping Centre, Shanti Kunj,
Alwar - 301001 (Rajasthan)
Ph.: 09731245655/ 07877745655
Email: iimmalw@gmail.com

AURANGABAD BRANCH

Indian Institute of Materials Management
C/o. Training & Placement Cell
GF-19, JNEC Campus, CIDCO, N-6
Aurangabad - 431001, Ph : 0240-2473339
E-mail : iimmau@rediffmail.com

BANGALORE BRANCH

Indian Institute of Materials Management
304, A-Wing, III Floor, Mittal Tower # 6
M G Road, Bangalore - 560001
Ph.: 080-25327251/52
E-mail : iimmbg@airtelmail.in

BHARUCH BRANCH

Indian Institute of Materials Management
303, Vinay Complex, Near Dudhdhara
Dairy, Old NH Highway # 8, Bhaurch
Ph.: 02642-283223
E-mail : iimmbhaurch@gmail.com

BHILAI BRANCH

Indian Institute of Materials Management
Room No. 326, 3rd Floor, Ispat Bhawan,
Bhilai Steel Plant, Bhilai - 490001
Ph.: 0788-2892948/2222170

BHOPAL BRANCH

Indian Institute of Materials Management
4/9-B, Saket Nagar, Bhopal - 462024

BILASPUR BRANCH

Indian Institute of Materials Management
C/o. Gen. Manager (MM)
South Eastern Coalfields Ltd.,
Seepat Road, Bilaspur - 495006 (CG)
Ph.: 07752-241087/75014
E-mail : iimmbilaspur2015@gmail.com

BOKARO BRANCH

Indian Institute of Materials Management
Room No. B-237, Purchase Dept.,
Ispat Bhawan, Bokaro Steel City - 827001
Ph.: 06542-240263/280768
E-mail : iimmbokarobranch@gmail.com

BURNPUR BRANCH

Indian Institute of Materials Management
Matts. Dept. New Matts. Bldg.
IISCO, Burnpur Works
Burnpur - 713325 (West Bengal)
Tel: 0341-2240523/09434777116

CHANDIGARH BRANCH

Indian Institute of Materials Management
SCO 19-B, Swatik Vihar, Mansa Devi
Complex, Sector - 5, Panchkula - 134114
Ph. : 0172-2556646/4654205
E-mail : iimmchandigarh2@gmail.com

CHENNAI BRANCH

Indian Institute of Materials Management
4th Floor, Chateau D'Ampa, 110 (New #
37), Nelson Manickam Road
Aminjikarai, Chennai - 600029
Ph.: 044-23742195/23742750
E-mail : chn.iimm@gmail.com
iimmchennai@gmail.com

COCHIN BRANCH

Indian Institute of Materials Management
GCDA Shopping Complex, Kadavanthra
PO, Kochi - 682020 (Kerala)
Ph.: 0484-2203487/9400261874
E-mail : iimmkochi@bsnl.in

DEHRADUN BRANCH

Indian Institute of Materials Management
C/o. 30, Kalindi Enclave, Balliwala Chowk,
Lane No. 2, Dehradun - 248001 (U.K)
Ph.: 0135-2795486/9410397734

DHANBAD BRANCH

Indian Institute of Materials Management
O/o. GM (MM), B C C L, Koyla Bhawan
Koyla Nagar, Dhanbad - 826005
(Jharkhand) Cell # 09470595238
E-mail : iimmdhanbad@gmail.com

DURGAPUR BRANCH

Indian Institute of Materials Management
Office of ED (MM) 3rd Floor
Ispat Bhawan, SAIL, Durgapur Steel Plant
Durgapur - 713203
Tel: 0343-2574303

GANDHIDHAM BRANCH

Indian Institute of Materials Management
1,2,3, Plot # 356, Ward-12B, Tagore Road
Gandhidham -370201 (Kutch) Gujarat
Tel: 02836-231711/231745
E-mail : iimm_gim@rediffmail.com

GOA BRANCH

Indian Institute of Materials Management
S-6 & S7,2nd Floor, Vasco Citicentre
Opp: Canara Bank, Swantantra Path
Vasco-da-Gama, Goa - 403802

GREATER NOIDA BRANCH

Indian Institute of Materials Management
B-193, Swam Nagri, Opp: J P Golf Course
Greater Noida - 201308
E-mail : iimmgreno@gmail.com

HARIDWAR BRANCH

Indian Institute of Materials Management
C/o. 97-B, Vigyan Kunj, Indian Institute of
Technology, Roorkee, Haridwar - 247667
E-mail : iimmharidwar@gmail.com

HOSUR BRANCH

Indian Institute of Materials Management
Opp: Hosur Bus Stand, By Pass Road
Above Axis Bank, Palaniyappa Building
Hosur - 635109 (TN) Tel # 04344-240448
E-mail : iimmhosur1@gmail.com

HUBLI BRANCH

Indian Institute of Materials Management
Karnataka Chamber of Commerce of
Industry Building, 1st Floor, Jayachamaraj
Nagar, Nr. Nehru Ground, Hubli - 580020
Tel: 0836-2264699/09972703336

HYDERABAD BRANCH

Indian Institute of Materials Management
4-8-68/A/21, G.D Enclave, 3rd Floor, Rang
Mahal Road, Putli Bowl, KOTI, Hyderabad-
500095. Email: iimm.hyd1719@gmail.com,
TEL: 040-29558952, Mob.: 9866246796

INDORE BRANCH

Indian Institute of Materials Management
03, Rajmahal Colony, Ext Manik Bag Road,
Indore - 452007 (M.P)

JAIPUR BRANCH

Indian Institute of Materials Management
C/o. Mr. Purushottam Khandelwal
48, Mohan Nagar, Gopalpura Bypass,
Jaipur - 302018 Cell: 09799299157
E-mail : iimmjaipur1@gmail.com

JAMSHEDPUR BRANCH

Indian Institute of Materials Management
Room # 6, Russi Modi Centrigre for
Excellence Jubilee Road,
Jamshedpur - 831001
Ph.: 0657-2224670/2223530
E-mail : iimm_jsr@yahoo.co.in

JAMNAGAR BRANCH

Indian Institute of Materials Management
C/o. Mr. Jayesh Joshi
Riddhi Engineering Works
111, Madhav Complex,
Opp: DKV Collage, Jamnagar - 361008
0268-2750171 / 9824263869
riddhieng@yahoo.com

KANPUR BRANCH

Indian Institute of Materials Management
C/o. Kailash Nath, 58, New Defence
Colony, Opp. Krishna Nagar Telephone
Exchange, G.T.Road, Kanpur-208007 UP
Mob.: 7897000150, 9935032495
kailashnath119@gmail.com
agnihotri.hal@gmail.com

K G F BRANCH

Indian Institute of Materials Management

KOLKATA BRANCH

Indian Institute of Materials Management
8/B, Short Street, Kolkata - 700017
Ph.: 033-22876971/22834963
E-mail : iimmcal17@gmail.com

LUCKNOW BRANCH

Mr. P.K.Bajpai
Indian Institute of Materials Management
86/106, Kurmi Tola, Maqboolganj,
Lai Kuan, Lucknow - 226018
Ph.: 9415752999, Res. 6307080159

LUDHIANA BRANCH

Indian Institute of Materials Management
C/o. Guru Nanak Industrial Corporation
Adj: Hero Cycle Ltd.,
G T Road, Ludhiana - 141010 (Punjab)
Ph.: 0161-5212268
E-mail : iimmldhbr@gmail.com

MUMBAI BRANCH

Indian Institute of Materials Management
2-A, Arihant Bldg. Above Bhandari Co-op
Bank Ltd., Goregaon (E) Mumbai - 400063
Ph.:022-26863376/26864528/26855645-46
E-mail : iimmbomb@gmail.com

MUNDRA BRANCH

Indian Institute of Materials Management
C/o Paresah Satasiya
DURLABH SINGH KHALSA
No. B/04/03, Sanudra Township, Old Port
Road, Distt. Kutch, Mundra - 370421
(KUTCHH). paresah.satasiya@adani.com

MYSORE BRANCH

Indian Institute of Materials Management
Anubhav Udyog, K-64, Hootagalli Ind.
Area, Mysore - 570018 (Karnataka)
Ph.: 0821-4282124
E-mail : mysoreiimm@gmail.com

MANGALORE BRANCH

Indian Institute of Materials Management
C/o. B Sandeep Naik, GM (Matts.)
MRPL, Materials Dept., PO: Kuthethur
Via: Katipalla, Mangalore - 575030. DK
Tel # 0824-2882203
Email: bsnaik@mrpl.co.in

NAGPUR BRANCH

Indian Institute of Materials Management
404, Suryakiran Complex-1, Bajaj Nagar,
Nr. VNIT Gate, Nagpur - 440010
Ph.: 0712-2229446
E-mail : iimmnagpur@gmail.com

NALCO NAGAR BRANCH

Indian Institute of Materials Management
Qtr. # C-352, Nalco Township, Nalco Nagar
- 759145 Dist: Angul, Orissa
Cell: 09437081126
Email: snbaghar@nalcoindia.co.in

NASIK BRANCH

Indian Institute of Materials Management
1, Parag Bldg, Patel Lane # 4
College Road, Nasik - 422005
Ph.: 0253-2314206
E-mail : iim_nsk@bsnl.in

NEW DELHI BRANCH

Indian Institute of Materials Management
U-135, Vikash Marg, Shakrapur
Near Laxmi Nagar Metro Stn, Delhi - 110092
011-41354969 / 9818664267
E-mail : iimm1delhi@gmail.com

PUNE BRANCH

Indian Institute of Materials Management
Pratibha Towers, Plot # 22, Old Pune
Mumbai Road, CTS # 15/2, Above TVS
Showroom, Wakdewadi, Pune - 411003
Ph.: 7276010854
E-mail : iimmpune1@gmail.com

RAE BARELI BRANCH

Indian Institute of Materials Management
497, Near CMO Office, Jail Road,
Raebareilly - 229001
iimmrbl@yahoo.com, iimmrbl@gmail.com

RANCHI BRANCH

Indian Institute of Materials Management
Gen Manager (MM) Office, Central
Coalfields Ltd., Darbhanga House,
Ranchi - 834001
Tel.: 0651-2360716/2360198
E-mail : rajesh0021@yahoo.com

ROURKELA BRANCH

Indian Institute of Materials Management
TH-01(West) Sector - 4, Near Mahila Thana
Dist: Sundergarh, Rourkela-769002 (Odisha)
Cell: 08260711943/0895501056
Email: iimm.rourkela@gmail.com

SURAT BRANCH

Indian Institute of Materials Management
C/o. Mr. Dilip Dhabarde, Hony Secy,
Manager Matts, Krishak Bharati Co Ltd
PO: Kribhaco Nagar, Nr. Kawas Village
Suresh-394515, Tel: 0261-2802682
E-mail : dilipdhabarde@kribhaco.net

TRIVANDRUM BRANCH

Indian Institute of Materials Management
TC-9/1447, 2nd Floor, Future House
Temple Road, Sasthamangalam
Thiruvananthapuram - 695010
Ph. : 0471-2724952
E-mail : iimmtvpm@gmail.com

UDAIPUR BRANCH

Indian Institute of Materials Management
2nd Floor, Above Manohar Furniture
Ashwini Marg, Udaipur - 313001
Ph.: 0294-2411969/2421530
E-mail : iimmudpr@sancharnet.in
iimmudpr@gmail.com

VADODARA BRANCH

Indian Institute of Materials Management
2nd Floor, Vishal Chambers, 34, Vishwas
Colony, B/h Alkapuri Shopping Centre,
Alkapuri, Vadodara - 390007
Ph.:0265-2359060/2353410/M: 7043959600
E-mail : iimmbvd@yahoo.co.in,
iimmvadodara@gmail.com,
iimmbaroda@gmail.com,
www.iimmvadodara.org

VAPI BRANCH

Indian Institute of Materials Management
301, Fortune Mall, Above Vishal Mega Mart,
VIA Road, GIDC, Vapi - 396195
Ph.: 09825119364 / 08758294011
E-mail : iimmedu.vapi@gmail.com

VISAKHAPATNAM BRANCH

Indian Institute of Materials Management
C/o. A V Rajendra Kumar
Droo No. 39-8-34/4 & 5, Sector - 8,
Muralinagar, Visakhapatnam - 530007
Ph.: 0891-2704757 / 9701347694
E-mail : iimmvizag@gmail.com

V U NAGAR BRANCH

Indian Institute of Materials Management
Champs Engineering, 1-52, GIDC Estate
Vithal Udyognagar - 388121
Tel: 02692-230440/ 09825028050
Email: harshad.champs@gmail.com



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PUNE 07875607146 RAEBARELI 09451077744 RANCHI 08987788599 ROURKELA 08260711943 TRIVANDRUM 08086011015
UDAIPUR 09829041733 VADODARA 07043 959060 VAPI 08758294011 VISAKHAPATNAM 07093802468 V.V. NAGAR 09825028050

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iimmedu@iimm.co.in

IIMM - National Headquarters (Education Wing)
CBD Belapur, Navi Mumbai-400614

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