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अगरतीय सामग्री प्रबंधन संस्थान Indian Institute of Materials Management



Former National President - IIMM Ex-Director (Army) - Ministry of Defence (1-1-1949 to 20-11-2020)

Shraddhanjali

IIMM Legend and our Most Respectable Late Dr. M.K.Bhardwaj



Shri Malay Mazumdar, National President and entire IIMM Family

SHRADDHANJALI

"The saddest moment is when the person who gave you the best memories, becomes a memory"

Late Dr. M K Bhardwaj, after his brief illness left for heavenly Journey on 20th November 2020, survived by his wife, only son, daughter in law and grandchildren. The sad demise of Dr. M K Bhardwaj has left a huge vacuum in Social Circle, family and most importantly in Indian Institute of Materials Management (IIMM).

Dr. Bhardwaj, popularly known as Birdy in Indian Army, Ministry of Defence and MKB in IIMM carried a special place in the hearts of people. Any of the lives which touched him was influenced by his sincerity, simplicity and his that aura. Smile was his one of the unique features which not only brought happiness to others but resolved many issues and carried people with him.

Dr. MKB had been associated with IIMM for more than three decades and served IIMM in various capacities at Branch Level and rose to a level of National President in 2003. He gave IIMM a new structure, new shape, new status of Professional Body. Besides he was responsible for a big achievement of bringing IIMM in the list of Standalone Institutions where only few other good institutions like Symbiosis, NMIMS, Welingkar, AIMA, MIT, IMT etc. were provided similar status. He always had the passion of taking IIMM to further greater heights.

He had been instrumental in upgrading the status of education at various levels by getting the IIMM Flagship programs and also getting recognition by UGC/DEB (GDMM, PGDMM) and later by AICTE (PGDMM, PGDSCM&L). He brought the concept of MBA (MM) which later extended to MBA (SCM) also.

MKB had the distinct feature of carrying people with him at various levels. He was one of the prime persons who launched various successful shortterm courses including Professional Diploma in Public Procurement (PDPP) with World Bank, Professional Diploma in Contract Management for SAIL and CIL, Certificate Course in SCM for JSPL. Education but he was equally good for rendering services to Members. Materials Management Review is one such example, which got shifted from Pune to Delhi in 2002. With his able and persistent efforts, a bimonthly journal TMM was converted to monthly journal and registered under RNI with a license to post the Journal at highly discounted rates of Rs 0.70/- per Journal to IIMM Members as against more than Rs 5/- in normal post earlier. He also suggested to extend celebration of MM day to a whole week and render services to economically weaker section of society

Dr. M K Bhardwaj, was an epitome of compassion, of duty, of style, of professionalism, of dedication and of selfless humanity, who worked round the clock with only one aim to serve IIMM till the last day of his life. A real tribute to a man of his stature would be to realise his dream of taking IIMM to further greater heights, a new level of recognition and visibility amongst Government, Public and Private Sector.

Dr. Bhardwaj was decorated with **Chief of the Army Staff Commendation Medal** for outstanding contribution & significant services rendered by bringing reforms in the Inventory Control Wing of Indian Army. His contributions for the promotion of profession of Materials Management was so immense at National and International level that, International Federation of Purchasing and Supply Management (IFPSM) conferred upon him prestigious **Garner Themoin** and **Hans Ovelgonne Award**.

Last but not the least, Dr. M K Bhardwaj, stand tall enough as human being of unique qualities which he used excessively for the betterment and inclusive growth of IIMM as whole.

We are all united to pay our respect to the departed soul and pray to god for giving enough strength to his family to bear this irreplaceable loss. May the departed soul rest in peace.

OM SHANTI

He was not only outstanding in the area of

From the Desk of The National President

Dear Members,

Greetings from National President!!



Dr. M.K.Bhardwaj's untimely demise on 20th November 2020

came as a great shock to the entire IIMM fraternity in the midst of ongoing Pandemic. Within a span of 2-1/2 months, IIMM lost two of the great Academicians in Prof. A.K.Saihjpal and Dr. M.K.Bhradwaj. A sudden vacuum is created in the Education wing which is very hard to fill. Dr. M.K.Bhardwaj was a real foot soldier of IIMM, who worked 24x7 for the cause of IIMM. In the virtual condolence meeting held to pay our last respect to the departed soul, every member spoke from their heart by expressing their feeling towards Dr. Bhardwaj. He was popularly referred as Bishma Pitahmaha of IIMM, whose towering presence always energized and motivated us. He had several qualities which is hard to find in a single individual such as having great soft skills, excellent liaisoning ability, untiring efforts to promote the cause of IIMM to name a few. He tirelessly worked to take IIMM to greater heights. In his death, we have not only lost a valuable asset for IIMM but also an excellent human being.

At the end of July-Dec. 2020 admission session, the Admission status for PGDMM and PGDSCM & L stands at 112 and 86 students respectively with total enrolment of 198 students. The number is slightly better than Jan. – June 2020 strength of 182 students but way short of the allocated quota of 800 students. The numbers are 17.5% lower than our previous strength of 240 students in the corresponding session in 2019. This is a real cause of concern. Although, the depleted numbers can be the fallout of Pandemic, but looking to the fact that online courses are gaining significance due to lockdown, we should capitalize on this. Declaring COVID-19 discount, instalment scheme towards fee payment were some of the immediate steps announced at the beginning of the admission season, still the final numbers are far below our expectation. A Lot of effort is made to ensure that the reading material is made available to the students on time. The study material for PGDMM and PGDSCM&L are now completely developed and from next session onwards, the books will be made available to the students on time. I appeal to all students to extend us the support by word of mouth publicity which will help us to get more students from next session onwards. All branches, course coordinators, IIMM members holding positions in various organization should put in their best efforts to improve the student strength.

As second wave of COVID-19 is slowly spreading across various states, we all should be utmost careful to follow the various protocol with respect to maintaining our health and hygiene. The advent of winter has further aggravated the situation as people are more prone to such health condition. The only silver lining is the news around development of various COVID-19 vaccine nearing completion and Government preparing the blueprint for Vaccine rollout. We all should acclimatize and ensure that we do not let off the guard till we reach the stage where majority of the population is covered under vaccination and we reach a situation of developing herd immunity.

My greeting to all IIMMites and their family members 'Á Merry Christmas and a Prosperous New Year 2021".

With Warm Personal Regards

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



MATERIALS MANAGEMENT REVIEW

🖻 IFPSM

Chief Editor & Publisher

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DESIGNING AND MANAGING LEAN SUPPLY CHAINS DR V K GUPTA FORMER CEO INDIA, JMAM, JMA GROUP, TOKYO, JAPAN FORMER PROFESSOR, IMT GHAZIABAD, INDIA dr.vkgupta@gmail.com

"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

n 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 fullscale implemention 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, overproduction, inventories, waiting and transportation. Lean principles concentrate on generating value by⁸⁸

http://www.tompkinsinc.com/lean-thinking-supplychain/ Accessed on May 1, 2016

- 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 Components¹⁰

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 sales¹¹¹¹

http://blog.procurify.com/2014/04/22/agile-leansupply-chain-management/ Accessed on May 7, 2016 **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



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/agilelean-supply-chain-management/ Accessed on May 7, 2016

(Footnotes)

¹ http://www.fujitsu.com/in/Images/fujitsu-leansupply-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-andastronautics/16-852j-integrating-the-lean-enterprisefall-2005/lecture-notes/7_lean_sup_ch_mg.pdf Accessed on May 1, 2016

⁴http://logistics.about.com/odsupplychain introduc tion /a/Lean_SCM.htm Accessed on April 1 2016

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

⁶http://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

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

¹⁰ http://www.tompkinsinc.com/lean-thinking-supplychain/ Accessed on May 1, 2016

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CUSTOMS FACELESS ASSESSMENT GOOD INTENSIONS – STRONG RESISTANCE SN PANIGRAHI, PMP, PROJECTS, LEAN SIX SIGMA, GST & FOREIGN TRADE CONSULTANT & TRAINER snpanigrahi1963@gmail.com

Trade Facilitation is a key enabler for simplification of procedures and reduction of barriers to the trade. The major Objective of Trade Facilitation is to Reduce Time and Cost for the EXIM community and help them become more competitive in the International Arena. In line with this momentum, CBIC has implemented next generation reforms through Turant Customs, strongly enabled by technology. The Components of the program are characterized by Three Key Attributes i.e. a Faceless, Contactless and Paperless Customs clearance processes. It is being rolled out in phases and is scheduled to cover the entire country. In this article we shall discuss on the Topic – Faceless Assessment.

Faceless Assessment is an IT-driven reform – a giant leap forward to Leverage Technology aimed to streamline trade processes for Faster Customs Clearance of Imported Goods at Lesser Cost to the Trade, Transparent Decision Making, Efficient and instill Accountability and Enable Professional Customs Administration Leading to Enhanced Ease of Doing Business.



Faceless Assessment enables an assessing officer, who is physically located in a particular jurisdiction, to assess a Bill of Entry pertaining to imports made at a different Customs station, whenever such a Bill of Entry has been assigned to him through an Automated System. This would enable uniform, anonymous Customs assessments and reduce interface between the Trade and Customs officers. Anonymity in assessment is a core feature of the Faceless Assessment initiative. This is aimed to reduce / eliminating the unnecessary need of a face to face interaction with a Customs official and providing uniformity in assessment across the country. Importers will now get their goods cleared from Customs after a faceless assessment is done remotely by the Customs officers located outside the port of import of Different Jurisdiction.



Objectives of Faceless Assessment

Faceless Assessment (also referred to as Virtual Assessment or Anonymised Assessment) uses a technology platform to separate the Customs assessment process from the physical location of a Customs officer at the port of arrival. This measure will bolster efforts to ensure an objective, free, fair and just assessment.

Key objectives of Faceless Assessment include:

- Ø Anonymity in assessment for reduced physical interface between trade and Customs
- Ø Speedier Customs clearances through efficient utilisation of manpower
- Ø Greater uniformity of assessment across locations
- Ø Promoting sector specific and functional specialisation in assessment

It is estimated that the Faceless Assessment initiative will help **slash release time to only few minutes and few hours, substantially lower than the present clearance times averaging three to four days**. Accordingly, Faceless Assessment is expected to have considerable impact on India's performance on various independent global assessments and boost the country's trade competitiveness, including ease of doing business

Faceless Assessment - Extended Across all Customs Ports in India

After running pilot programmes since August 2019, the first formal phase of Faceless Assessment commenced in Bengaluru and Chennai in June 2020 and is found successful. It primarily focused on cargo under Chapters 84 and 85 of the Customs Tariff Act, 1975. These Pilot Programmes helped test Faceless Assessment first in the same zone, then across zones. This was followed by other phases covering new Customs locations and

new items of import. Post validation of the expected outcomes, it has been decided to roll out the programme nationally and now being extended across all Customs Ports in India to usher a more modern, efficient, and professional Customs administration, with resultant benefits for trade and industry.

Faceless Assessment is based on the **Customs Automated System** assigning a Bill of Entry (BE) that is identified for scrutiny (non-facilitated BE) to an assessing officer, who is physically located at a Customs station, which is not the port of import.

Present Local Assessment Practices: It was seen that despite a centralized automated IT framework for carrying out Customs assessment, the varying assessment structures in the Zones were not compatible with the CBIC's mission of having uniform and standardized Customs assessment practices. Moreover, as the assessment was being done in the port of import itself, local assessment practices would invariably creep in, despite all attempts at standardization. The different structures were also found to contribute to differences in dwell time of cargo, thereby bringing down the overall efficiency. **Thus, it was clear that a fundamental change is warranted to meet the objective of the CBIC in providing a most efficient, transparent and standardized Customs assessment experience.**



New Customs Assessment - a Fundamental Change in Structure

The new Customs assessment structure moves away from the physical constraint of assessment by local Customs officers at the Port of Import. It redefines the roles of Customs officers for assessment, examination and other related processes along with changes in ICES and creates a superstructure of Faceless Assessment Groups (FAGs), Port Assessment Group (PAG), National Assessment Centres (NACs) and Turant Suvidha Kendras (TSKs). The new dispensation virtually connects Customs assessment officers from different jurisdictions and provides for enhanced level monitoring of Customs assessments based on assignment of import clearance documents by the Customs Automated System (CAS) to officers of the FAGs irrespective of the port of import of the goods.



Functions of the FAGs : With the introduction of Faceless Assessment System, the assessment part of the Customs clearance procedure would be delinked with the geographical location where the goods are available for examination and instead be executed by the FAG. Each FAG would have an all India jurisdiction There is no territorial jurisdiction assigned to FAG. Each FAG would have jurisdiction over the Bills of Entry assigned in the system to FAG, irrespective of the same being filed anywhere in India.

In the previous system the assessment would queue in the system to an official in the same territorial jurisdiction of the cargo. Now, an algorithm decides where it would go for assessment thus bringing anonymity.

The functions of the FAGs will include:

- As is the present practice, may accept the selfassessment or re-assessment of the BE and pass a speaking order3 (unless acceptance is confirmed in writing).
- Providing importers an opportunity of hearing through Query or via video conferencing in case the importer before proceeding with the reassessment.
- Assessing any BE assigned to them by the Customs Automated System, irrespective of the port where the goods have arrived.
- With the introduction of FAG, the assessment part of the Customs clearance procedure would be delinked with the geographical location where the goods are available for examination.
- The presence of FAG in a Zone is decided based on the import commodities profile of Customs location, quantum of BEs and availability of officers at DC/AC and Appraiser/ Superintendent level.
- The Principal Chief Commissioners/ Chief Commissioners of Customs may decide on the total number of officers to be placed in each FAG based on the volume of BEs for their respective zones.

Procedure for Verification of Assessment by FAG:

From an importer's perspective, there will be no changes to the process of filing a BE. He/ she will continue to file his/ her documentation including BE and supporting documents4 on the ICEGATE portal.



Procedure

- i. Customs Automated System will assign the BE to a FAG based on an inbuilt logic considering tariff entries in terms of either duty payable or highest assessable value, in that order.
- ii. FAG will assess the BE for purposes of duty determination and compliance to restrictions.

Accordingly, it may opt to:

- a. assess and verify BE basis documents available in e-Sanchit
- b. seek additional information or documents
- c. identify BE for examination or testing
- iii. In cases where the FAG seeks additional information, communication to and from the importer shall be managed electronically through the system (ICEGATE).
- iv. On the basis of evaluation and clarification (if any), the FAG may either accept or re-assess the BE. While re-assessing the BE, it may be ensured that the representation from the importer by way of query may be taken into account. The importer can if he desires waive this requirement.
- When the FAG re-assesses the BE and an importer disputes such re-assessment, the FAG shall issue a speaking order.
- vi. While accepting the self-assessment or re-assessing the BE, the FAG may provide instructions for 2nd check examination of goods along with directions to shed officers at the Port of Import.
- vii. Illustratively, instructions may include verification of originals, defacement of documents, taking custody of certain documents, seeking NoC from PGAs (Participating Government Agency) etc.
- viii. Where authenticity of a document is in doubt and

verification by an external agency is required, the same shall be communicated to shed officers at the Port of Import, for necessary action.

- ix. Requests for storage of imported goods in warehouse pending clearance or removal6 shall be processed via the TSK.
- x. Any assessment / speaking order passed by FAG, shall be appealable to the Commissioner of Customs (Appeals) at the Port of Import.

Workflow for BE under Faceless Assessment

Workflow for Self -Assessment & Re-Assessment



Workflow for 1st Check & Provisional Assessment

#	Scenario	Workflow
1	First Check	Approved for First Check by Faceless Assessment Groups,
		comes back to Faceless Assessment Group for assessment.
2	Provisional	Where prior permission is available, Faceless Assessment
	Assessment	Group to assess it. Bond and BG to be registered at local port
		of import. If no prior permission, BE to be sent to port of
		import for assessment.
3	Reassessment	Either through query or consent. Or in case First Check
	for valuation	is given for valuation by Charted Engineer etc., then like
		case 1.
4	Reassessment	If ordered by Faceless Assessment Group as first check, then
	for	test memo to be sent by port of import and send back the BE
1	classification	to Faceless Assessment Group with test report. Alternately,
	where testing	can be sent to port of import for provisional assessment
	is required	
5	First check but	Approved for 1st Check by Faceless Assessment Group but
	for provisional	assessment cannot be finalized by Faceless Assessment
	assessment	Group for want of further inputs/ test reports. To be sent to
		port of import for provisional assessment.



Key Considerations for Faceless Assessment

The Nodal Commissioners in the NAC shall co-ordinate to ensure that Faceless Assessment is implemented smoothly and creates no disruption in the assessment and clearance of goods. The following measures may be undertaken by the NAC:

Identification of Location of FAG

- i. NACs have identified Customs locations within each Zone, where Faceless Assessment pertaining to a group would be undertaken. The volume of import and availability and experience of officers was considered for this purpose.
- ii. It is critical to note that setting up adequate number of FAGs in a zone with sufficient number of officers is one key area which will enable faster disposal and more timely assessment

Uniform Assessment Practices

- i. Consider audit objections, judicial and quasijudicial decisions accepted by the Department relating to the assessment of the goods to be handled by the FAG under the concerned NAC and circulate among the officers
- ii. Identify variations, if any, in assessment practices and harmonise them for application across FAGs for uniformity of assessment.
- iii. Ensure that imported items are properly declared along with full details to ensure proper classification and eligibility for notification benefit.
- iv. Keep track of all instances where the description is falling short of requirement and report the same in a monthly bulletin for the benefit of importers and customs brokers.
- v. Study present assessment practice concerning major commodities in the Groups being imported at customs station and being assessed by them.
- vi. Ensure uniformity in classification, valuation, exemption benefits, and compliance with import policy conditions
- vii. Endeavour to reduce incidence of queries and issue public/ trade notices from time to time to sensitise trade on good practices required to reduce incidence of queries. For e.g. sensitizing trade to provide complete details and description of a commodity such as brand name, model and any other specifications essential for the assessment
- viii. FAG officers shall make use of WCO explanatory notes, Classification decisions, Classification opinions available on WCO website.
- ix. Maintain valuation circulars issued by DGOV regarding goods covered under the Groups and ensure valuation is in line with issued alerts.

- x. Access to the National Import Data Base (NIDB) should be taken by FAG officers and they may resort to verification of valuation and classification of an imported product in the National import database.
- xi. List demands raised u/s 28 against an importer by DRI or other agency (apart from audit objections on classification, exceptions etc.) relating to goods covered under the group during the last 5 years and ensure that the assessment is done after considering the precedents contained in the said cases/ audit objections.
- xii. RMS instructions may be complied with.
- xiii. Whenever RMS instructions are not related to imported goods in a BE, same shall be recorded and shared with Commissioner on a daily basis.

Grievances Redressal : For system related issues, first point continues to be ICEGATE Helpdesk (https:// www.icegate.gov.in/contact_us.html). For other issues, every Port of Import has to set up Turant Suvidha Kendra to redress grievances related to delay in clearances including Faceless Assessment. The contact details are available in https://www.cbic.gov.in/htdocscbec/enquiry-points. Further, an officer at the rank of Additional Commissioner/ Joint Commissioner is also designated at each port to take care of timely redressal of grievances and escalation.

Functions of Turant Suvidha Kendra

Turant Suvidha Kendras at the Port of Import will be responsible for all documentary processes requiring physical submission / verification at the Port of Import.

Illustratively, their functions include:

- Accept bonds or Bank Guarantee;
- Carry out any other verifications that may be referred by FAGs;
- Defacing of documents/ permits licenses, wherever required;
- Debit of documents/ permits/ licenses, wherever required;
- > Handle queries related to assessment; and
- Other functions determined by Commissioner to facilitate trade

Conclusion : CBIC has initiated many innovations in recent times (facilitating measures of course out of compulsions due to COVID -19) aimed at reducing physical interactions between trade and customs and paper less transactions & customs clearances (e-Sanchit & Faceless Assessment) increase objectivity, freedom and fairness of the assessment process in addition to enhancing quality of assessments and inducing greater efficiency and transparency.

The phased roll out of faceless e-assessment in particular is a welcome initiative in the Direction of Ease

of Doing Business, as it obviates the physical interface between the importer and customs authorities. Assessing officers physically located in a particular jurisdiction will assess bills of entry of imports of a different customs station or port, which will be assigned to them through an automatic system. The processing will be done without any direct interaction between the importer and Customs authorities, thereby, significantly reducing the cargo clearance time and transaction cost and also expected to reduce disputes and ensure uniformity in assessment.

Comments

Though introduced with Good Intension, Contrary to the General Expectations, the Real Experience proving other way with extensive delays in most of the Cases and leading to Additional Costs to the Importers in terms of demurrage, detentions etc. Trade also Expressing Confusion Galore with Customs Officials Hapless.

The Habitual Hungry Hunting Attitude of Officials who have dexterity in practicing Easy Money Making & undue Enrichment with their Policing Mind Set is a Biggest Stumbling Block for Implementing the Well-Intended System, as it seems the Officials are willingly Creating Troubles rather Resolving the issues.

The Customs Brokers (CBs) / Customs House Agents (CHAs) are Not Happy as the Faceless Assessment hitting their Business which they have developed over a period of time & established good Rapport & Understanding with the Local Officials and Smoothened their Operations in Connivence & Collusion with the Local Authorities. Now Vested Interests of both the Customs Brokers as well as Official are hit very hard, therefore naturally there will be Resistance, that is making the System to Fail off course at the Cost & Disadvantage to Trade & Importers.

It will also make a Break of Fraudulent & Fake Operations which are Continuing in the Trade with the Protected Shelter of some unscrupulous Officials at every Local Level of Customs, therefore there are some forces operating to make the New System Fail.

There are also apprehensions that with the RMS (Risk Management System) in place, the practice of routine assessment, concurrent audit and examination of almost all Bills of Entry were discontinued long back and now mostly (80%) Bills Entry are being cleared Automatically without Assessment & Examination and therefore the New Faceless Assessment System doesn't provide much relief & benefit to the Trade but reflection of Trade is that the New System Creating more Confusion & unnecessary hiccup in the Name of Enabling High Technology.

To make this initiative a success, more & more interactions between Trade & Customs Officials is very much essential with official's positive & friendly

approach for understanding the real issues, analysing feedback on experience of using the system by trade and try to come out with Resolve Attitude rather Defending Mode.

Over a Time in case these new initiatives work well & smoothened, then the Importers may themselves can fill the Bill of Entry & make Customs Clearances without hiring External Third-Party Assistance.

References

- 1 Circular No. 45/2020-Customs regarding Faceless Assessment – Measures for timely assessment of Bills of Entry and clarification on defacement of physical documents dated 12.10.2020
- 2. Circular No. 40/2020-Customs regarding All India roll out of Faceless Assessment dated 04.09.2020
- 3 Public Notice 59/2020 regarding 2nd phase of All India roll-out of Faceless Assessment dated 05.08.2020 (at New Customs House, ACC Delhi)
- 4 Office Order 19/2020 regarding 2nd phase of All India roll-out of Faceless Assessment dated 03.08.2020 (at ICD TKD)
- 5 ICES Advisory 25/2020 (Turant Customs) regarding Implementation of Phase II of the Faceless Assessment dated 31.07.2020
- 6 Standing Order 02/2020 regarding Advisory to the officers of Faceless Assessment Group dated 12.06.2020 (at Bengaluru Customs Zone)
- 7 Circular No. 28/2020-Customs regarding 1st phase of All India roll-out of Faceless Assessment dated 05.06.2020
- 8 Instruction No. 09/2020-Customs regarding 1st phase of All India roll-out of Faceless Assessment dated 05.06.2020
- 9 ICES Advisory 19/2020 (Turant Customs) regarding Rollout of Phase I of Faceless Assessment

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CONTROL OVER LOGISTICS COSTS- VITAL NEED OF THE DAY (ESPECIALLY IN THE PRESENT PANDEMIC COVID19 SITUATION FOR EFFECTIVE SUPPLY CHAIN PROCESS).

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RE FACE: Cost control is vital to every profitable, National/ International supply chain. All processes of the supply chain generate expenses- from extracting/ procurement of raw materials for manufacturing parts or assembling into finished products/components. Further, other costs include –Cost for: ordering, order monitoring. Another major cost center in supply chain process is logistics, including storage, Local/ international freight and distribution/supply to customers. Generally, this cost component for Logistic takes less attention as compared to efforts for getting better price. Hence this paper brings few relevant aspects in simple way, especially for better understanding by new SCM Mangers.

Hereunder, exploring as to how to get greater insight into freight and logistics costs and how to introduce / monitor, better controls to bring down.

1. Prime requirement is to - Collect Data on as to How much Logistics Service Providers are charging/ actual payments made to them:

> One (user) can only start, to get Logistics costs under control, when charged amounts are known. For this, it is essential for getting all Logistics Service Providers (LSPs) giving service, onto a common reporting structure, to analyze/ reconcile costs throughout supply chain. It is very important to collect all that cost information into one place, whether LSPs use common centralized platform OR user's supply chain tool integrates with LSPs systems.

2. To Create Reports and Dashboards, to show Clearly / to Highlight, Logistics Costs

Getting on board the logistics cost data is one thing, but using the same, after its good analysis and metrics, for exercising control is matter of judgment. Here's how to turn your logistics information into actionable cost controls:

- To make sure and ensure consistent reporting as per laid down system, from all logistics providers and apply filters and data cleansing to information, for like to like comparison, for correct decisions.
- Go down to the right level of details with each logistics provider ie require costs to transport every individual item, by the container load/ truck load, or something else? Implement sensible granularity into price requests.
- Measure the right things, as cost isn't the only factor. The important steps would be to see, quantity for transport, delivery time lines pre decided, product price for sale, payment methodology. For example, dispatch through air freight, which is more expensive, but products reach market faster, so one, can't use cost in isolation.
- Adopt the total cost concept, for transporting an item, from original materials extraction through to getting it into the hands of a customer.
- Create, at-a-glance dashboards with live, updating cost data to measure costs at all times. Apply thresholds and alarms for when costs are getting out of control.
- Create customized, detailed reports to enable to penetrate into the details of logistics costs, to identify areas for improvement on regular basis/ at fixed intervals.

3. Get Industry Standard Benchmarks for Logistics Providers to Ensure charges are apt/reasonable and not Overcharged

It's important to compare logistics rates and

make sure they're within reasonable bounds. There are a few ways to do this:

- Compare rates between different logistics companies to understand the range of fees that being paid/ paying.
- In terms of market survey, contact supply chain management colleagues in similar niches and industries to see what they're being charged/ what they are paying.
- Get analysis and market reports on logistics rates, perhaps through in house team or through a consulting service(if business component is very high)
- Look at the rates being charged respective LSPs, versus what should be charged and complete an audit to understand differences.

This will help to find any pricing anomalies and will be a good basis for negotiating prices further/in future.

4. Renegotiate Logistics Contracts and Service Level Agreements

Once detailed understanding is arrived on current rates, industry benchmarks and a good statistics on needs, it's time to go back to freight and logistics providers to get better contracts in place by focusing on the following:

- If there are discrepancies between previously agreed prices, rate cards and what should be charged, ensure these are all agreed, and that correct charging and methodology is incorporated into new logistics contract.
- Put robust/ strict service level agreements (SLAs) in place with appropriate penalty clauses for related areas like late shipping, damaged goods, etc. Insist that logistics providers report against these agreed targets and carry out spot audits to ensure they're providing accurate information.
- Store all contracts and agreements in a central repository, so that all supply chain managers and logistics providers can access them and ensure targets are being met.
- Build cost and SLA metrics into reporting lines and dashboards, together with new thresholds that were agreed upon.

Create a proper "by exception" escalation process if SLAs are not being met or costs are going out of control.

5. Advice on Reducing Logistics and Freight Prices Further

The areas discussed above, are just a baseline minimal for getting better pricing in place, mainly through negotiation and contracts. As any supply manager knows, there are several other changes, can make to introduce more cost controls.

6. Understand Assessorial Logistics and Freight Costs

This needs critical attention, rather discuss with LSPs in advance by spelling out action wise charges, if they occur considering all unexpected delays etc. Assessorial (or accessorial) unexpected delays or additional services provided costs are charges levied by logistics providers for equipment, fuel and other miscellaneous charges. To make sure that during negotiations itself, all of these costs (applicable on case to case basis) are built into contracted prices. It is also recommended that to ensure, logistics providers to spell out detailed information on how they're assessing and charging for assessorial fees. In general these are assessed, after shipment/dispatch is completed, making it difficult to forecast final costs. The Important ones are-lift gate, redelivery, layover (delays in loading), reweigh, advance notification, limited access, lumper or driver load/ unload, residential (unloading at a location specified after reaching the recorded destination), inside delivery/ white glove service, metro pick up/delivery, fuel surcharge, over sized/length, sort/seg(applicable to deliveries into grocery warehouses), hazardous material, after hour deliveries, TONU-Truck ordered, not used, diversion distance, additional stops, storage(charged on hour/day basis), detention,

7. Create the Right Blend of Logistics Service Providers Based on Necessity/ Speed/Destination/delivery time lines

As known, there are number of options for transporting goods, viz., ocean, rail, road and air being the main choices. Hence to make sure to have appropriate contracted LSPs in place for each, enabling SCM team to quickly choose the right type of provider that balances cost, business needs, speed to market and other factors to maximize competitiveness and profitability. Also consider that many LSPs provide value added services such as fulfillment and postponement. Accounting these along with transportation services can often result in a pricing break. This factor need to prioritize what "value" this holds and balance the benefits of outsourcing against in-house on the table of negotiations to achieve good savings.

8. Build Freight Accrual Costs into Price Reporting

Freight accruals are charges that an LSP is planning to charge based on services they have provided. Make sure that freight accruals are part in reporting, to have a complete picture of incoming fees. Here, one needs to be cautious because freight accruals are the opposite of paid expenses. While these pre paid expenses represent assets on balance sheet, accruals are liabilities. Although these accrual costs may seem complex, can be chandelled similar to most other business expenses, with constant updating on market trends. It is also fact that the freight accruals helps to keep track of accounting cost of goods along with connected shipping costs.

9. Use IoT Monitoring Tools to Track Location and Condition of Products

IoT helps to identify bottlenecks and delays in transportation by getting updated, real-time location data on where goods are.IoT devices provide GPS tracking, helping to eliminate delays and associated fees. If environmentally sensitive products like food or chemicals to be handled through transport, IoT monitoring will give early indication, if issues, which would incur costs through wastage and needing to re-transport of goods.

10. Optimize Routes and Distribution through Al and Machine Learning

Al and machine learning can work with mapping software to create optimal routes for distributing goods through the supply chain, and also to create custom exception alerts. This can save LSPs time, thereby reducing what LSPs charge.

11. Periodically Audit Logistics Service Providers to Ensure fair charges by them.

Build audits into contracts with LSPs to understand their charges are in line with the reality on the ground.

CONCLUSSION: Any progress made on understanding and managing logistics costs in the supply chain will

help to control fees and eliminate unnecessary charges. Start by getting good information gathering and reporting in place, and once you understand the baseline, use that data to negotiate better contracts and introduce other effective controls. Another point to recognize is, logistics costs are almost never stable and percentage used to factor them which is typically based on averages, will result in financial risks and unnecessary actions on the back end of a shipment .One of the best practice to have full transparency in the cycle of freight shipment is - introduction of TMS (Transport Manage System) which will help organization at better effective scale to increase shipment visibility resulting in control of Logistics costs. An optimized freight accounting process will save significant time, money and there by ensure accuracy of records leading to correct data inputs to control Logistics costs.

(Ref. Findings from Research works/ Net working discussions/Internet et/Self experience.) As a special case, mentioning "the end" to this article, by paying Respectful **HOMAGE/SHRADDHAANJALI** : to our beloved **IIMM's Great Personality**, **Dr.MK BHARADWAJ JI**, on my behalf & on behalf of IIMM Hyderabad.



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GST CASE LAW UPDATE – OCTOBER 2020

CA SUDHIR V S sudhir@hiregange.com

1. Supply of goods and supply of service made form different registration of the same taxpayer is neither a works contract nor composite supply?

Advance Ruling in the case of Vertiv Energy Pvt Ltd 2020-TIOL-50-AAAR-GST has ruled when the goods are supplied from one registration and the installation of such goods has been made from different registration would not be a composite supply.

Facts:

- 1. Single contract for supply and installation of UPS with separate consideration
- 2. UPS supplied by Maharastra registration by issuing the invoice.
- 3. Installation service started after the transfer of ownership of the UPS
- 4. Installation service billed from the Delhi Registration

Ruling: The presence of two taxable persons would clearly preclude the impugned supplies from being considered as being in the nature of composite supply, wherein one of the essential conditions is that there should be a single taxable person who is undertaking all the supplies involved in a particular transaction.

Comment: The crux of the ruling is that the supply of installation service is after the transfer of ownership of the UPS and hence the same is neither a works contract nor a composite contract. In which case, individual tax treatment needs to be given for the respective supplies. If the same is done together then it could be treated as a works contract. Merely the same is billed from two different registration will not take away the essence of the transaction.

Action Point: For all the contracts where there is a supply of goods as service the point of transfer of title in goods and the supply of service thereon needs to be determined for the appropriate tax treatment.

2. Contesting the show cause notice vis a vis settlement

The High Court of Kerala in the case of Nadiya Timbers Vs State Tax Officer 2020-TIOL-1656-HC-KERALA-GST has held that when the scheme under Section 74 for avoiding a show-cause notice is one that is optional to an assessee, the assessee has either to opt for it or look away from it.

Provision: Section 73 (5) of the CGST Act provides payment of GST, interest, and penalty of 15% (u/s 74) on his ascertainment and inform in writing then no show cause notice can be served.

Comment: In case of the notice proposed to be issued under 73 (non-fraud cases) the amount to be paid before the issue of SCN or after the 30 days of issuance of the SCN has the waiver of penalty. But allows fighting out the case to its logical end. In case of notice proposed to be issued u/s 74 (fraud cases) having an interpretation issue may opt for seeking notice and pay a 10?ditional penalty and get an opportunity to contest the case to its logical end.

3. Blocking of the e-credit ledger – Mismatch of GSRT - 2A and 3B

High Court of Delhi in case of Goyal Iron And Steel Traders 2020-TIOL-1617-HC-DEL-GST directed to decide the matter by way of a reasoned order where the electronic credit ledger was blocked citing a mismatch in the Input Tax Credit claimed in GSTR-3B and that appearing in GSTR-2A.

Comment: Rule 86A (blocking of credit) is becoming a powerful tool in the hands of the department, by blocking the credit when there is a 'reason to believe'. This decision required the passing of the reasoned order considering the representation of the assessee, it cannot be just automatic. Further Rule 86A does not provide the mismatch of credit in 3B & 2A as a reason for blocking the credit. This rule of 86A has been challenged in High Court of Gujarat in the case of M/s Kalpsutra Gujarat V/s UOI 2020-TIOL-1558-HC-AHM-GST.

Action Point: Where the credit ledger is blocked, a speaking order to be insisted. So that the opportunity to cure the defect would exist.

4. Misclassification and voluntary registration perse will not create liability

The High Court Of Gujarat in the case of M/s N J Devani Builders Pvt Ltd Vs. UOI 2020-TIOL-1672-HC-AHM-ST held petitioner had voluntarily registered under the head of 'commercial /industrial construction services', the petitioner is liable to pay service tax, is not tenable as the petitioner cannot be held to be liable to pay service tax before 01.06.2007, where, it is not in dispute that the petitioner was rendering 'works contract service', taxable only from 01.06.2007.

Comments: It is a settled law that the Principle of Estoppel does not apply to fiscal statute, which means the taxpayer is not bound by his previous act of assessment. In case anyone has adopted a wrong classification, the wrong rate of tax or wrong valuation, that can be corrected. The previous act which was incorrect shall not be binding on the taxpayer's present assessment.

5. Property sold during the pendency of proceedings – Void?

The High Court of Madras in the case of Mrs Saraspathy Sundaraj 2020-TIOL-1677-HC-MAD-VAT has held since the defaulter had transferred the property in favour of his brother's wife, by appointing his own brother as the Power Agent to act on his behalf and such a sale has happened within six months from the date of which the demand of arrears of tax was made, it can be said there are no bona fides in such a transfer.

Comment: Section 81 of the CGST Act, 2017 voids certain cases of transfer of property made to defraud the Government revenue. The proviso also provides that the transfer shall be valid in case

- 1. The transfer is made for adequate consideration, in good faith and without notice of the pendency of such proceedings under this Act, or
- 2. Without notice of such tax or other sums payable by the said person, or
- 3. With the previous permission of the proper officer

Action Point: As a bonafide buyer, one has to ensure to check if there are any tax dues/pending litigation and the payment of adequate consideration as a part of their due diligence

6. Time limit not applicable for the refund to SEZ

The Delhi CESTAT in the case of Lanco Solar Pvt Ltd Vs CCT, CE & C 2020-TIOL-1480-CESTAT-DEL has held that the ab initio exemption provided under the SEZ provisions, having overriding effect on the service tax provision. Under such position of law, a notification under service tax cannot restrict or provide a time limit for grant of refund to the SEZ unit and developer.

Comments: The SEZ Act has an overriding effect on the GST, thereby any supplies to SEZ used for the authorised operations, should be eligible for exemption irrespective of the conditions and limitations imposed in the GST provisions.

7. Vague SCN

The High Court Of Gujarat in the case of Mahadev Trading Company 2020-TIOL-1683-HC-AHM-GST has held the show cause notice is as vague as possible and does not refer to any particular facts much less point out so as to enable the noticee to give his reply. The impugned show cause notice and the impugned cancellation order are hereby quashed.

Comments: The process of the SCN, personal hearing, and the order thereon are as per the principles of natural justice. This has to be followed in its true spirit. An order passed deviating the same is liable to be quashed.

Action Point: Once the SCN is challenged on this ground and gets quashed, the same could be issued again by curing the defects within the prescribed time limit. One has to take the grounds on merits so that there would be no back and forth.

8. Sale V/s. Job Work

Maharashtra Authority For Advance Ruling in the case of Kolhapur Foundry And Engineering Cluster 2020-TIOL-263-AAR-GST have ruled where the principal sends minor input to the job worker and all other inputs and goods utilized in the final products belong to the job worker then the said process cannot be considered as job work.

Facts to consider:

- 1. The principle/Customer has supplied waste sand which had Nil value and the treated sand was purchased for market value
- 2. The principle/customer has no right over the sand which has been dumped, rather he could demand the processed sand in that proportion
- 3. Waste sand is stored at common pool Storage Location for production activity and it is not possible to segregate the sand as per the receipt from foundries

Comment: The main differentiating factor to be categorised as the sale or a job would identify the dominance of the transaction, supply of service on the goods sent by the principal, or the goods that have been incorporated by the supplier?

9. Tax payment in instalments

The High court of Kerala in the case of Malayalam Motors Pvt Ltd vs. assistant state tax officer 2020-TIOL-1711-HC-KERALA-GST permitted to discharge the tax liability, inclusive of any interest and late fee thereon, in equal successive monthly installments.

Comment: Section 80 of the CGST Act, 2017 allows payment of tax due (other than the due self-assessed in any return) in monthly installments not exceeding 24 months. GSTR -1 is not a return. In case of temporary financial distress in the erstwhile Central Excise regime Circular No. 996/3/2015-CX, dated 28-2-2015 provided for payment of the tax dues in installments.

Action Point: If there is a financial crunch due to pandemic/other reasons, one can file the GSTR-1 and seek payment of the tax in installments.

10. Wrong Classification – No detention of Goods in Transit

The High Court Of Kerala in the case of Asharaf Ali K H Vs Assistant State Tax Officer 2020-TIOL-1717-HC-KERALA-GST held the allegation of misclassification of goods cannot warrant detention of the goods during transit. If the officer feels that there have been misclassification of the goods, then a report to be prepared and sent to the Assessing Officer, who can consider the said report and objections at the time of finalising the assessment.

Comments: This has been one of the reasons the common reason why the goods are retained during the transit. This judgment would be handy where there is a classification dispute of the goods being supplied.

Action Points: Representation needs to be made to the State GST Commissioner drawing their attention to various such judgments and request a circular or the internal instruction for the procured to be followed in case of a classification dispute.

11. Provisional Attachment – Pending Investigation/ Adjudication/Assessment

The High Court Of Gujarat in the case of Khushi Sarees Vs State Of Gujarat 2020-TIOL-1733-HC-AHM-GST has held the order of provisional attachment of immovable property under Section 83 of the Act is quashed and set aside.

Comment: Section 83 of the CGST Act, 2017 provides provisional attachment of the property if the Commissioner is of the opinion it is necessary so to do to protect the interest of the Government revenue. The issue that comes up is what makes the commissioner form such an opinion during the investigation or adjudication of the assessment

Pointer from this decision:

- 1. There must be material based on which alone the authority could form its opinion, if challenged it must be disclosed.
- 2. Word "may" indicates an obligation to consider that a necessity has for provisional attachment to protect the interest of the revenue
- 3. Authority cannot be on the imaginary ground, wishful thinking, howsoever laudable that may be
- The statutory requirement of reasonable belief is to safeguard the citizen from vexatious proceedings

12. Mobilization Advance Taxability

The Mumbai CESTAT, in **Gammon India Ltd Vs. CST** 2020-TIOL-1526-CESTAT-MUM had held demand on Mobilization advance is not consistent with law and deserves to be set aside.

Pointers from the decision:

- Not linked to the work but a pledge of the contract between the appellant and principal.
- It is subject to furnishing of 'bank guarantee';
- It is not having any connection with the performance of the contract.
- It is carrying interest,
- It is a separate financial transaction within the contract for providing service

Comments : Proviso to Section 2(31) of the CGST Act 2017 provides that deposits shall not be considered as payment made unless the supplier applies such deposit as consideration. Thereby mobilization advance can be a deposit, and GST to be paid only on adjustment against the Bill.

13. An order passed without granting Personal Hearing

The High Court of Madras in the case of Jansons Industries Ltd Vs State Tax Officer 2020-TIOL-1759-HC-MAD-VAT has held orders are contrary to law insofar as they are non-speaking and have been issued in violation of principles of natural justice, despite the specific request of the petitioner for personal hearing.

Comment: There have been many instances where the

order passed does not speak out in terms of reasons to confirm the demand. Further order passed to comply time limits without granting Personal Hearing. This judgment can be used in all such cases. The de-novo order in case of remand has to be within the prescribed time limit.

14. Interest for Delayed refund – From the date of application or date of order?

The Bangalore CESTAT in case of Scribetech India Healthcare Pvt Ltd Vs CCT 2020-TIOL-1550-CESTAT-BANG ordered for the interest for a delayed refund on the expiry of period of three months from the date of receipt of application, following the decission Supreme Court in the case of Ranbaxy Laboratories Ltd. 2011-TIOL-105-SC-CX

Comments: Section 56 of the CGST Act provides interest if the amount not refunded within sixty days from the date of receipt of application. In general, the refund application is followed with a show-cause notice, adjudication, and appeal thereon. Finally, the refund is granted if eligible. In this context, the SC decision helps to claim the interest from the refund application's date.

Action point: Interest payment is not automatic. Hence, an application has to be made for claiming the interest in all cases where the refund is granted beyond 60days from the date of refund application.

15. E-way bill for a consignment of value < 50K>

The High Court of Kerala in case of Bon Cargos Pvt Ltd Vs Assistant State Tax Officer (INT) 2020-TIOL-1825-HC-KERALA-GST has held it is the duty of the transporter or the consignor, consignee to generate e-way bill when the aggregate value of the consignment is more than Rs.50,000/- and if otherwise ie., less than Rs.50,000/- there is no such requirement is not acceptable.

Relevant Provision:

- 1. Rule 138(1) provides that every registered person who causes movement of goods of consignment having a value exceeding Rs.50,000/- in relation to supply has to generate an e-way bill.
- 2. The proviso to Sub-rule 3 provides generation of the e-way bill at the option of registed person/ transporter to general e-way bill when the value of the invoice is less than Rs.50,000/-
- 3. Sub-Rule 7 provides the transporter to generate eway bill, where the consignor/consignee has not generated an e-way bill where the aggregate of the consignor value of the goods carried in the conveyance is more than Rs.50,000/-

Comment: In many cases, the consignment has been split to reduce each invoice value to less than Rs.50,000/- to avoid the generation of e-way bill. It is to be noted that the e-way bill is required when carried in the same conveyance even if the invoice value is less than 50,000 but exceed in aggregate.

Action Point: It is recommended to generate the e-way bill irrespective of the value to avoid any disputes during transportation.

Source: https://hiregange.com/a/gst-case-law-update-october-2020

NEW EDUCATION POLICY IS A BREATH OF FRESH AIR. HOW IT CAN BE IMPLEMENTED FOR BEST OUTCOMES MANIT JAIN

n today's age of the knowledge-led economy, developing human capital to drive India's next wave of socio-economic growth is critical. For the first time, there is an unequivocal admission by the policy makers that the existing system is obsolete. Key objectives of the NEP around reforms in curriculum, universalisation of early childhood education, national mission for foundational literacy, accreditations to shift focus from inputs to outcomes, and change in governance structures to ensure that the operator, the regulator and the adjudicator are not the same, are all laudable and potentially disruptive. The success of the policy will depend on five important factors.

Improve assessments and reduce stakes on examinations: Examinations in our country seem to be the be-all and end-all of the education process. Until institutions of higher education migrate to more holistic criteria for admission, we won't see a significant shift in the obsession with examinations. It's time we dropped the percentage system and arrived at results that provide just the grade or broad range of performance, so someone who scores 96% is not seen as lesser than someone who scores 98%. We need to adopt a system of admissions where kindness is valued as much as achievement.

Teacher preparation: NEP 2020 acknowledges that no reform will work unless the teacher is brought centre stage. We need to rightfully glorify and make teaching one of the most noble and aspired professions for the best and the brightest. Building on the medical residency model, we must attach all teacher education colleges to the top schools in the country. Theory and practice must go hand in hand, using every good classroom and every good teacher to make more teachers.

Greater overall investment: We'll have to put our money where our mouth is. As per UNDP estimates, the total financial requirement for India to reach SDG 4 by 2030 averages \$173 billion per year, far exceeding the current government budget of \$76.4 billion a year for education. Government schools spend about Rs 24,000-30,000 per child per annum, while in private schools, 91% of students pay lower than Rs 24,000 per annum. In contrast the average per student expense in the US is about \$13,000 per annum. **Opening up of the sector:** It's obvious that the government won't be able to shore up investments to the required levels and would need significant private participation. With the current regulatory structure and obsession with keeping it ostensibly clean through not for profit mechanisms, we're ensuring our students are deprived of quality education. If we need investments, we need to incentivise investors. Numerous politicians and bureaucrats have expressed that the whole not for profit agenda is a charade: "How can we expect institutions to invest Rs 100 crore in setting up schools and not expect a return on their capital?"

Not liberalising means keeping the sector unorganised, where all kinds of businessmen with no background interest or skills in education get into the field and run sub-standard institutions. If the sector opens up, we will see big chains coming in from within India and across the globe, who might have business interest but will ensure that there is a certain level of professionalism, efficient use of technology and scale to invest in research and development, to deliver more for lesser costs. We have also spoken to numerous parents, who are absolutely clear that they do not care about profit or not, so long as they have predictability in terms of year on year fees increase and there is quality education. Which is an absolutely fair expectation. For profit doesn't imply no regulation.

NEP isn't just a policy but a mission: Millions of parents and educators around the country have deep rooted and extremely outdated mental models of what education should be. Assumptions like – rote learning works, examinations and competition are a must even at a young age, we should follow one book, examination results equal intellect, we all did fine with this kind of education – are all barriers to change.

The government needs to run strong campaigns to emphasise the need for change and to invest in curriculum, structures and practices that re-humanise and re-build our ailing education system.

DISCLAIMER : Views expressed above are the author's own.

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SUPPLY CHAIN MAPPING: WHY IT MATTERS?

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Supply chain mapping allows buyers to access which supplier, manufacturer are potential, exposed to risk, mainly like national disaster, financial stringencies, helping in addressing the potential capability in supply chain. Supply chain is also interested to know, the bottlenecks involved in having a single supplier as sourcing of materials, having given an longer lead time in supply chain.

Supply chain traceability, allows supply chain mapping to substantiate claims, knowing the origin of materials, products, also by gaining better control over supplies, as to where from different materials are sourced, to enhance the buying power, also the commercial benefits, associated with rational benefits by leveraging the implementation of the best practices in supply chain.

Supply chain strategic management in mapping allows key sustainability challenges in supply chain, incorporating supply chain visibility, into a contractual agreement, incorporating sustainability, considering the internal compliance in supply chain.

Supply chain should also gather information on brand enhancement in supply chain mapping, so as to allow retailers, wholesalers, suppliers, as an evidence to claim the products manufactured, also used in different ways by the customer, consumer for the benefit of competition in supply chain.

Supply chain mapping has a greater visibility, for suppliers details can be made available, procurement is permeable to pass through risks, as to go hand-inhand with an effective, efficient, operations in supply chain.

Supply chain mapping has also the potential to threats, of suppliers find out the location of suppliers, as they are liable to prone to risks, non-delivery of materials, availability of raw materials, transportation, as this causes problems to buyers in the long-term in supply chain.

Supply chain management forms an integral part of mapping in every organization. In supply chain, it is not what the size matters, of the organization, it is pertaining to the activity of the management, the movement of materials, products, components, parts, throughout the organization, maximizing the requirement of customers value, achieving of making a substantial, sustainable, complete adaptability activity, of inventory maintenance, keeping track of raw materials, finished goods, which forms an important aspect in supply chain. In supply chain activity of mapping, becomes extensively important, in many organizations, but the areas of design, planning, execution, cost control, monitoring, in supply chain are areas with the objective of creating value, maintaining complete advantage of the leveraging of work with the logistics, thus considered being important in supply chain, with the main objective of considering the importance of mapping in supply chain.

Supply chain strategic mapping offers a basis for the re-design, modification, in order to help the visualization of supply chain identity, with the areas for further analysis, in order to recall the ineffectiveness, which are readily available when the examination of small segments, comes into existence in supply chain.

Supply chain mapping areas where scientific, industrial clusters, lack the consensus regarding the requirement of supply chain; this must be used as an universal identity, to take advantage of the mapping, in supply chain. Supply chain mapping helps visualize, identify problems, analyze, to examine the small segments in supply chain, with a good supply chain, achieving improved management techniques, progress, procedures, in supply chain.

Supply chain mapping operating with network, can be sometimes be considered to be complex, as they are expected to provide right the product service, to the required customers, at the right time, right place, as per the required specification, that continue to be available in supply chain.

Supply chain mapping covers multiple process, multiple organization, thus calling for an integrated approach, adding value, to the organization, apparently the supply chain design, which may not be sufficiently optimized to the performance in supply chain, thus in order to help supply chain, mapping must get involved in all the areas of supply chain.

Supply chain will help only to simplify the spatial relationship between the organizations, but will also be able to do the needful activities of the organization, business environment. Supply chain mapping can also be useful to enhance the strategic planning, process, distribution of information, facilitate supply chain redesign, modification, clarify channel dynamics, provide a common prospective by enhancing communication, facilitate inventory planning, also monitor supply chain activities.

Supply chain mapping strategy, provides a common prospectus of communication, providing a good basis of supply chain strategy, as the right information should be collected displayed, understood in order to provide integration in mapping between the two (higher or lower) levels of the organization in supply chain. Supply chain sustainability as a concept in mapping, has created an enormous pressure in supply chain management. Supply chain during the decades, have organization from different parts, to deliver, quality, right time, right place, to comply with environment, economical, ethical, with proper social measures in supply chain. Supply chain in order to improve the performances, should exactly know what is happening, along the supply chain, as it is also to know the supply chain mapping, to deliver the insights, as an important aspect in the business of performance, as the sustainability, to be improved in supply chain.

Supply chain mapping is considered to be an important aspect in supply chain, as there is a liability, of interruption loss, as to fire, explosion, machinery breakdown, faulty design, material manufacturing, human error, power interruption in supply chain. Supply chain mapping goes beyond merely taking into account, disruption, risk, posed by suppliers in supply chain.

Supply chain mapping is an approach of integrating suppliers, manufacturers, distributors, retailers, products produced, right location, right time, with materials goals, minimizing wide costs, satisfying customer requirements in supply chain. Supply chain management mapping synchronizes from process with its suppliers, customers, with a goal in matching the materials, services, information, with customer demand, in supply chain.

Supply with critical process in mapping include product design, production, delivery support, supplier customer relationship, in supply chain, need to integrate the goals, of effectively to compete, with dynamic global economy, focus on customer as a driver for improvement in supply chain, mapping based on cost quality, time responsiveness', improvement, which include flow chart, flow design, Blue prints, Xerox copies, process analysis, re-engineering link, charts, multi-activity analysis, Gnatt Chart in supply chain.

Supply chain mapping is considered to be an important aspect in supply chain, as there is the liability of interruption, because of fire, explosion, machinery breakdown, faulty design, material manufacturing, human errors, power interruption in supply chain,

Supply chain mapping also goes beyond merely takes into account, disruption, risk, posed by suppliers, in supply chain. Supply chain mapping is an approach of integrating suppliers, manufacturers, distributors, retailers, product produced, distribution in right quantities, right location, right time, with mutual goals, minimizing wide costs, satisfying customer requirement, in supply chain management. Supply chain should match the mapping with its suppliers, customers, consumers, with an ability to match the services, information obtained from customers, consumers knowing the prediction of demand in supply chain.

Supply chain mapping should know the position of Tier I supplier in sourcing, also to know the potential capacity of the Tier II, Tier III suppliers, if they considered a part of supply chain, while sourcing components, products, the location of the organization, branded goods supply, components required for manufacture of finished goods, as Tier II, Tier III suppliers do play an important role, in proper mapping in supply chain, if affected or failed to supply during the process of disruption, civil unrest, fire, financial strategic importance in supply chain.

Supply chain should create visibility in mapping information on not only on Tier I suppliers, but also Tier II, Tier III suppliers, so as to mitigate risk, being able to respond quickly, when there is any upward trend in supply that arises in supply chain. Supply chain should create a coordinated global supplier data base before moving on to build an accurate supply chain mapping detailing every supplier at every level in supply chain.

Supply chain mapping should support the benefits, by clearly defining the benefits to suppliers, a major incentive on the schemes, for the supplier, that will be able to understand the risks, in their own supply claims, improve their business resilience in supply chain, as initially suppliers become reluctant to supply information, initially if they are very sensitive, as this becomes an important assurance to control access to the improvement, as they may be commercially important with confidence in supply chain.

Supply chain mapping should work in collaboration with time, consumption, labor, activity intensively, making it an exercise, as a planning in the organization, share with suppliers the requirements, also the difficult task, for also an individual for the organization, to make things easier collectively in supply chain, with the most effective way of working in collaboration, with an effective cost in supply chain.

Logistic is a part of supply chain mapping process that plans implementation, control, efficient flow, storage of good services, with related information from the point of origin to the point of consumption in order to meet the customer's requirement in supply chain.

Supply chain environment is rapidly changing; globalization has changed supply chain, so the demand, influence, of mapping entities, being a professional, showing increasing levels of complexity, adopting management practices in supply chain has become essential.

Supply chain should take up the mapping upon the degree of complexity in managing supplier, from the point of origin on all products, services to point of consumption in supply chain. Supply chain should create with the end-user managing the supplier's network to the point of origin, so as to manage the entire supply chain, as it is difficult, challenging task in supply chain.

Supply chain purchasing function mapping developed by rapid communication, mechanism, electronic data interchange, internet linkages, to transfer the necessary data in supply chain. Supply chin rapid communication mapping provide a tool, also as a means to reduce time, costs, incurred on transaction portion of the procurement, as procurement focus on the efforts, on supplier mapping, managing suppliers placing orders, expediting goods, products, components, raw materials in supply chain.



MRO INVENTORY MANAGEMENT – AN INTRODUCTION CL ROY, B.SC(ENG.); MBA; CSCP[LIFE TIME DESIGNATION] LIFE MEMBER - IIMM (BANGALORE) CHIEF CONSULTANT, RA CONSULTING, BANGALORE roycl@raconsulting.co.in

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

2. Flow of Materials in Manufacturing Environment

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



Figure: 2.a.

2.1. Materials (or Items) : Oxford Dictionary defines **Material** as "The matter from which a thing is or can be made" while Cambridge Dictionary states that **it** is "A physical substance that things can be made from". Both the dictionaries define Material as input (Raw Materials) to manufacturing processes only. But in practice in manufacturing organizations, the term **Material** is used with a wider meaning. Joseph D. Patton Jr in his book Maintainability and Maintenance

Management, Page 13, Instrument Society of America, 1980, defines Material, as "All items used or needed in any business, industry or operation as distinguished from personnel". In the above definition, term Materials is equated with term Items. In practice Materials and Items are used synonymously.

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

Materials are generally classified as Direct Materials, Indirect Materials and Products. It is to be realized that as it is primarily an Accounting Control Classification, it is not easily amenable to other control measures especially Inventory Control of Indirect Materials.

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

2.1.2. Indirect Materials (Non-Production Materials or Facilitating Materials) : Indirect Materials do not become integral part/(s) of final products. However they are highly essential for manufacturing the products because they include Materials for aiding the Production Equipment and Facilities Operating and making them Available at rated capacity as per Production Schedule. Further they include Materials for facilitating and or accelerating Chemical Manufacturing Processes. As these materials do not become integral parts of Products or Jobs (Services), the cost of which is not identifiable with or directly chargeable to a specific product or job. Hence the cost is captured as overhead in a specific period and apportioned subsequently on some rational basis to all the products manufactured and or jobs completed in the same period as that of data capture.

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

3. MRO Items- What Does It Stand For?

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

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

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

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

BS EN 13306:2010 further defines **Overhaul** as follows: "Comprehensive set of **preventive maintenance** actions carried out, in order to maintain the required level of performance of an item. Overhaul may be

performed at prescribed intervals of time or number of operations". As Overhaul itself is an integral part and subset of Preventive Maintenance, there is no need to mention it separately in the expression MRO. And thus, according to this author, **Operations** is the right expansion of "**O**" in the expression of MRO and **not at all Overhaul**.

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

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

3.3. O in MRO stands for Operations : A few commonly used expansions of term MRO are given below:

- "Maintenance, Repair, and Operating" { 1] APICS Dictionary, Page 52, 2] IIMM, Glossary, Page 172, 3] JR Tony Arnold, et al., Page 259, 4] Eugene C. Moncrief, et al., Page 15, 5] Joel D. Wisner, et al., Page 32, 6] Peter Baily and David Farmer. Page 53.}
- **a\$** "Maintenance, Repair, and **Operations**". **{** 1] Philip Slater; Page 8, 2] Sunil Chopra, et al; Page 17, 3] P Gopalakrishnan et al. Page 27. **}**
- **b\$** "Maintenance, Repair, and **Operational**" **{** 1] JR Tony Arnold, et al., Page 257. **}**

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

3.4. MRO Expansion

Definition:

MRO stands for Maintenance, Repair and Operations.

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

Definition:

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

Major MRO Items include:

- Spare Equipment Units, Spare Parts, Special Tools and Equipment Accessories for Production Facility, Plant and Machinery. They can be Unique (Captive) parts, Standard parts, Commercial parts and Production & Industrial Consumables.
- Spare Equipment Units, Spare Parts, Accessories, Special Tools and Consumables for Fire and Safety System.
- Materials for facilitating and or accelerating Chemical Manufacturing Processes: Catalysts and Production Chemicals.
- Spare Equipment Units, Spare Parts, Accessories, Special Tools and Industrial Consumables for Auxiliary Systems for Operating and Supporting Production:

- o Material Handling Vehicles and Systems in Production Plant and Warehouse,
- o Cooling Water Plant,
- o Instrument Air System,
- o Hydraulic System,
- o Plant Electrical System,
- o Cooling, Heating and Ventilation System of Plants, etc.
- House Keeping and Cleaning materials and Consumables for Plant.
- Industrial and General Consumables for Plant use etc.

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

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

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

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

Definition:

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

4.2. MRO Inventory Management : This author's quest for an authentic definition of MRO Inventory Management revealed the fact that there is no comprehensive and proper definition readily available.

This led to the author's critical analysis and review of the definitions of Inventory Management as applicable to all Items in general, as available in some of the standard sources, the references of which are given below.

References:

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

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

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

Definition:

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

This definition has been evolved by combining the personal experience of this author in planning and controlling Spares to the level of nearly Hundred Thousand Items, in Chemical and Oil & Gas industries, with the substances derived from the critical study of definitions of terms such as Spare Part, Repair Part, Service Part etc. given by various authors in their books, the references of those are given in the ensuing paragraph:

References:

'\$ Joseph D. Patton, Jr, Pages 12, 13, and 14 Service Parts Management, 1st Edition, 1984, Instrument Society of America. a\$ Douglas K. Orsburn, Pages 319 and 320, Spares Management Handbook, 1st Edition, 1991, McGraw-Hill, Inc. b\$James F. Cox III et al., Page 87, APICS Dictionary, 9th Edition, 1998. c\$ MK Bhardwaj, Page 236, Glossary of Purchasing and Materials Management, 2nd Edition, 2002, Indian Institute of Materials Management. d\$ P. Gopalakrishnan and Abid Haleem, Page 227, Handbook of Materials Management, 2nd Edition, 2015, PHI Learning Private Limited. e\$Lt. General S. S. Apte, Page 24, Spare Parts Management. f\$ Philip Slater, Page 9, Spare Parts Inventory Management, 1st Edition, 2017, Industrial Press, Inc. g\$ Adin B Thomas, Page 31, Stock Control in Manufacturing Industries, 2nd Edition, 1980, Gower Press, Teakfield Limited. h\$ Page 517, Dictionary of Engineering, 2nd Edition, 2003, McGRAW-HILL. i\$ David Lowe, Page 226, Dictionary of Transport and Logistics, 1st Edition, 2002, Kogan Page. Plus Oxford, Cambridge, Merriam-Webster and Collins Dictionaries.

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

There are seven (7) distinct stages in the Inventory Life Cycle of Spares at the User End. These are shown as a self-explanatory Stock – Time Curve model (drawn **Notto-Scale**) in figure 4.2.1.a.:





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

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

Inventory Life Cycle Stage		Major Inventory Management Decisions
		Collection of Technical and Purchasing Data related to Equipment and their Parts, Matrix Bill
1	Project Stage	Of Materials of Equipment with Tag Numbers and Technical Literature and Equipment
		Manuals with emphasis on Data Correctness and Completeness.
		Decision on What to Stock and Preparation of Master Data Management with Initial
0	Induced and the second	Inventory Control (IC) Parameters. IC (Inventory Control) Parameters are: Inventory Planning
Ø	Introduction Stage	Category, Review Frequency, Re-Order Level, Minimum Stock, Service Level, Safety Stock,
		Maximum Stock, Economic Order Quantity, Standard Order Quantity, etc.
3	Initial Provisioning Stage	Decision on Order Quantities for Initial Provisioning and Where to Store.
9		Decision on Replacement of Commissioning Spares (Optional) and Replenishment of
4	Initial Operation Stage	Spares as needed with IC Parameter Updating.
		Decisions on What and When to Reorder and How much to Reorder based on Inventory
5	Normal Operation Stage	Control Parameters of Review Frequency, Service Level, Reorder Level etc. And updating of
		IC Parameters of Spares.
െ	Detingent Change	Identification of Surplus Quantities of Spares, , Obsolescent, Obsolete and Unwanted
9	Retirement Stage	Spares with Quantities and IC Parameter Updating.
0	D: 1.0	Scrapping and Disposal of Unwanted Quantities of Spares and or Unwanted Spares and IC
	Disposal Stage	Parameter Updating.

Table 4.2.2.a.

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

Definition:

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

Definition:

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

4.3.1. Major Objectives of MRO Inventory Management

The major objectives are:

- * Highest Customer Service achieved with Maximum Plant Availability,
- * Minimum Plant Operation Cost obtained with Maximum Production at Required Quality and
- * Optimum Inventory Cost attained with Inventory Optimization.

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



Glimpses from the Past ... Late Dr. M.K.Bhardwaj







































Visionaries of IIMM - Former Presidents





































"EMERGING IMPACT OF 5G SUPPLY CHAIN -RE-ENERGISE FUTURE FOR GROWH"!

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Astract: Under the paradigm shift of Smart SCM 4.0, it is needed a strategic holistic vision to see the new growing forest, through the old trees.With the confluence of social and business trends of **Industry 4.0.**, and the **emerging technologies**, the value chain willbecome fully digital and globally integrated; from suppliers, factories to customers. **Digitalization** has started by theintegration of information flows and the incremental digitalization of products and services supported by **Internet of Things**. Next will be the implementation of **intelligent processes**, **fostered by Artificial Intelligence**.

The global supply chain management will play a key role in the new paradigm looking holistically beyond the existingsilos and functions. The decentralized and intelligent supply chain optimization will involve both **hyper-communication** and big data to achieve the highest agility.



With 5G we get better coverage, higher capacity, lower latency and much higher data speeds. This will enable your car not only to stream Spotify all the way from the city to your cabin, but also to drive itself there, gathering information from other cars, pedestrians, traffic lights and even the road itself along the way.

The present paper provides a brief overview of **opportunities and challenges** encountered by the emerging digital innovative supply chain 4.0, **The impact of 5G, How will 5G affect supply chain & logistics**, practice in India's economy. It is heartening to note that India is called the '**services hub'** of the world.

The present paper provides a brief overview of **opportunities and challenges** encountered by the emerging Innovative Supply Chain Practicein India's economy. It is heartening to note that India is called

the 'services hub' of the world.

Key Words : (Industry, Digital, Smart, Ecosystem, Global)

I.Introduction : SCM 4.0, **The impact of 5G in Supply Chain** – Understanding and meaning for the Supply Chain ManagementToday the main focus is on the **smart factory** but what is the meaning for the supplychain management?

The internet of things leads to a high transparency regarding the status of the supply chain and itsnodes. The amount of information increases rapidly with the automatic acquisition of data/events. Standardized event information in high quality canbe distributed within the supply chain with methods of the internet of things. But: transparency is not enough, the right conclusions have to be drawn at the right points.

To help visualize this future, to imagine our car talking to everything and everyone it meets. It is being controlled by a computer in the cloud, or rather thousands of computers, calculating and adjusting our vehicle every millisecond of the way. Our car's selfcontained "intelligence" from its own on-board computer would only be present as an emergency backup if connection with the Internet is lost, or to play a supporting role in the handling of the vehicle. Even without Internet, the 5G capabilities of car-to-car, carto-road, and car-to-pedestrian communication, would play an important role in getting us safely from A to B.

II. What Is Smart SCM 4.0?

Smartis the new age- the age where everyone and everything will be increasingly connected to the internet giving rise to lots of internet savvy, "give it to me now" mentality people. These people will be connected to each other (Social) and be constantly on the go (Mobile). There will be a tremendous amount of data generated which will be even more difficult to slice and dice (Analytics). We need to Re-imagine everything- the rules, the restrictions, the impossible and view it in a new Technology framework

III. Why SMART and Why Supply Chain? Why the two together?

The world is becoming increasingly connected. By 2020, an estimate 4 billion people are going to be connected



IV. Exploring Oppudigital future: Extraordinary requirements from the 5G network

The 5G network is in large part designed by and for the automotive industry, thanks to organisations such as the 5G Automotive Association (5GAA), backed by the industry giants Audi, BMW, Daimler, Mini and Rolls Royce in addition to telecom and technology companies. The most important factors for 5G to be meeting its full potential in cars are the following:

- High mobile connectivity capabilities, quickly connect to devices and maintaining a stable connection at high speed
- Low latency for critical road information and potentially dangerous high-speed situations
- High device-density capability, as many devices will be connected at the same time in, or passing through, a small area
- Security, hacking of vehicles and interception of sensitive data is a growing problem, and thus we must make the communication between devices as secure as possible
- Extreme reliability is critical, especially for autonomous steering and navigation

Perhaps the biggest challenge for the 5G network and connected cars will be land area coverage and the associated cost. There are vast areas with roads that have little or no signal from today's mobile networks, and the 5G network will most likely be made with base stations with a much shorter range than today's 4G (and older) equipment. Clearly in these situations the cars would need to be able to fall-back safely to their on-board computer or, in some cases, even manual driving.

Interested in Blockchain? The future of Blockchain in shipping depends on open standards and industry-wide collaboration

V. How digital impacts supply chainsFundamental to all these changes is the fact that information is now available in vast amounts, at **affordable prices.** Information is becoming the new "**blood**" within the lifelines of the world, carrying within it the nutrients for future success. One that will increasingly depend on dynamic business strategy and its integration into

supply chain strategy, with information and technology being the lifeblood of both Tomorrow's resilient, dynamic and agile supply chain will continue to deliver finance, products and information but, increasingly, it will be integral to product and service design, as the entire value chain is impacted by digital technologies.

VI.The Emergence of 5G A Digitally Based Supply Ecosystem:

Just as we are all getting used to having the blazing data speeds of 4G on our mobile devices, we are learning that this is nothing compared to what 5G has in store for us.

5G is the next generation mobile network that promises to be a game changer when it comes to how we live our lives, and that also challenges how we do business in just about every industry. A big claim for sure, but if we look at the past 10 years, we have already seen some radical changes in both consumer behaviour and business already. Advances in mobile technology have been a big driver of these changes.

Traditional corporates are generally bound to a heavy legacy asset base and struggle with the innovators' dilemma (i.e., how to choose between maintaining and developing the existing business and venturing into new areas), whereas new start-ups, inventing the business without any legacy issues, can move fast.

Established multinationals are learning that not being close to the **start-up's** innovative source or having access to digital innovation capabilities can be a competitive disadvantage. Corporates are at risk of being marginalized by the next disruptive supply chain innovation,like**Uber**did with transportation, **Airbnb** with hospitality or **Adidas** is planning to do with its Store Factory concept

- 1. Cost containment Rapid, constant change is rocking this traditional area of strength and outstripping supply chain executives' ability to adapt.
- 2. Visibility Flooded with more information than ever, supply chain executives still struggle to "see" and act on the right information.
- 3. **Risk** CFOs are not the only senior executives urgently concerned about risk; risk management ranks remarkably high on the supply chain agenda as well.
- **4. Customer intimacy** Despite demand-driven mantras, companies are better connected to their suppliers than their customers.
- 5. Globalization Contrary to initial rationale, globalization has proven to be more about revenue growth than cost savings.

Digital is effectively disrupting existing business models,

products and services enabled by data and technology across the enterprise. The industrial setting is no exception. to do things in new exciting ways:

- 1. Internet-enabled sensors collect data around the clock and provide real-time tracking of production.
- 2. Automotive manufacturers use advanced analytics to calibrate driverless cars for self-navigation.
- 3. Machine learning enables predictive maintenance and condition monitoring.
- 4. Automated delivery of parts and subassemblies optimizes production processes.

5. Cybersecurity becomes an integral part of all business in order to protect data and gain the trust of customers.

VII. Addressing today's challenges

- 1. Go beyond just data, generate insights Use data analytics to understand customers, market trends, track usage patterns, predict failures etc.
- 2. Improve, standardize, and automate: processes to reduce internal cost to serve
- **3. Contract effectively** to get best value and manage risk in the changing digital landscape
- 4. Embrace technology to support business e.g. application of sensors, drones, machine learning, 3D printing etc.
- 5. Develop right skills internally and explore partnerships to meet new digital needs

The Internet of Things (and the planet) depends on 5G

One of the great expectations for the future is not only that every human is connected to the Internet, but also most of our stuff is connected too. It is called the Internet of Things (IoT). With all our devices being smart and connected to the Internet we will enable smart homes that help us be more energy efficient, save time on housekeeping and shopping, and enjoy safer and more efficient public and private transportation.

Today's mobile network technology is not ready to fully handle these devices yet. However, this is an evolution and the first IoT solutions are being rolled-out on today's mobile networks.

The IoT is totally dependent on network devices that are more energy efficient, more reliable and use a mobile network with a much higher device density. This is where 5G plays a crucial role. If society wants to reap all the benefits that the IoT can give us, such as reducing our carbon footprint, living longer and healthier lives, and increasing efficiency in production and transport, we need to welcome the new generation of mobile networks with open arms. 5G may be here sooner than you think : Patrick Waldemar tells us that 5G is just around the corner. Big technological advances tend to be announced in relation to the world's biggest sporting events, such as the Olympics. With the Winter Olympics of 2018 in South Korea less than one year away, this will be the perfect backdrop for some impressive demonstrations of an early version of 5G.

The first commercial 5G network will then most likely be available to most people by the next Summer Olympics though, in Japan in 2020. Among the biggest forces driving the development of 5G are the manufacturers of 5G-enabled equipment such as automobile manufacturers, internet technology companies, the media industry, the medical industry and of course telecoms companies. Since the infrastructure and capability of 5G relies much more on software compared to 4G and its predecessors, we can see a much bigger interest from companies outside the traditional telecoms industry developing our next mobile network, says Patrick.

It is very exciting, and unparalleled in history, that companies that plan to provide content and services through the 5G network are strongly involved in defining the specifications and capabilities of our new network infrastructure. This will push the technology faster, resulting in better services as well as and more specialized services and capabilities in the end product.

Challenges that 5G must overcome: As with all new technology still on the drawing board, the 5G network has a few challenges it must overcome before becoming a viable solution for the future of mobile networks. Some of the bigger obstacles the technology need to overcome are:

- Finding space for much more data in the already saturated wireless spectrum
- Figuring out how to efficiently manage a large number of varying sized packages of information
- Creating computer systems able to handle the vast amounts of data that will be created by IoT communications
- Reducing both size and power consumption of network devices to meet the needs of the increasingly large number of applications using IoT

VIII. What can you do to prepare for the future?

Behind the great potential of the digital supply chain (DSC) lies Industry 4.0, the fourth industrial revolution. A transformation in production and automation was brought on first by steam and water power (Industry 1.0), then by electrification (2.0), and more recently by the digital computer (3.0). Industry 4.0, digitization, is about companies orienting themselves to the customer through e-commerce, digital marketing, social media, and the customer experience.



Digital ubiguity is also causing companies to completely rethink how they go about operations. Operations is often mistakenly viewedas "manufacturing," but operations is what gives a company its ability to act. As with every other aspect of a company, digital technology is enabling completely new operating models.

IX. Conclusion: Several important phenomena are associated with e-commerce. Smart SupplyChain 4.0 has unleashed yet another revolution, which is changing the way businesses buy and sell products and services. Newmethodologies have evolved. The role of geographic distances in forming businessrelationships is reduced. Technology inSupply Chain is the future of shopping.

With the deployment of 4G and 5G wireless communication technologies, the interneteconomy will continue to grow robustly. In the next 3 to 5 years, India will have 30 to 70 million internet users which will equal, ifnot surpass, many of the developed countries. Internet economy will thenbecome more meaningful in India. With therapid expansion of internet, E-commerce isset to play a very important role in the 21stcentury, the new opportunities that will bethrown open, will be accessible to both largecorporations and small companies. The roleof government is to provide a legalframework for Technology in Supply Chainso that while domestic and internationaltrade are allowed to expand their horizons, basic rights such as privacy, intellectualproperty, prevention of fraud, consumer protection etc are all taken care of.

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Commodities	Days's Index	Prev. Index	Week Ago	Month Ago
Index	3068.9	3068.0	3071.6	3066.3
Bullion	7623.3	7636.0	7661.4	7566.2
Cement	2397.3	2397.3	2397.3	2397.3
Chemicals	1502.9	1502.9	1502.9	1587.0
Edible Oil	2508.0	2524.7	2454.3	2236.5
Foodgrains	2259.4	2261.2	2276.4	2300.3
Fuel	2913.5	2896.8	2889.5	2891.6
Indl Metals	1919.2	1919.2	1919.1	1919.1
Other Agricom	2202.9	2202.9	2203.5	2248.9
Plastics	1568.0	1568.0	1581.6	1581.6
Source: ETIG Data	abase dated 23rd No	ovember, 2020		

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HOW TO ESTIMATE THE SUPPLIER FILL RATE WHEN THE SUPPLY ORDER AND THE SUPPLY LEAD-TIME ARE UNCERTAIN? RAJEEV KUMAR, IIMM JASHEDPUR BRANCH

bstract : Modern retail supply chains are more and more exposed to risks and uncertainties. Supply risks such as the uncertainty of the supplier fill rate (SFR) directly affect the performance of a retail supply chain. The purpose of this paper is to investigate the supply uncertainty, where the order size and the supply lead-time are considered as decision variables. We aim at developing a more realistic approach to predicting the SFR. Reviewing the relevant literature was the first step taken. We pointed out that while the scientific research on supply risk is growing, the literature lacks an accurate support tool that can predict the SFR. Then, a case study was conducted in order to have a comprehensive view of the real context of SFR parameters. Accordingly, we propose a new approach to predicting the SFR using the bivariate normal distribution. We illustrate the proposed approach using a real case study in TATA STEEL Jamshedpur.

1. Introduction and statement of the problem : Supply chain managers are becoming increasingly aware of the importance of managing supply chain risks effectively. In the real supply chain environment, retailers need to protect themselves from uncertainties in demand and supply. Demand and supply chain planning is very complex. According to Schmitt 2008, the study of supply risk and uncertainty is a growing field. While uncertain demand has been exhaustively explored, the impacts of supply uncertainties are not as well studied. Within the retail supply chain, many inventory control systems are used through the application of ERP. Most of these systems consider the supplied quantities equal to ordered quantities. However, in practice, suppliers fail to deliver the needs in terms of ordered quantities and/ or lead-time. The supplier fill rate (SFR) directly affects the performance of a retail supply chain. When the SFR is high, retailers can achieve a given service level to endconsumers while holding less inventory. Most retailers are concerned with the low SFR because not only it contributes to lost sales but also it allows consumers to switch to competitors. (Gurnani et al. 2013) and (Nagarajan and Shechter 2013) studied the ordering decisions of procurement professionals including supplier service level. They found that procurement professionals increase orders for an unreliable supplier, he also explained and examined out-of-stock (OOS) challenges in the independent steel sector. They revealed that the major part of OOS situations in the independent steel sector originates directly from the plant ordering practices and SFR. The researchers call for future work to explore more realistic procurement

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contexts in order to understand how retail ordering works in. This research is based on a case study in the modern steel product (Steel sheet) supply chain in TATA STEEL Jamshedpur. In this section, we describe the general structure and processes of the supply chain. Then, we present the statement of the problem, the scope and the purpose of this research.

The considered retail supply chain is composed of hundreds of suppliers, a retailer-owned warehouse center (WC), and 90 distributor around the country with multiple formats. Each store carries items with different shape and size. Stocking volume levels vary according to the size of the store and its geographic location. Suppliers replenish some products such as fresh goods directly to the stores. While most of the items are replenished through the WC, the demand in the WC is fulfilled by shipments from the suppliers (Figure 1). In our study, we focus on the items delivered via the WC.



Figure 1. Supply chain configuration

We consider a three-echelon supply chain consisting of one supplier, one WC, and multiples stores. As shown in Figure 2, to control the WC inventory, the manager uses a replenishment policy similar to the standard periodic review base-stock policy (T, S) with random demand and random lead-time. T and S denote review period and base-stock level respectively.



The order-up-to-level S is fixed to achieve a desired service level to stores and end-customers. S is obtained

using the following formula:

In the real supply chain environment, safety stock is needed to protect against variability. It is commonly known that supplier lead times have a direct impact on the retailer's safety stock. In our case, the WC's manager readjusts S every period based on historical results, demand forecast and professional experience. Many suppliers were unable to fulfil 100% of the order on time. The average percentage of items delivered on time compared to the quantities ordered was approximately 65%. As in many supply chains, the SFR is unknown to the retailer and changes over time. That is why the prediction of the SFR by the managers when sending an order is needed.

We observed that the manager increases order size for an unreliable supplier based on his historical SFR. By managing the supply risks, the SFR may increase and at the same time, the WC in-stock percentage will increase. Moreover, the improved SFR may reduce the amount of safety stock at the WC and stores. Therefore, it is important to analyze the interaction between the WC's replenishment decision (order size and lead-time) and the response of the supplier (supply order and supply lead-time).

Based on the case study, we noted that the SFR randomness was due to the supplier "random yield risk", the "supplier capacity risk", the "lead-time variability", and the "order quality variability". Clearly, this situation indicated that there was a need to improve the WC replenishment practices taking into account the SFR. Through the real case data analysis, we note that we encounter a supplier lead-time/order dependency problem. The WC's replenishment decision depends on the expected supplier's lead-time, whereas the order fulfillment and SFR depend on the replenishment decision (order size and lead-time). In this type of setting, the variability of the order pattern combined with the variability of the lead-time pattern all have an impact on the SFR.

This paper discusses previous research on the supply risk and the diverse parameters and formulation of SFR. Then, it highlights what makes the relationship between SFR and retailer order size (demand) and supply leadtime, in this specific context, different from the previously explored formulations of SFR. Therefore, in such a complex supply chain, statistical models are needed in order to predict uncertain events. Hence, analysis of dependence variables is often required. In recent years, interest in multivariate problems concerning uncertain events has increased. The present work studies the bivariate distribution extension in such a supply chain. In fact, we investigate the relevance of the normal two-dimensional distribution to predict the SFR in this specific situation.

The remainder of this paper is organized as follows. Section 2 reviews the literature and highlights the research gap. Section 3 presents our proposal for a new approach to predicting the SFR. In section 4, we discuss some of our findings through the practical application of the methodology using a real data computational example. Finally, we conclude in section 5 with some perspectives about future research.

2. Review of the literature: In this section, a summary of the main literature on supply risk and uncertainty is provided. The literature on supply risk has been growing over the last decade. According to previous data, supply risk can be defined as the uncertainty associated with suppliers' activities and obligations. It can be divided into two types: disruption risk (supplier is either available or not) and operational risk. The existing research on the operational supply risk focuses on unreliable suppliers. As shown in Table 1, supply risk and uncertainty is often modeled using random yields, random SFR or supply service level (SSL) and supply lead-time variability.

a) Random supply yield : Random supply yield resides in the flow of products from suppliers to the company when it is not on time or of the required quality and quantity. Several factors are linked to random supply yield such as supply lead-time, the production capacity and the product quality that become unpredictable. Yano and Lee present five basic approaches to dealing with supply yield: Bernoulli process; stochastically proportional yield; stochastic yield proportional to order quantity; random capacity; and general model that specifies the probability of each output for each order quantity. (Keren 2009) shows how stochastic supply yield impacts supply chain coordination. In practice, retailers do not know their suppliers' yield distributions and must instead develop forecasts or beliefs about them.

b) Random SFR (or SSL) : Most inventory models assumed that the quantity received is the same as the quantity ordered. However, as mentioned, in practice the quantity received may not match the quantity ordered due to worker's strike, rejection during inspection, damage during transportation, human errors in counting, etc. Accordingly, managers often must make decisions under uncertain quantity received circumstances. In this study, they investigate the continuous review inventory model with shortages including the case where the quantity received is uncertain, in which the lead time, lost sales rate, and order processing cost are decision variables.

There are two types of service levels. Type-1 service level, denoted by á, is an event-based measurement, which describes the proportion of cycles in which no stock out occurs. Type-2 service level, denoted by â, is a quantity-based measurement that not only describes the probability of a stock-out, but also provides an average expected number of backorders or loss for every demand period. The type-2 service level is often called fill rate or item fill rate. â service level is typically considered a more relevant measure of service level compared to á. The type-1 service level can be modeled using relatively simpler expressions and hence appears widely in the inventory literature whereas the type-2 service level is less commonly used in research due the complex form of backorder/loss quantity calculation, which makes it hard to model it. The item fill rate, sometimes referred to as volume fill rate or unit fill

rate, is different to the order fill rate, which applies to the proportion of fulfilled customer orders that may consist of multiple products. Disney investigated the fill rate as an inventory service metric and proposed a new calculation that ensures the target fill rate is achieved without excessive inventory investments.

Previous research on unreliable suppliers studied the distribution of supplier's service level (SFR). According to (Chen et al. 2010), retailers may track changes in the SFR informally, as in the case of a buyer's attitude toward a particular supplier, or formally through the use of automated software and supplier scorecards. They study how a retailer's orders change as it receives information and updates its beliefs about a SFR. He investigated a related model in which a SFR is private information and found that an increased SFR can increase orders for a supplier. For the single supplier case, an increased SFR decreases a retailer's orders. The retailer decreases its order quantity if it is unlikely to receive a smaller quantity than that requested. In a multi-sourcing situation, the retailer may mitigate its supply risk by spreading orders across the suppliers.

With multiple retailers, the supplier's allocation rule becomes nontrivial. This situation has a great impact on the SFR to each retailer. We proposed multi-sourcing models for optimal order allocation in a newsvendor setting under supply disruption with stochastic demand where suppliers are capacity constrained.

We also pointed out the necessity of focusing on the management of key supplier relationships and their importance for overall supply chain performance. According to survey, many retailers have begun to collaborate closely with suppliers to maximize the efficiency of the retail supply chain as a whole. Many retailers use service level agreements (SLAs) to outline performance expectations for their suppliers and specify consequences for failing to meet those expectations. Research on SLAs has explicitly investigated the role of SLAs in coordinating supply chains by motivating suppliers to improve service (Liang and Atkins 2013) (Sieke et al. 2012).

c) Supply lead-time variability : In general, uncertain supply lead-time related to procurement has been discussed at length in the inventory management literature. There is a rich body of literature on supplierretailer inventory models with uncertain supply leadtime and the effect of supply uncertainty on supply chain performance, supply lead-time uncertainty has long been identified as a fundamental factor influencing inventory decisions. This research has focused on inventory models with stochastic lead-times. We also studied the performances of inventory management systems having deterministic lead times that have been assumed constant, stochastic and exogenous.

Traditional inventory models assumed that lead-time is a constant or random variable, which is not a controllable factor. However, in practice, lead-time could be a decision variable.

d) Concluding remarks : The problem presented in our research and the way it is addressed is different from

similar problems in the literature. We do not merely assume the supplier lead-time to be a random exogenous variable, but we include the impact of the order size decision on the supply lead-time and we use the result to predict the SFR. Consequently, in our study we consider orders and lead times as linked factors that affect the SFR. The inclusion of these two dimensions represents a better fit with real-life situations.

According to study, several approaches to the estimation of risks demand the joint distribution of risk factors to be known, which in the analytical approach is frequently the normal distribution.

The models of multivariate probability laws have received particular attention in recent years for the significance they add to the modeling and simulation of events. They emphasized the importance of using the multivariate approach to analyze various correlations between different factors. They worked on determining the optimal periodic replacement strategy taking into account the reliability of the system based on two variables of time and usage. According to authors, the system wears out after a predefined operating time or according to its use. In this context, according to manufacturers, a car tire is replaced after 5 years or after 50000 km.

In the supply chain literature, the use of multivariate distribution is not very common. One relevant research is (Kaki et al. 2015). They analyzed the impact of supply uncertainty on newsvendor decisions for interdependent demand and supply. They derived a solution for a newsvendor facing stochastic supply yield in addition to stochastic demand, and provided a closed-form solution for a specific copula-based dependence structure.

3. The proposed approach : In order to be closer to the practical case study, we are interested in the SFR for a single item. We studied the probability distribution function (p.d.f) of the delivery lead-time (L) and the p.d.f of the order size (Q). In our case, in order to estimate Q we made a Kolmogorov-Smirnov test based on the ordered quantities during one year. We concluded from the hypothesis testing that Q approximates a normal distribution. Similarly, we studied the lead-time (L) variable. Based on collected data we found that the delivery lead-time (in days) can be approximated using a random variable L that follows a normal distribution.

As described in the previous section, for each period Tj, the order quantity Qj and the lead-time Lj are decided in order to minimize the OOS risk at the WC that may occur during the cycle period. Lj is estimated based on the inventory (Ij) to avoid OOS during the supply leadtime. If the lead-time (L) exceeds Lj, the order Qj will be cancelled and another order will be sent to the supplier with other parameters (size and lead-time).

4. Application : We collected weekly observations about a cleaning product. The data cover a total of 12 months "P" and involve information about retailer orders "Q", the supplier lead-time "L", and the quantity received "V".

	Table 2. Data analysis											
Р	1	2	3	4	5	6	7	8	9	10	11	12
Q	381	890	622	530	620	514	523	710	701	702	615	397
L	3.7	4.6	3.4	4	3.7	2.6	3.2	2.2	3.8	1.8	1.9	2.1
V	354	854	460	487	508	395	397	198	560	126	196	337
SFR	0.93	0.96	0.74	0.92	0.82	0.77	0.76	0.28	0.80	0.18	0.32	0.85

In our case, in order to estimate Q we made a Kolmogorov-Smirnov test based on the ordered quantities during one year. We concluded from the hypothesis testing that Q approximates a normal distribution with mean. Similarly, we studied the lead-time (L) variable. Based on the collected data, we found that the delivery lead-time (in days) can be approximated using a random variable L that follows a normal distribution with the following parameter. Therefore, in order to predict the SFR based on the order quantity q and the lead-time I, using Matlab, we implemented the C.D.F. Figure 4 illustrates the result of the SFR based on delivery lead-time and order quantity using an analytical approach.

Therefore, we can predict the SFR using Figure 4. For example, for an order in which Q = 600 units and lead-time L = 2.5 days, the SFR will be about 50%.

In Figure 5 below, we compare the empirical values of the SFR (TS) to the estimated values using our proposed approach (TSA). We note that the proposed formulation for the SFR is a good approximation of the real-life SFR in our case studied.







Figure 5. SSL estimation: Analytic appr	SSL estimation: Analytic approach
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5. Concluding remarks and future work : Customer demand, received quantity, etc. cannot be predicted in advance. Therefore, the assumptions of uncertain demand and received quantity may be appropriate for all industries in this world. Additionally, when the

demand and lead-time are uncertain, SFR becomes an important issue and predicting it brings several benefits. Our research contributes to the body of work on retailers ordering from unreliable suppliers. It can enrich the existing discussions about estimating the SFR in a specific context, and in turn tackle the mutual dependency that arises in this context (orders are dependent on the lead-time distribution and vice versa).

Moreover, the proposed approach can help the decision maker to estimate the SFR based on a bivariate distribution taking into account the order size variability and lead time uncertainty. Motivated by a real life observation of the ordering process and supplier behavior, we have presented a numerical application of the new SFR measure based on the bivariate normal distribution.

This paper is limited in the use of the normal supply lead-time distribution. In real life situations, we often encounter difficulties in providing a precise estimation of the probability density function due to the insufficiency of historical data. Therefore, for further consideration of this problem, it would be interesting to propose a distribution-free model according to the mean and standard deviation of supply lead-time. It would be also interesting to perform a global sensitivity analysis. Sensitivity analysis will investigate how variation in the output of the numerical model can be attributed to variations of its input factors.

Moreover, information sharing about sales data, inventories and promotion plans may effectively reduce the supply risks threatening the retail supply chains. Efficient Consumer Response (ECR), Vendor Managed Inventory (VMI), and Collaborative Planning Forecasting and Replenishment (CPFR) are strategies of supply chain collaboration that have received considerable attention in the research (Hosseinia and Mehrjerdi 2016).

These strategies have been implemented in the retail supply chain in order to reduce supply risk. It is important to study how these collaboration strategies will improve the SFR and the ordering process.

For instance, (Tannous and Yoon 2018) investigated the relationship between risk, sustainability, and collaboration in Global Supply Chain Management. They concluded that "delivering GSCM optimization between partners through sustainability initiatives mitigates reputational risk exposure from the collaborative efforts among SC stakeholders to increase intrinsic value".

MAKING 'MAKE IN INDIA' WORK

To get investments to come in, we need to understand why investments go out

Prime Minister Narendra Modi's 'Make in India' initiative, to my mind, has been one of the most significant, structured and outcome-oriented policy initiatives by any Indian government in recent years. It was, unlike many similar initiatives in the past, well structured, properly thought through, had an identified set of priorities (originally 16 sectors, now grown to 25) and focussed on the key issue dogging all inbound foreign direct investments in India — the ease (or rather, the lack of) doing business in India.

It was also particularly well-timed. The programme itself was formally introduced on September 25, 2014, but Modi had outlined it a month earlier. In his first Independence Day speech on August 15, 2014, Modi said, "I want to tell the people of the whole world: Come, make in India. Come and manufacture in India. We have skill, talent, discipline and the desire to do something. We want to give the world an opportunity that come make in India."

The timing was near perfect. The Chinese growth engine had started slowing. Besides, new trade-related tensions between the world's two biggest economies — the US and China — were giving jitters to investors worldwide. They were looking for a safe hedge bet against potential turmoil in their key manufacturing base, China. And Prime Minister Narendra Modi, with a strong, pro-business image, had just burst on the scene, talking the talk that investors love to hear, and what's more having the absolute electoral mandate to enable him to walk the talk as well, without the many pressures of 'coalition dharma' which his predecessor had to face.

The 'Make in India' initiative, when it took off, had ticked all the right boxes. The policy promised to clear the red tape that shrouded any potential inbound investor, create world-class infrastructure required by modern manufacturing industry, and bring in policies that helped foster a climate of innovation and, importantly, protect the intellectual property that resulted from such innovation, something that global investors had little faith in as far as China was concerned.

So, we had a plan, it was workable and it was well-timed. Investors, should, logically, have been beating a path to India to set up mega manufacturing plants to supply the world. But has the 'Make in India' programme achieved what it set out to do?

Five years down the line, the picture is a bit muddled. True, in FDI terms, India is among the world's top destinations, garnering inflows of \$49 billion in calendar 2019, according to UNCTAD. India now accounts for 85 per cent of all FDI coming into South Asia (but then our competitors in the region are Bangladesh, Nepal, Pakistan, Sri Lanka and Afghanistan!).

But FDI statistics include inflows into the capital markets, which still continue to account for the lion's share of capital flows. Statistics on specific, manufacturing sector FDI flows are a bit harder to come by. Manufacturing FDI was around \$8 billion in 2018-19, accounting for less than a quarter of the total inflows. E-commerce, which has nothing to do with either manufacturing or 'Make in India', is one of the key sectors for FDI.

In some sectors in particular, 'Make in India' appears to be doing exceedingly well. There are over a 100 mobile phone manufacturers in India and market leader Samsung last year upped one of its largest manufacturing set-ups from China and moved it to Noida in Uttar Pradesh. Apple and Xiaomi are also invested seriously in Indian manufacturing capacity.

Work in progress : But judged from the yardstick of what it set out to achieve, 'Make in India' is at best still a work in progress. The key stated outcomes were to increase the share of the manufacturing sector to 25 per cent of GDP and to create a 100 million additional jobs in the manufacturing sector by 2022.

Clearly, both have not happened, and going by the increasingly gloomy predictions for GDP growth, unlikely to happen by the target year. Manufacturing's share of GDP, currently a shade under 15 per cent, is not likely to increase significantly over the next two years. And jobs — particularly relatively better paid, stable, manufacturing jobs — continue to be a chimera. Why hasn't 'Make in India' worked? To understand this, we need to understand why companies invest outside their home geographies. Looking at our companies is a good place to start. Last year, Indian companies invested nearly \$12 billion as FDI in other countries, and India is now one of the top 20 origin countries for global FDI.

Why did they do it? Essentially, there are just three or four factors which drive corporates into significantly increasing their risk exposure by venturing into a foreign land. The first and biggest push factor is market access. If the rules are such that you cannot fully access a coveted market without investing in it, companies will invest. That is why Tata Steel bought Corus, for instance.

The second factor is acquiring technology. Again, this was a big factor in some of the big Indian FDIs in recent years — Tata Steel wanted technology for special steels, Tata Motors bough Jaguar Land Rover for its world class technology and design capability, and so on.

The third factor is acquiring talent. In the IT space for instance, a push-pull combination of tougher visa rules and availability of high-end talent, and access-limiting restrictions, particularly for government orders, has led to Indian IT giants like TCS, Infosys et al creating some serious capacity in the US.

The final factor is securing raw material and inputs for your domestic business. That is why Adani and Tata have bought mineral and coal mines abroad and why ONGC is making investments in oil and gas resources.

We need to ensure that the same factors apply in reverse as well. We have to make market access tougher via a pure trade route; we need to ensure that Indian innovation attracts global investment (it's already happening in the start-up space); we need to ensure that our talent does not migrate abroad but is headhunted at home; and we need to ensure that our precious natural resources are value-added at home.

Unless we tweak our policies to get these right, the 'Make in India' lion cannot hope to be the king of his own jungle.

Source:www.thehindubusinessline.com

SOCIAL COMMERCE IS REDEFINING INDIA'S E-COMMERCE ECOSYSTEM

Social commerce entails an amalgamation of the use of social media and e-commerce and its growth can be estimated with India's vast social media user base and our growing appetite for e-commerce. KAPIL MAKHIJA CEO OF UNICOMMERCE

t won't be an overstretch to say that the pandemic has expedited the growth of India's e-commerce industry, leading to a faster adoption of technology. Companies are adopting new technology solutions to meet the rising consumer demand and adopting new business models to offer a customised and interactive shopping experience. One of the most promising and emerging business models that has seen a mass acceptance is social commerce.

Social commerce was gaining traction even before the pandemic, but now it has become an important part of mainstream e-commerce. Social commerce entails an amalgamation of the use of social media and e-commerce and its growth can be estimated with India's vast social media user base and our growing appetite for e-commerce.

The rise of social commerce : The use of videos on social media platforms such as Instagram and Snapchat is driving massive growth of social commerce, especially among millennials. Similarly, regional social networking platforms such as ShareChat and Roposo, have developed their strong foothold in the niche market with its vernacular content which further boosts the use of social commerce. A recent survey by PayPal revealed that India is already the leading Asian market for social commerce and is projected to become a \$100 billion vertical of e-commerce by 2025. One of the critical reasons for this massive success of social commerce in India is the strong regional connect and the role of a personal referral.

In the last few months, the homegrown social commerce players have been able to establish their niche, especially in Tier II and Tier III cities. In the past 12 months, the leading players in the social commerce domain such as Meesho, BulbulTv, Shop101, CityMall, Simsim, Dealshare, Mall91 etc. have on-boarded over 10 million resellers and raised

over \$100 million in fundings. All social commerce websites have seen an exponential growth in new sellers joining the platform, as these sellers are able to build an online presence for almost free of cost and increase their customer base.

India has witnessed the birth of a lot of homegrown social commerce startups. Even the big e-commerce players are entering the social commerce space to target consumer Tier II and Tier III regions of India. Flipkart recently launched "2GUD", an independent video-based social commerce platform. The platform aims to target the young Indian population with the power of new-age influencers. Earlier this year, Paytm also launched "MyStore" feature in Paytm app, which allows sellers to sell through social media apps.

D2C being the trigger : Another key factor adding to the growth of social commerce is the increasing number of brands going Direct-to-consumer. Earlier only large brands used to set up their online store, however, that trend has changed, with small retailers setting up their web stores and taking orders. According to the recent Unicommerce trends Report, there has been a 65% increase in brands developing their own website for the year 2020 as compared to 2019.

Platforms like Magento, Shopify, WooCommerce etc. allow brands to easily build their online stores without any significant investment and have played a pivotal role in the growth of D2C brands in india. Further, the small retailers are leveraging social platforms such as Facebook, WhatsApp, Instagram and more to market their products, and giving customers a chance to interact with a brand before making the purchase. Social commerce offers a great platform to D2C brands to have real-time feedback and adapt to changing consumer needs.

Big role of Whatsapp : There is also an increasing

This makes WhatsApp one of the most lucrative platforms for small and medium sellers. Over 1mn sellers are using Whatsapp for Business in the country. In the last few years, we have seen the emergence of companies that build Whatsapp chatbots for retailers, which helps them manage a large number of orders with the help of AI. Now with the NPCI allowing UPI payment through Whatsapp, it's expected to become one of the biggest social commerce platforms.

Al & Automation: altering business models for social commerce players : E-commerce businesses around the world are using Al to generate more revenue and improve productivity. From chatbots to Amazon's Alexa & Google's home devices - Artificial Intelligence is already a part of our lives. Moreover, social commerce players are now experimenting with both marketplace and reseller models with the help of Al & automation. Al has improved the entire experience of buying and selling by adding a personal touch to the way we shop and trade.

Moreover, leading retail brands are also creating chatbots and leveraging technology to help consumers shop directly on Whatsapp. From simplified product searches, recommendation systems for consumers (Frequently Bought Together' section), these AI tools help in achieving an elevated level of customer satisfaction, thereby resulting in increased sales. As a result, we see more and more social commerce players using AI to improve customer experience, be it via conversational chatbots or contextual messaging.

Supply-Chain Technology: A key differentiator for Social commerce growth : India's social commerce is largely driven by consumers and sellers based out of Tier II and Tier III cities of India. All leading social commerce players such as Meesho, Shop 101, Bulbul have their majority customer base from the hinterland of India. It's a known fact that logistics, inventory management makes up for an integral part of the ecommerce industry and especially in the case of social commerce, supply-chain can be deal-breakers for the success of a brand.

Social commerce companies need a robust logistics/ inventory management mechanism, wherein they partner with logistic service providers to ensure maximum reach, timely delivery, and low returns, along with robust inventory management to have a superior customer experience.

Over the years, social commerce marketplaces have built a great platform for small and medium scale sellers and have provided them a good platform to sell online. The small businesses are generally not well-versed with the technology, therefore marketplaces need to provide them with techsolutions which can help them improve business efficiency.

These supply-chain solutions leverage artificial intelligence/machine learning algorithms to help them find them the right logistic partner on the basis of multiple factors such as delivery cost, return management, payment options. It also helps them in keeping a track of shipments, provides regular delivery updates to the sellers and consumers, trace incorrect addresses and enable seller-friendly cash on the delivery processes.

As these small sellers start selling on multiple platforms and offline platforms, it becomes a nightmare to keep the track of all the orders and inventory. The inventory and order management solution provides a unified dashboard of all the order and inventory on a single platform, making it easier for them to operate leading to improved business efficiency and better customer experience.

As the world and moreover the ecommerce industry goes through a paradigm shift, the impact of technology solutions on social e-commerce will only increase over time. Having said that, with an expanding customer base, lowering overhead expenses, and increasing interest from investors and companies, social commerce is poised to be the next big thing in the Indian e-commerce industry.

Source : ET Retail



HOW TO LEVERAGE RAIL/INTERMODAL... NOW AND LATER

KAREN KROLL



Like just about everything else in 2020, the rail and intermodal markets were upended by COVID-19. In the spring, as businesses and consumers hunkered down, the weekly volume of carloads and intermodal units dropped from about 500,000 to 400,000, only to inch back to about 500,000 by August, according to the Association of American Railroads (AAR). While carload volume for the week ending September 5, 2020, remained off 2019's volume by about 7%, intermodal volumes were running almost 25% ahead, AAR reports.

RAPID AND STRONG RECOVERY AHEAD

"The markets are recovering," says Michael Davis, railroad sector lead with consulting firm Capgemini North America. "Add the adjectives 'rapidly' and 'strongly' and you'd probably be right, at least for now."

As Davis suggests, it's hard to predict where the rail and intermodal markets will head from here. "The COVID-19 pandemic has shifted what we would typically see for seasonal volume and demand," says Tom Williams, group vice president, consumer products, with BNSF Railway.

Recently, demand at many ports along the West Coast has surged. "Our customers are using these ports to a greater degree due to the speed and flexibility they offer when importing shipments from Asia," Williams says, noting that BNSF has seen roughly a 30% volume increase at some key hubs.

Prior to the pandemic, many East Coast ports enjoyed tremendous growth, driven largely by the expansion of the Panama Canal, says Joshua Brogan, vice president of the strategic operations practice with consulting firm Kearney. In April 2020, the Port of Wilmington, North Carolina, for instance, set a record for refrigerated container volume.

With more goods being shipped to the East Coast, truck shipments often became more cost-effective than intermodal, given that many containers were already closer to their final destination.

Yet in late summer 2020, trucking rates snapped back to their 2018 highs, due to both increased economic activity and capacity absorption from hurricanes along the Gulf Coast. "If that situation holds, interest in intermodal is sure to increase, both to offset higher pricing and to secure capacity in a tight market," Brogan says.

Intermodal, particularly with the added capacity from double-stacking containers with a rail component, can reduce highway congestion and is often a lower-cost alternative for shippers, says Joni Casey, president and chief executive officer with the Intermodal Association of North America.



Since the beginning of 2020, intermodal freight volume in the United States declined compared to the previous year, due to the COVID-19 outbreak. However, August 2020 indicated a shift: Intermodal freight was up 3% compared to August 2019.

CHANGING SUPPLY CHAINS

The pandemic also highlighted the risks of relying on cost-focused supply chains and single sources. "More options and flexibility are part of the conversation now," notes Steve Pastor, vice president, global supply chain and port/rail logistics with NAI James E. Hanson, a commercial real estate firm.

Similarly, the explosive growth of e-commerce in response to stay-at-home orders has shown the need for greater supply chain responsiveness. While a just-in-time approach to inventory can cut carrying costs, it can also hamstring nimbleness.

"Just-in-time is built for efficiency and speed, and not for responsiveness," says Craig Austin, assistant professor of logistics and marketing with Florida

International University.

The following guidelines can help shippers gain flexibility, act nimbly, and leverage rail/intermodal, even in today's challenging market.

Actions to Take Now

FIND TRUSTED PARTNERS.

"Don't use just the cheapest carriers," recommends Mark Becker, co-founder and chief operating officer with Geneva Supply, which offers e-commerce strategy and fulfillment services. "It's important to build relationships with carriers so they can adjust their priorities to match yours."

Companies can become less dependent on specific railways by partnering with a third-party logistics (3PL) provider and/or intermodal marketing company (IMC) that can leverage relationships with multiple carriers.

COMMUNICATE EARLY AND OFTEN: Constructive, ongoing discussions with transportation partners about inventories and shipping needs typically result in more successful navigation of complex supply chains. While always important, communication becomes essential during periods of upheaval.

UNDERSTAND THE VALUE OF EACH LANE AND MODE : By analyzing the cost, service, and reliability of each intermodal, rail, and truck lane, shippers are better prepared when requirements or markets change. Often, this requires assembling data from disparate systems, "a challenging but necessary capability" to create highperforming networks, Brogan says.

It may also require piloting new modes and lanes. Brogan provides this example: When considering a shift to intermodal shipping, it makes sense to test it with a customer that isn't key and doesn't enforce high ontime, in-full (OTIF) requirements. That test provides an opportunity to check whether you can manage the transit time and variability differences without risking a valuable account.

With rail, optionality—that is, selecting locations served by multiple carriers—becomes a consideration. This reduces the opportunity for monopolistic pricing that can occur when one rail company services a location.

BUILD A DIVERSIFIED TRANSPORTATION PORTFOLIO : Once they understand the pros and cons of different modes and lanes, many shippers benefit by developing a "mode-shift strategy" that allows them to accommodate the current unpredictable markets. This strategy should include designing intermodal backups on appropriate lanes and establishing relationships with IMCs.

And while intermodal is typically less expensive, plan for some trucking, suggests Johnathan Foster, principal consultant with procurement specialist Proxima. If rail capacity tightens, it will be easier to shift some percentage of shipments to truck.



LEVERAGE TECHNOLOGY : In the past five years, transportation companies have invested in developing better software to quote, create, and track shipments. While these capabilities aren't available with all carriers and remain a challenge with intermodal shipments, progress continues.

"If you want to leverage your intermodal shipments you need to start using software and measuring your data," Becker says.

PREPARE FOR AN ELONGATED HOLIDAY SEASON : In the past decade or so, the holiday season has lengthened. It now includes Black Friday and Cyber Monday, with several weeks of replenishment. The last-minute December rush is less of a factor.

The pandemic will likely magnify this shift. Products will come in and leave earlier in steady, small amounts. This may require keeping more product on hand, rather than taking it to off-site storage. It may also require more frequent inventory planning sessions and "consistent dialogue with strategic capacity providers," Foster says.

CONSIDER THE DISTANCE TO BE SHIPPED : In general, the longer the distance, the better rail looks, says Mark McKendry, vice president of North American intermodal with NFI, a supply chain solutions provider. With tighter restrictions on truck drivers' hours of service, rail often becomes competitive from a service standpoint. It also tends to be less expensive.

SURVEY YOUR CARRIERS : A survey of carriers, drivers, and 3PL providers can help identify ways to become a "shipper of choice," says Brian Zirbes, business product owner with BluJay Solutions, a supply chain technologies provider.

For instance, responses might reveal a need to reduce turnaround time, perhaps by revising the dock schedule to better align appointments with labor capacity.

Amenities such as larger bathrooms for drivers often require some capital investment. However, the investment can pay dividends in the long run.

"Being a shipper of choice can have a significant impact on ease of freight coverage and rates," Zirbes says.

Actions to Take Later

BALANCE LABOR AND COSTS WHEN DESIGNING THE TRANSPORTATION NETWORK: Distribution hubs built far from metro areas—perhaps to take advantage of lower labor costs—are generally less able to make use of rail.

"As a general rule, railroad hubs are in large urban centers," McKendry notes. "If you're not there, you're more reliant on truck."

BRING IN EXPERTS WHEN IT MAKES SENSE : Intermodal marketing companies can help shippers connect with rail companies and prepare shipments for rail transport, McKendry says. For instance, a shipment that could safely travel by truck with just a load bar or strap might require "blocking and bracing" for rail. An IMC can help.

Depending on a shipper's size and technical capabilities, it may make sense to hire a transportation management company, Davis says. These firms have relationships with railroads, interstate trucking firms, and ocean shipping companies, as well the technical and process capabilities to move freight effectively. They also offer shipment visibility.

GIVE SECONDARY PORTS A SECOND LOOK: The ports in Alabama, Georgia, Louisiana, and Mississippi, among other states, offer reasonable turnaround times and utility rates. Many continue to improve and have land available to accommodate future growth, all of which can help them minimize delays.

FIND CREATIVE WAYS TO HANDLE SHIPMENT VOLUME SPIKES : Once drivers leave the terminals and arrive at a warehouse or distribution center, most want to unload as quickly as possible. When volume increases, this may require leasing storage trailers or asking neighboring businesses if they have excess capacity available. "Get creative," Foster says.

EVALUATE YOUR WAREHOUSE LAYOUTS. : At many ports and railway properties, shippers that don't move their containers within 24 to 48 hours are hit with fees. In some cases, these shipments remain in place because the shippers lack room for them at their warehouses.

In addition, the growth in e-commerce means distribution centers and warehouses will likely need more room for parking to accommodate the larger employee base required to handle picking and packing, as well as for container storage, Pastor says. These shifts should influence the design of future warehouses.

Source : inbound logistics



- 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.

HOW CAN SELLERS OPTIMISE COSTS THROUGH SMART FULFILMENT AND WAREHOUSING SOLUTIONS?

ver the last few years, e-commerce has become an indispensable part of the global retail network. Increase in the demand for a convenient online shopping experience has made the role of warehouses and distribution centres highly critical and complex. Inefficient warehouse operations can lead to long waits and inconveniences for the customers, which can directly hit on the revenues. Currently, sellers face problems due to long storage fees charged at third party warehouses, seasonal factors and maintaining a good Amazon Inventory Management Index (IPI) score. A seller should focus on customer-centric approach, technology while also focusing on cutting costs to achieve economies of scale. By reducing packaging costs, outsourcing non-strategic tasks to more efficient partners and using automated inventory management, sellers can bring more customers to the table and streamline their operations efficiently. This is likely to be a challenge for most of the sellers to emulate this.

Conduct an audit : The most critical step in strategizing your costs and planning your inventories for the shipments is conducting an audit. This will not only help in reducing your costs but also will help you plan your shipment strategically for the peak sales months. The most important parts of the audit should centre on the fulfilment cost per order, to show how much every individual customer order costs to fulfil. A good starting point to figure this out is working out the total monthly cost then dividing by the total number of orders per month. It will give the total cost of each order. This will assist you in detecting where the company is spending its most of the money and plan strategically its future shipments, thus reducing long storage fees.

Consider Third-Party Logistics : There are many benefits of third-party logistics; a seller can gain by outsourcing supply chain management and logistics to a value added 3PL (third-party logistics provider). A 3PL provider has a vast resource network and relevant industry expertise which will avoid long term leasing costs and optimize warehouse storage. Outsourcing logistics will allow you to focus on the core competencies like marketing, sales, etc. and thus help you maximize profits, reduce wait times and improve customer service.

Inventory Management Software : Inventory management software is a sound investment to ensure optimal ROI in the fulfilment and overall business. It can automatically track the real-time product availability in stock, thus helping to meet the demands of the customers. It can also be helpful in monitoring turnover ratio and analysing buying patterns by customers. Creating automation and increasing speed during the fulfillment process can make the workflows swifter and more cost-effective.

Packaging and shipping : The role of packing and shipping is critical and it's primarily to protect the item that is being handled by the warehouse or shipped to the customer. After an item has left the production line, the primary task for packaging should be to limit the probability of the item

PRAVEEN VASHISTHA FOUNDER & DIRECTOR OF GXPRESS

getting damaged. Sellers can avail to order bulk packaging so as to save costs. Also, using recycled material or reusing packaging can also help to save costs and can demonstrate a more eco-friendly brand image. Also, efficient packaging can help to manage space in warehouses. Sellers can also avail to outsource their key warehouse management services such as packaging and shipping/handling which can help them to save significant time and financial savings for their operations.

Improve warehouse efficiency : Warehouse efficiency can be improved by optimizing space and arrangement of the warehouse, labelling areas of the warehouse properly, mapping optimal walking routes for pickers, choosing the best picking method for the operation. The easiest option is to use the Amazon supply chain with your own ecommerce business. By this you will be already using a proven supply chain which can streamline your fulfilment services efficiently. There are certain limitations which can be faced by sellers during peak sales months like maintaining a high Amazon Inventory Performance Index score (IPI), which is basically used to management of gauge inventory and enforce stock limits for underperforming sellers. To maintain a high IPI score on amazon, sellers have to retain their performance on the amazon portal to avoid paying any overage fees on any excess FBA (fulfilled by amazon) inventory.

Compare shipping rates and choose warehouse location strategically : Fast delivery is one of the most important considerations in e-commerce where proximity to consumers has become crucial. Previously, warehouses were built according to zoning regulations, but as the e-commerce market has skyrocketed in the last 4-5 years, there has been a rise in demand for warehouses with urban areas and residential communities. While shipping, trust the supplier or a freight forwarder who can guide you strategically throughout the process to save costs and streamline your operations. There are many 3PL logistics companies who can help you with return management, warehouse services so that you replenish your inventory to meet the unpredictable buying patterns of the consumers.

Final Thoughts : To achieve economies of scale, sellers need to follow a customer-centric approach by streamlining their operations and managing their warehousing & fulfilment smartly. It is predicted that the e-commerce market will grow at a compound annual growth rate of 14.7% from 2020 to 2027, which means that the sellers need to focus on managing their warehousing and fulfilment effectively.

This article has been authored by Praveen Vashistha, Founder & Director of Gxpress, a full service global logistics company that offers the entire suite of logistics services: delivery, warehousing, distribution, labelling, retail management etc.

Source : logisticsinsider.in

WHAT A SECOND WAVE OF COVID-19 WOULD LOOK LIKE FOR THE HEALTHCARE SUPPLY CHAIN?

ASHWANTH RAJ

Nations across the world could see a second wave of the COVID-19 pandemic as they have started relaxing lockdown, travel, and social distancing restrictions, in the backdrop of declining cases. The disruption in the first wave brought out many weaknesses in how businesses operate, especially in their supply chain strategy. After evaluating their shortcomings, many critical upstream players, especially in the healthcare supply chain, have put in action plans to deal with future disruptions. Despite this, the future wave of COVID-19 is poised to bring a unique set of supply chain challenges and make existing challenges much worse.



Before the pandemic, China was responsible for half the world's supply of surgical masks and was the only place capable of mass-producing clinical gowns. The outbreak there caused its supply to decline while creating a surge in domestic demand. To meet their rising demand, countries had to look for alternative means.

Challenges



One such problem could be suppliers intentionally hoarding up on PPE stocks to create an artificial shortage to drive up prices. On similar lines, PPE suppliers could indulge in procuring counterfeit versions of PPEs such as N95 masks and supplying it to hospitals. This situation becomes exacerbated and painful when the genuine and counterfeit stocks are mixed and delivered as part of a co-mingled consignment to the hospitals. A lot of hospitals would have developed action plans to source from alternative suppliers in case of a second wave. A re-occurrence would mean many alternative sources would be under stress as a significantly higher number of firms would activate their action plans. In the absence of additional capacity or newer suppliers, hospitals would be affected by a much worse PPE shortage.

What can PPE manufacturers & distributors do to ensure their supply chain is not disrupted again?

Manufacturers can negotiate long-term contracts with their upstream and downstream members, respectively, to get the benefit of price discounts on bulk purchase of raw material and to assure orders from hospitals to help plan production runs better.

They would have to revisit their strategic sourcing requirements and opt for raw material suppliers closer to home or within their borders (Supply Chain Regionalisation). This could reduce not only the complexity of the supply chain but also reduce the time to get products to consumers and increase supply chain visibility. Manufacturers could train them in improving the quality of the processing involved in the raw materials. While scouting for suppliers, they must vet them properly by assessing their credit risk & liquidity, ability to deliver on-time, etc.



The Kraljic Portfolio Matrix can be utilized for the screening of suppliers and making strategic sourcing decisions based on the supply risk and profit impact of the goods or services.



(Source:https://www.forbes.com/sites/jwebb/2017/ 02/28/what-is-the-kraljic-matrix/#6d0ac8c0675f)

For additional capacity, manufacturers could enter into agreements with businesses that can be quickly retooled to produce PPEs, such as automotive giant Ford which manufactured PPEs for 3M. To deal with counterfeit PPEs manufacturers can opt for RFID tagging of packages, which would allow them to track the journey of the package throughout the supply chain.

While dealing with their customers, such as hospitals, distributors must exercise caution as the higher volumes in the replenishment orders for PPE could be a result of panic buying. Instead, by insisting on Vendor Managed Inventory of the hospital's stock, they get better access to information such as the Burn rate of PPE and support existing needs of the hospital with higher efficiency & service levels, without causing the Bull-whip effect. VMI can be achieved by enabling EDI at both the distributor and hospital end.

How can Hospitals ensure their supply chain is prepared for any eventualities?

In the initial days of PPE shortage, hospitals postponed their elective surgeries to conserve. Such successful strategies must be documented in a playbook and implemented in case of future waves to ensure supply chain resilience.

Having an effective Inventory Management System would also be beneficial by ensuring PPEs nearing the end of their shelf-life are provided first to the healthcare workers to minimize monetary and material losses.

Single supplier situations can be overcome by hospitals by incorporating multiple redundancies into their supply chain by diversifying their supplier base. One way is the hospitals can reach out to other organizations such as MNCs that might have additional PPE stocks that were bought at the height of the pandemic to be used for their employees. Another innovative solution could be developing a cloud-based portal such as SearchPPE.com that could provide buyers access to the small businesses that can retool to provide PPEs. Hospitals in less-affected cities could assist the hospitals in hotspots by sharing their PPEs and other equipment, by once again leveraging technology. FLOOW2, an online B2B sharing marketplace, enabled hospitals to share idle medical equipment, staff & services.



Besides this, cultivating stronger supplier relationships is essential for hospitals' functioning. Transactional relations should be replaced with a long-term and mutually beneficial one. SMEs might struggle to finance to support their fulfillment of PPE orders. These businesses are financially squeezed between hospitals having a longer payment term and their upstream suppliers like raw material providers demanding early payment for highly desirable goods. By investing in them, hospitals can be assured of steady delivery of PPE orders, as a disruption there would have a catastrophic effect on the front line healthcare workers.

Furthermore, sustainability issues could also arise in the supply chain. There are issues such as that of used plastic and biowaste disposal.

Conclusion



Though the COVID-19 crisis exposed glaring supply chain shortcomings on a scale many have never previously contemplated, it presented itself with opportunities. It provided valuable lessons to learn and innovate and never to become complacent. Firms are forming partnerships to share their expertise while others are repurposing their production line and inventory to manufacture medical equipment. To be successful requires a high level of co-operation between various players, and the world is witnessing it on an unprecedented scale.

Source: www.sourcingandsupplychain.com



DIGITAL PROCURE TO PAY SERVICE SELECTION PROCESS

BALANARAYANAN N.K

Digitalization is everywhere; this led me to a series of thoughts about how digital transformation has changed the life of every individual completely. The moment you think you want to do something, it's almost there for you to proceed. Is this what people want? If yes, then Digitization concerns "People ", "Process" & "Technology".

Being a Procurement Professional, I am excited to see how procurement has attained the status of Digital in the market and overview of digital Procurement, Sourcing, and Contract management.

This article will give an outline of how procurement has transformed digitally, its pitfalls, and the benefits in the process of transformation. Also, it states the important considerations while transforming procurement digitally mainly focusing on the initial phase, i.e Procure to Pay.

Introduction : Digitalization challenged Industries with a slogan – "Transform or Die", that was indeed deep. Back in the 1980s when ERP solutions were ruling the world, the term "Digital" was just a thought of changing signature on a piece of paper to an electronic one. But, the actual understanding of digital is converting analog data to digital data, which was introduced in the telecom industry in the early 1970s. So, what does digital transformation mean to the procurement community? - It is the use of digital tools to convert a traditional transactional and time-consuming approach to a strategic, dynamic, and a value-based approach to drive the best value for procurement. The biggest success of digital transformation in the industry is because of continuous improvement to deliver process efficiency and excellence. We will explore more about how companies adapted to technology, what are the benefits and challenges in using the software are and much more.

How does Procurement transform digitally?

This question might look undemanding, but answering this might cost an arm and a leg. Cost-saving is not always a parameter to gauge an organization's success. An even more important aspect is how an organization adapts to new technology in creating a value chain of new features, increases compliance, and productivity mitigates the unforeseen risk and improves process efficiency. That's the real success for a company in the competitive market, but this transformation will not happen overnight.

Before we transform to any E-sourcing software, it is recommended to make sure that the following 3 factors are considered viz., People, Process, and Technology. Further, ask the following questions.

- Is it compatible with my current set up?
- Does it provide everything my organization wants?
- Is it better than my current solution/ system?
- Is it Agile?
- Is it user-friendly?
- Is it secure and compliant?

I haven't included anything related to cost here. We will discuss ROI in detail.

People, Process and Technology : Just to be competitive, we cannot afford to choose software or stick to a process without deriving any value from it. It has to be discussed with people, understanding the current process flow, and assessing the right technology. By doing so, we can achieve the highest productivity and make the best use of the software. Basically, align your procurement objectives with your technology transformation.

Modules of Digital Procurement : The chief procurement officer is responsible for the entire technology enhancement in an organization. Well, an organization can shift to any digital platform in a phasewise manner and yes, it is the most imperative decision to reap the benefit of technology. Understanding the implementation complexity and to capture business at the same time, tech companies have classified the overall procurement cycle to a stage-wise transformation and below is the stage or modules,

- Procure to Pay (P2P)
- Source to Pay (S2P)
- Contract Management
- Spend Management

These can also be stated as upstream and downstream activities. Going further, we will primarily focus on Procure to Pay. This will include a roadmap of the Implementation, Challenges, and Benefits of this Module.

Procure-to-Pay

What is procuring to pay? It is a simple process involving activities right from raising a requisition to paying the supplier. Below is the schematic representation of the P2P cycle,

Approval	Contracts	Catalog	Receiving	Invoice verification	Payment approv
			000 000		°6°
	Oller	Order	Delivery	Invoice	Payment
Budget-	Supplier	Order	Quality	Supplier	11223

Roadmap of the Implementation : Once we have decided to transform digitally, prepare yourself that it's going to take a minimum of a period to implement. (This may vary with the service provider that the company chooses). Now, below are some initial steps to perform to kick start the transformation,

- Develop an accurate and robust Business process mapping – This will lead the transformation from start to end.
- Define the number of users of the module Will this be Enterprise-wide? Or is it for a specific team?
- Feature the cross-functional team for discussion-It will assist the implementation team for better visibility of the process.
- How to mitigate the risk? Be aware of potential risks when we are transforming to a digital platform.
- How to build internal expertise?
- How does our organization achieve success?

Basically, Our Roadmap Should Be Able To Provide A Clear Cut Definition Of How To Do, When To Do, Why To Do, And Most Importantly Who Is Going To Do It.

Challenges in implementing Procure to Pay

- Lack of data governance
- Change Management
- Addressing Non-PO Invoices
- Supplier Master Data and much more

Benefits in implementing Procure to Pay

- A single place for tracking from requisition to payment.
- Reduce errors
- Better Visibility of the Spend
- Control and tracking of shipments via the portal
- Compliance
- Supplier Consolidation
- Automated Catalogue buying

Above are just an example of the challenges and benefits in implementing the Procure to Pay software.

Before We Get More Into Procure To Pay And E-Invoicing, Let Me Be Clear, Digital Procurement Is All About Identifying And Creating Value For The Organization With Better Customer Experience And Adaptability.

Please refer the below resource from Deloitte



The Player - Procure to Pay

Internet-based data center is the best selling in the Industry- In Short Saas platform is the most common look from organizations. Because the old traditional method of installing in a stand-alone system or maintaining it in the company server is no longer worth of.

Why companies select Saas Platform? Because of,

- Time
- Cost
- Scalability and Accessibility
- Compatibility

Apart from the above, it has a very low maintenance cost. (Include upgrades) So, the very first thing to know or to ask the supplier is " Is this a Saas based"?

Integration

Today, most of the organizations have different in-house developed tools to capture their requirement.

The second question is " Is your software open to integrate?" In tech language, Is API's are open to

performing the joint function?

Needless to say, always a Demo positively reeks of quality- This is so true, once a service provider set up a Demo, the organization will get to know the worth of the product and will decide to proceed or not.

Third most important thing is to request for a Demo

Once, we have the above clarity, then proceed with analyzing the features of the procure to pay software. Below are some examples but not limited to,

- Does the software has Artificial Intelligence (AI) and Machine Learning (ML) functionalities? – This is the future and completes Procure to Pay will be automated in the near future.
- Mobile requisitioning?
- Guided buying support- Most of the service providers complicate the guided buying, but the organization requirement is simple, it should be like any e-commerce website.
- Is it completely customizable or only configurable?
- How does the Supplier get benefited? Don't burden the suppliers by charging.
- Other factors like transparency, Productivity, Integration between Purchase and Finance team.

Return on Investment (ROI)

Return on Investment is a critical and imperative step to determine the cost savings for the company. In fact, service providers will come and strike us down with some huge numbers, but it's our responsibility to ensure the ROI based on our organizational structure and workflow. Below are the basic and essentials areas to focus on, but limited to,

- Invoicing Cost-Labor/processing
- Infrastructure Cost
- Transaction Fee
- Supplier Onboarding Cost*
- Calculating Maverik Spend
- Average PO cost

Attached is the calculating structure, which gives a basic understanding of how to calculate the ROI.

Sample ROI Sheet

So, The Fifth Important Part Is To Analyse And Identify The Unique Features.

Last but not the least, we have to get the below information and it is most important in making a significant decision, i.e Techno-Commercial aspects,

- Evaluation and Contracting
- Pricing Flexibility
- Integration and Deployment
- Ease of Deployment
- Service and Support
- Vendor response
- Quality of Technical support.

Based on all the above aspects, we will get a clear image with whom we should proceed. Once we have clarity on this, as discussed, the organization should set up a road map discussion with the selected service provider.

Future of P2P

Going forward in the future, there are several trends that are going to impact the entire P2P process. Some are going to be challenging and others are great opportunities for streamlining and complete digitalizing the P2P to a whole new level. Some of the trends are,

- 100 % Digitalization in E-Invoice (Touchless Invoice)
- Expand the control for purchasing.
- Mobile P2P application. Just approve on the go.
- Early pay discount strategy for suppliers.

Procure to Pay- The Industry 4.0

Where Manufacturing units are working to make a smart factory, Finance is looking for business decisions based on collecting real-time data by digital control and compliance. But, our hero procures to pay aims at RPA with intelligent workflows, digital 2-3 ways matching for touchless Invoicing. Components of P2P 4.0 are,

- Electronify all documents
- Workflow collaboration
- Global access with security

In a nut shell, the industry is looking for best of breed P2P system.

Conclusion

Digitalization is a journey and not a destination, is what I understand. Being at the forefront of the technology is important, but it's impreative to be at the forefront of the customized made solutions, which is the market need. With more and more tech giants are investing in India, this will be a great opportunity and a platform for knowing how to work with the digital services provider.

This piece of work will definitely assist some young aspirants in the industry to know what and how a digital transformation takes place and the important criteria for deciding which product fits their purpose.

Source : www.sourcingandsupplychain.com





ESSENCE OF CAPITAL COST ESTIMATION

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NTRODUCTION : Capital cost estimation is required during all stages of a process development to decide on project viability, screen process alternatives and monitor expenses. General cost engineering practices have been established, while a variety of costing techniques are available according to the process design stage, starting from rapid order-of-magnitude techniques to detailed cost methods.

Optimal plant design should define a process that can create profit under certain operating parameters. Engineers must be familiar with all cost elements that are associated with the production process because net profit is defined as the plant income minus the operating and capital expenses. Due to limited capital budgets and stringent financial resources, companies are reluctant to allocate funding to new projects while they require continuous monitoring of expected costs and expenses at all stages of the process development.

B. ESTIMATION CLASSES AND ACCURACY: The cost of making an estimate is closely linked to the preparation effort since it mainly consists of engineering salaries. The costs of making an estimate are a function of targeted accuracy and project size. Minimum engineering requirements for small plants, while larger plants often install more expensive equipment that do not necessarily increase engineering work. One should not aim for a higher accuracy than necessary at a particular stage in project development for time and money spend on estimates may increase rapidly while accuracy gain may be low.

There are numerous ways of classifying the different types of capital cost estimates for a process plant (Table 1).

				Expected	Range of aracy		
AACE Class	ANSI Classification	ANSI Classification	ANCI Typical Use	Project Definition	Low Expected Actual Cost	High Expected Actual Cost	Other Terms
Class 5	Order-of-	Strategic Planning: Concept Screening	0% to 2%	-50% to - 20%	+30% to +100%	ROM; Ballpark; Blue Sky; Ratio	
Class 4	Magnitude	Feasibility Study	1% to 15%	-30% เบ - 15%	+20% ເປ +50%	Peasibility; Top-down; Screening; Pre-design	
Class 3	Budgetary	Budgeting	10% to 40%	-20% to - 10%	+10% to +30%	Budget; Basic Engineering Phase; Semi- detailed	
Class 2		Bidding, Project Controls; Change Management	30% to 75%	-15% to - 5%	+5% to +20%	Engineering, Bid; Detailed Control; Forced Detail	
Class 1	Definitive	Bidding: Project Controls; Change Management	65% to 100%	-10% to - 3%	+3% to +15%	Bottoms Up; Full Detail; Firm Price	

project development. Management often decides to proceed in commissioning a new plant very soon after its conception because of favourable market conditions or business agreements. Moreover, if the new project resembles a plant already built by the company, detailed estimates can be produced very early during the project development.

Not all estimation stages are to be followed during a

C. COST CATEGORIES : Broadly, Total Capital Investment = (Direct Costs) + (Indirect Costs) + Land + Working Capital + off-site facilities etc

Direct Costs:

- Purchased equipment
- Equipment Installation
- Piping (includes insulation)
- Instruments and Control
- Electrical Equipment.
- Buildings: Process, Administration, Maintenance shops, etc.
- Site Preparation
- Service Facilities: steam, water, air, fuel, etc. Waste treatment, fire control, offices, etc.

Indirect Costs:

- Engineering and Supervision: Administrative and Design. Supervision and Inspection.
- Construction Expenses
- Contractor's fee
- Contingency.
- Start-up expenses etc

D. METHODOLOGY : Cost estimation is prediction of quantities, cost, and/or price of resources required by the scope of an asset investment option, activity, or project. As a prediction, an estimate must address risks and uncertainties. Estimates are used primarily as inputs for budgeting; cost or value analysis; decision making in business; asset and project planning; or for project cost and schedule control processes. Cost estimates are determined using experience and calculating and forecasting the future cost of resources, methods, and management within a scheduled time frame.

Parametric Estimate Method of estimating the cost of a project (or part of a project) based on one or more project-based cost factors. Historical bid data is commonly used to define parameters related to the cost of a typical transportation facility construction, such as cost per lane mile, cost per interchange or cost per square foot. Percentages can also be used to estimate the cost of project elements based on historical cost information. Parametric methods are often used in early estimating, such as planning and scoping estimates.

Risk-Based Estimate is an approach that involves simple or complex risk modelling based on inferred and probabilistic relationships among cost, schedule, and events related to the project. Risk-based estimating uses historical data and/or cost-based estimating techniques and an expert's best judgment to develop the project "base cost" (project cost if the project proceeds as planned). Risk elements (defined as opportunities or threats) are then defined and applied to the Base Cost through risk modelling to provide a probable range for both project cost and schedule.

E. FEW PROVEN METHODS : Committees within the firm are formed to plan for the future and prepare capital budgets. The economic evaluation of a process proceeds in several steps. These are:

- preparing a process flow diagram
- calculating mass and energy flows
- sizing major equipment
- estimating the capital cost
- estimating the production cost
- forecasting the product sales price
- estimating the return on investment

Some proven methods are listed below out of multiple estimation technique available:

• **Mehhod-1**: This method requires the cost factors by consider the proportional costs of each component. The cost factors presented are based on modern industrial experience. The typical variation in component costs as percentages of fixed capital investment for multi process grassroots plants or large battery limit additions are summarized as hereunder in Table 2:

Cost Component	Range %	Typical %
DIRECT COST		
 Purchased equipment 	15-40 %	23 %
 Purchased equipment installation 	6-14 %	8.3 %
 Instrumentation and controls (installed) 	2-8 %	6.4 %
 Piping (installed) 	3-20 %	7.3 %
Electrical (installed)	2-10 %	4.6 %
 Buildings (including services) 	3-18 %	4.6 %
Yard improvements	2-5 %	1.8 %
 Service facilities (installed) 	8-20 %	13.8 %
Land	1-2 %	0.9 %
INDIRECT COST		
 Engineering and supervision 	4-21 %	9.2 %
Construction expense	4-14 %	11 %
Contractor's fee	2-6 %	1.8 %
Contingency	5-15 %	7.3 %

Table -2

Alternately, initially requires the cost of purchased process equipment. All components of direct cost are then estimated individually as equivalent to percentages of the equipment cost.

• **Method-2**: A simple technique to estimate the capital cost of a chemical plant is the Lang Factor method. The Lang factor method has a tendency to produce high results. The total cost is determined by multiplying the total purchased cost for all the major items of equipment by a constant. The multipliers, depending on the type of plant are given in below Table 3:

Type of chemical plant	Lang factor, F lang
Solid processing	3.10
Solid – fluid processing	3.63
Fluid processing	4.74

Table -3

The capital cost calculation is determined using below Equation:

$$C_T = F_{Lang} \sum_{i=1}^n C_{p,i}$$

Where,

 C_{τ} = Capital cost of the plant

- $C'_{p,i}$ = Purchased cost for the major equipment units
- n = Total number of individual units

F_{Lang} = Lang Factor

• **Turnover Ratio's:** This is a rapid method. The total investment for a plant can be approximated by the turnover ratio, which link capital investment to sales in a linear relationship.

Turnover Ratio's = Annual Gross Sale / Fixed Capital Investment.

Assuming the entire product will be sold, fixed capital cost investment can be back calculated with annual gross sale and **Turnover Ratio** (from published data for respective type of process plant)

 Cost Indexes : Most cost data which are available for immediate use in a preliminary or predesign estimate are based on conditions at some time in the past. Because prices may change considerably with time due to changes in economic conditions, some method must be used for updating cost data applicable at a past date to costs that are representative of conditions at a later time. This can be done by the use of cost indexes. Cost indexes are numerical values that reflect historical change in engineering costs. The cost index numbers are dimensionless, and reflect relative price change in either individual cost items such labor, material, utilities; or groups of costs such consumer prices, producer prices. Indexes can be used to update historical costs with the basic ratio relationship as follows:

$$C_2 = C_1 \left(\frac{I_2}{I_1}\right)$$

where,

 C_1 = Estimated cost at previous time C_2 = Cost at expected time I_1 = Index value at expected time I_2 = Index value at previous time

There are several cost indexes used by the chemical industry to adjust for the effects of inflation.

• The Rule of Six-tenths: A ratio indicates the relationship between two (or more) things in quantity, amount, or size. Proportion implies that two (or more) items are similar, differing only in magnitude. The Rule of Six-tenths approximate costs can be obtained if the cost of a similar item of different size or capacity is known. A rule of thumb developed over the years known as the rule of six-tenths gives very satisfactory results when only an approximate cost within plus or minus 20% is required. At any rate, the following equation expresses the rule of six-tenths:

$$C_{B} = C_{A} \left(\frac{S_{B}}{S_{A}}\right)^{0.6}$$

Where

 $C_B =$ the approximate cost (\$) of equipment having size S_B (cfm, Hp, ft², or whatever), $C_A =$ is the known cost (\$) of equipment having corresponding size S_A (same units as S B), and

 $S_{\rm B}$ / $S_{\rm A}$ is the ratio known as the size factor, dimensionless.

An analysis of the cost of individual pieces of equipment shows that the size factor's exponent will vary from 0.3 to 1.2, but the average is very near to 0.6, thus the name for the rule of thumb. If a higher degree of sophistication is sought, Table below can be used. It lists the value of a size exponent for few types of process equipment, are listed in Table 4:

Co	mponent/System	/Plant	Size Range	Exponent
•	Activated sludge	plant	1-100 MGD	0.84
•	Aerobic digester		0.2-40 MGD	0.14
•	Blower	1,000-	7,000 ft ³ /min	0.46
•	Centrifuge		40-60 in	0.71
•	Chlorine plant 3,	000-35	0,000 tons/yr	0.44
•	Clarifier		0.1-100 MGD	0.98
•	Compressor		200-2,100 hp	0.32
·	Cyclone separator	· 20-	8,000 ft ³ /min	0.64
·	Dryer		15-400 ft ²	0.71
·	Filter, sand		0.5-200 MGD	0.82
·	Heat exchanger		500-3,000 ft ²	0.55
•	Hydrogen plant	50	0-20,000 scfd	0.56
·	Laboratory		0.05-50 MGD	1.02
·	Lagoon, aerated		0.05-20 MGD	1.13

	Pump, centrifugal	10-20	0 hp	0.69
•	Reactor	50-4,000	0 gal	0.74
•	Sludge drying beds	0.04-5 I	MGD	1.35
•	Stabilization pond	0.01-0.2 I	MGD	0.14
•	Tank, stainless	100-2,000	0 gal	0.67
		Table-4		

Two methods for estimating the cost of equipment are the Rule of Six-tenths and the use of cost indices to adjust historic costs to current prices.

• Working Capital: Working capital is the amount of capital required to start up the plant and finance ordinarily amounts to the production cost for 1 month of operation before revenues from the process start. In general it will be found to be amount equal to 15 to 20% of the fixed capital investment or 25% of annual product sales value. The working capital for an industrial plant consists of the total amount of money invested in raw materials and supplies carried in stock, finished products in stock and semi-finished products in the process of being manufactured, accounts receivable, cash kept on hand for monthly payment of operating expenses, such as salaries, wages, and raw-material purchases, accounts payable, and taxes payable.

• **Detailed estimates.** In the deûnitive estimates every detail is costed separately based on ûow sheets, plot plans, other detailed documents and labour hours. It is a large workload, but when the project is deûned appropriately, it is the most accurate. It is often prepared for cost control during construction.

Also, Prices from quotations or index-corrected records.

$$C = \left[\sum (E + E_L) + \sum (f_x M_x + f_y M_L) + \sum f_e H_e + \sum f_d d_n\right] f_F$$

Where

E: delivered equip. cost

E: labor for equipment cost for field labor

f: material unit cost

 f_e^{\bullet} : unit cost for engineering

f_d^e: drawing cost

 f_{r}^{a} : field expense factor

F. CONCLUSION

Capital cost estimates are made since the very start of project development until final commissioning and start-up of the plant. Initial cost estimates are essential to decide whether to continue allocating funds or discard the project and opt for more promising alternatives. For early estimates, quick methods are employed that usually do not cost much to apply. Since not adequate information is available, some substantial error is inevitable. As more process details are defined during project development, capital estimates become more accurate and the error ranges narrow significantly.

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WTO UPDATE DDG WOLFF: "WTO REFORM IS BOTH NECESSARY AND FEASIBLE"

Spresided by Chinese Premier Li Keqiang on 24 November, Deputy Director-General Alan Wolff urged WTO members to begin serious engagement on improving the WTO, arguing there was enough common ground to reach major new agreements. He also called on China to participate actively and contribute positively to planning far-reaching WTO reforms. In a separate press statement, DDG Wolff said all WTO members should contribute to improving the WTO, but that the largest trading nations have greater capacity to influence outcomes.

The "1+6" roundtable is an annual gathering of leaders of six major international institutions (WTO, World Bank, International Monetary Fund, International Labour Organisation, Organisation for Economic Cooperation and Development, and the Financial Stability Board) hosted by China to share views on the world economy and global economic governance.

DDG Wolff's full speech is provided below:

China is a world leader in Artificial Intelligence. What is needed for the WTO, however, is Human Intelligence. Fortunately, in this regard China is also rich in resources. I noted last year at this event that China has a large number of highly qualified WTO experts, both inside government and in think tanks, and that I was sure that they could contribute much of value.

The major challenges faced by the WTO are not susceptible to quantitative analysis where AI would be most useful. The problems are political and diplomatic and concern relations among sovereign nations. They are the kinds of problems that you, Premier, and other countries' leaders are chosen for your ability to solve. This is true for the leaders of all 164 WTO Members.

I said last year that all WTO Members, regardless of size, have a valuable contribution to make and that they should be listened to. But it is also true that those who are the largest trading nations have greater capacity to analyse, to propose, to influence outcomes. Because of its capacity, because of its position in the world, China has the ability to play a major role in the shaping of world trade and the world trading system. There are many challenges that require its participation.

President Xi is pledged to multilateralism, as are all the G20 Leaders. They have repeatedly cited the need for WTO reform, as recently as two days ago⁽¹⁾, but the response has not met expectations.

It is no secret that the Members of the WTO have not been able to find far-reaching solutions through negotiations in recent years. The legislative, that is negotiating function of the WTO, is largely dormant. The fact that the WTO dispute settlement is not functioning as intended is well-known. Less wellknown are the defects in the WTO's governance structure. The WTO has no executive arm. The Secretariat does not perform all of the analyses that would enable more effective administration of the world trading system. It initiates no proposals.

The WTO is a strictly Member-driven organization. That could give its strength but there is also the danger of weakness, where any decision, regardless of its importance, may be deemed to require unanimity. There has been too little positive engagement among the major Members. No senior official, in any government examining this issue, would fail to see the deficiencies that exist.

Every government of every WTO Member that has the capacity to do so must now consider how to improve on the WTO. The response to the pandemic by the Secretariat and Members in terms of providing information to increase transparency has been strong. However, to date, the substantive collective response, in terms of determining what measures are needed to spur trade and to curb trade restrictions, has been absent. Similarly, with respect to another crisis, namely climate change, while the Paris Accord has been in effect for some time now, the trade aspects of addressing this challenge have not been met with any updating of the world's trading rules. While the WTO remains highly relevant to the operation of the global economy, with over 80% of world trade conducted under its terms, the institution is sadly out of date with respect to having rules fit for the modern digital economy. Fortunately, this last subject is being addressed in a joint initiative on ecommerce in which China and a broad coalition of trading nations are participating.

There are some additional indications that the trading system may prove more responsive to current demands. This extends beyond the joint initiatives. China is to be congratulated along with Fiji, for beginning the discussion of solving the problems of plastics pollution, a discussion now joined in by an increasing number of other Members. China is also a reliable supporter of the WTO accessions process. In another activity of great importance to a number of least developed countries, it is highly active in cotton development assistance, the subject of the Consultative Forum at the WTO that I chair.

I urge China to be more active on a broader range of problems. As a country that has experienced spectacular growth since it joined the WTO nearly two decades ago, and has become the world's largest exporting nation, it has experienced first-hand the benefits of the multilateral trading system. Now that system needs its help.

The four largest WTO Members — the Members of the European Union, the United States, China and Japan account for over half of world trade. If they were to find common ground, it is highly likely that others would agree as well.

What would prevent this? It would be argued that the largest countries have serious differences. UN Secretary General Guterres has pointed to what he sees as the danger of a "great fracture". One of the fault lines that he cites is the result of geostrategic tensions. It is said by some trade policy experts that this fault line runs through the WTO.

Divisions are far from new in the worlds of geopolitics and trade. There have been instances of this for thousands of years of human history. But is there no common ground now when it is needed? There are in fact, clearly areas where interests match rather than conflict. Three examples come readily to mind: One is making sure that trade facilitates and does not impede essential goods and services to combat the pandemic. A second is to use all available means in trade policy to spur a global economic recovery. A third is to have trade play its part in dealing with climate change.

Other subjects may prove more difficult but will not

prove to be intractable with good will and effort. For disciplining fisheries subsidies or limiting the trade distorting use of domestic support for agriculture, China, along with other major trading nations, are essential to any viable solution. The major beneficiaries of effective action in these fields will be the least developed countries. They should hold all the major trading countries accountable for failing to improve the world trading system.

I believe that substantively there is enough common ground to be found to reach major new trade agreements that would improve the outlook for all nations.

I believe that fundamental WTO reform is both necessary and feasible.

The e-commerce negotiations must result in a deep and broad international agreement that creates predictability and shared rules essential to foster continuing growth of the global economy.

The Information Technology Agreement should be updated and should include medical equipment necessary to deal with the pandemic.

The Environmental Goods Agreement negotiations should be revived and an agreement concluded promptly, with the inclusion of services, to be part of the multilateral response to climate change.

The Pharmaceutical Agreement, providing for dutyfree treatment should be updated in its coverage and China and other major producers should join as signatories. Medical supplies should be added to the agreement.

These are only some of the most obvious candidates for immediate action. The Chinese government is experienced in planning. It should participate actively and contribute positively to planning far-reaching WTO reforms, to be supported and adopted by all WTO Members.

Notes:

 We "reaffirm the objectives and foundational principles of the multilateral trading system as well as to demonstrate our ongoing political support for the necessary reform of the WTO".... G20 Leaders Declaration, 22 November 2020.

Source: WTO Website



EXECUTIVE HEALTH DIABETIC? HERE'S A HEALTHY DIABETES-FRIENDLY INDIAN MEAL PLAN TO HELP WITH BLOOD SUGAR CONTROL

SALOME PHELAMEI

ere's a healthy diabetes-friendly Indian meal plan to help you keep your blood sugar levels in check, manage weight.

KEY HIGHLIGHTS :

- A diabetes meal plan will not only help you manage blood sugar levels, but also provide your body with essential nutrients it needs to function normally
- Diet along with regular physical activity is an important part of diabetes management and care
- Use these tips to make healthier food choices, which will help prevent blood sugar spikes and aid weight loss

If you're living with diabetes, maintaining a healthy eating plan will help you keep your blood sugar levels within the target range. A healthy diabetes diet plan should include plenty of fresh fruits and vegetables, whole grains while avoiding or limiting red meat and processed foods. Whole foods are rich in nutrients and antioxidants but low in fat and calories. In fact, whether or not you have diabetes, a well-balanced diet will help you lose weight, control blood sugar, reduce the risk of chronic conditions.

Following a diabetes diet plan will help you keep track of how many carbs, calories you consume and set a limit for each meal. Carbs are known to raise blood sugar faster and higher than protein or fat. However, carbs that have fibre in them (like sweet potatoes) can help lower blood sugar. A diabetes-friendly meal plan will also help you make healthful eating more fun and creative by adding some new ideas to the diet.

Here's a sample Indian meal plan for diabetes

Below are a few tips and strategies diabetics can use as a reference in planning their own meals. Please note that this healthy diabetes-friendly Indian meal plan is a generalised one and you should consult your doctor or a dietitian to work out a diet plan that is suitable for you.

- Early norming: Start your day with a glass of lukewarm water you can also add freshly squeezed lemon juice to your water to make the drink healthier and tastier. Diabetics can also consume fenugreek seed soaked in water, which may help with blood sugar control.
- Breakfast: You can have a bowl of poha/a bowl of oats porridge. Non-vegetarian may opt for one poached egg, half a small avocado spread on a slice of brown bread, and one orange.
- **Mid-morning:** Have a cup of green tea along with a handful of roasted channa, or a whole fruit such as apple/pear, orange, etc.
- Lunch: Make sure that you eat a wholesome meal

 2 chapatis/brown rice with a bowl of vegetable sabzi, 1 bowl of salad, 1 bowl of dal fry/curd/2-3 pieces of fish or chicken.
- Evening snack: 1 cup buttermilk without salt or sugar/ sukha bhel (tomato, cucumber, onion, coriander leaves, etc)/1 cup green tea along with steamed corn.
- **Dinner:** 2 chapatis and 1 bowl vegetable sabzi, 1 bowl of salad, 1 bowl of dal/2-3 pieces of chicken/ fish.
- **Bedtime:** You can have some nuts (4 almonds or 2 walnuts) with a glass of warm water before bed.

With a few tips and tricks, people with diabetes can have a healthful, varied diet that can help improve blood sugar control, manage weight while boosting overall health.

Disclaimer: Tips and suggestions mentioned in the article are for general information purpose only and should not be construed as professional medical advice. Always consult your doctor or a dietician before starting any fitness programme or making any changes to your diet.

Source: timesnownews.com

























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