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MATERIALS MANAGEMENT REVIEW



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SANJAY IIMM

From the Desk of The National President



Dear Professionals,

Greetings from National President!!!

At the outset, I, welcome you all to the festive season and wish you and your family members for happy and joyful Independence Day, Raksha Bandhan and Krishna Janmashtami.

I am delighted to tell you that, Karnataka High Court has passed favourable Judgement in the interest of career of students, to KSOU for issuing of provisional degree certificates to students who have successfully completed their programs. On the similar lines, our students will also get benefitted, who have completed MBA (SCM & MM) programs and are in want of Degree certificates.

IIMM Bangalore is organizing two day Signature Event "SCALE 2019" on 22nd & 23rd August 2019. I wish Chairman, IIMM Bangalore and his team for successful Signature Event "SCALE 2019".

I am also happy to note that, IIMM Pune branch is organising its 6th Annual SCM Award ceremony on 3rd August 2019. I wish grand success of the event.

Being election year and IIMM as society, we have certain obligations in respect of AGMs and Elections at both Branch and NHQs level. I hope most of the branches have had submitted their accounts at IIMM NHQs and those who have still not submitted the accounts may like to act fast and do the needful at priority.

As you are aware that Admissions for PGDMM and PGDSCM&L Program are in progress, you may like to put your best efforts in increasing the no. of admissions in these two programs.

I look forward for your continued and active support for taking the institute much a head.

Regards,

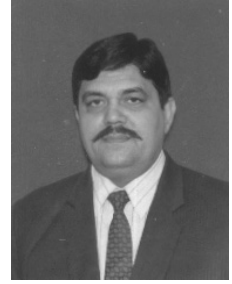


G. K. SINGH

National President - IIMM

e.mail : s_gksingh@yahoo.co.in

From the Desk of Chief Editor



Dear Members,

Public procurement is increasingly seen as a parameter for driving economic growth, and achieve Government's policy objectives such as developing indigenous production facilities under Make in India Initiative, Innovation under Start-up India, SMEs participation and delivering sustainable and inclusive outcomes. It is good to know that India's rank in the Global Innovation Index has improved from 60th position in 2017 to 57th in 2018.

From an economic perspective, public procurement accounts for 20-25% of GDP and involves substantial flow of public fund, hence calls for increasing the 'productivity' of government spending not only in terms of Quality and Quantity but also in terms of Efficiency, effectiveness and Accountability.

With inclusion of certain clauses like Value for Money, Environmental Considerations and GeM etc. under GFR 2017, Govt. is willing for/bringing desired changes to stimulate the procurement process in a transparent, efficient, effective and socially responsible manner.

The adoption of e-procurement portals like Central Portal for Public Procurement and GeM, have certainly helped in enhancing the transparency in the procurement system. However, few areas like inadequate digital infrastructure, the level of computer skills and IT personnel, and cyber threats are required to be addressed on priority to reap entire benefits of e-procurement. Similarly, in order to enhance MSEs participation in the public procurement, efforts should be made to provide access to information, technology, credit Facilities, training especially for Tendering process and use of IT in Public Procurement.

Procurement Management Information System (PMIS) can be developed as an integral part of Procurement Process, which will not only helps in tracking the ongoing as well as completed procurements but also provides information to any procuring entity in executing different procurement activities like bid designing and evaluation. However, necessary measures should be taken to protect it from unauthorized access/manipulation and cyber threats.

Another important reform that warrants attention of the Govt. is to enhance the procurement competency and capacity of the concerned through training and exposure to the best procurement mechanisms used elsewhere. The officials should also be motivated to ensure probity in public procurement.

The current Procurement System suffers from some serious drawbacks such as fragmented procedures and rules, lack of standard bid documents, unavailability of sufficient procurement professionals, lack of transparency, and lack of effective grievance redressal mechanism.

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

(DR. M.K. BHARDWAJ)



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MATERIALS MANAGEMENT REVIEW

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DEVELOPING SUPPLY CHAINS FOR EXPONENTIAL GROWTH

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Abstract : This research paper highlights the importance of supply chain management considering the current changing business scenario. In this paper the exponential growth phenomenon in respect of both manufacturing and service industries were discussed. The paper was written on basic concepts, practices and understanding of circular supply chain from linear supply chain and digital supply chain. The author had given importance to demand variability, and its associated causes and effects of Bullwhip effect. More examples were drawn from manufacturing sectors and service industries. In this context, Toyota motors and Tesla Motors supply chains were analysed. The 4Vs & L acronym of Toyota Motors were elaborated. The Gigafactory process flow of Tesla Motors was also highlighted. The author had also attempted to explain the key requirements for the future supply chains- digital supply chains in this paper. Under digital supply chains, the key components and its importance of digital transformation were also highlighted.

Keywords: exponential growth, linear, circular, digital supply chains

Introduction : Originated with the military as a way to supply troops with weapons and other goods needed for combat, logistics later evolved into a business concept. This was mainly prompted by the growing demands and complexity of the supply chain process, including transportation of large quantities of goods to distant locations, in line with the globalization of trade. The logistics and supply chain aspect is vital for any business in terms of supply of quality raw materials, efficient manufacturing process, as well as tracking, transport and storage of the finished goods. Companies implementing well-designed supply chain practices are able to meet consumer needs in a more expeditious and timely manner.

According to Fisher, for functional products, the supply chain should be physically efficient and for innovative products, the supply chain should be more market responsive [4]. He also emphasized the various parameters on which the products are categorised as functional products and innovative products. The complexities in the supply chain network are increasing due to multiproduct, multi-location and serving to global markets. Further, the customers' expectations increases in terms of low price, more varieties, less lead time delivery and more customization. So, in order to overcome these challenges, companies are constantly

adopting innovative practices in their supply chain management. Further, companies are moving from their linear supply chains to circular supply chains and digital supply chains considering the exponential growth phenomenon. In the field of digital supply chains, Internet of Things (IoT), Artificial Intelligence, Machine Learning, Sensors, Automation & Robotics and applications of Data Sciences for business decision making are gaining importance.

Exponential Growth Phenomenon : Exponential growth occurs when the growth rate of a mathematical function is proportional to the function's current value. In other words, for constant increment in X, a linear growth would increase by a constant difference, and an exponential growth would increase by a constant ratio. Examples- Bacteria exhibit exponential growth under optimal condition. Compound interest is an example of exponential growth. Other examples are number of passengers handled by the airports and growth of automobile sector. Figure 1 depicts the concept of exponential growth.

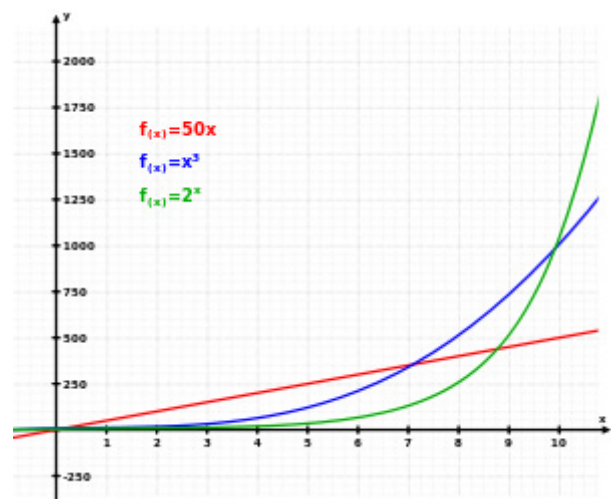


Figure 1 the graph illustrates how exponential growth (green) surpasses both linear (red) and cubic (blue) growth.

Exponential growth, Cubic growth, Linear growth

Example: Bangalore International Airport Ltd., (BIAL) was originally created for the forecasted capacity of 12 million passengers in 2008. In the first year itself, BIAL could handle 9 million passengers. Further, BIAL

had handled 25 million passengers during 2017-18. BIAL has achieved 3X growth in 10 years. By 2020, BIAL is going to enhance its capacity by another 25 million passengers. The key challenges are not only from airline operators, but also from the passengers' i.e. customers' customer.

Linear Supply Chain : The term "linear supply chain" refers to the conventional concept where goods flow linearly (from raw material to finished product). Traditionally, we view the supply chain as a chain of sequential links each with behavioural attributes which act both separately and together to cause demand variation from historical performance. Linear supply chains are working on 'push' based principle. The "linked" supply chain is characterized by linear time delays in communicating of variance to the forecast, and amplification in volume as demand is placed back from many demand points to fewer supply points. This is called as 'Bullwhip Effect'. Bullwhip effect occurs in a supply chain due to lack of coordination & distorted information and high level of demand variability. As demand variations are communicated sequentially through the supply chain, the time delays and signal variations that cause error propagate throughout the network as per the following illustration mentioned in Figure 2.

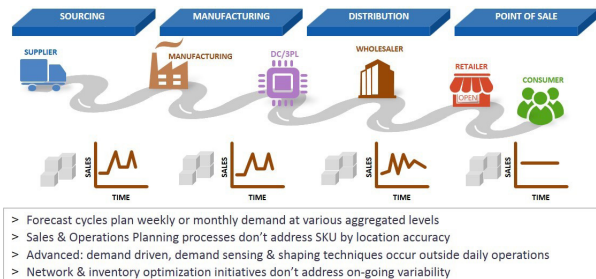


Figure 2 Linear Supply Chain

Circular Supply Chain : Modern logistics practices focus on the circular supply chain concept, involving the use of previously used products as raw materials. The reuse of products and materials is known as reverse logistics, and it is a novel, innovative approach. It helps companies reduce administrative and transportation costs, achieve higher sustainability, better customer service and loyalty, create value and conserve resources. All the constituents in the supply chain such as suppliers, manufacturers, distributors, logistics service providers, customers and end users are getting connected on real time basis. This is possible because of digital transformation of supply chains.

Digital Supply Chain : Digital supply chain is transforming the linear supply chains as well. Digital supply chains are working on 'pull based inventory' principle. Today's best known supply chains are working more on machine learning. The Internet of Things (IoT) and Artificial Intelligence (AI) are highly influencing the supply chain firms. Using digital technologies to drive transformation in supply chains is becoming increasingly popular although with 94% of organizations stating digital technology will transform supply chain only 44% have a digital strategy in place

to get there. Every company should have digital strategy in place to achieve digital transformation. Figure 3 shows the digital supply chain

Digital transformation includes digital development and digital disruptions. Companies should adopt digital solutions to transform their supply chains, otherwise also, digital disruptions make them to adopt digital transformation through digital development. Digital transformation improves the speed, flexibility, operational efficiency and customer experience. Example: Amazon has interfaced its business operations both with their suppliers and customers seamlessly through digital supply chain [6].

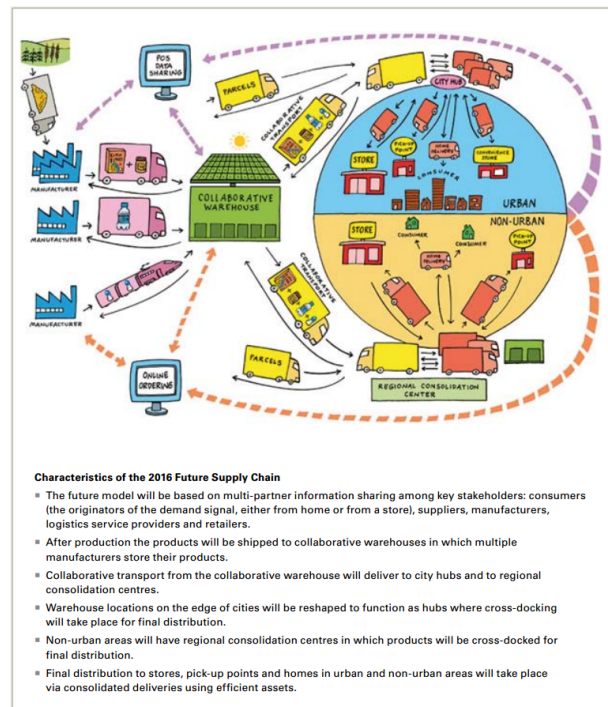


Figure 3 Digital Supply Chain

Supply Chain Management in Toyota Motors : Supply chain management at Toyota is an element of company's operations strategy which is thoroughly based on the Toyota Production System (TPS). As Toyota's success gained world-wide coverage, it was followed by other companies in TPS, the principles of which is expressed by the term "lean manufacturing"

Toyota Supplier Partnering Hierarchy includes: mutual understanding and trust, interlocking structures, control systems, compatible capabilities, information sharing, joint improvement activities, and Kaizen and learning[3]. JITS system – a system that organizes the resources information flows and decision rules that enable a firm to realise the benefits of JIT principles [2].

Toyota Supply Chain Management is the most comprehensive, insightful guide to forging a world class supply chain system. The salient features of Toyota supply chain management are: Zero inventory, global supply chain networking and '4Vs L' practices. The 4

Vs. are: Variety, Velocity, Variability, & Visibility and the 'L' stands for 'Learning' continuously. Toyota Supply Chain Management explains how to achieve balance and efficiency by focusing on the acronym of '4V L' practices. Table 1 explains the 4Vs L practices of Toyota [1].

Table 1 Acronym of 4VsL of Toyota

4VsL	Explanation
Variety	Determine variety of offerings based on operational efficiency and market demand
Velocity	Maintain a steady flow through all processes of the supply chain
Variability	Manage inconsistencies carefully to reduce cost and improve quality
Visibility	Ensure the transparency of all processes to enable continuous learning and improvement
Learning	Focus on learning-related constructs: knowledge acquisition, information, distribution, information interpretation and organizational memory.

Supply Chain Management in Tesla Motors : Tesla motors was founded in 2003 by a group of Engineers in Silicon Valley, USA who wanted to prove that electric cars could be better than gasoline –powered cars. Tesla attempts to change the automotive industry by creating many innovative practices that fit together. These practices were called 'complex coordination'. Its production, sales, marketing and technology strategies all are notably different from its competitors. Tesla motors started with 10,000 car units in the year 2003 and delivered 4500 units in the first year, now they could deliver 5, 32,000 car units at the end of 2018 (in 15 years' time). This is an example for exponential growth. Tesla has adopted a vertically integrated supply chain, so that they will manufacture all their parts on site. This has enabled the company to contain cost and better control. Figure 4 depicts the Gigafactory process flow of Tesla Motors [5].

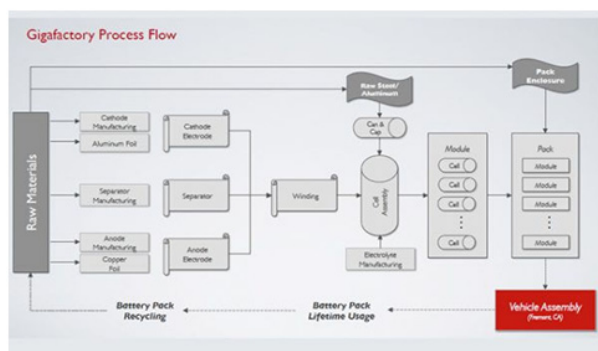


Figure 4 Gigafactory Process Flow

Building up of Supply Chains for Exponential Growth : Considering global supply chain management and transnational business changing scenario, the supply chain management becomes more complex, which in turn brings lot of challenges to the companies. So, companies cannot continue with traditional supply

chain arrangement practices anymore. Many research reports talks about adoption of non-linear supply chain, collaborative and circular supply chain for meeting the dynamic operating conditions of business.

Further, companies are looking for devising digital supply chain by adopting digital transformation solutions. The supply chain should be more responsive to manage the supply chain risks. Granulation- micro-segmentation, hyper-personalization, forward planning, foreseeable trends, demand driven planning, pull based inventory, exponential phenomenon etc will be the focus points and buzzy words in the future supply chain management.

Conclusion : In future supply chains, Internet of Things (IoT) holds a prominent place as a highly transformative technology solution in the supply chain management and logistics sphere. It helps companies to monitor inventory, manage warehouse stock, optimization of vehicle routes and fleet management. AI have numerous applications in the supply chain especially the warehousing segment. The concept of machine learning, automation and robotic is also widely implemented in the supply chain. Examples are automobile and paint manufacturing companies. Robust procurement practices and building strategic partnership relations should be considered a priority in the supply chain process. Supply chain should be more flexible and resilient include visibility throughout from supply chain, so disruptions can be detected on time and remedial action can be worked out when disruption occurs. The modern supply chain involves more knowledge work will go global. So, business analytics will certainly help the planning and procurement processes. Sensors and drones are going to play a major role in logistics, warehouse and inventory management. Companies are using a host technology devices like Bar codes, RFID tags, GPS, EDI, GIS etc to enhance their supply chain visibility.

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6. Future Trends in Supply Chain and Logistics retrieved from www.aacb.com on July 01, 2019.



BUDGET 2019 HIGHLIGHTS

1. Direct Taxation – Budget 2019 Highlights

1. Interest deduction on housing loan under Section 80EE increased by 1.5 lakhs for home loans taken on self-occupied house property by 31/3/2020, houses with the cost of Rs 45 lacs will be eligible for this.
2. Interchangeability of PAN and Aadhar for ease and convenience of taxpayers! Income Tax return can be filed using Aadhar Number!!
3. To discourage cash payments TDS@2% on withdrawals exceeding 1Cr per annum from a bank account
4. Surcharge for individuals having taxable income from Rs 2 crores to Rs 5 crores increased to 18% from 15%
5. Surcharge for individuals having taxable income from Rs 5 crores to Rs 10 crores increased to 22% from 15% – FY 2019-20
6. Proposal to give relief in levy of securities transaction tax
7. Corporate tax worth 25% that is applicable to companies with an annual turn over Rs 250 crore will be applicable to the ones with an annual turnover of Rs 400 crore
8. 35AD extended to Li-On battery, Semi-Conductor, Laptops, Fabrication & Photo Volic

2. Infrastructure – Budget 2019 Highlights

1. Focus on investment in infrastructure, national highways and aviation sectors
2. The second phase of Bharat Mala to develop state highways
3. A comprehensive restructuring of national highways will be taken up

3. Education – Budget 2019 Highlights

1. National education policy to propose major changes in both secondary and higher education
2. Swayam Initiative – Digital education to be promoted
3. Greater focus on research and development – National Research Foundation to fund and promote research – pooling of research grants from various ministries and disbursing them, preventing duplication of research projects
4. For the Youth – New national educational policy to transform the Indian education system

4. Startup Development – Budget 2019 Highlights

1. Government to introduce a host of exclusive programs for startups on DD News

5. Household – Budget 2019 Highlights

1. 4. Household Provision of housing, electricity, clean cooking facility, safe and adequate drinking water to all in rural India
2. Encouragement of rainwater harvesting, ground water recharge, and management of household wastewater for reuse in agriculture
3. HarGhar Jal – to all rural household by 2024
4. 7 crore LPG connections delivered to rural households

6. Pension – Budget 2019 Highlights

1. Proposed pension benefit to 3 crore retail traders and shopkeepers whose annual turnover is up to Rs 1.5 crore

7. MSME- Budget 2019 Highlights

1. 350 crore rupees allocated for 2% interest subvention for all GST-registered MSMEs on fresh or incremental loans
2. MSME: Large-scale extensive reforms planned, government to create a platform for MSME payments

3. MSME to get loans up to 1 crore within 59 minutes. Loans worth Rs. 350 crore already disburse

8. Women Empowerment- Budget 2019 Highlights

1. Committee to be formed with Public and Private stakeholders for gender equality: FM
2. Every SHG Women having Jan Dhan Account – Rs. 5,000/- overdraft allowed: FM
3. Loan up to 1 lakh under Mudra Scheme for Women entrepreneurs: FM

9. NRI- Budget 2019 Highlights

1. Proposal for Issuance of Aadhar Card on arrival for NRIs with Indian Passports: FM
2. Aadhaar card for NRI's post arrival in India
3. To increase NRI investment in Indian capital market – NRI portfolio scheme route and FPI route should merge

10. Budget – Railway Budget 2019 Highlights

1. Railway infra would need an investment of 50 lakh crores between 2018 and 2030;
2. PPP to be used to unleash faster development and delivery of passenger freight services
3. Railway Station Modernisation will be launched this year.
4. Indian Railways to be encouraged to invest more in urban and suburban regions
5. 657KM of Metro Rail operational in the country.

11. Banking and Financial Sector – Budget 2019 Highlights

1. Reforms will be taken to strengthen governance in Public Sector banks
2. NPAs of commercial banks reduced by over 1 lakh crores over last year
3. Record Recovery of over 4lac crore with IBS
4. NPAs of commercial banks reduced by over 1 lakh crore over last year
5. After Consolidation of Public Sector Banks, now 70,000 Crore of Capital boost for credit improvement
6. Government has smoothly carried out consolidation, reducing the number of PSBs by 8
7. NBFCs – that are fundamentally sound, will get fundings from govt to a total of 1lakh crore during the current financial year
8. RBI has limited regulatory Authorities, Now the Regulatory Authorities of RBI over NBFC will be placed
9. Proposals for strengthening the regulatory authority of RBI over NBFCs – Debenture Redemption Reserve to be maintained
10. Proposal to return regulatory authority from NHB to RBI!

12. Electric Vehicles – Budget 2019 Highlights

1. Lower GST Rate from 12% to 5% on Electric vehicle and Additional Income Tax Deduction of 2.5 Lakh on Interest paid on loan taken to purchase an electric vehicle
2. To make electric vehicles affordable, additional IT deduction on 1.5 lakh on interest paid on loan taken to purchase electric vehicles

13. Technology – Budget 2019 Highlights

1. Solar storage batteries and chargers included in 35AD deduction: FM
2. Program of mass scaling of LED Bulbs – Approx. 35 Crores of LED bulbs distribute
3. Machines and robots to be deployed for scavenging
4. Focus on VR, AI, Robotics training to youth to align India with the World

Source: Cleartax.in



MAKE FOREIGN (VIDESHI) TRADE POLICY SWADESHI

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India Traditionally a Trade Deficit Country. India's Exports in 2018-19 stood at \$331 billion, while Imports soared high of \$507.44 billion, taking India's trade deficit to reach a record high of \$176 billion. India's GDP reaching Rs 170.95 trillion (US\$ 2.47 trillion) in 2017-18*, and Rs 190.54 trillion (US\$ 2.76 trillion) in 2018-19. The Trade gap is primarily attributed to unavoidable Oil Imports. However various other factors are also contributing to the trade deficit, like continued encouragement to Imports in the name of Promotion of Exports.

Falls Placed "Import led Export Growth" Philosophy:

All the Export Promotion Schemes of Foreign Trade Policy are designed with theme of **"Import led Export Growth"**. With this falls placed hypothesis more and more Imports are encouraged with liberally imposed export obligation. As a net the benefits are imaginary but puncturing huge hole into the Exchequer and also killing the Domestic Industry.

For Example, under Advance Authorization Scheme, a Duty Neutralization Scheme under Chapter 4 of Foreign Trade Policy, Duty Free Imports are allowed as per SION (Standard Input Output Norms) (a Very Liberally worked out Norm which allows Excesses Inputs to benefit the Exporters with Assumed (hiked) wastes and losses), with meager Value Addition, in general in most of the cases it is 15% only.

However, if we look into revenue loss in terms of Customs Duty Exemptions including IGST, Anti-Dumping Duty and Safeguard Duty and many other benefits like MEIS incentive and EPCG Scheme benefit under Chapter 3 & 5 respectively of Foreign Trade Policy; Pre & Post Shipment Finance with interest subvention, the trading off benefits of Exports goes to negative figures.

Moreover, the holder of Advance Authorization is allowed to import required inputs like Raw Materials, Consumables & Packing Materials in advance and then after coolly, calmly and casually allowed to Export within 18 months period with still one more option to get extension of 6 months on payment of 2% fee on the balance export obligation. Exporters, generally taking this liberty, import the required inputs much in advance by enjoying the duty exemption and use such inputs for domestic sale (though strictly such diversion is not allowed as per FTP) or even dispose it off in the domestic market and latter discharge export obligation leisurely at the trailing end of the obligation period.

If we look into Employment angle also with such very little value addition and domestic content no much manufacturing activity taking place, therefore can't expect much employment generation too. Mostly it is like a trading activity of Buying (Importing) and Selling (Exporting) with margin of 15-20%.

Much worst in case of much hyped and fancied, the so called Chinese Model of SEZ Policy (which is proving to be a land grabbing policy) through which huge imports are taking place with ambitious and aspirational expectations of spiral up export growth but ambiguous and abstruse trending outcome proves otherwise. The SEZ policy envisages **Positive Value Addition only**, not even 15%, thereby proving as **import hub** only.

Suggestion: Focus on Domestic Content & Value Addition

To improve the domestic content in our exports, **Value Addition** in case of Advance Authorization must be increased to **Minimum 25% from present 15%**.

The **Obligation Period for Exports for Advance Authorization must be Restricted to 6 months** only which is very reasonable to curb misuse of the provision instead of 18 months at present.

In case of SEZ, the **Domestic Content must be Minimum 25% and at least 15-20% of the SEZ area be mandatorily earmarked to MSMEs**. This will promote in true sense Sustainable Exports, Employment Creation through Strengthening MSMEs, thereby justifying the benefits, exemptions, incentives extended to these units.

Encourage Indigenous Sourcing in Place of Imports:

As discussed the Advance Authorization Scheme and EPCG Scheme are primarily focused and tilted heavily towards Imports by Exempting of Customs Duties. Though indigenous procurement is allowed in the policy instead of imports, the Procedures are very cumbersome and time consuming. The Authorization holder has to apply separately for Invalidation for Imports and on the basis of invalidation letter he may source from the domestic suppliers. The Domestic Supplier on the strengths of Invalidation Letter may apply for Advance Authorization.

In case of Domestic Sourcing, **GST as normally applicable shall be paid first** and then after may claim as **deemed export refund**. All these Procedures are very Cumbersome, Time Consuming and involving cost.

Because of the hassles and cost disadvantage in comply with procedures, exporters are generally **avoiding to**

source from domestic suppliers even though those items with comparable quality and price are available in the domestic market.

Therefore, it is essential in the true national spirit and in public interest to encourage and promote Indian industry by putting them in the same platform compared to imports. **It is wrong in the policy provisions to spend (waste) huge amounts from national exchequer for promoting import of foreign products in to the Indian market in the name of export promotions.** To make the schemes truly national (SWADESHI) following suggestions are made:

Suggestion: Make Foreign (Videshi) Trade Policy SWADESHI

Since application and issuance of Advance Authorization and EPCG scheme are made online, provision shall be made for the authorization holder to opt anytime for Domestic Procurement by self-declaring and invalidating imports online. This way it provides greater flexibility and easiness to procure from domestic sources.

As an incentive for Domestic Procurement, a 10% concession shall be provided in fulfilling Export Obligation under Advance Authorization and EPCG scheme.

Further GST exemption may be allowed for Domestic Sourcing (Deemed Exports) as against present practice of first pay GST and then claim refund which is time consuming and involving cost.

These proposals shall make the Advance Authorization and EPCG schemes more attractive as it will open up yet another option of Domestic Sourcing to the certificate holder in addition to import route. This is especially beneficial for those who have no interests in imports for one reason or the other. The need for import thus shall be over shadowed by the provision to procure indigenous inputs and capital goods which turns to be attractive. This will also encourage domestic procurement as an alternative to imports, thereby make the scheme more "SWADESHI".

Exports Oriented Economic Policy : Foreign Trade promotes economic growth of a country as "an engine of growth". We should lay stress on export promotion in our strategy of development for accelerating economic growth.

The **Concept of Comparative Cost Advantage Model** is fast fading out its relevance as the Comparative Cost Advantage has **dynamic shifts** based various factors such Disruptive Technologies & Technological Advancements, Govt. Policies & Incentives, Infrastructural Development, Resources Availability, Allocation or Depletion, Transmission of Technical know-how, Investments, Specialized & Focused Skill Training for promotion of Business etc. Therefore, Competitive Advantage can be Created, Nurtured, Harnessed and Fostered through right policy framework like developing Industrial Clusters initiatives, SME Clusters, Towns of Excellence, SEZs etc.

Suggestion :Industry / Sector Specific Export Policies are need to be Implemented

We should shift from our policy of Exporting of Surplus, to Manufacturing, Generating & Creating Exclusively for Exports. In this direction **Agriculture Export Policy, 2018** is a noteworthy measure and many such **Industry / Sector Specific Export Policies are need to be implemented.**

The Objective of Agriculture Export Policy, 2018 is to **Double Agricultural Exports from present ~US\$ 30+ Billion to ~US\$ 60+ Billion by 2022 and reach US\$ 100 Billion in the next few years thereafter, with a Stable Trade Policy regime.**

The Policy has Strategic & Operational framework and addresses agricultural value chain and highlighted certain structural changes that were required to boost agricultural exports on Sustainable and Stable manner including infrastructure & logistics, Reforming Mandi operations, involvement of State Govt. in Promotion of Exports.

Export Promotion Council Established for MSME Sector : Ministry of Micro, Small and Medium Enterprises (MSME) has recently established an Export Promotion Cell with an aim to create a sustainable ecosystem for entire MSME development. The benefits likely to accrue to the MSMEs are:

- i. Evaluate readiness of MSMEs to export their products and services
- ii. Recognize areas where improvements are required in order to be able to export effectively and efficiently
- iii. Integration of MSME into global value chain.

MSME DC has established an Export Promotion Cell in every MSME DI centers. The cell aims to create a sustainable ecosystem for micro, small and medium enterprises (MSMEs). Benefits of the Promotion Cell MSMEs are the pillars of the Indian economy. The promotion cell aims to create a sustainable ecosystem for MSMEs.

The Promotion cell will aid the MSME sector in the following ways:

- Integration of MSMEs into the global value chain.
- Evaluation of readiness of MSMEs to export their products and services.
- Recognition of areas where improvements are required in order to be able to export effectively and efficiently

Suggestion :Integrate & Synchronize Departmental Functions

It's is a welcome measure to promote MSME Sector. However, the Need of the hour is to integrate many disintegrated departments and councils – Synchronize their varied functions as at present many of the councils & departments are functioning in silos.

Since at present no accurate, reliable and authentic data is available regarding MSME – the Levels of Investment, Employment, Turnover, Exports etc. **Therefore, it is suggested to integrate Udyog Aadhar**

with PAN. Since PAN is linked with all types of business transactions related to Bank, GST, Customs, DGFT etc, data linkage will be easy and reliable.

Policy to Check Flooding of Cheap Imports : The policy of Controlled Import to Check Flooding of Cheap Imports from China may be placed in view of India's increasing Trade deficit and possible threat to Domestic Industry. Unscrupulous Under Valuation and Wrong Classification to minimize Customs Duty impact is also widely rambling practice specially in case of Import from China which need to be Curbed

Suggestion: IT enabled Trade Intelligence : With better IT enabled Trade Intelligence, Volume & Price, Product -Country & Entry Level Commercial Data & Information with reliable, current and updated data may be gathered and sharing such data to all customs stations to curb valuation related tax evasion, detect cases of smuggling, trade-based money laundering and financial frauds.

It will also prevent **Circular Trade** (Export to Countries with whom we have Trade Agreements and Grab all the Export Incentives & Benefits and again Import the same Item with Concessional or Fully Exempted Duty benefit under the Trade Agreement) to some extent.

Timely initiating and imposition of Anti-Dumping, Safeguard measures and also adopting other Non-Tariff and Contingent Trade Protective measures may be opted to act gain wrong trade practices and to provide proper protection to the Domestic Industry.

Free Trade Agreements :Increased Economic Growth : India has negotiated many bi-lateral and multi-lateral trade agreements with several countries and trade groupings. FTAs are instrumental in creating seamless trade blocs that can aid trade and economic growth. However, India's exports to FTA countries have not shown positive signals and statistics reveals that India's trade deficit with these partner countries deepened rather boosted exports. For example, India's trade deficit with Asean (Association of Southeast Asian Nations), South Korea and Japan has doubled to \$24 billion in FY2017 from \$15 billion in FY2011 (with the signing of the respective FTAs) and \$5 billion in FY06. Also there are issues related to duty inversion.

Lack of information on FTAs, low margins of preference, delays and administrative costs associated with rules of origin, non-tariff measures, flouting of rules of origin are major reasons for such low performance.

Suggestion : Selective Review of Trade Agreements & Tighten Rules of Origin : India should review its existing FTAs in terms of benefits to various stakeholders like industry and consumers, trade complementarities and changing trade patterns in the past decade. Negotiating bilateral FTAs with countries where trade complementarities and margin of preference is high may benefit India in the long run.

Circumvention of rules of origin should be strictly dealt with by the authorities at the same time measures must be taken to reduce compliance cost and administrative delays

Duty Credit Scrip : Under Chapter 3, there are two types

of Incentive Schemes ie MEIS & SEIS. Under these schemes Duty Credit Scrips are issued to exporters based on certain percentage of FOB value. These Scrips can be used to upset Customs Duty on any eligible Imports. In case the Exporters do not want for any reason to utilize on actual basis, then an option is provided to Transfer (Sell) the Scrips on discount.

Suggestion: Allow Refund Instead of Transferability : Since transferability of Duty Credit Scrip encourages non-export-importers to snatch a major junk of benefits from the real exporters, this practice should not be allowed. Duty Credit to encourage export of specified products and to select markets, as a matter of principle of objectivity, should be passed on to the exporters only on exclusive basis. By making the Duty Credit Scrip non-transferable the issues regarding sale proceeds and litigations in respect of exemptions of income tax etc. also shall not arise. The Duty Credit shall be allowed to utilize for import of inputs or goods including capital goods on "Actual User" condition by the holder of the scrip (actual exporter), and in case the credit remained un-utilized, the same **shall be allowed refund, within 15 days of the claim.** When refund is allowed the need for transferability does not arise which is a major dispute in WTO.

WTO-compliant Schemes to Promote : Existing MEIS Scheme under Chapter 3 of FTP is under scanner as US has challenged India's export subsidy schemes at WTO on the grounds of its incompatibility with multilateral rules. It may face exit any time. New scheme on production-based support and refund of all un-rebated central and state taxes and levies scheme are under consideration for replace of existing MEIS scheme.

The new scheme will be on the nature of refund of all un-rebated central and state taxes and levies scheme on inputs consumed in exports in all sectors. The major un-rebated levies are state value added tax/ central excise duty on fuel used in transportation, captive power and farm sector, mandi tax, duty on electricity, stamp duty on export documents, purchases from unregistered dealers, embedded central goods and services tax (CGST) and compensation cess, coal used in production of electricity.

Suggestion : Align Export Promotion Schemes with WTO Norms : India will need to restructure its export promotion schemes by making them aligned with WTO Norms. Otherwise such schemes become counter effective as the Importing Countries may impose anti subsidiary duty as per WTO Agreement on Subsidies and Countervailing Measures (ASCM)

New Govt. is now Formed. New Foreign Trade Policy is due Next Year. The above suggestions may be Considered in New Foreign Trade Policy which is now under Draft stage.

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

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“LIFE LINE OF MUMBAI – AMAZING LOGISTICS SUPPLY CHAIN”!

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Abstract-Mumbai is financial and commercial capital of India. Mumbai wouldn't have achieved this without the **lifeline of the city**—its local trains **logistics supply chain**.

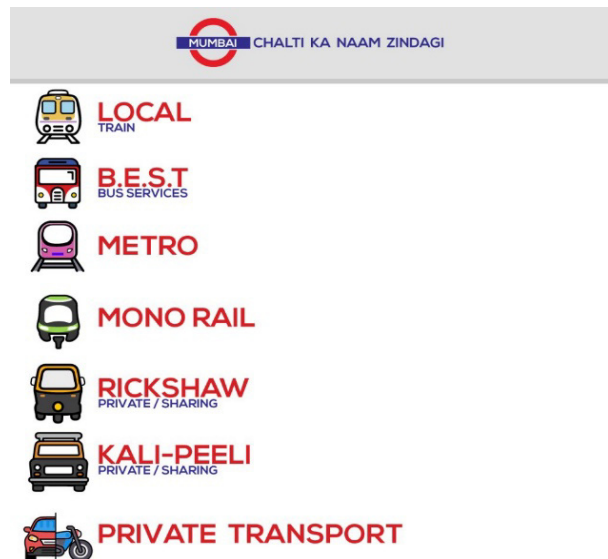
For any large densely populated **urban area**, the local trains are essential for a speedy cross-over of a large population over long distances. Lakhs of people travel regularly and commute by local trains over varying distances ranging from 10 to 60 kilometer a day.

The Mumbai local railway network branches out through three main lines – **Central, Western and the Harbour**, each connecting a distinct part of the city to another. It may be considered as one of the best example of **strategic logistics supply chain management** in transport.

Most commuters use this means of transport to reach the places of their **job, profession, business and educational** purposes. Most travellers commuting on a daily basis hold **season passes** that makes the local train travel even more **cost-efficient**.

Mumbai is a linear city, spread over a distance of 120 kms, The local trains carry 7.5 million passengers approx. every day. Although the normal capacity of each train is 1,700 during peak hours, more than 5,000 people crowd into them. It has the highest passenger density of any urban railway system in the world. Mumbai's local trains are in many ways a defining feature of the city. There is almost no one who has lived in the city, who has not travelled by the local trains. While most of the inhabitants gripe and grumble about the train service, everyone appreciates how impossible life would be without it.

Keywords : (Logistics, Urban, Strategic, Local Train, Supply Chain)



I. Introduction : The **Mumbai Suburban Railway** (colloquially called the **local trains** or simply **locals**) consists of exclusive inner suburban railway lines augmented by commuter rail on main lines serving outlying suburbs to serve the Mumbai Metropolitan Region. Spread over 390 kilometres (240 mi) the suburban railway operates 2,342 train services and carries more than 7.5 million commuters daily. By annual ridership (2.64 billion), the Mumbai Suburban Railway is one of the busiest **commuter rail systems in the world** and it has the most severe overcrowding in the **world**. Trains run from 04:00 until 01:00, and some trains also run up to 02:30. It is the **second largest suburban rail network** in terms of route length after Kolkata.

The Mumbai Suburban Railway is an offshoot of the first passenger railway to be built by the **British East India Company**, and is also the oldest railway system in Asia. The first train was run by the **Great Indian Peninsula Railway** (now **Central Railway**) between **Bori Bunder** (now **Chhatrapati Shivaji Maharaj Terminus - CSTM**) and **Thane**, a distance of 34 km, on 16 April 1853 at 15:35. The 14-coach train took 1.25 h to complete the 34 km journey, with a halt at Sion to refill the train's water tanks.

The next major train was run between **Virar** and **Churchgate** by the **Bombay, Baroda and Central India Railway** (now **Western Railway**), in April

1867. Colaba was also added as a station on this route, but later shut down. On 3rd Feb 1925, the first EMU Service was started from **Victoria Terminus (now Chhatrapati Shivaji Maharaj Terminus) to Coorla Harbour (now Kurla)** on the Central line which was run on 1500 V DC traction and also started on the **Western line from Churchgate to Borivali** on 5th Jan 1928. By 2016, the entire network had been converted to 25 kV AC traction.

This research paper on Mumbai Local trains, I would like to share contemporary status of this amazing **strategic logistics supply chain management**.



II.15 Incredible Facts About Mumbai Local Trains :Mumbai's local trains are in many ways a defining feature of the city. There is almost no one who has lived in the city, who has not traveled by the local trains. While most of the inhabitants gripe and grumble about the train service, everyone appreciates how impossible life would be without it. Here are 15 astonishing facts about Mumbai's local trains that you should know of

1. Part of a Rich Legacy : Mumbai's local train network today is actually a part of history. It is a part of what was the first railway network to be built, not just in India, but the whole of Asia. The infrastructure was built by the British and the first train on the continent ran between Thane and BoriBunder stations, the latter that was rebuilt as ChhatrapatiShivaji Terminus, which still stands proud to this day. The momentous first train journey took place on the 16th of April, in 1853, along a 34 km route.

2. Size of the Rail Network :When most people think of Mumbai's local trains they tend to think of trains plying from Churchgate to Borivali, or from ChhatrapatiShivaji Terminus to Thane. But, the rail network is a little more complicated than that with various meandering routes, the city's ever-expanding suburbs, and different railway corridors. The total length of rail lines that form the local network adds up to over 400 kms.

3. Scale of Train Services :Mumbai locals are rightly called the lifeline of the city, with almost all of the city's inhabitants relying on them to get to work or other destinations at some point of time. Many of them rely on these services on a daily basis. This is why Mumbai

Suburban Railways operates over 2,300 train services every single day.

4. Managing the Impossible :Mumbai's local rail network is the busiest commuter train system in the world; with 7.5 million people using the trains to commute daily, it is no surprise that overcrowding, here, reaches epic proportions. However, this is no mean feat, considering that the railways manage to ferry more people each day than you will find in an entire **country like Switzerland or Bhutan. Annually, the local railways transport 2.2 billion passengers, which is about a third of the world's population.**

5. No Down Time :Mumbai's local trains rarely stop functioning and they do not get much of a rest. Each night the railway lines will only fall silent for a brief interval of one and a half hour, between 2:05 am, when the last train pulls into Borivali, and 4:15 am, when the first trains sets out from Churchgate. On the Central line too, the last train reaches Karjat at 2:45 am, while the first train leaves from ChhatrapatiShivaji Terminus at 4:12 am.

6. The Local Network Includes 4 Corridors :Mumbai's local train network doesn't ply along a single line, but is divided into 4 corridors to cater to the vast urban sprawl of the city. The Western Line, which stretches from Churchgate to Dahanu Road covers 120 km; the Central Line stretches across 54 km, from CST to Kalyan, where it branches out, with the line going toKasara taking an additional 67 km, and the line that carries on to Khopoli adding another 61 km; the Harbor Line connects Andheri to CST and is just 49 km long; the Trans-Harbour Line, which is the most recent addition connects Thane with Navi Mumbai and runs a length of just 20 km.

7. Remarkable Frequency :Despite the colossal scale of operations, Mumbai's railways manage to ensure excellent connectivity, with local trains plying between all the major and minor stations at regular intervals. There is never an interval of more than 4-5 minutes between train arrivals and departures, ensuring minimal waiting time.

8. Seating in Locals :While travelling in the general compartments or ladies compartments of Mumbai's locals there's an unwritten rule when it comes to seating. Despite the design of seats for 3 people it is normal for everyone to squeeze tight to accommodate a fourth person. To not do so, will be considered rude and on rare occasions can lead to arguments. The fourth seat is uncomfortable, as you're practically falling off, but it beats having to stand for an hour or more.

[* File contains invalid data | In-line.JPG *]**9. Part of Mumbai's Food Supply-Chain** To most outsiders, Mumbai is best defined not by its **skyscrapers and malls**, but by its local trains and **dabbawalas**. Yes, they are both an integral part of the city, as **Mumbaikars** cannot function without their food. **Dabbawalas** who practically run the city's food delivery service depend primarily on the city's local trains to get to their various destinations.

10. Symbol of Mumbai's Resilience : Mumbai has borne the brunt of several disasters and terrorist attacks, including bomb blasts in 1993, 2003, and 2006. Most recently, the network also came under attack when terrorists opened fire at Chhatrapati Shivaji Terminus, killing 60 commuters in 2008. Despite the brutality and enormous damage caused by all of the attacks, train services have always resumed swiftly, helping restore normalcy during troubled times. It took just three hours for service to be restored after the deadly train bombings of 2006.

11. Accessible to Rich and Poor : Mumbai's local trains are accessible to all, preserving the welcoming ethos of the city. Although housing and many other services in India's biggest metropolis may now be unaffordable to many, traveling is still fairly easy thanks to the low pricing of tickets. Fares for Mumbai locals are among the cheapest in the world, with commuters travelling distances of around 120 km for as little as Rs. 30, which is less than 50 cents in American cents.

12. First class compartment : For anyone willing to shell out a little more for the comfort of cushioned seating and smaller crowds there are also first class compartments on each train. At peak hours, there is little respite from the crowds however, whether you travel by first or general class. Mumbai's rail network is apparently the only local one to have a separate first class compartment.

13. Overcrowding and Over owing : Mumbai's local trains give a whole new meaning to the concept of overcrowding. Trains are literally overflowing during peak hours, with commuters spilling out of the doors, windows and every nook and cranny. Wherever you can get a foothold, or even a toehold, you will find someone hanging on. Despite the impeccable railway service, Mumbai's infrastructure is stretched and is ill-equipped to handle her burgeoning population. Sadly, commuters are forced to take big risks, gambling with their lives, just to get to work on time. It isn't uncommon to see commuters climbing onto the tops of trains or sitting on the narrow connecting-pipes, between coaches.

14. Mortalities from Train Travel : The overcrowding and associated dare-devilry of Mumbai's train commuters may be fascinating, but there is a huge price that they pay. Every year, almost 2000 people are killed along the rail network. In the decade of 2002-12, 36,512 people lost their lives, while 36,688 were injured. Many of these fatalities result from people crossing tracks, but a huge number also result from commuters falling out of crowded trains and due to electrocution when travelling on the roofs of trains.

15. Types of Train Services : To outsiders, talk of 'superfast' or 'slow' trains can be quite confusing, especially when it is fairly obvious that all of the trains travel at roughly the same speed. These terms are used to describe the type of service, with 'slow' trains halting at all stations, 'fast locals' skipping certain stations, and

so on. In a busy city like Mumbai's, every minute counts and trains that are classified as 'superfast' or 'double-fast' could save you as much as 15-20 minutes. In addition, there are also a few 'Ladies Special' trains that run along scheduled routes at fixed intervals.

The next time you decide to commute using Mumbai's local trains keep all of this in mind and be more appreciative of the service, which is a remarkable feat in itself. At the same time, exercise caution and always give due importance to your safety and wellbeing. If you aren't used to Mumbai's locals, simply avoid travelling in them during peak hours.

III. Central Line : The Central Line in Mumbai consists of 3 major corridors, which bifurcate as they run into suburban satellite towns. Two corridors (one local and other through) follow the Central Railway run from Chhatrapati Shivaji Maharaj Terminus (CSTM) to Kalyan (54 km), from where it bifurcates into two lines – one to Kasara (65 km) in the north-east and the other to Khopoli (61 km) in the south-east. These two corridors constitute the 'main' Central Line. There is also an 18-km corridor between Kurla and Thane stations for use of outstation and cargo trains. The outstation corridor is being extended further from Thane to Kalyan now as a part of the main line, but is halted because of the costs of tunneling the parsik hills.

The Central Line has two interchange stations with the Western Line at Parel and Dadar. Rolling stock consists of a fleet of AC and Alternate Current new Bombardier and Siemens EMUs. The major car sheds on this line are at Kurla and Kalwa. There are fast and slow locals here for suburban service. Slow locals halt at every station, while fast locals halts vary between Byculla, Dadar, Kurla, Ghatkopar, Vikhroli, Bhandup, Mulund, Thane, Diva, Dombivali and Kalyan. All services plying beyond Kalyan run as slow service (halting at every station).

IV. Western Line : The Western Line follows the Western Railway northwards from Churchgate parallel to the west coast. Local services by electric multiple units (EMUs) ply between Churchgate and Dahanu (124 km) on exclusive parallel tracks up to Virar (60 km) while Mainline Electrical Multiple Units (MEMUs) service the section beyond Virar to Dahanu Road (64 km). On 16 April 2013 EMU has extended up to Dahanu Road. MEMUs also operate between Dahanu Road and Panvel via a branch line from Bhiwandi road-Vasai Road. There are EMU carsheds at Mumbai Central, Kandivali and Virar. The largest EMU car shed in Asia is located at Virar. A repair shop for EMUs is situated at Mahalaxmi.

Western Railway's EMU fleet consists of EMUs completely powered by alternating current (25 kV) power. EMUs are 12 car or 15 car formations and are differentiated as slow and fast locals. Slow trains halt at all stations, while fast ones halt at important stations only and are preferable over longer distances.



V. HarbourLine : The Harbour Line is part of the Central Railway, and runs from Chhatrapati Shivaji Maharaj Terminus (CSTM) to Goregaon and Panvel. All Harbour Line services operate as slow services. The line operates from two separate platforms at Chhatrapati Shivaji Maharaj Terminus (CSTM), and the tracks cross over the main line at Sandhurst Road, to head towards stations along Mumbai's eastern dock area. A branch line from Wadala Road joins the Western Line at Mahim and continues towards Goregaon.

The Harbour Line has an interchange station with the main line at Kurla, where it turns east towards Navi Mumbai. The Harbour Line further bifurcates at Vashi into two lines – one rejoins the main lines at Thane, while the other continues to Panvel. The shed for these trains is in Sanpada. A partial section of the Harbour Line is elevated

VI. Trans-HarbourLine : The Trans-Harbour Line connects Navi Mumbai to Thane. It runs from Thane to Vashi, Nerul and Panvel.

VII. Vasai Road-Rohaline : The Vasai Road-Roha line connects the Northern suburbs and the Western line station of Vasai Road (with some services running to Dahamu Road) with the Central line station of Roha, where the Konkan Railway starts. It intersects the main line of the Central line at Diva. Mainline Electric

Multiple Units operate between Dahamu Road and Panvel railway station/Roha. It consists of 23 stations.

VIII. Nerul-Uran Line : The Nerul-Uran Line connects Navi Mumbai to Uran. It runs from Nerul and Seawoods Darave to Uran.

IX. Services : Mumbai Suburban Railway services have trains with **two main** designations.



X. Slow trains: (denoted by an S) stop at every station. These are intended for daily commuters.

XI. Fast trains: (denoted by an F) run express (skipping stops and going mainly to railway junctions) until a certain station, and from that station onward run like a slow train. These are intended for daily commuters as well as express connectivity to the rest of Indian Railways

XII. Travel classes : The suburban fleet consists of 12 and 15-coach rakes. There are two main classes of travel; the First and Second classes. The first class fare is approximately 8 times more expensive than second class, and therefore tends to be less crowded during the non rush hours, though at times it is equally or more crowded than the general compartments during rush hour, due to most office employees having a first class transport pass provided by their employer. First class and Senior Citizen compartments also have leather seating, while the rest are typically plastic. There are following classes of travel:

Class I (first class compartment): Commonly known as gent's first class or simply first class, since most commuters are men. Women and children can also

board this compartment. The coach is designated by red and yellow slant stripes. The location of the same is designated by colouring the platform walls with similar stripes. The price is generally hiked up by eight times to prevent the compartment overcrowding. The seats in this class are leather made.

Class II (general compartment): Also called gent's second class or simply second class as the majority of passengers in these compartments are men. The compartment is open to women and children as well. The seats in this class are plastic-made.

Class I-L (ladies first class): similar to normal First Class, reserved solely for females, however male children up to the age of 13 can travel in this compartment. Men are not allowed

XIII. Air-Conditioning : The Mumbai Suburban Railways are known for their open doors and windows. This is because there is no ventilation system on the trains, and the train relies on natural air ventilation. This was introduced as a cost-saving measure, as an Air-Conditioning system would be rendered useless during rush hour. Leaving the doors open also allows for a fast boarding process, as the trains stop for only 10 seconds, to combat overcrowding. In 2016, the Indian Railways manufactured first local train for journey (particularly for hot and humid summer season). This rake is manufactured at Integral Coach factory, Chennai. It has several new facilities, such as connected vestibules, cushioned seats and sliding doors. It runs from Virar to Churchgate, AC trains are fast locals and started their run at 1 January 2018.

XIV. Ticketing: The Mumbai Suburban Railway uses a proof-of-payment fare collection system. Tickets can be purchased at every train station. Travelling without a valid ticket is an offence and if caught can result in a penalty. The penalty is steeper for passengers travelling in first class without a valid ticket.

Class	Validity	Chargeable amount (₹L)
Second	1 day	75
	3 days	155
	5 days	185
First	1 day	255
	3 days	435
	5 days	485

Tickets can be bought for a single journey (one way) or a return journey. A return ticket is valid till the next day on weekdays and till Monday if purchased on a Friday. The ticket counters usually have long queues.

Tourist tickets are valid for one, three, or five days that can be purchased up to three days in advance.

Platform Tickets are required to be purchased by those members of the public not boarding trains, but who wish to access the platforms at certain long distance termini, perhaps for the purpose of receiving or seeing off a passenger. These generally cost ¹ 10 (14¢ US), but this price may vary by location. Not all stations issue platform tickets. In their absence, access to the platform is free. A person can be penalised for non-possession of this ticket.

XV. CVMs and ATVMs : To save time, a Coupon Booklet can be purchased and the coupons can be punched for the designated fare at Coupon Validating Machines (CVMs) at every station. The ticket fares matrix is pasted above the CVM. As of October 2012, there are approximately 575 CVMs on Mumbai Suburban Railway stations. The Central Railway network has 350 and the Western Line has 225.

In early 2015, the authorities decided to discontinue CVMs w.e.f 1 April 2015. This decision was taken due to extensive duplication of the coupons, and the lack of transparency. The coupons were also lacking a way to trace them.

There are also **Smart Cards** available that can be topped up (recharged with some amount) and one can use it to print tickets for themselves from an **Automatic Ticket Vending Machine** (ATVMs). A **Season Ticket** can be purchased if one is commuting regularly. One can choose the validity of these tickets from 1-month, 3 months to a year. Season Tickets are the most cost effective and time efficient option for regular commuters.

Mobile app : The ticket counters usually have long queues. In order to bring a solution to this problem, the UTSONMobile app was launched by railways minister Suresh Prabhu at Dadar railway station in December 2014. This app was launched initially for Android and Windows Phone, with the iOS version developed later.

To use this app, the user has to sign up with his/her mobile number. After signing up, the user has the option to load the prepaid RWallet built in the app, using credit/debit cards, net banking, IMPS or private mobile based apps. After the RWallet is loaded, the app can be used to book tickets on the entire network. Alternatively, the user may book tickets directly using credit/debit cards, net banking, IMPS, UPI, or various digital wallets such as PayTM, MobiKwik etc. for payments within the **app** without having to load the prepaid **RWallet**.

Initially, the ticket booked on the app had to be printed from the ATVMs. This step was found tedious by the commuters, and was criticised. Later, in July 2015, an update for the app was launched, which made e-tickets acceptable. The update also brought technical changes, like, the tickets could be booked only within a radius of

30m to 5 km of the origin station, and not from the platform. This move was well received by commuters, which resulted in over 50,000 downloads on the launch day.

XVI. Terrorism :The Mumbai Suburban Railway has suffered 8 blasts and around 368 people are believed to have died as a result.

1. 12 March 1993 – bomb blast at Reay Road
2. 13 March 2003 – A bombing in a train in Mulund killed 20
3. 11 July 2006 – A series of seven bombs in Western Railway trains killed 209
4. 26 November 2008 – Chhatrapati Shivaji Terminus was attacked during the 2008 Mumbai Attacks killing at least 60 people.

XVII. Tourism: Tourist usage of the Mumbai Suburban Railways has seen popularity as a way to explore the day-to-day life of the city, and as such, the Central Railway has issued circulars advising tourists not to travel in the trains from 07:00 to 11:00 and 17:00 to 22:00 during weekdays because of overcrowding.

XVIII. Problems of Local train Commuters: But the **Mumbaikars**, i.e. the people of Mumbai have to face a number of difficulties in their daily local train travel. The main problem being that of over-crowding. Due to over-crowding, the commuters travel into jam pack compartments with no chance to have a place to sit and have to cover the distance all the time standing in the compartment.

At times they get into first, second or any compartment due to lack of space. As around 22 million passengers travel daily it becomes very difficult to get hold of ticketless travelers and the Indian railways and the government loses a big chunk of their income due to this.

At the railway stations, sufficient number of ticket windows, wash rooms- particularly for the ladies travelers, sufficient eating and resting provisions are lacking and as a result of this, during the days of heavy rains, water logging, trains running late, mishaps, the commuters suffer a lot.

Over-crowding, illegally crossing the railway tracks, standing on the foot boards of the doors of the compartments, leads to a lot of accidents during the crowded hours.

Occasionally the indicators on the platforms do not function and display the time table and it results in a lot of inconvenience to the commuters.

XIV. In Popular Culture Movies:

1. **Slumdog Millionaire**

2. **Agneepath**
3. **Wanted**
4. **Gangs of Wasseyapur**
5. **Life In a Metro**
6. **Ghanchakkar**
7. **O Kadhal Kanmani**
8. **Once Upon a Time in Mumbai Again**
9. **Rajjo**
10. **Ra.One**
11. **Thalaivaa**
12. **Dombivali Fast**
13. **Balkadu**
14. **The Train (2011 film)**
15. **Yeh Jawani Hai Deewani.**

XV. Takeaway: Whatever be the present status of the Mumbai suburban railways, the fact that millions of people have their lives dependent on it and the essence and flavour it carries along with it truly and exclusively belongs to 'Mumbai'.

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8 WAYS CLOUD TECHNOLOGY IS CHANGING THE GAME FOR THE SUPPLY CHAIN MANAGEMENT

AMBER MARKIM

History has taught supply chain management organizations one common factor: failure to adjust to societal changes will contribute to business-downfall. In the modern, digital world, the impact of the cloud can be felt in every facet of existence, not just commerce. Cloud computing technology has allowed supply chain management providers to take advantage of a new era of processes, specifically those relating to the ethereal space. Traditionally, supply chain management has relied on physical, in-person processes. Take a look at how cloud computing technology impacts supply chain management concepts.

Advancement in Analytics Capabilities : Previously, analysis of data gathering required both a data entry clerk and a person to conduct data analysis. The cloud, in conjunction with the Internet of Things, has enabled rapid collection of data from various resources and analysis of this data. As a result, businesses can eradicate these former “human” positions in favor a service that performs the same results one an exponentially faster scale. Ultimately, this allows the business to make better decisions for how daily activities behave.

Integration of Multiple Platforms : As more businesses have accessed supply chain management providers, a great deal of platforms have been created to facilitate this change. Unfortunately, many of these platforms do not coexist well with one another. The use of cloud technology enables multiple platforms to work with one another through a series of standardized protocols. Therefore, the previously existing digital boundaries between rapid communication and order fulfillment become nonexistent. An example of such binding technology is FlashTrac, Flash Global’s proprietary supply chain management integration system.

Removal of Geographic and Political Boundaries : In close relation to integration of systems, cloud technologies remove physical and political boundaries from the supply chain management perspective. Since many cloud hosts rely on common practices for accessing, storage, and retrieval of cloud data, the same information may be altered from any place on the globe. Furthermore, cloud technology allows for the dissolution of political debates between business practices; although, the rules of governing entities may have the capacity to limit Internet access, such as was seen in Egypt in past years.

Enhanced Security Measures : Since cloud hosts have to abide by strict government and public perception standards for maintaining privacy, such as medical and financial data, cloud technology brings state-of-the-art security measures and practices to the forefront of supply chain management. Interconnectedness allows for massive security monitoring and implementation across all cloud-based digital planes while still maintaining communication and enhancing the flow of business practices.

Increased IT Capabilities : Agreements with cloud providers allow supply chain management providers to eradicate the need for extensive in-house IT departments; although, some minimal in-house IT departments are usually retained for in-house physical IT needs. When in

the business of using digital resources, such as those used for e-commerce, a business needs to ensure customers can resolve problems with their system at virtually any time. Therefore, most cloud hosts offer 24/7 support for those using their services, which can be rerouted to correcting issues with your customers without your input if you prefer.

Adjusting to Market Volatility : US manufacturing is no stranger to the damaging effects of market volatility. Less than a decade ago, the US saw the worst economic collapse since the Great Depression, and supply chain management providers must always be wary of how resources will be used in the event of a collapse. The use of cloud technology provides a buffer against market volatility. Essentially, partnerships between a supply chain management provider and a cloud host are subject to renegotiation, or even cancelation, if the market suddenly declines. As a result, the supply chain entity is able to minimize associated costs with the collapse and maintain service at competitive rates.

Increased Scalability Abilities : Since cloud technology insulates supply chain management providers from market volatility, it can also be used to achieve rapid scalability. As a budding business begins to experience higher demand for product, the respective supply chain management provider may need to increase production by factors of five, 10, or more. With each additional order comes the strain of extra bandwidth and processing capability, which cloud technology provides. Within minutes, a supply chain management provider can extend the terms, or services, with the respective cloud host to account for the instant growth in capability. Furthermore, the use of cloud-based analytics allows businesses to isolate key inefficiencies within the order fulfillment process, which will further grow the respective business.

Reduced Costs : The greatest benefit of cloud technology on supply chain management providers is reduced operational costs. Throughout the supply chain, cloud technology can reduce the amount of workers needed to perform specific tasks. For example, the cloud could be used to automatically generate a report of needed product at a specific warehouse, trigger the respective shipment, and account for the product when received at the destination. As a result of minimizing human-input within the order processing, those employees may be then reassigned to other physical aspects of the supply chain. Additionally, supply chain management providers reap the benefits of lower security, IT, data analysis, and more.

As society becomes more dependent on the cloud, more supply chain management providers will come to recognize the role of the cloud in today’s supply chain. When comparing traditional supply chain benefits and processes to the last benefit of cost reduction alone, the lower cost of using cloud technology could easily make up for any potential problem encountered within traditional supply chain management processes.

Source: cerasis.com

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WHAT'S BEHIND THE SUDDEN SURGE IN DEMAND FOR WAREHOUSE CAPACITY?

RAHUL SACHITANAND

It's lunchtime on a sweltering day in late March. The roar of passing trucks frequently drown out conversations at eateries lining NH 48 in Nelamangala, an hour northwest from Bengaluru city. A nondescript highway town of some 38,000 residents, this is a significant way station on the key highway connecting Bengaluru & Mumbai, as it heads out towards the commercial hubs en route, such as Tumakuru, Hubballi and beyond.

Families heading out of town to weekend getaways barely notice Nelamangala, as their cars barrel down the eight-lane highway towards more idyllic locations. For trucks, however, it's an altogether different story. Carrying everything from apparel to electronics and chocolates, as they leave or approach Bengaluru, feeding India's seemingly insatiable consumer appetite, this is often where a trip begins or ends.

A stretch of some 40 km, starting in Nelamangala and extending west, is ground zero for a phenomenon that can now be observed in the outskirts of India's big cities — the warehousing corridor.

Hundreds of acres of land on either side of this highway have been transformed into massive warehouses. Dozens of companies and logistics players such as DHL, Amazon, Future Group and FedEx have all rushed to set up shop here.

From the cluster of warehouses outside Delhi to Bhiwandi and Pune in Maharashtra, to the Sriperumbudur-Oragadam cluster on Chennai's outskirts, to the Jeedimetla-Medchal cluster near Hyderabad, the race to secure warehousing space near hubs of demand is manifesting in corridors of large and modern warehouses. Even smaller cities such as Ahmedabad and Pune are seeing a mushrooming of such facilities.

Observers say India can scarcely build supply to keep up with the burgeoning demand. At 4.5%, the Nelamangala Dabaspote belt near Bengaluru is said to have the lowest empty space among such clusters nationwide. The introduction of the Goods and Services Tax (GST), which subsumed an array of inconsistent state levies, has accelerated the demand in these hubs as companies no longer need to operate creaky godowns in every state for tax optimisation purposes. A rationalisation of warehousing capacity in favour of well-located hubs is pushing demand, too. A consolidation of smaller units is also taking place.

"There's a growing gap between demand and supply in this market," says Chandranath Dey, senior director and

head of industrial consulting and supply chain consulting, JLL India. The consultancy projects that there will be 344 million sq ft of warehousing space in India by 2022, more than double the current capacity of 169 million sq ft, and triple the capacity that existed in 2015. Strong demand and increasing formalisation of the space are also attracting big investments.

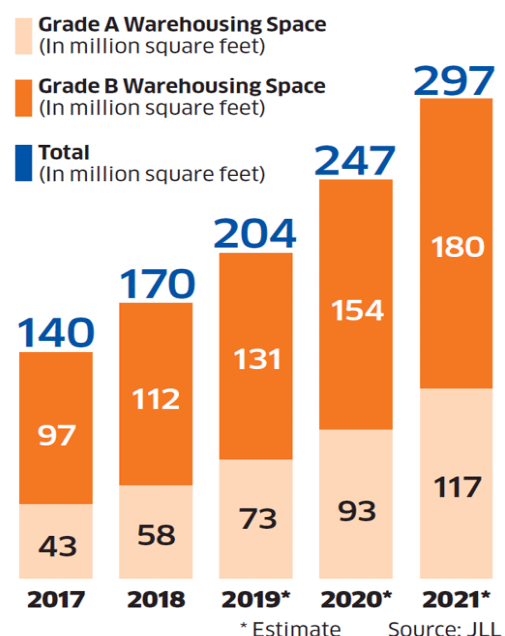
Some \$10 billion in fresh investments from marquee global players such as Warburg Pincus, Blackstone and KKR have been committed, with smaller funds such as Everstone tying up with local operators to gain an advantage.

Warehouses are the vital pillars of the supply chain for any company that relies on the distribution of a product from factories to shops. Companies might own or lease spaces, but all of them need well-oiled warehouses to keep their supply chain spiffy.

If the last two years have seen a strong build-up thanks to the introduction of GST, the next phase is also likely to see differentiated demand based on quality.

Room for Growth

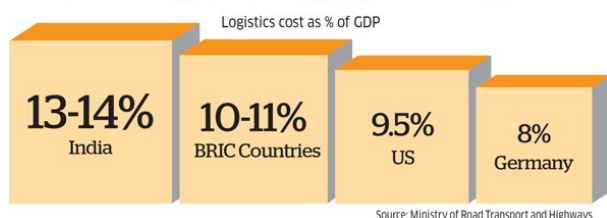
Nearly 200 mn sq ft of logistics and warehousing space is expected to be added in 4-5 years



Capacity Boom : Warehousing capacity growth at ecommerce giant Amazon is illustrative of how this sector is booming. “We have more than 50 Fulfilment Centres (FC) across 13 states with a combined storage space close to 20 million cubic feet,” says Akhil Saxena, VP, customer fulfilment, Amazon India. “We closed 2018 with a 1.5 times growth in storage capacity from the previous year.... Our warehouse presence in India has grown from one in Bhiwandi, Maharashtra when we launched Amazon. in in June 2013 to 50 such buildings in the past five years.”

While large corporations such as Amazon and HUL are constantly expanding, logistics players such as DHL and FedEx are also racing to add new warehouse capacity. Then there’s a growing list of developers that want in on this high-yield asset and are tying up with global investors.

India's Logistics is Highly Inefficient



According to Alope Bhuniya, CEO of Ascendas-Firstspace, there has been a rapid increase in the number of large organised players in the market, from barely three or four to at least eight or ten in the last couple of years. “They are investing and building warehouses faster and with higher quality (moving from Grade B to A and A-plus, in real estate parlance), as their customers demand upgrades,” he says.

His company is focusing on the top of the market, having built 5 million sq ft of space, with bold ambitions to triple his space supply in three or four years. In February this year, it adopted a new approach when it acquired six warehouses (spread across 800,000 square feet for Rs 534 crore) from logistics firm Arshiya and leased it back to the company, allowing it to build an asset-light model. Ascendas-Firstspace has committed \$600 million to warehousing business, and bankers say the JV is set to top this up in the next few months, thanks to burgeoning demand.

Industry experts say that as the industry evolves, it isn’t just companies that will lead warehouse buying and leasing. A slew of third party logistics companies could lead the way, absorbing millions of square feet of space and letting it out to consumer goods, ecommerce, manufacturing and apparel companies.

This also means firms can mix their warehouse use (split between multiple companies to maximise utilisation) and improve their earnings. This also allows them to cater to last-minute requirements (say, for Amazon during festive season when there is a spike in demand) and construct built-to-suit warehouses too. Consumer goods giant HUL is expanding and consolidating its warehouse set up, driven primarily

by the onset of GST. “We have taken steps to improve service to our customers. The actions range from improving delivery centre infrastructure to redesigning the internal processes,” says a company spokesperson. “The road ahead for us is to have a more agile and responsive set of operations, which deliver the desired service... (across) all channels and geographies.” This may be easier said than done.

“There is massive potential to expand and build new warehouses across India, but securing and buying land can take anywhere from three to nine months and then another 30 months to build out a facility,” says Rajesh Jaggi, managing partner, real estate, Everstone Group.

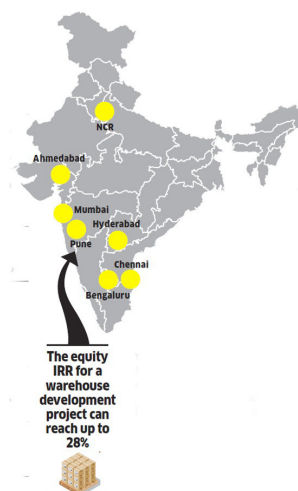
The PE fund runs a joint venture with IndoSpace, a real estate company, and the unit has raised over \$3.2 billion to fuel its ambitions, including growing its warehouse business that has 30 million sq ft under various stages of operation and construction. In December 2018, the firm announced its third tranche of \$1.2 billion in funding to sustain this growth. “In the next five or six years, our warehouse capacity should hit 30-40 million sq ft,” says Jaggi.

Returns Magnet

Equity IRR for Warehouse Development Projects in Prominent Clusters

	Warehousing	Quoted Land Rate (₹ crore/acre)	Quoted Rentals (₹/sq ft/month)	Equity IRR Achievable for a Development Project
Ahmedabad	Changodar-Bagodara	40-350	10-18	18%
	Aslali-Kheda	60-320	10-20	16%
Bengaluru	Hoskote-Narsapura	70-150	12-16	18%
	Nelamangala-Debaspet	100-230	10-16	12%
Chennai	Sriperumbudur-Oragadam Cluster	100-400	15-28	22%
	NH 5-Periyapalayam Cluster	80-150	14-24	22%
Hyderabad	Jeelimetla-Medchal	150-500	10-18	12%
Mumbai	Bhiwandi	120-500	11-20	20%
	Panvel	250-500	17-25	16%
NCR	NH 48 Cluster	100-250	12-22	26%
	Ghaziabad Cluster	100-400	14-22	22%
Pune	Chakan-Talegaon	100-300	16-28	28%
	Waghali-Ranjangaon	100-350	12-22	22%

Note: IRR is internal rate of return Source: Knight Frank Research



Investors' Delight

Investment companies are putting big money in creating logistics and warehouses

Investor:
Morgan Stanley

Warehouse developer:
KSH (Pune)

Investment:
₹350 crore

Investor:
Altico

Warehouse developer:
Renaissance (Mumbai)

Investment:
₹650 crore

Investor:
Propium

Warehouse developer:
Mussadilal Projects

Investment:
₹100 crore

Investor:
Ascendas-First Space

Warehouse developer:
Sun Logistic Park

Investment: NA

Investor:
ESR (Warburg Pincus)

Warehouse developer:
Allianze

Investment:
Part of \$1 bn funds

Investor:
IndoSpace

Warehouse developer:
Crystal Logistic Park

Investment:
Part of \$1.2 bn funds

Investor:
Logos India

Warehouse developer:
Casa Grand Distripark

Investment:
\$100 crore

Investor:
Hindustan Infralog

Warehouse developer:
Continental Warehousing

Investment:
Part of \$3bn commitment to India

Source: JLL

Quality Conscious : Warehouses are being snapped up as quickly as they are built.

"We are looking at a situation where operators are holding stock only for a few days, given the demand," says Balbir Singh Khalsa, national director, industrial asset services, Knight Frank, an advisory firm. "Operators aren't holding space, especially in prime areas and in high-quality warehouses."

For decades, India's logistics and infrastructure have lagged development. Compared to other countries, its companies have had to fork out significantly more as logistics spend to store their products or keep it ready to be shipped. With the development of both road and port infrastructure, warehouses too have evolved. "The industry will witness a structural shift in the next three or four years," Khalsa adds. These warehouses are getting larger and better equipped (think technology, robotics and even advanced fire-fighting systems) as the wave gathers momentum.

According to analysts and industry executives, a warehouse makes the most economic sense when it is on 25 acres, given that around half the space is needed for supporting infrastructure such as parking spaces and sewage treatment plants.

In the case of Amazon, warehouses are getting bigger and more wired. The firm has invested in innovations such as sort slider, auto-sorters and extensive conveyance to improve processing and efficiency by up to 30%. "The first Fulfilment Centre was set up in Mumbai in 2013 with a carpet area of 130,000 sq ft and a storage space of 220,000 cubic feet," says Saxena of Amazon.

"Our latest FC in Bengaluru has a carpet area of 340,000 sq ft with a storage space of 1.2 million cubic feet. The largest FC is in Hyderabad with a carpet area of 400,000 sq ft and a storage space of 2 million cubic feet."

As warehouses proliferate, they have also become a source of jobs for the local population. Two years ago, Amazon announced plans to hire some 4,000 people for seven new units it planned to open across the country, with the maximum hiring expected to happen locally. "For most low-level tasks in logistics, it is easier to train the local workforce," says Manish Sabharwal, chairman, Teamlease, an HR consultancy. "This also builds goodwill locally for these companies."

According to a Teamlease report, overall employment in logistics will grow from nearly 11 million in 2018 to almost 14 million in 2022. The warehousing segment alone is expected to create 120,000 new jobs. These large and impersonal spaces appear to be meeting needs in more ways than one.

Source : economictimes.indiatimes.com

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DEMAND FORECASTING – AN ART TO SEE FUTURE OF BUSINESS

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To see the future is mankind's old wish and ambition to become more powerful and take correct decisions in present time to make future bright. It is equally applicable for business decisions, wherein all top executives want to forecast the demand accurately and practically to align their activities in such a manner, so businesses can cater maximum possible demand of customers and increase revenue by reducing inventories. It is most important to know future demand as it is the foundation stone for business planning.

Under "Demand Management Trilogy", I have already published the first article on "Demand Planning" wherein you can understand it very comprehensively. In this raw, I am publishing the second article on "Demand Forecasting" which is a buzz word in Sales and Marketing industry and give insights to top-management for all important business decision making which helps the business to meet future customer demand.

WHAT IS DEMAND FORECASTING?

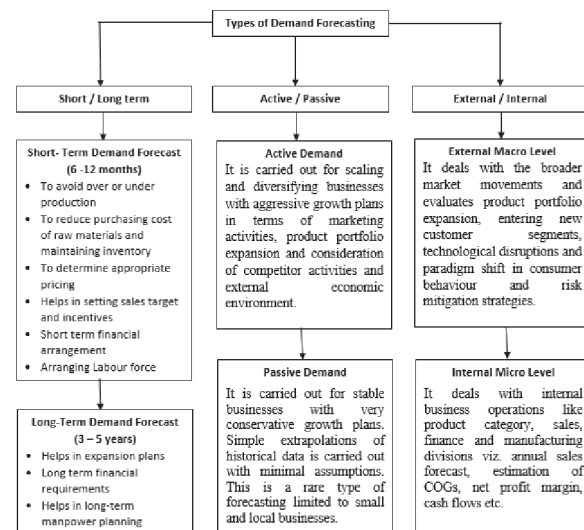
Demand forecasting is the process of estimating consumer demand for particular goods or services by using historical sales data, market conditions, competitor's strategy and plans the production activities accordingly to meet the expected demand. It affects critical business assumptions like turnover, profit margins, cash flow, capital expenditure, risk assessment and mitigation plans, production capacity planning, etc. Demand forecasting is important for industrially empowered countries where ample supply is available but demand is uncertain, but it is more important in developing countries like India where supply is limited and demand is more but fluctuating frequently. It is dependent on the marketing plan, environmental conditions, competition from similar products and economic conditions of customers.

DEMAND FORECASTING OBJECTIVE : Objectives of Demand Forecasting include Financial planning, Pricing policy, Manufacturing policy, Sales and Marketing planning, Capacity planning and expansion, Manpower planning and Capital expenditure.

DIFFERENCE BETWEEN DEMAND PLANNING AND DEMAND FORECASTING : Demand forecasting is merely one of several components of demand planning. Whereas Demand planning is defined as using forecasts and experience to estimate the demand for various

items at various points in the supply chain. Demand planning uses the forecasts provided by demand forecasting to adjust the supply chain to accommodate fluctuations in demand.

TYPES OF DEMAND FORECASTING



FACTORS AFFECTING DEMAND FORECAST BASED ON NATURE OF PRODUCT CATEGORY

Types of Goods	Meaning	Factors affecting demand
Non-Durable Consumer Goods	It is single use consumer demand for perishable products like food, milk, medicines, fruits etc	Household Disposable income, Population, Price of the commodity and related goods.
Durable Consumer Goods	Such goods can be consumed or used a number of times or repeatedly without much loss to their properties and utilities. i.e. TV, Refrigerator etc	Social status, level of money income, taste and fashion etc. It is commonly used by household members, so demand is dependent on a number of households with family members and sex composition & age groups rather than individuals. It is also depending on the availability and price of allied facilities like fuel for the car. It is price sensitive and highly influenced by discounts and credit facilities like EMI.
Capital Goods	These goods are used for further production, its demand is derived one and depends upon the profitability of industries. This demand is derived from the end product produced by capital goods.	Growth prospectus of user industry, the requirement of capital goods based on the capacity of the same considering end product demand, Velocity of their use.
New Products	It is different than the demand for established products.	It requires an intensive study of the product and its likely impact upon other products of the same group provides a key to an intelligent projection of demand.

GENERAL APPROACH TO DEMAND FORECASTING:

1. Identify and clearly state the objectives of forecasting—Short-term or long-term, market share or industry as a whole.
2. Select a suitable method of forecasting.
3. Identify the variables affecting the demand for the product.
4. Collect and gather relevant data and approximations to relevant data to represent the variables.
5. Determine the most probable relationship between dependent and independent variables through the use of statistical techniques.
6. Prepare the forecast and interpret the results. Interpretation is more important to management.
7. For forecasting the Company's share in the demand two different assumptions can be made:
 - (a) The ratio of the company sales to the total industry sales will continue as in the past.
 - (b) On the basis of an analysis of likely competition and industry trends, the company may assume a market share from that of the past.
8. Forecasts may be made either in terms of physical units or in terms of the currency of sales volumes.
9. Forecasts may be made in terms of product groups and then broken for individual products on the basis of past percentages. These products groups may be divided into individual products in terms of sizes, brands, labels, colours etc.
10. Forecasts may be made on an annual basis and then divided month-wise or week-wise on the basis of past records.
11. For determining the month-wise break-up of the forecast sales of a New Product, either use may be made of other firm's data is available or some survey may be necessary.

DEMAND FORECASTING METHODS : One of the most important steps of the Demand Forecasting process is the selection of the appropriate method for Demand Forecasting. Demand can be forecasted using (A) Qualitative methods or (B) Quantitative methods as explained below:

A. Qualitative methods: The Delphi Technique: A panel of experts are appointed to generate a Demand Forecast. Each expert is asked to generate a forecast of their assigned specific segment. After the initial forecasting round, each expert reads out their forecast and, in the process, each expert is influenced by other experts. A consequent forecast is again made by all experts and the process is repeated until all experts reach a near consensus scenario.

Sales Force Opinion: The Sales Manager asks for inputs of expected demand from each Salesperson in their

team. Each Salesperson evaluates their respective region and product categories and provides their individual customer demand. Eventually, the Sales Manager aggregates all the demands and generates the final version of Demand Forecast after management's judgment.

Market Research: In market research technique, customer-specific surveys are deployed to generate potential demand. Such surveys are generally in the form of questionnaires that directly seeks personal, demographic, preference and economic information from end customers. Since this type of research is on a random sampling basis, care needs to be exercised in terms of the survey regions, locations, and demographics of the end customer. This type of method could be beneficial for products that have little to no demand history.

B. Quantitative methods:

Trend projection method: Trend projection method can be effectively deployed for businesses with a large sales data history of typically more than 18 to 24 months. This historical data generates a "time series" which represents the past sales and projected demand for a specific product category under normal conditions by a graphical plotting method or the least square method.

Barometric technique: Barometric technique of Demand Forecasting is based on the principle of recording events in the present to predict the future. In the Demand Forecasting process, this is accomplished by analysing the statistical and economic indicators. Generally, forecasters deploy statistical analysis like Leading series, Concurrent series or Lagging series to generate the Demand Forecast.

Econometric forecasting technique: Econometric forecasting utilizes autoregressive integrated moving-average and complex mathematical equations, to establish relationships between demand and factors that influence the demand. An equation is derived and fine-tuned to ensure a reliable historical representation. Finally, the projected values of the influencing variables are inserted into the equation to generate a forecast.

CRITERIA OF A GOOD FORECASTING METHOD : Each demand forecast has its own Pros and Cons. Hence, it is very important to choose wisely based on the product, market size, competitor's stand and cost factor. However, irrespective of a Demand Forecasting method, there are some criteria which need to be taken care of.

§ **Accuracy:** Accuracy is the first and foremost criteria for good forecasting and to obtain an accurate forecast, it is essential to check the accuracy of past forecasts against present performance and of present forecasts against future performance.

§ **Acceptability:** The executive should have a good understanding of the technique chosen and they

should have confidence in the techniques used. Acceptability and understanding of the technique will improve the confidence of executives and improve the accuracy of the forecast.

- § **Durability:** Frequently used forecast based on the past data have a short life cycle and cannot be used for a long time. The durability of the forecasting power of a demand function depends partly on the reasonableness and simplicity of functions fitted, but primarily on the stability of the understanding relationships measured in the past. The higher cost can be affordable for the method which has high durability.
- § **Flexibility:** Flexibility of demand function make it more generic and could be set up easily for a variety of forecasting requirements. A set of variables whose coefficient could be adjusted from time to time to meet changing conditions in a more practical way to maintain intact the routine procedure of forecasting.
- § **Availability:** Immediate availability of data is a vital requirement. The techniques employed should be able to produce meaningful results quickly. Delay in result will adversely affect the managerial decisions.
- § **Economy:** Cost is a primary consideration which should be weighed against the importance of the forecasts to the business operations.
- § **Simplicity:** Statistical and econometric models are certainly useful but they are intolerably complex. To those executives who have a fear of mathematics, these methods would appear to be like Chinese. The procedure should, therefore, be simple and easy so that the management may appreciate and understand why it has been adopted by the forecaster.
- § **Consistency:** The forecaster has to deal with various components which are independent, therefore he has to make an adjustment in one component to bring it in line with a forecast of another, so the outcome will be consistent.

The ideal forecasting method is one that yields returns over cost with accuracy, seems reasonable, formalised for reasonably long periods, adapt to new circumstances and can give up-to-date results. The method may be different for different products. The forecaster may try one or the other method depending upon his objective, data availability, the urgency with which forecasts are needed, resources he intends to devote to this work and type of commodity whose demand he wants to forecast.

IMPORTANCE OF DEMAND FORECASTING : Demand Forecasting is the pivotal business process around which strategic and operational plans of a company are devised. Based on the same, strategic and long-range plans of a business-like budgeting, financial planning, sales and marketing plans, capacity planning, risk assessment and mitigation plans are formulated.

It is helpful in following manners.

1. **Essential to Produce the Required Quantities at the Right Time:** Accurate demand forecasting is essential for a firm to enable it to produce the required quantities at the right time and arrange well in advance for the various factors of production. The producer can frame a suitable production policy. The firm can reduce the costs of purchasing raw materials.
2. **To Adopt Suitable Price Policy:** It also enables the firm to adopt a suitable price policy. It is on the basis of demand and sales forecasts that arrangements are made for raw materials, equipment, machine, accessories, labour and buildings well in advance and at the right time.
3. **It is Helpful in the Maximisation of Profit:** A firm can maximise its profits only when it produces on the basis of the demand for its products. There will be no problem of over and under production and it will reduce or have control over costs, the profits will certainly go up. The importance of sales forecasting is much more on a large scale or seasonal industries.
4. **Importance from National Point of View:** On the national level, demand forecasts of particular products may provide a guideline for demand forecasts for related industries. i.e. A demand forecasts for cotton textile may provide an idea of probable demand for textile machinery, readymade garments, dyestuff industries. The government on the basis of sales forecasts may decide whether imports are necessary to meet the deficit in the domestic demand or may provide export incentives for any surplus. Thus, demand forecasts are useful to the firm, industry and also to the government.

Demand Forecasting in Supply Chain Management : In the field of Supply Chain, there are mainly 3 types of forecasting:

- § **Demand forecasting:** Investigation of the companies demand an item or SKU, to include current and projected demand by industry and product end use.
- § **Supply forecasting:** Collection of data about the current producers and suppliers, as well as technological and political trends that might affect supply.
- § **Price forecast:** This is based on information gathered and analysed about demand and supply. Provides a prediction of short- and long-term prices and the underlying reasons for those trends.

All the above three forecasts help in the following manner to improve Supply Chain.

1. **Increased Customer Satisfaction:** Customer is the centre point for the Supply Chain and it is the prime responsibility of the supply chain to provide them with the right product at the right time. This

advantage of forecasting in business will help predict product demand so that enough product is available to fulfil customer orders on a timely basis. The importance of Demand Forecasting is much higher in Made-to-Order (MTO), Assemble-to-Order (ATO) or JIT Supply Business.

2. **Reducing inventory stockouts:** In any format either Just In Time (JIT) or long lead time, accurate demand forecasting and material requirement planning is important to be given to supplier, so that they can plan their production activities and inventories at their end. It will help them to supply materials on time as per requirement and can potentially reduce the inventory stockout incidents. The less time inventory spends in the warehouse, the less cost impact on the balance sheet.
3. **Effective Production Scheduling:** Effective demand forecasting can help S&OP and Production team to plan their activities in an effective and efficient manner as they get ample lead-time to deliver the product to the market.
4. **Lowering safety stock requirement:** A good demand forecasting process will have a direct impact in the planning of inventory levels like developing production requests to manufacturing operations, planning for new product launches, planning for promotional activity and planning for seasonal variations in demand. If a business is using forecasting to plan these scenarios then there is no need to carry high safety stocks to manage those events.
5. **Reducing product obsolescence costs:** If the demand forecast is effective and accurate then there will not be any undesired inventory pile up at any point of Supply Chain and chances of obsolesced inventory will be greatly reduced. This

closely links to reduced order sizes as a smaller volume of the inventory will be in stock and demand forecast accuracy.

6. **Better Shipping or Logistics Management:** Shipping or Logistics shall be the most important function in the supply chain which delivers ready product from the manufacturing point to the customer's hand. Hence, we should consider them as a part of the forecasting team and proper forecasting will help shipping team to better align transportation of products from the production plant to market.

FORECASTS IN INDIA : In most of the industrially advanced countries, there are specialised agencies who are looking after for demand forecasting activities. In India, businessmen are not interested in making scientific forecasts and they are more dependent on previous data, word of mouth and chance. Looking at this attitude, sufficient data are not available to make reliable forecasts. Statistics alone do not forecast future conditions. Judgment, experience and knowledge of the particular trade are also necessary to make proper analysis and interpretation and to arrive at sound conclusions. However, in recent years after the introduction of Industry 4.0 and "Make in India" concept, there is a shift in the mindset of Indian businessmen which gives importance to Demand Forecasting in the coming years.

CONCLUSION: Thus, Demand Forecasting is enjoying prime importance for Business activity planning and it can become a game changer for any industry. Effective demand forecasting will help the company to effectively manage Inventory Planning, production planning, Sales and Marketing activities, Promotional schemes and customer satisfaction. It gives the edge to any firm over a competitor's firm and helps to go closer to the end point of the supply chain – The King Customer.

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COMMODITY INDEX

Commodities	Days's Index	Prev. Index	Week Ago	Month Ago
Index	2691.3	2685.2	2662.4	2640.4
Bullion	4990.2	4956.9	4823.6	4721.5
Cement	2397.3	2397.3	2397.3	2397.3
Chemicals	2022.0	2022.0	2085.1	2148.2
Edible Oil	1507.1	1512.6	1496.9	1535.1
Foodgrains	2368.0	2364.6	2346.8	2381.1
Fuel	2643.4	2643.4	2637.1	2538.1
Indl Metals	1918.9	1918.9	1918.9	1918.9
Other Agricom	2121.6	2121.6	2122.3	2135.0
Plastics	1748.3	1748.3	1734.7	1734.7

Source: ETIG Database dated 19th July, 2019

MACHINE LEARNING IN WAREHOUSE MANAGEMENT

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Machine learning a branch of artificial intelligence has already been used across many industries, to improve efficiency and productivity. The technology has been in development for some time with the uptake being slowed down by some industries, reluctance to adopt it. However it is now being used by many business including logistic and supply chain companies, and retailers seeking help for warehouses management, currently machine learning is used in a variety of sectors including health care, law education, and science, because of its liability or ability to learn and process information it is proven to be especially useful for industries that need to comprehend large amounts of data. In law the technology is able to filter through large amounts of important information in an impressively short amount of time. This is saving employees hours of work that can then be spent on other tasks thus greatly improving productivity. In health care it is being used for faster diagnosis of patients, while also practicing future problems a patient may face. It could also thanks give to the advance technology as it is also been able to scan moles that could potentially be cancerous.

Supply chain management machine learning make it possible to discover pattern in the supply chain by using algorithm that can analyze the success of the chain, while also picking up on aspects that can be improved. The algorithm are able to identify flow quickly and efficiently much more efficient ,than manual intervention by an assessor. Machine leaning in supply chain management can especially have an impact on inventory levels, quality supply and demand, and production planning and transport management moving forward, particularly when applied to warehouse management. Innovation is thriving trails to machine learning even more so in industries that are tooling to use robots, to take on lasting that would usually to assign to a human. The kind of technology has the potential to improve the productivity and efficiency of even warehouse while reducing the risk of human error like a parcel being sent to the wrong address. Machine learning algorithm and the app reminding them made by mobile app developed by companies its proving to be effective to take into account factors that existing methods have no way of tracking over time.

Providing of tags that is algorithmically coupled of one being open, and other is protected in machine learning in supply chain, as the open tag is visible on the product, and can be scanned by anyone with smart phone to get the information about the product, and its authenticity. Once the product is purchased the buyer has access to the protected tag, which is inside the

product seal. After screening the product tag, the user gets the authenticity of the product information, and the product certainty is registered to the customer. The tags are connected and monitored and protected by algorithm, and artificial intelligence on the cloud. If there is a replication of the tag it is recorded and the copied product is invalidated. When the consumer scans the open tag the product genuine is displayed, details from manufacturer which also comes up with photo videos, constituents of the product, how to use it in warranty, date of expiry. Once the protection tag is scanned, the consumer gets more details, about the authenticity of the product and then able to communicate with the manufacturer as get information on the product genuine.

Machine learning in inventory management; Machine learning to track stock, and to minimize the factors affecting inventory management is growing trend in that is used in many of the industries, optimizing inventory management, reducing forecasting errors, and minimizing idle stock, and thus improving customer satisfaction.

Using machine learning, to minimize factors is a growing trend in many of today's industries, using it to improve stock tracking accuracy optimize inventory storage, and offer transparent supply chain, communication are just some of the many ways business can take advantage of this new technology.

With machine learning up-to-date data input is used to adjust calculation, and prediction made by various applications to improve the customer relation in business.

The optimizing of the performance of tracking technically in inventory management, and is often found to be more accurate than planning.

The aid of artificial intelligence, and machine learning, algorithm can be crafted to fit customized constraints to suit business in the organization. By improving inventory optimization in organization with multiple distributions can be improved. In manufacturing supply chain are essential to keep constant product availability and most industries heavily relay on forecasting to assess how much stock, will be required in the near future, and with forecasting errors, over or under stock can cost growing business customer using machine technology predictive can be made continuously using data to adjust forecast to suit organization, and take account some of the forecast than typical forecast.

The age of artificial intelligence algorithms will force to recognize the outcome of past stocks and various

conflicts that have perpetuated into the present use of data. The group of artificial intelligence ethics and initiative and with the partnership of artificial intelligence a debate about the ethics of artificial intelligence has begun to take place, and however the real issue extends beyond the use of algorithms decision make in machine building in corporate governance.

Machine learning can be used to reduce transport and warehousing cost, by reducing inventory to lean but comfortable level, and predict demand in the near future allow for stock to be purchased in time of sales and thus improves customer delivery times and ultimately improve customer satisfaction.

The major affects in inventory management is the concern that surrounds the stock level, and prediction to carry how much it is often predictable when solely relying on outdated tracking. Excess and idle stock essential symbolizes tied up money that could be put to be little use. Idle inventory is also highly likely to get demand or to be outdated by new stock that come in to the warehouse, shrinking stock levels that require accurate prediction of future demand, which is becoming more accessible due to machine learning. By current data inventory management can be reduced to ensure optimal business performance ultimately leading to satisfaction of customers.

Customer service, artificial intelligence in retail industry to use robotics to interact with customers, the use of real-time data, and machine learning technology in supply chain, can help customers scan inventory searching a particular item, identifying proposals, and using bots to improve customer relations in warehouse management, especially preference to inventory management, identifying stock level to offer insightful analysis, regarding product demand.

Finding negative factors affecting inventory management, artificial intelligence, and machine learning technological be used to optimize inventory level to avoid waste stock. By using data analysis forecasting accurate future demand and planning stock purchasing machine learning can bring in business improvement by providing constant review to customers while relieving stress regarding fluctuation demand and stock management.

Good inventory involves the good performance of keeping enough stock in the warehouse, and to ensure the operation of the warehouse are kept moving, but enough or excess stock has also the possibility to drain out the reserves, where in the organization anticipates urgent requirements and the inventory, in the warehouse has to find a solution, and simultaneously not to invest the reserves of the stock on non-moving stock.

One item out of stock in the warehouse, can bring the organization to stop production, so bringing in artificial intelligence through machine learning to the warehouse management can be of great use, and absolutely necessary to keep the application of state-of-art, artificial intelligence, and carefully team with human oversight used in the system, and be a part of

the warehouse management to improve network of suppliers. Artificial intelligence as part of machine learning has bought in good improvement in organization to the best of utilization. The revolution is a result of huge amount of real-time data that now have been generated on the internet, and through inter-connected world of network, and smart products.

In order to make things effective in machine learning in warehouse management, is to make use of the new data, and stay competitive, and this will need to re-design the supply chain process.

Organization implementing artificial intelligence in machine learning in warehouse management should use it on an unprecedented scale, and in almost every aspect of their operation, such as time series prediction, and reinforcement learning and should be deployed with user demand, supplier back-orders, warehouse optimization, stock levels which has to be guided by machine learning or artificial intelligence in warehouse management.

Machine learning is critical component of artificial intelligence, and in its every core machine learning is a process in which the data with explicit coding is taken into consideration. Machine learning deploys advanced statistical models, and the vast data's to capture patterns and provide future prediction which is beyond human capabilities.

In the warehousing management operation parameters are dynamic, and good static variables to provide business insights, with the shift in consumer behavior, and demand on deliveries, it becomes essential for logistic service providers to come with innovative solution. A vast amount of data is to be made available in the field of machine learning, which can be utilized to train on machine loading algorithms.

Route optimization in warehouse management especially the routing of vehicles, in transportation of products is based on static data for further improvement. Machine learning came to be applied for gaining incremental efficiencies through reinforcement learning as machine learning combines to learn each iteration (repetitions of process), and enhances the process further efficiency, and helps route optimization on less than truck loads, and thus reducing costs.

Machine learning can help organization, logistic business to be more effectively distribute consignment across to improve delivery speed, and increase the number of deliveries. Route optimization algorithm helps to avoid traffic being moved to the destination where the products have to be transported.

Using machine learning to predict supply and demand, warehouse can be better managed, and the distribution of items across the location to reduce movements, improve picking, speed, and reduction to congestion to maintain accurate stock outs. Machine learning can be used to improve the speed and accuracy of data entry in warehouse management.

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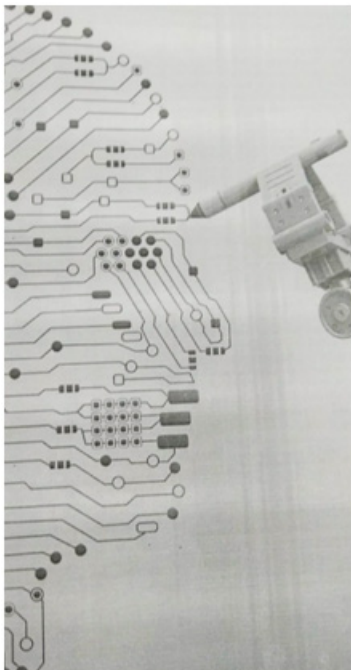
INSIGHTS ON ADVENT OF ARTIFICIAL INTELLIGENCE (AI) IN INDIA, AI – NEW CODE OF DIGITAL INDIA

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1. Introduction: India's internet user base is growing in the World at fastest pace. Digitization is surging through initiatives like "Digital India" and accelerating access to internet and telephone provided by our telecom companies. As internet connectivity improves, the volume of commercial activity conducted through Digital Platforms is also increasing. These steps generate vast amount of information, which, business companies can use to improve their performance. Internet - connected technologies such as AI, automated software and machines are being used by businesses, to analyze and respond to these huge amounts of raw data generated online to make decisions that streamline their work processes, increase productivity there by enabling radical innovations. It will be out of place, if our govt. initiative through task force through task force are not spell out here. So the same are brought out at the end as information only.



2. AI and its impact on Industry: As we know, AI refers to the application of computer software to tasks that generally require Human perception. Further the technology stimulates Machine Intelligence (MI) by teaching them audio visual perception and reasoning.

Such machines can then rationalize and solve problems like a human. The study, technology and process enabling this has resulted in new knowledge segment like "Data Analytics (DA)" and "Machine Learning (ML)". AI systems find application in different processes, including customer services, marketing, logistics and data analysis. For instance, machine can be programmed to perform repetitive tasks to improve efficiency and accelerate targets.

3. AI in the Indian Economy: In our country, most of businesses, industry, started appreciating the benefits of AI systems and doing multifold investments to adopt smart machines and technologies. In the IT sector, the firms are developing new products to meet changing/new demands. These companies which, traditionally provide back end services to foreign clients are now very much diversifying their capabilities by providing AI support through in-house developed software.

Startups in India are responding to this through targeted innovation. The application of AI systems in non manufacturing, non IT sector are also being explored. In addition Healthcare sector also using AI systems to make up the shortage of medical professionals and equipments to diagnose and offer medical treatment.

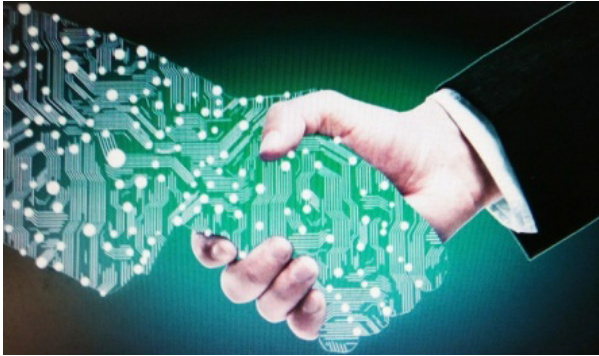
4. India – a Hub for AI enabled business: With the rapid modernization of its infrastructure and increasing digital connectivity, India is poised to become a hub for AI enabled business. Effective utilization and knowledge creation of AI systems could well propel the country to a greater economic efficiency by plugging out the current productivity gaps.

5. Think at AI for "all in all" in INDIA :



6. AI in "shake hands" with Human expertise can transform the manufacturing sector: The manufacturers recognized that AI offers an exciting future leading to greater automation, improved predictive maintenance to move on to mass

customization. While adoption is little bit slow, experts confirm that the combination of Human expertise and industry collaboration will pave the way for success. It goes hand in hand with advances in **AI** – as defined by one agency – as “Human intelligence exhibited by machines”. Further, **AI** comes to play every time we ask “ALEXA” a question. The power of AI is being felt at a larger extent now as AI helping to drive many “every day” consumer interactions.



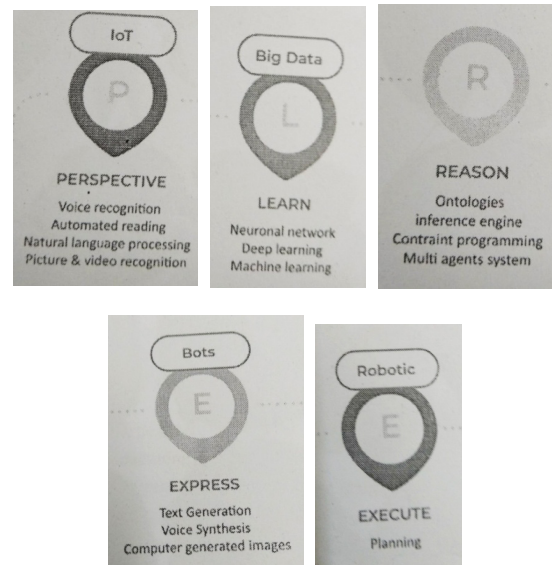
7. Generally, if we want to say dependent factors, we say – The “Back Ground” is...., here to emphasize, it is said – Front Ground of AI, as brought out hereunder:

The success of **AI** will require a close understanding of dependency of the behavior of one piece of equipment and the other, to plan sequential operations. To achieve this understanding, the following three parallel needs must be met.

- Open and standard protocols for information interchange are required to facilitate cognitive learning.
- Plus there’s a need for sustained efforts on the part of all OEMs to bring a larger segment of their installed base ‘under management’ via the smart route.
- The issue of safety prognosis under such conditions also needs to be addressed.

8. Understanding the “ROLL” and “CURRENT TRENDS OF AI”: This is explained through “COGNITIVE FUNCTIONS” as illustrated below:

(P: Perspective) (L: Learn) (R: Reason) (E: Express) (E: Execute)



9. Task force was formulated for giving the report on the subject of –Government to gear up to make AI work for INDIA:

The key highlights of the task force report:

- Ten areas where artificial intelligence utilization can add significant value to the existing processes and boost productivity include Manufacturing, Fintech, Healthcare, Agriculture/ Food Processing, Retail/ Customer Engagement, Aid for Differently Abled/ Accessibility technology, Public Utility Services, Education and National Security.
- The most important challenge in India is to collect, validate, standardize, correlate, archive and distribute **AI**-relevant data and make it accessible to organizations, people and systems without compromising privacy and ethics.
- The four grand challenges for **AI** incorporation in India are improving manufacturing, especially in the SME (Small and Medium sized Enterprises), improving health care quality, improving agriculture yields and improving delivery of public service.
- Strong IP mechanisms are required to encourage and protect innovations in **AI**.
- Data is fuel that powers **AI** and there is need for creating ecosystems that could encourage the free flow of data and information.

10. Therefore Artificial Intelligence (AI) is the new code of “Digital India” : **AI** will only lead to more efficiency, more consistent quality and less waste or spoilage for manufacturers. **AND** We all have to look forward to see the benefits of AI, through this mathematical equation.

Big organization + AI startups = Creating Universalisation in India.

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INDEX NUMBERS OF WHOLESALE PRICE IN INDIA (BASE: 2011-12=100) REVIEW FOR THE MONTH OF JUNE, 2019

The official Wholesale Price Index for 'All Commodities' (Base: 2011-12=100) for the month of June, 2019 rose by 0.2% to 121.5 (provisional) from 121.2 (provisional) for the previous month.

INFLATION : The annual rate of inflation, based on monthly WPI, stood at 2.02% (provisional) for the month of June, 2019 (over June, 2018) as compared to 2.45% (provisional) for the previous month and 5.68% during the corresponding month of the previous year. Build up inflation rate in the financial year so far was 1.33% compared to a build up rate of 2.41% in the corresponding period of the previous year.

Inflation for important commodities / commodity groups is indicated in Annex-1 and Annex-II. The movement of the index for the various commodity group is summarized below:-

PRIMARY ARTICLES (Weight 22.62%) : The index for this major group rose by 1.4% to 141.4 (provisional) from 139.5 (provisional) for the previous month. The groups and items which showed variations during the month are as follows:-

The index for 'Food Articles' group rose by 1.1% to 151.7 (provisional) from 150.1 (provisional) for the previous month due to higher price of fish-marine (6%), pork, arhar, barley, peas/chawali and moong (4% each), fruits & vegetables and urad (3% each), beef and buffalo meat, masur and maize (2% each) and mutton, condiments & spices, rajma and paddy (1% each). However, the price of betel leaves (26%), tea (2%) and ragi and poultry chicken (1% each) declined.

The index for 'Non-Food Articles' group rose by 0.7% to 128.7 (provisional) from 127.8 (provisional) for the previous month due to higher price of raw rubber (12%), fodder (5%), groundnut seed (4%), safflower (kardi seed) (3%), mesta, hides (raw), rape & mustard seed and soyabean (2% each) and raw silk, cotton seed (1% each). However, the price of floriculture (8%), gingelly seed and copra (coconut) (3% each), castor seed and gaur seed (2% each) and niger seed, raw jute, linseed, industrial wood and sunflower (1% each) declined.

The index for 'Minerals' group rose by 14.5% to 158.0 (provisional) from 138.0 (provisional) for the previous month due to higher price of copper concentrate (41%), bauxite (6%) and manganese ore (4%). However, the price of limestone (12%), lead concentrate (4%), zinc concentrate (3%) and iron ore (1%) declined.

The index for 'Crude Petroleum & Natural Gas' group declined by 0.3% to 92.5 (provisional) from 92.8 (provisional) for the previous month due to lower price of crude petroleum (1%).

FUEL & POWER (Weight 13.15%)

The index for this major group declined by 1.3% to 102.1 (provisional) from 103.4 (provisional) for the previous month. The groups and items which showed variations during the month are as follows:-

The index for 'Coal' group rose by 0.3% to 124.0 (provisional) from 123.6 (provisional) for the previous month due to higher price of lignite (7%).

The index for 'Mineral Oils' group declined by 2.2% to 94.3 (provisional) from 96.4 (provisional) for the previous month due to lower price of naphtha (10%), furnace oil (5%), bitumen (4%), petrol (2%) and HSD (1%). However, the price of kerosene (2%) and lube oils and LPG (1% each) moved up.

MANUFACTURED PRODUCTS (Weight 64.23%)

The index for this major group remained unchanged at its previous month level of 118.4. The groups and items which showed variations during the month are as follows:-

The index for 'Manufacture of Food Products' group rose by 0.9% to 130.4 (provisional) from 129.2 (provisional) for the previous month due to higher price of powder milk (12%), molasses (11%), buffalo meat, fresh/frozen (7%), manufacture of prepared animal feeds and processed tea (5% each), gur (4%), butter, rice, non-basmati, coffee powder with chicory and processing and preserving of fruit and vegetables (2% each) and sooji (rawa), ghee, bagasse, cotton seed oil, condensed milk, other meats, preserved/processed, ice cream, instant coffee, wheat bran, maida and sunflower

oil (1% each). However, the price of honey (6%), manufacture of macaroni, noodles, couscous and similar farinaceous products (3%), chicken/duck, dressed - fresh/frozen, palm oil and manufacture of health supplements (2% each) and manufacture of processed ready to eat food, copra oil, spices (including mixed spices), groundnut oil, salt, processing and preserving of fish, crustaceans and molluscs and products thereof, castor oil and sugar (1% each) declined.

The index for 'Manufacture of Beverages' group rose by 0.7% to 123.3 (provisional) from 122.5 (provisional) for the previous month due to higher price of country liquor and rectified spirit (2% each), bottled mineral water and spirits (1% each).

The index for 'Manufacture of Tobacco Products' group rose by 2% to 155.1 (provisional) from 152.1 (provisional) for the previous month due to higher price of cigarette (4%), other tobacco products (2%).

The index for 'Manufacture of Textiles' group declined by 0.3% to 119.3 (provisional) from 119.7 (provisional) for the previous month due to lower price of viscose yarn, synthetic yarn and texturised and twisted yarn (1% each). However, the price of manufacture of knitted and crocheted fabrics and manufacture of other textiles (1%) moved up.

The index for 'Manufacture of Wearing Apparel' group declined by 0.4% to 138.7 (provisional) from 139.2 (provisional) for the previous month due to lower price of manufacture of wearing apparel (woven), except fur apparel (1%).

The index for 'Manufacture of Leather And Related Products' group declined by 0.4% to 119.2 (provisional) from 119.7 (provisional) for the previous month due to lower price of athletic/sport shoes (3%) and vegetable tanned leather, leather shoe and waterproof footwear (1% each). However, the price of belt & other articles of leather (3%) moved up.

The index for 'Manufacture of Wood And of Products of Wood and Cork ' group rose by 0.2% to 134.6 (provisional) from 134.3 (provisional) for the previous month due to higher price of wooden box/crate (3%), wooden block - compressed or not (2%) and wooden panel and plywood block boards (1% each). However, the price of lamination wooden sheets/veneer sheets (1%) declined.

The index for 'Manufacture of Paper And Paper Products' group declined by 0.6% to 122.7 (provisional) from 123.5 (provisional) for the previous month due to lower price of paper bag including craft paper bag (12%), kraft paper (2%) and corrugated sheet box,

corrugated paper board, paper carton/box, duplex paper, base paper, newsprint and paper for printing & writing (1% each). However, the price of card board, map litho paper and laminated paper (1% each) moved up.

The index for 'Printing And Reproduction of Recorded Media ' group rose by 0.2% to 148.6 (provisional) from 148.3 (provisional) for the previous month due to higher price of printed form & schedule (6%), journal/periodical (2%) and sticker plastic (1%). However, the price of printed books (1%) declined.

The index for 'Manufacture of Chemicals And Chemical Products' group declined by 0.3% to 119.3 (provisional) from 119.7 (provisional) for the previous month due to lower price of mono ethyl glycol (6%), sulphuric acid (4%), aromatic chemicals, caustic soda (sodium hydroxide) and organic surface active agent (3% each), carbon black, polyester film(metalized), polyethylene, phosphoric acid, alcohols, aniline (including pna, ona, ocpna), acetic acid and its derivatives and polyester chips or polyethylene terephthalate (pet) chips (2% each) and ammonia gas, plasticizer, ethyl acetate, sodium silicate, ammonium sulphate, organic chemicals, explosive and foundry chemical (1% each). However, the price of face/body powder (6%), nitrogenous fertilizer, others (4%), menthol, creams & lotions for external application and camphor (3% each), tooth paste/tooth powder and dye stuff/dyes incl. dye intermediates and pigments/colours (2% each) and poly vinyl chloride (PVC), acrylic fibre, ammonia liquid, oleoresin, detergent cake, washing soap cake/bar/powder, amine and ammonium phosphate (1% each) moved up.

The index for 'Manufacture of Rubber And Plastics Products' group declined by 0.1% to 109.1 (provisional) from 109.2 (provisional) for the previous month due to lower price of plastic button (5%), polyester film (non-metalized) (4%), polypropylene film, plastic tube (flexible/non-flexible) and condoms (2% each) and plastic tank, plastic bag, plastic bottle, rubber tread, thermocol, polythene film, plastic tape, 2/3 wheeler rubber tube and medium & heavy commercial vehicle tyre (1% each). However, the price of plastic furniture and processed rubber (4% each), rubber crumb (3%) and rubber components & parts, elastic webbing and PVC fittings & other accessories (1% each) moved up.

The index for 'Manufacture of Other Non-Metallic Mineral Products' group declined by 0.2% to 118.2 (provisional) from 118.4 (provisional) for the previous month due to lower price of cement blocks (concrete) (3%), clinker (2%) and marble slab, porcelain sanitary ware, glass bottle, stone, chip and graphite rod (1% each). However, the price of ceramic tiles (vitrified tiles)

and asbestos corrugated sheet (2% each) and ordinary sheet glass, non ceramic tiles, cement superfine and white cement (1% each) moved up.

The index for 'Manufacture of Basic Metals' group declined by 0.9% to 108.7 (provisional) from 109.7 (provisional) for the previous month due to lower price of stainless steel pencil ingots/billets/slabs (5%), copper metal/copper rings and lead ingots, bars, blocks, plates (3% each), steel cables, zinc metal/zinc blocks, angles, channels, sections, steel (coated/not), alloy steel castings, ferrochrome, mild steel (MS) blooms, brass metal/sheet/coils, copper shapes - bars/rods/plates/strips and aluminium foil (2% each) and aluminium castings, hot rolled (HR) coils & sheets, including narrow strip, cold rolled (CR) coils & sheets, including narrow strip, MS wire rods, silicomanganese, alloy steel wire rods, stainless steel coils, strips & sheets, aluminium shapes - bars/rods/flats, stainless steel bars & rods, including flats, MS bright bars, GP/GC sheet, aluminium alloys, MS pencil ingots, galvanized iron pipes and MS castings (1% each). However, the price of rails (2%) and aluminium disk and circles, stainless steel tubes and steel forgings - rough (1% each) moved up.

The index for 'Manufacture of Fabricated Metal Products, Except Machinery And Equipment' group declined by 0.4% to 116.4 (provisional) from 116.9 (provisional) for the previous month due to lower price of steel pipes, tubes & poles (2%) and forged steel rings, lock/padlock, hose pipes in set or otherwise, hand tools and bolts, screws, nuts & nails of iron & steel (1% each). However, the price of jigs & fixture (2%) and metal cutting tools & accessories (1%) moved up.

The index for 'Manufacture of Electrical Equipment' group declined by 0.1% to 111.9 (provisional) from 112 (provisional) for the previous month due to lower price of copper wire (4%), pvc insulated cable, insulating & flexible wire and lead acid batteries for vehicles & other uses (2% each) and rotor/magneto rotor assembly, aluminium wire, air coolers, insulator, fibre optic cables, aluminium/alloy conductor and rubber insulated cables (1% each). However, the price of electric welding machine (4%), solenoid valve, incandescent lamps and electrical relay/conductor (3% each), dry cells such as torch light batteries, ACSR conductors, electric switch and fluorescent tube (2% each) and electric filament type lamps, connector/plug/socket/holder-electric and fan (1% each) moved up.

The index for 'Manufacture of Machinery And Equipment' group rose by 0.4% to 113.1 (provisional) from 112.7 (provisional) for the previous month due to higher price of rice mill machinery (8%), air filters (4%) and agriculture implements, centrifugal pumps,

pressure vessel and tank for fermentation & other food processing, sewing machines, cranes, chemical equipment & system and pump sets without motor (1% each). However, the price of chillers (10%), separator (2%) and filtration equipment, hydraulic pump, air gas compressor including compressor for refrigerator, hydraulic equipment, mining, quarrying & metallurgical machinery/parts, roller mill (raymond) and evaporator (1% each) declined.

The index for 'Manufacture of Motor Vehicles, Trailers And Semi-Trailers' group rose by 0.7% to 114.1 (provisional) from 113.3 (provisional) for the previous month due to higher price of seat for motor vehicles (7%), axles of motor vehicles (3%), cylinder liners and passenger vehicles (2% each) and shafts of all kinds, crankshaft, chassis of different vehicle types, chain, gear box and parts and minibus/bus (1% each). However, the price of head lamp (4%) and steering gear control system, release valve, wheels/wheels & parts and radiators & coolers (1% each) declined.

The index for 'Manufacture of Other Transport Equipment' group rose by 1.8% to 116.9 (provisional) from 114.8 (provisional) for the previous month due to higher price of motor cycles (3%) and auto rickshaw/tempo/matador/three wheelers (1%).

The index for 'Manufacture of Furniture' group declined by 0.8% to 128.4 (provisional) from 129.4 (provisional) for the previous month due to lower price of iron/steel furniture (2%) and wooden furniture (1%). However, the price of foam and rubber mattress, hospital furniture and plastic fixtures (1% each) moved up.

The index for 'Other Manufacturing' group declined by 0.1% to 106.2 (provisional) from 106.3 (provisional) for the previous month due to lower price of plastic moulded-others toys (1%). However, the price of table tennis table (9%), playing cards (3%), stringed musical instruments (incl. santoor, guitars, etc.) (2%) and cricket ball (1%) moved up. **WPI FOOD INDEX (Weight 24.38%)** The rate of inflation based on WPI Food Index consisting of 'Food Articles' from Primary Articles group and 'Food Product' from Manufactured Products group decreased from 5.10% in May, 2019 to 5.04% in June, 2019.

FINAL INDEX FOR THE MONTH OF APRIL, 2019 (BASE YEAR:2011-12=100)

For the month of April, 2019, the final Wholesale Price Index for 'All Commodities' (Base: 2011-12=100) stood at 121.1 as compared to 120.9 (provisional) and annual rate of inflation based on final index stood at 3.24% as compared to 3.07% (provisional) respectively as reported on 14.05.2019.

Source : PIB

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FUTURE OF INDIAN LOGISTICS MARKET

Indian logistics companies are creating opportunities for other countries sellers to sell their products in India by providing seamless custom clearance and distribution across the country

PRAVEEN VASHISTHA, DIRECTOR, GXPRESS

Logistics has been the holding beam for almost every business structure across the world since the rise of the economy. The towering needs of businesses to transport goods and services must be addressed by the logistics sector with best-in-class infrastructure and effective logistics management system. The economic survey of India for 2017-18 has projected the logistics sector to rise from the current worth of \$160 billion to Rs 215 billion by 2020. In a PPP (Public Private Partnership) model, the government of India efforts to improve India's ranking in World Bank LPI (Logistics Performance Index) from 35 to 15 in the coming years.

The New Horizons in Indian logistics Market : The development in technology and the birth of new industry verticals have created high demands for logistics and delivery of products/services. Not just this but the new set of requirements arisen from the people with busy lifestyles have also added to the increase in logistics demand. Today, if you have done a lot of shopping and still have other plans before heading home, logistics services provider home delivery of your shopped products at your ease of time.

What can be better than having hassle-free timely delivery of the products and services right at the doorstep anywhere in the world? The growing market with the help of technology and developing infrastructure have made it possible. Developed countries have strengthened their infrastructure and transport system to their full potential in facilitating seamless logistics services in both domestic and cross-border territories. The globalization at the fastest pace ever has taken industries with a storm and the movement of goods from the origin point to delivery station has been made effectively fast and secure. Whether it is a small courier or a complete cargo, logistics has made it easier for people to transport their products on time. The rise of e-commerce on the global platform in the recent times has made logistics a major player in the world economy.

The efforts to organize the unorganized logistics sector : The government of India has established a separate logistics division in the department of commerce to work for the integrated development of the industry both in the domestic and the international domain. In fact, the Ministry of Commerce and Industry (MoCI) has proposed framing of a unique dedicated online portal to accentuate logistics services in the country and bringing together the buyers, logistics service providers, and the related government agencies. The Ministry of Transport is also playing a key role in upbringing the logistics sectors by strengthening the land connectivity through various programs like

'Sagarmala' project.

The economic survey 2017-18 presented in the parliament has speculated the Indian logistics Industry to grow at a CAGR of 10.5% crossing the 200 billion USD mark in coming time. With currently 22 million people employed in the industry, logistics is expected to extend employment to over 40 million people by 2020. With such a promising future, the Indian logistics sector has become the new sensation encouraging GoI to frame a dedicated IT backbone for this industry. Even the import-export system has been upgraded reducing the cargo release time to only 2 or 3 days.

The Goods and Service Tax (GST) framed under the center and state list has paved the path for a better logistics sector. The Central Board of Indirect Taxes and Customs (CBIC) under the Ministry of Finance also has brought new provision under CSB IV and CSB V to the Courier Imports and Exports (Electronic Declaration and Processing) Regulations, 2010 providing people 100% GST refunds in the logistics services. Customers can easily move their shipments with minimal paperwork and faster delivery and customs clearances with the new policy change by the GoI. Apart from this, to foster the growth of logistics sectors many start-ups and established enterprises have entered the market equipped with the latest technology, quality warehousing, and functional transport facility to provide world-class services in the Indian market. The recent entry of international logistics players has also ensured the boost of the Indian logistics industry. This will be a sight to behold the glorious rising of logistics industry in coming years, especially marking 2020.

Indian Companies is also supporting customers by offering Return Management, Fulfillment, Warehousing and 3PL services in all major ecommerce markets like USA, Europe, Australia and Middle East countries through their worldwide network. Which is creating a larger scope for Indian sellers to sell their products globally with a competitive edge. Also now Indian logistics companies are creating opportunities for other countries sellers to sell their products in India by providing seamless custom clearance and distribution across the country. Therefore Indian logistic industry is having more opportunities in the future time.

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Source : www.businessworld.in

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IMPORTANCE OF LOGISTICS FOR DEVELOPMENT

Improving efficiency of the logistics sector is of high importance for the country's economy as it boosts economic growth, grows exports through global supply chains and generates employment. While India's passenger and freight mobility sectors are becoming more efficient and the logistics sector is growing at CAGR of 10.5%¹ and expected to reach about USD 215 billion in 2020², there are a set of interconnected problems in the system, which need to be addressed to further enhance efficiency. Logistical inefficiencies lead to reduced employment opportunities, perpetuate a poverty cycle for rural populations, make roads and highways unsafe, and contribute to pollution. Conversely, enhancing the efficiency of logistics can create high quality economic growth and employment opportunities, improve safety and public health, and support India's successful fulfilment of international commitments towards climate change.

India is currently the fastest growing major economy globally³, with GDP growing by 6.6% in 2017–2018 and expected to accelerate to 7.3% in 2018 and 2019. As a result of this rapid growth, India is poised to become the third largest economy in the world by 2030⁴ and the second largest, after only China, in terms of Purchasing Power Parity (PPP) by 2040⁵. In order to realize these projections, the Government of India (GoI) has launched the "Make in India" initiative with an aim to support the manufacturing sector of the Indian economy and elevate its contribution to GDP from the current 17% up to 25%. Efficient logistics are a cornerstone for the continuation of India's economic development over the coming decades. The robust growth in manufacturing envisioned through the "Make in India" initiative will demand high levels of logistical efficiency, which means that goods must not only be produced, they must also be efficiently transported to markets at reasonable prices.

While the growth in GDP created by logistics improvements is important, even more important is the quality of that growth and the employment and income it creates, especially for the most economically vulnerable segments of the population. World Bank research in Latin America showed that reducing the share of logistics costs in the final price of goods by 14% can increase demand for those goods by 8–18% and increase employment in that sector by 2.5%–16%⁶. Such an impact is particularly important for micro small and medium enterprises⁷, which employ

over 110 million Indian citizens⁸. Specifically for agricultural products, another critical sector of the Indian economy, the same reduction in logistics costs to 14% of final prices increased demand by 12% and increased agricultural employment by 6%⁹—boosting both rural incomes and nutrition and food security for the entire country.

Government of India (GoI) has launched the "Make in India" initiative with an aim to support the manufacturing sector of the Indian economy and elevate its contribution to GDP from the current 17% up to 25%

Logistics efficiency can also benefit farmers through reduction in loss and wastage of produce during transportation to markets. In OECD countries, the loss of agricultural products during shipment is on the order of 2% to 3%, while many developing countries experience losses of up to 25%¹⁰. Currently, India loses 40% of agricultural production to wastage in the supply chain¹¹.

Reducing that wastage could both provide an income boost to farmers and also lower overall prices for produce, creating better access to high quality food for Indian citizens.

Employment in the Indian logistics industry, particularly as a truck driver, is a hard life. Truck drivers typically spend long periods away from home and family; more than 25% of drivers return to their home base only after eight days, reducing quality of life and leading to poor outcomes in both physical and psychological health¹². Around 50% of the truck drivers face driving-related health issues¹³. In 2017 approximately 67% of truck drivers did not have any medical check-up¹⁴. Truck drivers are also poorly paid, earning only half as much as cab drivers. Furthermore, poor logistics practices often lead to unsafe practices such as overloading of trucks, which compromise road safety both for truck drivers and those with whom they share the road—over 20% of the 1.4 lakh fatalities in 2014 were truck drivers¹⁵. This combination of factors—low pay, high risk and low quality of life is driving a decline in the number of truck drivers. From 900 truck drivers per 1000 trucks in 2002 the number fell to 600 truck drivers per 1000 trucks in 2017¹⁶. Resolving key issues in logistics can enhance safety and health and reduce the overall requirement for truck drivers while providing higher quality employment

opportunities in other sectors.

Beyond providing broad social benefits to farmers and low-income workers, efficiency in logistics can also enhance the quality of life for practitioners within the logistics industry.

Finally, improved logistics can bring about important environmental benefits. Currently, the share of CO₂ emissions from logistics is around 7% of the total CO₂ emissions in India¹⁷, which will undoubtedly grow as “Make in India” accelerates. In Delhi, freight amounts to 67% of the total PM_{2.5} emissions from the transport sector, 61% of the total SO₂ emissions from the transportation sector, and 62% of the total NO_x emissions from the transportation sector¹⁸. Improving the efficiency of logistics can rein in growing demand for trucking services, helping India to meet its international climate commitments while simultaneously reducing pollution in India’s most populated cities. This report explores various dimensions of long haul and urban freight transportation in India. It looks in to opportunities and existing barriers within goods transportation and inventory management as well as their economic, environmental and social impact. The report also does a deep dive into potential solutions to promote a shift to more efficient modes, reduce high inventory costs, improve low truck productivity and enhance the efficiency of urban distribution.

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Source : niti.gov.in



“RISKS & CHALLENGES IN PROCUREMENT, DISTRIBUTION & USE OF CHEMICALS IN PHARMA R&D LABS”

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Many of us may not be thoroughly knowing how the R&D chemicals imports/ supplies take place to reach our warehouses.



For example, if we take laboratory reagents, which have to be imported from different Foreign Catalog companies, other than available in India, say from a distributor of United States Chemical Catalog Company in Germany, but the distribution network includes the movement of chemical from the manufacturing country (in most of the cases, it is China), to United States then to the distributor in Germany and then to us (if we directly place order) or to the Indian distributor and then to the buyer.

Sometimes, if the value is high and after making a direct import vs buying through the Indian distributor comparison, we may go for direct import from various countries like USA, UK, Japan, Russia, China, etc., based on the criticality, cost, lead time and terms with the foreign suppliers. Most of the times, we should make advance payments and unless and until, we know the supplier's credibility and trustworthiness, we may not dare to go directly. In case of L/Cs also, it will be difficult to assess the supplier's honesty. Some of the suppliers even agree for credit terms, where there is less fear of getting cheated (in terms of correct chemical/ the quality agreed).

In some cases, the foreign suppliers distributors will keep stock of chemicals in India and since, most of the Indian distributors will extend credit terms and less lead time as they are available locally, though there is a little price variation, the reagents are procured from them for almost all the low cost chemicals.

Though direct importation is quite economical and faster, there is every threat that sometimes it may be delayed due to the customs issues. This will not happen for every consignment but possibility for one out of a few consignments. These delays are mostly unexpected and cause delay in the project progress.

There is also another issue associated with chemicals that some of the chemicals will have the dual usage or multi-use, which may also include the pre-cursors of Narcotics, and chemicals used for mass destruction.

If we do not check properly before importation, we may land in multiple problems for importing such chemicals and we MUST not to import such chemicals.

There are also some of the chemicals, which are in restricted/ to be imported under a license category for which we may have to obtain license from the authorities and then, proceed for importation.

Some of the chemicals are hazardous or dangerous goods (DG) category, these have to be imported with proper DG documentation and by Cargo flight/ Seaways.

All the above transactional activities is one part and the internal documentation and documentation to be submitted to customs; follow up with the forwarder, custom clearance agent, duty payments/ exemption certificates submission etc., are the other part, to be properly dealt with.



There are some R&D chemicals, which will take more lead time say 3 to 4 months, as the chemicals are not available off the shelf and they have to be custom synthesized. The risk factor in this category is lead time

commitment.

There are also concerns about quality, some of the distributors get bulk packs and repack the chemicals as per customer requirements or procure the from unknown sources, which are not trustworthy.

Transportation is another area, which may also create problems.

Though the chemicals have such variety nature and risks associated with them, still the manufacture, importation, transport, storage and sale, are not strictly brought under regulatory perspective. Even where the end-user certificates required for the purchase of some of the hazardous chemicals, are easily obtained and processed without checking further about the implications.

Though the well established R&Ds both in public and private sector having the safety and security systems in place, the small-scale chemical laboratory research and some of the academic teaching activities are exposed to vulnerabilities for safety and security. Since there are no checks from government or they manage somehow.

These are the known characteristics of the chemistry businesses presently being operated.

The developed countries have most of the regulatory information and documentation in place, we still have to have such norms strictly followed and monitored.

Under these circumstances, the procurement team has to play their role very efficiently and honestly.

This Article is in continuation of my previous article appeared in MMR May 2018 titled "A Brief on Strategic Procurement in relation to Pharma R&D Labs".

Conclusion: Though there are many hurdles and difficulties, it is the procurement responsibility to ensure the chemicals are thoroughly checked for its various hazardous nature, etc and procured properly so that there will not be any problem to the organisation and the country.

Ø A request to the readers of this Article: To please forward your valuable views and perceptions to the Author and Editor of MMR, to improve on the future articles.

References: Self Experience; Internet and The Senior Associate's Review.

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Indian Institute of Materials Management

MISSION

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

OBJECTIVE

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

CODE OF ETHICS

- To consider first the total interest of one's organisation in all transactions without impairing the dignity and responsibility of one's office :
- To buy without prejudice, seeking to obtain the maximum ultimate value for each rupee of expenditure.
- To subscribe and work for honesty and truth in buying and selling; to denounce all forms and manifestations of commercial bribery and to eschew anti-social practices.
- To accord a prompt and courteous reception so far as conditions will permit, to all who call up on legitimate business mission.
- To respect one's obligations and those of one's organisation consistent with good business practices.

RIISING DEMANDS IN E-RETAIL SEGMENT FAST-TRACKING SUPPLY CHAIN

CHANDER AGARWAL,
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While the development of the e-retail industry has been exponential, it has also led to some challenges due to amplified expectations among consumers.

The e-retail industry is one of the fastest growing industries in India. Driven by increased digital penetration, a rise in ownership of smartphones, shift towards digital payment alternatives and multilingual e-commerce platforms, the e-retail industry in India has witnessed a robust growth in the last few years. From its nascent stages in the mid-2000s, the e-retail industry in India jumped to a phenomenal market value of USD 19.5 billion at gross level. With continuous automation and evolving consumer behavior, the growth of this segment is expected to continue enjoying an upward trajectory.

While the development of the e-retail industry has been exponential, it has also led to some challenges due to amplified expectations among consumers. With major technological advancements automating the e-retail space, a need to reinvent the supply chain processes to support changing market dynamics has been felt, especially in warehousing and logistics. Further, with e-retail giants like Amazon and Flipkart establishing their own captive logistics units for fulfillment needs, it has become even more important for industry players to incorporate technology as quickly and comprehensively as possible. As automation elevates the e-retail segment, the supply chain has also been fast-tracked through adoption of modern-day technologies to help e-retailers address challenges and meet increasing consumer demands.

Optimization of workflow processes : Since retail supply chain is highly dynamic and consumer-centric, it requires a great amount of synchronization and collaboration. As more and more people opt for e-retail purchases, the demand for a flexible supply chain has risen exponentially. Optimization of workflow processes through automation is the solution. Therefore, leveraging supply chain automation solutions can result in better efficiency and lowered operational costs. These solutions include distributed order management for multi-channel operations, warehouse management and execution systems to control the movement and storage, and adoption of technologies such as IoT, blockchain and AR, etc. While the inherent nature of supply chain is highly fragmented, optimization of workflow processes has the power to bring together disintegrated sub-processes and make one unified end-to-end journey.

Meeting heightened consumer expectations for order fulfillment : According to a study conducted by Zebra Technologies titled 'The New Retail Mandate: 2018 Shopper Vision Study', 66% of shoppers prefer same day or next day delivery. These heightened consumer expectations of delivery have shaken up the supply chain paradigm. Since a retail supply chain has many intermediaries, this results in a complex assortment of many touchpoints, increased human intervention, more wait time, inventory wastage, pilferage and stock losses. Therefore, supply chain automation accelerates delivery to consumers and reduce picking errors and pilferage by reducing the number of touchpoints.

Further, to meet the rising consumer demand for timely and flexible product delivery, e-retailers have been increasingly opting for express logistical services. Due to the time-bound, door-step delivery nature of express logistics, it has become an indispensable part of the e-retail industry in recent times. Express industry is continuously evolving and building capabilities to cater to the complex nature of operations of the e-retail industry. Express logistics has helped e-retail players adapt to a consumer-centric delivery model and meet the rising expectations, thereby enhancing end consumer experience.

Making the domain future-ready : Supply chain processes are traditionally human-driven, wherein humans operate the machines. Integrating modern-day technological tools throughout the process can increase both efficiency and reliability of the e-retail supply chain. Automation of the entire supply chain from end-to-end has the ability to improve service levels while saving costs up to 30%, while providing a higher level of visibility across the entire network. Autonomous warehouses are also coming into the picture. Industry players are looking to invest in robotics and IoT systems that would remove the 'human' component from the process and transfer all the mundane operations onto machines. This will further enable the executives to find new avenues for progression and drive change for the entire business instead of spending time on the day-to-day repetitive processes. While making the domain future-ready seems like the ideal thing to do, technology needs to be incorporated comprehensively to ensure a seamless transition towards a completely automated supply chain.

Source: www.indianRetailer.com

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4 TECH TRENDS SHAPING THE FUTURE OF GLOBAL LOGISTICS

*This is how Blockchain technology and the Internet of Things (IoT)
will provide end to end visibility of the cargo*

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MANAGER, IMPLEMENTATION AND ANALYTICS, EZYHAUL

The global logistics market is expected to reach \$ 1,374 billion by the year 2023. This age-old industry has heavily relied on human intervention for managing inventories, coordinating transport, handling materials and smooth functioning of warehouses. However, this has involved extensive coordination between multiple stakeholders that leads to a gap in communication and delivery. With the rapid advancement in technology such as AI, biometrics, automation and GPS, the global logistics industry has seen a smooth and streamlined way of operating. Here are some of the technological trends that will revolutionize the logistics industry in the upcoming years.

Electric Vehicles : The electric vehicle market is expected to be valued at \$570b by the year 2025. A 2015 Neilson study has found that 66per cent of respondents are more likely to pay a greater amount for a product or a service if the company behind it is committed to taking care of the environment. EVs are energy-efficient, cost-effective and have lower maintenance costs as compared to internal combustion engines.

There are three main ways in which EVs will enter the logistics industry: traditional manufacturers will either produce these EVs themselves, will invest in batteries for EVs or will invest in start-ups that produce such EVs. The government has allocated INR 10,000 crore for the faster adoption of these vehicles, however, it also needs to provide charging stations across the country to promote long-distance shipments. One thing is certain, EVs are here to change the world of logistics.

Digitalisation : A McKinsey report states that the digital sectors in India could contribute \$355 billion- \$435 billion of the GDP in 2025. The digitalization of logistics will help customers track their shipments in real-time, reduce inefficiencies and streamline operations. Switching from the age-old method of tracking orders on paper to the digital platform will leave lesser room for error. Mobile application based shipment, for example, has made booking convenient and has reduced human intervention. In the future, Robotics Process Automation can be used to introduce complete automation in logistics.

The current workforce that is entering the market is tech-savvy and will help with the widespread growth of digitization in logistics. Additionally, the digitally accumulated data will help drive faster action related to customer demands, optimum routes, fuel

consumption and turnaround times. The government has introduced policies like the One Nation- One Transport card which will digitise payments at highway tolls, hence, making the transportation of goods a faster process.

Blockchain Technology and Internet of Things : The modern-day customer wants the supply chain process to be transparent as he wants to track the cargo in real-time. Blockchain technology and the Internet of Things (IoT) will provide end to end visibility of the cargo. It will introduce more accountability and transparency in the supply chain process. Blockchain will help improve security, reduce fraud, facilitate seamless transactions, enhance accuracy and will allow for an accurate recording of data.

IoT will enable a connected environment which will have an end to end visibility, optimum warehouse management and effective management of the fleet through digitally connected devices. These devices will help track routes, maintain schedules, monitor vehicle usage and cut down on vehicular downtime. IoT systems, through visual and acoustic sensors on the fuel and GPS, will help transform trucks into smart trucks. IoT can also be used for predicting the time of delivery of each shipment and for preventive maintenance that will help avoid breakdowns.

Computer Vision Enabled Classification Technique : Computer vision is an advanced algorithm through which the computer is given the power to see the real world on the basis of the data has been fed into it. This allows the computer to make decisions just like humans would. In logistics, if the cargo undergoes damage during transit, the customer has to accept it if it is under permissible limits. However, if it is not under permissible limits, the cargo needs to undergo a predefined process. This involves a lot of decision gaps as approval is required on multiple levels.

Computer vision can be used to deal with cargo damage classification in a more efficient manner. Labelled data can be fed into the computer, on the basis of which it can tell if the damage is within feasible limits or not. This will eliminate the need to take multiple approvals from different parties and will make the delivery process faster.

Opinions expressed by Entrepreneur contributors are their own.

Source : www.indialogisticsbrief.com



CYBERSECURITY WITHIN THE SUPPLY CHAIN

ALAN CALDER
CHIEF EXECUTIVE OF GRC INTERNATIONAL PLC

The increasing issue of cybersecurity in the supply chain sector and how companies can counteract the threat to meet the challenge head-on. Research from Ponemon Institute indicates that cybersecurity is a growing supply-chain challenge, with 56% of organisations reporting to have had a breach that was caused by one of their third-party vendors. As the supply chain becomes increasingly more connected through digital transformation, the exposure to potential cyberattack increases. There is, therefore, a critical need for organisations to effectively secure their supply chain ecosystems and mitigate risk as much as possible. The supply chain is the backbone of an organisation but just one broken link in the ever-complex supply chain can send shockwaves throughout the rest of the associated suppliers and potentially leave the entire operation exposed to attack.

A dynamic supply chain is essential in the modern industry, but each new supplier only adds to an organisation's vulnerability in terms of security. Following the Equifax hack, both Visa and MasterCard alerted that 200,000 credit cards may have been compromised as a direct result. Every third-party supplier along the Equifax supply chain was consequently exposed to increased risk. Equifax subsequently published a report following the data breach to raise awareness of threats caused by supply chain security. The report found that 32% of businesses don't know where all of their third-party suppliers store personal data and 25% of businesses who have experienced a breach believe the third-party supplier would be accountable for the data breach response.

The Information Commissioner's Office (ICO) is responsible for how GDPR is implemented and enforced in the UK. One of the core principles of why it was introduced into law was to provide greater transparency and visibility for data protection. When GDPR came into force in May 2018, it introduced compliance requirements that also extends to suppliers. The ICO states that if a third-party supplier suffers a personal data breach involving personal data controlled by another organisation, and it does not inform the data controller of the incident promptly, then they are putting the data controller at risk of breaching their obligations under the GDPR. So, whilst organisations may have internal GDPR compliance policies in place, can the same be said for all of their suppliers?

It's important for organisations to take control of security auditing, and understand what data suppliers hold on file, where it is stored and who has access to it. By following this process for every supplier, businesses can proactively limit their exposure to risk and not just

assume that each supplier's compliance policies will go far enough. Data processing is prone to human error and is subject to misinterpretation and rarely updated, therefore, data quality checks and data flow mapping plays a crucial role in providing supply chain and cybersecurity assurance.

The vetting of third-party suppliers has become a much more arduous process as risks to security must be thoroughly evaluated – and rightly so. Examples such as the attack on the freeware utility CCleaner led to at least 18 other companies being targeted in one campaign. Fortunately, on this occasion, the attack was quickly exposed and counteracted, but it still set a precedent for future supply chain attacks.

Many organisations are now placing greater emphasis on internal cybersecurity measures, as demonstrated by the fact that cybersecurity and risk management is second only to IT automation when it comes to priority initiatives that organisations are planning to invest further in during 2019. With high profile cyberattacks often a daily occurrence in the media, more organisations are viewing data breaches and the protection of personal data as an important part of business risk. This is encouraging news, however, within a complex supply chain it is possible that security can potentially be compromised by just one supplier that has left a hole in their defences. While no organisation is immune from cyberthreats, effective supplier management in terms of thoroughly screening new suppliers, vetting practices and procedures, limiting access to data and undertaking frequent security auditing, can ensure that the compliance standard of the supplier meets the needs of the organisation and mitigates risk.

Organisations should be diligent in verifying the security practices and procedures of third-party suppliers, vendors and partners in order to reduce threats and minimise risk. Independent certification to a framework such as the information security standard ISO 27001, the industry best-practice for information security, is now becoming a more prevalent requirement for obtaining certain contracts, especially those involving public sector contracts and other critical industries, such as the financial services sector. Certification to standards and schemes such as ISO 27001 and the UK Government-backed Cyber Essentials scheme allow organisations to provide their suppliers with the assurance that they have taken a baseline approach towards cybersecurity.

Source : www.supplychaindigital.com

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MAKE IN INDIA, CLEAN ENERGY DICTATE CUSTOMS & EXCISE DUTY CHANGES IN BUDGET

Government expects 19 per cent growth in Customs collection

DILASHA SETH

Balancing multiple government objectives, including promoting clean energy, curbing non-essential imports, boosting domestic manufacturing and raising revenue, FM Nirmala Sitharaman announced a slew of changes in Customs duty in the 2019-20 Budget presented on Friday.

Customs duty was cut on several inputs to incentivise domestic production and increased on finished products to garner additional revenues. Import duty has been cut under nine heads to provide a level playing field to reduce cost, especially in clean energy segment and raw materials, and increased under 36 heads to provide level playing field to domestic players.

“On the Customs side my proposals are driven with the objectives of securing our borders, achieving higher domestic value addition through make in India, reducing import dependence, protection to MSME sector, promoting clean energy, curbing non-essential imports, and correcting inversions,” said Sitharaman. With these measures, government is expecting a 19 per cent growth in Customs collection to Rs 1.5 trillion for 2019-20. This is Rs 10,500 crore higher than the original revenue target of Rs 1.45 trillion.

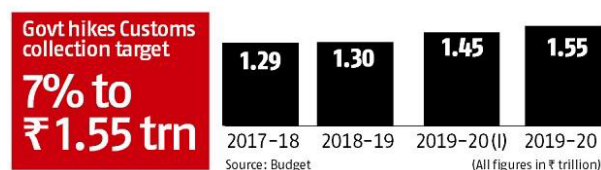
Supporting the defence sector, the FM exempted import of defence equipment that are not being manufactured in India from basic Customs duty. At the same time, Customs duty has been reduced on inputs or capital goods used to manufacture CRGO steel, specified electronic items like Camera module for cellphones, etc.

To address the widening current account deficit, Customs duty on non-essential imports like gold, silver and platinum was increased from 10 per cent to 12.5 per cent. India’s current account deficit widened to a six-year high of 2.1 per cent of the gross domestic product in 2018-19.

To provide domestic industry a level playing field, basic Customs duty was increased on items such as cashew kernels, PVC, Vinyl flooring, tiles, metal fittings, mountings for furniture, auto parts, certain kinds of

synthetic rubbers, marble slabs, optical fibre cable, CCTV camera, IP camera, digital and network video recorders etc.

AIMING HIGH



“The increase in Customs duties on goods where domestic capacity exists such as split ACs, CCTV cameras and so on would incentivise local manufacture in addition to improving collections. The changes seem to be well thought out as there is also a reduction in Customs duties on raw materials such as naphtha, EDC etc used in manufacturing finished goods in India,” said M S Mani, Partner, Deloitte India.

Further, exemptions from custom duty on certain electronic items that are now being manufactured in India has been withdrawn. To encourage domestic publishing and printing industry, a 5 per cent Customs duty has been imposed on imported books.

“The changes proposed are aligned to the government’s policy on Make in India; Clean India, Digital India and reducing tax evasion. For example, the exemption for the defence sector is limited to goods that are not manufactured in India. Similarly the exemptions available for electronic items being manufactured in India has been withdrawn,” said Mekhla Anand, Partner, Cyril Amarchand Mangaldas.

A few amendments were also proposed in the Customs Act to curb unfair practices used to avail of undue concessions and export incentives.

Source : Business Standard

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KEY HIGHLIGHTS: FIRST FULL BUDGET OF MODI 2.0 GOVERNMENT

Finance minister, Nirmala Sitharaman became only the Second Indian woman after the former Prime Minister Indira Gandhi, to present a Union Budget.

India's first full-time woman Finance Minister presented the 29th Budget that focused on investment-led growth and reforms, including transforming rural lives, enhancing ease of direct and indirect taxation, harnessing India's space abilities, strengthening connectivity infrastructure, and boosting the country's entrepreneurial ecosystem.

Key Sector-wise highlights from the Finance Minister's speech:

Direct Tax

- All companies having an annual turnover of 400 crores, will now be under the bracket of 25% corporate tax rate. This will cover 99.3% of all the companies.
- More than 120 crore Indians now have Aadhaar card, therefore for ease of taxpayers, It is proposed to make PAN card and Aadhaar card interchangeable and allow those who don't have PAN to file returns by simply quoting Aadhaar number and use it wherever they require to use PAN.
- To provide further impetus to affordable housing, an additional deduction of 1.5 lakh rupees on interest paid on loans borrowed up to 31 Mar 2020 for purchase of house up to 45 lakh.
- Faceless income tax assessment in electronic mode involving no human interface to be launched this year in a phased manner, to reduce taxpayer harassment.
- Direct tax collection increased by 78%; Tax collection rose from Rs 6.38 lakh crore in 2013–14 to Rs 11.37 lakh crore in 2018.

Direct tax incentives proposed for an IFSC (International Financial Services Centre) :

- 100% profit-linked deduction in any ten-year block within a fifteen-year period.
- Exemption from dividend distribution tax from current and accumulated income to companies and mutual funds.
- Exemptions on capital gain to category-III Alternative Investment Funds (AIFs).
- Exemption to interest payment on loan taken from Non-residents.

Securities Transaction Tax (STT)

- STT restricted only to the difference between settlement and strike price in case of exercise of options.

GST

- Rs 350 crore allocated for 2% interest subvention for all GST – registered MSMEs on fresh or incremental loans.
- A simplified single monthly return is being rolled out; taxpayers with annual turnover less than 5

crores need to file only quarterly returns.

- Fully automated GST Refund module shall be implemented; multiple tax ledgers to be replaced by one; invoice details to be captured in a central system.
- Electronic invoice system will be introduced to prefill the taxpayers return. Roll out from January 2020.
- There will be no need for separate e-way bills.
- A fully automated GST refund module will be implemented.

NRIs

- Aadhaar card for NRIs with Indian passports to be issued after their arrival in India, without waiting for the mandatory 180 days.
- To provide NRIs seamless access to Indian equities, NRI portfolio investment route to be merged with the foreign portfolio investment route

Customs duty

- 5% customs duty being imposed on imported books, to promote domestic publishing and printing industry.
- Imports of defence equipment not manufactured in India to be exempted from basic customs duty.
- Basic customs duty on certain items to be increased to promote the cherished goal of Make In India.

Digital payments

- To discourage business payments in cash, Tax Deduction at Source (TDS) of 2% to be levied on cash withdrawal exceeding Rs 1 crore in a year from a bank account.
- Business establishments with annual turnover more than 50 crore rupees may offer low-cost digital payments; no charges or merchant discount rates to be imposed on customers or merchants for these.

Dis-investment

- Strategic disinvestment of select Central Public Sector Enterprises will continue to be a priority; Strategic disinvestment of Air India will re-initiate; 1,05,000 crores is the disinvestment target for 2019–20.

Pension

- Pension benefit to be extended to around 3 crore retail traders and shopkeepers with annual turnover are less than Rs 1.5 crore under Pradhan Mantri Karam Yogi Man Dhan Scheme.

'Naari tu Narayani'

- To further encourage women entrepreneurship, Women Self-help Groups (SHGs) Interest Subvention Programme to be expanded to all districts in India.
- An overdraft of Rs 5,000 will be allowed for every verified woman SHG member having a Jan Dhan account.
- One woman in every SHG shall be made eligible for

a loan of 1 lakh rupees under MUDRA scheme.

Employment

- 80 Livelihood business incubators and 20 technology business incubators to be set up in 2019–20 under ASPIRE, to develop 75,000 skilled entrepreneurs in Agro-Rural industries.
- Increase focus on skill sets required by the youth to apply for job opportunities abroad like language skills and artificial intelligence (AI).
- Proposal to start a television programme on DD National, exclusively for startups. This programme will be designed and executed by startup's themselves.

Banks

- Public Sector Banks (PSBs) to be provided Rs 70,000 crore to boost capital and improve credit.
- Government considering to go below 51% to an appropriate level of an ownership stake in non-financial public sector undertakings on a case by case basis.
- PSBs will use technology, enabling customer of one PSB to access service across all PSBs as well.
- For purchase of high-rated pooled assets of financially sound Non-Banking Finance Companies (NBFCs) amounting to Rs 1 lakh crore during 2019–20, one-time six-month partial credit guarantee to be given to PSBs.
- Regulation authority over housing finance sector to be returned from National Housing Bank to RBI.
- Proposals for strengthening the regulatory authority of RBI over NBFCs have been made.

Railways

- Massive programme of railway station modernization to be launched in 2019.
- Railway infra would need an investment of 50 lakh crores between 2018 and 2030; PPP to be used to unleash faster development and delivery of passenger freight services.
- Railways to be encouraged to invest more in suburban railways through Special Purpose Vehicles (SPV) structures such as Rapid Regional Transport System (RRTS); more Public-Private Partner (PPP) initiatives to be encouraged in the rail sector.

Electric Vehicles (EVs)

- FAME II scheme aims to encourage faster adoption of electric vehicles by the right incentives and charging infrastructure.
- The government will provide Rs 1.5 lakh income tax deduction on interest payments on a loan taken for the purchase of electric vehicles.
- Government has already moved GST council to lower the GST rate on electric vehicles (EV) from 12% to 5%.
- Customs duty on certain parts of electric vehicles being exempted to promote e-mobility.

Connectivity

- A comprehensive restructuring of National Highways Programme to be done, to ensure the creation of National Highways Grid of desirable capacity. The government envisions using rivers for cargo transportation, which will also de-congest roads and railways.
- 657 km of the metro rail network has become operational in the country.

- The government has given a massive push to all forms of physical connectivity via PMGSY, Industrial corridors, Dedicated freight corridors, Bharatmala, Sagarmala, Jal Marg Vikas and UDAN schemes.

Swachh Bharat Mission

- Proposal to expand the Swachh Bharat mission to undertake solid waste management in every village.
- India to be open defecation free (ODF) by October 2 2019. To mark this occasion, Rashtriya Swachhata Kendra to be inaugurated at Raj Ghat, on the same day.

Gandhi-pedia

- 'Gandhi-pedia' too to be developed on the lines of Encyclopedia to help promote Gandhian school of thought.

Education and research

- New National Educational Policy to be brought in to transform the Indian educational system; major changes in higher as well as the school system to be introduced.
- Rs 400 crore under the head, World Class Institutions in 2019–20, more than three times the revised estimates of the previous year. 'Study In India' to be started to bring in foreign students into the Indian higher education system.
- Establish a National Research Foundation to fund, to coordinate and to promote research in the country.
- National Research Foundation to be set up to strengthen the overall research ecosystem in the country; funds available under all Ministries to be integrated with NRF.
- The Stand Up India Scheme which focuses on skill development has been extended to the year 2025. Multiple labour laws to be streamlined into a set of four Labour Codes. New-age skills like Artificial Intelligence, Big Data, Virtual Reality, robotics and internet of things to be promoted.

Rural

- By 2022, every single rural family except those who are unwilling to take the connection will have electricity and a clean cooking facility.
- In the second phase of PMAY-Gramin, 1.95 crore houses to be provided to eligible beneficiaries, during 2019–20 to 2021–22; they will have amenities such as LPG, electricity and toilets.
- 10,000 new Farmer Producer Organizations to be formed to ensure economies of scale for farmers over the next five years.
- SFURTI (Scheme of Fund for Regeneration of Traditional Industries) envisions 100 new clusters in 2019–20 to help 50,000 artisans economically.

Space

- To harness India's space ability commercially, a public sector enterprise, New Space India Limited (NSIL) has been incorporated to tap the benefits of Isro.

Social stock exchange

- Electronic fundraising platform, a social stock exchange, to be set up to list social enterprises and voluntary organizations working for social welfare objectives.

Source : Taxguru.in

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WTO UPDATE :

DG AZEVÊDO: E-COMMERCE NEEDS TO BE A FORCE FOR INCLUSION



Addressing a session on “Making e-commerce work for all” at the Global Review of Aid for Trade on 3 July, Director-General Roberto Azevêdo called on the international community to tackle the digital divide and ensure that e-commerce is a force for inclusion. He highlighted the growing interest in e-commerce issues and stressed the importance of building the necessary frameworks and capacities to ensure that everybody can participate. This is what he said:

Thank you Ambassador Muylle,

Distinguished panelists,

Ladies and gentlemen,

Good afternoon. I am pleased to join you today. I only have a few minutes, but I wanted to make sure that I had the chance to address this very important discussion. E-commerce and the evolution of the digital economy are fundamentally changing the economic landscape. This has a direct impact on the way we do business and conduct trade. And these changes are happening at a fantastic pace.

According to the latest data for 2017, e-commerce sales have reached an annual growth of 13%, reaching a value of around USD 29 trillion. In fact, a WTO study found that by lowering costs and increasing productivity, digital technologies could provide an additional boost to trade by up to 34% by 2030.

This has tremendous potential to boost inclusivity and help more people benefit from trade. By reducing the trade costs associated with distance, e-commerce allows businesses – big and small – to reach a broader network of buyers, access the most competitive suppliers, tap into global markets and participate in global value chains.

But transforming this potential into reality is not automatic. The digital divide still poses a big barrier for countries’ ability to engage in e-commerce. You all know the figures. Across Africa, only one in four people uses the internet. In LDCs, it’s less than one in ten.

And the gap is not only between developed and developing countries, but also between men and women, rural and urban areas, small and large firms. This is not only about connectivity. The obstacles range from poor infrastructure and limited or costly internet access to inadequate regulatory frameworks or the need for new skills and training.

We need to address these challenges if we want e-commerce to be a real force for inclusion. The risk is that if we don’t act, these gaps will only widen - and

pose an even bigger obstacle for countries to pursue their growth and development goals.

The fact is that these technologies will continue to evolve and permeate our lives. We cannot stop that. They are here to stay. We should welcome this reality, and the opportunities this brings. And we have to ensure that we build the necessary frameworks and capacities to ensure that everybody can participate.

While a lot of work needs to happen domestically, the international community can also play an important role to that end. Over the past few years, at the WTO, we have witnessed growing interest in discussing e-commerce issues in more detail. This includes the work under the existing Work Programme on Electronic Commerce. And it includes the Joint Initiative on E-commerce.

This initiative, which is open to all WTO members, now includes 78 members representing 90% of global trade. And they have now begun negotiations on e-commerce issues, as they relate to trade. We are seeing discussions touch upon a range of issues, including conversations related to development. Participants are interested in understanding the unique challenges faced by developing countries and LDCs and what kind of assistance they need to participate in e-commerce flows.

This is encouraging. This effort should be as inclusive as possible. We can’t allow a fragmentation of the digital world. It would mean higher costs and higher barriers to entry, affecting developing countries and smaller businesses the most. In fact, this was a strong message that has also emerged from the G20 Summit in Osaka, where leaders launched the “Osaka track” to help guide these efforts.

I think the international community has a unique opportunity now to address some of the fundamental challenges of the digital economy and build a more inclusive trading system.

Today’s discussion is a welcome addition – helping to further deepen and widen the debate. I would like to thank Belgium for their leadership in organizing this event. So keep up the good work.

I wish you a successful event and look forward to hearing about your deliberations.

Thank you.

Source : WTO Website



BRANCH NEWS

- ALWAR BRANCH
- BANGALORE BRANCH
- COCHIN BRANCH
- HYDERABAD BRANCH

- LUCKNOW BRANCH
- VAPI BRANCH
- VADODARA BRANCH

ALWAR BRANCH

Industry Visit by Executive Committee of Alwar Branch

The Members of executive committee of Indian Institute of Materials Management, Alwar Branch recently visited number of SMEs to discuss and help the local Industries for the problems faced by them in the area of Materials Management, Specifically in the of Stores and offered the services of IIMM free of cost to improvement in the area of Stores and Inventory so that the Industry can save out of the unwanted Inventories. In some of the Industries it was noticed that stocks are not properly accounted, stock keeping is not proper, resulting double purchasing of the items available materials and spares already available in the stock. The representatives of the Industries were happy on the initiative taken by the Institute.



later on 3/7/2019 the Branch in its 39th executive committee meeting held at Hotel MEENAL Invited Mr. Chandan Kathuria, CEO of M/s JIT Processors and Honored him with a Memento and IIMM Alwar T Shairt. Mr. Kathuria has also helped the branch in hosting our Annual Day Celebrations. M/s JIT Processors is also our Institutional Member.

BANGALORE BRANCH

28.06.2019 –Evening Lecture Program: Indian Institute of Materials Management, Bangalore organized Monthly Lecture Program on “**Demand Driven Material Requirement Planning**” by Mr. Pattabhiraman, Chief Consultant, Thought ware Training Pvt. Ltd for the benefit of fraternity of IIMM, on 28th June 2019 at Hotel Ajanta, Bangalore. Mr. Srinivas V. Rao Branch Chairman welcomed the gathering and speaker. Lecture program was interesting and good interaction from the members and speakers.



A View of members participated



Mr. C.L. Kapoor, Past National President handing over a memento to the Speaker



Mr. Pattabhiraman, Chief Consultant, Thought ware Training Pvt. Addressing the gathering

12th & 13th July 2019 – In house Training Program: Indian Institute of Materials Management (IIMM), Bangalore Branch conducted In house Training program on “**Purchasing Management**” for executives of Harita Seating Systems Limited on 12th and 13th July 2019 at their premises. Mr. C. Subbakrishna, Past National President and Sr. Faculty and Mr. G. Balasubramanian, Sr. Faculty handled the sessions. Also Faculty discussed some case studies. The program was very interesting

with good interaction from the executives and speakers. Good feedback received from participants



Mr. Srinivas V. Rao, Branch Chairman welcoming Speaker

COCHIN BRANCH

Cochin Branch conducted a one day workshop on “Best Negotiation Techniques for enhancing business profitability” on 19th July at Renai Cochin. The program highlighted on the styles and techniques, required for professionals to create a WIN, WIN situation in commercial business transactions. This program was well attended by the procurement professionals around Cochin from public and private sector industries.

Shri. Roby T A, Branch Chairman, inaugurated the program and made a key note address on Negotiation requirement for effective vendor relations and better management of funds. He highlighted on “Cherry picking” the aggressive negotiation tactic for a strategic negotiation, depending on the objective of the business.



Chairman Shri. Roby TA inaugurating the workshop along with Faculty Mr. Jacob Mathew, Course Coordinator Dr. David Moraise, Hon. Treasurer Mr. Shaji KS and a participant from the industries.

Shri. Jacob Mathew led the sessions. He conveyed that, negotiation is an important tool to get business profitability. He explained the various types and styles of negotiations that can be followed in commercial deals. He also explained the need for doing homework and developing a responsible negotiation strategy, where one could create and achieve a WIN, WIN strategic deal. He explained the negotiation process with a case study and real live negotiation exercise. The program was well accepted by the participants.



Mr. Jacob Mathew, the Faculty conducting the workshop on “Best Negotiation Techniques for enhancing business profitability”.

HYDERABAD BRANCH

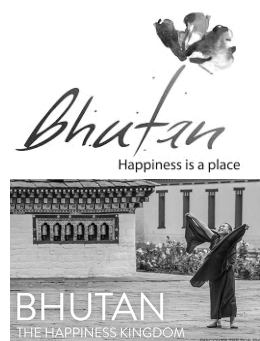
VIBRANT BRANCH AIMING TO BE FURTHER ACTIVE

1. We, IIMM Hyderabad Branch, join with all IIMMians, to congratulate our NEC, CRIMM and Chairman Board of Studies, for signing a MOU with ABBS to promote research in SCM.
2. By the time we all see August 2019 MMR, we all branches might have successfully completed June / July 2019 Admissions. IIMM Hyderabad would like to convey congratulations to all branches.
3. IIMM Hyderabad – Further HAPPENINGS:



IIMM Hyderabad Welcomes Bhutan's 2nd batch

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Namaste to
Bhutan
Happiness
Kingdom Royal Couple

Welcome Banner : As continuity, considering the excellent feedback from 1st batch participants and positive views of their higher management, IIMM Hyderabad could again conduct Training for 2nd batch from 10-06-19 to 18-06-19.

- Training Course: Integrated Training program for 10 days on Supply Chain management, Inventory Management and Warehouse management
 - Course content dealt:
- § Supply Chain Management – challenges and solutions, SCM modules / New Technologies (Block

Chain/ IoT, Artificial intelligence),

- § Sourcing strategies, Supplier evaluation and selection,
- § IT/ e tools for SCM, Inventory Management, Warehouse Management and e procurement,
- § Forecasting/ Demand management and Inventory optimization,
- § Inventory Control Techniques and perpetual inventory system,
- § Advanced Inventory Management – best models and best practices,
- § Role of economics associated with Warehouse Management,
- § Effects of Inter / Intra relationship between all departments for decision making in selection of suppliers,
- § SCM Technology development – need for Negotiations – Pros and cons.
- § Brief on legal aspects in Contracts and Procurement,
- § Project management,
- § Dos and Don'ts in Project Procurement and process.
- § A warehouse visit together with lecture on Warehouse Management (organized by taking the team to Aurobindo Pharma where High tech Robot managed Warehouse exist, with coordination by our Mr. DD Reddy, GM, Warehouse - Aurobindo Pharma and our NC Member).
- **Training Faculty who have given excellent support and given inputs on the above topics:** Mr. A. Preetam Kumar, (Chairman IIMM Hyderabad), Mr. Kuldip Rai, (Chartered Engineer and Ex Chairman IIMM Hyderabad), Mr. SN Panigrahi, (Business consultant – Corporate Trainer, GST specialist), Dr. Ammani, (Senior Assoc. Professor NECMAR, Hyd.), Dr. M. Aruna, (Assoc. professor, IBS Hyderabad (A constituent of the ICFAI)), Mr. Rajendra Babu, (SCM consultant), Ms. S. Suvarna, (SCM Consultant & EC Member, IIMM Hyderabad), Professor G. Srinivas Rao, Mr. DD Reddy, (NC Member) and finally Mr. Md. Ziauddin, (Hony. Secretary & Course Coordinator, Hyderabad). We thank all above faculty on this board too.
- A social visit was also organized to the team by taking them to Nagarjuna Konda which is linked to Bhuddism with the presence of Lord Buddha Historical statue. Team had also visited Hydro project – Nagarjuna sagar along with above visit (Mr. A. Preetam Kumar, Chairman, Monitered these visits by accompanying team).
- During training, a special book on Inventory Management and also a booklet with “Backup informative papers” were given to participants.
- At the end, Training participation Certificates were presented to them.
- Through this MMR Platform, we thank Druk Green Power Corporation Limited, Bhutan.



Welcoming Bhutan 2nd batch Team at RGI Air port Hyderabad



Team at Training Venue



Team - Ware house visit – Aurobindo Pharma



Team, after receiving Training completion CERTIFICATES from Chairman and Hony. Secretary



IIMM Hyderabad and Bhutan team - At the end of the program

3.2. A three member team from Bhutan-Study Tour: While above mentioned Training for Bhutan 2nd batch was in progress, their higher management, deputed separately a 3 Member special team (HR Manager and 2 Accounts Managers) to IIMM Hyderabad on study tour, to explore further training programs to their SCMs team and also to their other departments teams. This team was with IIMM Hyderabad from 15-06-19 to 18-06-19. As per the Feedback from the above 3 Member team to us and also from their Management, the results are found to be very encouraging leading to further special Training programs to their executives by IIMM Hyderabad.



Bhutan 3 Member Study Team – Welcome at RGI Airport Hyderabad



3 Member Team before and after discussions on future programs

3.3. 43rd AGM: In line with the NHQ Accounts and our IIMM National Secretary and Treasurer directions, IIMM Hyderabad Branch's Accounts Audit was completed by Branch Internal Auditor (Chartered Accountants - Vittal & Co.) and also Audit by our NHQ Auditors through NHQ accounts Wing. We have completed our 43rd AGM on 18-07-19 by placing Annual report 2019 and Annual accounts – Balance sheet – income and Expenditure – 2018-19 and taken approval in AGM. In conclusion A. Preetam Kumar, Chairman, conveyed thanks:

- To all Members including all Executive Committee Members, Former Chairmen of IIMM Hyderabad Branch, present, Specifically to Mr. Kuldip Rai, former Chairman for presenting a detailed notes on “Draft National Education Policy 2019” (under the Chairmanship of Shri. K.Kasturirangan garu) which is envisaging “India centered Education system” with multifold advantages including making very positive in roads to Education by IIMM also (we will present a full length paper on the above by taking further and full inputs from Mr. Kuldip Rai, for next MMR).
- Also Chairman and VP South appreciated for all the efforts put in by Mr. Md. Ziauddin, Hony. Secretary for coordinating to complete Audit of our accounts by Internal Auditor and also NHQ Auditors besides making ready the booklet with report and Annual accounts presented to all members in AGM. Also thanked the institute secretarial staff Mr. LN Sutraye and Mr. P. Vijay Kumar for good services rendered by them.
- Appreciations are also placed on record by Chairman: To Mr. Md.Ziauddin, Hony. Secretary & Course Coordinator, to improve educational aspects, to Ms. S. Suvarna, EC Member and to Mr. SN Panigrahi, PAN India consultant for contributing technical papers continuously to MMRs.



Cover Sheet of: Report 2019 & Annual Accounts 2018-19 Booklet



Welcoming Members at AGM venue



Welcome Address by Mr. A. Preetam Kumar, Chairman



Md. Ziauddin, Hony. Secretary, presenting Annual Report and Annual Accounts



Members including Executive Committee and VP South at AGM



Address by VP South, Mr. P.Mahender Kumar



Address by Mr. Kuldip Rai on Draft National Education Policy 2019





IIMM Hyderabad Students receiving their Membership kits



Hyderabad Students with their Membership kits

3.4. Table talk Classes: As was done earlier, this time also, we have carried on with "Table talk classes" for the students of different batches before their exams from 20-07-19. As a measure of oneness and encouragement to our students we have distributed few Diplomas and also Membership kits (received from NHQ) during above AGM and also at Institute.



Table talk Class in Progress

4. BoS Meeting: Board of Studies Committee meeting was held on 29-06-2019. Rather for first time, our VP South facilitated the branch to provide comments on AGENDA including Marketing Strategies to improve Students Admissions Strength and to spread IIMM Courses in a big way. The important strategies suggested by the branch to the above meeting through VP South are listed below:

- Timely dispatch of Course materials to students
- NHQ to increase education pro rata to branches.
- To rechristen the wordings of "Course Coordinator" to "Course Director" at branch level.
- Through MMRs to provide space: For Students, For Faculty, To print exclusive photos of students

who received Awards, To print periodically the photos of newly admitted students from time to time.

- To provide complementary (free) set of course materials to branches for use by faculty.
 - NHQ to promote "Education schedule advertisement" through adds in branch local newspaper by branches.
 - To have Annual meet of branch Course Coordinators / Course Directors, at the beginning of every calendar year to review strategies to improve IIMM education in all respects.
5. EDPs coming up: We are in action, in the coming fortnight with the following programs which we would have completed by the time August 2019 MMR is released.
- 5.1. On 04-08-19: A knowledge sharing session on SCM top rated Technology – Block Chain in/for Supply Chain Management (speaker of the session: Mr. A.Preetam Kumar, Chairman IIMM Hyderabad).
- 5.2. On 10-08-19, a one day Training program to SCM executives of Dodla Dairy Ltd. Hyderabad, at their door steps. The Training content includes:
- SCM-latest trends
 - Lean management linked to SCM
 - Inventory management and latest techniques
 - Negotiations
 - Specifics on dairy development industry -latest practices being adopted in Materials Management. (This is second such program being done by us for Dodla Dairy Executives).
6. We continue to thank our MMR Chief Editor and Chairman BoS for encouraging IIMM Hyderabad team in publishing our branch news and also articles from IIMMians of Hyderabad continuously in MMRs. This exposure in MMRs is making positive inroads for the development of IIMM Hyderabad branch activities.

LUCKNOW BRANCH

IIMM, LUCKNOW Branch arranged One Day Lecture Programme at there newly build conference hall in there premises in 3010, LEKHRAJ DOLLAR, LUCKNOW. The programme was restricted to their members of HINDUSTAN AERONAUTICS LIMITED LKO, NTPC LKO, TATA MOTORS LKO and RAM MANOHAR LOHIA INSTITUTE OF MEDICAL SCIENCES LKO.

Above lectures sessions inaugurated by Mr RAKESH SHUKLA, Field Gerenal Manager Punjab National Bank, Zonal Office.

Mrs Ragini Mishra, Professor INDIAN INSTITUTE OF MANAGEMENT LUCKNOW. Topic is GST & INTERSTATE. The speaker explained that the GST is so very important that everybody has to necessarily understand about it. Certain questions were raised which were replied to the satisfaction. She also said that if somebody have

any problem, she is always available. Her complete presentation is available is with the branch.

Shri Brijesh Singh, Secretary conveyed vote of thanks.



Mr. R.K.Shukla, FGM PNB Zonal office inaugurated the Programme.



Dr. Ragini Mishra provided Power Point Presentation

VAPI BRANCH

Industrial Visit to Allweiler Pump (Formerly Tushaco):

On Thursday, 13th June 2019 the students of IIMM & industry delegates had a great opportunity to visit the Allweiler Pumps (Formerly Tushaco) campus located in Daman. About 40 participants from industry delegates like Zobe India, Supreme Treon, Corob & Tokyo Plast & IIMM students attended the visit. The students & industry delegates attended an insightful session by Mr Akshay Champaneria, Sr. Director Plant & Engg.- Allweiler.



A view participants & IIMM Members – Plant visit on 13.06.2019 at Allweiler, Daman

Thereafter a plant tour & short presentation given on **Dashboard – ‘Key Performance Indicators’** and how does these KPI's mentioned on dashboards help to consistently grow the organization.

Mr. Parthiv Mehta- Chairman ,IIMM (Vapi Branch) spoke about how Allweiler sets itself apart from other companies. He even enlightened students & industry delegates with his crisp and clear knowledge about good practises, professionalism, management and various areas on which an aspiring manager needs to focus upon.

The visit ended with a photo session at the Allweiler



IIMM VAPI Branch Chairman – Mr. Parthiv Mehta & Executive Committee Members handing over Memento to Mr Akshay Champaneria–Sr. Director (Plant & Engg.) & Management Team of Allweiler, Daman



Large audience attending the session -Participants from industry delegates like Zobe India, Supreme Treon, Corob & Tokyo Plast, Blue Star, Samarth Engg, M K Engg & IIMM students attended the visit.

Minutes of Meeting for AGM for the Year 2019-2020

: The Annual General Meeting of Indian Institute of Materials Management (IIMM), Vapi Branch was conducted in the evening on 20th July 2019 at Hotel Atithi, Vapi. Mr. Rakesh Nandre Hon. Secretary, confirmed the Coram.

Branch Chairman- Mr. Parthiv Mehta welcomed the members and he gave details of achievement & activities during last two years. He highlighted various activities of the Branch and future activities scheduled. Branch Chairman thanked all members and Executive Committee team for supporting and participating in conducting of Professional and Educational Activities of IIMM – Vapi Branch

Mr. Mukesh Patel, Hon. Treasurer presented the Income & Expenditure and Balance Sheet for the year 2018-19, which was proposed for adoption. Mr. Rakesh Nandre, Hon. Secretary presented Annual Report & the progress and achievements of Vapi Branch. Hon. Secretary also read last annual General meeting and requested for confirmation. The Minutes of meeting was unanimously adopted. Mr. Anant Kapadia, Vice Chairman proposed vote of thanks.



2019 - 21. Mr. Santosh Sahoo (Vice Chairman), Dipak Mandal (Secretary), Mr. Sharad Chotodkar (Treasurer) will accompany Mr. Anant Kapadia as office bearers & Mr. Mukesh Patel & Mr. Surendra Kumar chaltre as National Councillor for the term 2019 - 21.

The Installation Ceremony was held in the presence of Chief Guest, Mr. P.R.Desai, GM-Manufacturing (Sumitomo Chemicals , Vapi) and many well known industrialists. Chief Guest also given presentation on Topic “ Be an Entrepreneur”. Mr. Santosh Sahoo, Vice Chairman proposed vote of thanks.

The function was well attended by various industrial delegates, Members& students of IIMM and their family members. The AGM concluded with dinner.



Mr. Parthiv Mehta Present Chairman Handing over pin to New Chairman Mr. Anant Kapadia



IIMM VAPI BRANCH team for term 2019-21



Mr. Parthiv Mehta Chairman, Welcoming Chief Guest Mr. P.R.Desai with Memento

New Team Installation 2019-2021

The Installation Ceremony of the Executive Committee of Indian Institute of Materials Management (IIMM), Vapi Branch for the term 2019 - 21 was held on 20th July 2019 at Hotel Atithi, Vapi. Mr. Anant Kapadia took the oath as Chairman of IIMM, Vapi Branch for the term

VADODARA BRANCH

Evening Talk held on 24th MAY'19 : An Evening Talk on 'For Better, Healthy & Long Living, AYURVEDA Is The Best' topic was held on 24/05/19 from 6.30 PM onwards at our Conf. Hall by **Dr. Rajendra Hathi** which was attended by about 30 members. Dr. Rajendra Hathi has done B.S.A.M, A.M.A and is presently working as General Physician at Vakal Nidan Kendra, Sayajigunj, Vadodara. He has been associated as Medical Officer at Vadodara City District Police Headquarters Welfare Hospital for 13 years and as Ayurved Consultant at Western Railway Hospital, Vadodara for 3 years. He is rendering service as Ayurved Consultant to 20 Microns Diabetes Centre in Diwalipura, Shri Sainath Relief Hospital in Raopura and SRP Force Group-9 in Vadodara. He is Alumni Association Consultant at Govt. Ayurvedic College, Vadodara and Hon. Joint Secretary

of Vadodara City District Ayurved Doctors. He is Technical Consultant for Ayurvedic Medicine Manufacturing Unit at Dhanvantari Van Vikas Nigam i.e. Forest Dev. Corp. Ltd. of Gujarat since 1999. He is noted Humourist having done programmes like 'Gammat Gulal' on Doordarshan and 'Wah Bhai Wah' on E-TV. He has been lauded with Laurels for 'Laughter Lab' as Laughter Champiion in Laughter Challenge sponsored by Sandesh in 2008. He was Judge at Comedy Competition of Reliance Ind. Ltd. in 2013. He possesses Skills to Kill all Anti-Laughter Ills like Low Blood Pressure, Reduced Stress Hormones, Increased Muscle Flexion, etc. His talk would cover topics of Acupressure, Acupuncture, Reiki, Magnetic Therapy, Holistic Healing, Pendulum Therapy, Homoeopathy, Reflexology, Laughter Therapy, Urophagia (Urine Therapy), Gynaecology, Colour Therapy, Music Therapy, etc. He would share his Laughter Pills which can cure people from sufferings of Alzheimer's Disease as Research has proved that Humour & Laughter can Calm, Reassure & send message of Light Hearted Joy. Laughter triggers release of body's natural painkiller, Endorphins and produces general sense of Well-Being. It also boosts Immune function by raising levels of Infection fighting T-Cells, disease fighting proteins, Gamma-Interferon and B-Cells which produce disease destroying Antibodies. So, it will be an unique opportunity to stay Still & lively tuned to Doctor's Laughter Pills for which one won't have to pay Bills as he's been on Killing Spree to Kill All Your Ills. The following photos display the glimpses of Evening Talk



Mr. Sambhudevan Nair welcoming Dr. Rajendra Hathi with Flower Bouquet



Mr. Dhananjay Singh-Astt. Comm. (GST) felicitating Speaker with Memento

'Pure Drinking Water - a Tool of Prosperity' topic was held on **26/06/19** from 6.30 PM at our Conf. Hall by **Mr. Mool Chandra Kushwaha** which was attended by about 35 members. He has done MBA in May 1996 from Bundelkhand University, Jhansi. He is having 20 years experience in field of Pure Drinking Water Industry from Salesman, Trader to Manufacturer. He worked in private companies at Delhi, Daman & Surat in Marketing dept. as Territory Manager from 1996 to 1998. In 1998, he started his own mineral water Manufacturing unit at GIDC, Makarpura, Vadodara. He has been chosen by Parle Products to manufacture 'Bailey' drinking water products at his plant in 2002 with 'BIS' certification for bottled water. He was associated with 'Kent' & 'Nasaka' water products to promote domestic filters in Vadodara and nearby places. He has attended many seminars on water quality by Bureau of Indian Standards and conducts regular Training, Workshops and Skill Development Seminars in Delhi, Mumbai, Pune, Bangalore, Hyderabad, Ernakulum and Vadodara on regular basis. Almost everybody is aware and heard many times that "Water is Life" but hardly anyone gives serious consideration for pure water in day-to-day life and does not make any serious arrangements for drinking water. Our body contains more than 70% water and drinking water plays role of a carrier of contaminations to our body and we drink water more than we eat food in a day. So far, water has not been given its due consideration as it ought to be, so how it may affect progress of an individual & of a country had been discussed in detail during Talk. The event highlights are shown in following photos –



Mr. Kishor Patel welcoming Mr. Mool Chandra Kushwaha with Flower Bouquet



Mr. Arvind Parmar felicitating the Speaker with Memento.

Evening Talk held on 26th JUN'19 : An Evening Talk with



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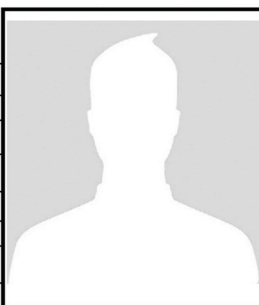
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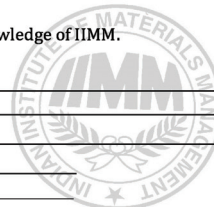
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BRANCH CHAIRMAN

EXECUTIVE HEALTH

STUDY REVEALS HOW MUCH FIBER WE SHOULD EAT TO PREVENT DISEASE

ANA SANDOIU

Fact checked by Paula Field

A new meta-analysis examines 40 years' worth of research in an attempt to find out the ideal amount of fiber that we should consume to prevent chronic disease and premature mortality. Researchers and public health organizations have long hailed the benefits of eating fiber, but how much fiber should we consume, exactly?

This question has prompted the World Health Organization (WHO) to commission a new study. The results appear in the journal *The Lancet*. The new research aimed to help develop new guidelines for dietary fiber consumption, as well as reveal which carbs protect the most against noncommunicable diseases and can stave off weight gain.

Noncommunicable diseases are also called chronic diseases. They typically last for a long time and progress slowly. According to WHO, there are "four main types of noncommunicable diseases:" cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes.

Professor Jim Mann, of the University of Otago, in New Zealand, is the corresponding author of the study, and Andrew Reynolds, a postdoctoral research fellow at Otago's Dunedin School of Medicine, is the first author of the paper.

Prof. Mann explains the motivation for the study, saying, "Previous reviews and meta-analyses have usually examined a single indicator of carbohydrate quality and a limited number of diseases, so it has not been possible to establish which foods to recommend for protecting against a range of conditions."

To find out, the researchers performed a meta-analysis of observational studies and clinical trials.

Daily intake of 25–29 grams of fiber is ideal : Reynolds and colleagues examined the data included in 185 observational studies — amounting to 135 million person-years — and 58 clinical trials which recruited over 4,600 people in total. The studies analyzed took place over almost 40 years.

The scientists investigated the incidence of certain chronic diseases, as well as the rate of premature deaths resulting from them.

These conditions were: coronary heart disease, cardiovascular disease, stroke, type 2 diabetes, colon cancer, and a range of obesity-related cancers, such as breast cancer, endometrial cancer, esophageal cancer, and prostate cancer.

Overall, the research found that people who consume

the most fiber in their diet are 15–30 percent less likely to die prematurely from any cause or a cardiovascular condition, compared with those who eat the least fiber.

Consuming foods rich in fiber correlated with a 16–24 percent lower incidence of coronary heart disease, stroke, type 2 diabetes, and colon cancer.

Fiber-rich foods include whole grains, vegetables, fruit, and pulses, such as peas, beans, lentils, and chickpeas.

The analysis also revealed that the amount of fiber that people should consume daily to gain these health benefits is 25–29 grams (g). By comparison, adults in the United States consume 15 g of fiber daily, on average.

The authors also suggest that consuming more than 29 g of fiber per day may yield even more health benefits.

However, they do caution that, while the study in itself did not find any adverse health effects of consuming fiber, eating too much of it may be damaging for people with insufficient iron or minerals.

Eating large amounts of whole grains can further deplete the body of iron, explain the researchers.

Finally, the clinical trials included in the study also revealed that consuming more fiber correlates strongly with lower weight and lower cholesterol levels.

Why fiber is so good for you

Prof. Mann comments on the significance of the findings, saying, "The health benefits of fiber are supported by over 100 years of research into its chemistry, physical properties, physiology, and effects on metabolism."

"Fiber-rich whole foods that require chewing and retain much of their structure in the gut increase satiety and help weight control and can favorably influence lipid and glucose levels," he adds.

"The breakdown of fiber in the large bowel by the resident bacteria has additional wide-ranging effects including protection from colorectal cancer."

"Our findings provide convincing evidence for nutrition guidelines to focus on increasing dietary fiber and on replacing refined grains with whole grains. This reduces incidence risk and mortality from a broad range of important diseases."

Prof. Jim Mann

Source: www.medicalnewstoday.com

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