

# DEVisING FUTURE SUPPLY CHAINS TO THRIVE IN UNCERTAINTY

As the Indian economy continues its post-COVID roller coaster of ups and downs, logistics companies are still struggling to assess, prepare for and manage disruptions in their supply chains. Supply risk remains a constant threat to companies regardless of their size or the industries in which they operate. Buyers and suppliers need to prepare to shift their supply chain strategies in a moment's notice in the event of natural disasters or other supply chain disruptions. This can help to avoid shipping delays and crises that can occur, and have occurred recently like the COVID-19 pandemic. Logistics companies, today, need to design the supply chains of the future which are cost-effective, resilient and are able to meet ever evolving customer requirements, writes

Ritika Arora Bhola...

India is emerging as a preferred investment destination for the global manufacturers—especially those deploying a 'China plus One' strategy for diversifying their supply chains. Favourable demographics, enhanced global investment competitiveness, widespread digitisation, improved Ease of Doing Business ranking, and growing trade potential are the five pillars on which India's manufacturing capabilities rest. The global logistics sector initially faced interruptions in delivery, congestion, capacity constraints, transportation, and irregularities in container movement. However, the Indian logistics industry stayed resilient and exhibited exceptional commitment with nearly no disruption in operations.

As per CBRE's 'India Industrial & Logistics Market Monitor H1 2021', the domestic industrial and logistics (I&L) industry registered a 13 per cent half-yearly growth as enterprises leased 14 million sq. ft (MSF) in H1 2021, with third-party logistics (3PL), e-commerce and retail companies accounting for almost two-thirds of the space. With deeper

penetration of e-commerce across the country, the change in consumers' buying behaviour triggered logistics' growth, creating opportunities in the sector. While maintaining social distancing and operating with the reduced workforce amid COVID, precision and responsiveness became imperative for the industry to emerge stronger.

While industrial revolution 4.0 transformed the industry, COVID further accelerated the need to adopt more agile networks to ensure a streamlined supply chain, as Indian manufacturers increased CAPEX towards implementing technologies in their facility/supply chain. Some of the significant trends expected to drive the future of India's supply chain facilities are:

- AR/VR technologies to ensure cost savings through accurate virtual creations of manufacturing layout planning and product simulations
- Big Data Analytics to ensure in-depth visibility and transparency of processes such as order management, inventory levels, and resource utilisation





- 3D printing for prototyping manufacturing parts to accelerate product design work, and
- Blockchain for accurate product traceability throughout production and supply chain

### **Cost-effective, resilient and customer-centric supply chains**

Observing the same, Mahendra Shah, Managing Director and CEO, V-Trans (India) says, "The COVID-19 pandemic has changed the business environment for many organisations around the nation. It also highlighted the importance of being able to react, adapt and set up crisis management mechanisms in order to weather situations of uncertainty. Radically changing an existing supply chain is not as easy as it may sound, as creating a robust and secure supply chain will still need to balance the demands for cost-efficiency. At the same time, new logistics considerations may also have an impact on the supply chains and the changes thereto. In the near term, it is expected that companies will begin seeking

out a more diversified supplier base while looking to develop a flexible, but cost-efficient, supply chain."

"For the longer term, however, companies will need to undertake a more holistic analysis, which may lead to more drastic changes, such as moving supply chains nearby, or to different countries, as well as increasing the digitalising of supply chains, with a view of creating a more sustainable operation for the future. Making logistics more cost-effective has been a priority always and it makes a significant difference for companies, however the current times also taught the industry the importance of being agile and resilient. The shock wave disturbed everything and made people think that faster response and resilience cannot be ignored. At V-Trans, we leveraged this opportunity to the fullest, made quick decisions, altered the processes to best suit the dynamic scenario outside, and keep the operations floated and moving the nation's requirement of essentials and other important materials," Shah adds.

"It is very important for the companies to design the



## Upcoming Trends in Supply Chain Management for 2021 and Beyond



- ✓ Focus on Resilience
- ✓ Blockchain
- ✓ Digital Supply Chain Twins
- ✓ Supply Chain as a Service
- ✓ Circular Supply Chains
- ✓ More Cloud Adoptions
- ✓ More AI and IoT Usage
- ✓ Robotics and Automation
- ✓ SG Networking
- ✓ Lingering Capacity Crunch

supply chain for the future. Customers' requirements are changing and logistic providers need to adapt to the changes and requirements post pandemic scenario," agrees **Reema Jogani, Director at Reema Transport.**

"Road transporters are now having a more professional approach where they are investing in new age technology like IOT platform. This ensures that there is less human intervention and greater governance and transparency. Organisations and customers both tend to gain as they can rely on higher efficiency and customers get real time update on their consignments. E-commerce is the new buzz word. The multimodal logistics and supply chain and Block chain revolution will change the overall sector. Transporters are looking at collaborating and synergising with each other for ensuring fleet utilisation and also to meet the demands of customers' orders. Collaboration for success of the sector is the new age mantra 'such synergising of know-how, expertise and capabilities will not only scale up efficiency, but also ensure the survival of the LSPs so to say. In challenging times, keeping the flock together and using it to everyone's advantage, is a great opportunity," states Jogani.

Industry expert, **Yashpal Sharma, Managing Director of Skyways Group** also reiterates, "The pandemic has impacted not only Logistics Service providers but all stakeholders in the supply chain. Pandemic has deeply highlighted the gaps and shortcomings of various supply chains. Over the years the focus has been on saving cost while designing the supply chain by most organisations. What we have learnt from this period is the importance to have an agile and adaptive supply chain. Raw material, production centres, storage and labour availability and distribution networks all need to be agile."

A McKinsey and Company report on post-pandemic consumer trends reveals that a whopping 75 per cent of consumers tried completely new shopping behaviors. Of these, 39 per cent, customers shifted to new ones.



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**MAHENDRA SHAH**  
Managing Director and CEO,  
V-Trans (India)

Businesses reliant on seamless supply-chain operations are incorporating the power of new-age technologies like AI, ML, and data analytics to enhance efficiency, productivity, and profitability.

"Since the onset of the COVID-19 pandemic, customer behavior has undergone a remarkable transition," says **Soham Chokshi, CEO & Co-Founder of Shipy.**

"At the heart of this paradigm shift lie the simplicity and intelligence to create a sustainable growth-oriented approach. The effects of the global pandemic have led to the formation of a digitally connected market where consumers are seated at the top of the supply chain. With consumers becoming more informed and assertive in this digital age, the onus invariably falls on supply chain companies to upgrade their processes and adopt the latest technology to keep up with the ever-evolving consumer expectations. At the same time, digital adoption will also enable logistics companies to increase productivity and efficiency levels. Therefore, it has become exceedingly important for organisations to forge digital-first and scalable supply chains in the future that are resilient, flexible, and in compliance with the ever-changing consumer preferences," says Chokshi.

### Fulfilling expectations and challenges of LMD/D2D delivery

Logistics is regarded as the backbone of the economy, a sector which provides an efficient and cost-effective flow of goods on which other commercial sectors depends. The logistics industry in India is evolving rapidly, it is the interplay of infrastructure, technology, and new types of service providers, which defines whether the logistics industry is able to help its customers optimise their logistics costs and provide effective services. Additionally, infrastructure is the backbone of every country's growth and prosperity and for the logistics industry to flourish special emphasis has to be on building world-class road networks, integrated rail corridors, modern cargo facilities at airports, and the creation of logistics parks



which need to be given a status equivalent to Special Economic Zones (SEZs).

"It is necessary to realise that the benefits which can best be practiced in the logistics industry can be brought about by the companies by establishing training intuitions so that there is improvement in the overall service quality of the sector. Good storage and Warehousing facilities are important for the growth of the logistics industry. With the increase in the transportation of perishable products, the logistics companies need to give a lot of importance to enhancing the Warehousing facilities," remarks Shah.

Meeting the ever changing expectations of the customer is a challenge, and that is why it is critical that LSPs collaborate with eco-system partner, if they are to survive the customer's onslaught of expectations. LSPs would want investments in infrastructure, vehicles and the like, whereas customers will look to squeeze the maximum and the best out of the service providers at lowest possible cost. Consequently, LSPs will be left with little choice but to collaborate and pool the best talent, infrastructure, and knowhow to be able to come up to the level expected of them. It is also essential that LSPs decentralise their



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**YASHPAL SHARMA**  
Managing Director, Skyways Group

fleet operations to ensure quick deployment at different locations, so that practical bottlenecks can be avoided.

"Decentralisation of fleet deployment will reduce operational cost, drastically improve vehicle turnaround time, reduce wear and tear and consequent maintenance cost. Operational mobility will have to undergo a makeover. Also decentralisation can ensure that the fuel costs can be optimised looking at the most effective routes and in turn support the green initiative," notes Jogani.

She points out, "Current IT systems continue to be very expensive to run, inflexible and often dependent on legacy technologies. Supply chain operations are becoming costly and can often add to a company's highest costs. People across the supply chain operations continue to create high dependency on the human workforce, automation is yet not proven practically viable as people are gearing up but the pace is still very slow. A lack of flexibility inhibits the ability to address customer demands for personalisation and customisation."

Chokshi says no differently, "Traditional processes will weigh down the performance of LSPs. They will encounter challenges like poor visibility, high delivery turnaround times, growing manual



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dependencies and errors, inefficient order fulfilment, growing customer complaints, increasing operational costs, and more. The post-COVID market conditions have created a novel supply chain vista where focus on heightening customer satisfaction is of utmost priority. Logistics providers are fast realising the importance of designating the right task to the right logistics provider at the right time while considering all the constraints accompanied by different types of consignments. It is also important to democratise digital adoption. In other words, stakeholders like delivery executives should be armed with modern logistics tools to improve their performance and better understand customer needs. Machine Learning, automation, and predictive analytics can drastically augment human efforts in building robust and customer-centric logistics operations."

"As a logistics service provider, it becomes imperative to design the product delivery module which is commensurate with the desired service expectation from the customer. In the last 3-4 years many startups have come into play offering time-bound deliveries which has further raised the Industry benchmarks. Collaboration certainly benefits LSPs by leveraging existing infrastructure and network of each other. With proper planning and collaboration one can overcome most challenges in the Indian market and offer customers' timely deliveries," highlights Sharma.

Jognanai agrees. "Transporters are looking at collaborating and synergising their capabilities and expertise with each other to ensure better and more productive fleet utilisation. Transporters are and learning to collaborate with the competition, and work together to enhance service levels and increase profitability. As cargo moves nationally, crisscrossing multiple states, multimodal transportation will gain domains. Typically, multimodal transport's first- and last-mile is mostly local with shorter lead there by reducing interstate movements and number of touch points for cargo," she says.

According to Jogani, few industries like Pharma, FMCG, and essentials good sector have already seen an upward trend during the pandemic and even post-pandemic. "These industries have opened doors for the logistic sector to collaborate and cooperate to continue to grow."

If we talk about the growing warehousing sector, there are various challenges like expertise in land acquisition, differing standards of approvals across states, expertise in catering to the unique requirements of a diverse customer base, a plan to carry out complex logistics, and building deeper customer relationships. The industry thus has high entry barriers for new market entrants, resulting in a low supply of players despite the escalated demand in recent times. To overcome the challenges that arise with the evolving customer expectations, businesses have started

automating processes or developing self-service systems for customers. These digital approaches can transform customer experience and improve the value of an enterprise, believe experts.

In fact, to understand their production footprint better, companies are also monitoring the suppliers in their value chain. With the cloud technology, artificial intelligence (AI) and machine learning (ML), a shift has been observed from the supply chain tech approach to an evolving platform approach. Further, with digital transformation accelerating for nearly every organisation, technology has become the essence of ensuring business continuity.

"While technology is leading the way for logistics service providers (LSPs), one of the turning points in the erstwhile unorganised warehousing sector was implementing Goods & Services Tax in 2017. Before GST came into the picture, most firms had multiple small warehouses across states to save on tax. However, with the introduction of GST, companies started focusing on building efficient supply chain networks by building fewer warehouses. While until recently, the foundation of Indian warehouses in India was based on an outdated infrastructure and low technology adoption. However, the strong interest from institutional investors over the last few years has forever transformed the face of the warehouse sector," asserts Jasmine Singh, Senior Executive Director, Advisory & Transaction Services at CBRE India.

As per CBRE's recent H1 2021 Logistics Monitor, the Indian warehousing sector significantly expanded after the introduction of the GST. However, COVID accelerated its rise as one of India's sunrise industries. With the growth of 3 PL players and rapid technology adoption, the sector is embarked on a growth trajectory for the years to come. The CBRE data reveals that warehouse leasing grew from 35 MSF in 2015-17 to 77 MSF between 2018 and 2020. CBRE also projects that warehouse leasing, which witnessed a historic peak of 32 MSF in 2019, is expected to touch nearly 100 MSF by 2023.

### Trends dominating Logistics

Owing to greater convenience and safety, most customers are opting for online retail avenues. Greater internet penetration has also contributed to this growth, with more e-commerce players betting on tier-2 and tier-3 cities as preferred warehousing hubs and investment destinations. It is further estimated that 88 per cent of the online shoppers added during 2020 to 2030 would be from tier II cities and beyond.

Following a large-scale expansion in tier I cities, occupiers have also started to expand their footprint in tier II and III locations due to improvements in infrastructure and the growth of online retail in these areas. Warehouse supply addition over the past five years also crossed 75 million sq. ft. in the country.



It is very important for the companies to design the supply chain for the future. Customers' requirements are changing and logistic providers need to adapt to the changes and requirements post pandemic scenario. Road transporters are now having a more professional approach where they are investing in new age technology like IOT platform. This ensures that there is less human intervention and greater governance and transparency.

**REEMA JOGANI**  
Director, Reema Transport







As per CBRE's recent report on the I&L sector, the 3PL players accounted for more than 40 per cent of the total warehouse leasing in the post-GST period (2018-20), followed by occupiers from the e-commerce (21 per cent) and engineering & manufacturing (11 per cent) sectors.

"The Indian logistics ecosystem has significantly grown over the past few years due to technology, policy reforms and infrastructural changes giving the sector a speedy acceleration. Given the rising activity of prominent developers in the I&L industry, coupled with the increasing occupiers' requirements, the sizes of warehouses will continue to increase over the next few years," says Singh.

He highlights some key trends expected to shape the future of logistics and supply chains in India:

- Occupiers are expected to diversify sourcing and manufacturing bases further and maintain certain levels of safety stock. This will lead to a more significant usage of warehouse space
- To minimise logistics disruptions, occupiers would seek to locate themselves strategically in facilities closer to the final point of consumption
- Investor focus would be on I&L assets that offer income stability, especially those backed by sustained demand from 3PL and e-commerce firms
- Opportunistic assets would remain the key strategy for I&L-focused investors. Select investors who have a presence in tier-I cities may even explore tier-II and -III markets
- Select I&L focussed investors may also consider brownfield or portfolio acquisitions, it added
- Greenfield acquisitions are likely to remain the prime investment route for I&L-focused investors, mainly via developer-investor partnerships



With consumers becoming more informed and assertive in this digital age, the onus invariably falls on supply chain companies to upgrade their processes and adopt the latest technology to keep up with the ever-evolving consumer expectations. At the same time, digital adoption will also enable logistics companies to increase productivity and efficiency levels. Therefore, it has become exceedingly important for organizations to forge digital-first and scalable supply chains in the future that are resilient, flexible, and in compliance with the ever-changing consumer preferences.

**SOHAM CHOKSHI**  
Co-founder and CEO, Shippsy



"Going forward, implementation of tech for more efficient inventory management and increasing flexibility across the supply chain. Occupiers from e-commerce and 3PL sectors have already begun to automate their facilities – a trend that is expected to gain momentum in the coming years. The widespread deployment of IoT is expected to create 'smarter' warehouses, significantly improving supply chain efficiencies. Developers, too, would continue to enhance the marketability of their products: helping occupiers install relevant tech across the supply chain would augment demand and retain long-term tenants," says Singh.

Shah also shares some of the major emerging trends in this sector.

**Customisation along the supply chain:** Modern companies deal with a variety of customers, each bringing their own needs and expectations to the table. Because of this, implementing segment-based (and even account-based) changes to their supply chain processes will become critical. In creating these segments, companies typically focus on factors such as the buyers:

- **Geographic location:** How close are they to sourcing and production?
- **Product-related needs:** How does the product need to be individualised?
- **Order-related needs:** How much product does the customer actually need? When does the customer need it by? And when will they need it again?

**Omni-channel strategy:** All the matured companies in logistics and supply chain are today focusing on creating Omni Channel Strategy. Omni channel logistics integrating inventory, logistics, and delivery across sales channels to meet consumer demand. Goal of

the Omni channel logistics strategy so many companies are moving is to decrease costs, better transit, and delight the



customer. Additionally, brand loyalty increases from Omni channel distribution because of the seamless customer usability.

**Ever growing scope of AI, ML & Robotics:** The intervention of AI, ML and robotics in the supply chain is ever increasing. From preventive maintenance to route and inventory optimisation, many issues are being addressed with help of these technologies. The pandemic established a clear role of robotics for complete automated operations. AI helps in logistics Route Optimisation, Which helps in smooth delivery and cost optimisation, which further aids in generating more profits. Using advanced technology like robotics and -AI, the system can analyse data and helps us to make informed decisions.

**Blockchain provides universal visibility:** Though no longer as "trendy" as it was in recent years, Blockchain technology has the potential to positively impact supply chain processes in three key areas:

- Providing accurate and up-to-date information at all times
- Ensuring visibility of data and information for all stakeholders
- Guaranteeing the security of all information contained within the Blockchain

A recent report by Gartner indicated that by 2024, 50 per cent of supply chain organisations would invest in applications that support AI and advanced analytics capabilities. Supply chain leaders will still need to adopt a broad and holistic perspective regarding AI and advanced analytics. These technologies are vastly ubiquitous in their nature and outreach.

They have numerous utility areas and applications like data mining, strengthening visibility tools, streamlining autonomous transportation, and, most importantly, enhancing customer retention.

The Indian logistics industry was valued at nearly US\$215 billion during FY20. It is slated to expand at an impressive CAGR of 10-12 per cent compound annual growth rate (CAGR) over the next five years, despite the short-term turbulence induced by the pandemic. With the changing time, the primary focus will remain on 3PL and express logistics, growing demand for hyperlocal/on-demand deliveries, faster delivery expectations, and autonomous deliveries.

### Multi-level inventory management leading to increased demand for warehousing space

Post-pandemic, companies are seeking practical methods for inventory management. To avoid supply disruption, companies are holding higher inventory as buffer/safety stock (both



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**JASMINE SINGH**  
Senior Executive Director,  
Advisory & Transaction  
Services, CBRE India



for raw materials and finished goods) at multiple locations. This is leading to greater demand for warehousing space.

### Diversification of sourcing arrangements and focus on greater localisation

The post-covid business setting will witness companies diversifying their sourcing arrangements to prevent disruptions in the supply chain. The unavailability of suppliers during the pandemic has led companies to seek out local suppliers.

Hence, in contrast to the pre-COVID strategy of obtaining economies of scale benefits by collecting greater quantities from fewer vendors, the risk-mitigation strategy adopted over the past 15 months, which calls for multiple and localised sourcing arrangements, is found to be effective.

### Increased outsourcing to 3PL players by manufacturing companies

The Indian logistics industry has seen a major structural change in the last five years because of developments like GST, E-WayBill, and grant of infrastructure status. Supply chain operations are moving from small unorganised players to prominent pan-India players collaborating with global supply chains for imports and exports. Thus, 3rd Party Logistics, which has already gained wide acceptance across the Americas, Europe, and the Middle East, is rapidly evolving in India. The post-COVID market for 3PL is set to grow at a whopping 15-20 percent in the medium term, compared to the growth rate of 7-8 percent for the overall logistics sector. The inclination towards large 3PL players is mainly because their operations display greater resilience to localised disruptions in India and overseas that are still expected to occur periodically over the foreseeable future. Notably, sectors such as e-commerce, consumer goods, organised retail, pharma, auto ancillaries, and engineering are slated to engineer this growth.

On this note, Sharma concludes, "The supply chains of the future will be smarter and more agile. The stocking points have changed. From a single point to stock raw material and finished goods we see customers exploring multi-stocking to ensure continuity upstream and downstream. The vendor management has also changed to a more multi-vendor setup. Businesses are also further strengthening their omni-channel sales strategy. Businesses are trying to make the product reach the customer easier than before. We have also seen many manufacturers or businesses re-jig their product portfolio. Healthcare and food are becoming part of many of them now." [CC](#)