Paradigm shift in **supply chain management**

According to PwC's 26th Global Annual CEO Survey: India perspective, nearly 50% of India CEOs are concerned about supply chain disruptions, and around 67% India CEOs are adjusting supply chains. **Ajay Nair**, **Somick Goswami**, **Vishal Nanavati** and **Anurag Sehgal** trace the trends that account for the current supply chain headwinds and throw light on the way forward.

From just-in-time to just-in-case

Supply chain disruptions have never been a rarity. The global pandemic however threw light on a few issues that were not quite top of mind for business leaders in the past. Later with the geopolitical conflict, inflation and macroeconomic volatility making headlines, supply chain disruptions have become the epicentre of many business conversations.

PwC's 26th Annual Global CEO Survey that polled 4,410 CEOs between October and November 2022 across 105 countries, of which 68 were from India, indicates that supply chain tops the priority agenda for most CEOs. Nearly 50% of India CEOs are concerned about supply chain disruptions, and around 67% India CEOs are adjusting supply chains to mitigate exposure to geopolitical conflict.

Supply chain management is now witnessing a paradigm shift from just-in-time to just-in-case. Businesses have realised that supply-chain disruptions are a constant and it is imperative to adopt a holistic approach to manage risks as opposed to taking a pointed approach for a specific disruption. Until 2019, short-lived and/or local disruptions related to the flow of materials and goods due to a supplier's constraints, traffic disruptions and site downtime were common. These disruptions resulted in various mitigation approaches such as supplier portfolio optimisation, alternate sourcing, implementation of supply chain planning and visibility technologies.

But due to the pandemic, there have been disruptions on a global scale, on numerous fronts and for an extended period of time. The unprecedented turn of events have wiped out many businesses, brought significant changes in customer preferences and buying patterns, reshaped business models and people's ways of working. Further, mass shifts in workforce, trade disputes and geopolitical conflict have doubly impacted the supply chain ecosystem, at times leaving permanent scars.

The costs of supply chain disruptions so far have been significant. In 2020–21, when the farmers' protests persisted in north India, ASSOCHAM estimated a daily loss of INR 3,500 crores to the economies of Punjab, Haryana, Himachal Pradesh and other interconnected economies[1] Retail stores incurred heavy losses having to shut shop for months. In the global landscape, the Suez Canal blockage in 2021 is estimated to have cost a direct loss of USD 54 billion in global trade.[2] The real economic impact on countries is expected to be much higher as prices of crude oil products and gas soared amid the blockage. India, which is heavily dependent on imported fuel and has a large merchandise trade deficit, experienced a 10% (approx.) increase in freight rates for several months as the canal has been a major route for oil transport.[3]

Despite these global headwinds, India's exports showed a growth of 16% between April and December 2022 compared to the same period in 2021 and the country attracted stable foreign direct investment and investors were keen to include India in their supply chain diversification strategies.[4] The Economic Survey released in January 2023 highlights the government's forward-looking approach towards infrastructure augmentation through initiatives such as PM Gati Shakti and National Logistics Policy. This is expected to further enhance India's cost competitiveness and export performance in the near future. The government has also responded to altered supply chain priorities by investing in the Production Linked Incentive (PLI) scheme to connect India to the global supply chain network. With the necessary infrastructure in place, India aims to increase the manufacturing sector's contribution to the economy and become a key player in the global supply chain landscape.

The past couple of years have also made organisations realise that building redundancies in supply chain is more important than efficiencies. This equips organisations to create backup resources – build extra inventory, maintain low-capacity utilisation, use multiple suppliers – to withstand any shock or failure at any point in the primary supply chain.

While the turbulence is likely to continue, there will also be an emergence of new disruptive scenarios.

1 Farmers protest

2 Suez Canal blockage

3 Import freight cost

4 https://www.indiabudget.gov.in/economicsurvey/

Following are some of the new disruptions/areas that have been impacting businesses and therefore warrant close consideration:

Talent disruption

It has been reported that 86% employees across multiple sectors in India plan to resign in the next few months with 61% of employees willing to accept a lower salary or forgo a pay rise and/or a promotion to focus on better work-life balance, health and happiness.[5] Organisations need to build multi-locational supply chain talent hubs and tap into expert business services in supply chain from knowledge services firms as the technology landscape is seeing significant shifts from traditional to cloud-based agile supply chain planning systems offering wider choices.

Data and technology disruption

According to PwC's Annual Global Digital Trust Insights – India edition, 43% of Indian business executives say that their organisations have yet to fully mitigate the risks associated with remote and hybrid work, while 61% highlight risks associated with accelerated cloud adoption and 55%, around increased data volumes.[6] Cyber resilience is not only key to the survival of businesses but is also a key driver of public trust. Organisations that have made cybersecurity a strategic priority have witnessed less disruption to business.

Environmental disruption

Fuelled by the pandemic, people and governments are taking tangible steps and moving towards Environmental, Social and Governance (ESG) transformation to address issues related to unfriendly environmental and social choices. The Securities and Exchange Board of India, in May 2021, issued a circular on new reporting requirements on Business Responsibility and Sustainability Reporting for the listed companies making it mandatory for them to disclose ESG risks from FY 2022–23. Although regulators are cautious about pressurising investors, this would eventually become a reality in breadth and depth, as India also emerges as a new global manufacturing hub.

Further, it would be imperative for Indian businesses tapping into international markets to meet increasing ESG-compliant export requirements. Consumers too are gaining awareness, displaying an increasing preference for brands associated with ESG transformation. Therefore in future, ESG transformation would need to be undertaken proactively from the perspectives of both compliance and market share.

Tax and trade-related disruptions

Tax laws and regulations can alter the cost structure of supply chains, leading to adjustments in sourcing, production and transportation. For instance, changes in tariffs or tax incentives for sourcing from specific countries can cause a change in production location and increase the risk of supply chain disruptions.

The India perspective of PwC's Global Annual CEO Survey highlights that nearly 50% of India CEOs are adjusting their presence in current markets and/or expanding into new markets, while globally 46% of CEOs are changing their physical footprint in response to geopolitical conflict.[7] Therefore, simplifying and streamlining tax procedures can reduce cross-border trade complexity and uncertainty, leading to a more stable supply chain.

Recent years have seen Indian businesses facing tax and trade-related supply chain disruptions, such as the implementation of the Goods and Services Tax (GST) in 2017. GST's implementation created a unified market for India, but simultaneously led to teething problems such as compliance issues and delays in clarity on input tax credits, causing supply chain disruptions and higher operational costs. Additionally, trade tensions between major global economies have also had a significant impact on businesses relying on imports and exports owing to the imposition of additional tariffs and trade restrictions.

To minimise these risks, Indian businesses may need to implement a robust tax technology ecosystem in the future that allows them to keep a track of movement of goods, and undertake related compliances, both domestically and across borders on a real-time basis. This will enable accurate tax/import duty calculations and reduce compliance risks.

5 Employees trends report

6 Global Digital Trust Insights: India edition

7 26th Annual Global CEO Survey: India perspective

Transfer pricing considerations

While companies transform their logistics and procurement functions, and re-structure their operating models, a large part of their buy-sell would continue to have an element of related-party trade and services. Transfer pricing therefore has been one of the highlights of legislation worldwide where the respective country's tax authorities make it a point to ensure that their tax bases are not eroded through any manipulative transfer pricing. With the pronounced need to transform the businesses and build resilient and green supply chains, businesses would expect an upfront certainty around their transfer pricing/tax positions.

Over a decade ago, the Indian Government introduced the Advance Pricing Agreement (APA) programme but the pandemic has slowed down its pace of application. It is important for the Government to now take all possible steps to ensure that a larger number of APAs are signed and the time from initial application to final agreement is reduced significantly. Some of the measures could be:

- recruiting more officers internally to run APA programmes efficiently
- adopting a more business friendly approach in negotiating and concluding APAs
- adopting a continuous training and skilling programme for new officers taking charge so that they are well equipped to understand the nuances of advanced transfer pricing such as supply chain/operating model restructuring, cost allocations, cash poolings and value chain analysis.

Change in consumer behaviour trends

A primary reason for a paradigm shift in supply chain management is a significant change in consumer behaviour trends across industries. Yet, in these cross-industry consumer trends, there are three identifiable points of commonality:

A. increased conscious buying practices

B. seeking enhanced customer experience

C. buying environmentally sustainable products.

A. Increased conscious buying practices

1. Digital consciousness – online research prior to purchase

Technologically empowered consumers are most likely to use comparison sites to compare product features and determine product availability. 81% of these consumers have shopped across at least 3–4 channels over the past 6 months, with more than half of them shopping daily or weekly.[8] Often, they use both online and offline channels to do a product deep dive prior to purchase. Often, these tech-savvy buyers find disappointing information and hence brands need to enhance the product information available digitally including transparency about the ingredients in their products. It is also crucial for brands to build their own digital assets (websites/mobile applications and branded partnerships) with verified information which would reassure consumers, build trust and better their buying and service experience.

2. Health consciousness – desire for a healthy lifestyle

Young, digitally savvy Indians are increasingly prioritising 'well-being' and 'health'. These growing trends influence technology innovators to come up with services and products for a healthy lifestyle.

Therefore, the imperative for brands rests in addressing buyers' demands through technology-empowered health-based solutions that can be modelled by increased R&D efforts to enable quicker and informed decision-making, by recognising and capitalising on trends early on, and by focusing on decentralisation and localisation of sourcing and manufacturing, leading to agility in serving evolving demands.

8 June 2022 Global Consumer Insights Pulse Survey

B. Seeking enhanced customer experience

1. Digitisation journey – no-touch virtual buying

As a result of COVID-19, virtual and digital interactions have seen a rise in demand. Additional services are being offered to enhance the consumer buying experience and ensuring the scoring of a huge 'green tick' in their minds.

Search interest in 'virtual try-on' has reportedly grown multifold over the years. This indicates that people – especially after the pandemic – are more desirous of immersive virtual experiences from brands. One such opportunity is in introducing virtual shopping experiences. Some brands are increasingly focusing on developing a large-scale system of personalised recommendations for consumers to meet demands which are unknown to the consumers, making the user predictable and enabling the brands to trace the current trends.

On the other hand, there are brands that leverage augmented reality (AR) to allow consumers to view products in hyper-reality where they can scan the beauty products and avail discount coupons redeemable during sale.

Thus, the imperative for brands is to develop immersive omnichannel experiences to cater to varying customer demands backed by the right distribution model and powered by democratised data across channels.

2. Loyalty is not guaranteed

Loyalty is not guaranteed as people re-examine the brands they support, owing to the pandemic-induced disruptions, which have led to a wide range of industries and businesses scrambling to adapt to shifting customer needs. Today, 62% of India CEOs believe that changing customer demand will impact profitability over the next decade.[9]

Driving the imperative for having more supply chain transparency with an emphasis on inventory management and its diversification is as necessary as the direct redressal of complaints through the incorporation of seamless digitised customer experiences across the buying journey.

3. More online buying – more product returns

Growing online purchases by consumers have simultaneously increased online returns. Many of them buy with an explicit plan to immediately return some or all of their items. Therefore, many buyers usually check for the return policies pre-purchase. If it's a 'no-questions asked' policy, the rate of purchase is higher. Retailers, however, do not always offer free return shipping even though they may be aware that buyers are prone to purchasing expensive products with that policy in place. The imperative then for businesses, in response to returns, is to cost-effectively scale reverse logistics and build localised warehouse capacity to deliver the desired experience.

C. Buying environmentally sustainable products

1. The need to define a purpose

Consumers want businesses to support social causes and are increasingly monitoring the accountability of sustainability initiatives. In fact, 7 out of 9 ESG activities have a direct influence on supply chain components.[10]

Purpose-driven value propositions are not just about marketing. With the rise in consumer awareness and propensity to research the veracity of brand claims, companies need to

9 26th Global Annual CEO Survey: India perspective

10 Industry View 2020 - Consumer Brands Association

prove their commitment to the chosen purpose. This has deep implications across the value chain comprising:

- ethical and sustainable sourcing
- responsible resource use
- emissions
- circular packaging
- responsible marketing and communications.

The imperative for companies is to prioritise what they want their products to represent, the performance management systems they have in place to have transparency across the value chain and how they report their progress.

2. Changing product portfolio

Growing concerns about sustainability have accelerated awareness into action following India's 2021 net zero carbon emissions pledge. These trends coupled with the fact that companies with strong ESG credentials enjoy faster growth (rise in profits three times faster than those for whom ESG is not a top priority),[11] greater customer retention and higher investment attractiveness are also prompting companies to adopt sustainability practices for their businesses.

The automotive industry is witnessing a buying bend towards electric vehicles, furthering their supply chain growth as they offer a better driving experience with lower fuel costs, higher environmental consciousness and government incentives under the PLI scheme. The Union Budget in February 2023, while simultaneously raising import duties on these vehicles, has reinforced these incentives through an extension of concessional import duty for lithium-ion cells and the removal of duties on import of capital goods for manufacturing lithium-ion cells for use in electric vehicles.

Additionally, search interest in 'e-waste disposal methods' has risen by over 110%. This impacts how a product is designed and packaged, influencing the manufacturing and logistics planning of companies.

Thus, to achieve the net-zero targets by reducing, reusing, recycling and removing carbon, it is imperative to reimagine supply chains for ESG considerations across value chains, including ecosystem players (suppliers, distributors, and technology players). This will enhance positive environmental and societal impacts through effective collaborations.

Incentives for key players in the supply chain ecosystem

The transformation of supply chain is a necessity for businesses in today's rapidly changing market environment. This has also been indicated by CEOs responses in PwC's Annual Global CEO Survey report launched in January 2023. India CEOs underscore the need to include the impact of possible disruptions in scenario planning and corporate operating models.[12] Outdated supply chain models are unable to meet the demands of consumers and businesses, and with increased competition, globalisation, and technological advancements, companies are also feeling the effects of global challenges and limitations in trade traffic. Furthermore, the monetary tightening in major economies is starting to impact global economic activity, thereby building a strong case for adoption of innovative strategies by the businesses to ensure efficiency, agility and resilience of their supply chains.

In India, the government has realigned its trade policies with the realisation that the free trade agreements (FTAs) can play a crucial role in driving supply chain transformation and provide larger avenues to domestic manufacturers for integration with the global value chains for sourcing and supply. For instance, the recently signed India-Australia FTA allows for duty-free import of key raw materials such as coal, alumina and wool, potentially leading to cost-effective value addition in India and increased competitiveness in exports by industries such as steel, aluminum and fabric/garment. While the government is committed to support value-added manufacturing and exports through the Aatmanirbhar Bharat initiative, reinventing the supply chain is essential for businesses to leverage globalisation and succeed in the dynamic market.

11 $4 trillion increase in revenue for businesses placing greater importance on ESG - International Accounting Bulletin

12 26th Global Annual CEO Survey: India perspective

The Indian Government's initiatives around introduction of GST, signing new FTAs, introduction of and continuing emphasis on PLIs have helped businesses to not only attract additional investments for their growth and cater to the changing needs of consumers, but to also plan for redundancies in supply chain with predictive insights gathered through digital intervention.

Parallelly, it would also help if other key players in the supply chain ecosystem get necessary support from the Government especially through tax/fiscal incentives. That will further the cause of establishing green supply chains as well as support businesses with larger funds at their disposal in building resilient supply chains.

Reinventing the supply chain

According to the India perspective of PwC's CEO Survey, supply chains that have in the past relied on siloed functions, limited data availability, manual decision-making and unconnected planning with limited options for customisation are now in for an overhaul factoring in:

- customisation to cater to specific expectations of service levels/product availability/pack sizes
- automation with the use of AI and ML technology that can handle daily supply chain scenarios giving leaders bandwidth to focus only on managing exceptions/extremely critical scenarios
- integration through a supply chain control tower that would provide an end-to-end integrated view across plan, source, make, deliver and return. A control tower helps drive 'one understanding' of issues and time-saving in arriving at a consensus on root cause analysis across teams thereby resulting in productivity and response agility. Further, a control tower is not only about visibility but also helps in identifying exceptions, and management and governance of these through a combination of technology and people.
- institutionalisation of robust tax compliance systems to enable correct tax calculations and reduce compliance risks during the entire process of a product's life cycle whether supplied for domestic consumption or the consumer abroad.

It is evident that building control towers, predictive data models and mitigation plans can help manage such disruptions on an ongoing basis. Companies need to build resilience with alternate sources of supply, multiple vendors/partners for key inputs and transportation, while factoring the associated tax and trade costs. Several companies are also taking measures to decouple their supply chains by building higher buffers, backward integration, establishing strategic partnership with critical suppliers and recalibrating skills to propel the fit-for-future transformation in anticipation of tomorrow's demands.

A structured and holistic approach to establishing a supply chain control tower can fulfil these characteristics by:

- building visibility for today and tomorrow
- developing capability to see real-time or near real-time
- viewing performance as well as risks
- driving accountability and actions
- integrating end-to-end, top to bottom.

It augurs well that Indian businesses are now on the path of innovation to mitigate global supply risks supported by policy changes and public-private partnership under the Aatmanirbhar Bharat mission. More innovation-led developments that model in geopolitical shocks by taking recourse to decoupling scenarios, diversification needs and relocation adjustments, and operating business model shifts that focus on parameters such as increased risk monitoring, data optimisation, adequate factoring of tax costs and rising environmental consciousness could help companies gain a competitive advantage in the long run.

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