India's Supply Chain Transformation: Strategies for global impact

by Dharam Pratap Singh, Diptarka Moitra and Sourav Kumar Kar

India's path to becoming a global supply chain hub

As global firms explore ways to mitigate risks associated with over-reliance on China, complete decoupling is seen as challenging due to the intricate interdependencies within global supply chains. However, de-risking — by diversifying suppliers and production bases — seems to be a more practical approach. India is at a critical stage in its economic growth, aiming to become a strong alternative to China in the global supply chain for companies looking to diversify risks while staying operationally efficient. However, integrating into global supply chains comes with unique challenges that demand a strategic approach to operations and supply chain management. This article discusses a few strategies that could eventually contribute to the broader socio-economic transformation.

India's supply chain ecosystem is unique, and simply replicating strategies from other regions may not be effective. Factors such as infrastructure, labour market dynamics, and regulatory environments differ significantly from those in countries like China. Therefore, India must create a distinct value proposition that encourages global firms to integrate it into their supply chains. This requires implementing policies that support infrastructure development and nurture technological capabilities to enhance supply chain integration and foster interdependence.

Role of government initiatives

Government policies, especially the PM Gati Shakti initiative, are pivotal in transforming India's logistics and infrastructure landscape. It integrates various modes of transport, optimizing the movement of goods across the country, reducing logistics costs and improving the overall efficiency of supply chains. The Union Budget 2024 also prioritizes capital expenditure on infrastructure, supporting the development of multimodal corridors and enhancing rural connectivity.

These efforts are essential for positioning India as a global supply chain hub that provides reliable and cost-effective logistics solutions.

Concurrently, a policy for developing a program structure to impart supply chain and logistics training, in consultation with premier institutions like the IITs, IIMs, etc., is needed (along the lines of the collaboration between the Indian Ministry of Skill Development and Entrepreneurship and Flipkart's Supply Chain Operations Academy). This initiative could address several critical areas:

Skilled workforce development: The proposed program could focus on building a highly skilled supply chain and logistics workforce. By collaborating with leading academic institutions, the training would incorporate the latest industry trends, technologies, and best practices, ensuring that professionals are well-prepared to tackle future challenges.

Sustainable practices: The program could include modules on sustainable supply chain practices, promoting eco-friendly logistics solutions that align with global sustainability goals.

Rural and regional development: Training could also cover the importance of enhancing rural connectivity and developing regional logistics hubs. Enhancing rural logistics through the program could drive more inclusive economic growth, ensuring benefits reach every region and also supporting the broader goal of equitable development.

Role of data analytics

Similarly, data analytics will likely play a critical role in enabling Indian firms to optimize their operations and supply chain strategies. It allows businesses to

make informed decisions from vast datasets, leading to more accurate demand forecasts, optimal inventory levels, and agile, cost-efficient supply chain operations. Predictive analytics minimizes stockouts and overstocking, enhancing overall supply chain resilience. Big data analytics, powered by IoT devices, improves supply chain visibility, optimizes transportation routes, enhances supplier selection, ensures traceability, and supports real-time decision-making. Data-driven insights are crucial for effective supplier performance management, fostering strategic partnerships, and reducing risks.

Analytics tools also promote data sharing and collaboration within supply chains, increasing transparency and supporting cost reduction. One recent example of this is the Unified Logistics Interface Platform (ULIP) developed by Govt of India. ULIP uses analytics to optimize freight costs by assessing the most efficient transport modes across rail, road, sea, and air. It also enhances compliance and risk management through data-driven insights, ensuring regulatory adherence and streamlining insurance management based on the risk profiles of goods in transit. Such democratization of technology should enable smaller vendors and suppliers to integrate effectively, strengthening the supply chain's resilience.

Vendor capability development

The third strategy we propose is vendor capability development. Companies like Toyota and Apple offer valuable lessons in this regard. Key strategies used by Toyota include conducting joint improvement activities, such as sharing best practices and initiating Kaizen projects at supplier facilities. These initiatives foster a culture of continuous improvement and learning.

Similarly, Apple's investments in its suppliers strengthen its supply chain by ensuring high-quality components, increased capacity, and innovation, which lead to greater control over production timelines and costs. By fostering close ties with key suppliers, Apple mitigates risks, enhances operational efficiency, and gains competitive product development and market responsiveness advantages. This approach supports Apple's long - term strategy of maintaining premium product quality and consistent delivery while reducing dependency on single regions or suppliers.

Mature Indian companies can also consider setting up joint ventures with suppliers to transfer knowledge, creating opportunities for growth and innovation. Understanding how suppliers work, respecting their capabilities, and committing to mutual prosperity help cement long-term, trusting relationships. Quality control becomes more efficient as trusted suppliers with proven track records require fewer checks. Risk is mitigated through built-in compliance and risk management features, ensuring suppliers meet regulatory requirements and industry standards.

Indian firms may also align their vendor capability development efforts with CSR activities to build long-term, trust-based relationships with their vendors, wherein vendors might be less hesitant to share their data to be used for Data Analytics. Analytics in vendor capability development involves leveraging both external and internal supplier data to improve vendor performance and mitigate risks. Using external data, companies can track key performance indicators (KPIs) such as delivery time, quality, cost, and service level compliance to evaluate vendor performance objectively.

Integrated planning tools enhance alignment by sharing real-time demand and supply data. Gap analysis prioritizes development programs, while sustainability and carbon footprint analytics ensure compliance with environmental goals.

Social and economic impact of strengthening supply chain capabilities:

The strategic development of India's supply chain capabilities is not solely about fostering economic growth but also critical in driving social transformation across the country. By strengthening vendor capabilities and enhancing workforce skills, job opportunities could be expanded, particularly in manufacturing, logistics, and related sectors.

These new job opportunities should aid in reducing unemployment and underemployment, thereby contributing to social stability and economic security for millions of Indians. As employment rises, so should wage growth, particularly in the industrial sector, where demand for skilled labour could drive up salaries. Higher wages and improved employment conditions should lead to an increase in per capita income, which in turn should raise the standard of living and reduce poverty levels across the nation. These comprehensive efforts contribute significantly to transforming India into a fully developed economy by 2047.

Conclusion:

India's journey toward becoming a global supply chain leader hinges on its ability to craft strategies that leverage its unique strengths and position itself as a reliable alternative for global firms seeking to de-risk their operations.

India can attract international businesses while mitigating supply chain risks by focusing on de-risking rather than complete decoupling. The key to this effort will be investing in vendor capabilities and embracing advanced analytics, both of which are essential for building a sustainable and resilient supply chain ecosystem.

Government initiatives like PM Gati Shakti are critical enablers, supporting the infrastructure development needed to enhance connectivity and logistics efficiency. By aligning these strategies with targeted workforce development, data-driven decision-making, and sustainable practices, India is poised to boost economic growth and foster a broader socio-economic transformation. Ultimately, these efforts will position India as a critical player in the global economy, ensuring its long-term competitiveness and resilience in an increasingly interconnected world.

Dharam Pratap Singh
Ex - Wipro

Consulting professional with 14+ years of experience in IT Strategy & Operations.

Diptarka Moitra
Coal India

Professional with 13+ years in the operations, procurement and corporate governance domains.

Sourav Kumar Kar
Ex - Honeywell

Business consultant with 7+ years of experience in Analytics and Operations.