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From Efficiency to Resilience: Post-Pandemic Shifts in Global Supply Chain Management

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Abstract
For about three decades, supply chain teams in India and other places kept saying the same thing: do things faster, and do them cheaper. A lot of companies aimed to lower the cost per unit. They also pushed inventory down. On top of that, many relied on one main supplier. That supplier was often from a small set of locations tied to low wages and high output.Then a shock hit that few plans had covered. In 2020, when COVID-19 spread, India's economy fell by 23.9 percent for the April to June stretch. At the same time, factory work slowed sharply. The Purchasing Managers' Index slid to 27.4 in April 2020. That reading was the lowest since the survey began.This article looks at how the break in day to day trade and production forced firms to adjust their thinking about supply chains in India. It tracks a shift away from only chasing low costs. It also points to resilience as a practical goal. Not a slogan, but a target they could work toward.Before the pandemic, India already had known weak spots. One was logistics cost. The World Bank put it at about 14 percent of GDP in 2018. In several advanced economies, the share was closer to 8 to 10 percent. Another issue was the habit of depending on one source for important imported inputs. Active pharmaceutical ingredients are one clear example.After the first shock, top leaders in government and business moved quickly. In May 2020, they rolled out the Aatmanirbhar Bharat plan. It was set at 20 lakh crore rupees. Soon after, firms tried to buy from more than one supplier. At the same time, they put extra cash into systems meant to raise digital reach.To describe what resilience looks like day to day in India, the piece leans on government records. It also cites World Bank papers. In addition, it references studies that other experts have reviewed. The message is not that efficiency should be ignored. The argument is for a different mix. Lower cost still counts. But so do quicker delivery and the ability to face sudden disruptions without falling apart.By the close, the article asks what this change could mean for India's plans in manufacturing. It also looks at how India might sit in global supply chains going forward.

Keywords: *COVID-19, Aatmanirbhar Bharat, risk diversification, supply chain resilience, logistics cost, India manufacturing*

I. Introduction

In 2015, most operations managers would have said the same thing about supply chains. Focus on cost. Run lean stocks. Use just-in-time delivery. Pick one supplier mainly because the price is lower. That approach was common, and it often delivered results. Then 2020 came along. In only a few weeks, the usual plan failed. India showed how fast things could break. On 25 March 2020, the national lockdown started. Many factories closed right away. Ports slowed down sharply. Trucks with goods piled up at state border points and waited for days. Later, the National Statistical Office reported that GDP fell by 23.9 percent in the April to June period when compared with the same months in the prior year. That drop was the biggest quarter on record for the country (Business Standard, 2020). In the same quarter, manufacturing output fell by 39.3 percent. This was not a mild slowdown. It signaled that systems built for low cost had little ability to handle sudden shocks. This study stays on the Indian setting for a reason. India is a big customer market. It also has a bigger manufacturing push under the Make in India effort. At the same time, its logistics setup has often lagged behind its manufacturing goals. The pandemic did not invent these weak points. It made them visible, and it did so in a harsh way.What comes next is a look at what the disruption revealed in India, the actions that followed, and what resilience can mean once slogans are removed.

1.1 Why efficiency alone stopped being enough

The efficiency model works only when conditions are steady. It expects ports to keep running, trade routes to stay open, and demand to rise and fall in a known seasonal rhythm. With that setup, extra inventory looks like money tied up for no reason. It also suggests that the lowest cost path is to buy a part from one supplier in one place. In 2020, those conditions did not show up. Companies that picked one region for sourcing, or that kept just

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a small buffer of stock, could not ship what customers ordered. This happened even while sales demand was getting stronger for their products.

II. India's Pre-Pandemic Supply Chain Vulnerabilities

2.1 A costly and fragmented logistics network

Before the pandemic, India's logistics system had already been seen as slow and wasteful. In 2018, a World Bank report put India's logistics expense at about 14% of GDP. That was higher than the typical 8% to 10% seen in richer economies like the United States and Germany. The study cited Aritua and colleagues from 2018.

The difference was not just a statistic. Those extra logistics costs meant Indian exporters often paid more than rivals in places such as China or Vietnam. As a result, their prices in global markets took a hit. Some of the issue was built into the system. Freight in India relied mostly on trucks. Rail and shipping along the coast played a smaller role. Road hauling is usually more expensive, and it tends to take longer for trips over long distances. The World Bank Logistics Performance Index also showed the gap. The index looks at customs handling, the quality of infrastructure, and whether deliveries arrive on time. In the 2018 report, India ranked 44th among 160 countries. India scored 3.18 out of 5. The figures were linked to PHD Chamber of Commerce and Industry in 2018. There was some improvement over time. In 2014, India was at 54th. So the direction had been better. Still, a 44th place rank left India behind a number of smaller economies that had less industry scale and less factory push.

As shown in Figure 1, this cost disadvantage was not a one-off finding but a persistent gap that had barely narrowed over several years, even as India's overall trade volumes grew.

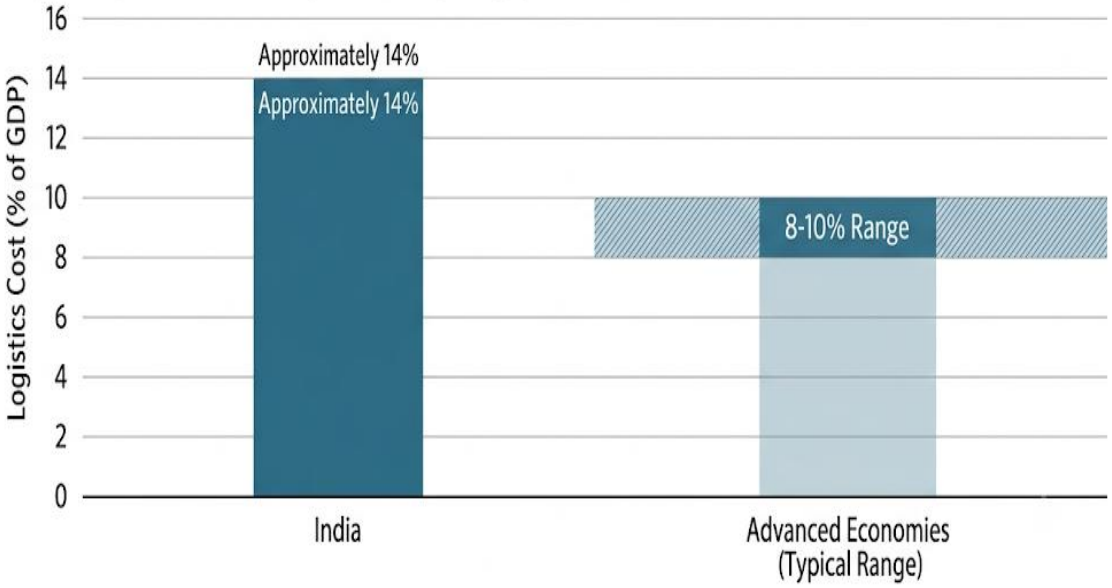

Figure 1: India's Logistics Cost as a Share of GDP Compared with Advanced Economies, 2018

A bar chart lays out logistics spending next to GDP for India and for advanced economies. The data come from the World Bank. The numbers are shown in a 2018 report titled "Unlocking India's Logistics Potential."In the figure, India is at about 14% for logistics costs. The advanced economies are lower. Their values sit in the 8% to 10% range.The chart is built to make a single point. In India, logistics costs take up a larger share of output from firms than they do in wealthier countries. Because of that, export prices can face more strain. The report also says this issue was present even before the pandemic, when the world later saw fresh supply chain disruptions.Source: World Bank, "Unlocking India's Logistics Potential" (Aritua et al., 2018).

2.2 Overdependence on single-source imports

On top of shipping and storage bills, India had another weak spot in its supply web: too much dependence on a few places. In medicines this showed up fast. Indian companies make a big share of the generic drugs used worldwide, yet they rely on imports for most active ingredients. Much of that supply arrived from China. When Chinese plants cut back in early 2020 because of their outbreak, Indian drug makers hit a shortage before India even started

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its own lockdown (Economic Survey of India, 2019-20).A similar story played out in electronics. Parts for phones, along with parts for everyday home devices, often came from a limited group of overseas firms.This is the downside of chasing the lowest cost. Lower bids pull buyers toward the same supplier and the same country. Over time, that pull makes the supply chain narrow. People do not plan for an entire system to fail at the same moment. Still, that is what occurred.

2.3 The MSME backbone under strain

Micro, small, and medium enterprises in India sit in a tough spot. They matter a lot to the economy. In 2018 to 2019, they contributed about 30 percent of GDP and near 48 percent of total exports, according to Invest India (2018). Even so, many of them are not set up to handle shocks. A big issue is cash. Most MSMEs run on narrow working capital buffers. Because of that, they do not have much room to deal with breaks in demand or supply. During the lockdown, money inflows slowed or stopped for many firms. MSMEs took a heavier hit. A lot of their earnings relied on steady orders from bigger companies that sit higher in the supply chain.

III. The Pandemic Shock and Its Immediate Fallout

3.1 The scale of disruption

The 2020 figures speak for themselves. In India, the manufacturing PMI from IHS Markit slid from 51.8 in March 2020 to 27.4 in April 2020. That April drop was the worst seen in the survey since it started in 2005 (Pressreader/Deccan Chronicle, 2020). When the PMI stays under 50, it means output is shrinking. So 27.4 did not point to a mild slowdown. It looked more like factories were nearly shut down. In May, the PMI moved up a bit to 30.8. Even then, it still sat in the contraction zone. This carried through to the wider economy. For the April to June quarter, gross value added fell by 22.8 percent. Construction was hit hardest, with a 50.3 percent contraction. Trade and hospitality services fell by about 47 percent (National Herald India, 2021). Agriculture was the only part that rose. It grew 3.4 percent. The report ties this mainly to farm work being left out of the strictest lockdown limits. Monsoon conditions also stayed favourable.

3.2 What actually broke, sector by sector

Mark where the system broke. Point to the exact spots. The causes were not the same across fields.In pharma, one clear problem tied to materials. Getting raw inputs was difficult. Then the supply chain ran thin. Output slowed right after.In auto, the trouble did not look the same each time. A few parts were in short supply. Sales slipped fast. Demand cooled, and the plant felt it quickly.For textiles and clothing, timing mattered a lot. Buyers pulled back even though production had already begun. Some export deals failed. Other countries shut down and those cut orders. In India, some mills had finished goods, but they could not sell them.Retail and online sellers had their own squeeze. They were able to source goods with fewer delays. The real snag was moving items to customers. Rules for travel and movement kept changing. Shipments between states stayed unstable for weeks.So the talk about resilience needs to be clear. More stock alone would not fix the textile case. The issue was not just lack of supply. Demand fell, and that was the core.Resilience also had to be tuned for each sector. One guide for every industry would not hold up.

IV. The Turn Toward Resilience: Policy and Business Responses

4.1 Aatmanirbhar Bharat and the push for self-reliance

On 12 May 2020, the most noticeable move by the Indian government arrived through Prime Minister Narendra Modi's announcement. He said there would be a special economic plan of 20 lakh crore rupees. That figure was put at roughly 10 percent of India's GDP. The effort was branded as Aatmanirbhar Bharat, which means self-reliant India (PRS Legislative Research, 2020).

The plan was said to rest on five parts: economy, infrastructure, systems, a strong working age population, and demand. In day to day terms, it included an emergency credit line guarantee for MSMEs. That support was set at 3 lakh crore rupees. There was also a lift in what state governments could borrow. The message pointed to a desire to cut back on imported inputs in some sectors seen as important for strategy.

Taken together, this looked like a clear shift from the earlier focus on low cost global trade. The new angle leaned toward more varied sourcing, with some of it coming from within. This did not mean India would shut itself out of trade. It meant that supply chain crowding was treated as a risk at the country level. Firms still make business calls, but the issue was not left only to them.

4.2 Diversification of supplier bases

At the same time, many companies acted on their own. They followed the direction the government was already pushing. They looked for more suppliers and broader locations instead of

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sticking to one region. Some firms used to buy a key part from one overseas supplier. When they saw the risk, they began checking other vendors. They worked on second and third sources too. Even if the unit price went up a bit, they still went ahead. The aim changed in a clear way. It moved away from just "choose the lowest cost." It became "keep output going if a part of the chain breaks." That shift matters. It changes how people decide where to source parts.

Table 1 summarises how the underlying priorities changed across a few commonly cited dimensions of supply chain design.

Table 1: Shift in Indian Supply Chain Priorities, Pre-Pandemic Versus Post-2020

Dimension	Pre-pandemic emphasis	Post-2020 emphasis
Sourcing strategy	Single-source, lowest cost	Multi-source, cost plus risk-weighted
Inventory approach	Just-in-time, minimal buffer	Just-in-case buffer for critical inputs
Logistics cost (World Bank estimate)	~14% of GDP (2018)	Government target to reduce toward global benchmark of 8-10%
Government policy stance	Trade liberalisation focus	Aatmanirbhar Bharat, 20 lakh crore package (2020)
MSME share of exports	48% (2018-19)	Continued MSME reliance, with added credit support via ECLGS (2020)
Manufacturing PMI (crisis indicator)	Stable, above 50 through early 2020	Fell to record low of 27.4 in April 2020

Sources: Aritua et al. (2018); Invest India (2018); PRS Legislative Research (2020); IHS Markit data as reported in Deccan Chronicle (2020).

4.3 Digital visibility and demand sensing

In 2020, companies put more effort into digital tools. These tools helped them see where their products were and how buying demand changed. Before COVID, many Indian makers had little tracking after items left the factory. Once goods crossed the gate, shipment updates were often delayed or incomplete.Then borders and storage sites shifted fast. That sudden uncertainty made the earlier gap worse. Firms could not tell where their stock was held. They also did not know when that stock would move again.

As shown in Figure 2, the pandemic period coincided with a sharp acceleration in enterprise interest in supply chain digitisation among Indian firms, based on trends captured in NASSCOM's industry assessments through 2020.

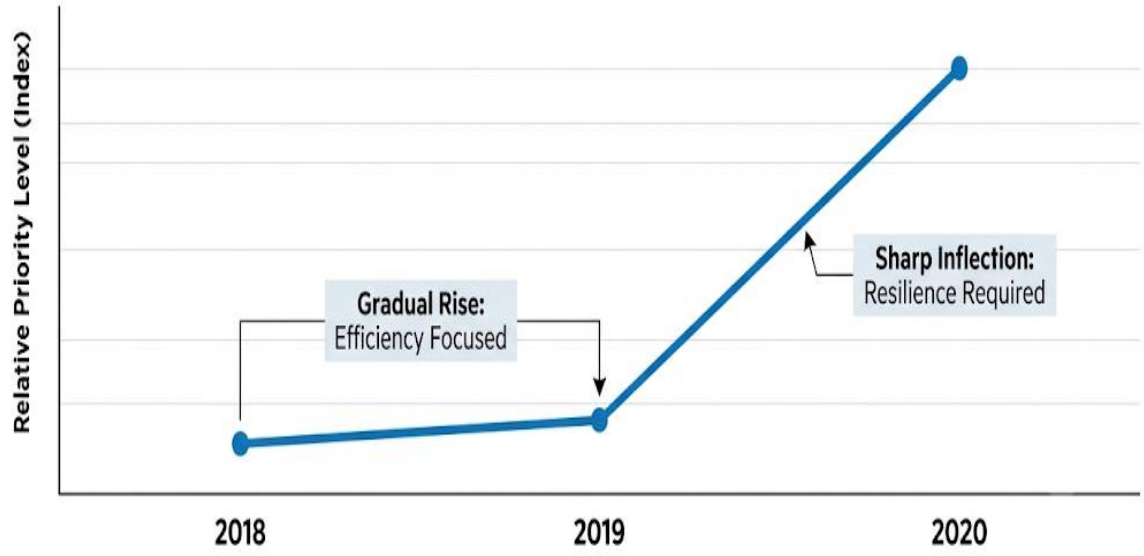

Figure 2: Rising Priority Given to Supply Chain Digitisation by Indian Enterprises, 2018-2020

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The chart shows how companies in India judged the value of digitising supply chains. It spans three years and includes 2020. It also highlights areas such as shipment tracking in real time and demand sensing.Between 2018 and 2019, the line moves up, but only a little. In 2020, the rise is sharper. That lines up with the pandemic period, when many firms said they did not have a clear view of what was happening.Overall, the chart suggests a shift in opinion about spending on digital tools. Things that used to be seen as minor ways to cut delays were later treated as key to staying steady. The cause is simple. When visibility fell short, the need became obvious quickly.

4.4 The role of the MSME credit lifeline

The Emergency Credit Line Guarantee Scheme, launched under the Aatmanirbhar Bharat package, is worth noting. It focused on the group with the least room to handle sudden shocks. The plan used loans without collateral, with the government backing the credit risk. The goal was to help MSMEs stay able to operate during the worst parts of the disruption. If those MSMEs failed, the effects would spread beyond them. Larger manufacturers that rely on their parts and services would then feel the impact too (PRS Legislative Research, 2020). In this sense, the scheme treated resilience as something for the whole industrial chain, not only for a few big companies.

V. What Resilience Actually Means Going Forward

5.1 Resilience is not the opposite of efficiency

Reading this shift as if India, or supply chains in general, are giving up on efficiency would be wrong. No one is pushing for stock that is too high for too long, or for prices that are needless on purpose. What is different now is this: firms are more ready to add a small extra cost when having a backup matter. They do this only in the spots where a breakdown would cause major harm. A business may still pick the lowest bid supplier for a part that is not critical and can be swapped out fast. At the same time, it may approve two or three suppliers for a key component. If that part is missing, the whole line stops. That is not sloppy planning. It is simply a fuller way to judge risk.

5.2 India's structural opportunity

There is another angle that matters here. When big companies reviewed how much they relied on just one production center, India started to look like a backup choice for making goods. That could work only if India lowered its shipping and logistics costs and made it simpler to run a business.

The state also kept pushing for new infrastructure. At the same time, the self-reliance push that began in 2020 signaled that leaders did not expect this opening to last forever. India, they seemed to think, had to address its own cost issues and reliability problems. Otherwise, it could not just wait and assume overseas buyers would come.

5.3 Remaining gaps

Do not read this as a full transformation. In India, logistics costs have stayed much higher than in rich countries. The big fixes are not quick. Trains for freight need more room. Ports have to be updated. Warehouses must meet better standards. These changes usually take years, not a few months.The pandemic did create pressure. It also changed how people talked about the problem. At the policy level, and in some company meetings, leaders started to talk about resilience as a key goal. They treated it less like a last step.

VI. Conclusion

The pandemic proved a point that years of debate in papers could not land. In 2020, India showed this in a clear and uncomfortable way. The country saw quarterly GDP drop by 23.9 percent. The manufacturing PMI slid to 27.4. At the same time, people in the pharmaceutical space started worrying about shortages of raw materials for key medicines. These were not distant ideas anymore. They were the day-to-day limits of an economy that had focused on low costs and had not built much cushion for shocks.

After that, the response was not a simple move away from efficiency. It was a shift toward balance. The Aatmanirbhar Bharat package, set at 20 lakh crore rupees, made it plain that the government treated supply chain concentration as a serious weak spot. Firms began to split their sourcing across more suppliers. Some kept small extra stocks for key inputs. Others pushed for digital systems that could flag trouble early. MSMEs were also helped with specific credit support. This mattered because MSMEs make up about 30 percent of GDP and close to half of exports, and if they get hit, the wider industrial web feels it too.

This does not wipe out India’s deeper structural issues. Delivery and transport costs are still too high when you compare them with global numbers. Fixed infrastructure also does not improve overnight. Yet there is a shift. People now talk about resilience in a different way. It is not only something to cut, along with other spending. It is seen as a

must have if a new disruption hits, in whatever form it shows up. For India's push to grow manufacturing, the right trade-off between low cost and strong resilience could decide how much of the post pandemic supply chain reshuffle India will actually win.

References

[1]. Aritua, B., Havenga, J., Simpson, Z., & Chiew, E. W. L. (2018). *Unlocking India's logistics potential: The value of disaggregated commodity-level analysis*. World Bank Group.
[2]. Business Standard. (2020, August 31). First economic contraction in 4 decades: India's GDP shrinks 23.9% in Q1, FY21. *Business Standard*.
[3]. Deccan Chronicle. (2020, May 5). Manufacturing PMI sees steepest contraction. *Deccan Chronicle*.
[4]. Deccan Herald. (2020, October 30). MSME sector contributes 30% to GDP: Gadkari. *Deccan Herald*.
[5]. Department for Promotion of Industry and Internal Trade. (2020). *Annual report 2019-20*. Ministry of Commerce and Industry, Government of India.
[6]. Government of India, Ministry of Finance. (2020). *Economic Survey of India 2019-20*. Department of Economic Affairs.
[7]. Government of India, Ministry of Micro, Small and Medium Enterprises. (2020). *Annual report 2019-20*.
[8]. IHS Markit. (2020). *India manufacturing PMI report, April 2020*. IHS Markit.
[9]. Invest India. (2018). *Growth imperative for the MSME sector*. National Investment Promotion and Facilitation Agency.
[10]. National Herald India. (2021, February 28). Actual 2020-21 Q1 GDP contraction much higher than 23.9 per cent, economic situation dire. *National Herald India*.
[11]. PHD Chamber of Commerce and Industry. (2018). *India ranks 44 in the Logistics Performance Index 2018: World Bank*. PHD Research Bureau.
[12]. Press Information Bureau. (2020). *Aatma Nirbhar Bharat package: Progress so far*. Government of India.
[13]. PRS Legislative Research. (2020). *Summary of announcements: Aatma Nirbhar Bharat Abhiyaan*. PRS India.
[14]. PRS Legislative Research. (2020). *Central government's response to the COVID-19 pandemic (May 11-22, 2020)*. PRS India.
[15]. Reserve Bank of India. (2020). *Annual report 2019-20*. Reserve Bank of India.
[16]. Sitharaman, N. (2020). *Presentation on Aatmanirbhar Bharat Abhiyaan to support Indian economy in fight against COVID-19* [Press conference transcript]. Ministry of Finance, Government of India.
[17]. World Bank. (2018). *Logistics performance index report 2018*. World Bank Group.
[18]. World Bank. (2020). *South Asia economic focus: The cursed blessing of public banks*. World Bank Group.
[19]. Yourstory. (2020, August 31). India's GDP shrinks 23.9 percent in April-June quarter. *Yourstory*.