



A Post-Covid Outlook: The Future of the Supply Chain

Revisit global logistics across three dimensions.

As the coronavirus wreaks economic turmoil around the world, our modern supply chains are facing unprecedented stress. For months prior to the Covid-19 crisis, trade tensions had been mounting due to the escalating tariff war between Washington and Beijing. A rise in protectionism, coupled with concrete costs and new financial barriers, has fuelled broader challenges and concerns for worldwide logistics networks. Against this backdrop, our modern supply chain infrastructure is well overdue for a rethink.

Today's globalised supply chain networks have been optimised to identify minimum lead times at the lowest possible costs. However, rapid political developments, extreme climate events and now a global pandemic have all revealed the hidden costs of single-source dependencies and poor flexibility in adapting to real-time shocks, with fast changes to supply and demand. Over the next several years, as we undertake a broader overhaul of our logistics infrastructure, I believe that a new order will emerge based on three key dimensions.

From globalisation to regionalisation

Similar to what we had in the 1980s, logistics hubs will re-emerge at the regional level. To eliminate single-source dependencies and establish a flexible supply chain, product integrators, subsystem suppliers and component suppliers will all have to

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source, assemble and deliver from their own backyards.

A shift to multi-level sourcing, on the regional level, is already underway in the medical industry as equipment manufacturers and pharmaceutical supply chains are moving in high gear to respond to government orders. Dyson, the British technology company best known for its vacuum cleaners, hair dryers and fans, received an order from the British government to produce 10,000 ventilators for Covid-19 patients. In the United States, General Motors, Ford and Tesla have stepped in to address the ventilator shortage.

Beyond the medical field, the electronics supply chain is quickly following suit. The overnight shift to a global remote work force has sharply increased demand for laptops and notebooks. Under the circumstances, companies may well be willing to pay a 10 or 20 percent premium to have laptops delivered to their workforce right away, rather than wait until back orders are filled due to stalled production at plants in China.

Supply chain stress tests: A new norm

After the 2008 financial crisis, financial institutions around the world were forced to stress test their balance sheets to ensure they were prepared for an economic shock. Similarly, a series of large-scale

cyber-attacks over the past 10 years have forced technology companies to begin penetration tests to identify any vulnerabilities and check the robustness of their cyber-security mechanisms. In a post-Covid-19 world, supply chain stress tests will become a new norm.

Large suppliers and logistics operators will have to prepare themselves for major catastrophes such as weather events (fires, flood, tsunami and so on), lethal pandemic outbreaks, strikes, social unrest and associated disruptions. International commercial air travel has effectively ground to a halt, and one can easily imagine harbour blockades and shipping disruptions in the near future. Independent of the Covid-19 crisis, more and more externalities are causing shocks to the supply chain that require firms to forecast how they will operate in crisis environments.

The human dimension returns

Although unemployment rates have risen across the US and around the world, certain key industries actually face labour shortages. Businesses operating in the healthcare industry, in agriculture, in supermarkets and other “essential” fields are ramping up their recruitment. Amazon announced 100,000 new roles in fulfilment centres and delivery networks to support the surge in service demand during the pandemic. The human dimension is back, and it will play a premium role in rebalancing the global supply chain, during this crisis and well beyond.

Rather than viewing labour as a commodity, it should be managed as a key asset ensuring flexibility and adaptation, as well as playing a fundamental part in crisis response programmes. To put this in perspective, each smartphone is touched by 80 human beings during the manufacturing process. So moving an assembly line from China to Mexico, for example, requires training 80 individuals to produce the same quality output as the original operation. A post-Covid-19 view of the workforce will have to accommodate this outlook.

Investment opportunity

These three trends demand a brand-new generation of software systems. To realise these solutions and norms, entrepreneurs in AI, mathematical modelling, machine learning algorithms and cloud services will have to find ways to extract critical data from the enterprise supply chain and correlate it with external “major events” data to deliver real-time business insights. These insights must be directly relevant and actionable to workers on the factory floor. At the same time, management must be able to use them to identify and consolidate high-level logistics trends.

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To deliver insights in days, hours or minutes, rather than quarters, these solutions will have to be integrated with, and embedded in, existing workflow processes. As such, they need to be industry-specific, leveraging deep domain knowledge, and customised to specific verticals.

The trends of **Enterprise 4.0**, in motion since 2017, are now occurring much faster than we had imagined. The Covid-19 pandemic has accelerated the oncoming wave, and this new generation of enterprise innovation will emerge much sooner than anyone had anticipated.

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