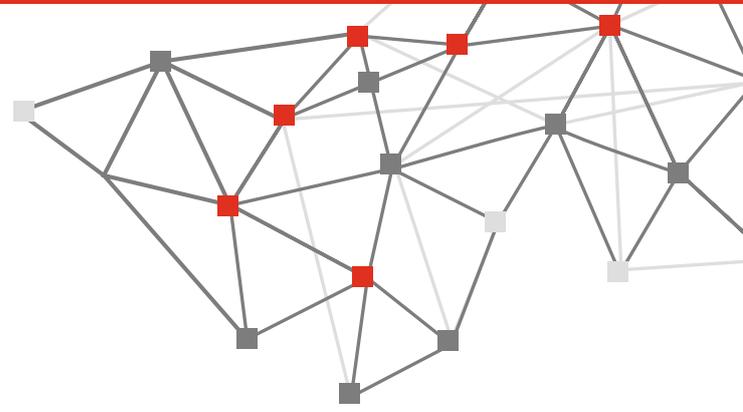


Supply chain



Mitigating the impact of COVID-19 and building long term resilience

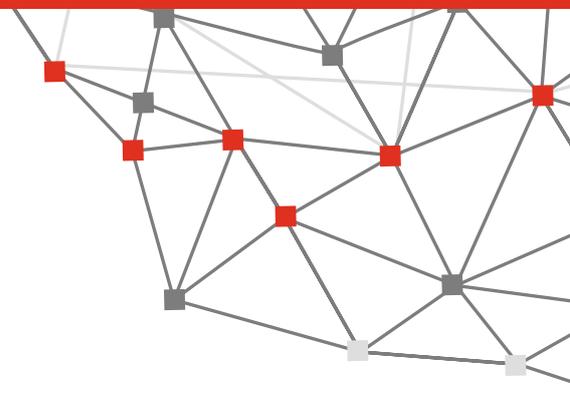
The COVID-19 outbreak has been declared a pandemic by World Health Organisation, causing huge impact on people's lives, families and communities.

While no one knows just how long this will continue for, one thing that is certain is that supply chain disruption is being felt across the globe and, given the interconnectedness and complexity of global supply chains, the disruption is likely to persist for many months.

How COVID19 has slowed down and depleted interconnected, global supply chains

Failure Points	End-to-end Supply Chain	Impact
Suppliers are unable to fulfil orders due to labour shortages	Suppliers	Stalled production, unfulfilled orders, and bullwhip effect
Transportation restrictions and lower capacity for distributors to send goods	Inbound Trans	Uneven arrival of needed raw materials, stalled production
Under-staffed due to quarantines and medical safety and/or lower supply	DC Ops	Slow shipments, inconsistency in delivery
Transportation restrictions and lower capacity for distributors to send goods	Outbound Trans	Limited delivery possibilities, inflated delivery costs, and delivery failures
Under-staffed, under-supplied, and store closures. Lack of consumers	Retailer	Less product on shelves, diminished ability to serve customer
Unable to find drivers and lack of demand for certain goods	Final Mile	Delivery is inconsistent, model for timing is faulty, and increased costs
Unable to reach end-consumers due to lack of delivery options	Consumer	Avoids shopping, delayed delivery timeline, and more volatile demand patterns

Mitigating the impact of COVID-19 on supply chain



Five steps for immediate relief

1. Create a cross-functional and/or cross-border SWAT team with daily touchpoints to coordinate supply chain risk and mitigation strategies real-time
2. Build additional buffer by procuring larger amounts of inventory and raw materials for other manufacturing locations outside impacted areas
3. Develop expected-case and worst-case scenarios designed to help ensure that supply aligns with demand — and ensure there are plans for each scenario
4. Explore additional delivery routes in acted regions and move available inventory to alternative ports in order to minimise risk of transportation delays
5. Partner with retailers and third-party platforms to ensure that key products are well-stocked (both online and offline)



Five steps for building long term resilience

Boost your supply chain capabilities as you respond to COVID-19.

Most companies are currently focused on the near-term, with their strategies addressing the COVID-19 situation as a temporary problem. But, if businesses look at the current situation strategically and align smartly, it may potentially help propel future growth and competitive advantage for many years to come.

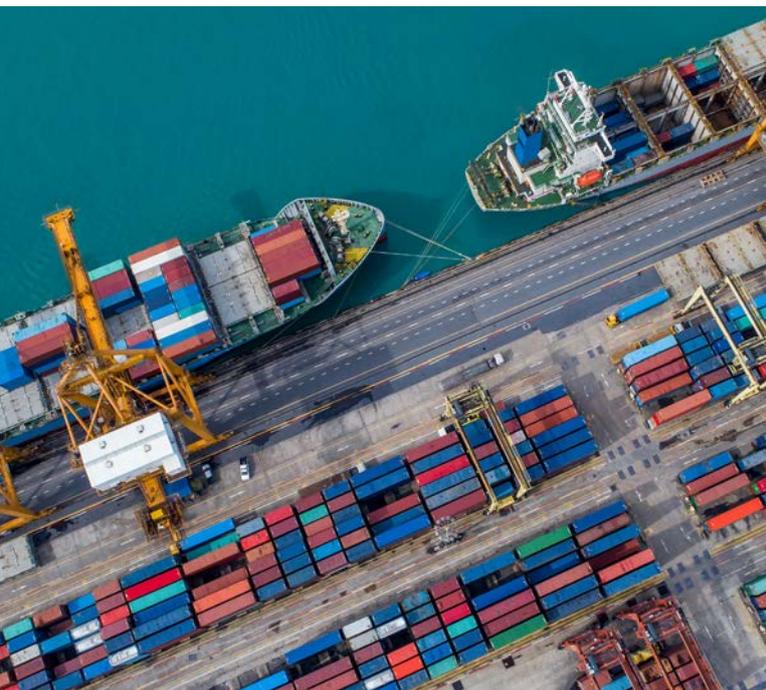
Five ways in which current challenges will create new capabilities for companies willing to invest:

1. Working capital management: use analytics to model net financing needs

The decline in demand due to the outbreak containment activities, combined with the difficulty of getting products to market, is causing many companies to re-evaluate their cash positions and take actions to release cash. Inventory is often a large contributor to working capital, yet few companies have mature capabilities to identify and analyse the ways in which they can manage inventory to achieve cash goals.

Use advanced analytics and skills to understand how changes in production or supply chain activities affect inventory and working capital. This will allow companies to do a sensitivity analysis and model cash inflows and outflows to understand net financing needs. This must then be balanced with the required increase in stock levels keeping in mind the unpredictable logistics provision.

A robust inventory planning process also requires the use of analytics to identify the impacts of trade-offs so that companies can optimise across demand, supply, and inventory. Finally, operations KPIs commonly target high production volumes, high utilisation, and low unit costs, which frequently lead to excess inventory. KPIs should be adjusted to ensure that all functions can help manage working capital. The companies that are able to address these gaps are leaner, use less cash, and will have higher return on invested capital in the recovery and the following boom.

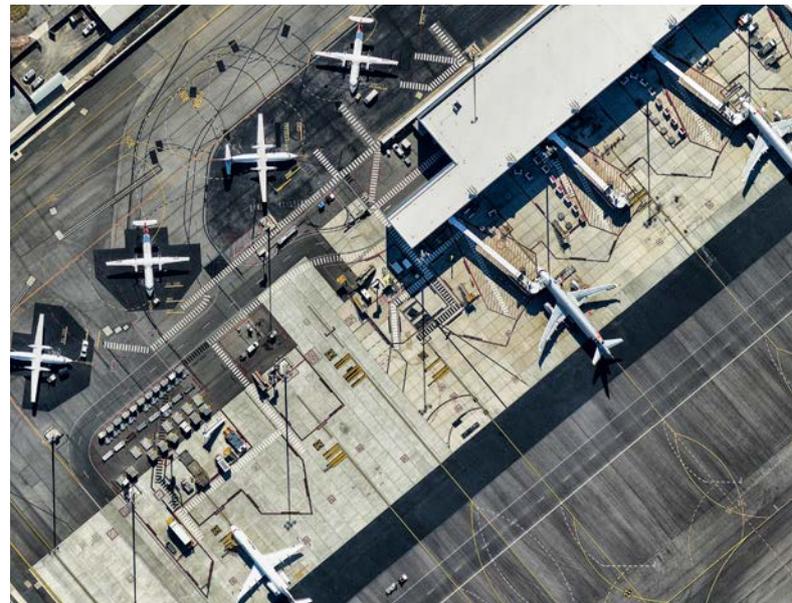


2. Planning capabilities: digitise to enhance faster decision making and execution

With turbulent variable demand, materials shortages, and labour uncertainty, plans must be agile. Unfortunately, planning in many companies is a highly manual and time-consuming process, limiting the ability to analyse scenarios and respond urgently. Too often, critical data lives in spreadsheets and emails, and countless hours are spent ensuring that the numbers used for planning are both up-to-date and accurate.

Companies that streamline and digitise their planning processes will be able to generate better plans faster and be more responsive than their competitors in the coming growth period. Maintain planning data in digital repositories where it is accessible for modelling and analytics.

Planning staff should also have access to, and be trained on, digital analytics tools and techniques. Identify tools that can streamline analysis and provide greater insights than spreadsheets. Real-time scenario analysis should be available during planning sessions to allow rapid evaluation of options leading to faster decision-making and execution.



3. End-to-end supply chain visibility: build AI-powered digital control towers

With the current challenges in distributing freight domestically and globally, managing logistics has become a high priority for companies. While many logistics companies and freight forwarders provide access to detailed data on shipments, often their customers are not able to turn that data into useful insights and actions. Companies that put in place digital supply chain control tower capabilities to manage distribution will enable greater performance as demand grows.

Control towers are dedicated teams with access to data on the current status of all shipments and all inventory in the supply chain, with the analytical tools to identify emerging issues, perform what-if scenario analyses, and the authority to resolve problems in real-time.

Typically, control towers involve analytics engines using artificial intelligence (AI) to sift through the incoming data and highlight situations where changes to orders, disruptions to production, or changes in logistics will cause problems in satisfying demand.

Supply chain staff can then use scenario analysis to test out the trade-offs of possible solutions and adjust priorities or re-route supply to meet critical demands. This approach requires a high level of system integration with both internal and external supply chain participants, and a strong capability with analytics and algorithms.

Companies that can incorporate supply chain visibility with AI-enhanced analytics and empowered teams to resolve emerging issues quickly will be able to delight customers and capture significant value.



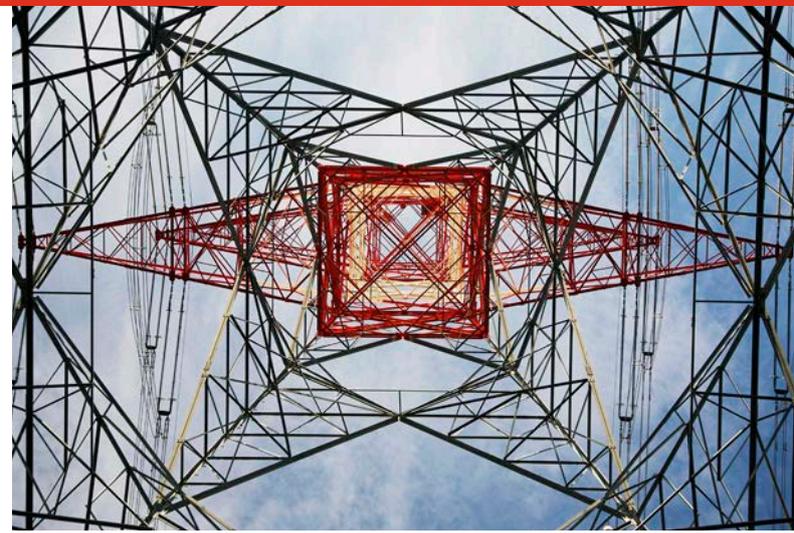
4. Sourcing and supplier management: apply Lean Manufacturing techniques

COVID-19 has significantly impacted supplier availability and capacity. Suppliers across geographies are facing material and labour constraints as well as a variety of logistics issues.

While alternate suppliers exist, many companies have long processes to identify, qualify, and on-board suppliers, and may not be able to take advantage of available capacity. The ability to streamline this process will enable companies to shift suppliers rapidly today to gain capacity, and in the future to gain access to emerging technologies, lower prices, or better service.

The first step to more agile supplier management is to apply Lean Manufacturing techniques to the existing sourcing processes. Over time, corporate processes tend to add steps, documents, and approvals, and many remain even when they are no longer useful. Remove activities that don't add value to cut cycle time and improve responsiveness.

Next, reduce unnecessary product complexity. Simplifying products and components will not only reduce production costs, but will also accelerate qualifications, higher yields, and faster production ramps at new suppliers. Finally, supplier management processes should be digitised so that process documentation, recipes, BOMs, and even supplier reviews can be easily replicated for new suppliers.



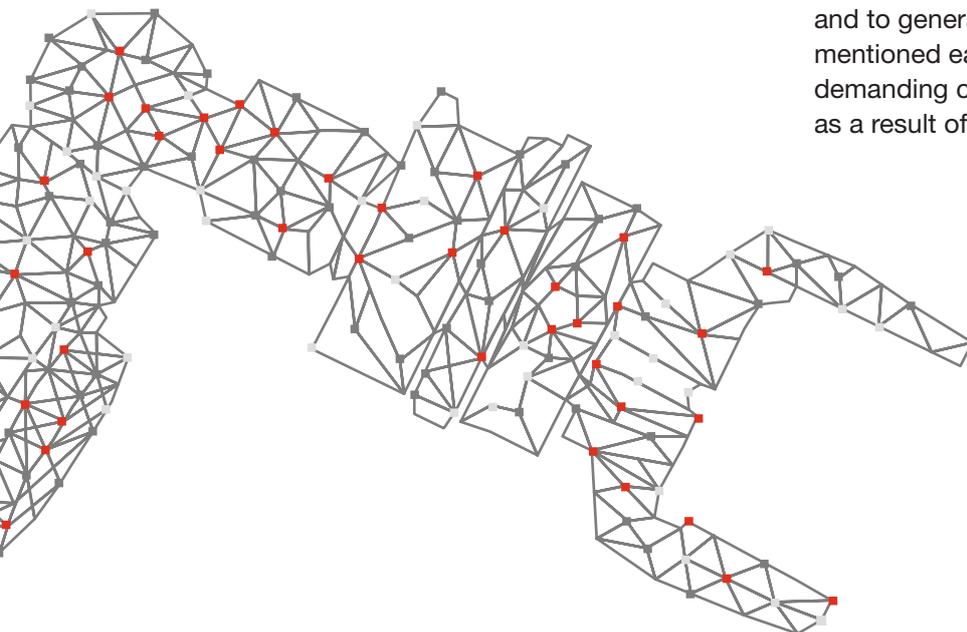
5. eCommerce enablement: use network modelling to balance operations with online channels

eCommerce has been on the rise against the backdrop of COVID-19. With more and more customers ordering online, managing the supply chain is becoming more challenging.

Companies that invest in their eCommerce supply chain today will build a platform to capture the inevitable future growth. First, anticipate the increased volume of eCommerce fulfilment and scale up your supply chain capacity.

With the growth in demand, companies should also review their logistics route networks, warehouse locations and capacities, and perform network modelling to balance delivery performance against cost to serve.

But the increased scale requires more than just physical capacity. Companies should look at building unified middle-tier platforms to connect their online channels with their offline operations, both to improve efficiency and to generate the data required to feed the analytics mentioned earlier. Companies should expect more demanding customers and more aggressive competitors as a result of the current increase in digital consumption.



Where to focus next

Supply chain solution	Description of solution	How we can help		
		1 Agile sourcing and supplier management	2 Enhanced supply chain visibility	3 Diversified consumer reach & delivery options
Connected supply chain	<ul style="list-style-type: none"> Rapid big data processing and process automation enable real time visibility and easier management of supply chain. A new supply chain ecosystem uses advanced analytics to be more predictive, resilient and responsive 	<ul style="list-style-type: none"> Determine gaps and opportunities in supply chain risk-modelling tools, and determine how to better consider external factors, such as disease, natural disasters, labour strikes, shifts in trade policies and more 	<ul style="list-style-type: none"> Develop end-to-end logistics visibility for a multi-stage supply chain and warehouse network Enable proactive demand sensing and multilevel demand consolidation 	<ul style="list-style-type: none"> Identify supply remediation options and analyse the timing of impact and/or costs for levers like rerouted freight Assess where supply risk exists with categorisation into potential for revenue deferral, and versus loss
Supply chain digitisation	<ul style="list-style-type: none"> Supply chain digitisation will transform numerous key operations functions (e.g., integrated planning and execution systems, logistics visibility, autonomous logistics, smart procurement, and warehousing, spare parts management, and advanced analytics) and help move closer to a customer-centric enterprise 	<ul style="list-style-type: none"> Build integrated material requirements planning (vendor-managed inventory/consignment stock, visibility on inventory) and enable vertically integrated real-time planning in production 	<ul style="list-style-type: none"> Establish processes to enable sales-driven actions within the supply chain where supply is constrained: allocations and demand shaping 	<ul style="list-style-type: none"> Utilise digital customer and configuration data, sales data, service needs, and external data Perform digital supply chain segmentation after customer requirements and product characteristics



Contact



Marc Philipp

Management Consulting Leader
PwC South East Asia Consulting
PwC Singapore
marc.philipp@pwc.com
+65 6236 4008

