

## Optimising your Supply Chain post COVID-19

This white paper was prepared by Intent Group's Director of Supply Chain, Noël Thomson.

### About the Author

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Noël has over 30 years' experience in supply chains and manufacturing and is currently studying towards a Masters in Supply Chain Strategy Optimisation. He has worked with global blue-chip companies, across an array of industries including food, FMCG, commodities, building products, and beverages. With an emphasis on strategic thinking, supply chain, Sales & Operations Planning, implementation of ERP systems and transformation projects, Noël has honed his capabilities in collaborative and strategic approaches to deliver sustainable value for businesses. He blends technical innovations for problem solving with his passion for supply chain and is defined by the people and teams he engages with.

### Introduction

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There will be much to do for supply chain leaders as we come out of lockdown and get to grips with the shape of our new economy. Without doubt, the priority is to connect with people and support their safety, health and wellness. Being mindful of the human face the pandemic has caused is the first place to start.

For supply chain professionals, a focus on customers and suppliers must immediately follow. Everyone is facing changes in their supply chain. You will want to quickly understand demand changes, supply disruptions and risks in your network in the COVID-19 environment. This article offers supply chain leaders some insights and action plans to help cope with the uncertainty, in order to quickly adjust and set your business on the way forward to surviving and thriving.

### People First

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Focus firstly on the impacts COVID-19 has dealt to the people in your network. Not only is connecting with people to appreciate and support them the right thing to do on a human level; good relationships are also fundamental for a successful supply network. You will have already been communicating between bubbles virtually via Microsoft Teams, Zoom, Facebook and other telecoms our modern world has enabled. Everyone is facing some degree of change in their lives. Being mindful of the human face of the pandemic and putting people first is the spirit in which New Zealand has overcome the challenges of Alert Level 4.

### Supply Chain Disruptions

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Disruptions to supply chains impacted by COVID-19 have spread in compounding waves, starting with demand shocks: for example the runs on toilet paper, the shutdown of tourist and hospitality trades, the cancelling of building work, and the overload of couriers delivering everything to our homes.



FIGURE 1 - Customers restricted at PAK'nSAVE stores as people 'panic buy' during COVID-19.

Then came the supply shocks: such as sanitiser and personal protective equipment factories shutdown for weeks in China, the lag on making more live yeast for baking, or shipments of scarce supplies being diverted, based on need to Europe or the USA. There is a global shortage of caps, pumps and bottles for sanitiser and hand soaps. Capacities are stretched in medical equipment supply, as well as in the logistics and courier industry.

Many aftereffects are still developing, and some international sources of supply will cease to exist post COVID-19. Uncertainty can play havoc in your supply chain, as we will soon see in this article.

### New Zealand trade with the rest of the world is about to change due to COVID-19

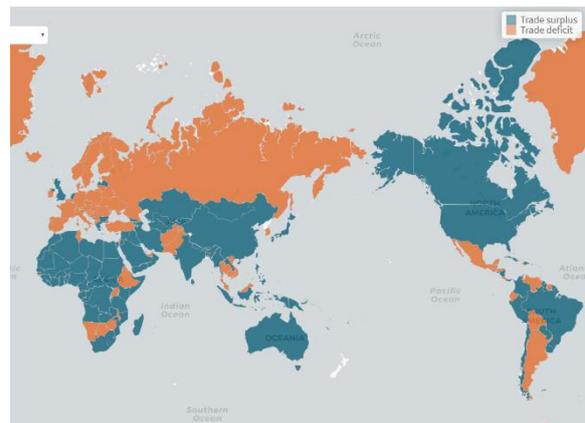
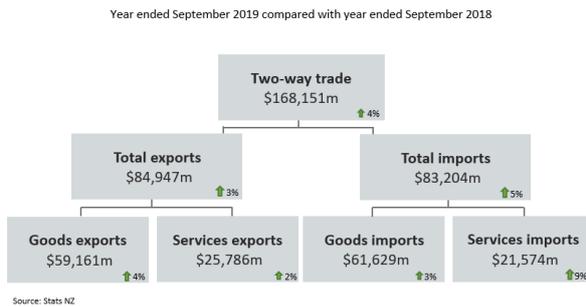


FIGURE 2 - The shape of New Zealand two-way trade with countries around the world.

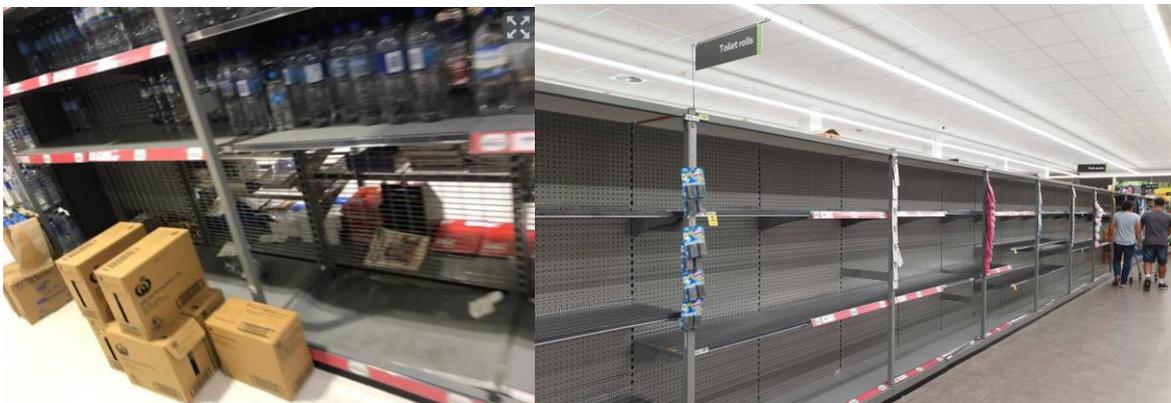


FIGURE 3 - Businesses are facing continuity problems in the face of the supply chain disruptions.

## Uncertainty Makes Things Worse

Exacerbating the problem is uncertainty, as:

- Consumers panic buy some things and stop buying others,
- Businesses reprioritise and put plans on hold, and
- Investors hold on to their wallets and their breath.

While your industry may be more or be less affected, the questions of uncertainty in demand and uncertainty in supply are widespread.

Financing, logistics problems and cost impacts were all major consequences of the 2008 Global Financial Crisis (GFC). Indeed, the GFC taught us some lessons in the value of collaboration with trusted suppliers and customers, of improving visibility across the supply chain, connecting to respond quickly and using analytics to understand alternative scenarios.

A challenge is 'Can individual companies solve these uncertainties and problems on their own?'

## Decision Making is Complicated

Supply networks are more complicated than a single organisation can influence completely on their own. Lockdown notices to control COVID-19 around the world have clamped down on network flows and new border restrictions came into effect. Tourism, hospitality, construction, banks, manufacturers, suppliers, service providers, transport companies, importers, exporters and local retailers are all experiencing consequences. The economy is reshaping more quickly than ever before. Demand for some items has outstripped supply, while other goods simply suffered supply shocks as factories closed (e.g. production of smartphones shut for eight weeks in China).

How does your supply chain adjust to this, as waves spread through your network like multiple bullwhip effects going in both directions?



FIGURE 4 - The classic bullwhip effect: Delayed demand signals amplify the supply response.

The bullwhip effect typically is a problem in forecast-driven supply chains, where careful management of the demand and its effects on inventory is an important goal for supply chain managers. Demand shocks like COVID-19 only make things worse.

In 2009 the Wall Street Journal described how information disconnections in the electronics supply chain hurt the industry after the GFC of 2008. Best Buy said it could have sold more electronics equipment, but deep production cuts meant the retailer could not keep enough goods on shelves. As the contraction

raced down the supply chain, its effects became amplified. Manufacturers cut production by 20% while actual consumer demand only dropped less than 8%. The upstream over-reaction caused out of stocks.

The reverse bullwhip effect comes into play when supply disruptions occur and the supply chain becomes volatile as orders get inflated. A pandemic like COVID-19 makes things even more unstable, including the effect of uncertainty around communications, leading to panic buying.



FIGURE 5 - Supply shocks cause a reverse bullwhip: Resulting in panic buying.

## Optimising Your Supply Network / Chain

You will be asking yourself:

What new capabilities must I build into my supply chain to cope with the new economy?

How do I ensure my business captures short term opportunities, by having ready supply available?

How do I avoid buying too much, only to later suffer discounting and obsolescence costs?

What is the most efficient way to right-size my inventory for the changed customer demand?

How do we prioritise and connect with customers and suppliers across our network?

How do I make my supply network more resilient?

## Getting Your Demand Right

You want to capture every sales opportunity, but also not be stuck with obsolete stock. So, managing demand and its variability in this new environment becomes more important than usual. But as we have seen, the old ways of demand management have their issues, particularly in the fast-changing pandemic world. Forecast accuracy, lot size, information latency and order cycle lag time are contributors of the bullwhip effect.

**There are several ways you can combat these distortions of information to improve demand certainty:**

Action	Frequency
Share information across the supply chain.	Ongoing
Map your product portfolio to the new market conditions.	Regularly

Model your product mix and flows under the new sales channel realities.	Regularly
Optimise your inventory and update the planning factors that will keep it in shape.	Regularly
Use Lean techniques to optimise lot sizes (replenish more frequently in smaller drops).	Set up
Increase order cycle speed, connect appropriate real time data.	Set up
Use technology to increase the speed of the demand signals you collect.	Set up
Adjust settings in your demand management algorithms (two years' history may no longer be appropriate), insert events, and insert time-phased models for the future horizons.	Regularly
Ensure your supply chain is well connected with the company's engines of innovation.	Ongoing
Connect further upstream in your value network to gain clarity of demand by end customers and the channels they use to buy.	Ongoing

All these actions will improve the quality of the demand signals, help to understand true demand and improve your speed to respond to changes in the market.

## Buttoning Down Supply

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Major swings in inventory will no doubt be one of the challenges for supply chain leaders.

So, what actions can you take to minimise the stress on working capital, avoid unnecessary costs and ensure materials and products continue to flow efficiently?

**Actions to safeguard supply include:**

Action	Frequency
Update your supply segmentation based on your re-mapped product mix.	Regularly
Update your inventory policies and ensure they are codified into every SKU.	Regularly
Review supplier forecasts and open purchase orders, particularly long lead time items.	Ongoing
Shorten your supply chain, e.g. nurture local manufacture and sourcing.	Set up
Use Lean techniques to optimise across organisations (e.g. JIT and VMI).	Ongoing
Take waste out of business processes across your end-to-end network.	Ongoing
Build responsive processes so your operational teams can quickly adjust to changes in demand and supply (e.g. Operational Excellence DMS and VM).	Set up
Secure secondary sourcing to mitigate supply shocks.	Set up
Build processes, structure and contract conditions that enable collaboration across you supply network.	Regularly
Leverage technology that improves supply chain visibility and gives you real time insights.	Set up
Prepare scenarios to evaluate in S&OP, understand financial impacts and make proactive decisions.	Regularly
Segregate your S&OP into short-term and long-term horizons.	Set up

Communicating with your stakeholders is especially important, to understand their perspective, as well as to co-ordinate externally to keep customers and suppliers informed about any significant changes you are making.

## Managing Your Network

Expect price to go up and some capacities to be constrained, as supply bases rationalise and logistics processes require new border controls. New Zealand's main import and export partners are suffering significant change from the pandemic. The IMF and WTO are both currently discussing their concerns about projections of global trade declining by between 13% – 32% as a result of the COVID-19 pandemic. The risk to supply chains is significant, and it will require flexibility to maintain resilience.

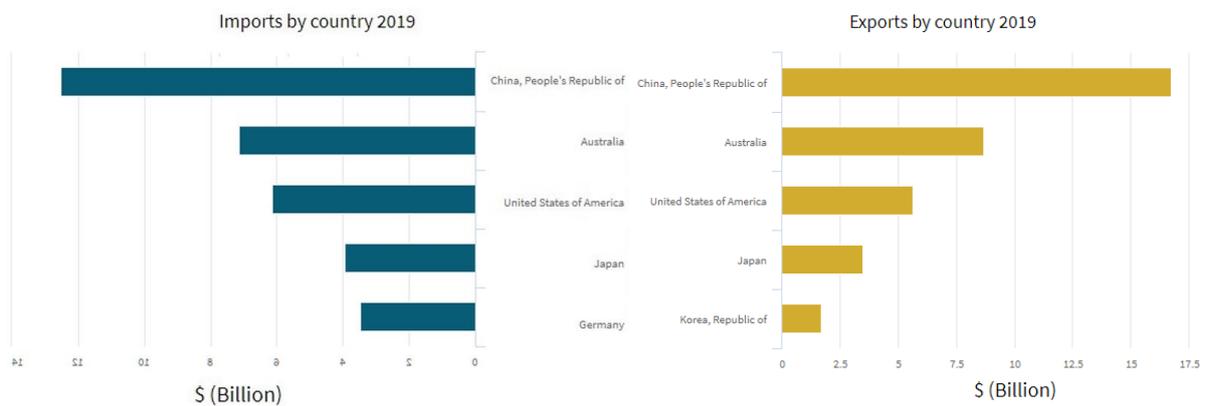


FIGURE 6 - The value of New Zealand product imports and exports with each top 5 trading country.

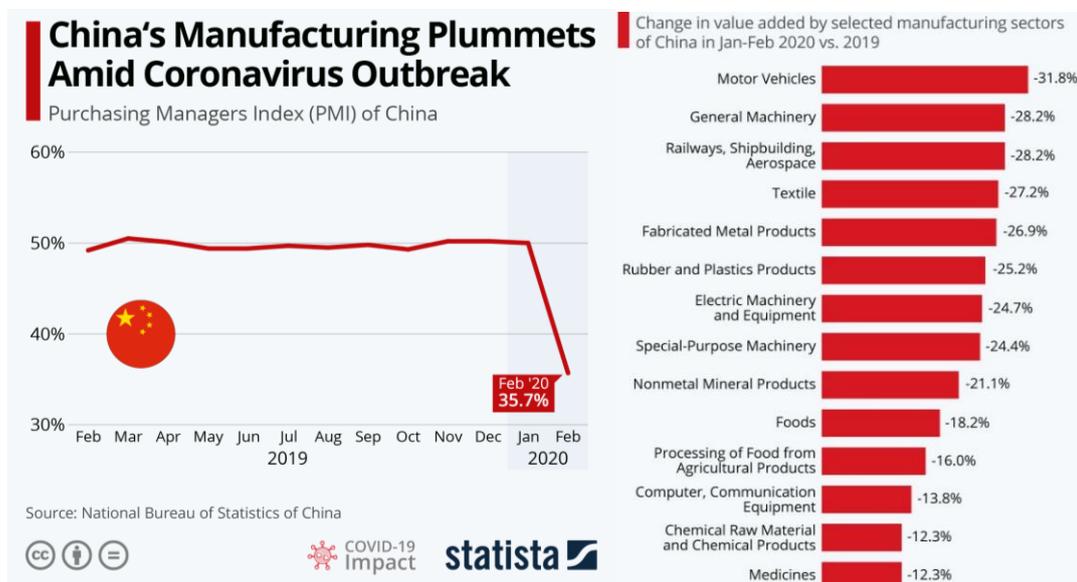


FIGURE 7 - Manufacturing in China dropped 15% with the COVID-19 outbreak.

Connecting with your network, and being attuned to the market, will pay dividends for managing supply chain risks. The value of relationships in supply networks cannot be overstated. While Force Majeure may

have played havoc with some risk mitigation afforded in contract documents, there are things in your control that you can manage that will improve your supply network resilience.

You will want to be clear about priorities and trade-offs that you need to make in your network. Not every supply chain will have the same profile in terms of responsiveness (emergency services for example), reliability (airlines), agility (fashion), accuracy (IT), cost (commodities), quality (medical), efficiency (manufacturing) and service (consulting). After understanding your demand and supply characteristics, you can then design your supply network to deliver the most important customer requirements as a priority in this situation. Be prepared to adapt and make trade-offs or suffer uncompetitive consequences.

No doubt, you will have already dusted off your supply chain business continuity plan. Keeping up to date with developments as governments, trade financiers, and boards of directors make decisions will help you manage your supply network risks, including to:

<u>Action</u>	<u>Frequency</u>
Review your supply network and infrastructure required under the realities of your new product mix and channels to market (e.g. online sales will have grown).	Set up
Realign strategic partnerships according to your updated supplier segmentation and re-mapped product mix.	Set up
Allocate COVID-19 playbook strategies for each segment of your procurement plan.	Regularly
Be a customer of choice, by ensuring your procure-to-pay processes are working well.	Ongoing
Work closely with your finance team on cash flow levers and balance the risks around working capital and supplier continuity (days payable, days inventory, payment terms).	Regularly
Ensure visibility of any offsite assets register.	Regularly
Review and keep up to date your procurement contracts register, particularly as things will change over the coming year.	Ongoing
Map your value chain, understand where your network is vulnerable and highlight any gaps in your supply chain competencies required in the new environment.	Regularly
Chart customers and suppliers in a risk matrix, utilise industry knowledge and include outside/independent input.	Regularly
Secondary sourcing and domestic sourcing help to lower your risk profile.	Set up
Consider collaborative S&OP with key customers and supplier to reserve and orchestrate capacities in your network.	Regularly

Get help. There is much to do. If you need more supply chain resource, then contract highly skilled professionals to quickly make a difference in a short time. Actively design your supply network, and be urgent with the changes required in a COVID-19 pandemic world. Gartner showed that the more quickly a company adjusted its supply chain to the new GFC realities in 2008, the more likely the company is to survive and thrive.

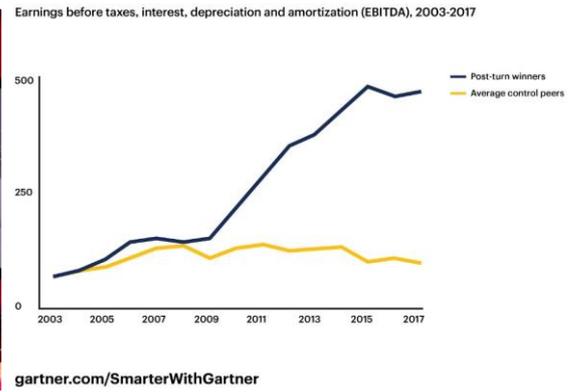


FIGURE 8 - Companies that adapt quickly with strong supply chain strategies turn out winners.

## Sources

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