A Review of Impacts on New Zealand Supply Chains caused by a COVID-19 omicron outbreak

Supply Chain Risk Analytics Network

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A Review of Impacts on New Zealand Supply Chains caused by a COVID-19 omicron outbreak

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Contents

Summary

This document summarises the responses from sixty leading supply chain specialists in New Zealand who shared their views concerning the country's supply chains' levels of resilience should there be a COVID-19 omicron outbreak. These specialists come from a wide range of operations, including some of the country's largest ports, agricultural producers, sea fisheries, retailers, hardware, 3PL's and transport providers, appliances, delivery services and shipping companies. More than 40% of the participants hold a masters degree, have more than 20 years supply chain experience and are currently in an executive or management role. Exceptionally large numbers of supply chain practitioners foresee significant impacts throughout the country's economic engine if parts of the workforce had to self-isolate to avoid transmission. Pinch points include the country's ports, delivery services, container availability, inland ports and transport hubs, road transport and warehousing. Significant to major supply chain disruptions are anticipated if more than 15% of the workforce in the supply chain had to self-isolate at the same time.

Operational Thresholds

Figure 1 on the next page depicts the degree of staff absenteeism that is anticipated to result in supply chain disruptions. The dotted line shows the participants' threshold points at which their supply chains are believed to become completely dysfunctional. For example, as shown by the red arrows, 20% of participants indicated that their supply chains will become completely dysfunctional if labour absenteeism in the supply chain reaches 30%. The coloured areas in Figure 1 show the level of supply chain disruption that could be expected under different levels of labour absenteeism. These areas are based on the 10^{th} to 90^{th} percentile threshold values provided by participants. For example, the blue line indicates a 15% level of staff absenteeism in the supply chain. This level is high enough to assume that all supply chains in New Zealand will be impacted (the blue line does not cross through the green area). Minor impacts and significant impacts (yellow and orange) could be anticipated, but the 15% absenteeism level is too low to cause complete disruptions (red area on the graph). According to this graph, complete disruptions are only anticipated at a level of 25% absenteeism or higher.

Figure 1 illustrates the result for all participants. Figure 2 reflects the opinions of executives and senior executives only. In general, senior leaders appear more conservative and anticipate issues in their supply chains at lower levels of absenteeism compared to other practitioners.

When an individual tests positive for COVID-19, a number of other people who do not have COVID-19 may need to go into precautional self-isolation to reduce the risk of transmission. Precautional self-isolate will add significantly to staff absenteeism. There are various factors that will determine the ratio between precautional self-isolating individuals and actual COVID-19 cases. This includes the concentration of clusters, the use of Rapid Antigen Testing (RAT), and other responses put in place by government. The following link provides important guidance from government that will be initiated at different levels of infection in the community. These guidelines directly influence supply chain staff absenteesm.

https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-response-planning/omicron-community-what-means-you

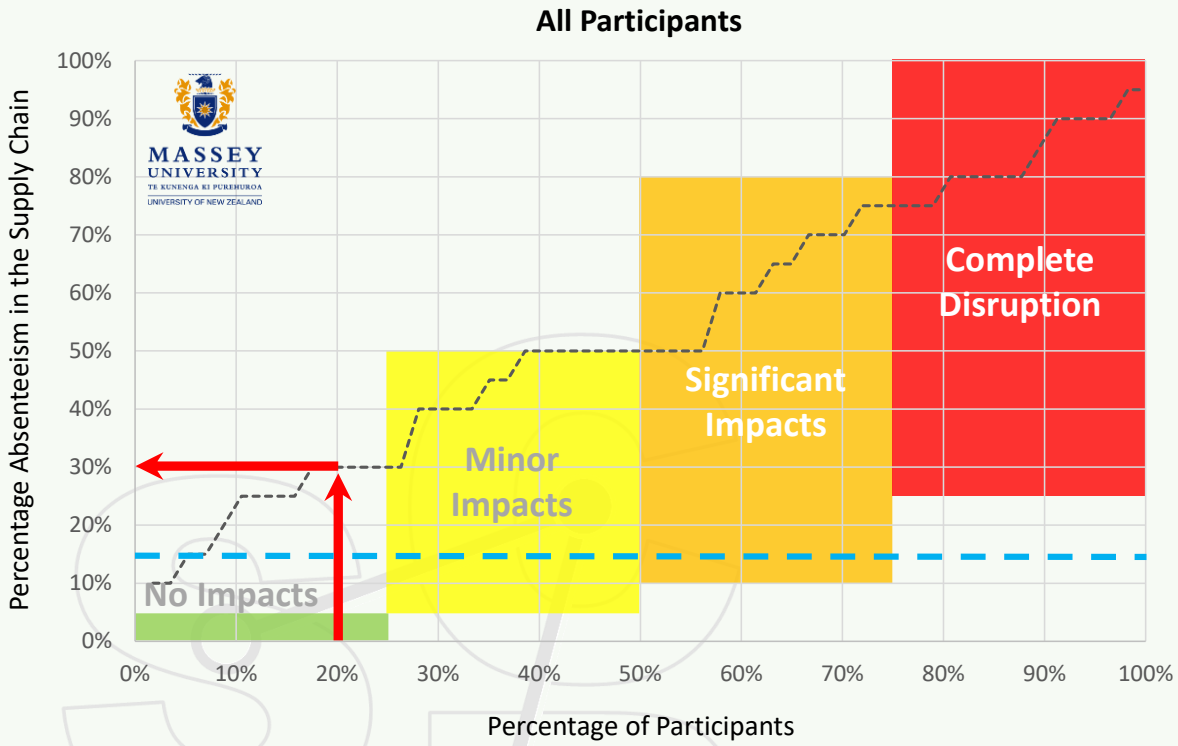


Figure 1. The degree of supply chain disruption associated with different levels of staff absenteeism. This graph is based on inputs from all participants.

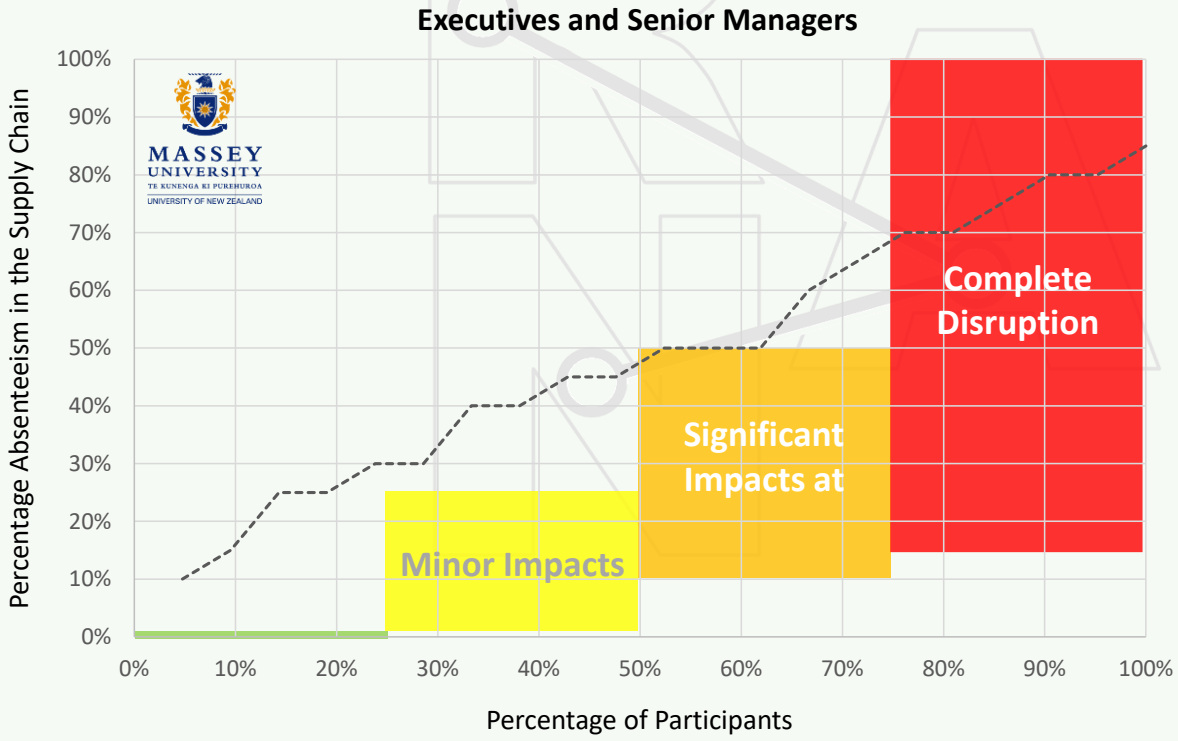


Figure 2. The degree of supply chain disruption associated with different levels of staff absenteeism. This graph is based on inputs from executives and senior management only.

Pressure on Services and Infrastructure

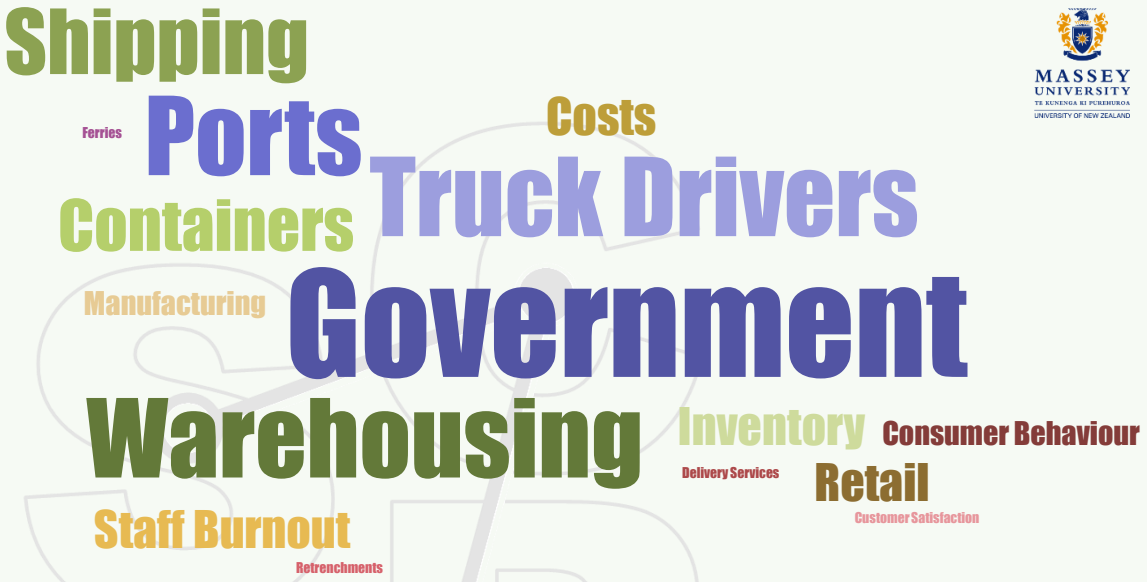
Table 1 lists critical supply chain components and services that are likely to be impacted by an omicron outbreak. Percentage values depict the percentage of participants who believe that these services will experience significant to major impacts. Compared to other survey results, these percentages are relatively high and point to a deep concern amongst supply chain practitioners in industry. High degrees of disruptions are anticipated in the country's ports, delivery services, container services, transport hubs, road transport and warehouses. Collectively, these make up key elements for almost every supply chain in the country.

Table1: The percentage of participants who expect significant impacts on specific supply chain components in New Zealand caused by COVID-19 related disruptions

Supply Chain Component	Percentage of Participants who foresee Major or Significant impacts
Ports	85.2%
Couriers / Delivery Services	80.0%
Container availability	79.2%
Inland Ports / Intermodal Hubs	79.2%
Road Transport	77.2%
Warehousing	76.4%
Retail Distribution	76.0%
Manufacturing Facilities	74.5%
Agricultural Processing Facilities and Pack Hous	70.5%
Retail Stores	68.1%
Raw Materials & Packaging	62.7%
Cook Straight Ferries	59.6%
Fisheries and Processing	59.5%
Railways	58.3%
Airfreight	56.9%
Online Stores	39.1%
Farming and Forestry Output	38.6%

Comments by Participants

The word cloud below shows the main topics raised by participants when asked to comment on the impacts of a widespread omicron outbreak. Larger printed words depict topics that were raised more frequently.



SELECTED INDIVIDUAL COMMENTS:

Due to rapid outbreak in community, port workers, truck drivers, warehouse labour and administration staff will get sick and may not be able to perform tasks properly, which will result in disruptions in almost every logistics segment. Subsequently, retail and wholesale can encounter stock-out situations or need to bear a considerate level of inventory.

Absence due to isolation requirements will disrupt the workforce. As NZ relies on a large import model for goods which is already under strain due to volume and staffing. Any further degradation of flow will see large disruptions to end consumers regarding product availability, and further increases in costs.

The largest challenge NZ's supply chains face during an omicron outbreak is absenteeism. The lack of resources to fill the gaps is not currently available in New Zealand and government has not made any decisive decisions around creating additional capacity to enable supply chains to manage an outbreak effectively.

If the Courier/Delivery Driver at a depot gets omicron and close contacts who are also in the same occupation are required to isolate. This will significantly impact deliveries in multiple areas for 2 weeks, causing high volumes of delivery backlogs and complaints from customers.

My biggest concern will be poor coordination of limited resources or other external impacts significantly compounding issues (such as the closure of SH1 in the South Island at Wilds Pass).

When we talk about staff in our supply chain I think internally. Yet of course our supply chain includes the 1000s of operators running all sorts of factories across NZ and the world.

My greatest concern is business's collapsing in the next year or business's closing branches and retrenching.

All supply chain processes are interlinked, and companies should protect the workforce with a unified message. The only way to navigate through it is to avoid getting infected. I believe the government should mandate all workforce who can work from home should do so, thus limiting the touch points. That will create a less dense population at the supply chain nodes and could slow the spread. We all need to stay as healthy as possible as NZ is anyway suffering workforce shortages in healthcare.

Truck driver shortage. Not being able to collect import containers from the port and supply to manufacturers.

The government response in regard to categorisation of critical services is a concern.

Food security is key, but consumer confidence relies on seeing shelves in retail stores stocked up. Any disruption of even non-food items will create panic buying and lead to food shortages.

Every sector is already short of people.

We've been at a tipping point for a year, and yet we cope. There is no spare capacity. The strain on those who have to continue work will cause a significant ripple effect.

Lack of clarity on testing protocol and people's lockdown status and support. People won't get tested in some cases as they won't want to risk entire households being locked down and incomes lost for weeks on end.

Warehousing and cold storage for primary export will fill due to shipping disruptions and production will have to pause.

Truck drivers having to isolate for long periods, but the biggest initial threat is actually the government deciding which industries are critical and which are not.

Disruption to liner shipping services across the supply chain resulting in reduction in port calls. Port delays of inbound stock, delays at warehouses for unpacking and delays for product into stores. We are currently seeing huge stock for summer only coming in now, 3 months late and causing storage issues.

Lack of RATS to allow well staff to return early.

Disruption of supply of raw materials, ingredients, and packaging (already noticed now and potentially exacerbated)

Labour shortages, overworked drivers and limited capacity as country relies on 72% market from imports around the globe.

The NZ supply chain is already beyond breaking point and is holding on by a thin piece of string. Lots of qualified people are leaving the industry. The supply chain is harder to manage, so we need many more people. If we lose even a small number of staff, our facilities will grind to a halt.

Disruption to the flow of goods through the various logistics nodes and facilities. Will become 'boom or bust' cycles into, through and out-of NZ.

This will impact business' ability to deliver on customer expectations in a cost effective and efficient manner - likely driving lower service levels and higher costs.

The biggest concern I believe is a trigger effect in the whole supply chain due to this outbreak. There are pretty much delays at every step of the supply chain starting from overseas ports to the reduced shipping line services and our reduced workers at our depots here in NZ. Due to the health concerns, containers are now packed and unpacked slower. We used to get quick container unpacks within days after discharging from the port, but now due to the new rules a container can take weeks to be moved from the port to the unpacking depot. This has caused a huge backlog and with the new regulations warehouses and transport providers are offering a much slower service. With reduced staff this will cause a major delay in products/services being delivered to customers. However, the biggest concern I believe that will impact our supply chains depends on what the shipping lines do. They have already reduced cargo capacity coming into and out of New Zealand. Hence, high shipping container prices and with another outbreak the international carriers will reduce even more capacity/services coming into New Zealand. This will increase the shipping costs even more, affecting the cost of supply chains for all businesses who need to import/export.

Additional pressure to an already strained supply chain because of logistic delays, overconsumption/panic buying, crewing shortage, material shortages and extra precautions taken to minimise COVID spread.

If staff are isolating, there is no one to work. If all staff are at the workplace at the same time, then all need to isolate since they will all be deemed close contacts. This will close the business. All supply chains need people on the ground; drivers / port workers / retail / manufacturing etc.

The biggest issue (in fact in NZ the main issue) is the lack of investment by port companies which have become the choke point for this whole crisis. Shipping capacity has remained the same,

however, because of the delays at ports/terminals the shipping line's vessel frequencies have been greatly impacted. For example, many shipping lines run weekly port call schedules. However, when their vessels are delayed, this may reduce the calls to fortnightly or even longer. Vessel bunching is also problem. This has had a flow-on impact right across the spectrum including, domestic transport shortages, container depot congestion and warehousing space shortages.

Concerned the Cook Straight ferries become inoperable, halting ability to move freight between islands. There is no to little ability to upscale the capacity with coastal shipping, which also has longer lead times.

The proactive approach is definitely the one to go for. Planning for the inevitable, upskill people to fill the gaps, otherwise the effects can be catastrophic.

Supply Chain Risk Analytics Network

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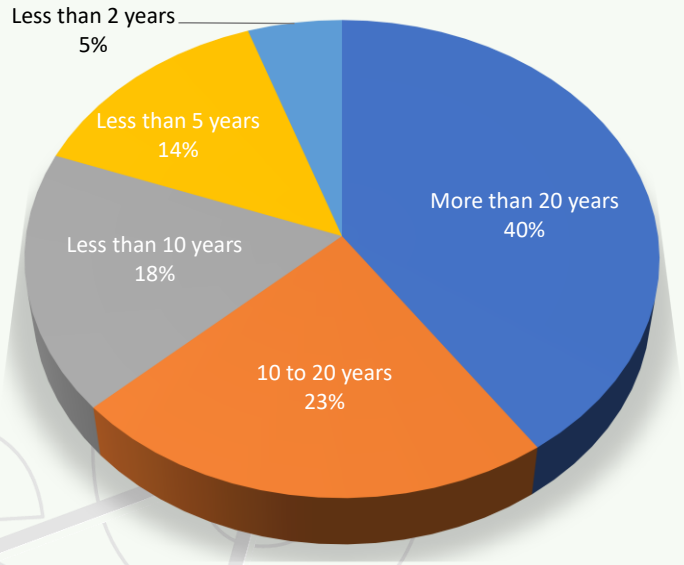
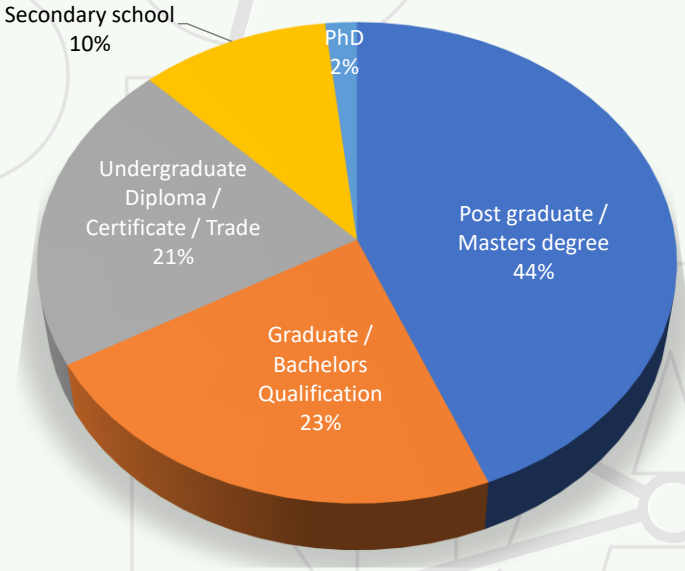
Information of Participants

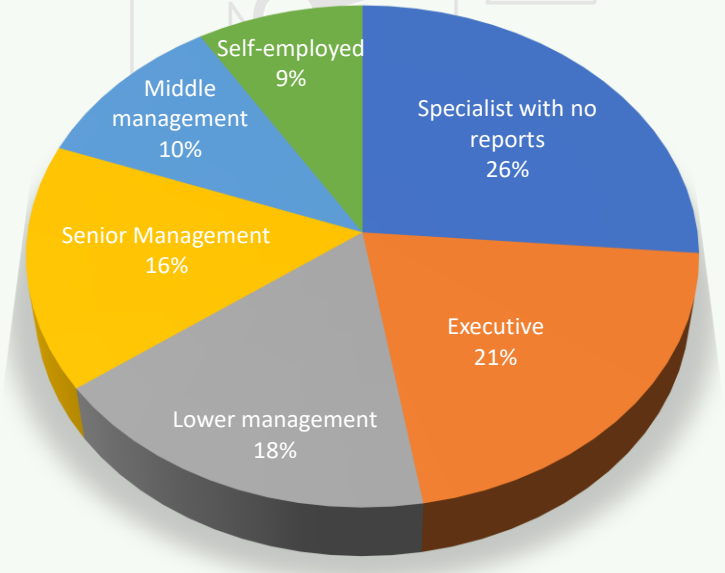
Experience



Education



Role



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"I am studying at my own rhythm; I started with papers in the quality area, and I found it interesting to continue with the Supply Chain courses. I enjoy the block course system, which allows me to be present three to five days per course in a real classroom, meet face to face teachers and colleagues. These days are an excellent opportunity to find support and guidance from professors, to share ideas with colleagues in exciting debates, roll–plays and practical exercises."

Anca, Wellington