New Zealand Supply Chain and Logistics Risks Outlook for 2023

2023

SCRAN

Supply Chain Risk Analytics Network

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

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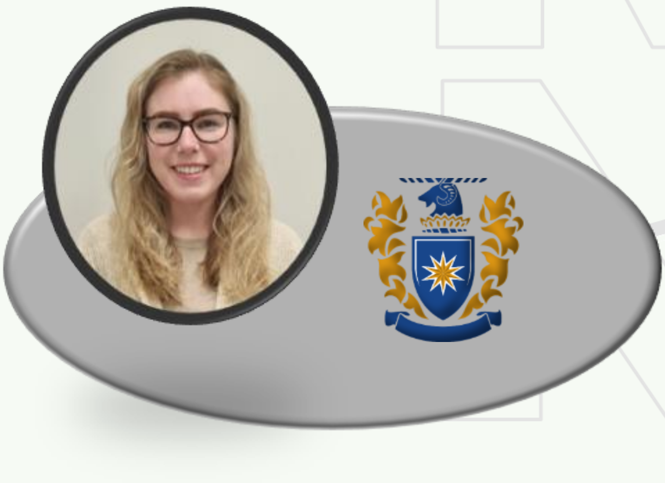


"Studying Supply Chain Management at Massey has been an engaging experience with a high calibre teaching staff that are able to share their industry knowledge to make topics more relevant."

Teresa, Tauranga

Introduction

This document reports on a review carried out by SCRAN in November 2022 amongst 172 supply chain practitioners with a focus on New Zealand's supply chain risks. The main themes of risk that emerges include:

- Risks associated with a world-wide financial challenge,
- Risks associated with geopolitics,
- Risks associated with a wave of changes implemented in Supply Chains,
- Risks associated with high inventory levels,
- Risks associated with staffing and labour,
- Risks associated with freight.

Additional risks also emerge as a result of interactions between the bullet points above. Other ad-hoc, but elevated risks include:

- Cyber-security,
- COVID related disruptions, especially in China,
- Government inertia as a result of upcoming elections,
- Natural events and extreme weather,

The SCRAN Supply Chain Risk Register for New Zealand in 2023

Items below are listed in no particular order:

- △ Quiet order books and high inventory levels are threatening the viability of upstream supply chain partners, such as manufacturing and transport.
- △ Supply chain partners upstream are likely to undertake some of the following measures that may impact reliability:
    - Reshoring
    - Product rationing
    - Staff restructuring
    - Refocus on core business
    - Mergers
- △ High demands on warehousing and 3PLs, increasing cost, efficiency and potentially becoming a choke point in domestic supply chains.
- △ Cyber-security remains a significant threat (probably increasing).
- △ Reliability of international shipping affected by low demands and slow steaming.
- △ Increasing regulations and compliance costs.
- △ Strikes, demanding for higher wages may impact labour intensive components in the supply chain.
- △ Market volatility and a re-focus on alternative markets are likely to increase in 2023.
- △ Continuing high staff-turnover and deteriorating morale likely make supply chains less responsive.
- △ Domestic transport costs are likely to rise, while service levels are may decline.
- △ An likely under-supply of reefer containers and an over-supply of dry containers (causing congestion).
- △ Continuing high inventory levels with increasing inventory holding costs.
- △ Unavailability of imported equipment and spare parts.

- Downstream supply chain partners may:
  - Re-focus on alternative markets.
  - Rationalize product lines.
  - Go through mergers.
- Unavailability of raw material.
- Continued pressure on new capital investments.
- Implementation of new systems (internal and external) may increase work complexity, experience initial errors, and increase risk of cyber-security.
- Continued disruptions and uncertainties in China-based operations.
- More volatile conditions in high-end, more expensive product ranges.
- Global supply chains are still relatively unstable and small disruptions could still cause significant impacts.
- Government inertia with 2023 as an election year under difficult financial conditions.
- Cost of Diesel rising.
- Extreme weather risk and other natural events.

  Ruapehu remains on Alert Level 1.

  Taupo moved to Alert Level 1.

  Above average warm summer expected.

  High fire season alerts expected.
- Zero-COVID strategy in China may continue to cause further disruptions in key ports, markets, and manufacturing.
- Some supply chain partners may be undertaking re-shoring activities with impacts on new regulations, competitors, distribution channels, agreements, government support.
- Risk in trade due to new polarising world orders.
- Political and social unrest in supply chain partner countries.
- Supply chain disruptions caused by significant events (e.g., elections and upcoming political summits).

Massey University is now delivering a 100% online Graduate Diploma in Logistics and Supply Chain Management. Developed primarily for individuals in the workforce, this course draws on leading academics and industry professionals to help educate upcoming supply chain practitioners.

All assessments are report based with no tests or examinations.

Participant Views for 2023

The word cloud below depicts the most frequently mentioned macro-economic landscape drivers that are likely to influence New Zealand's supply chains in 2023.

The word cloud below summarises the most frequently mentioned supply chain specific risks for 2023.

The graph below depicts the relative number of participants who anticipate specific changes in their current role as a supply chain practitioner. An overwhelming number of participants foresee a higher degree of job pressures in 2023, often accompanied by the expectation that their future tasks will become more complex.

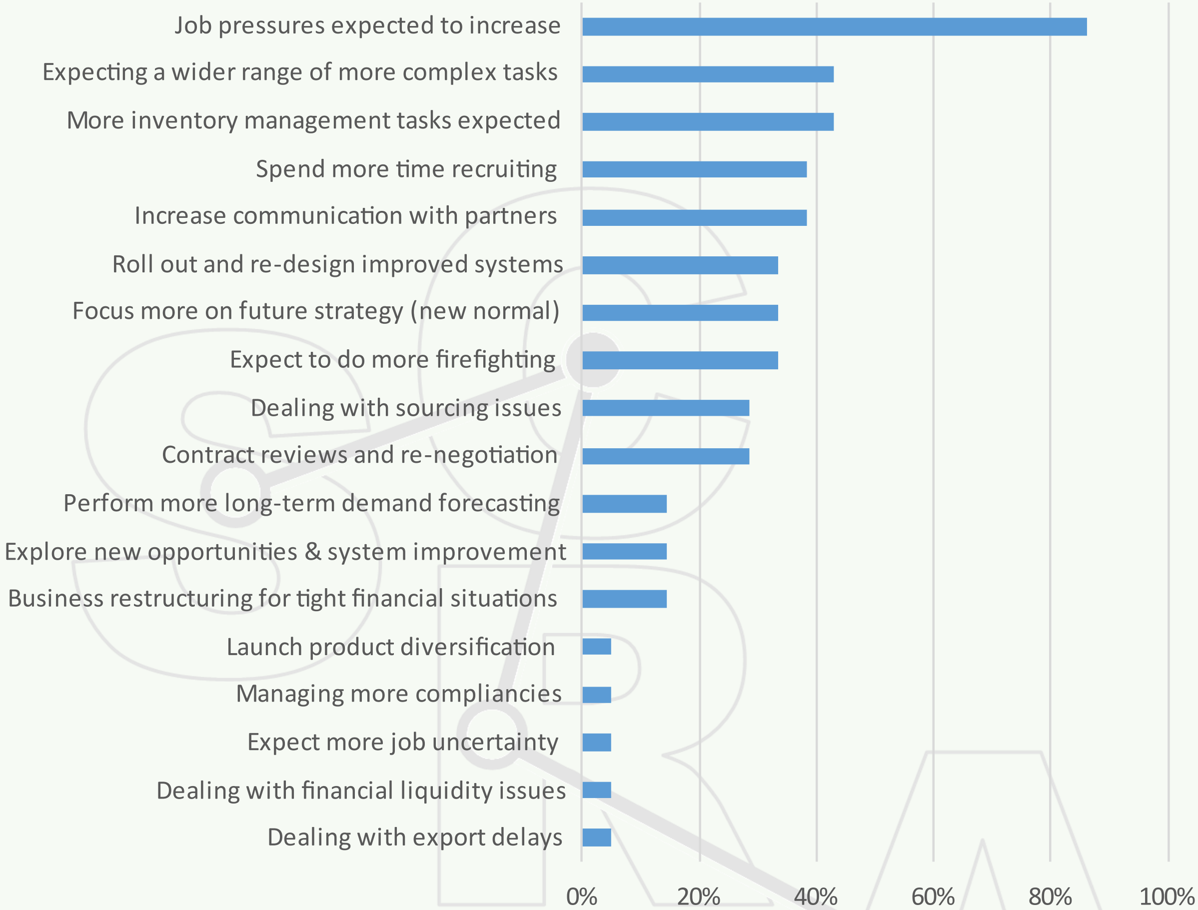


Figure: The number of supply chain practitioners who anticipate changes in their working environment.

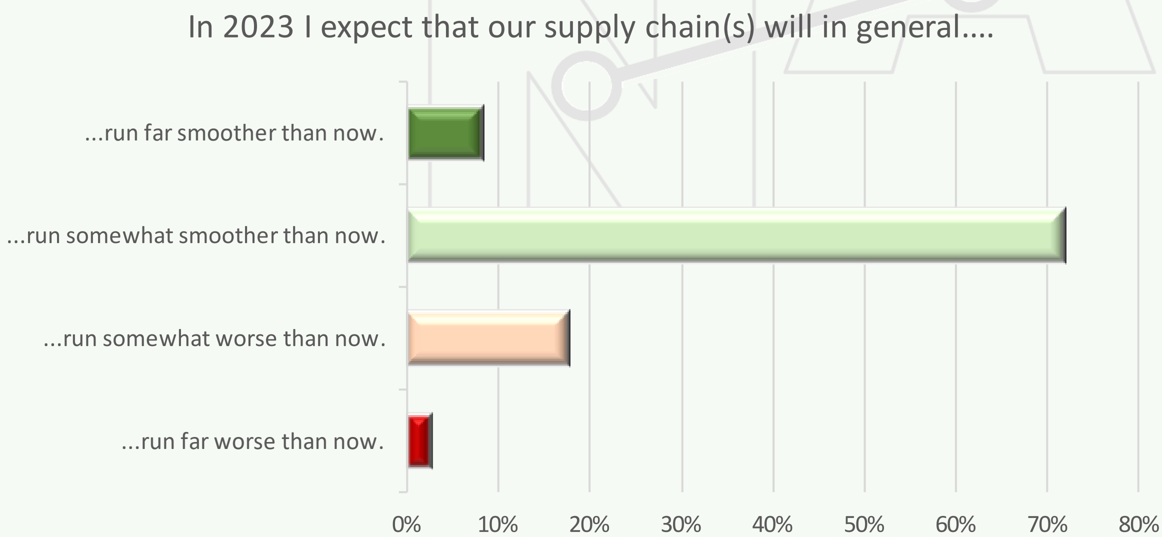


Figure: The percentage of supply chain practitioners who foresee better or worse supply chain performances for 2023.

Table: The percentage of participants who anticipate the following issues to decline, remain stable or increase.

	Decline	Stabilise	Increase
Financial weaknesses	7%	23%	70%
Inventory carrying cost	12%	23%	65%
Cyber attacks	3%	33%	63%
Supply chain staff turnover	12%	35%	53%
Regulatory constraints	4%	45%	52%
Strength of supply chain partner relationships	15%	39%	45%
Emergencies / Firefighting	17%	44%	39%
Stockouts	23%	39%	37%
Export volumes	18%	48%	34%
Challenges in shipping	25%	41%	34%
Supply chain congestion	31%	37%	32%
Import volumes	41%	29%	30%

INVENTORY

As predicted in the SCRAN 2022 mid-year risk outlook, inventory levels have been kept high to deal with disruptive supply chains over the past two years, while demand is now low. This drives a range of inventory related costs and places additional pressure on supply chain practitioners, especially when warehouses fill up and alternative storage need to be secured. Supply chains have not recovered completely and businesses may continue a "just-in-case" strategy into 2023. High inventory levels significantly increase working capital, especially under inflation, and reduces cashflow. There is still a significant global bullwhip effect in many supply chains and waves of under- and over-corrections in inventory levels will continue well into 2023. Some practitioners mention that raw materials can be hard to source. Other practitioners mention that, due to a drop in orders, manufacturers are currently building up inventory levels.

PARTNER CONSOLIDATION

Because of financial difficulties, businesses are more likely to realign their focus on core products, core customers and reliable key suppliers. At the same time, restructuring in the global logistics landscape that are driven by geopolitics, COVID and debt. This is causing shifts in manufacturing and sourcing (re-shoring) as well as downstream target markets. Over the past two to three years, COVID has caused supply chains to hold current state, while dealing with day-to-day disruptions. Several practitioners state that during 2023 they expect revised business and supply chain strategies and refinements to their internal systems. Marketing strategies and target regions are also being reviewed. This exposes the New Zealand supply chains to the possibility that, in some cases, Aotearoa may not form part of core business. The explorative nature of new systems and new markets also creates a trial-and-error environment that could affect supply chain performance, quality of ingredients and raw materials. This introduces a range of risks, especially during a global financial slowdown and while global supply chains are still relatively unreliable. Inevitably, supply chains are easier to manage and control when conditions remain reasonably stable. If too many parts of the supply chain introduce a wave of changes to their systems, there is a significant chance that parts of these networks could become mis-aligned.

STAFFING

Increasing job pressures was the most frequently mentioned issue when supply chain practitioners were asked about their work in 2023. There is still a significant labour shortage that impacts on all parts of the supply chain, including ports, warehousing, transport, casual labourers, but also specialist skilled personnel. Inflation is driving higher salary expectations and, following on from SCRAN's mid-year outlook, disruptions caused by labour strikes remain a high likelihood into 2023. Staff turnover is expected to remain high into 2023, increasing the time spent recruiting. Under a slowing economy, the likelihood of staff restructuring remains high. Many businesses are re-aligning their strategies, re-negotiating with supply chain partners and implementing improved systems, which places additional strain on staff and broadening the complexity of their work. These issues are likely to impact the responsiveness of supply chain partners in 2023.

International shipping is improving, and costs are lowering, but trans-Tasman services are lagging a few months behind. Several supply chain practitioners intend to revise terms with their freight partners in 2023. New environmental IMO regulations that will be implemented in January 2023 are expected to impact shipping schedules and efficiencies. Increases in incidents of slow steaming are expected and supply chain practitioners voiced a concern over more blank sailings. In the wake of continued inefficiencies caused by COVID, lower freight demands, increased IMO regulations and a large order book for new vessels, shipping companies may come under financial strain in 2023 and further consolidation of this industry cannot be ruled out. This may impact on services to New Zealand later in 2023 and into 2024. Domestically, supply chain practitioners expect prices of freight services to increase in 2023.

"Returning to school after 20 years was challenging. I am happy I enrolled with Massey University. The Supply Chain programs are very well aligned with job requirements, and they work perfectly in my case because I can complete the classwork on a timetable that fit well with my busy life, a fulltime job and a family with two teenagers."

Anca, Wellington

Comments by Industry Practitioners

Please note: These comments are shared without significant editing and verification.
Massey University does not necessarily share these views.

Tough financial times will force companies if not already to mature in their supply chain decisions and seek value for money rather than low cost. Companies that can deliver will be in a stronger position to forge stronger relationships with their customers.

Internal company development creating efficiencies and identifying weaknesses in our supply chain is increasing our stability. Exploring new options for freight for export is increasing the amount of inventory we need to carry; however this is preventing stockouts and making our supply chain a lot smoother and less disrupted.

With expected worldwide tightening, expecting some challenges and costs to come back into the supply chain. Also with NZ currency being so weak, driven by China, I expect costs for everything to go up.

With shipping delays increasing and the cost of sea freight increasing, the financial impact of carrying safety stock will increase, which in turn will cause rationing of product lists. Coupled to this, the lack of experienced staff at supervisory level is causing service issues.

Huge production bulges, particularly with vehicles create congestion from the Port onwards to the customer, lengthening delivery times, and creating financial pressure.

Future orders will reduce as the economy weakens. Labour shortages create burnout, which creates capacity constraints, which creates supply chain congestion.

Lack of labour throughout NZs supply chains (from port to truck to last mile) will mean supply chains will be less able to adapt to challenges and disruptions. This will put further strain on people within the supply chain industry and with skilled labour in high demand, people will take the opportunity to change careers. With increased churn relationships will weaken.

General fatigue and burnout across the industry means people less likely to go extra mile and supplying more service and sticking to process.

Inflationary pressure, increased costs, over stocked inventories, poor/slow governmental responses to indicators, as well as macro-economic factors: The bottom dropping out of global demand (spot shipping container rates have fallen through the floor), the collapsing of the Chinese housing market and war in Europe will all contribute to a destabilised economic environment. Locally the construction sector has already slowed, personal loans have increased, and mortgage defaults are on the rise along with interest rate increases. Spending will be curbed, and retail will see pressure to decrease pricing while experiencing increasing costs, so margins will be lower. This will strain supply chain relationships as businesses look for cheaper alternatives.

Global recession and currency fluctuation will make it challenging from a sales/revenue perspective, however I am reasonably confident that NZ ports will get back on berthing windows at some point in 2023 and that greater schedule stability will reduce freight rates ex-NZ and remove some of the stress and complexity that supply chain staff have been experiencing over the last couple of years.

Supply chain responsiveness and efficiency will be challenging to achieve, especially in near future (up to 1 year). Major drivers responsible could be the government mandates, pressure from local businesses and the tight coupling of resources especially in the chains operating in the global south.

It feels like the issues of 2022 are starting to settle and shipping services are becoming more stable and reliable. BUT we are still on a knife edge and any little shock to the system (new port congestion etc.) will cause the disruptions to reappear.

Shipping costs out of China to New Zealand haven't reduced, compared to the likes of Australia & the USA. Lesser shipping services are available into New Zealand, forcing us to look at re-onshoring, rather than importing.

In general, there will be stricter regulations in terms of safety and sustainability. Due to slow economy and inflation, the import volume is anticipated to decrease. However, as demand is declining, the supply chain constraints will be eventually eased up. Given these situations, more alliances or mergers are expected in the freight sector.

Our proactive plans we already in place; inflationary data, interest rate risk, internal staff turnover levels.

Uncertainty in China and Europe will impact the supply chain, container supply will remain constrained as congestion continues

The problem of insufficient investment in port infrastructure will continue to play a big part in the declining productivity of NZ ports. I believe NZ ports are around 10-15 years behind compared to overseas counterparts.

China's long-term "dynamic zero-COVID" policy has been generating a Cobra Effect. A chain reaction is that the national supply chain is partly fragmented and has less resilience, which would result in further diminished industrial and commercial circles, especially in the aspects of business stability and financial health. Under this situation, those highly China trade-interlinked nations have to set the course for alternatives. In consequence, the supply network is in the throes of restructuring. Artificial CNY devaluation may create an impression of short-term export stimulus, but also reflects domestic consumption downgrading.

Economic head winds have slowed retail sales and NZ manufacturer forecasts and production schedules, leading to continuing congestion challenges and very full warehouses across the network. The cost of capital for NZ businesses is going to be increasing significantly as businesses slowly adjust to the changing supply chain. Space is easing and landed costs will be coming down, but any of these savings are quickly eaten up by additional local costs.

Importers have raised stock levels significantly (20 - 30%) over the past 12 months to mitigate the schedule reliability of ocean freight, meaning warehouses/3PL's are currently over stocked. Warehouses/3PL's will become the pinch point of supply chains as warehouses operating over 90% capacity become less efficient. Consumer demand has reduced to a point in which transportation networks are also moving less volume which will increase service levels and delivery consistency to end users.

It is expected that high inflation will result in a reduction in discretionary spend, higher unemployment with some businesses closing resulting in less goods sold.

More acknowledgement of importance of supply chain management will lead to investing in more strategic supplier relationship management. BUT, there are also wars taking place, currently all indicators are pointing to wars increasing in intensity, which will continue to disrupt supply chains in countries directly and indirectly impacted by wars.

Relationships are pivotal to sound supply chain in a constrained environment that is becoming dominated by a global chip shortage with the major manufacturers being China and Taiwan. Military tensions are increasing with China firing missiles towards Taiwan. The chip shortage is impacting on delivery of new production facilities. One supplier had an entire factory built and could not source chips to enable production. An alternative source (at many times the price) was Italy. The chip shortage is also impacting on delivery of aircraft, road vehicles, ships and parts. This will inevitably increase over time unless alternative production is increased.

Global socio-political-financial system volatility increasing. Commodity demand decreasing and supply and demand volatility increasing. Supply chain risk factors increasing, biosecurity, war risk security, cyber risk security, loss and damage risk. Climate and weather risk factors increasing.

Staff costs will either increase due to expected / demanded pay rises and may lead to turnover which will add to the shortage of workers ... even when a producer is able to absorb or pass on the extra costs from inflation, they won't have the staff to produce at the same speed.

There are continual cyber-attacks which we see as a high risk. This is not going away, and we are putting more resources in to stay safe.

Volatility still remains within global supply chain. Infrastructure at ports, networks and regionally have not improved over the last 2-3 years to keep up with the ever-changing demand patterns emerging.

Security threats, inflation, recession still looms and with record unemployment finding the right people for the roles That need filling or that will be created with increased volumes both domestically and internationally will remain challenging and costly to all companies that wish to remain competitive, sustainable and profitable.

NZ is such a small market, as pressure comes on costs and other inputs we will continue to see increases from shippers and those will inherently flow through the supply chain. NZ is likely to be facing a recession in the next 6-8 months so that is likely to be impacting import volumes.

There is no financial relief in sight for export freight costs. Domestic transport costs are increasing. Time delays in getting the product into the market have not shrunk. Compliance costs are increasing. Regulatory bodies are becoming stricter.

There is limited temperature-controlled storage within NZ and many projects underway to address this, which may be a result of COVID constraints in recent years and inability to move product to end customers.

With interest rates rising and ongoing shipping delays the cash cycle is being extended and therefore leveraged businesses will have higher inventory holding costs

Diesel prices are problematic and impact nearly all transport costs, especially in NZ with the true cost of diesel and road user charges now exceeding the cost of petrol vehicles. This has increased transport costs through the variable and uncontrollable fuel surcharges.

Surplus of containers will lead to further congestion at empty container depots. This will lead to further congestion at the ports as lines struggle to evacuate containers.

Congestion of shipping infrastructure at major ports will continue to constrain NZ logistics, both import and export. This tension will be added to congestion around China and the US, and will have a negative impact on container availability and the attractiveness of NZ as a shipping destination.

I expect NZ exports to become more attractive as NZ dollar drops but without containers arriving then shipping will become more expensive for exporters.

Current outlook sees congestion around shipping decreasing and stabilizing mid-2023. Already we can see shipping costs decrease across multiple shipping lines. With cost of living going up and wage increases manufacturing costs in NZ will increase which makes importing a more viable option for retail.

Worldwide exports have decreased in some cases up to 20% already, which means fewer products coming into 3PL warehouses. Companies are also forced to plan their production and ordering better. However local issues such as railing still remain problematic.

Industrialization will slow down hence overall reliance on economies of scale driven by quantitative approach will decline. Qualitative approach to every business model will increase as entities focus on non-tangible assets like better durability, ethical sourcing, carbon minimization, authenticated suppliers, transparent product cycle etc. All of this to directly affect the share price as stock markets welcome a new change.

People have plenty of SOH in warehouses due to panic buying this year, we are not seeing the traditional peak period this year, shipping rates are declining, and shipping lines are trying to combat this by blank sailings. I have confidence buying will return to more normal habits next year pending inflation. We are a consumer country, we can't help ourselves.

Supply Side -Just in case inventory build-up will have to give way to reduce working capital exposures and cashflow constraints. I believe the volatility in the supply chain will not only create tension between partners, but a more diverse supplier base, which will diversify risk.

Overall, we seem to be heading towards a downturn in global economy, this coupled with hyper-demand for almost every industry over the last two years has caused a tremendous amount of oversupply and stock ordering to offset which has generally speaking caught up and hence demand for containers and vessels is decreasing at a faster rate than which it took off. As a flow on effect, we should expect to see less port congestion and bunching of vessels and an increase to shipping schedule reliability.

IMO 2023 meaning vessels will need to slow or change routes. Global demand slowing, resulting in blank sailings on main trade routes. Labour shortages in all parts of the supply chain.

Working closer with our partners will help gain some of the low hanging fruit. This should even at a low level provide some benefit in a time where everything is only getting harder and more expensive.

Regulatory constraints will increase, and I think that's where the negatives will start to show, there's a very thin line between the right amount of H&S and overbearing rules and regulations that negatively affect companies.

I believe the worst time has not come yet. As more and more economies are going into self-supplied and self-centred, the global network will break into more self-organized economies.

The market will remain under intense pressure as supply and demand variances compete with inflation and shipping space and scheduling issues.

Closer relationships with supply partners are key to ensuring transparency of information, early warnings of potential issues, sharing of risks through inventory strategies, jointly owned contingency plans to help absorb any shocks to the chain.

In order to draw on the expertise of our suppliers, we will need to develop our relationships towards partnerships in order to capitalise on opportunities for innovation and supply chain efficiencies & enhancement.

Impact of COVID in China, unpredictable demand from customers, limited shipping line coming to NZ, longer supply lead time and significant increase of manufacturing cost due to inflation and high environmental and regulatory costs.

Geopolitical risks are increasing at the same time as interest rates are climbing to curb inflation. With a recession looming things will get quite tough. Closer to home retention and recruitment is having the biggest impact on productivity. Open roles are causing higher workloads and leading to further turnover.

As shipping freight rates decrease, shipping lines will increase blank sailings causing delays. This will in some cases cause stock out situations.

All distributors are endeavouring to reduce high inventory levels carried through the pandemic. This may have a flow on effect to firefighting.

Off shore supply chains will be disrupted through supply shortages, while container shipping will stabilise as volumes reduce.

Staffing will continue to be a problem until the border reopens but may ease a bit if the recession bites and companies start laying off staff.

General deterioration of international relations and inflation combined with higher inventory stocks. Competent supply chain staff are hard to find and not being remunerated adequately to stay.

Global shipping sector 'conditions' will improve throughout the year - main trade lane capacities and rates starting to correct, this will flow down to NZ. Despite this, there wills still be increased levels of variability, uncertainty and risk in global supply chains. Inflation will remain high - impacting inventory costs and capital purchase decisions. Governments will look to minimise risks by increasing regulatory controls and requirements. Finding and holding onto good staff will remain a challenge.

With increased pressures for import and export requirements across the NZ supply chain it will require significant relationships to be built and nurtured. My belief is these pressures will force supply chain practitioners to shop around for the best service, where they would typically rely on their already proven relationships. This will lead to those relationships being diluted and more transactional relationships being developed.

There is a lot of money to be made from cyber-attacks and many target companies are totally apathetic about them... so expect more!

Firefighting is the current reality. This may take three years to subside. My recent iPhone purchase is on a six-week lead-time. Earlier this year, we bought a from Germany... a six month lead-time!!

China / US trade war is ongoing, but we can see the movements. Many Chinese manufacturers moved to other countries, for example iPhone 14 manufactures in India now, this is a supply chain uncertainty. These supply chain uncertainties have different impacts in different countries, for example UK and EU suffering, NZ and Australia may benefit from the uncertainties, as NZ exports foods and far away from the world. The increasing food and raw materials price may help Australian and NZ economy. But the government plays a very important role in the process, the policies may lead to different ways, this is a supply chain uncertainty.

Strengthening partnerships is imperative to drive efficiencies and cost out of the SC, critical now that working capital is once again a priority (post COVID)

Deliberate, strategic tactical plans to address historical problems across our supply chain will start generating returns. A series of poor decisions has affected our supply chain between 2018 and early 2022. The resulting disruption has doubled our inventory investment and decreased our performance by over 50%. The lack of a formal supply chain strategy to guide supply chain decisions was the catalyst that compounded supply chain risk.

Uncertainty over supply chain is still at a high level with inflationary pressures and shortages of key raw materials. Circular economy initiatives may be forced into practice to recycle goods that cannot otherwise be obtained.

Government regulations impose a lot of constraints which should improve the security of supply, at the cost of increasing the inventory & frequency of shipments.

China is planning to ease COVID restriction that can boost import/export. In turn increased volumes will add volatility to SC pipelines and increase stockouts. Current SC personnel turnover is already very high. Hard to find staff with right skills. Warehouses and 3PL are trying to cover losses made during lockdown.

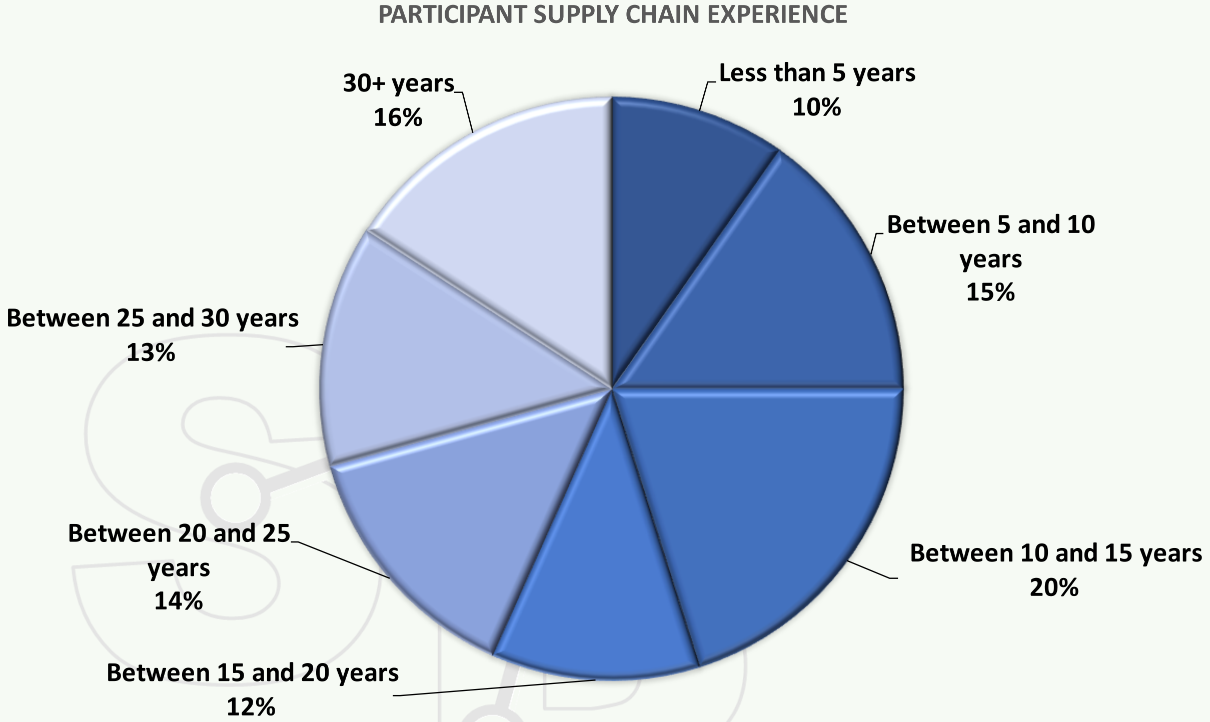
Export delays will have an impact on financial liquidity and inventory management. Being in the wine industry, NOT being able to get wine out of wineries on time will impact on how much fruit can be taken from the following vintage.

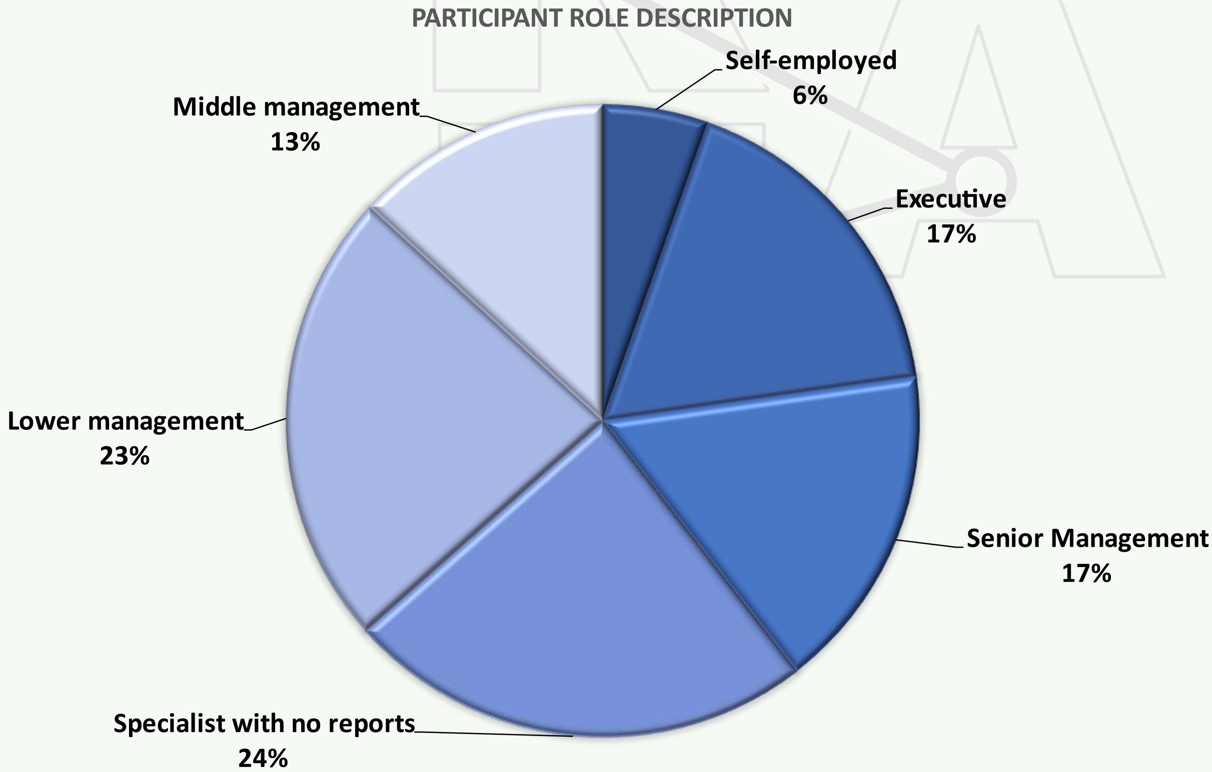
Everything under the sun is running the risk of a change. So does my job!

More capacity pressure due to longer dwells and changing shipping patterns. Increases the workload of the team and makes the operation less efficient.

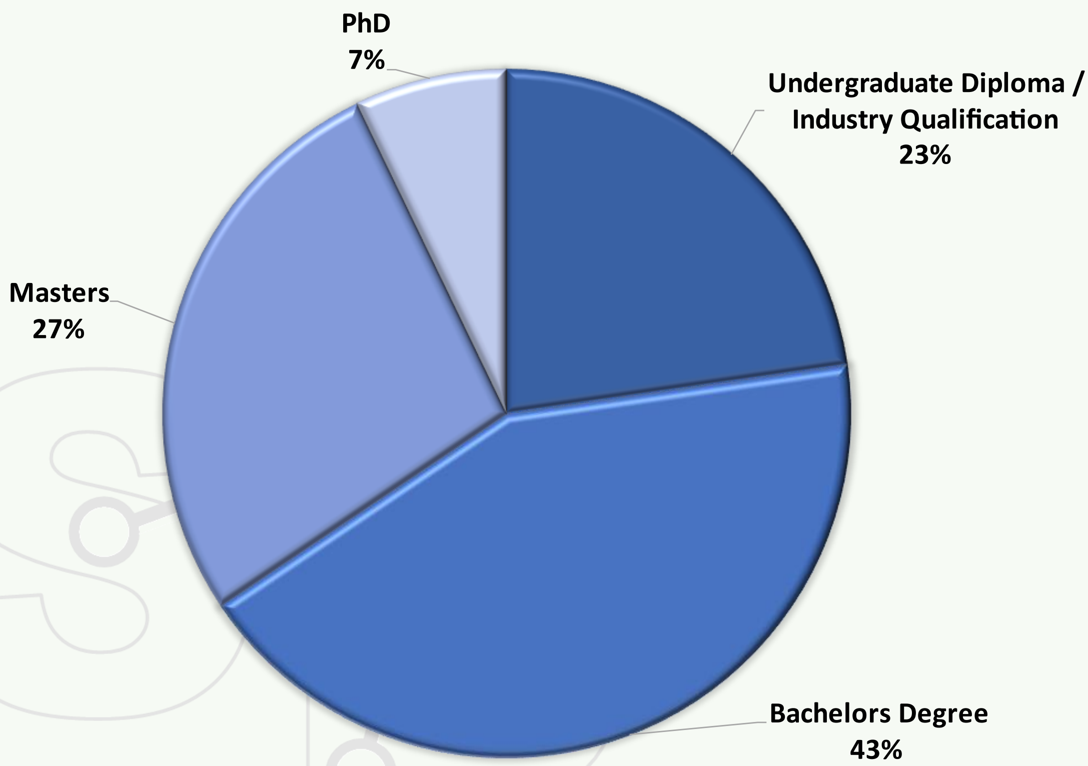
Space constraints will be the major here. The production would not stop as there is demand putting more pressure on supply chain. Products will go out of stock rotation or expire. The number of available warehouses within the country is also not looking great. Can also affect traceability when a majority of our stock has to be stored offsite.

Participant Information





PARTICIPANT LEVEL OF EDUCATION



"I chose to study Logistics & Supply Chain at Massey University, largely due to the flexibility the program provides and Massey'swell regarded reputation. My experience with the lecturers provides an enjoyable environment that encourages your curiosity and learningof the variety of topics involved."

Logan, Auckland

Upcoming Events that may fuel Supply Chain Risks

Significant Summits and Events

- February: 7th International Conference on Climate Change, Sri Lanka
- May, G7, Japan
- September: UN 2023 Sustainable Development Goals Summit
- September: G20, India
- ASEAN, Indonesia (date unknown)

Elections

- Argentina
- Bangladesh
- Cuba
- Finland
- Greece
- Myanmar
- New Zealand
- Nigeria
- Niue
- Pakistan
- Paraguay
- Poland
- Spain
- Thailand
- Thailand
- Turkey
- Tuvalu
- Ukraine

Supply Chain Risk
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