SUPPLY CHAIN RESILIENCE

In the time of Covid-19
Introductions

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Overview

1. How can we think about resilience in the supply chain space?

2. What are the resilience concepts and frameworks adopted by major actors in complex crises response globally?

3. What can we learn from global resilience experience in the context of COVID-19 in NZ?
RESILIENCE AND SUPPLY CHAINS
Enterprise Resilience

Enterprise resilience can be considered to be made up of three factors:

1. **Financial**

   Financial resilience

   The ability to withstand the financial impact on liquidity, income and assets.

2. **Operational**

   Operational resilience

   The ability to withstand operational shocks and continue to deliver your core business.

3. **Commercial**

   Commercial resilience

   The ability to respond to changing market and consumer pressures.

**SUPPLY CHAIN CHALLENGES AND CONCERNS**

- Lost revenue and poor customer service due to failure of supply
- Limited time and resource to develop contingency supply options
- Limited understanding of how much working capital stock may be tied up in logistics routes, impacting operations and liquidity
- Managing high risk contracts with suppliers and service providers
- Limited understanding of inventory cover
- Operations staff stretched with reduced workforce and backlogs
Industry trends

- Supplier risk assessments and partnering
- End to end supply chain and supplier mapping projects
- Increased scenario modelling
- Increased communication with service providers and suppliers
- Prioritisation of demand
- Consider near-shore options to shorten supply chains
- Establish integrated business plans to synchronise across all business functions
- Restructure supply chains to be more robust
- Increase modelling capability – predict customer behaviour, deal with uncertain events
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RESILIENCE IN GLOBAL CRISSES
Resilience defined

The ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth
- USAID

Disaster Resilience is the ability of countries, communities and households to manage change, by maintaining or transforming living standards in the face of shocks or stresses - such as earthquakes, drought or violent conflict – without compromising their long-term prospects.
- DFID

Resilience is the ability of an individual, a household, a community, a country or a region to withstand, adapt and to quickly recover from stresses and shocks
- EU

The ability of a system and its component parts to anticipate, absorb, accommodate or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration or improvement of its essential basic structures and functions
- World Bank/IPCC
The Resilience Framework

A set of capacities

Realised in relation to a disturbance

To affect well-being outcomes and trajectories

Well-being

Time

A set of capacities:
- Tools
- Money
- Resource

Realised in relation to a disturbance:

To affect well-being outcomes and trajectories:

Well-being over time
Resilience capacities and attributes

Resilience capacities

Vulnerable system

ABSORPTIVE

ADAPTIVE

TRANSFORMATIVE

Resilience attributes

- Robustness
- Self-organisation
- Learning
- Redundancy
- Rapidity
- Scale
- Diversity & flexibility
- Equity
# Resilience capacities and example components

<table>
<thead>
<tr>
<th>ABSORPTIVE</th>
<th>ADAPTIVE</th>
<th>TRANSFORMATIVE</th>
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<tbody>
<tr>
<td>Bonding social capital</td>
<td>Bridging social capital</td>
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<tr>
<td>Informal safety nets</td>
<td>Linking social capital</td>
<td>Linking social capital</td>
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<tr>
<td>Shock preparedness &amp; mitigation</td>
<td>Human capital</td>
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<tr>
<td>Hazard insurance (where applicable)</td>
<td>Access to financial services</td>
<td>Formal safety nets</td>
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<td>Household savings</td>
<td>Livelihood diversity</td>
<td>Access to markets</td>
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<td>Asset ownership</td>
<td>Exposure to information</td>
<td>Access to infrastructure</td>
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<tr>
<td>Conflict mitigation</td>
<td>Asset ownership</td>
<td>Access to basic services</td>
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<td>Aspirations &amp; confidence to adapt</td>
<td>Communal natural resources</td>
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## Resilience capacities and attributes

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<td>Equality =&gt; equity =&gt; social justice</td>
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## Resilience capacities in the business sector

### ABSORPTIVE
- Risk / Vulnerability awareness
- Early warning by partners
- HR/staff capacity
- Inventory
- Excess operating capacity
- Redundancy and diversification
- Insurance

### ADAPTIVE
- Demand sensing
- Scenario-based forecasting
- R&D/product design capacity
- Consumer loyalty
- Management
- Information visibility
- Investor flexibility and support
- Diversification

### TRANSFORMATIVE
- IT and innovation
- Flexible supply chain partners
- Contingency planning at sector level
- Non-competitive spirit
- Government assistance/relief packages
- Consumer loyalty
- Tax relief/support
Operationalising resilience
Examples of resilience in practice

Nepal Earthquake
- Access to formal / informal safety nets
- Linking / Bridging social capital
- Access to information
- Livelihood diversification
- Education levels

East Africa Droughts
- Access to formal / informal safety nets
- Linking / Bridging social capital
- Asset ownership; household savings
- Access to financial services
- Disaster preparedness and mitigation: info, trigger funds
Examples of resilience in practice

Ebola Outbreak

• Strong inclusive leadership and comms
• Social capital, community engagement
• Access to information / trust among health system stakeholders, flexibility in response
• Scenario-based planning / evidence

COVID-19

❖ Strong inclusive leadership and comms
❖ Social capital / buy NZ
❖ Access to information / trust among health system stakeholders, flexibility in response
❖ Scenario-based planning / evidence
3 RESILIENCE LESSONS LEARNED
Applying global resilience principles to supply chains

- How can we most effectively operationalise resilience in supply chains?
- How do we learn faster and share what we learn so we all improve?
- How do we continue to unleash the power of our people and fully leverage human and social capital?
- How can we use information and data more effectively to help us deal with disruption better and faster?
- How can create a robust, diverse supply chain in a cost-effective manner?
- What impact will changing consumer behavior have on the way that we run our supply chains? Is now the time to transform?
DISCUSSION AND QUESTIONS