

Building a post COVID-19 Recovery Roadmap Operations and Supply Chain in Australia

An RMIT Enabling Capability Platform Research Initiative – A Better Work Start

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State of Play

The COVID-19 pandemic has undoubtedly disrupted the global economy. Despite early action and successful attempts in some states to contain the coronavirus spread, the negative impact to the Australian economy and people's lives and livelihoods is significant.

Key issues identified include:

- 5.2% contraction in global GDP, with advanced economies are projected to shrink by 7%.
- World merchandise trade is set to plummet by between 13% to 32% this year.
- 90% of global trade occurs overseas and at ports. Australian ports move 1.2 billion dollars of trade every day, which has been impeded by COVID-19.
- E-commerce is on a sharp incline, with people's online shopping behaviour likely to change for the future.
- Australia has the third highest density of shopping centre space per head of population in world and that's fixed space and cost. However, foot traffic has been declining for years and likely to continue to decline post COVID-19.

The consensus within business, society and the government suggest that the COVID-19 implications are likely to last many years. All levels of society will need to craft a new roadmap towards 2030. Of strategic importance is sovereign capability and capacity development with a refocus and investment in key growth areas, university-industry-government collaboration, and SME skillsets is strategically important.

The key areas of focus for COVID-19 recovery and the road out include:

- Crisis management and recovery: communication, mapping, and continuity.
- Work and education: workplace innovation, university-industry collaboration, and upskilling.
- Operations and supply chain: sourcing, storing, distributing, pricing, and maintaining.



Impact of COVID19 on Operations and Supply Chains

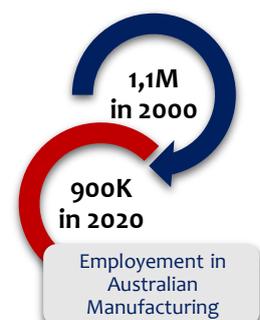
Australian imports have been growing steadily in last few decades, with gaps filled by trade partners. China is by far Australia's largest trade partner, capturing 24.4% of two-way trade volume in 2017-18. However, in the context of COVID-19, China and other key trade partners like Japan, United States, South Korea, and India have been unable to supply to all our needs. Basic access to resources has been greatly affected due to restricted use of air and sea transport. This has drawn attention to local capabilities and capacity to meet demands of our island nation. Access to skilled labour with essential skills and localisation of raw materials and services are critical in the planning of a roadmap to recovery post COVIDI-19.

Critical Issues

One immediate need has been realised in the essential healthcare system. Australian MedTech, constituted of pharmaceutical, biological, engineering and software sectors, is a highly regulated industry with a strong, and capable research community. Yet, there is disconnect between this research capability and ability to turn it into feasible and viable products. Likewise, the pharmaceutical sector has strength in clinical trials and domestic manufacturing of generics but lacks a competent domestic manufacturing system to bring novel products into the market. The strong design strength in MedTech is reliant on overseas suppliers for components and subsystems. The software sector has weak clinical translation capability, nascent MedTech commercial capability, yet lacks a scale in domestic market, has poor electronic health records and lacks skills in medical software development.

Another critical sector for Australia is transport and logistics. With responsibility to move and deliver people and goods in society, the transport and logistics sector has played a vital role during COVID-19. Like other essential sectors, it has ensured delivery of essential services under highly strenuous conditions. However, with border closures, hard lockdowns, social distancing and work-from-home conditions, serviceability and stability of the sector has been challenged. Sudden need to work-from-home has challenged access to broadband network and digital skills of the workforce. Costs have increased with reduced workforce at physical locations, increased inspection, cleaning and fumigation of vehicles and cargo, deployment of more transport vehicles to move workers around sites and increased reliance on road transport as air and sea freight came to a dramatic slowdown. COVID-19 has also brought about significant shift in types of goods being transported with retail closures and move to online shopping. With retail demand patterns, volumes and rates changed, transport and logistics has had to reinvent its operating model, increasing attention to digitalisation, and e-commerce. Those warehouse and ports that have harnessed digital technologies and automation have coped better than their less automated counterparts.

The manufacturing sector is another key issue which needs to be addressed in a post COVID-19 recovery roadmap. Because of supply chain issues, considerable attention has been given to whether critical elements of manufacturing that have been offshored should be brought back onshore. This would be reversing a long-term historical trend which has seen employment in Australian manufacturing decline from 1,1M in 2000 to 900K in 2020, while our sufficiency in manufacturing was at 71.5%. Whilst in terms of merchandise trade we are a net exporter we import far more elaborately transformed goods than we export. Furthermore, the move offshore, while supply chains were effective, was sound at the business level as the value added to a product is much higher for R&D and product design or distribution and servicing than it is for manufacturing. Nevertheless, the recent experience of distributed



supply chains has indicated to hold significant risk both to the supply of necessary finished goods in Australia and the supply of parts into Australian manufacturing. It is very important that these risks become embedded in our decision processes. In some sectors such as defence and security the government is driving critical local manufacturing for its current defence platforms and investing and supporting innovative programs to support future onshore manufacturing. In considering if this should be extended to other industries it is necessary to consider for the onshore manufacturing: whether there was recurring or cyclical demand, what was the product lifetime, is there already an established supply chain functioning and what risk is it at from disruption and could we transfer development from onshoring to a variety of sectors. Having identified where to onshore critical issues of ongoing government and industry commitment, skilled workforce issues and material and tooling supply need to be addressed.

Key Considerations

- In considering where to source parts and finished goods, much greater consideration of supply chain risk should be given.
- In considering whether to build new Australian capability, the nature of likely demand, product lifetime and cross sector benefits should be considered.
- Building sovereign capability is occurring effectively in defence but to occur in other sectors ongoing government commitment, upskilling of the workforce and supply of critical materials and enabling technologies are necessary.
- Public procurement should support local manufacturing.
- Government investment needs to shift thinking from grants to supply agreements and invest in the building of critical capabilities for a more resilient society.
- Digitalisation and interoperability of electronic health records.
- University-Industry-Government collaboration to establish dynamic models of national demand forecasts and understand technological and regulatory pathways.
- Universities to build and deliver transition programs, with a focus on future skills (for example AI, cyber security, data science, etc.).

The Way Forward

Agility in operations including digitalisation and use of e-commerce platforms are central to COVID-19 recovery. This also means operators will need to upskill and build capacity of workforce to handle variability of work at all occupational levels. The collaborative engagement between university-industry-government is providential to model, strategise and manage policies and practices. Research translation capabilities matched with future ready education and data capabilities should be prioritised to close skills shortages and deliver time-sensitive efficiencies post COVID-19.

In consideration of whether Australia needs to rebuild critical supply change, the risks of international supply changes need to be balanced against additional costs and current limitations in the Australian manufacturing sector.