



# **A view from the top: current workforce challenges in supply chain and logistics**

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## About this research

The Centre for Supply Chain and Logistics (CSCL) Talent and Capability Laboratory provides a forum for research and discussion of workforce needs, one of the most critical issues facing the supply chain and logistics sector. The Laboratory brings together senior industry leaders in the sector and Deakin researchers.

This research was commissioned by *Wayfinder: Supply Chain Careers for Women* (Wayfinder), a research and development national industry initiative developed to create a sustainable and diverse talent pipeline for Australia's supply chain and logistics sector. Wayfinder was established in 2018 by Deakin University's Centre for Supply Chain and Logistics in partnership with industry sponsor companies QUBE, Woolworths, Nestle, ARTC, TOLL, LION, Pacific National, DP World, Coles, Patrick, Coca Cola Amatil, VIVA, Stanley Black & Decker, LINX Cargo Care Group and associates VicTrack and NSW Ports, with Food Innovation Australia (FIAL) the national sponsor.

Wayfinder initiatives are informed by research and include:

- research into the underrepresentation of women in the supply chain and logistics workforce
- development of an interactive Digital Career Map for supply chain showcasing over 150 Supply Chain Logistics roles (linked to the Australian Government's *Jobs Hub* website)
- the Wayfinder Ambassador program (Ambassadors are inspirational women currently working in the supply chain and logistics sector)
- Wayfinder's National Education Network (involving 26 universities and TAFEs facilitating alignment between education and industry)
- a suite of supply chain awareness programs for schools and communities.

Wayfinder and the CSCL talent and Capability Laboratory thanks all participants for so generously contributing their time and expertise.

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# Table of Contents

About Wayfinder .....	2
Table of Contents .....	3
Message from the Chair of the Talent and Capability Laboratory .....	4
Executive Summary .....	5
1.0 Background.....	7
1.1 A global talent shortage.....	7
1.2 A growing need for new skills.....	8
1.3 Impact of the COVID 19 pandemic .....	9
2.0 About this study .....	10
2.1 Methodology .....	10
3.0 Skill and capability issues confronting the supply chain and logistics sector.....	11
3.1 Supply chain and logistics is a Cinderella sector .....	12
3.2 A workforce demand that covers multiple areas .....	14
3.3 The challenges for recruitment .....	15
4.0 Gaps in supply chain skills and capabilities .....	18
4.1 Capability gaps .....	18
4.2 Skills gaps .....	21
4.3 A diversity issue .....	23
4.3.1 An aging workforce .....	24
4.3.2 A lack of gender diversity .....	23
5.0 Preparedness for change.....	26
6.0 Conclusions and recommendations .....	26
6.1 A challenge of unprecedented dimensions .....	27
6.2 Hidden opportunities.....	28
6.3 The way forward .....	28
Recommendations.....	29
References .....	30

# Message from the Chair of the Talent and Capability Laboratory

The Laboratory brings together senior industry leaders and Deakin researchers. In 2021 it is chaired by Australia's International Freight Coordinator General Michael Byrne

The world's economies have grown exponentially over the last two or three decades; their economic success owes much to the complex and constantly evolving freight networks that support international trade. Supply chains are an integral part of the success of economies globally, and Australia faces particular challenges because of its size, geographic isolation and demographics. Australia's national economic competitiveness depends on its ability to ensure the efficiency and safety of its supply chains, as the COVID 19 pandemic has shown so starkly.

The biggest risk areas for most companies in maintaining their business competitiveness are not decisions about whether to automate or what digital systems to use, but about how to attract and retain the workforce it needs. High performing, globally competitive supply chains need high performing teams, and the sector must build and sustain a strong talent pipeline if it is to have the right number of employees with the right skills deployed in the right place at the right time. It is the most important challenge facing supply chain and logistics CEOs today.

There's been a great deal written about the impact of COVID 19 on the sector, and of the future workforce needs of supply chain companies. However, for the first time, the research presented in this document talks directly to the C suite leaders responsible for keeping Australia's supply chains running about the skill and capability gaps they face. Their answers shed a much-needed light on the challenges they face and suggest directions for addressing them now and in the future.



**Michael Byrne**

**Chair, CSCL Industry Advisory Board**

**Chair, CSCL Talent and Capability Laboratory**

**Australia's International Freight Coordinator General**

# Executive Summary

Even before the pandemic, business models were being transformed by globalisation, technological change and an increased focus on ethical supply chains and environmental sustainability. Almost every aspect of the supply chain industry is evolving, and the COVID-19 pandemic created the perfect storm, exposing Australia's vulnerability to global disruption. This study was commissioned by *Wayfinder* and addresses the skill and capability gaps facing supply chain and logistics companies as they transition into a post-pandemic normal. The researchers interviewed 21 C-suite leaders from major Australian corporations and government.

All participants acknowledged the workforce challenges they face, both directly as a result of the COVID-19 pandemic and because of the social, geopolitical, economic, environmental, and technological factors currently facing the sector. The pace of change, accelerated by the COVID-19 pandemic, demands new leadership styles and new capabilities from workforce teams.

Traditionally supply chain has been a 'Cinderella sector'; poorly understood, underfunded, and seen by many as an unappealing second tier career option. Advances in robotics, digitisation and communication software have made it possible to smooth away the edges of what was once an undeniably difficult work environment, but companies still struggle to attract younger workers, particularly women. Participants acknowledged that not enough has been done to promote supply chain careers at universities and more broadly.

Workforce demand covers every link in the supply chain, from procurement to fulfillment, from custom broker to carrier. Supply chains are complex systems and, to be effective, managers need to understand the whole chain. While there are advantages in this diversity, there are also downsides. The scope of operations can be so broad that no two companies will have the same approach, and the breadth of roles can make it difficult to develop a clearly defined career path.

And while the pandemic meant there was increased awareness and respect for the industry, it created additional challenges for recruitment as well as for onboarding new staff and upskilling current staff.

There were five themes that came up in discussions about recruitment:

- poor industry image
- education gaps in terms of the applications coming through
- 'poaching' of staff between industries
- COVID-19
- the difficulty of attracting staff to the regions or outer urban areas.

The research differentiates between skills and capabilities: skills are the learned abilities necessary to do a particular job well, while capabilities are what people need to achieve in order to produce the results a company requires (capabilities are transferable and can be applied in different contexts and roles).

The research identified capability gaps in five areas:

- connectedness (or ability to 'marry' the different parts of the supply chain)
- leadership (at all levels from mid-level supervisory roles to senior management)
- problem solving
- emotional intelligence
- the ability to meet the challenge of sustainability and ethical demands (ESG).

Shifting business models, including increased acceptance of the importance of corporate social responsibility, means new approaches to leadership, where both people and profit are valued as key measures of business success. 'Connectedness' was a trait seen as integral to success in supply chain – a need for those who work in supply chain to have a working knowledge of all matters supply chain.

Skills gaps were identified in eight areas:

- data analytics
- truck driving
- robotics
- cyber security
- risk
- engineering
- customs brokers
- marketing

The pandemic highlighted the critical role truck drivers have in keeping the supply chain moving and despite an increase in automation and shifting business models, a shortage of truck drivers continues to be a challenge.

While many of our participants identified talent shortages in data analytics, the issue is more complex than the ability to attract graduates with data analytics qualifications. The capacity to understand and trust data was seen as just as important as the decisions about what to do with it; our participants identified a capacity gap in the combination of supply chain knowledge and experience, together with data analytics qualifications.

Robots are already delivering innovation and value by improving the speed and accuracy of routine operations, particularly in warehousing and participants also identified significant growth in the demand for skills in artificial intelligence (AI), machine learning and robotics.

There was an acknowledgement that the supply chain workforce lacks diversity. Diversity of ethnicity, age, gender and background was seen as important for workforce capability, bringing the new perspectives, new ideas and new understanding so important for business success in a globally competitive market.

That the pace of change in the supply chain and logistics sector will continue to accelerate is inevitable. Access to data, digitisation, advances in robotics, AI and of course the need to respond to global events such as the COVID-19 pandemic, will continue to drive new business models and new ways of operating. And alongside this, the workforce must learn new skills and adapt to new ways of doing things – constantly.

It's an axiom, but while technology makes things happen, it's people that make it possible and supply chain and logistics is fundamentally a people business. Australia's future supply chain performance will always rely on the sector's ability to attract, manage, and motivate those with the capabilities this fast-changing environment requires.

# 1.0 Background

COVID-19 is the latest in a series of disruptions to the world's supply chains.

COVID-19 is the latest in a series of disruptions to the world's supply chains. Even before the pandemic, business models were being transformed by globalisation (and an increasingly volatile geopolitical situation), climate change (and increasing numbers of natural disasters), disruptive technologies (and rising consumer expectations for the rapid and trackable delivery of goods). Almost every aspect of the supply chain industry is evolving at an unprecedented pace, and the COVID-19 pandemic created the perfect storm, exposing Australia's vulnerability to global disruption. There are five primary forces that drive supply chains to adapt and evolve – social changes, technology, the environment, economics, and geopolitics – and currently all five are in overdrive.

Australia's supply chains face multiple challenges – at manufacturing sites, in air and sea ports, for component suppliers, and in the 'last mile' to the customer. But the supply and demand imbalance are not just about products or freight transportation, but for people, as organisations recognise the level to which their business success depends on the people who run the supply chains. One of the greatest challenges facing Supply Chain and Logistics CEOs today is finding and retaining the supply chain workforce it needs in a highly dynamic and globally competitive marketplace.

## 1.1 A global talent shortage

Leading global logistics company DHL suggests demand for supply chain talent is at an all-time high, exceeding supply by a ratio 6:1 with some predicting it could be as high as 9:1<sup>1</sup>. Deloitte Access Economics *Future of Work*<sup>2</sup> forecast an annual growth in Australian supply chain and logistics workers of 2.1%, between 2016 and 2022, compared to 1.5% of the overall Australian workforce. Both these publications predate the COVID-19 pandemic. And along with many workforces globally, the supply chain and logistics sector are dealing with an aging demographic. The supply chain workforce globally faces an additional diversity challenge: it is primarily male and has traditionally struggled to attract and retain women.

While there are certainly local factors, behind the talent shortage is the increasingly complex and dynamic nature of supply chain structures and the sector's growing reliance on technology. According to a 2018 Gartner<sup>3</sup> survey, only 27% of leaders believe that they have the talent needed to meet current supply chain performance requirements. The increasing importance of technology means that even skilled labour positions such as forklift drivers now require technical and analytical skills. And the rapid pace of innovation within warehouse logistics, is evolving the work of 3PL providers, aligning their role to the strategic coordination of their customers' supply chain activities.

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<sup>1</sup> DHL The Deepening Talent Shortage Harrington L. 2017. <https://supplychaindigital.com/logistics-1/dhl-warns-supply-chain-sector-over-looming-talent-gap-crisis> accessed 13/08/21.

<sup>2</sup> Deloitte Access Economics January 2018. The Future of Work: Occupational and educational trends in supply chain and logistics in Australia <https://www2.deloitte.com/au/en/pages/economics/articles/future-of-work-occupational-education-trends.html> 10/08/21

<sup>3</sup> Gartner How supply chains leaders can implement an effective talent strategy 2019. <https://www.gartner.com/en/supply-chain/insights/supply-chain-skills> accessed 15/08/21.

## 1.2 A growing need for new skills

An increase in the use of technology and a growing reliance on Big Data is increasing efficiencies in all aspects of the supply chain – from improving delivery times and communication between manufacturers and suppliers to analysing consumer behaviours and predicting market trends. Product traceability is now key to successful supply chain operations and data analytics drives supply chain visibility, enabling businesses to gather precise product information so that operators can stay on top of their distribution cycle and report accurately to consumers on provenance and safety. Technology enables companies to identify and engage diverse supply chain partners and it assists them in managing a complex supplier network, working across multiple sites and regions. Supply chain companies have always used data, but the rapid advance of the Internet, the Cloud and the Internet of Things has generated a plethora of high-volume, high-velocity and high-variety data generating an endless stream of new and complex interactions between people and the products they wish to purchase.

Other areas of technology impacting on supply chain businesses are automation and robotics. Autonomous technology is increasingly evident in warehouses and stores, on highways and in ‘last mile’ deliveries. And warehouses have been revolutionised by AI and robotics with automated solutions for managing and optimizing the storage, preparation and dispatch of goods. Through the Internet of Things, pallet positions, forklifts, docks, trace and tracking of products, public parking zones, urban consolidation centres can now all be real-time monitored to manage and optimise their use. Drones can also be used in warehouses and yards for inventory management and to optimise efficiency in picking orders.

Control towers are able to monitor the ordering cycle or disruptions that may affect the business, capturing and using transportation data to provide enhanced visibility for short- and long-term decision-making that will align with the company’s strategic objectives. The innovative Digital Twin pilot funded in the 2020/2021 Victorian State Government budget brings together digital twin technology which is rich 3D and 4D spatial data, artificial intelligence and sensor data enabling us to visualise and model places virtually, well before investments hit the ground.

Autonomous trucks are not yet a reality on highways, but a number of companies (Daimler, Tesla and Volvo for example) are exploring the market and Australian mines are already using fully autonomous trucks and freight trains to move iron ore. Last mile deliveries are typically the most expensive part of the supply chain and as companies look to make deliveries more efficient some have already started to explore the use of autonomous vehicles for last mile deliveries.

This growing reliance on technology has the potential to significantly disrupt employment in the sector, increasing the productivity in some areas, making other roles redundant, and transforming almost all the work to some extent. These changes mean the sector is looking for a different and more complex set of capabilities, contributing to the widening skills shortage.

And in addition to operational expertise, today’s supply chain employees are increasingly expected to possess a range of ‘soft skill’ professional competencies such as strategic thinking, innovation, and high-level analytic and technological capabilities and of course people management and leadership – it’s a combination of operational skills, trust of data, creativity and emotional intelligence that’s proving difficult to find.



### 1.3 Impact of the COVID-19 pandemic

The COVID-19 pandemic has had a significant impact on the sector and as a consequence, on the workforce and the skills and capabilities required. COVID19 has changed the way goods move through our cities, affecting what and how we buy, and redefining how goods can be transported and delivered. Key industry players in mail, parcel delivery, supermarkets, and logistics companies have had to pivot quickly to find new capacity and abilities, working with their staff and partners to rapidly develop new systems and work practices as they respond to a once in 100-year challenge. Continued lockdowns have impacted the supply of raw materials and finished goods, highlighting previously hidden vulnerabilities, and accelerating workforce changes already underway. An interesting side effect is an increase in the acceptance of remote working kickstarted by COVID-19; it is a workforce change with positive implications for improved work/life balance, an important factor in attracting younger workers.

The pandemic has driven a significant rise in e-commerce and deliverables, with a rise in services related to packaging, freight transportation, and the delivery of goods for companies of all sizes across all industries. Australia's national average of online purchases increased by 41% in 2020 (up from 17% in 2019)<sup>4</sup> and continues to grow strongly with the entry of new online stores and an expanding range of products. Small to medium enterprises (SMEs) as well as large bricks and mortar stores like Kmart and Harvey Norman have expanded their online offerings, with e-commerce complementing retail and leading to a massive growth in omnichannel distribution. An Ernst and Young (US)<sup>5</sup> survey of senior level supply chain executives in late 2020 found that 64% of companies surveyed believed digital transformation will accelerate due to the pandemic, resulting in increased investment in supply chain technologies such as AI and robotics. Reskilling supply chain workers both through retraining and recruitment, was acknowledged to be a key priority for companies into the future.

In this fast-evolving environment, a deep understanding of consumer behaviour, speed of implementation and efficient use of resources have become key differentiating factors for companies of all sizes. Customers routinely expect their goods will be delivered quickly, within predictable time windows and with visibility as they travel the last mile. COVID has resulted in a significant investment in contactless payments, contactless delivery, kerbside pickup options and safety protocols. Retailers across the world have adapted their delivery and returns protocols to ensure customer and staff safety during the COVID-19 crisis, and these changes continue to evolve consumer expectations of online delivery and returns.

The days of producing a product and hoping there is a market or customer to buy it are long gone; production is now customer focused, with knowledgeable consumers wanting to understand the ingredients going into their products and where they come from. Concern about the environment has evolved from being an issue at the fringes of society to become a mainstream concern that affects consumer purchasing decisions. Customers routinely look for environmental certifications on packaged goods and there is increased interest from companies in reverse logistics and closed loop supply chains. The UN launched a powerful campaign calling for economic stimulus packages to be aligned with climate

Australia's future supply chain performance relies on its capacity to attract those with the right capabilities.

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<sup>4</sup> Inside Australian Online Shopping 2021 AusPost [https://auspost.com.au/content/dam/auspost\\_corp/media/documents/ecommerce-industry-report-2021.pdf](https://auspost.com.au/content/dam/auspost_corp/media/documents/ecommerce-industry-report-2021.pdf) accessed 12/08/21.

<sup>5</sup> Ernst and Young How COVID impacted supply chains February 2021 [https://www.ey.com/en\\_au/supply-chain/how-covid-19-impacted-supply-chains-and-what-comes-next](https://www.ey.com/en_au/supply-chain/how-covid-19-impacted-supply-chains-and-what-comes-next) accessed 16/08/21.

objectives and Sustainable Development Goals (SDGs) and while this perhaps truer for America and Europe than Australia, for most companies there is increased attention to environmental and sustainability goals (ESG).

The supply chain vulnerabilities that were exposed by the pandemic also prompted a re-examination of the concept of national sovereignty, with many companies heavily reliant on production and supplies in China, Southeast Asia and other low-cost labour jurisdictions. COVID-19 is not the only driver of change; there are trade wars, a growing trend towards nationalism and protectionism, and a growing interest in issues of sustainability and human rights considerations. The world is irrevocably connected however, and globalisation cannot so easily be wound back. The global supply chain has already begun responding to US-China tensions and the disruption caused by COVID-19 has accelerated the pace of this response. Companies are rebalancing global value chains, managing risk and building resilience.

As business models evolve, the implications for supply chain workforces are stark – new skills, new demands and new expectations. It's an axiom, but while technology makes things happen, it's people that make it possible and supply chain and logistics is still fundamentally a people business. Australia's future supply chain performance will rely on the sector's ability to attract, manage, and motivate those with the capabilities this fast-changing environment requires. It is one of the biggest challenges facing supply chain CEOs and key government policy makers.

## 2.0 About this study

This study was commissioned by Wayfinder. If it is to build and sustain the resilient supply chains necessary for economic growth, the supply chain and logistics industry needs a diverse workforce with skills and capabilities which align with modern supply chain needs. Traditionally the sector has focused on immediate human resourcing issues, rather than a predictive approach that addresses future development needs. The aim of this research is to better understand the talent and capability issues in relation to the transformational change the sector is experiencing as a result of a confluence of mega factors: technological disruption, climate change, geopolitical tensions, demographic shifts and the impacts of COVID-19. It examines how these disrupters affect workforce requirements for the supply chain and logistics sector.

The Centre for Supply Chain and Logistics (CSCL) conducted extensive interviews with 21 senior level supply chain executives from major corporations and at senior levels in government.

### 2.1 Methodology

This project employs semi-structured in-depth interviews to generate qualitative data using open questions, allowing our participants to talk in some depth and in their own words about the issues. It was made clear to all participants from their first involvement, that individuals and companies would not be identifiable from the findings of this research with all data de-identified. The data was analysed using the qualitative analysis software NVIVO 12. Because of COVID restrictions, the interviews were conducted remotely either by telephone or teleconference tool (Zoom, Microsoft Teams or WebEx). Twelve were senior 'C-suite' leaders in major Australian corporations in the supply chain sector, two were from

Non-Government Organisations in the sector, and seven were senior executives from relevant government departments.

A deliberate attempt was made to ensure the participants reflected a broad range of organisations in terms of both industry and size. We also wanted to ensure that the participant group included women. Seven participants were female, representing a much higher proportion of females in senior roles in the sector (WGEA<sup>6</sup> data suggests that between 2% and 7% of women are in senior roles in the supply chain and logistics sector, with some variation between industry groups).

Participant gender

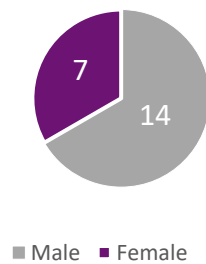


Figure 1: Participant gender

Organisation type

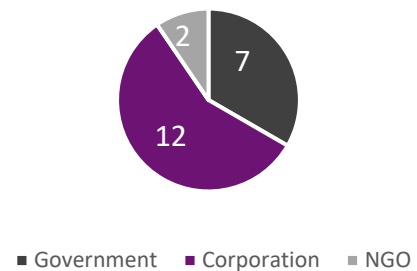


Figure 2: Participant organisation type

All participants were asked the question “Do you think there are any issues today, regarding talent and capability affecting the supply chain and logistics sector?”. Issues were then explored from the perspective of both past and future – “Did this issue exist before the pandemic?” and “How do you see this changing in the future?”. Participants were also asked about the current skills set of supply chain workers. Interviews were conducted interactively as a conversation with the focus shifting according to the area and expertise of the participants.

### 3.0 Skill and capability issues

“People think logistics just happens.”

All participants acknowledged that the supply chain and logistics sector was experiencing workforce challenges, both directly from the impact from COVID-19, and as a result of a confluence of other factors – social, geopolitical, economic, environmental, and technological. The COVID-19 pandemic, and the lockdowns that continue to interrupt the flow of raw materials and finished goods, have shone a spotlight on previously invisible vulnerabilities in Australia’s complex global and national supply chains.

While the supply and demand shocks brought on by the COVID-19 crisis raised awareness of the importance of supply chains to our economy, this does not mean that the complexities involved in running the manufacturing and organising the movement and storage of a product are better understood. While our participants welcomed the increased focus on the role supply chains play in business and the economy, many reflected that despite the increased attention, there is still a lack of understanding about modern supply chains and the workforce implications. The words ‘supply chain’ and ‘freight logistics’ may have

<sup>6</sup> Workplace Gender Equality Agency (WGEA) Data Explorer <https://data.wgea.gov.au/> Accessed 5/6/21

“Very few people have a depth of understanding about supply chains.”

entered the vocabulary of many more people but that hasn't necessarily translated to improved insight or awareness of the challenges the sector faces.

“COVID-19 has raised public awareness of the economic importance of supply chain, but not their understanding of its complexities.”

“People are talking more about supply chain after COVID but unfortunately the people who talk about it don't necessarily know anything about it ... a lot of people now see themselves as supply chain experts, but they only know enough to be dangerous.”

The knowledge gap was believed to be true, not just in terms of the level of public awareness, but the understanding of supply chain within companies:

“A lot of the companies that deal with supply chain and logistics don't actually understand it ...there is a real gap, especially with exports.”

“There are very few people in the company who have the real depth of understanding about supply chain we need.”

And within government:

“There's a lack of experience in supply chain by almost all major players in government.”

“Defence is the only area in government where there is sustained capability [in supply chain] given their functions”.

“There's a lack of understanding in government of what's happening downstream and upstream and people are making policy decisions without really understanding this.”

### 3.1 Supply chain and logistics is a 'Cinderella sector'

Perceptions may be shifting, but traditionally supply chain has been a 'Cinderella sector'; poorly understood, underfunded, and seen by many as an unappealing second tier career option. Most have 'fallen' into it rather than actively pursuing a career in supply chain. The sector's poor image is a mix of not knowing it exists at all, and knowing it exists but not perceiving it to be an attractive career option.

“Historically supply chain is not recognised as a profession like finance or marketing and it has struggled to attract the smartest ... the highest calibre candidates.”

Our participants acknowledged, however, that while some of the negative views attached to the sector may be perception, there is a reality associated with the difficult hours, often unattractive locations and 'not very sexy' environments that are intrinsic to a sector that often operates 24/7 and 365 days a year.

“These are tough jobs, heavily unionized environments traditionally, and in many cases, they are 24/7 type operations, and I think as an industry, we probably haven't made them as attractive as we could.”

“Traditionally the supply chain industry has been very old school and characterised by lack of formal qualifications”.

And as one of our interviewees said:

“ \_\_\_\_\_ (a highly regarded senior figure in the sector) has said our industry is about 'rough heads' and early mornings and he's right, it may be changing but it was certainly true in the past. While we may not always be able to change the 'rough heads', we can definitely change the early mornings.”

“We've done a poor job of promoting our sector.”

Advances in robotics, digitisation and communication software have made it possible to smooth some of the edges off what was once an undeniably

difficult work environment, but companies still struggle to attract younger workers into the industry. Ask any millennial their top five career options and supply chain professional is highly unlikely to make the list.

“There’s a real a gap in that pipeline... we’re just not attracting young people. There are lot of people who could be taking this path but they’re taking an easier route.”

A point raised by two of our interviewees, was that the lack of recognition was also reflected in terms of remuneration. Supply chain management was graded well below other areas in the hierarchy. This was an issue they had addressed in their own areas, but more broadly in the industry, the lack of alignment between pay scale and responsibility is a challenge for both recruitment and retention.

“People who were running our Distribution Centre were classified as a manager and therefore aligned with a deli manager or a fruit and veg manager at a supermarket. But these are people who are running sites that have over 800 people in them and turn over \$370 million in revenue. So, I do think we have both an image and a value ratio issue where companies aren’t aligning.”

“Even in the army top logistics people are not seen as an executive leadership function equal to a command appointment or an executive function enterprise.”

It’s an issue that is changing, particularly in companies such as Amazon, where supply chain is better understood as mission critical.

There was acknowledgement by our participants that the ecosystems in which today’s supply chains operate are changing rapidly and are increasingly complex. Everything is connected (and increasingly accessible through our mobile devices), the circular economy is increasingly seen as a mainstream option (avoidable waste now viewed as unacceptable by society) and emerging technologies including automation, advanced analytics, sensors, robotics, and artificial intelligence are rapidly changing the face of supply chain operations, making them faster, safer and more efficient. The changes are accompanied by new demands however, and they bring with them new capability requirements.

Supply chain careers today look very different from the career paths facing today’s CEOs when they started in the sector, and the supply chain workforce can be expected to evolve even more rapidly ten years into the future. As supply chain environments become automated and supply chains are digitised, a readiness to use advanced analytics and artificial intelligence in decision making becomes integral to the business. As companies move their processes to digital, they routinely gather and share enormous amounts of data, and supply chains will evolve to be as much about the flow of information as they are about the flow of goods and services.

While technological changes are accompanied by some job losses, it also offers new opportunities at all levels. The gig economy certainly presents challenges, but it has brought new revenue sources and flexibility to many. The changes technology brings to middle and senior levels have also been positive. Modern supply chain management offers an exciting, dynamic, demanding career, which is integral to a company’s economic success and critical to an environmentally sustainable future for Australia. The values and interests align well to women and younger workers, groups the sector has struggled to attract.

Supply chain careers look very different today.

“We are now at the pointy end of the most exciting high-tech stuff, but most people don’t know that.”

This shift in the nature of the sector has gone largely unnoticed however, and the sector continues to be perceived in ‘industrial’ terms of dirty warehouses and hi-vis vests.

“People look at the robots and say wow ... but behind the automation is 3.5 million EDI messages a day... feeding them the data that allows them to logically pick that product to store. Robots are not the hard part: it’s the software behind the robots ... what a shopper picks off the shelf, flows through to what we then tell the site pick, which then flows through to the robots that assemble the product and pick it specifically to that store. Supply chain is one of the few industries that actually marries all of that together into one solution and that’s unique. It’s why supply chain is a very, very exciting place to develop your career in analytics, robotics or software engineering, but we’ve just got to tell that story better.”

“Universities have been good at promoting the exciting career paths for anyone interested in data or robotics, but supply chain has missed out. We haven’t positioned ourselves as an exciting career in that space.”

Supply chain roles are changing. Analytics are now fundamental to optimising business processes, and modern supply chain workforces must be able to synthesise data, identify outcomes and offer recommendations. And it’s not just robotics and data analytics. The modern supply chain workforce must be adept communicators who can connect vertically within their organization as well as horizontally with their supply chain partners. If they are in procurement, they should understand procurement, but also understand issues like trade, customs and taxation. If they are in occupational health and safety, they will have had to quickly absorb taking on board a raft of new skills associated with COVID-19 safety.

There is now an expectation that the current supply chain workforce will be tech-savvy, and comfortable operating in a more automated, digitally enabled environment. And in a globalized economy, modern supply chain workers must be prepared to navigate social, cultural, and geographic differences with ease. It’s not always easy to find a mix of process skills, analytical skills, emotional intelligence, and creativity.

### 3.2 A workforce demand that covers multiple areas

Another factor relates to the breadth of skills required. Every link in the supply chain – from procurement to fulfillment, from custom broker to carrier – plays a distinct, but critical role for the benefit of the business. Supply chains and logistics are complex systems and, to be effective, managers need to understand the whole chain, including inter-company relationships and commercial and operational interdependencies. The elements of a supply chain include forecasting demand and supply, receiving customer orders, product development, marketing, operations, distribution networks, finance, and customer service. Logistics refers specifically to the part of the supply chain that deals with the planning, organisation and control of the movement and storage of goods and services from point of origin to the final destination.

“Unlike other industries which have specific pockets of talent, in our industry it’s across the board, from drivers to people who run warehouse operations - from traditional skills right the way through to the new skills around automation and big data.”

“The whole concept of supply chain and logistics is just so broad. To some people it’s your hands-on lower-level jobs in warehouses working for a transport company. For others it’s

very much a procurement deskbound sort of job. And there's everything in between. And then there's the traditional stigma about working in the industry."

There are distinct advantages to this breadth of roles:

"Supply chain today is so broad, with a great diversity of roles and functions ... there's got to be something there for everyone."

"The complexity of supply chain and the breadth of skills it involves today should open more doors and be more appealing to prospective students... I'll admit it probably was a tad boring in the old days."

But there are also downsides; the scope of operations can be so broad that no two companies will have the same approach, and the broad range of roles in the sector can make it difficult for employees to develop a clearly defined career path.

### 3.3 The challenges for recruitment

There were five themes that came up regularly in our discussions with both private and public sector executives:

- poor industry image (the perception of supply chain employment opportunities)
- education gaps in terms of the applications coming through
- 'poaching' of staff between industries
- the difficulty of attracting staff to the regions or outer urban areas
- the COVID-19 pandemic.

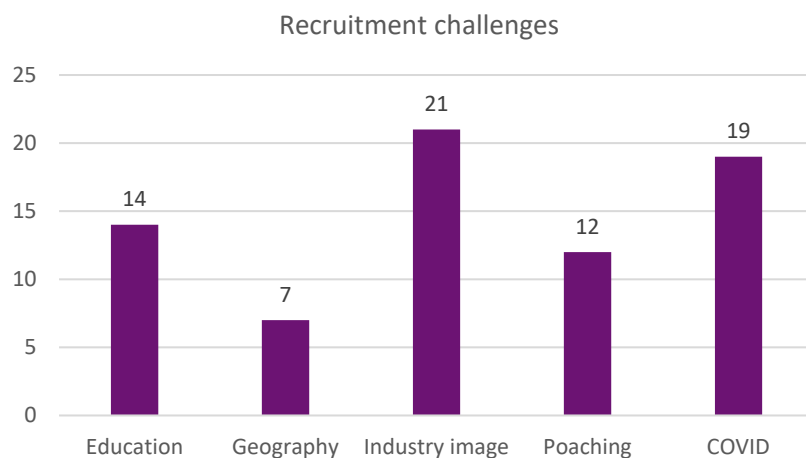


Figure 3: Recruitment challenges: number of mentions

Figure 3 captures the number of times particular issues came up in our interviews, with industry image, COVID-19 and education the most commonly mentioned.

Despite increased attention thanks to COVID-19, recruiting in the sector is made more difficult because of lack of knowledge about the sector and a widespread perception, particularly among young people that supply chain careers lack excitement and that other fields are more prestigious and offer better career pathways<sup>7</sup>.

<sup>7</sup> Seiko, A. *The Evolving Supply Chain Skills Supply chain management is a career that perfectly matches the skill set of the Millennial generation--if they can be persuaded to pursue it* Material Handling & Logistics. Sept-Oct, 2018, Vol. 73, Issue 5, p28,

“We haven’t positioned ourselves as an exciting career path.”

Several participants acknowledged the sector had not done in well in promoting supply chain career opportunities at universities or to prospective employees.

“There are some great university programs attracting top talent, but supply chain is missing out because we haven’t positioned ourselves as an exciting career path ... marketing, HR, economics, sports management ... they are all seen as more interesting.”

“We haven’t been the most attractive industry for school leavers or uni grads. As an industry, we’ve done a poor job of promoting all the exciting career opportunities we have.”

“Supply chain probably hasn’t been seen as an innovative career, or an area that people automatically think of when they take an engineering degree, they are probably thinking mining or construction. As an industry we have to do a better job explaining that we are really pioneering here in terms of robotics.”.

The COVID pandemic also presented challenges for unskilled and semi-skilled labour recruitment because of the increase in e-commerce and the subsequent increase in demand:

“The biggest issue for us now is the shortage of site-based labour ... back packers and seasonal workers to pick fruit. It impacts the availability of product and increases in pricing.”

Freight transport and logistics companies are also suffering as international borders are closed to immigrant labour especially truck drivers and warehouse workers.

COVID also created difficulties for onboarding of new staff and for upskilling current staff. For those in graduate programs, many missed out on the opportunity to do the rotations that would normally form part of the graduate program.

“We had six grads ... all technical, agronomy resources grads and they were either unable to go from one post to another because of COVID, or in effect office bound or had project-based limitations because of COVID”

“We employed technical and site-based resources who’ve been unable to get to the site because of COVID.”

“Border closure makes it extremely difficult because all the training we do has to be virtual. We can’t fly in people to partner and pass on practical experience on the job. The whole on-the-job training piece has disappeared.”

COVID did have one upside in terms of recruitment however, it meant companies were able to recruit workers transferring out of the airline industry:

“The impact of pandemic changes to our benefit. When airline business was decimated, we picked up some very good talent from Qantas and Virgin... the skills and values are very transferable. These are people who came temporarily but who will stay because they feel flying long haul isn’t a good lifestyle choice.”

There were also positives in terms of the increased awareness and respect for the industry and its workforce as the world was rudely awakened to the importance of supply chain by the COVID-19 pandemic. In some cases, this translated into increased interest in recruitment. It’s impossible to imagine a world without supply chains – they are fundamental to human survival, commerce, and quality of life, but people only notice them when things go wrong.

“Post COVID we’ve seen a resurgence of respect for the logistics industry.”



“COVID was a great campaign to remind people why freight logistics mattered. It’s the first time people understood what the sector was and what we did.”

“We used to be a last resort industry that people rarely wanted to go into. After COVID we can say we’re a respected, sustainable employer, and an industry that people want to hook into. We can see the effect in the uptake of graduate applications ... a five- fold increase in applications.”

Even pre-COVID-19, the locations of many of the sector’s operations made it difficult to attract a workforce with the right skill set in regional Australia:

“It’s much easier to find employment in the city than the country and that has an impact on supply chain employment opportunities. It affects people looking for promotion too.”

Geography was also an issue for urban Australia. For some skill sets in particular (technical areas such as robotics, automation and data analytics for example), it can be difficult to attract staff to outer urban areas where many distribution centres are located, because the locations don’t align well with the lifestyle values of employees with the relevant skill set – the outer (often less trendy) suburbs are not where they want to live and work.

“We had offices in the northwest which is not exactly tech central ... it’s been incredibly difficult for us to attract people with the tech and analytics skills we need. We created a digital tech section of our business and located it in \_\_\_\_\_ which is sort of a techie central, and we found it much easier to get the skill sets we need.”

“This is the Y generation ... they don’t have a car, they want a short commute, they want flexible working hours, and they want a funky Google type environment.”

Education was also a factor. A number of our participants felt that universities and TAFEs were not meeting the industry’s needs. This was not a reflection on the quality of current courses, but rather a lack of awareness by students of the courses available, on gaps in key areas.

“I don’t think there’s a course in Australia that combines teaching supply chain, teaching logistics both from a capability point of view but also overlaying leadership on top of that.”

“The root cause in terms of talent is that uni students are not taking supply chain topics. Many don’t even seem to be aware of them.”

“It’s an untapped area... there’s not a lot of focus on supply chain in Australia’s TAFEs and universities. The techs are focussed on the tradies and there’s an opportunity there to develop those low/mid-level supervisory skills.”

“In other sectors there is credentialling of people ... evidence-based credentialling of skills that drives a real profession... with a continuation of training that ensures skills are kept up to date.”

Several participants indicated they were developing their own education programs in order to meet skills requirements. This was particularly true for mid-level leadership skills for supervisors, and for linking supply chain knowledge with other skills (see section 4.1).

“We have had to do a lot of home-grown development of these types of programs so that we marry the technology we have inside our supply chain processes and systems with leadership, training and development. We have our own in-house training and development programs and we’re now in the process of going about them getting recognised with training organisation certification.”

“We would love the universities to be able to take on the training of our supervisors ... it’s a good entry level role for someone who is diploma or degree qualified ... but at the moment we have to do it ourselves.”

“The majority of our grads get poached by our customers.”

‘Poaching’ staff from other industries was a major issue in some parts of the sector. The result is increased competition (fuelling higher wages), with people circulating within the sector and no movement of people coming in from other industries. This is of concern especially given the older average age of workers in the sector, the need for a new pipeline of younger workers, and the frustration of a poor return on investment for workforce training.

“Whenever there’s a mining boom, and mining companies flash around wads of cash they suck skilled people out of other areas, and that’s a threat to our industry.”

“Our customers are becoming our greatest knowledge competitors, but they are also the greatest poachers ... the majority of our grads get poached by our customers.”

“The capability of people currently engaged is relatively good, but the problem is that capacity at that level is getting drawn away into easier positions that pay more money.”

## 4.0 Gaps in supply chain skills and capabilities

The terms *skills* and *capabilities* are often used interchangeably, but there is an important difference between them.

**Skills** are the learned abilities necessary to do a particular job well – whether custom broking or, truck driving. ‘Hard’ skills are technical and quantifiable and are often (but not always) demonstrated through an accredited course such as an engineering or data analytics degree. ‘Soft’ skills are non-technical skills less directly connected to the role such as time management or problem solving.

**Capabilities**, however, can be defined in behavioural terms – what people need to achieve in order to produce the results a company requires. They describe outcomes that have the capacity to be realised but not necessarily yet achieved – leadership or managerial skills, for example. A capability is a deep-rooted ability that is transferable and can be applied in many contexts and many roles.

### 4.1 Capability gaps

Figure 4 (below) captures the key capability gaps identified by our participants, with the number indicating the number of times it was mentioned as an issue. We’ve categorised five themes:

- connectedness (or ability to ‘marry’ the different parts of the supply chain)
- leadership (at all levels from mid-level supervisory roles to senior management)
- problem solving
- emotional intelligence
- the ability to meet the challenge of sustainability and ethical demands (ESG).

Clearly there are links and overlaps within these themes but given the attention they were given by our interviewees we have considered them separately.

### Supply chain capability gaps

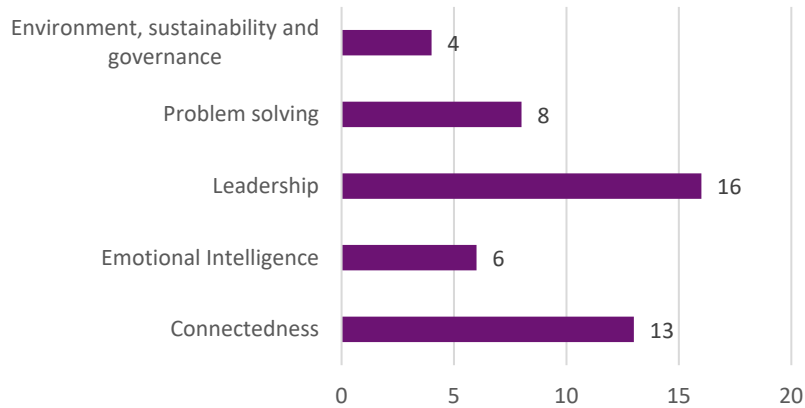


Figure 4: Gaps in supply chain capability

“People leaders are struggling under the pressure of all the disruption.”

The challenge for leadership relates in part to the speed at which the sector has been evolving and the impact that has on staff.

“You have artificial intelligence coming in, you have machine learning coming in, I have technologies coming from multiple places ...this cohort of leaders might have 15, 20, 25 years in the sector but the challenges they face are very different today.”

“At executive level we don’t have real depth in the sector - people who have run these businesses and understand what the future is looking like ... it’s just the same people moving around.”

The capabilities required to lead in this environment are quite different from what was expected in the past, and outdated leadership styles are no longer effective. The new leadership approach values both people and profit as key measures of business success and managing this transition is inevitably difficult.

“I don’t want to empower someone and the walk away and have no visibility of the outcome ... I do trust but I also need visibility. If there’s too much command, your team stops making decisions... empowered people is a key attribute of successful companies.”

“Command and control don’t work anymore. There’s a need to achieve a balance between empowering the task, monitoring the task in achieving the outcome, versus standing over people while they do the work.”

At a time of major change, these skills are required at all levels of the business not just at the executive level. At the end of the day, companies want to hire people who are leaders, as opposed to those who are good at operations, and the two may not be the same thing or be found in the one person.

“We need people who can pull it all together.”

‘Connectedness’ was a trait seen as integral to success in supply chain. Digital connectivity of every aspect of supply chain may be a reality. There’s no longer a need to contact suppliers or carriers to determine where goods are – but there is still a need for those who work in supply chain to have a working knowledge of all its aspects – planning, procurement, commodity management, supplier relationships, logistics, sourcing, quality management, customs, warehousing, inventory management and all other matters supply chain. Supply chains are highly interconnected systems characterised by inter-company relationships and fundamental interdependency.

“There are people in the industry who are very, very good at creating a vision and articulating a vision, but they actually skipped a semester on ‘the why’. They don't know how to execute it and they don't know they're not operational savvy. At the other end you have grass roots operators who have all the minute detail on articulation of strategy. And then there's this gap in the middle. If we could take those two people and meld them”

“The ability to think about the capability and capacity in exports ... to unpack and identify where facilities are ... prospectively rather than retrospectively ... that capability just isn't there.”

“The people who understand how that works and have the ability and experience and know how to do that ... is only a small proportion who can do that and now every business is looking for that capability.”

“We need people who can pull it all together... strategic partnerships, project management, risk management, lean thinking, financial acumen modelling analysis. Then you've got the planning, the logistics, retail acumen (understanding consumer), then customer operations and then S&OP (sales and operations planning). You need all those skills to be a GM (general manager), you need to understand four walls and the roof.”

While much of the discussion in our interviews related to the growing importance of technology and its implication for capability gaps, supply chain continues to be very much about relationships and relationship management. Today's supply chains are networks through which products, information services and finance flow. As complex as they are, they can't exist without people to make everything happen. Soft skills such as emotional intelligence, cross cultural understanding, negotiating skills, conflict resolution and adaptability are an imperative at all levels.

“So much of what we do is about contracts, but we not only need people with contractual expertise ... we need them to have high level negotiating skills.”

“We've always needed the people with service skills, the ability to deal with people. (But with the level of change in the sector), we need people to have the personal skills for dealing with uncertainty, being comfortable with ambiguity ... we need to grow our capability in that.”

“We are looking for the personality, the skill set and the enthusiasm.”

Flexibility, problem solving, creativity, and emotional intelligence are also critical to manoeuvring around complex problems to find a solution.

“We need people who can use the data analytics to problem solve and then direct and mentor people - it's a challenge and it's a big mountain that we're climbing.”

“For example, just at the quote stage, if you're a customer who's saying look, I want to import product from let's say China to Australia and you're having trouble getting available capacity we might have to look at three or four different shipping lines, routes, you might shop around, do all sorts of things you might have a quote that's valid today but not tomorrow. And with COVID everything is much more difficult now. The reality when you deal with logistical problems like this ... no amount of automation will help. It's quite advanced problem solving.”

“We need problem solvers, people who do analysis reporting. There's increased demand for those people, but with borders closed there's a smaller pool.”

Related to this, companies are under increasing pressure from investors, the public and governments to commit publicly to environmental, social and governance (ESG) metrics. Environmental issues include climate change and carbon emissions, air and water pollution and waste management. Social issues can encompass a broad range of areas including product liability, privacy and data security, consumer activism and modern slavery.

Governance deals with business ethics, board effectiveness and the corporate culture and values that shape how a company operates. Consumers are increasingly aware of social

“There are concerns about capability in the ESG area.”

licence issues; concern about the environment and modern slavery now affects the purchasing decisions of an increasing number of people. Socially conscious shopping was on the rise pre-COVID, but recent consumer surveys<sup>8,9</sup> suggest that consumers have become even more socially conscious as the pandemic has continued.

Younger workers in particular have high expectations around the values of corporate social responsibility. The Deloitte 2021 Annual Millennial and Gen Z Survey<sup>10</sup> explored the views of 14,600 millennials (those born 1981-1996) and 8,200 Gen Zs (those born 1997-2012) from 45 countries. One of their key conclusions is that they want the businesses they work for to focus more on people, products and purpose, and less on profits. This is a conclusion of significant relevance to recruiting because by 2025 millennials will comprise 75% of the workforce in Australia.

“There are concerns about a skill capability in the ESG area - it’s a skill set that needs to be built. The ethical questions around the environment and values around modern slavery.”

“There are challenges of sustainability and ethical demands. ESG and the ethical side is a big issue for my business. It’s important for shareholders and for future sustainability of the business.”

## 4.2 Skills Gaps

Even before the pandemic, the supply chain and logistics sector struggled with a talent shortage globally (see section 1.1), with shortages across a number of fields and levels.

“Everybody's struggling to find people, and this is people from truck drivers and train drivers, right through to the more skilled and talented individuals.”

“I think we are in a very barren state when it comes to talent.”

Figure 5 (below) shows the skills gaps our interviewees saw as the key problem areas.

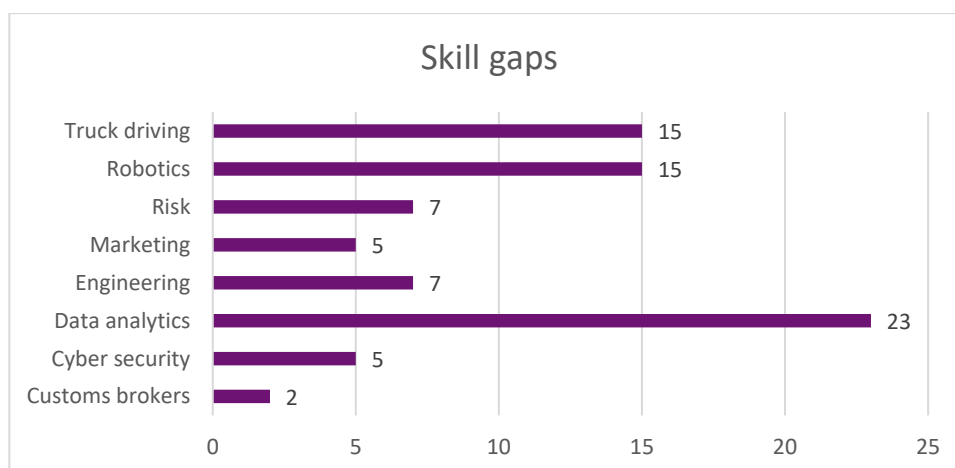


Figure 5: Skills gaps in supply chain and logistics

The pandemic certainly highlighted the critical role truck drivers have in keeping the supply chain moving, and as demand for land freight rises, a shortage of truck drivers continues to be a challenge. The demand is fuelled by the increase in e-commerce following the

<sup>8</sup> Valassis August 2021. [Analytics & Measurement - Valassis](#) Accessed 04-92021.

<sup>9</sup> Southey F Retail Predictions: Food plastics and climate change smart trends January 2021

<sup>10</sup> 2021 Millennial and gen Z Survey (Australia) Deloitte Australia <https://www2.deloitte.com/au/en/pages/about-deloitte/articles/millennial-survey.html> Accessed 10/09/2021.

pandemic and the shortage in supply is complicated by the closure of national and state borders. With fully automated vehicles still some way off, attracting new drivers is a problem industry wide.

“There’s an absolute shortage of truck drivers.”

“There’s an absolute shortage of truck drivers. Trucks are parked up with no one to drive them. We used to rely on incoming workers from overseas. Big incoming Indian population that worked in Linfox and Toll, but that’s no longer available.”

“We used to have drivers looking at more localised solutions for getting the product to the shortest distance possible to deliver because we don’t have the capacity to have a lot of trucks on the road because we don’t have the drivers. It’s a challenge how we set up our networks.”

“The government (responded to the shortage of truck drivers) by starting a \$6 million training centre for truck drivers but it is entry level and short courses, and we actually need to focus on the long build”.

Many of our participants identified a shortage of talent in data analytics, but it’s more complex than the ability to attract graduates with data analytics qualifications. Thanks to highly skilled data analyst teams, many companies have the data to anticipate slow and busy periods, predict demand and optimise route planning. But the capacity to understand and trust data is just as important as the decisions about what to do with it.

“Thanks to our data science team we’re looking probably 2 to 96 hours in advance for trends coming out of pre-ordering from our customers. The difficulty we have is our managers’ inclination to believe (or not believe) the data or trust the data for decision making. It’s not that they don’t have access to the data, it’s that whether they understand what they have and can act on it.”

“It’s unusual to find someone with qualifications in data analytics ... and experience in supply chain.”

Another capacity gap relates to the combination of supply chain knowledge and experience, together with data analytics qualifications. A number of our participants identified this gap in the training of the data analytics graduates they recruited.

“For a company like ours, which is really rich in data analytics, it is very unusual to find someone who’s got qualifications in data analytics and even you know, maybe a few years’ experience of supply chain in large operators in Australia like TOLL for example who have the analytical capabilities we need.”

“The graduates we employ don’t have the skills around sophisticated usages of Excel, SQL, Tableau and other tools that allow us to interrogate data to make really good decisions and problem solve. And so you know if we could recruit people who are computer science oriented and understand, databases and database interrogation and then train them on supply chain. The problem is that data analysis and use of the relevant tools aren’t taught together in universities.”

“(The people we’re recruiting) are passionate about algorithms but it’s hard to get them excited about the smell of diesel or the quality of wood in a pallet.”

“The best model is to have a supply chain person with training in data analytics who can then interact with kind of a hardcore data scientist who’s going to do the more detailed work and then relay the results back through the supply chain person – that’s the Amazon model.”

Supply chain and logistics is an ideal place for data analysts to start their careers – it generates massive amounts of data from end-to-end, and supply chain analysts are able to uncover patterns and generate insights that would otherwise go unnoticed. If a demand spike occurs and a company is unable to understand what caused it, the information has no value at all. It’s a perfect place to start a career in data analytics.

“My view and it’s probably biased, is start your data analytics career in supply chain because that is the heart where all that data flows through. It gives you a real education around the end-to-end data for the data flow that goes through an organisation. You can then move on to the sexier stuff like customer data and trends and analytics but there is certainly an exciting career path for people who want to play around in big data.”

Unfortunately, this is a view of the world that’s not shared by the majority of graduates in the field.

“There’s no doubt supply chain is a very exciting place to develop a data analytics career, but we’ve got to get a lot better at making sure graduates know that.”

Pre-COVID-19, Australia’s retail giants had already begun to invest in automated warehouses and unmanned ‘dark stores’, and automation and digitisation will continue to grow in both warehousing and delivery aspects of the sector. As business models evolve to meet these new challenges, we are seeing growth in the demand for skills in artificial Intelligence (AI), machine learning and robotics. Robots are already delivering innovation and value by improving the speed and accuracy of routine operations, particularly in warehousing. Robotics is a source of reliable labour, high quality, virtually mistake-free and with significant cost savings over humans. With robotic mobility improvements and AI advancements, robotics can be expected to play a significant role in the future of Australia’s supply chain companies and skills gaps are already evident.

“We’re seeing a big shortage of talent in automation and the robotics side of warehousing.”

“The main robotics providers in Europe have real difficulty in finding automation skills. They decided three years ago to provide their own apprentice and management trainee program where they’d fund university degrees and tertiary education that would basically build the talent pool internally because they just couldn’t find an internal market.”

“As an industry, we have a better job to do in understanding that we are really pioneering here in terms of robotics ... and it’s a skill set that’s hard to find.”

The digitisation of our supply chains has enabled greater connectivity and communication between suppliers, manufacturers, distributors, and customers, and while this has created vast amounts of valuable data, the high level of interdependence makes companies vulnerable. Technology has increased the touchpoints and exposed the risk of intellectual property and business data across the entire length of the supply chain. A business may well have the necessary security tools and protection in place, but they need to be certain that their suppliers, and their suppliers’ suppliers, and so on down the value chain, have the same level of protection. It’s an axiom, but cyber security is only as strong as its weakest link and breaches have costly effects that can linger for years after an incident, paralysing entire connected supply chain ecosystems. The shift to remote work due to COVID-19 has increased the risk of data breaches.

“The impact of COVID has made the security of supply in supply chain a bigger issue, and closed borders have put at risk the security of data services from India, Asia and Europe.”

Companies are investing in the capability that can build cyber resilience and mitigate cyber risk, but demand for labour in this field is outstripping supply globally. The US Bureau of Labour Statistics projects<sup>11</sup> ‘information security analyst’ will be the 10th fastest growing occupation over the next decade; it has an employment growth rate of 31% compared to the 4% average growth rate for all occupations.

“We are facing a huge gap with cyber and technology capability.”

There are also labour shortages for truck drivers, fruit pickers and warehouse workers, but these are areas where technology is providing solutions. The more concerning skills gaps are for security analysts, engineers, customs brokers and master data scientists.

### 4.3 A diversity issue

Diversity of thinking and people is now widely recognised as a key success indicator, and the supply chain and logistics workforce is both aging and primarily male. Just 20 percent of employees in the wider transport industry are female and the gender composition of the

“There’s a huge gap in cyber security.”

<sup>11</sup> US Bureau of Labour Statistics 2021 <https://www.bls.gov/ooh/fastest-growing.htm> Accessed 12/09’21.

workforce has largely remained unchanged over the last 30 years<sup>12</sup>. Along with many businesses globally, supply chain also faces the challenge of an aging workforce. The Transport and Logistics IRC's 2018 Skills Forecast<sup>13</sup> reports that the average age of all workers in the Transport and Logistics industry is 45-years, with a large proportion of workers set to retire over the next two decades.

#### 4.3.1 An aging workforce

Supply chain and logistics companies face the dual challenge of an increasing demand for people with the skills required by modern supply chains, and an aging workforce that is rapidly approaching retirement age. A number of our interviewees talked about the challenges of an aging workforce both from the perspective of leadership and roles throughout the company.

"We're an industry that's in generational transformation. The average age at \_\_\_\_\_ is 52."

"It's a challenge as we're going to have to a generational gap until the next generation takes up the mantle."

"The workforce dynamic in the leadership team is 50s to 60s. You don't see many 30-year-olds."

"We need to keep the talent pool coming through ... our current people are getting towards the end of their careers and we're not seeing the feed of young people who see the industry as an opportunity for them bringing with them their different thinking."

Diversity not only of age but of gender, ethnicity and background is important for workforce capability, it brings new perspectives, new ideas and new understanding. The supply chain workforce lacks diversity across the sector.

Leadership and succession planning were also a focus.

"We need to make sure that that's a mix of younger and more experienced workers and there's a level of succession planning. We identify the top 100 high potential people within the business, irrespective of where they sit in the structure, meeting with them three times a year to discuss where they're at and what they need."

This is not to underplay the value of older workers in supply chain, however. A good deal of logistics and supply chain management is about problem solving and common sense, and older workers bring years of experience making difficult decisions quickly and understanding how to balance costs and benefits. They contribute significantly to the 'practical creativity' that comes from long experience rethinking existing patterns to develop design solutions to complex and constantly changing problems.

"We recognise we need to bring younger people into the business, but we want them to work alongside the experienced people, particularly in specialist functional teams."

#### 4.3.2 A lack of diversity

That diversity is critical to a company's economic performance is no longer a matter of personal opinion but has been demonstrated by numerous studies globally and

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<sup>12</sup> Transport and Logistics Industry Discussion paper 2018. [Transport and Logistics Industry Discussion paper 2018](#) Accessed 5 April 2020.

<sup>13</sup> Transport and Logistics Industry Intelligence 2018. <https://www.australianindustrystandards.org.au/transport-logistics-industry-intelligence-3/>. Viewed 4 July 2020.



nationally<sup>14,15,16</sup>. Higher rates of diversity bring different ways of thinking and managing problems, and it can help companies evolve, innovate, problem solve and be more efficient.

Prominent in terms of diversity in the workforce is gender diversity. Data collected annually by Australia's Workplace Gender Equality Agency (WGEA)<sup>17</sup> show workplace gender equality is associated with improved national productivity and economic growth, increased organisational performance, enhanced ability of companies to attract talent and retain employees and enhanced organisational reputation.

A number of our participants acknowledged that gender diversity was a concern within their organisations.

"It's seen as a male domain."

"We definitely have diversity issues. There are just 1 per cent females in the front line and 16 per cent across the whole business."

"There's been no shift in gender diversity. I'm still the only female in a senior position at \_\_\_\_\_."

"We have very poor gender diversity... we've only just got one on our executive team. I have one senior female reporting to me, all my other direct reports are male."

"Lack of gender diversity is a key issue for us. We are currently 94% male."

They also acknowledged the difficulties in achieving a shift in outcomes and improving levels of diversity:

"It's really tough to recruit women graduates at the universities because supply chain is very much seen as a male domain."

"Traditionally we've been a very male dominated industry, so any female talent that's got that sort of operational capability or ability to manage that sort of heavy people operations has been difficult."

In almost all cases, however, there was discussion about a way forward to achieve greater diversity and a sense that gender equity levels were moving in the right direction.

"We're in the process of recruiting a senior equity and inclusion leader as part of the C team, and we have goals around gender, indigenous and disability."

"We've set targets to lift the number of women in management."

"Our gender diversity targets have been pretty static for a long time but it's getting better. At \_\_\_\_\_ the number of female middle managers has gone from 5% to 28% in last 2-4 years."

Several of our interviewees commented that, to increase the number of women in senior positions, it will be important to employ more women at lower levels in the company, particularly in operational roles.

"To get more women at senior leadership levels, we need to appoint many more women in supervisory positions. We need to over-index because of natural attrition, therefore I need to over-play my hand at junior levels so there are enough people in the pipeline as time progresses and people's career journeys develop."

"The key to attracting women is to start at the grass-roots level ... to have more women on the floor and on-site in operational roles. They can then move from there to supervisory roles and from there to more senior positions."

The effect of the COVID pandemic on diversity targets was mixed. There was an acknowledgement that women were carrying a heavier burden because of lockdowns and

<sup>14</sup> McLean. Perez-Franco & Parsons *The Under representation of Women in the Supply Chain Workforce*. Wayfinder 2020

<sup>15</sup> World Economic Forum April 2019. Business case for diversity in the work force <https://www.weforum.org/agenda/2019/04/business-case-for-diversity-in-the-workplace/> Accessed 8/7/20

<sup>16</sup> Goldman and Sachs & J B Were (2009), Australia's hidden resource: the economic case for increasing Female Participation, accessed 7/7/20 [https://www.asx.com.au/documents/about/gsjbw\\_economic\\_case\\_for\\_increasing\\_female\\_participation.pdf](https://www.asx.com.au/documents/about/gsjbw_economic_case_for_increasing_female_participation.pdf)

<sup>17</sup> Workplace Gender Equality Agency Data Explorer <https://data.wgea.gov.au/> Viewed 9 July 2020.

the need to manage childcare. And, because women were more often in part-time or casual positions, they also bore the brunt of job losses.

“The challenges of diversity have been exacerbated by COVID ... having to work from home. Home schooling, childcare ... women carry most of the load. Issues for women exacerbated ... childcare, people losing jobs mostly affected women. “

There was an acknowledgement, too, that the greater acceptance of working from home provides women with a greater level of flexibility.

## 5.0 Preparedness for change

Over two thousand years ago, the Greek philosopher Heraclitus said, ‘the only constant in life is change’, but he is unlikely to have imagined the speed at which changes occur today.

One of the most important lessons of the COVID-19 pandemic has been the folly of ignoring warnings of highly likely, high impact risks that are a matter of *when*, not *if* they will occur. For years, governments and corporations alike have brushed off credible warnings of the likelihood of a pandemic.

One of our interviewees discussed the issue in terms of the ‘black swan’ and ‘grey rhino’ analogy. A black swan event is an improbable and unforeseeable occurrence. A grey rhino is a highly probable, high impact threat that occurs after a series of warnings and visible evidence is often ignored. The pandemic is a grey rhino rather than a black swan.

They made the observation that this is also true for the sector’s response to the skills shortage.

“We know this (the talent shortage) was coming and we should have prepared better for it.”

That the pace of change in the supply chain and logistics sector will continue to accelerate is inevitable. Access to data, digitisation, advances in robotics, AI and of course the need to respond to global events such as the COVID-19 pandemic, is driving new business models and new ways of operating. Alongside this, the workforce must learn new skills and adapt to new ways of doing things – constantly. It’s a challenge that not all are prepared for:

“Recently we undertook a big automation operation ... we had great people, great businesses, great operators ... but 18 months later not one of them is left. Either they didn’t have the capability, they didn’t have the desire to change, or they couldn’t deal with the stress of change, or we just had to make some different commercial choices because, with all types of automation, your workforce requires different skill sets.”

In the past as it is today, the consequences of changes always affect people, who are a company's main asset. The most successful companies have employees who plan for, execute and sustain change. To be prepared for change, companies need a diverse, flexible workforce, and employees need the technical support and skills development opportunities which will allow them to prepare for – and adapt to – the challenges and opportunities the future will bring.

## 6.0 Conclusions and recommendations

### 6.1 A challenge of unprecedented dimensions

For most of this century, companies have struggled with when, and to what degree, to take up the opportunities of new and emerging technologies. Arguments against change were clear: the company is already operating efficiently; large companies will never move as

“We knew the talent shortage was coming and we should have been better prepared.”

quickly as start-ups; employees can't be mobilised quickly; and you can't put customers first all the time. It's a set of perceptions that made the need for a more agile operating model appear to be an option rather than a necessity, and it persuaded some to delay automating their warehouses or digitalising their supply chains.

Then along came the COVID-19 pandemic, and businesses reacted nimbly, producing previously unimagined gains in productivity. Companies adopted different ways of working, silos disappeared almost overnight, and the speedy adoption of new technologies delivered products in new ways. Decision making was accelerated and pushed further down the hierarchy and teams of cross-functional talent were swiftly assembled to meet a new set of priorities. New employee value propositions such as more flexibility and less commuting gave HR staff the ability to cast the recruitment net more widely and the spread of empowerment throughout the company created a new set of potential leaders.

Supply chain and logistics companies today face the combined challenge of growing trade wars, geopolitical volatility, fast paced technological change, an increased focus on corporate social responsibility and a labour and capability shortage. Added to this is the uncertainty of the COVID-19 pandemic – a disruption unprecedented in recent history – and whatever challenge may come in the future.

A company's capacity to respond is only as robust as the people charged with delivering on that response. Supply chain strategy can only be enabled by the capabilities of a company's workforce – the skills and capabilities required to be successful in any given position.

The participants in this study identified the workforce challenges they face in the aftermath of the COVID-19 pandemic. Figure 6 (below) is a word cloud of the key issues arising in our discussions.



Figure 6: Word Cloud of the most common issues arising in discussion

All participants acknowledged that the supply chain and logistic sector was experiencing workforce challenges, both directly from the impact from COVID-19 and as a result of the social, geopolitical, economic, environmental, and technological factors impacting on the sector. Despite a raised awareness of the economic and environmental impact of supply chain, the sector and the career opportunities it represents are poorly understood, creating a roadblock for recruitment. They also identified that the lack of recognition is reflected in remuneration, with supply chain management roles not aligned to the relative responsibilities.

## 6.2 Hidden opportunities

The increasing complexity of Australia's supply chain ecosystems highlighted capability gaps in areas such as data analytics and cyber security, but the ability for the workforce to be able to connect issues across the length of the supply chain – 'to marry' the knowledge and

A company's capacity to respond is only as robust as the people charged with delivering on that response.

technology within the supply chain processes and systems with leadership, innovation and agility. They identified capability gaps in this ‘connectedness’ as well as in leadership and ESG capacity. They identified skills gaps in truck drivers, operations leadership, data analytics, cyber security, and robotics and they also identified a diversity issue, in attracting younger workers to the sector, particularly women.

The pace of change in the sector is unlikely to ease, and the ability to prepare for – and manage – change will be an imperative. How can the supply chain and logistics sector attract the next generation of talent it requires? It will be critical to sell them on the challenges and opportunities of a supply chain career. Beyond the salary, the job seeking focus of millennials and Gen Zers is on a career path that is both rewarding and flexible. The ‘flexible’ will always be difficult in the sector, but in the tech areas where there is a shortage, flexibility and the locations that are more attractive to them are increasingly possible. Several of our participants from larger companies spoke of locating their technology hubs in trendy areas that can appeal to the demographic. ‘Rewarding’ is much easier, from smarter packaging to responsible sourcing, companies are increasingly focused on environmental and sustainability goals. And logistics is one of the key enablers of globalization, linking the supplies and demands of the entire world. Problem solving is integral to supply chain, the problems are constantly shifting – a great attraction for a generation raised on you tube, the Internet and XBox.

### 6.3 The way forward

Long after the immediate effect of COVID 19 has passed and the world has moved into whatever ‘COVID normal’ will look like for businesses globally, there are some pandemic inspired influences we can expect will continue.

International uncertainty and concerns about national sovereignty means that companies will be looking to diversify their supply chains and will be focussing more intently on local suppliers. Supply chain risk and supply chain resilience will be a key focus for all companies. E-commerce is likely to continue to accelerate, and we can expect to see continued growth in omni channel distribution. Customers have become accustomed to the convenience of making purchases online and are unlikely to return in per-COVID numbers to crowded stores. The safety and convenience of ‘cashless’ and ‘contactless’ commerce has been popular and is likely to continue.

While supply chain companies have been investing in modern technologies for many years, supporting a fully remote workforce has pushed many to invest more in IT, cloud and cybersecurity services. Automation is likely to continue to increase as companies look to build their resilience: robots can’t get sick, and they provide a predictable response to workforce skill gaps. One of the most significant workforce trends during the pandemic has been the move to remote work, and while people will return to their offices, attitudes to working from home have changed and certainly people who are sick will be encouraged to stay home. Safety has always been important, but in the post-pandemic world, sanitation will continue to be important, and health and safety will attract increased attention.

Diversity will be a key to business resilience, diversity in workforce teams, diversity of supply chains, and diversity and interoperability of digital systems.

## RECOMMENDATIONS

The discussion in this research focussed on the issues rather than the solutions, but the findings suggest a number of possible ways forward. The research authors propose the following recommendations.

1. Undertake active promotion of the sector within universities and TAFE colleges.
2. Key challenge areas such as the shortage of truck drivers will require government support to facilitate visas once borders reopen.
3. Promotion of the sector should acknowledge the increased role of technology and attention to social responsibility
4. Increasing understanding of supply chain and its complexities within companies as well as more broadly.
5. Collaborate with education providers to develop micro-credentials in areas such as understanding data.
6. Collaborate with education providers to develop internship opportunities for undergraduate students in data analytics and information security.
7. Undertake an audit of remuneration within supply chain roles to ensure it aligns with responsibilities.
8. Active promotion of professional development opportunities that enable rotations across different aspects of the supply chain.
9. Ensure career paths in the sector are clearly visible.
10. Where the role makes it possible, continue the flexibility of remote working for part of the week.

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