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Queensland**
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The Digital Literacies Imperative for Queensland Businesses

A scan of contemporary Australian literature

December 2022



Further enquiries

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Literature Review

The COVID-19 pandemic impacted people's lives. It impacted the way many businesses operated, particularly public facing businesses. The COVID-19 pandemic was a catalyst for technological change with many businesses forced to adopt and adapt to new technologies. It is estimated that technology advances and digitisation of business were accelerated by four years or more.^{i ii iii} The rate of acceleration in the use of technology exposed gaps in the technological skills of the workforce. It increased the depth and breadth of digital skills required by workers for successful entry to, and productive participation in the workplace. Jobs needed to be redesigned and the workforce rapidly upskilled and reskilled in new skill sets. Technological changes enabled distributed and hybrid workplaces to increase.

These themes had been raised in Jobs Queensland's *Future work for small business: Skills, capabilities and potential*^{iv} that identified that a changed mindset that embraced upskilling and reskilling for the workforce was a critical success factor for small businesses. Jobs Queensland's *Lifelong learning: The foundation of future work*^v highlighted the need for upskilling for workers to remain current with the changing working landscape and developing digital literacy skills is essential to harness additional opportunities that are on offer.

The ***Digital Skills to respond to changing workplace environments*** project forms part of Jobs Queensland's Annual Workforce Plan 2022-23 and builds on previous Jobs Queensland work (*Future work, future skills* and *Lifelong Learning*). The project responds to workforce digital skills needs identified by the Chamber of Commerce and Industry Queensland (CCIQ) and the Regional Jobs Committees (RJC's). It investigates matters raised in the Queensland Workforce Summit about the need for upskilling workers' digital literacies. It responds to a Good people, Good jobs - Queensland Workforce Strategy (QWS) action, and supports the Commonwealth and Queensland Governments' digital skills priorities (see Appendix One).

This literature review completes the first phase of the project.

The second phase of the project is to undertake place-based case studies that focus on developing the digital skills in targeted sectors.

Summary of key points

- Technological changes that were introduced during the COVID-19 pandemic are long-term.
- SMEs that experienced disruption were limited in their capacity to adopt new technology.
- Larger businesses such as those in agriculture have greater capacity to adopt new technologies. Opportunities for technology diffusion to smaller agricultural ventures is also needed.

- Telehealth increased for patient consultations and provided opportunities for common use in rural and remote locations.
- The pandemic provided clear evidence that a lack of digital skills has a negative impact on workforce participation, which is especially experienced by disadvantaged cohorts.
- Cyber security is a growing concern for all businesses who have an online presence. SMEs are particularly vulnerable and need strategies to combat cyber- attacks.

Methodology

The methodology was desktop research of contemporary Australian and international literature and industry and government initiatives to identify the digital literacies needed by small to medium businesses and employees for changing technology, and work arrangements that have been accelerated by the Covid-19 pandemic. The foci of the next research phase about digital literacy needs are small business, agriculture, health and social enterprise sectors.

The impact of the COVID-19 pandemic responses on technology in the workplace

Businesses have been forced to respond to the changing technological environment created by the COVID-19 pandemic in differing ways.^{vi} Rapid adoption of technology has been critical in driving process improvements. At the same time, the uptake of technology has increased opportunities and need for distributed and hybrid workplaces. The pandemic is a catalyst for change with businesses adopting, and adapting to new technologies in recent years:

- Driven demand for entirely new skillsets in a relatively short time
- Required existing jobs to be re-designed
- Changed the role and function of managers
- Driven cost savings
- Caused shortages in 'in demand' skills
- Caused businesses to focus more on training and development.^{vii}

A digital presence is now a necessity for many businesses with online commerce and innovative delivery of public services like health and education. Adopting technology and digitising the workplace is dependent upon access, capability and confidence to use specific technology. The use of technology tools by workers will continue to grow and be a key part of participating successfully in the labour market.

The Grattan Institute identifies that 'the most common barriers to technology and data adoption identified by Australian businesses are inadequate internet, lack of skills, limited awareness, and uncertainty about benefits and costs of new technologies.'^{viii}

The Productivity Commission cites research by Gartner^{ix} that found talent availability inhibits technology adoption across a range of digital and data domains – including automation, security and digital workplaces – and that skills challenges have become more prominent since 2020.^x

Digital Literacy

There are many definitions of digital literacy, but it can be thought of as 'Identifying and using technology (including hardware and software) confidently, creatively and critically'^{xi} 'to effectively meet the demands and challenges of living, learning and working in a digital society.'^{xii} It is the ability and skills to use digital technologies—both hardware and software—safely and appropriately in response to a rapid uptake and shifts in job function and job design.^{xiii} Digital literacy is 'the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.'^{xiv} According to the UN Educational, Scientific, and Cultural Organization (UNESCO), this includes competencies such as using ICT, processing information, and engaging with media.^{xv} However, digital skills do not exist in a vacuum and interact with other capabilities such as general literacy and numeracy, social and emotional skills, critical thinking, complex problem solving, and the ability to collaborate.

Deloitte refers to a taxonomy of *digital abilities*—the knowledge and skills required to accomplish tasks with the relevant digital tools:

1. *Digital literacies*: A basic understanding of the digital media and major digital platforms relevant to their domain.
2. *Digital abilities*: The knowledge and skills to use digital tools applicable to their domain.
3. *Productive digital predilections*: Attitudes and behaviours that allow them to appropriately apply their digital literacies and abilities to effectively solve work problems.^{xvi}

The International Telecommunication Union (ITU) proposes a hierarchy of digital skills:

1. *Basic digital skills*: the effective use of hardware (e.g., typing or operating touch-screen technology), software (e.g., word processing, organizing files on laptops, and managing privacy settings on mobile phones), and internet/ICT tasks (e.g., emailing, browsing the internet, or completing an online form).
2. *Intermediate digital skills* comprise the ability to critically evaluate technology or create content; they are characterized as "job-ready skills" and include desktop publishing, digital graphic design, and digital marketing.
3. *Advanced digital skills* in ICT professions such as computer programming and network management. Many technology-sector jobs now require advanced digital skills related to such innovations as artificial intelligence (AI), big data, natural language processing, cybersecurity, the Internet of Things (IoT), software development, and digital entrepreneurship.^{xvii}

The National Skills Commission identified the top 20 most demanded software technology tools across all jobs in the Australian economy. These range from using databases, word processing, spreadsheets, electronic mail through to specialised accounting packages.^{xviii}

For the purposes of this research, the capability described as 'digital literacy' to undertake 'basic digital skills' is used. The focus is on the non-technological workforce, not on the technology workforce.

Why is action in developing digital skills vital to small business?

Shortage of digital skills

Prior to the pandemic there was already a shortage of workers with the appropriate digital skills. In the eight years Australian Computer Society (ACS) has produced its annual pulse report the need for a better pipeline of technology workers in Australia has been the top issue.^{xxix} The increase in the uptake of technology through the pandemic on top of existing skills shortages leads to forecasts of the need for around 217,000 additional workers.^{xx} While the skills in the technology sector is outside the scope of this research, of concern is industry bodies advocating a strategy of recruiting workers from other sectors with the lure of attractive wages and conditions and upskilling or reskilling them in technology roles.^{xxi xxii xxiii xxiv} The Tech Council is open about its strategy to poach employees from other industries. Of the identified 93 different government, industry or education providers programs, more than half (47) are specifically targeted at retraining workers from other sectors and outside the labour force.^{xxv} This strategy of poaching staff will put further strain on the technology skills base of the workforce in other industries.

Skills development

The pace and range of technological developments highlights the importance and challenges of developing a growth mindset to maintain and grow the required digital literacy skills. This is essential for all the business, from owners, directors, managers as well as staff. Digital skills are at a premium.^{xxvi} To do nothing is to fall behind. To do something requires the right mindset, in some cases, a changed mindset.

The COVID-19 pandemic is a catalyst for technological changes which drives the need for skills development, for example cloud computing and technical skills training.^{xxvii} The Australian Digital Strategy notes the 'Workers with data and analytics skills will be in greater demand, and new, resilient jobs that are less location-dependent will be created; with the potential to help workers otherwise displaced by technological and workforce changes.'^{xxviii} However, AlphaBeta's research found that two out of three workers surveyed are not confident that they are gaining digital skills fast enough to meet future career needs and believe they will be left behind if they don't improve their digital skills.^{xxix} This is despite 76 per cent of non-tech workers and 83 per cent of tech workers said they experienced improved employability after doing training.^{xxx}

Digital skills training is beneficial to both organisations and workers. AlphaBeta research shows that 87 percent of organizations that invest in digital skills training have benefited by fast-tracking their digitization goals. 86 percent of workers experience greater efficiency in their work after undergoing such training.^{xxxi}

A global training shortfall exists today - pointing to a gap between digital skills training actions and training needs.^{'xxxii} In addition, the number of workers who have trained or are training in key areas does not meet the current needs - cybersecurity skills (only 15 percent of workers have trained or are training in this skill), technical support skills (only 13 percent) and digital marketing (only 22 percent).^{xxxiii}

The NCVER developed a good practice guide for delivering digital skills in VET. The key messages are that digital skills would be more prominent and more important if they were added to the suite of foundation skills, units of competency, or short courses. Specific digital skills could prepare the current workforce to adapt to and manage changing roles at work. Partnering with employers to develop digital skills training is essential. Lifelong learning is encouraged by providing greater flexibility in training product development and funding models.^{xxxiv} The AISC's Digital Transformation Expert Panel calls for a comprehensive national lifelong learning policy with a strong focus on the existing workforce.^{xxxv} In higher education Coldwell-Neilson recommends that 'digital literacy development should be contextualised and scaffolded throughout curricula.'^{xxxvi}

The Queensland Government's Digital Professional Workforce Action Plan aims to 'widen the digital workforce pipeline by skilling, reskilling and upskilling Queenslanders entering the workforce and by attracting new and more diverse cohorts into traditional and emerging industries.'^{xxxvii}

The labour market is the strongest it has ever been. This has increased labour mobility. Employers can help address the increased employee resignations that occurred during the COVID-19 pandemic by providing support for digital skills training in workplaces.^{xxxviii} PwC points out that it is critical for employees to be upskilled in the use of technology in response to the increased move to hybrid workplaces.^{xxxix} CCIQ expects that future workforces will require increased digital capabilities.^{xl} And technological advances are impacting universally. The Greater Whitsunday Alliance CEO Kylie Porter says: "Technology is literally changing the nature of the jobs in our region.'^{xli} The National Skills Commission warns that use of technology tools will continue to grow and be a key part of participating successfully in the labour market.^{xlii}

GO1 cites concerns raised in the Australian Data Inclusion Index that '(I)n general, Australians with lower levels of income, employment, and education are significantly less digitally included. There is consequently a substantial digital divide between richer and poorer Australians.'^{xliii} In addition, older people, Indigenous Australians, people with disabilities, and people who live in rural areas are all more likely to be digitally excluded.^{xliv}

CCIQ's survey in Future of Work (2022) indicates that 60% of employees believe digital literacy skills and knowledge of cyber security tools will increase in importance over the next five years.^{xlv} And employers believe the need for stronger digital skills requirements are considered to have moderate to critical impacts for 70% of businesses (with critical impacts for 11%).^{xlvi}

The Australian Data Strategy notes that investment in data and analytics capabilities will be critical in future job creation and security,^{xlvii} and the Australian Government is 'investing in education and training pathways to give Australians access to the data-enabled careers of the future, and ensure our businesses have access to a modern workforce with the skills and capabilities for a modern, data-driven economy.'^{xlviii}

The McKell Institute is concerned that Queensland sits behind the Australian Capital Territory, New South Wales, Western Australia and Victoria across all digital inclusion access and ability measures in the Australian Digital Inclusion Index (ADII), with older people, First Nations people and those in regional areas being the most excluded.^{xlix} The McKell Institute recommends that 'The Queensland Government increase funding for digital literacy programs to evolve and scale existing successful programs and develop new programs targeting other digitally excluded cohorts, in consultation with industry and social service providers.'^l The McKell Institute warns that existing one-off digital skills training will only be successful if it is supported by ongoing digital access.^{li}

Cyber Security

Cyber security is cited as one of the greatest areas of concern for businesses regardless of their size. While the COVID-19 pandemic accelerated technology opportunities for businesses, it also increased opportunities for cyber-attacks. Small to medium enterprises (SME) are particularly vulnerable as they tend to have lower investment in digital security, and, often, a limited understanding of the consequences of those threats. Although they are smaller targets, the impact in terms of cost and disruption can be disproportionate, amounting to months of revenue, well beyond their average available cash reserves.^{lii} The workforce must be vigilant and sufficiently skilled in identifying potential cyber threats.

The Australian Government is consulting on stronger cyber security regulations and incentives to make Australian businesses more resilient to cyber security threats as part of the Cyber Security Strategy.^{liii} 'This work will complement ongoing critical infrastructure reforms by ensuring that all businesses in the digital economy are cyber-resilient. Stronger cyber security will also contribute to the Government's goal of being a leading digital economy by 2030.'^{liv}

Despite the possible ramifications of a cyber-attack, not many workers have trained or are training in cybersecurity skills (only 15 percent of workers have trained or are training in this skill).^{lv} The Council of Small Business Organisation of Australia (COSBOA) is particularly concerned about cyber security warning that increased uptake of technology increases vulnerability to cyber security threats.^{lvi} There is, however, a range of initiatives such as the Chamber of Commerce and Industry Queensland and REDD's Cyber Health program^{lvii} which aligns with cyber security best practices published by the Australian Cyber Security Centre. This is one of many cyber security programs.

Barriers to skills development

Deloitte advances the notion of what they refer to as ‘learned helplessness’ - the inability to engage with a digital problem, not because a lack of knowledge, but rather because they don’t see why they should use the tool.^{lviii} Workers need the skills to know when and why digital technology should or should not be used.

Despite being aware of the numerous benefits of digital skills training for both organizations and individuals, an overwhelming majority of workers and organizations face barriers to accessing digital skills training today. The most common barriers cited are the limited awareness of training options available, accessing digital skills training and the lack of time to pursue training.^{lix} Tackling these barriers will thus be critical to unlock more digital skills training and the benefits associated with it.^{lxx}

Training delivery in digital skills is identified as a challenge for the VET sector. The digital skills of VET trainers have been challenged by the COVID-19 pandemic. There is an identified shortage of qualified LLND teachers in Australia.^{lxi} Developing the digital capability of VET practitioners is a key issue, compounded by precarious employment modes (casual, part-time).^{lxii} Practitioners can support the digital literacy development of their learners by integrating digital technologies into instruction and helping learners make use of them.^{lxiii} However, this requires additional skill sets include professional training on distance teaching and digital learning courses on various online platforms.^{lxiv}

Focus areas

Small Medium Enterprises

Business surveys conducted since the beginning of the COVID-19 pandemic highlight a rapid uptake of teleworking and digital sales channels among SMEs.^{lxv} Many small businesses use technology, such as digital data storage, marketing, payment services for customers, managing inventory, payroll software, or a website and social media channels.^{lxvi} The OECD notes that while SMEs lag in digital adoption in all technology areas, they prioritise basic business functions - general administration, marketing operations, using electronic invoicing or social media, or in selling online. The gap between smaller SMEs and large firms in adoption increases when technologies become more sophisticated.^{lxvii} COSBOA calls for small businesses to be incentivised to increase digitisation that will make them stronger, more productive, and more resilient.^{lxviii lxx}

In its submissions the Productivity Inquiry, the Australian Small Business and Family Enterprise Ombudsman (ASBFEO) cautions that ‘small business managers are not always as supportive of technology adoption compared to larger businesses.’^{lxx} This may be due to cost and time factors in changing processes and training staff to work with new digital tools. In its submission the Productivity Inquiry, Xero observed that Australian small businesses are ‘stuck in a “wait and see”

mode with new technology - they're reasonably excited about its potential, but not so much so that they'll step into uncharted waters.^{lxxi}

Stronger digital skills requirements are top priorities for micro (1-4 FTE) and small (5-20 FTE) businesses, but lower for medium businesses and a much lower for large businesses.^{lxxii}

Interestingly, the Governance Institute of Australia believes that 'In many ways customers, shareholders and employees are the real drivers of technological innovation because they will demand better and more varied opportunities for digital engagement with the company.'^{lxxiii}

The Governance Institute of Australia is so concerned about digital skills, their major thought leadership project for 2022 is: *Driving the digital revolution: A guide for boards*. The Institute cautions that company directors need to be proactive and lead, rather than observe the digital revolution. Their survey of directors found that '21 per cent of respondents do not have a digital transformation underway at their organisation, and 40 per cent of those respondents say it is not a priority.'^{lxxiv} Compounding this, the Productivity Inquiry notes that the lack of skilled persons in the business and insufficient knowledge of ICTs were more likely to be identified as limiting factors by small and medium businesses rather than larger enterprises.^{lxxv}

All businesses can gain productivity benefits by adopting well-integrated technology processes. However, as cited in the Productivity Inquiry, a survey by MYOB of small to medium enterprises found that surveyed businesses wasted on average, seven hours per week due to lack of integration, with this time spent on manual data entry, consistency checks or fixing errors. In some cases, the business abandoned its digital investment. This brings to the fore the importance of technical skills and support.^{lxxvi}

The impact and response by businesses to the technological changes that have been accelerated by the COVID-19 pandemic has been inconsistent. In part this reflects the type of business. The Productivity Inquiry notes that 'variations in businesses' adoption of digital and data tools likely reflects differences in expected benefits and costs from adoption. For example, knowledge-intensive industries are more likely to use cyber security software and artificial intelligence, while manufacturing and supply chain logistics industries are more likely to use radio frequency identification and electronic data interchange tools.'^{lxxvii}

With a growing interest in Artificial Intelligence (AI), the Australian Government has funded the CSIRO's National AI Centre to create an inclusive and leading AI ecosystem in Australia. Stela Solar, Director of the National AI Centre, Australia notes there may be some interesting differences in terms of business adoption. In general, larger businesses have budgets that allow for investment in AI capabilities and skills, whereas small and medium sized businesses (SMBs) may not have resources for a specialised team. With 99.8% of businesses within Australia considered SMBs, this likely contributes to the low adoption rate of AI.^{lxxviii}

The Australian Data Strategy notes the 'use of digital financial reporting is gaining ground overseas but is still relatively limited in Australia. The Government is implementing the Australian Business Registry Services that will provide access to trusted and valuable information. The Reserve Bank of Australia has been helping to set standards and govern the operations of the New Payments Platform (NPP), which provides open-access infrastructure for fast payments in Australia. The ATO operates the Australian Peppol Authority for the government to help businesses take advantage of the benefits of e-invoicing in the digital economy.'^{lxxxix}

Agriculture

Research show that the Australian agricultural landscape is becoming more technologically advanced.^{lxxx} Innovations, particularly the automation of tasks formerly performed by labour, have improved efficiency, and reduced the need for labour-intensive, production jobs.^{lxxxi}

This technology includes: the use of drones to monitor and map agricultural assets, remote sensors to collect and transmit weather data, automated pest identification, on-animal GPS to track livestock movements, remote sensing of water resources for livestock and crop production, the use of autonomous robots to control weeds or harvest mangoes, digital aids on tractors,^{lxxxii} whole of farm connectivity solutions for crop and livestock production.^{lxxxiii}

Technology advances are changing the workforce composition and the nature of work in the agricultural sector.^{lxxxiv} While there will be new job opportunities in technology-related fields, the largest impact is most likely to be changes in the nature of existing work. The existing agricultural workforce will need to further develop digital literacy and the skills to operate and adapt agtech. Those workers who are unable or unwilling to adapt will have reduced employment prospects if technology advances in their field of work outpace their skill development.^{lxxxv}

Skills development opportunities to address increasing use of technology in agricultural practices can be achieved through agricultural extension services, such as online training portals and workshops for farmers.^{lxxxvi} Challenges with accessing specific skills development is noted: 'Higher education, vocational training and professional development in agricultural science, agtech, agribusiness, supply-chain management, food processing, environmental management, agrichemical production, international trade and other areas must be more widely available, locally.'^{lxxxvii}

It is suggested that government, industry and unions will pursue solutions to better skill, attract, protect and retain workers in the agriculture sector through a tripartite agriculture workforce working group.^{lxxxviii} A note of warning however, the agriculture sector often competes for labour with mining and extractive industries with many jobs in both sectors require similar trade-based or STEM-based skills.^{lxxxix}

Health

The COVID-19 pandemic was a catalyst for increased technology for many sectors, in particular the health sector. Health services were significantly impacted by social distancing, lockdowns and additional record keeping. Technology such as telehealth^{xc} expanded exponentially to help address these restrictions. The Brookings Institution cautions that the adoption and increased use of telehealth beyond the pandemic is vital. Digital transformation provides the opportunity address some of the current health care delivery challenges.^{xcii} The growth in telehealth demonstrates that there are other ways to access health care. Telehealth and remote patient monitoring should be used to leverage the technological opportunities in the longer term to promote the transition to value-based care.^{xciii} The Productivity Inquiry notes that access to digitally enabled health services in regional and remote areas could also increase workforce productivity and more efficient government expenditure on service delivery.^{xciii}

Time-consuming routine tasks could be alleviated for health workers, freeing up time for patient care. Despite the successes that were achieved and accelerated through the COVID-19 pandemic the health sector is behind other industry sectors. To realise these opportunities requires not just investment in technical infrastructure but also a change in attitudes and skills development. While some health workers use technology effectively, others question the value and report reservations about using technology. Health workers often report the lack of opportunities for up-skilling required to put the technology to full use. The OECD identified that while digital transformation is about technical change, it requires adaptive change in attitudes and skills and recommends that digital skills in the core content of health education and professional training for existing and future workers.^{xciv}

Case studies in Queensland may offer insights into how to exploit the opportunities technology offers. Of particular focus is the skills needed by health care staff.

Social Enterprise

Digital inclusion is an important step for economies to fully unlock the benefits of digital transformation.^{xcv} The unprecedented worldwide digital transformation hastened by the COVID-19 pandemic means that previously disconnected communities are coming online and increasing their reliance on new technologies and skills.^{xcvi} However, the Digital Transformation Expert Panel raises concerns about digital divides, warning that the workers impacted by digital transformation are also those most likely to face barriers to training, citing fear, lack of access to information and advice, and limited time and resources. They need support services from training providers to overcome these barriers from the outset of their training journey. This will help facilitate further upskilling and reskilling the workforce through the VET system.^{xcvii}

Providing digital skills training in the workplace has contributed to greater employee diversity in organisations and helped retain and attract workers with more diverse demographics and skillsets.

However, unemployed or out-of-workforce individuals, at-risk youth (from low-income families), and racial or ethnic minorities receive the least support which risks exacerbating the existing digital divide.^{xcviii}

An action of the Queensland Government's QWS is to 'Deliver the Social Enterprise Jobs Fund to support profit-for-purpose businesses and increase the participation of Queenslanders currently underrepresented in our workforce'.^{xcix} As previously identified, participation in the workforce can be impacted by the lack of digital (and other) literacies. Strategies need to be implemented to help address this issue.

Social enterprises are well placed to play an important role in addressing technology skills development for underrepresented cohorts through SQW and the Social Enterprise Jobs Fund.

Next Steps

The next step is to develop case studies with the health, agriculture and social enterprises sectors, including:

- Identify place-based case studies that will assist with developing the digital skills needed for changing technology and work arrangements.
- Contextualise advice to SMEs, Health, Agriculture and Social Enterprises. Strategic partnerships with relevant industry bodies will be identified in conjunction with JQ.
- Collating place-based case studies that identify key elements for success and key skills.

Appendix One

Governments' roles

Governments are developing technology skills policy initiatives post-COVID-19 pandemic:

- Government inquiries:
 - Australian Government: Productivity Commission (5-year Productivity Inquiry: Australia's data and digital dividend (Interim report No. 2 - August 2022) [Interim report - 5-year Productivity Inquiry: Australia's data and digital dividend \(pc.gov.au\)](#)
- Summits:
 - The Queensland Workforce Summit, 2022
[Queensland Workforce Summit outcomes summary and videos | Department of Employment, Small Business and Training \(desbt.qld.gov.au\)](#)
 - The national Jobs and Skills Summit, 2022
[Jobs and Skills Summit September 2022 - Outcomes \(treasury.gov.au\)](#)
- Strategies:
 - Australian Government Prime Minister and Cabinet: Australian Data Strategy 2022 [Australian Data Strategy: The Australian Government's whole-of-economy vision for data \(pmc.gov.au\)](#)
 - Australian Government Prime Minister and Cabinet: Australia's Digital Economy [Australia's Digital Economy | Australia's Digital Economy \(pmc.gov.au\)](#)
 - Australian Industry and Skills Committee (2019) Digital Transformation Expert Panel - The Learning Country- [Digital-Transformation-Skills-Strategy-010521.pdf \(digitalskillsformation.org.au\)](#)
 - Good people, Good jobs - The Queensland Workforce Strategy, 2022
[final-queensland-workforce-strategy_2022-2032.pdf \(publications.qld.gov.au\)](#)
 - Australian Government Home Affairs: Australia's Cyber Security Strategy 2020
[Australia's Cyber Security Strategy 2020 \(homeaffairs.gov.au\)](#)
- Frameworks:
 - National Foundation Skills Framework 2022 to 2032 - Skills Reform
[National Foundation Skills Framework 2022 to 2032 - Skills Reform](#)
 - Australian Government Digital Literacy Skills Framework - April 2020
[Digital Literacy Skills Framework - Department of Employment and Workplace Relations, Australian Government \(dewr.gov.au\)](#)

Australian Government

'Commonwealth and state laws and regulations have not always kept pace with the way Australians engage with digital communications or participate in an increasingly data-enabled economy.'^c

'Policy settings should encourage the economy to adapt to the growing importance of digital technologies, including through developing a skilled labour force. They must also be forward looking and support an environment that promotes economic dynamism, entrepreneurship and appropriate risk-taking, and innovation and technological adoption.'^{ci}

The Federal Government's recently released Digital Economy Strategy is a more comprehensive attempt to bring a whole of government approach to identify current and new digital initiatives to

grow Australia's economy. While focused largely on government and industry digital opportunities, the Strategy notes the importance of reducing the digital divide, particularly through infrastructure and skills investments.^{cii}

Queensland Government

The Queensland Government's Workforce Summit and subsequent: Good people, Good jobs - Queensland Workforce Strategy (QWS) (August 2022) advocates:

- Educating the workforce through upskilling and reskilling^{ciii}
- Deliver the Social Enterprise Jobs Fund to support profit-for-purpose businesses and increase the participation of Queenslanders currently underrepresented in our workforce
- Encouraging technology adoption.^{civ}

A digital collaboration hub will also be established to promote innovative solutions to address workforce challenges and enable ongoing collaboration and information sharing between government, industry, community groups and the education and training sector.^{civ}

The Queensland Government is investing in the digital sector. In June 2021, the Government announced an \$8 million Digital Professional Workforce Action Plan, designed to help Queenslanders' transition into digital jobs.^{cvi}

Small Business COVID-19 Adaption grants assist small businesses access digital technologies to rebuild business operations and transition to a new way of doing business.

National Jobs and Skills Summit^{cvi}

The National Jobs and Skills Summit was a focal point for skills development, including digital skills. A relevant and interesting combined submission was submitted by employer and employee associations - the ACTU, Ai Group, ACCI and the BCA. Part of this submission included:

Australia must tackle today's workforce and skills shortages and must modernise skills and training systems to respond to current and future opportunities and challenges. To do this, unions and business groups have worked together to outline reforms for the mutual benefit of learners, employers and employees, and the Australian economy and society at large.

Guarantee foundational skills, including digital literacy, for all Australians. This should be done through updating the National Foundation Skills Strategy for Adults to recognise the impact of digital disruption; refreshing national language, literacy, numeracy, and digital skills strategies to include tangible and realistic KPIs to ensure accountability; and expanding funding for initiatives to deliver relevant training.

Support lifelong learning to ensure the workforce adapts to ever-changing needs through incentives to upskill and increasing the delivery and integration of more flexible training options.^{cvi}

Following the national Jobs and Skills Summit, governments committed to:

- Implement a Digital and Tech Skills Compact, with business and unions, to deliver 'Digital Apprenticeships' that will support workers to earn while they learn in entry level tech roles, with equity targets for those traditionally under-represented in digital and tech fields.
- Companies that sign up to the Compact are expected to commit to employing a proportion of their new employees through a Digital Apprenticeship scheme, once implemented. Summit participants supported broader commitments from the business community to boost future technology jobs and training.
- Deliver 1,000 digital traineeships, in the Australian Public Service, over four years, with a focus on opportunities for women, First Nations people, older Australians, and veterans transitioning to civilian life.
- Review STEM programs to attract and retain more women, First Nations people, Australians in regions, those who are culturally and linguistically diverse, people with a disability and Australians from low socio-economic backgrounds into STEM careers.^{cxix}

'(The Australian Government is) helping the transition to new, data-centric jobs by investing in programs to build the necessary skills and capabilities in the public service. We are also ensuring the Australian workforce is ready for the opportunities that will come from more mature data use, particularly in the digital technology sector. For example, we established the Digital Skills Organisation Pilot in 2020 to shape the national training system and test innovative solutions to ensure that digital training meets the skills needs of employers and builds Australia's digital workforce. This pilot aligns with other reforms across the national training system, including the National Skills Commission and the National Careers Institute.'^{cx}

Digital skills are being integrated into the taxonomy of foundation skills, as demonstrated by the development of a digital literacy skills framework [Digital Literacy Skills Framework \(DLSF\)](#) to complement the Australian Core Skills Framework [Australian Core Skills Framework \(ACSF\)](#) responding to the Skills Toolkit for the Twenty-First Century.^{cxii}

Endnotes

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