

The Digital Literacies Imperative for **Queensland Businesses**

A scan of contemporary Australian literature
Featuring validations from Business Chamber Queensland



**Jobs
Queensland**
Future **skills**. Future **work**. Future **Queensland**.



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Chamber**
QUEENSLAND

Acknowledgement of First Nations peoples

Jobs Queensland respectfully acknowledges the First Nations peoples in the state of Queensland, and acknowledges the cultural and spiritual connection that Aboriginal and Torres Strait Islander peoples have with the land and sea. We respectfully acknowledge Aboriginal people and Torres Strait Islander people as two unique and diverse peoples, with their own rich and distinct cultures, resilience and strengths. We specifically acknowledge the unique history and cultural heritage of Aboriginal and Torres Strait Islander peoples as the First Peoples of Australia. We pay our respects to Elders past and present. We are dedicated to the inclusion of cultural knowledge and values as critical factors in the development, implementation and evaluation of strategies and actions to support First Nations peoples.

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Business Chamber Queensland Contribution

Business Chamber Queensland has contributed to this publication by validating the findings from the original literature review. Findings are therefore not representative of any views taken by Business Chamber Queensland and do not constitute any critiques or reviews of the literature review.

Disclaimer

While every care has been taken in preparing this publication, both the State of Queensland and Business Chamber Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained within. To the best of our knowledge, the content was correct at the time of publishing.

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Introduction

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 iiiiii} 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 Business Chamber Queensland 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).

A literature review completes the first phase of the project, and was conducted by Jobs Queensland.

The second phase of the project was to validate the findings from the literature review. Business Chamber Queensland was engaged by Jobs Queensland to undertake this project phase and validate the findings and develop place-based case studies that focus on developing the digital skills of small to medium enterprises (SMEs) targeted sectors.

Findings from Business Chamber Queensland's validation activities and findings have been included throughout this Report and are highlighted where provided.

Phase 1:

Literature Review

Literature review

Summary of key points arising from the literature review

- 1 Technological changes that were introduced during the COVID-19 pandemic are long-term.
- 2 SMEs that experienced disruption were limited in their capacity to adopt new technology.
- 3 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.
- 4 Telehealth increased for patient consultations and provided opportunities for common use in rural and remote locations.
- 5 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.
- 6 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.

Phase 2:

Rapid Validation of Literature Review

Business Chamber Queensland provided further context and evidence of business experience in the context of digital literacy, in addition to the findings highlighted for Jobs Queensland's Report, through a rapid validation process engaging with Queensland industry.

Business Chamber Queensland has approached the validation under the perspective of adding contemporary contexts and lived experiences of Queensland SMEs, noting that this experience may vary across the state, and there are limitations in engaging the wider community within the provided timeframe of this project.

The findings from the literature review were validated under three main scopes:

- 01.** Accuracy: on whether the findings from the report are truthful to business experience, if the findings are accurate, and reasons why this may be the case.
- 02.** Completeness: on whether the statements from the report are complete in representing the business experience, and whether further context can be provided to support the findings.

- 03.** Support: on whether these statements can be improved, and what further areas of research should be investigated to verify these findings.

To achieve these outcomes, Business Chamber Queensland engaged with Queensland businesses in the following ways:

- 01.** A short survey based on the main findings from the initial Jobs Queensland literature review, where Queensland businesses were invited to provide both comments on, and record their reception to the main findings of the Literature Review.
- 02.** A series of consultation workshops, where businesses were invited to provide their experiences on, and their reception to, the findings of the Literature Review, in the format of a guided consultation, hosted by Business Chamber Queensland.

The rapid validation was conducted from **23 June to 24 August 2023**.

Survey Methodology

Survey Methodology

A five-point Likert-scale survey distributed via Survey Monkey asked respondents to consider *To what extent do you agree or disagree with the following key points of the report?*

Key points:

- 01.** Technological changes that were introduced during the COVID-19 pandemic are long-term
- 02.** Small and Medium Businesses (SMEs) that experienced disruption were limited in their capacity to adopt new technology.
- 03.** Larger businesses such as those in agriculture have greater capacity to adopt new technologies
- 04.** In Health Industry: Telehealth increased for patient consultations and provided opportunities for common use in rural and remote locations
- 05.** 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.

- 06.** Cyber security is a growing concern for all businesses who have an online presence.
- 07.** SMEs are particularly vulnerable and need strategies to combat cyber-attacks.

Respondents could answer from the following options:

- Strongly disagree
- Disagree
- Neither agree or disagree
- Agree
- Strongly agree

The following open ended questions were asked as part of the survey:

- 01.** Do you think any of the key findings from the report are inaccurate or need further research? If so, please explain why?
- 02.** What further support or best practice on Digital Skills would you like to see for Queensland businesses?
- 03.** What is your postcode?
- 04.** Please select your Queensland region from the list below (with options provided)
- 05.** What is the industry of your business? (with options provided)

Businesses were contacted via Business Chamber Queensland electronic communications, with regional and local Chambers of Commerce engaged to promote the survey to its membership base. Jobs Queensland promoted the survey in its electronic communication.

Initial business feedback suggested that the literature review was not suitable for the general audience, and due to time pressures impacting businesses, many businesses were unable to engage with the survey. In response, a one page summary of the literature review was prepared by Business Chamber Queensland, with Jobs Queensland input, for distribution with the survey.

A total of **158 valid responses** were received.

Consultation Workshop Methodology

All consultation workshop participants were introduced to the concept of 'digital literacy', simplified as 'the capability to undertake basic digital skills', focusing on the non-technological workforce.

During the consultation workshop participants were invited to discuss the following topics; topics identified in the literature review:

- 01.** Digital literacy and shortage of digital skills;
- 02.** Skills development
- 03.** Cyber security
- 04.** Barriers to development.

Summary of key points arising from the validation activities:

- **Business feedback confirmed that while the Queensland business community was facing more immediate challenges around maintaining workforces and managing the impact of increasing interest rates on their businesses, the digital literacies of workers is of interest to many Queensland businesses.**
- **Business feedback indicated that the literature review findings are only at a surface level, and further action research and program evaluation will be required for the Report to be informative or supportive for business context.**
- **Responses from business also suggested that businesses' experience are not uniform, and there is a need to better understand how Queensland businesses best raise the digital literacy and digital skills levels of their workers and jobseekers.**

Consultation workshops ran for 1 to 1.5 hours and were facilitated by a Business Chamber Queensland team member.

The key insights garnered from Queensland businesses through the validation process have been added throughout this Report in text boxes to provide real-life evidence of business experiences. Their valuable input is reflected in the recommended future actions listed at the end of this report.

- **Responders believe Government and industry need continue highlighting digital literacy benefits to businesses and employees to increase efficiencies, facilitate engagement with government and regulators, improve service delivery and to drive business growth.**
- **Across Queensland, several organisations are currently activating digital literacies and skills awareness raising and capacity-building activities. Some businesses reported being aware of a number of activities but not knowing how to evaluate the potential value, nor allocate the time and resources to participate in them.**

Limitations

Validation activity findings are not representative of any views taken by the Business Chamber Queensland and do not constitute any critiques or reviews of the literature review conducted by Jobs Queensland.

Validation findings contained in this Report represent views provided by businesses engaged by Business Chamber Queensland, and while representative, are limited by the extent to which businesses are willing to engage with this topic.

Moreover, naturally it is implicitly assumed that businesses participated in this validation activities are more likely to be interested in the topic of 'digital skills', and thus may be more receptive to findings from the literature review.

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 the 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}**

Queensland businesses generally agreed that the pandemic has pushed many businesses and workers to adapt to more flexible working options, such as working from home or remote work. However for small businesses, these activities are heavily job-based and industry-based. It was recognised that certain types of jobs and business settings do not lend themselves to transform in this space.

- Business Chamber Queensland validation observation

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

Respondents agreed with the Grattan Institute's findings that some businesses, particularly those in regional and rural Queensland, are hampered by connectivity challenges, both technical and financial. It was suggested that further research is needed to understand business is lost due to lack of internet access and poor phone coverage in rural areas, and the resulting impact on business and State productivity.

- **Business Chamber Queensland validation observation**

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.

Validation activity responders, all of whom were sufficiently motivated by the theme of digital literacy, agreed that digital literacy is highly valued by the Queensland businesses. Some noted a higher demand for workers with digital literacy and skills across many sectors, in recent years. Several also pointed to the importance of employees having digital skills, not just for contributing to their workplaces, but for engaging confidently and confidentially with government, retail, banking and other services.

- Business Chamber Queensland validation observation

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

- 01.** Digital literacies: A basic understanding of the digital media and major digital platforms relevant to their domain.
- 02.** Digital abilities: The knowledge and skills to use digital tools applicable to their domain.
- 03.** 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:

- 01.** 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).

- 02.** 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.
- 03.** 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}

Several Queensland businesses reported that those businesses who adapted well during the pandemic were those who appeared to be more aware of digitisation tools. However, many validation activity responders acknowledged that while technological changes arising from the pandemic are long-term, this may not always be the case. For example, while virtual meetings were necessary during the pandemic, and as a result became more acceptable, several responders suggested that face-to-face meetings were returning as a preferred method of connection as the impacts of the pandemic lessen. Overall, however, the consensus was that costs and time commitment will influence whether pandemic driven technological trends are sustained.

- Business Chamber Queensland validation observation

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?

“ I would like to see a way of supporting Digital Literacy first - give a person a fish and they are fed, teach them how to fish and they are fed forever...by teaching digital literacy and understanding the underlying concepts it doesn't matter when something changes as people can then adapt.”

Business Chamber Queensland survey respondent

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.^{xix} 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.

Key Validation Findings:

- The pandemic has escalated the needs for digital skills for businesses, to operate without face-to-face contact with staff, clients and partners, or perhaps hibernate and plan for a post-COVID recovery.
- The full extent of the impact of the pandemic on Queensland's digital skills shortage are unclear, as some businesses and employees may have experienced a rapid upswing in workplace digital literacies.
- While a shortage of digital skills seems to exist, there are mixed sentiments on whether this worsened during the pandemic or will get worse in the future. Some spoke of the failure of the formal schooling, training and higher education systems in providing sufficient transferable digital literacies and skills.

- By necessity, many businesses and workers have improved their skills and adapted. With the upcoming changes in demographics, basic digital literacy and digital skills may not be a major issue for the future workforce.
- The impacts of the changes from the pandemic are highly varied between industries and businesses, highlighting the importance of businesses' finding the right type of support initially and as needs change moving forward.
- Examples cited by several respondents as helpful guides for digital training were not formal qualifications, but rather, content hubs such as YouTube, or video or written case studies from software vendors and interested experts. Some thought that direct contact to experts that businesses and workers can talk to (coaching) was helpful. Most businesses reported turning to people and/or businesses that they already know to find the right support.

- Business Chamber Queensland validation observation

Skills Development

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}

“ A lack of digital skills is contributing to increasing difficulties participating in society, as governments and businesses are forcing community members into the digital space regardless of their skill and capacity to navigate the digital world. We are excluding people from far more than the workforce as a result of their lack of skill and confidence navigating a digital world.”

Business Chamber Queensland survey respondent

The NCVET 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} Business Chamber Queensland 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}

“ Educate those with the greatest need first with tools that are readily accessible and available (provided that internet services are adequate), e.g. Microsoft SharePoint, Teams these are highly effective and collaborative programs. However training and education are key.”

Business Chamber Queensland survey respondent

GOI 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.^{xliiv}

Business Chamber Queensland’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.^{xliv} 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}

Consultation workshop responders expressed a divide between types of workers and the gap in digital inclusion across Queensland. It is generally agreed that regional workers and older workers have a much bigger digital skills gap, while the younger workforce are much more digitally capable and more willing to experiment with new technologies.

- Business Chamber Queensland validation observation

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.' ⁱ The McKell Institute warns that existing one-off digital skills training will only be successful if it is supported by ongoing digital access. ⁱⁱ

Key Validation Findings:

- 86 per cent of survey responders indicated either strong agreement with, or agreement with, the statement 'The pandemic provided clear evidence that a lack of digital skills has a negative impact on workforce participation...'
- 78 per cent of survey responders indicated strong agreement with, or agreement with the statement 'Technological changes that were introduced during the COVID-19 pandemic are longterm'.
- Some businesses spoke of the opportunity that COVID provided to stop business-as-usual processes and to plan for the future, including implementing new business systems and digital literacies and skills training to staff.
- Queensland businesses report mixed experiences about how the current and future workforce can approach digital literacy education, and how applicable it is for their business. However, a common theme arising from these conversations was the need for personalised, timely and cost-effective support.
- Assessing current and potential employee digital capabilities can be difficult given the speed at which technologies are launched and updated, and the broad array of formal and informal education, training and accreditation available. Some Queensland businesses report that they would like to see further digital training provided in schools, VET and higher education courses, as well as other environments e.g. libraries and neighbourhood centres.
- Several validation activity responders highlighted the difficulty of digital literacy trainers in education and training organisations to stay current, given the rapidly changing technologies and traditional long cycles of curriculum design, approval, evaluation and renewal.

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 (SMEs) 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.^{liiii} '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}

“ Higher access to cyber protection. More assistance for the aged community and aged employees.”

Business Chamber Queensland survey respondent

Despite the possible ramifications of a cyber-attack, not many workers have trained or are training in cyber security 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 Cyber Health program delivered as a partnership between Business Chamber 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.

Key Validation Findings:

- 79 per cent of survey responders indicated strong agreement with, and 15% indicated agreement with, the statement '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'.
- Cyber security is widely regarded as a major concern for all businesses, regardless of industry, location or size.
- Businesses overwhelmingly reported that cyber security has become more of a concern in recent years.
- Common cybersecurity threats reflected by businesses are scam calls, data ransom and spam emails. Businesses have also reflected that with their information readily available online, they are more exposed to scammers and attacks.
- While some businesses have attempted to address these concerns, they reported that their initiatives can be costly and time-consuming.
- SMEs tend to rely on any resources readily available to them at a lower cost, which exposes them to further risks related to cyber security. Also, they do not take the time to test the safety prior to implementation, nor integrate with established digital businesses systems already in place.
- Many are asking for targeted SME support for cyber security training, as well as funded up-to-date training that can be used to inform and/or upskill their employees.
- Some businesses are more well-equipped and informed in this space. However, these are self-motivated outcomes, and there is a need for a centralised source of information or training to guide businesses in this space. Some businesses also reported finding it difficult to navigate the internet to find resources and support when responding to a crisis.
- Businesses are aware of cybersecurity as a concern, but unaware and not connected to the benefits and costs related to addressing these issues.

Barriers to skills development

“ Whilst the lack of digital skills is a strong negative to workforce participation, disadvantaged cohorts arguably have multiple levels of digital disadvantage, including for example, affordable access, all of which are precursors to developing the necessary skills.”

Business Chamber Queensland survey respondent

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. ^{lx}

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}

Key Validation Findings:

- Over half of the survey responders (59 per cent) either strongly agreed or agreed with the statement ‘Small and Medium Businesses (SMEs) that experienced disruption were limited in their capacity to adopt new technology’.
- During the consultation workshops, Queensland businesses reported the common barriers to skills development or adopting new technology as:
 - ‘Time’ and ‘monetary costs’. Consultation workshop feedback suggest the decision to invest in digital literacies and digital technologies will be influenced by the time and cost investment requirements;
 - Digital infrastructure. While not referred to as a barrier in the Literature Review, it was raised, with a number of businesses confirming difficulties in finding the right type of connectivity to support their digital requirements. In addition, several responders highlighted the reality for them that as they are pre-occupied with other activities critical to running their business, their understanding and awareness of digital literacy needs can be lacking;
 - Accessibility. This was cited as a major barrier for businesses, as many businesses still face issues accessing affordable and reliable internet connection;
 - Cultural and mindset barriers. Where they exist, they can impede the adoption of new digital practices, which potentially can be solved with targeted and personalised support;
 - Practical training options. There exists a gap in suitable, practical and/or targeted digital skills training for business owners and their workers;
 - General resistance. A certain group of workers or customers that are more resistant to changes, for instance, older workers or people with low technical/ digital knowledge. For these groups, education is important, but not formal education but more engaging and supportive ways to these workers to learn, experiment and discover the technology themselves.

- Business Chamber Queensland validation observation

Focus Areas

Focus Areas

A key theme arising from workshops is that Queensland businesses acknowledge that digital skills require environmental context. The application and impact of digital skills on business can be very dependent on the challenges faced by a business, the region/location and industry. As such, it is important that further government support and research considers SME strategic objectives and the industry in which it operates. A digital literacy lens provides a broader array of potential opportunities. Developing digital literacy in this context will require development of core problem-solving skills, as well as personalised support to tackle the varied problems a specific business, industry and location are facing.

- Business Chamber Queensland validation observation

Small Medium Enterprises

“ SMEs need to understand and have available a range of skills and technologies as each has different needs and potentially a different digital solution”.

Business Chamber Queensland survey respondent

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 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 lxi}

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 SMEs 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 per cent of businesses within Australia considered SMBs, this likely contributes to the low adoption rate of AI. ^{lxxviii}

Several validation consultation workshop participants suggested that Queensland has lower levels of digital literacy than other locations. A partial explanation could be that the major industry sectors in the Queensland economy for employment, and patterns of employment are traditional digital laggards e.g., key sectors of health / social assistance, retail, construction. These findings align with recent digital intensity data from the Australian Bureau of Statistics.

Lack of understanding where to gain digital literacies from, including but not limited to government, education and training organisations, business advisers and IT services providers. Then how to gain sufficient knowledge to be self-sufficient and not rely on expensive service providers. Vulnerable workers, including those in public housing and those currently unemployed, have lower access to digital infrastructure and therefore digital capabilities.

There are varying degrees to which businesses are adopting new technologies, specifically 'AI' and digital financial reporting. Queensland businesses report that the biggest barriers for the introduction of new technologies are 'time' and 'costs', rather than sentiment. However, productivity enhancing technology such as 'AI' and 'machine learning' are expected to be more accessible and cheaper in the future. Some businesses have indicated they will evaluate whether to adopt these technologies.

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.'^{ixix}

In general, Queensland SME's agreed that digital skills are in-demand and highly valued. However, businesses reflect that there is more than a change in mindset involved with the decision to invest in these skills. The decision to invest is heavily influenced by the time and costs required, including the costs of adapting old processes, and introducing new processes or new skills.

- Business Chamber Queensland validation observation

Agriculture

Agriculture

The literature review highlighted that 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. Feedback from the business community suggests that this phenomenon is not restricted to the agriculture sector, and that similar challenges are faced in other key industry sectors in Queensland e.g., tourism, construction and education.

An alternative perspective offered by some Queensland businesses is that larger businesses are less nimble and flexible than small ones. Larger businesses have more internal and external red tape to fulfill to adopt new technologies. They also have a larger workforce to train in the adoption. These businesses may have larger budgets but at the same time require more complex solutions and infrastructure.

- Business Chamber Queensland validation observation

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.^{lxxxii} 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,^{lxxxiii} whole of farm connectivity solutions for crop and livestock production.^{lxxxiii} The insights provided through Business Chamber Queensland's validation activities reflect the digital literacy needs and challenges faced by business.

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}

Agricultural businesses commented on the acceleration, and lack of quality control, of technological advancement, and the additional overheads paid by businesses to implement and maintain digital business systems, e.g. farm systems, supply chain & markets, financial systems etc. The issue of connectivity, particularly via satellite technologies, was raised frequently. Some agricultural businesses would like to see more small group training made available to acclimatise people to the various digital platforms they were expected to use.

- Business Chamber Queensland validation observation

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

Health

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.

“

The increased use of telehealth does not equate to "common use" in rural and regional areas due to poor connectivity and digital access and skills.”

Business Chamber Queensland survey respondent

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.^{xci} 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.^{xcii}

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}

Cyber security, particularly the security of private health data, concerns many healthcare businesses. Health businesses reported it being difficult to identify legitimate knowledge sources, as accreditation/qualifications frameworks in the area of cyber security are fragmented.

- Business Chamber Queensland validation observation

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}

The movement of health and allied health services to online delivery during COVID highlighted the need not only for access to affordable and reliable digital infrastructure, but the need to raise digital literacies and confidence in using technologies of practitioners and their patients. Of particular interest, was demand for basic troubleshooting support and education about how to configure microphones and cameras, how to install and set up profiles on various videoconferencing platforms and how to maintain safe and reliable communication channels between practitioner and patient.

- Business Chamber Queensland validation observation

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

Social Enterprise

“ The diversity of the social enterprise sector and the associated lack of industry-standard technologies, the frequent focus on human services and engagement with vulnerable sections of society, inevitable lack of ‘slack resources’ within not-for-profit organisations ensures that the digital literacy and digital self-reliance of employees is high”.

Business Chamber Queensland survey respondent

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 Queensland Workforce Summit 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 Skilling Queensland for Work and the Social Enterprise Jobs Fund.

Actionable Insights and Recommendations

Insights

Appendix One provides a detailed summary of Business Chamber Queensland's validation activity results.

In addition to validating the findings from the literature review, validation activity responders were asked about the support they saw as necessary for improved digital literacy.

The responses have been grouped and reflect three key themes:

1. Digital skills contextualisation and specialisation
2. Cyber security awareness and support
3. Targeted training and education.

Theme 1 - Digital Skills Contextualisation and Specialisation

Businesses acknowledge that digital literacies and skills require context, and application of digital skills in different industries and regions would lead to major differences on the progress as well as the challenges a business may face.

As such, it is important for any support or further research to focus on the digital mindset and core problem-solving skills, as well as personalised support to give context to the support, instead of trying to tackle all different problems businesses are facing.



“Digital skills have context and it is difficult to talk about them generically. Whilst there are broad domains of digital tools and capability that businesses need to be aware of, it is difficult for businesses to contextualise what it means for them.

Business Chamber Queensland survey respondent

Queensland businesses acknowledge that digital skills require environmental context.

As identified in the literature review, the application and impact of digital skills on business can be dependent on the challenges faced by an individual or collective group of business, the region they operate in, and/or the industry.

Due to these varying factors, Business Chamber Queensland recommends further research into SME strategic objectives and the environments in which business or businesses operate in.

A digital literacy lens provides a broader array of potential opportunities. Developing digital literacy in this context will require development of core problem-solving skills, as well as personalised support to tackle the varied problems a specific business, industry and location are facing.

Theme 2 – Cybersecurity Awareness and Support

Businesses overwhelmingly reported that cyber security is a major concern, especially in recent years. Many are asking for either targeted support for cyber security training for SMEs, as well as funded up-to-date training that they can use to inform or upskill their employees.

An education business specifically commented that more assistance with cyber security awareness and training is essential for the aged community and aged employees.

Another responder in the professional, scientific and technical services industry requested a specific SMEs focussed cyber security training program that covered basic cyber security skills for staff, how to develop a policy and incident response protocol.



Cyber security awareness is essential, even for just data security, identity theft, hacking or simply identity cloning on social media.”

Business Chamber Queensland survey respondent

Theme 3 – Targeted training and education

Validation activity responders suggested targeted training and education as the most suitable way to address digital skills concerns for Queensland.

Businesses reflected that these support and training programs need to be:

- Relevant and up-to-date that can meet the practical needs of industries
- Micro-credentials or smaller training courses on basic digital skills first, and a centralised platform/source of truth for all other relevant training
- Targeted or personalised support that can be available for rural and regional areas if needed

- Easy-to-access, where businesses can access flexibly and fit into their working schedule
- Grants or funding incentives to assist businesses in training/upskilling their staff

In addition, several responders suggested the need to explore proactive digital training in schools, and other teaching environments.

“ More face-to-face rural and remote workshops. Actually fund locally based presenters to run workshops for those not engaged with digital solutions - which means we don't want to watch a webinar. We want someone locally based to be funded to help us on what to do.”

Business Chamber Queensland survey respondent

Recommendations

The insights provided through Business Chamber Queensland's validation activities reflect the digital literacy needs and challenges faced by business.

The recommendations in this section of the report reflect responder feedback on what they saw as important for improving digital literacy in their business, as well as the wider Queensland business community.

1. Assessment tool

Responders engaging with Business Chamber Queensland's validation activities identified a need for a digital skills assessment tool or checklist that allows a business to identify existing skills as well as gaps that require attention.

While there are resources available from a number of providers, feedback received indicated the desire for a single source of information that a business could access for identifying the best practice digital skills to develop and prioritise those relevant to business operation imperatives.

An example of such an assessment tool is Business Queensland's Digital Health Check. ^c

Digital Health Check is a free online assessment tool that assists businesses to assess their digital health based on ten questions about their:

- strengths,
- areas for improvement, and
- areas to consider reviewing.

The answers to each of the ten questions are presented in a downloadable report that, for each of the questions and the businesses' answers, explains the value of question topic, and provides resources, including videos, for finding out more on the topic, and how the business can improve or enhance in this area.

The Digital Health Check and the resources are housed on the Business Queensland website, thereby providing a single source of valuable information that any business can access.

In addition, there is no cost for a business to participate. Cost was identified to be a reason why some businesses had not sought to improve their businesses digital literacy.

Feedback from validation activity responders suggests a lack of awareness of the Digital Health Check tool, and its capability to assist business to firstly assess that status, and access resources that can assist that business to improve its digitally healthy business status into the future.

Lack of awareness of a useful tool such as this has meant that a number of businesses have likely not explored digital literacy improvement opportunities due to their expressed belief that there is a cost associated with it.

Recommendations:

- Business Chamber Queensland recommends businesses access the Business Queensland assessment tool to commence their own assessment of the business's digital health and
 - Download their own report, and
 - Access recommended resources for addressing the findings in that report, and
 - On a regular basis, at least annually, but as needed based on the business digital health report, complete the Digital Health Check to establish benchmarks for the business that can track improvement, and identify opportunities for growth.

- Business Chamber Queensland recommends the Queensland government explore ways in which it can better promote the Digital Health Check. While an established resource for business, the nature of the feedback received via Business Chamber Queensland's validation activities confirms a lack of awareness among those businesses.

2. Digital skills development hub

Tied to the assessment tool is the concept of a digital skills development hub.

Feedback from validation activities confirmed business sentiment that training and education that is specific to an identified need would be of great value to, and is, in fact, needed by business.

A digital skills development hub that consists of short courses and micro credentials covering an array of digital skills topics was a key item of feedback obtained during the validation activities.

A number of responders acknowledged there is training and education available, however, it was also acknowledged that the time required to search numerous provider websites to identify (and confirm) what is needed in the business, and secondly, what is available and at what cost, is an exercise that can prevent businesses from undertaking this research.

Business Chamber Queensland's Digital Skills Hub ('Skills Hub') is an example of a digital skills development tool. ^{ci}

The Skills Hub is funded by Department of Housing, Local Government, Planning and Public Works, and is delivered by Business Chamber Queensland on their behalf for all Queensland businesses. Via the Skills Hub, businesses can access short training courses that are grouped as follows:

- Digital Skills courses of less than 5 minutes duration,
- Marketing, social media and websites, including digital design, and creating social media content,
- Data analytics, including how to use analytics for business, Power BI, and collecting and presenting data
- Cyber security, awareness and security systems, and understanding phishing and ransomware,
- Digital technologies – transformation, blockchain and cryptocurrency, digital innovation and the internet,
- Managing your customer's journey, including UX, Salesforce and e-commerce modules
- Digital basics, including using online meeting tools, safety and privacy
- Artificial Intelligence, what it is and what it is for business.

Additionally, the Queensland Government's Digital Business and IT webpage contains a number of checklists and resources that will assist businesses with growing their digital literacy. ^{cii}

For example, in the cyber security section, businesses can access a practical video on keeping your business safe, the legal obligations for cyber security, the types of online threats and risks that exist, and threats to internal IT systems.

Recommendations:

Business Chamber Queensland recommends businesses:

- Access the Digital Skills Hub and identify courses, either as a result of their business specific digital health report findings and recommendations, and/or, as identified through discussion with employees, that will enhance the businesses digital skills; and
- Access the Digital Business and IT site to further enhance awareness of relevant business topics and resources.

Business Chamber Queensland recommends government:

- a. Continue to fund the Digital Skills Hub past June 2024, and explore its expansion as an ongoing valuable business resource; and
- b. Explore ways in which it can better promote the Digital Skills Hub to business. While an established resource for business, the nature of the feedback received via Business Chamber Queensland's validation activities confirms a lack of awareness among many businesses.

3. Grants and Funding

Businesses discussed the challenges to digital adoption during the validation activities.

Several referred to the difficulty of a small business to be agile, and the lack of resources to invest in digital literacies development activities.

Fully funded programs were a common response when responders were asked about further support.

“

Larger businesses in any sector have greater capacity to adopt because they may have investment capacity and better resources to enable change. However, startups and small businesses can completely reimagine their business from a digital-first perspective and pivot their business more easily, with access to many free tools. I have examples of small businesses that were able to do this. Ag [sic] the agricultural sector] across the state has lagged in its digital adoption when compared to international benchmarks.”

Business Chamber Queensland survey respondent

Conversely, several larger businesses commented that they are less nimble and flexible, meaning they must address more red tape than a smaller business when it comes to adopting new technologies.

Regardless of business size, affordable access to digital literacy development opportunities was a consistent message, with funding viewed as a solution.

Grant programs and incentives for small businesses to adopt best practice methods in relation to data storage, online protection, cloud based computing and CRMs. Cheat sheets with clear and simple step by step, instructions for kicking off best practice adoption...”

Business Chamber Queensland survey respondent

Barriers to Skills Development

Qualitative analysis from the survey confirms that one of the key impediments for digital adoption in business settings is the lack of reliable and affordable connectivity infrastructure.

Furthermore, while businesses are receptive to the findings of the literature review, responders indicated that these findings are only at a surface level, and further action research and program evaluation will be required for the Report to be informative or supportive for business context.

Engagement activities with Queensland businesses strongly suggested that the literature review is a correct first step towards exploring the opportunities, the barriers as well as the challenges Queensland businesses are facing in the space of digital literacies adoption. This feedback however affirms that these impacts can be highly varied across the industries and Queensland regions, and further research is required to understand how these findings play out consistently in a practical setting.

Business Chamber Queensland observations

Noting the practical and open feedback received from businesses engaged in Business Chamber Queensland's validation activities, Business Chamber Queensland recommends that government, in collaboration with Business Chamber Queensland, discuss the following:

- **Extending research into connectivity infrastructure barriers in Queensland regions**, as this is indicated to be a key factor that hinders businesses in digital adoption. This includes assessment of the affordability and reliability of internet connection and digital infrastructure that businesses can access across all regions. Specific focus is to be given to the needs and resources of microbusinesses (65% of Queensland SMEs that are non-employing) and their difficulty meeting requirements for 'compulsory computing' e.g. book-keeping and professional accreditation. Action research focussed on evaluating the effectiveness of various government-enabled digital literacy upskilling program was raised by some.
- **Aligning research to better reflect the industry needs for digital literacy.** Digital literacy needs were reflected to be varied across industries and regions, and some may have slower rates of adoption compared to others. Further research in this space will require advisory panels and industry leaders to examine developing trends in their industry, as well as early identification of any challenges arising. Business note wishing to see an upswing in the digital skills not only of their employees, but also those of their partners and customers.
- **Extending research into facilitation of peer-to-peer learning and knowledge sharing in digital skills.** Feedback from consultation workshops highlighted a need for personalised support in digital skills for Queensland businesses. This support can come under the form of an example case study, or knowledge transfer sessions conducted by businesses or industry groups, or via local Chambers of Commerce in their local regions. Business feedback suggested that the informal and customised nature of these knowledge-sharing endeavours can lead to more effective outcomes in digital upskilling.

Case Studies

Business Chamber Queensland, as part of the second phase activity, has engaged with four businesses within the following sectors:



The purpose of this engagement has been to delve into each business' experience with digital literacy and how improving digital literacy has helped the business to overcome operational challenges.

The four case studies have been formed out of the validation activity discussions and reflect the desire of many responders to look at how improvements in digital literacy can positively impact on a business. The case studies also provide practical guidance for other businesses.

The four case studies are available to download from the Business Chamber Queensland and Jobs Queensland websites.

Appendix One: Rapid Validation Results

Business Survey

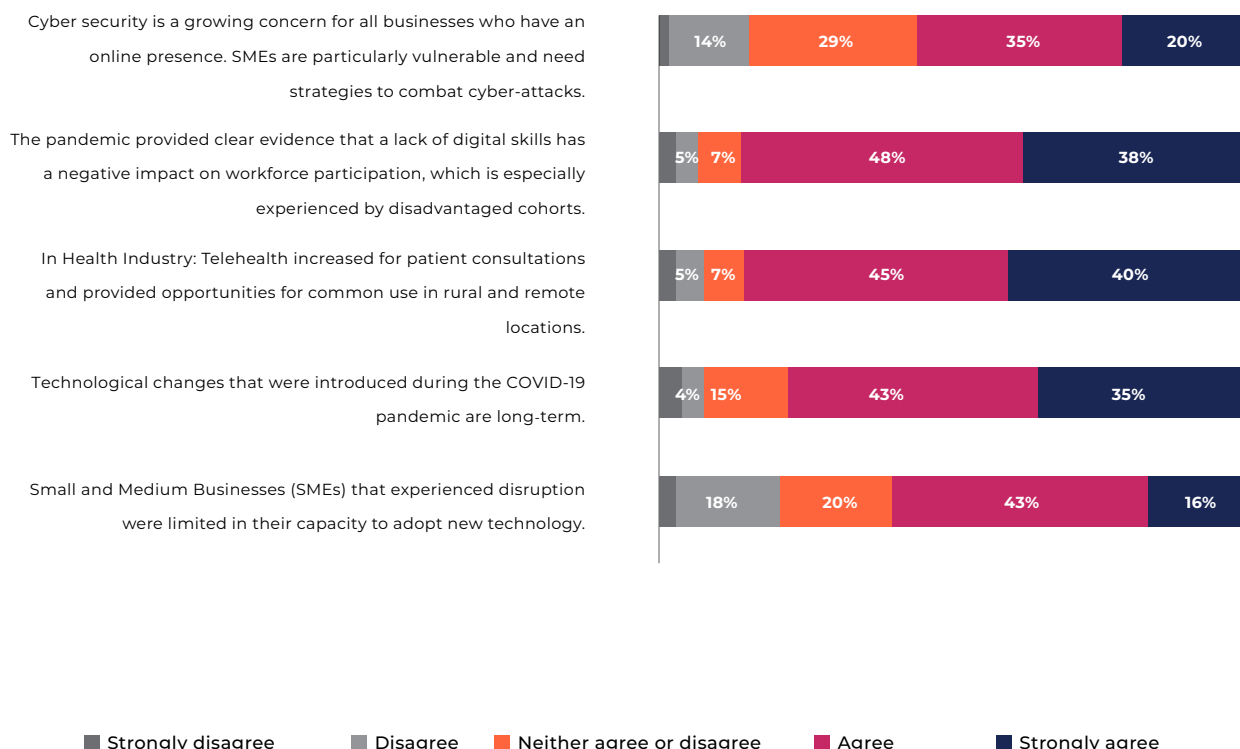
Overall, survey respondents showed strong agreement with key findings from the literature review.

Preliminary results suggest that majority of respondents agree and strongly agree with the Literature Review findings on **cyber security**, with **an overwhelming majority of 79 per cent strongly agreeing**.

Secondly, Queensland businesses agreed that the pandemic provided clear evidence that a **lack of digital skills has a negative impact on workforce participation** (86 per cent of businesses agree or strongly agree).

Finally, businesses support the findings that technological changes introduced during the pandemic are long-term (78 per cent of businesses agree or strongly agree).

Figure 1: Survey results on general literature review findings



Qualitative findings from survey results

The survey offered participants the opportunity to voice their opinion on digital skill through two open-ended questions:

- 01.** Do you think any of the key findings from the report are inaccurate or need further research? If so, explain why.
- 02.** What further support or best practice on Digital Skills would you like to see for Queensland businesses?

The majority of survey responses agreed that the key findings cited in the report to be accurate and provided no further feedback in qualitative responses. However, 65 respondents provided further feedback on the key findings for the literature review.

Some of the key themes of the responses are:

- 01. Varied challenges for digital adoption for business of all sizes:** It is reflected that while SMEs may face higher constraints in time and costs related to adopting new technology, compared to larger firms, smaller firms also have a more flexible structure that can be more adaptable to major transformations. As such, businesses of different sizes may need different types of support to implement their digital transformations
- 02. Digital connectivity as a major barrier to skills:** It was reflected that a major hinderance to digital skills development for many businesses remains to be their ability to access reliable digital connection, such as high-speed or affordable internet. This structural factor is not discussed in the Literature Review, and while it can be considered an external factor, many businesses believe it is important to consider this barrier in the discussion of digital skills and applications in a realistic business context
- 03. Workforce participation and disadvantaged cohorts:** Some detailed responses were provided by businesses on the impacts of a lack of digital skills on disadvantaged cohorts. Essentially, businesses suggested that there are more to the experiences of disadvantaged cohorts, and multi-factor solutions should be considered for solutions

80 responses were received on what other support Queensland businesses believe would be most beneficial on the topic of Digital Skills. These responses can be grouped into three key scopes.

Theme 1 - Digital Skills contextualisation and specialisation: Businesses acknowledge that digital skills require context, and application of digital skills in different industries and regions would lead to major differences on the progress as well as the challenges a business may face.

As such, it is important for any support or further research to focus on the digital mindset and core problem-solving skills, as well as personalised support, instead of trying to tackle all different problems businesses and industries are facing.

Theme 2 – Cyber security concerns: Businesses overwhelmingly reported that cyber security is a major concern, especially in recent years. Many are asking for either targeted support for cyber security training for SMEs, as well as funded up-to-date training that they can use to inform or upskill their employees.

Theme 3 – Targeted training program and education: Finally, survey respondents reflected that targeted training and education is the most suitable way to address digital skills concerns for Queensland. Businesses reflected that these support and training programs need to be:

- Relevant and up-to-date that can meet the practical needs of businesses
- Micro-credentials or smaller training courses on basic digital skills first, and include a centralised platform/source of truth for all other relevant training
- Targeted or personalised that can be available for rural and regional areas if needed
- Easy-to-access, where businesses can access flexibly and fit into their working schedule
- Grants or funding incentives to assist businesses in training/upskilling their staff.

Appendix Two:

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)

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

Australian Govern

'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.'^{ciii}

'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.'^{civ}

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.^{cv}

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 ^{cv}
- 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. ^{cvi}

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. ^{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.

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. ^{cix}

National Jobs and Skills Summit

The National Jobs and Skills Summit ^{cx} 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 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. ^{cx}

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.^{cxii}

‘(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.’^{cxiii}

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.^{cxiv}

Appendix Three: Case Studies

Case Studies

The Digital Literacies Imperative for **Queensland Businesses**

Agriculture Case Study
RED SLOPES AGRICULTURE



**Jobs
Queensland**
Future **skills**. Future **work**. Future **Queensland**.



**Business
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Case study: Red Slopes Agriculture - transforming farming practices through digital literacy

Digital agriculture is evolving so quickly that the farmer implementation pathway is anything but clear. [Red Slopes Agriculture](#) helps horticultural producers develop digital literacies required to evaluate and implement agtech solutions for improving farm productivity and sustainability.

About Red Slopes Agriculture Pty Ltd

In the heart of Queensland's Burnett Mary region, Red Slopes Agriculture Pty Ltd ('Red Slopes Agriculture') is a pioneering force in the dynamic landscape of modern agriculture.

Founded by a seasoned consulting agronomist and farmer, this innovative company is at the forefront of leveraging digital technologies to revolutionise traditional farming practices and address the increasing use of technology in agricultural practices.

With a focus on the competitive ginger farming industry, Red Slopes Agriculture is committed to enhancing the farm productivity and sustainability through a strategic emphasis on increasing clients' digital literacy.

With more than a decade of hands-on experience in Southeast Queensland, Red Slopes Agriculture stands as a testament to the evolving nature of agriculture in the digital age. Recognising the transformative potential of technology in farming, the company was established with the aim of bridging the gap between cutting-edge agricultural innovations and traditional farming methods.



Bhargav Rayeri
Owner, Red Slopes Agriculture

Queensland's horticulture sector digital landscape

Digital technologies, including mobile technologies, data analytics, and digitally delivered services, have been reshaping Queensland's horticulture sector. Machinery integration and irrigation automation allows for inputs to be fine-tuned, reducing the need for manual labour on farms. Meanwhile, drones and sensors enhance accuracy and reduce costs associated with monitoring crop growth and land quality, providing farmers with trusted information.

Farm data analysis enables farmers to plan seasonal plantings, enhancing productivity and enabling quick responses to changing situations.



As farming becomes increasingly digitalised, both on and off the farm, digital literacy importance is clear.

Farmers need to navigate a complex landscape of technology, requiring them to interpret and analyse data effectively. In this context, digital literacy plays a pivotal role in a farmer's ability to evaluate the potential return on investment (ROI) of technology.

It enables informed decisions about crop selection, resource allocation, and overall farm management, highlighting the crucial link between agricultural innovation and sustainable, profitable farming practices.

Red Slopes Agriculture's operations

Operating across the Burnett Mary region, Red Slopes Agriculture specialises in the high-value and competitive ginger farming industry. Ginger, being both labour and capital-intensive, necessitates precise management of resources, such as water, fertiliser and organic matter, to improve soil carbon levels and increase soil biodiversity. Understanding the challenges ginger growers face, Red Slopes Agriculture is a guiding force, providing technological solutions to enhance productivity and efficiency.

Producers' need for digital literacy

Ginger production's intricacies underline the need for digital literacy among producers. As a high-value commodity, ginger requires meticulous attention to detail in its cultivation. Red Slopes Agriculture recognises farmers must enhance their digital literacy to find, evaluate, and effectively use technological solutions to address these challenges. The business works closely with farmers, helping them unlock the full value from their investments in technology.

Digital literacy is not just a tool for navigating the technology complexities; it is a prerequisite for gaining value from agricultural technologies. The ability to interpret and analyse data, understand the functionalities of various technologies, and assess their impact on crop yield and resource efficiency is central to determining farm technologies ROI.

Digital literacy and innovation diffusion

Innovation diffusion theory suggests 15 per cent of businesses within an industry are innovators and early adopters. While Red Slopes Agriculture primarily collaborates with farmers with digital literacy, the company also extends its expertise to those who are in the process of building their digital literacy. Recognising the diverse landscape of digital adoption in the agricultural sector, Red Slopes Agriculture plays a crucial role as an educator, bridging the gap between cutting-edge technology and traditional farming practices.

Red Slopes Agriculture's collaborative approach acknowledges the journey toward digital literacy varies among farmers. By working with those who are building their digital literacy, Red Slopes Agriculture contributes to a more inclusive and equitable digital transformation in the agricultural sector.

Technological solutions and education

Red Slopes Agriculture's commitment to digital literacy is not merely theoretical; it is deeply embedded in its practical approach to on-farm and off-farm operations. The company is an educator, empowering farmers to navigate the realm of automated irrigation, drones, sensors, tissue culture, and farm management software.

Automated irrigation, for example, is a technological solution that optimises water usage and enhances farm efficiency. Drones and sensors provide real-time data on crop growth and land quality, facilitating informed decision-making. Tissue culture, another technological innovation, allows for disease-free plant propagation, improving crop quality. Farm management software assists in record-keeping and planning, contributing to streamlined and organised farm operations.

Red Slopes Agriculture recognises these technologies' integration requires a fundamental understanding of their functionalities and implications. Therefore, the company invests in educating farmers about the benefits and practical applications of these technologies. This commitment to education not only empowers farmers to make informed decisions but also ensures the optimal utilisation of technological solutions on their farms.

Digital literacy as a catalyst for farm productivity

The commitment to digital literacy at Red Slopes Agriculture serves as a catalyst for enhanced farm productivity. In an era where agtech solutions offer innovative ways to enhance productivity, optimise resource utilisation, and mitigate environmental impact, digital literacy is key to unlocking these benefits.

Navigating the complexities of technology allows farmers to make strategic investments that not only enhance productivity but also contribute to long-term agricultural operation sustainability. Red Slopes Agriculture exemplifies how a forward-thinking approach to digital literacy can revolutionise traditional farming practices.

Red Slopes Agriculture is a trailblazer in digital literacy integration into modern farming practices. The company's commitment to bridging the gap between cutting-edge technology and traditional farming methods underscores the transformative power of digital literacy in agriculture. As the sector continues to evolve, Red Slopes Agriculture is an inspiring example of how digital literacy can propel farming into a more sustainable and efficient future, ensuring farmer prosperity of agricultural industry longevity.

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The Digital Literacies Imperative for **Queensland Businesses**

Health Case Study
RURAL CHILD HEALTH



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Case study: Rural Child Health - a digital healthcare startup continually develops digital literacy

Digital business [Rural Child Health](#) develops digital literacies to bring much needed clinical child health nursing support to rural, regional and remote families across Australia.

About Rural Child Health



Rebecca Bradshaw

Australian families traditionally turn to child health nurses for help to support their children's growth, specifically their physical and mental development. Difficulty in accessing child health nurse services with her first-born child during the COVID-19 pandemic triggered highly experienced clinical nurse, Rebecca Bradshaw (pictured), to start an online business, servicing other rural, regional and remote (hereafter referred to as 'rural') families.

Many rural families have limited access to public health and early childhood growth and development education support, due to being located away from service delivery centres. Now, they can find expertise and support through Rural Child Health, a digital platform, when they need it.

Operating in the digital paradigm, Rural Child Health increases families' access to child health services.

Through an integrated suite of knowledge sharing modes - virtual consultations, programs of self-directed learning modules, and access to a knowledge hub, families can access expertise when they need it at any time, all year round.

Each child and family situation are different so individualised client approaches are expected and delivered. Currently Rural Child Health is servicing rural families across Australia, and given it is operating in the digital paradigm, there is no reason why it cannot expand beyond Australia, if there is demand.

Digital literacies for business success

In the fast-paced world of healthcare, digital innovation has become paramount in providing efficient and effective services.

At every stage of the business's growth, Rural Child Health employs digital literacies to achieve its goals and overcome various challenges. These goals primarily revolve around the provision of quality and timely expertise to those who need it, monitoring business success, ensuring the reliability of services and expanding their reach.

To achieve these objectives, the business leverages an ever-expanding and well-integrated combination of hardware, software and expertise.

The business collaborates with virtual assistants for administrative tasks and social media promotions, web designers for website maintenance and optimisation, and business coaches for strategic planning and growth. These partnerships enhance the overall efficiency and effectiveness of the business and allow the business to stay focused on providing quality child health services to families, when and as they need it.

Building digital skills for overcoming business challenges

To monitor the success of their digital child health care service, the business employs various strategies. Firstly, they use digital tools to collect and analyse client data, allowing them to track health outcomes, identify areas for improvement, and adapt their services to the individuals accordingly. This data-driven approach ensures that the business can continuously enhance the quality of care provided to children and their families, monitor reach and impact of promotional activities, and highlight gaps in Learning Management System (LMS) content.

The business faces two significant challenges. The first is building awareness of the service; a service that operates beyond the traditional public health system. The second is the unreliability of telecommunications infrastructure in rural Queensland and other states.

The first challenge, building awareness, is addressed through a multi-pronged approach. The business uses digital marketing and social media campaigns to reach potential clients. They also collaborate with local schools, community groups and paediatricians to raise awareness with rural families about their services. Digital and face-to-face methods are used. This approach not only builds a new market but also fosters trust within the community, bringing repeat clients.

The second challenge, the unreliability of telecommunication infrastructure, is mitigated by Rural Child Health through ongoing investments in technology and ensuring that all their services are accessible via on computer, tablet and phone.

While telecommunication infrastructure may be unreliable in some areas, the business leverages multiple communication channels, local backup systems and redundancy strategies to ensure uninterrupted service delivery. They also keep a close eye on infrastructure improvements, adapting their operations to take advantage of more stable networks and emerging technologies.

Continuing commitment to increasing digital literacy: insights from Rural Child Health's tech integration

The digital child health care service business thrives by embracing digital literacies across its operations and being curious lifelong learners. Informal learning through peer-to-peer knowledge sharing, exploration of digital resources, and online video tutorials is the key to Rural Child Health extending their digital literacy.

Regular 'power projects' involving assessment and evaluation of current business systems and functions identify areas of improvement.

Infrequently, it is necessary to undertake an accredited or structured program of digital skills learning to use a specific software or platform. Not only does the business increase their digital skills but the accreditation or qualification signifies that the business is compliant or employing best business practices to external stakeholders.

Using digital solutions for accounting, scheduling, a robust website, LMS and personal health and well-being, the business not only monitors its success, but also address challenges and continuous improvement of services. In a dynamic digital landscape, this approach ensures that Rural Child Health provides the best possible care to children while remaining adaptable and resilient in the face of change.

Rural Child Health's digital journey demonstrates the importance of digital literacy, collaboration, data-driven decision-making and adaptability in the healthcare sector.

Their approach can serve as a valuable model for other healthcare and professional services startups looking to provide efficient and effective digital services, especially to clients in regional and rural areas of Queensland.



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The Digital Literacies Imperative for **Queensland Businesses**

Social Enterprise Case Study
NUNDAH COMMUNITY ENTERPRISE
CO-OPERATIVE



Case study:

Nundah Community Enterprise Co-operative - Pioneering social impact through teamwork and a splash of tech

Improving [Nundah Community Enterprise Co-operative](#) staff digital literacies supports their professional and personal development, as well as improving the productivity and social impact of their growing business.

About Nundah Community Enterprise Co-operative: a unique mission begins

A small but impactful revolution began 25 years ago in Nundah, Brisbane. The Nundah Community Enterprises Co-operative ('Nundah Co-op') emerged with a mission to provide long-term meaningful work opportunities for employees with cognitive and psychosocial disabilities. Over time, their vision expanded to embrace and empower refugees, making Nundah Co-op a champion of diversity and inclusivity.

At Nundah Co-op, they don't only run the Espresso Train Cafe and Catering and the Good Food Project. As well as providing a reliable parks and property maintenance service, they also operate as a worker co-operative. This is a business model where every member is not only an employee but also an owner, with profits reinvested back into the business. The essence of its mission is succinctly captured on a sign in one their cafes: *"We make coffee to employ people, not employ people to make coffee."* This core philosophy transcends business operations and focuses attention on providing workers with the necessary skills to do their jobs and feel more connected.

This business governance and operating model sets the stage for a collaborative and inclusive environment, where decisions are made collectively, and accessibility is key.

The business aligns with the global co-operative principles that emphasise the importance of education, training, and information-sharing, ensuring each worker is equipped with the knowledge to actively contribute to the Nundah Co-op's growth.



Property maintenance service team members

Collective digital literacies for business success

In the ever-evolving landscape, Nundah Co-op faces the challenges and opportunities characteristic of the modern Queensland business environment. From the high customer expectations to the complexities of managing small business operations amidst waves of COVID, decreasing disposable income and constrained labour markets, Nundah Co-op is navigating these hurdles through collective people power with a 'touch of tech'. Digital solutions, encompassing both hardware and software, have become integral to many facets of their business operations.



The Good Food Project Cafe

Recognising the transformative power of digital solutions to improve productivity and efficiency across a growing and diversifying business group, Nundah Co-op initiated a journey to empower its diverse workforce to use available digital tools. This was not about using the latest gadgets and software; it was about ensuring everyone, regardless of age or ability, could thrive in an increasingly digital workplace. The cafes use Square point-of-sale, as well as maintaining cash sales. Nundah Co-op embraced tools like Xero accounting, Deputy human resources and rostering, and messaging apps to streamline processes, transitioning from paper to digital timesheets for efficiency and accuracy.

While the adoption of technology is bringing tremendous benefits, Nundah Co-op acknowledged the challenges inherent in this journey. Teaching everyone to use digital tools is not always quick or easy, and sometimes not possible. In addition, social enterprises face unique challenges, such as budget restraints.

Workers within the business take the lead on learning how software packages and business systems operate, and then teach their colleagues. Rather than bringing external trainers into the business, training is developed and managed in-house.

Like other businesses, Nundah Co-op is increasingly vigilant against cyber security threats and sees the need for future work in this area. An important initiative from one of Nundah Co-op's key partners contributes to the cyber security risk management. Nundah Co-op employees build their knowledge of cyber security risks and how to respond through a regular Scammers Awareness Forum.

Workplace digital literacy: Insights from Nundah Co-op's collective approach

Looking to the future, Nundah Co-op plans to continue growing its sustainable business. In doing so, they are looking to engage digital expertise to assist them to better integrate the various systems and platforms that they are currently using. They are also beginning to evaluate Artificial Intelligence (AI) solutions and assess the potential return on investment in digitally managing client NDIS and other program plans as Nundah Co-op grows, recognising the potential of digital solutions in client service management.

Their advice to other businesses resonated around simplicity, accessibility, and automation as the guiding principles for success in the digital era. Simplicity ensures digital tools are user-friendly and easily adopted by diverse teams. Accessibility ensures all team members, regardless of their background or abilities, can engage with digital solutions effectively. Automation streamlines processes, boosting efficiency and freeing up time for more meaningful tasks.

Nundah Co-op's advice encapsulates their belief that digital literacy is not just about mastering complex technologies, but about training people so technology works for the benefit of everyone in the organisation.

Nundah Co-op stands not just as a business, but as a beacon of inspiration, demonstrating digital solutions and developing the digital literacies of all employees can contribute to both commercial outputs and social impact. Their journey, from establishing a co-operative model that values inclusivity to harnessing the positive power of technology, and guarding against the negative impacts, provides valuable lessons.

Nundah Co-op is not just creating sustainable and socially inclusive employment and training opportunities for people with cognitive and psycho-social disabilities, and refugees, with profits re-invested in the business to benefit members. They are crafting a narrative of empowerment, resilience, and innovation. As they continue to grow and inspire, their story remains a testament to the possibilities that unfold when meaningful work and digital literacy converge.



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The Digital Literacies Imperative for **Queensland Businesses**

Small Business Case Study

DIGITAL LITERACY LICENCE



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Case study: Digital Literacy Licence - Helping small businesses succeed in a digital world

In today's rapidly changing digital world, it is more important than ever for Queensland businesses to have a digitally literate workforce. [Digital Literacy License](#) is a small business that assists other businesses, including small businesses, by equipping their people with the skills and confidence to use digital technologies effectively and protect themselves from cyber threats.

About Digital Literacy License

In today's rapidly evolving business environment, possessing digital literacy has become a non-negotiable skill set. This imperative holds true for businesses of all sizes, ranging from individual startups to expansive enterprises. Digital literacy encompasses the ability to leverage technology adeptly and securely, playing a crucial role in diverse aspects such as marketing, customer service, and the safeguarding of business data.

Against the backdrop of Queensland's profound shift toward a predominantly digital landscape, collaborations between educators, employers, and Digital Literacy Licence have emerged as pivotal drivers of success. This strategic alliance aims to equip individuals with the foundational skills essential for navigating the intricacies of emerging technologies. The transition towards digital proficiency necessitates a joint commitment from both employers and employees to embrace continuous upskilling, fostering a collective confidence in confronting the challenges the modern digital landscape pose.



Digital Literacy Licence is at the forefront of this transformation, offering a structured and comprehensive approach to digital literacy training and certification. Included in the Australian Government's Digital Literacy Skills Framework and Australian Digital Capability Framework, the programs offered reflect a commitment to excellence and continuous improvement. The business offers online programs designed to provide digital literacy and capability foundations, as well as face-to-face training sessions that are run within workplaces or publicly.

The business has cultivated a workplace culture that thrives on ongoing enhancement, drawing insights from expertise within and external to the business, and the evolving business landscape. A unified strategy is central to Digital Literacy Licence's approach, where expertise, operational insights, program content, and learner feedback informs both what is taught and how the business operates. This cyclic process of improvement remains dynamic, adapting technologies, introduction or enhancement, and business expansion into diverse industries and settings.

Through this holistic approach, Digital Literacy Licence endeavours to bring the benefits of digital literacy to all, ensuring workers a robust foundation for success in the ever-evolving digital era.

The business is actively developing the not-for-profit arm to further their commitment to fostering digital inclusion, through extending access to devices and data.

Going digital brings safety concerns to people and businesses

The transition to digital operations, including developing an online presence, brings with it numerous advantages for Queensland businesses, but it also introduces safety concerns that demand careful consideration.

Cyber security is one of five identified areas of learning in the Australian Digital Capability Framework. Additionally, 84 per cent of businesses surveyed in the Business Chamber Queensland digital literacies validation activities for Jobs Queensland's *The Digital Literacies Imperative for Queensland Businesses* report either agreed or strongly agreed cyber security was a growing concern for all businesses with an online presence.

Cyber security is a critical focal point for businesses of all sizes, with small businesses particularly vulnerable due to their relative lack of resources and expertise. In response to this, Digital Literacy Licence integrates real-world challenges into its programs, addressing data security, privacy compliance, and phishing, among other competencies. This practical approach ensures training is not merely theoretical but equips individuals with the skills needed to confidently navigate digital landscape complexities.

Digital Literacy Licence overcoming cyber threats IRL (In Real Life)

Reliance on digital systems exposes businesses to potential disruptions, whether due to technical issues, cyberattacks, or natural disasters. Small businesses, lacking comprehensive resources for a robust business continuity plan, are particularly vulnerable. Digital Literacy Licence addresses this vulnerability by mitigating downtime and other risks through measures such as protecting sensitive information, staff training, and engagement with potential cyber threats. The business's commitment to its own cyber safety practices is an example of how to apply cyber security digital literacy skills in a professional setting.

Digital Literacy Licence demonstrates a deliberate approach to technology infrastructure protection. They prioritise tools that allow data storage on Australian shores and, when this isn't possible, carefully manage data access. Multi-Factor Authentication (MFA) and password manager tools are employed to enhance security. Importantly, the business builds digital skills and capabilities in-house, minimising reliance on third-party services and cloud providers for digital functions. This careful dependencies management includes understanding service providers' security practices and having contingency plans in place.

Aware of the significance of sensitive business and client data, Digital Literacy Licence prioritises robust data encryption, regular security audits, and employee training on cyber security best practices.

The business takes measures to ensure the personal information collected and processed adheres not only to current privacy regulations but also minimises business risk. To combat phishing attacks and social engineering tactics, the company shares details of attempts with employees and contractors, fostering a culture of awareness and vigilance.

Recognising human error, lack of confidence and e-safety concerns as significant factors in digital literacy, Digital Literacy Licence conducts ongoing training programs emphasising the importance of cyber security and teaching best practices. This proactive approach significantly reduces the risk of human-related security incidents. The organisation actively engages in staff training, information sharing on platforms like Slack, and external education efforts through social posts and program lessons.

The business emphasises the importance of technology infrastructure protection, reputational management, and a transparent response in the event of a cyber breach. By doing so, Digital Literacy Licence ensures businesses can navigate the digital realm with awareness, preparation, and resilience. This emphasis on cyber security, both in their training programs and in their own operations, underscores the organisation's commitment to fostering a secure and protected digital environment for both employees and customers.

Committing to digital literacy helps keep businesses safe

Digital Literacy Licence's unique approach to training and tailored practices empowers businesses to build digital literacies within their workforces, including ways to identify, prevent, and respond to cyber security threats; a significant challenge for business that are moving to, or have an existing, online presence.

The business' dedication to digital literacy extends beyond teaching theoretical knowledge, and instead looks at ways to grow the digital literacies of everyone. As expert technology educators, they frequently draw practical insights and real-world examples through their own business operations - they know, as a small business, the opportunities for maintaining and growing an online presence.

By doing so, Digital Literacy Licence becomes a valuable partner for businesses seeking to upskill their workforce's digital literacy, ensuring a safer and more confident digital landscape navigation.



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