**Industry Snapshot**

Australia is rapidly becoming an increasingly digitalised society. Recent health and socio-economic upheavals, caused by the COVID-19 pandemic, has accelerated our nation’s push to develop strong digital sovereignty and capability. This shift can be captured through industry statistics, where the Australian Computer Society (ACS) reports in the ‘*ACS’ Demand & Impacts on Tech & Digital Skills White Paper 2021,’ ‘*that the ICT & Technology Workforce grew by 33,400 to 805,525 which represents an annual increase of 4.3 per cent, (contrary to) other professional industries which only saw growth of 1.3 per cent and the overall unemployment rate which increased by 1.7 per cent’[[1]](#endnote-2) (Australian Computer Society, 2021). Further to this, the *Skills Priority List* identifies numerous ICT-related professions that are in national shortages and predicts continued moderate to strong demand for these skillsets in the future[[2]](#endnote-3) (National Skills Commission, 2021).

Industry statistics are consistent with Government initiatives and plans that look to establish Australia and the Australian Government as a leading digitally run society. Released in 2018 by the Digital Transformation Agency, the *Digital Transformation Strategy* recognises that ‘Australia’s ongoing success depends on our ability to harness these technological advances‘[[3]](#endnote-4) and that ‘the pace of change continues to blur the boundaries of the physical and digital worlds.’[[4]](#endnote-5) Programs such as CSIRO’s (Commonwealth Scientific and Industrial Research Organisation) Data 61, the Australian Defence Force Cyber Gap program and the Digital Cadetship program all seek to bridge digital skill and capability gaps in Australia’s workforce.

What does this mean for our team?

The Department of Industry in their report *Australia’s Tech Future* highlights the innate value of embracing digital technologies from a business perspective. “Small and Medium businesses with higher levels of digital engagement are significantly more likely to be growing revenue, creating jobs, exporting and innovating new products or services”[[5]](#endnote-6) (Department of Industry, 2018). There is a strong need for educators, developers and analysts, enabling businesses and Government to grow and deliver services that are effective, efficient and accessible.

A screenshot of a computer

Description automatically generated with low confidenceBelow compares our team’s ideal jobs against Industry Data developed by Burning Glass in 2018, the Australian Computer Society in 2021 and the National Skills Commission *Skills Priority List* released in 2021.



Sources: source: *Labour Insight Jobs* (Burning Glass Technologies 2018)[[6]](#endnote-7), *National Skills Priority List* (National Skills Commission 2021)[[7]](#endnote-8) *Demands & Impacts on Tech & Digital Skills White Paper* (Australian Computer Society 2021)[[8]](#endnote-9)

Observations on Data Findings:

The Business Analyst role does not rank in the Burning Glass Data (2018) but is Ranked First in ASC Data (2021). Causal factors for exclusion in the Burning Glass data can include:

* + - Change in Industry Demands
    - Development of Industry in recognising the need for Business Analysts
    - Expansion of traditional IT Roles, to now include business enablers such as Business Analysts to facilitate outcomes

There has been significant growth in the IT Industry over the past couple of years and consequently roles have been created and redefined to meet the needs of Industry. There has been a noticeable trend of Small and Medium Businesses adopting digital practices to assist in developing their enterprises and delivering their services. Business Analysts can be utilised to offer bespoke solutions to businesses and can be used to bridge a knowledge gap between non-digital using business owners and the digital world.

Most roles identified by the team have strong business demand or future strong business demand according to the National Skills Priority List. Demand for these skills can be attributed to the following:

* + - Industry Growth
    - Dependency on Digital Services (increased digitalisation outside of ICT realm)
      * Supply of workers outweighs current demand
    - National Need

The IT Industry has been one of the fastest growing Industry. This has been accelerated by increased access to technology, global events such as COVID-19 and the growing integration of digital capabilities into traditionally non-digitalised space. The boom in the use of IT services has occurred at a rate far greater than the industry’s ability to recruit and train employees to necessary standard. This has created a huge workforce capability gap, requiring Government and Industry to develop strong incentives to attract people to study and work in IT.

The Security Analyst & Cyber roles were absent from Burning Glass Data (2018) yet ranked Seventh in the ASC Data (2021) and has been acknowledged as a skillset that is currently in National Shortage with a Strong Future Demand. Causal Factors for exclusion in the Burning Glass Data can include:

* + - Cyber Security and awareness have been the peripheral, not the main focus on organisations and Industry until recently
      * The Australian Government announced 2020 Cyber Security Strategy, replacing the 2016, noting the security environment is degrading at a rate greater than anticipated in 2016, with a reliance and integration of digital services increasing at a rate unprecedented in 2016.
      * The Government’s 2016 Cyber Security Strategy invested $230 million into Cyber Security functions; the Government’s 2020 Cyber Security Strategy invested an additional $1.35 billion into Cyber Security functions. (Department of Home Affairs, 2020)[[9]](#endnote-10)
        + The significant increase in investment is indicative of the massive shift in the attitude towards cyber security.
    - The function of cyber security could have been an assumed responsibility in some of roles in the Burning Glass Data.
      * Development of hardware and software is heavily intertwined with elements of cyber security.
      * Elements of cyber security is in inherent in maintenance of a system

Further to this, we have extracted some of the core skills in each role we have chosen to create an aggregated group skillset and compared that to the Burning Glass data. It was harder to find an alternative data source that was consistent with the metrics used in the Burning Glass data to provide greater depth in the analysis of which skills are relevant in the ICT roles. This is partly due to the evolution and refinement of language used to describe and used by Industry.

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*Source: Labour Insight Jobs* (Burning Glass Technologies 2018)[[10]](#endnote-11)

Planning, communication skills and problem solving are the most sought-after skills according to the Burning Glass data. This comes as no surprise as these skills are quintessential to every IT professional regardless of their role. Without the ability to communicate what a problem is, what needs to be done, who needs to be engaged to resolve it and who it may affect, it is hard to be effective within the IT Industry. Further to this, an IT professional often deals with numerous systems and processes, which often are not designed to operate to work with other systems. Having the necessary skills to be able to recognise and methodically solve problems are crucial in an industry that many people are rely on to perform their respective job. IT professionals are often faced with a suite of complex and intricate problems. Without a proper plan they are likely to encounter issues effectively implementing solutions. This could incur great financial and reputational costs if projects and solutions are not delivered promptly, especially in areas where the industry is heavily reliant on continual and stable access to IT.

Below outlines the top skillsets that fell outside of our group’s aggregated skillset:

Table

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There are a few causal factors that can provide key insights as to why these skills fell outside of our aggregated skillset:

* Breadth of the professions selected by individuals.

In our group of six, five different professions were chosen across the IT industry. The professions selected comprised of a range of required technical abilities and strengths. As result our aggregated skillset was quite balanced across the entirety of the industry, rather than being focused on one specific area.

* Communication, whilst an incredibly important skill and relevant in the industry, is not the key reason someone would be hiring an IT professional in most circumstances.

The key differentiator in IT professions stem from the required level of technical proficiency needed to be effective in a role. It is less so defined by the communicative ability of the IT professional. Generally speaking, if you required a communications specialist, you will not be hiring an IT professional, unless you require a telecommunications specialist to fix your VoIP (Voice over IP). Jokes aside, the key skills required by the IT industry tend to have a focus on hard skill sets such as programming ability.

Whilst there definitely is a need for strong communicators in the IT Industry, there is also an equally strong, if not stronger need for technical specialists. For example, communication is a needed skill in the full stack developer role as you work with both front & back-end systems, meaning that you would most likely be dealing with a range of stakeholders. However, if you do not possess the technical skills necessary to perform a function, no amount of communication skills can bridge that capability gap

* Organisation Skills & Writing are interchangeable with other skills.

Whilst organisational skills fell out of our skillset, planning did not. Similarly, writing fell out of skillset, but communication skills featured more in the data that informed our aggregated skillset. These skills are heavily interchangeable and conceptually linked. To be an effective communicator, you need a balance of written and oral skills; to be an effective planner, you required a degree of organisational skills. The absence of these skills is not a point of concern, but it is useful to understand what might be of interest to employers that is not in our preliminary focus.

* Breadth of technical skills in the industry.

Our aggregated skillset lists three out of range of key technical skills in the industry. Consequently, it was a given that some major IT skills were going to fall out of our aggregated skillset such as SQL and JavaScript. Once again this is not a point of concern, but it is useful to have an awareness of what might be of interest to employers.

Has our opinion of our ideal jobs changed?

In short, no. If anything, the data has solidified everyone’s decision on their dream job. There are three causal reasons for this

* The IT Industry is growing at a much faster rate than the IT workforce is.

Throughout this report on industry data, it has become abundantly clear that there is a current shortage of skilled IT workers. As the industry grows, the demand for certain technical skillsets will only increase further. As Ahmet said when asked if his dream job had changed, “organisations are becoming more computerised and businesses are becoming more digitalised” therefore “more education and training must be conducted to meet these requirements.” For Hugo, the fact that the security analyst type roles did not feature in the Burning Glass data, but featured heavily in more current statistics he said, “the environment has clearly evolved a lot over the past few years” what this mean is “as everything becomes more digital, cyber-attacks are going to become more common, as a result, security analysts will become more relevant.”

* Whilst statistics can help us make informed decisions, passion is what really drives us.

When Taylen was asked about whether his ideal job had changed he led with “I am very passionate about how hardware and software communicate and interface with each other.” His primary motivation is his curiosity and interest in the field. For Tetsu there are similar motivations, “my goal is to launch my own web application, so I feel that it is important to have skills across all areas of web application development.” Whilst both acknowledged that the industry data was heavily supportive of their dream jobs, with both being in high demand, they both mention it is their passions and goals that drive them to pursue their career paths.

* Industry growth and demand means that there is long term career flexibility.

Given the breadth of the industry and the rate that it is growing, there is a clear advantage in gaining a set of core technical skills that can be deployed in different job environments. When Tim was asked whether or not his dream job had changed, he said that “it requires a skill set that will allow me to grow and change with the IT industry as whole.” He is mindful of “the swift changes that can occur within the IT industry” and seeks a skillset that can evolve with industry development. Similarly, Brandon observed a trend in industry noting that “with cloud becoming more and more prominent” in some roles “the pay margin is decreasing.” This supported his career path which requires “proficiency in many different languages and integrating them,” offering him career security and flexibility.

As a group and as individuals, the skills we seek and the professions we strive for put us in good stead for future proofing our careers. The demand for skilled ICT workers is now high and this is forecasted only to increase as not only our nation, but as the world becomes increasingly digitalised. Roles that typically have extremely limited ICT presence are becoming increasingly rarer as tools, processes and interfaces are being developed and automated to increase efficiency, outreach and impact for businesses and individuals. Gaining core IT skills allows the team to work in a range of Industries outside IT enabling strong flexibility and adaptability when it comes to building our careers.

1. Australian Computer Society, 2021. *ACS – Demands & Impacts on Tech & Digital Skills White Paper 2021.* [online] p.7. Available at: < [Demand & Impacts on Tech & Digital Skills White Paper 2021 (acs.org.au)](https://www.acs.org.au/insightsandpublications/reports-publications/demand-impacts-tech-digital-skills.html)> [Accessed 30 September 2021] [↑](#endnote-ref-2)
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   < <https://www.nationalskillscommission.gov.au/our-work/skills-priority-list> > [Accessed 2 October 2021]> [↑](#endnote-ref-3)
3. National Skills Commission, 2021. *Skills Priority List June 2021.* [online] p.6. Available at:  
   < <https://www.nationalskillscommission.gov.au/our-work/skills-priority-list> > [Accessed 2 October 2021] [↑](#endnote-ref-4)
4. National Skills Commission, 2021. *Skills Priority List June 2021.* [online] p.6. Available at:  
   < <https://www.nationalskillscommission.gov.au/our-work/skills-priority-list> > [Accessed 2 October 2021] [↑](#endnote-ref-5)
5. Department of Industry, 2018. *Australia’s Tech Future*. [online] p.17. Available at:  
   < [https://www.industry.gov.au/sites/default/files/2018-12/australias-tech-future.pdf#:~:text=Australia%E2%80%99s%20Tech%20Future%20sets%20out%20the%20opportunities%20and,ensure%20all%20Australians%20can%20thrive%20in%C2%A0a%C2%A0global%20digital%20economy](https://www.industry.gov.au/sites/default/files/2018-12/australias-tech-future.pdf" \l ":~:text=Australia’s Tech Future sets out the opportunities and,ensure all Australians can thrive in a global digital economy). > [Accessed 2 October 2021] [↑](#endnote-ref-6)
6. Burning Glass Technologies, 2018. *Labour Insight Jobs* [online] [↑](#endnote-ref-7)
7. National Skills Commission, 2021. *Skills Priority List June 2021.* [online] p.6. Available at:  
   < <https://www.nationalskillscommission.gov.au/our-work/skills-priority-list> > [Accessed 2 October 2021]> [↑](#endnote-ref-8)
8. Australian Computer Society, 2021. *ACS – Demands & Impacts on Tech & Digital Skills White Paper 2021.* [online] p.8. Available at: < [Demand & Impacts on Tech & Digital Skills White Paper 2021 (acs.org.au)](https://www.acs.org.au/insightsandpublications/reports-publications/demand-impacts-tech-digital-skills.html)> [Accessed 30 September 2021] [↑](#endnote-ref-9)
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   3 October 2021] [↑](#endnote-ref-10)
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