Skills for an Economy that is Digitalised

Submission to the Productivity Commission
5-year Productivity Inquiry

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Submission Author

This submission is on behalf of an individual. It is not intended to represent the views of any organisation or any other individual. This submission is based on observations, research sighted, and discussions across a significant period.

The aim for this submission is to set out context for the public policy challenge of skills in relation to productivity and innovation. In doing so, the aim is to also set out a view on the causality driven by the changed nature of the Australian economy. Rather than just set out the problem, which is well known, it also sets out a view on how that challenge may be met.

This is a submission and is not intended as an academic paper, though references are made as appropriate. It is not, and never was intended to be, perfect.

The aim is to seek to provide a view towards the debate of ideas that may drive a better outcome for the contribution skilling may make to productivity and innovation. A view on the importance of that is contained in the submission. As such, recommendations are for the Productivity Commission to make, given its far greater expertise on these matters.

For those that have read drafts of this submission and provided feedback, I thank you for your indulgence and engagement. All errors of grammar are mine.

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Executive Summary

Australia's current National Training System is not fit for purpose. The aim of this submission is to set out the high-level context as to why Australia's current National Training System is not fit for purpose. Most interested people have an understanding of the public policy problem. That is, employers are not getting the right skills in the right place at the right time.

Australia is now a post-industrial, service orientated, globally integrated economy, however it has a national training system structured for an industrial economy. There is a general understanding by some of how Australia came to be at this point of a training system not fit for purpose. The submission sets out a view on why this may be the case, in the belief it is important to clearly understand where we are at with the National Training System and the casualty that got us here. Australia needs an education and training system that faces the post-industrial economy, so the right skills are in the right place at the right time. It is in Australia's national interest as it is skilled people that are critical to Australia's comparative advantage. The way forward in a federated system for training is less clear in addressing the policy problem. This submission seeks to provide a potential north star.

The need for a skills-based approach. A sustainable employer-led skills-based approach that creates a digitally upskilled, job ready workforce may provide the necessary skills employers seek. A skills-based approach that considers job task needs and seeks to align clustered skills to those job roles is a better fit for business. This is especially important given the dominant role small to medium size businesses play in the Australian economy. In this regard for some businesses the concept of a permanent job role has diminished with productivity and innovation driven by the assembling and the dissipating of teams based on skills.

There seems to be two options for Australia. Either we can wait for the tertiary education and training sector to self-correct or Australia can take action now to stay ahead of regional and global competitor nations, by addressing the systemic challenges of vocational education and training (VET).

Transforming VET through an evolutionary pathway to better skill the Australian economy will support businesses to drive Australia's economic growth, to uplift its productivity and innovation, rather than having to turn to government to invest in the economy for growth. Change is not easy. But managed evolution is much more amenable than exogenous disruption.

The quality of the education and training can be difficult to determine at the time of purchase. This applies to employers as much as it applies to learners. For the National Training System, choice in the marketisation of training is at the provider level well removed from the employer. The employer is not as engaged as they may be if they were able to co-design with the training organisation the learning pathway that best suited the cohort of learners and the needs of the employer, within a national system. If employers were able to engage in this way it may benefit the learners in gaining a better understanding of the industry, to determine the training that would be of most value to them.

Latent skills in the economy need to be recognised. A skills-based approach surfaces the latent skills of the workforce, enabling those skills to be recognised and built on in terms of setting up life-long learning.

Qualifications remain important, but in a skills-based approach the choice should be the learning pathway as to how the learner, with employer support, gets to a qualification.

Digital literacy and digital fluency. Australians risk being materially shut out of an economy that is digitalised, and the social and democratic inclusion that comes with material economic participation, if they don't have basic digital literacy.

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1. Introduction

The opportunity to contribute to the Australian Government Productivity Commission's inquiry into Australia's productivity performance as it seeks to recommend productivity-enhancing reforms is welcomed[1]. It is acknowledged this inquiry is a five-year follow-up to the first Productivity Commission report in this series, *Shifting the Dial*, which was completed in 2017[2].

Also, noted is the 2017 report *Supporting Paper 8, Upskilling and Retraining*[3], and especially Chapter 3 of that supporting paper, *Digitalisation is changing the nature of firms*. Much has evolved over the last five years. Australia no longer consists of a digital economy and a non-digital economy. Australia has one economy, already digitalised, with most workers needing at least one digital skill in some form, and therefore every employer an employer of digital skills.

If there is any differential in the Australian economy now it's the degree of sophistication of the digitalisation of industries and firms within sectors of the economy and of the digital skills of those seeking to enter, or already participating in, the Australian labour market.

Given the transformation of the Australian economy to one that is digitalised there has been little corresponding evolution in Australia's tertiary education and training sector, especially the vocational education and training (VET) sector. This is not a recent challenge, as many advisers to governments state and federal, including technical advisory groups, have noted.

Digital is different. The context is global. All Organisation for Economic Co-operation and Development (OECD) countries, and non-OECD developing countries, face the same challenge. All are pursuing a limited global supply of people with professional digital skills. Yet people and their skills are a key pillar to Australia's comparative advantage, being an 80 percent service-oriented economy by value add, and critical to its ongoing economic prosperity.

If 'Australia's qualifications system has been largely unchanged since the 1990s and is no longer fit for purpose'[4], then Australia has a choice. It is clear the structure of the Australian economy has evolved, with the causality being transparent, yet it also appears Australia's tertiary education and training sector has not evolved to match the restructuring of the Australian economy.

Australia can wait to see if its tertiary education and training sector will self-correct and demand and supply of the right knowledge, skills and application of knowledge and skills[5] return to an acceptable state of equilibrium, including through renewed migration (though as noted above all nations are chasing a limited global supply). Alternatively, Australia can act decisively to stay ahead of regional and global competitor nations, by addressing the systemic challenges of VET. Transforming VET through an evolutionary pathway to better skill the Australian economy will support businesses to drive Australia's economic growth, to uplift

[1] https://www.pc.gov.au/inquiries/current/productivity/terms-of-reference
[2] https://www.pc.gov.au/inquiries/completed/productivity-review/report
[3] https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review-supporting8.pdf
[4] https://ministers.dewr.gov.au/oconnor/simplifying-vet-qualifications
[5] Throughout this submission, skills are used to mean skills, knowledge, and the application of skills and knowledge in the workplace, as well as human skills such as critical thinking and collaboration, as related back to the Australian Qualification Framework reform.

its productivity and innovation, rather than having to turn to government to invest in the economy for growth. Change is not easy. But managed evolution is much more amenable than exogenous disruption.

The choice is important. It's in Australia's national interest to get these economic settings right before the Productivity Commission's' next five-year inquiry into Australia's productivity performance, due in 2027.

2. Australia: A Post-Industrial Economy

The Australian economy is already digitalised. The need for digital skills is largely ubiquitous across the economy. This is especially the case since cloud technology became pervasive across all industries driven by the uptake of software as a service (SaaS) and the internet of things (IoT).[6]

As a post-industrial economy, the structure of the Australian economy has changed and by value add it is about 80 percent service oriented. This means a lot of the value add is intangible and relies on skills that connect more closely with job roles that bring value add to customers from across the organisation irrespective of the job role and whether those customers are domestic or international.

Productivity, innovation are the twin pillars of economic growth. Underpinning these twin pillars of growth are people - with richer and deeper knowledge, skills, and application of knowledge and skills - and the application of data, both enabled by technology. People with digital skills are able to secure higher paying job roles, allowing businesses to grow, expand and employ more Australians.

In an open traded global competitive economy, to realise the full economic benefit of the investment in technology, employers need employees to have the skills to be more productive and to innovate through the application of technology. That is, to be digitally enabled. This enables businesses to be more competitive and to better meet customer needs, whether that customer is around the corner, across the country, or international. It is the skilled employee/business owner that realises the value from investments in technology.

For example, digitally enabled small to medium sized enterprise (SMEs) with the digital skills to maximise investments in technology '...have been found to be 14 times more likely to develop new products and services, while businesses that use customer relationship management software have been found to generate 32 per cent more leads and 26 per cent more deals'.[7]

It is the ability to apply technology and to be informed by data insights enabled by technology that will drive productivity and innovation across all organisations in the economy. This relies on skilled people.

Employer demand for skills is not homogeneous. Training must be able to balance the needs of differing employers, across different industries, of different sizes, in different locations with the need to recognise the commonalities of skills across firms, industries, or the economy.

[6] https://technologyonecorp.com/resources/articles/how-saas-is-profoundly-changing-the-relationship-between-staff-and-tech?ref=

[7] https://treasury.gov.au/sites/default/files/2022-03/258735_myob.pdf page 11.

This is especially critical given 99.6 percent of employing business in Australia are SMEs (less than 200 employees) who will lack the capacity to invest in this area.[8]

The economy is increasingly service based which demands a population who are digitally literate. As noted, the Australian economy is already digitalised with the need for digital skills largely ubiquitous across the economy. Cloud technology has become pervasive across all industries driven by the uptake of so SaaS and the IoT. Post-COVID these trends will be more established and enhanced.

As the Productivity Commission's Commissioner Dr Stephen King stated in an August 2022 article, 'Connectivity is growing through the internet of things (IoT), underpinning innovations from global logistics to your new 'smart' video doorbell.'[9] The installer of these smart video doorbells, and who configures these doorbells to the internet, is a technician at the Australian Qualification Framework level 5 or 6.[10] This is a digital worker with an employer that employs digital skills.

If most employees now need digital skills, and therefore are digital employees, then most employers are employers of digital skills, and most skills pathways are now digital skills pathways.

Government is a major driver of digital skills. As an enabler, governments set the rules for the digital economy. They also have a key role in facilitating the infrastructure and skills that underpin productivity improvements.'[11]

As economies grow richer, then more is expected in services from government. Government is increasingly looking to deliver core services through digital means.

The challenge for governments is how to make these services as digitally enabled as possible to drive productivity and innovation in the non-market sector, so better and more services can be provided for the same funding.

A clear example of this is the National Disability Insurance Scheme, which now supports over 500,000 Australians with disability to access the services and support needed.[12] It is noted the Productivity Commission has reported '...the expansion of employment in the services sector has been mainly in government subsidised and regulated 'non-market' services - in particular health care and social assistance...'.[13]

It is a challenge for the market sector, and also across the non-market sector, that a qualification-occupation approach may struggle to meet, where the nature of the service delivery needs to be agile in responding to change and to the increasing individualised nature of demand.

[8] https://www.abs.gov.au/statistics/economy/business-indicators/counts-australian-businesses-including-entries-and-exits/latest-releaseData June 2022.
[9] https://www.pc.gov.au/media-speeches/articles/australias-data-and-digital-dividend
[10] https://www.aqf.edu.au/
[11] https://www.pc.gov.au/media-speeches/articles/australias-data-and-digital-dividend
[12] https://www.ndis.gov.au/ The NDIS was a visionary initiative out of the Australian Government's 2020 Summit, April 2008, and may provide a roadmap, and lessons learnt, for similar evolutionary initiatives with credence goods.
[13] 5-year Productivity Inquiry: The key to Prosperity Interim report page 36

The expansion of employment in the government subsidised and regulated 'non-market' of the services sector generally by its nature has no true market prices to facilitate equilibrium of supply and demand for skills. These employers need to be brought into the education and training system, so their skill needs can be met through co-design of the approach to skilling with educators and trainers, for productivity and for innovation. Without these employers inside the system, they may not get the skills they need.

Employers need to define the skills they want to see in the workplace. Employers will continue to be skill-takers rather than skill-setters if they are not able to lead in determining the skills and proficiency they need in their organisation. Australia needs a tertiary education and training model that allows for the employer lead skill-setting, especially in the growth sectors that include the non-market sector and sectors such as technology.

Australia's tertiary education and training sector, particularly the VET sector, is not able to meet the dynamic fast-moving skills needs of the economy. The issue for our economy, which since the economic reforms of the 1980s-1990s has become increasingly post-industrial, is whether Australia has a tertiary education and training sector, particularly a VET sector, able to meet the dynamic fast-moving skills needs of the economy.

The increase in non-accredited informal training reflects the challenges of the current settings for the National Training System.

Towards employer driven approaches which define the skills needed in the workplace. If supply and demand for digital skills in the economy is unlikely to self-correct under current policy settings, then an alternative approach may be to get to an acceptable level of equilibrium through an employer led skills approach. Centralised planned approaches, in the absence of seeking to maximise the benefit of the market, and without being employer led, may create higher transaction costs for employees, employers and the economy by not delivering the skills needed. There is a cost to bringing new entrants into an organisation and this transaction cost is mostly met by employers. Incorporating localised employer skill needs into a model that meets these needs seems to be critical to success yet may still be undertaken with a national system in mind.

To create a more adaptive and dynamic tertiary education and training system an evolutionary step that is non-disruptive to the stability of the system may be implemented using evolutionary methodology.

3. From Qualifications to Skills for Jobs

The training system is currently focused on qualifications. The current approach to the labour market is generally built on first obtaining a qualification aligned to an occupation, setting aside traditional apprenticeships that are linked to an employer, with qualifications intended to last the working life in most cases. This approach suits a closed non-globalised economy with a stable labour market, where the nature of tasks was constant and people generally tenured to a 'job for life'.

The economy is now more reflective of dynamic job roles with employers seeking people with the right skills to match those roles - that is, skills to undertake job tasks that make up a job role and job clusters (jobs where these have, in the majority, similar tasks).

A focus on skills recognises that people have existing skills for more jobs than they realise, and employers have a wider pool of talent for job roles. Both employees and employers can then identify the small number of additional skills needed, most likely able to be learnt in the workplace, to enable the journey along a skills pathway.

The Role of Skills Pathways. Skills pathways provide a signposted journey that leads an individual and/or organisation to understand the skills necessary for growth. They are created by the market to match the market generated job pathways on which career pathways may overtime be built by the individual. Learning pathways provide an individual with additional knowledge, skills and application, needed for mobility in the labour market, as part of lifelong learning.

In general, it is the market that creates skills pathways based on job roles, and it is the agency of the individual, employer, or at times the educationist or the trainer, that identifies those skills pathways.

Given fully, or near fully, functioning markets are dynamic, then a skills pathway is current for a specific context and time. Skills pathways will evolve as job roles change, and job pathways change.

The Supporting Evidence. There has been a lot of work examining the jobs-skills approach. One example is the work undertaken by AlphaBeta for the Foundation for Young Australians that analysed 4.7 million job advertisements between 2012 and 2015.[14]

Findings included:

- For someone already trained for, or who has worked in one job, there are 44 different jobs that require only one additional skill.
- From analysis of more than 600 occupations advertised, about 4,600 unique skills were identified leading to a similarity of skills that indicated there were seven job clusters in the economy.
- Many technical skills appear across multiple job roles in a job cluster and are not just specific to a single job.

Work undertaken by University of Sydney examined how people actually move through the labour market over time, based on people 15 to 58 years, from 2006 to 2011, and intending to remain in the workforce for at least three years[15]. This work indicated 42 job clusters, in which movement in the labour market tended to be horizontal, or sideways, into specialisation roles or jobs at an equivalent level rather than vertical movement. For example, the study identified movement between the care, clerical, and customer service job roles (therefore an identified jobs cluster).

This is what defines one of the greatest benefits of a skills pathway - economy-wide skill mobility based on the economic value of the cluster of skills that align with jobs. The current job role has tasks from the

[14] https://www.fya.org.au/app/uploads/2021/09/The-New-Work-Mindset_2016.pdf

[15] Business Analytics, Business School, the University of Sydney scholarly research yet to be released.

previous job and tasks from future jobs. The market also creates choice for the individual due to the one-to-many matching nature of skills to job tasks, and to job roles. This may explain the University of Sydney's observation that labour market movement tends to be horizontal.

The Importance of skills and a skills-based approach. Taking this a step further in the evolutionary methodology to address structural challenges with dynamic economies the Deloitte Insights Team, in mid-2022, reported from conversations with leading corporations on *The skills-based organisation: A new operating model for work and the workforce.*[16] This skills-based approach goes further than job roles to an organising framework of:

- *What*: A portfolio of fluid structures in which skills flow to the work, including and beyond the job.
- *Who*: Individuals with a unique portfolio of skills and other attributes, rather than standardised job holders.
- *Decisions Based On*: Skills, rather than jobs, inform workforce decisions from hire to retire.

In a sense this is not unique or revolutionary. Organising within a business by skills has evolved from the nature of the transformed economy. This approach will be very familiar to many Australian businesses already, such as tech companies, organisations that operate by standing up taskforces and innovation hubs and is very common in SMEs that make up 99.6 percent of employing Australian business.

The conversations and the report were based on:

> '…"skills" encompassing "hard" or technical skills (such as coding, data analysis, and accounting); human capabilities or human skills (such as critical thinking and emotional intelligence); and potential (including latent qualities, abilities, or adjacent skills that may be developed and lead to future success).

This skills-based approach was not just from an employer focus but considered the self-actualisation of the individual in terms of '…unique, whole individuals—each with an array of skills, interests, passions, motivations, work or cultural styles, location preferences and needs, and more.'

The business motivation is about applying '...the right talent to the right tasks and projects, and thereby also accelerate business performance.' That is, for the business to drive productivity and innovation to meet customer need. Formal recognition of these skills is still important, which is addressed further below.

The above provides some context when we consider an economy that is already digitalised and most employees, and business owners, needing digital skills. In preparing new entrants to the labour market, and upskilling or reskilling existing employees, solely on a qualification-occupation approach without giving opportunity to gain a qualification through a jobs-skills approach may not serve the learner/employee, firm/industry, or the economy well.

[16] https://www2.deloitte.com/content/dam/insights/articles/us175310_consulting-the-skills-based-org-report/DI_The-skills-based-organization-report.pdf?icid=learn_more_content_click

It is not that we need to totally abandon a qualification-occupation approach to the labour market. We do, though, need to offer 'choice' of learning pathways that are inclusive of all employees/learners, of diversity and of disadvantage, and for the employing businesses.

As the Hon Brendan O'Connor MP, Minister for Skills and Training, stated 'Australia requires a flexible and adaptive training system that includes industry-specific skills and maximises transferable skills across sectors, one that recognises an individual's prior learning and experience.'[17]

4. Choice and A Credence Good

It is more difficult than it should be for employers and learners to engage with the system. The current national training system is unattractive to learners, employees and especially employers and with poor uptake of courses and course attrition at unacceptable levels.

> "Due to transferable skills being poorly recognised, students may need to undertake duplicate additional training that delivers similar skills to those they already have in order to move into a new job. In fact, to move from their first occupation, into a new specialisation, then into management role and into a new industry they could need to undertake 4 qualifications which would take 10 years."[18]

It is very difficult for employers to appreciate the value of post-secondary education and training until people have been employed for a period of time. They have limited information and it is a complex system with which to engage.

> "Currently the VET system has a high number of VET qualifications and micro-credentials with significant duplication, with 56 nationally endorsed training packages, over 1,200 qualifications, 1,500 skill sets, and 15,400 Units of Competency. 5,000 units have more than 70 per cent overlap with at least one other unit."[19]

Similarly, the learner/employee also has limited information on the education and training options available, the employment opportunities, or the job roles within the industry, or the options for job roles. It is likely they will have limited information on what job tasks exist, and what skills are needed.

The value of a qualification. In fast moving job roles, employers will not always appreciate the utility of a person's qualification nor value that qualification. The VET system itself is limited by the uniformity of offerings to the market *as to how training is undertaken*. In the main this is through prescriptive training packages or prescriptive accredited products that in either case must meet The Training Package Organising Framework.[20]

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[17] https://ministers.dewr.gov.au/oconnor/simplifying-vet-qualifications

[18] https://ministers.dewr.gov.au/oconnor/simplifying-vet-qualifications

[19] Credence goods are goods whose qualities cannot be ascertained by consumers even after purchase. Where the employer is not engaged in the training process, for their staff or for new entrants, it is difficult for them to evaluate the effectiveness or impact formal learning or training completed has on performing a job role. Where the system of training is complex and prescriptive it may be that employers opt out and don't use it for any staff training. For employers that do engage, the level of understanding of the formal training product may be on the basis of what they don't like about it.

[20] *The Training Package Organising Framework* consists of the **Standards for Training Packages** that establish the Training Package Organising Framework and specify the design and development requirements of training packages; **Training Package Products**

Where there have been issues of perceived quality of VET, the remedy has mostly focussed on the registered training organisation (RTO) and how the RTO follows, or failed to follow, the prescriptive nature of the formal system product and the process to educate or train with that product.

The marketisation of VET in Australia has focused on user choice of the RTO.[21] For the employer, the choice is a long way upstream. Due to the homogeneous nature of the accredited offerings, the choice for the employer is limited to selecting a VET provider, if any choice is made at all. Where the employer does select a VET provider, whether that is which VET provider to partner with or which new entrant to hire based on the VET provider that trained them, the employer has very little information to inform that choice.

Unintended consequence of limited choice. In these circumstances, price is of little value as an indicator of quality or whether the product is fit for purpose, for the employer or the learner. For credence goods, prices tend to converge irrespective of the value of the good. Low value outcomes are over-priced and high value outcomes are under-priced (to remain competitive).

The employer is the least informed economic agent in the education and training ecosystem. It should not be surprising for employers to prefer the non-accredited market where they are likely better informed, and able to lower risk and transaction costs, as they are better able to co-design the learning pathway.

This is demonstrated by the rise and proliferation of proprietary products in the non-accredited market. To a significant degree, where the employer goes in search of skills relevant to its business, the student follows if the learner is seeking a material job in the labour market with the associated economic and social outcomes.

This increasing tendency of employers to go to the non-accredited market may be fine if the learner is well-informed, or well connected, and not of a diverse or disadvantaged background (and where the economy does not need a labour market maximising productivity and innovation).

The importance of involving employers and training providers in a co-design process. One way to better engage employers is to involve them in the co-design process of the learning pathway and to have ownership of the outcome. Allowing employers to influence the way employees are trained will help to improve the linkage between learners, training providers, employers and jobs. It allows organisations and industries to better inform the learner of the job tasks and job roles on offer by shaping training to match the job tasks and job roles. As noted by Dr Don Zoellner in his research paper *Mature Australian VET markets: a data-driven case study of public policy implementation*[22]

> "VET needs to be re-problematised to assist the governments that created the markets to consider more modern means of vocational skills acquisition and transfer to meet the requirements of the contemporary

Policy outlines the design rules training package developers must adhere to when developing (or modifying) a training package product; and the **Training Package Development and Endorsement Process Policy** outlines the process to be followed for the development of a training package through to approval for implementation.

[21] *Mature Australian VET markets: a data-driven case study of public policy implementation* https://ervet-journal.springeropen.com/articles/10.1186/s40461-022-00133-7

[22] https://ervet-journal.springeropen.com/articles/10.1186/s40461-022-00133-7 page 15.

Australian economy by harnessing government and private sectors to create and increase public value by optimising the benefits of both market and non-market contributions to society."

Where an employer can identify the skills pathways in their firm and their industry, noting many of these skills will be applicable to more than just their industry, the employer can work with the expertise of the educator and trainer to map out the best learning pathway to skill, or up skill, or re-skill people for their industry. By shaping the learning pathway for the desired outcome, the employer will better inform the learner of the job tasks and job roles in their firm and their industry.

This will mean real choice for the employer. While skill sets are available now, these are made up of units of competency from a training package. The advantage of skill sets is these are shorter and cheaper than full qualifications, but they do not offer the broad range of assessed products available, such as proprietary products or other forms of assessed learning or competencies.

By focusing on the skills needed to gain a job role, or to move along a jobs-skills pathway, the expertise of the educator/trainer can surface. Also, by focusing on the robustness of the skills assessment, the burden of the prescriptive regulation on the learning process on RTOs and on learners may be lifted.

This will mean the role of being an educator or trainer in the national vocational system can return to real professional meaning and release public institutes to fulfil the public role expected of them by local communities of their local public institute.

The importance of non-accredited training. To ensure we are accessing the best quality training at the right time it is also important the training system recognises the value and role of both accredited and non-accredited training. To ensure these opportunities can be made available to the most diverse and disadvantaged cohorts the broadest range of opportunities should be available within the national training system and able to attract public funding with the associated assurance mechanisms.

As Dr Zoellner noted, '...after more than three decades the limits of marketisation have been reached due to a limited choice of training products on offer and a clear pattern of reduced diversity of providers.' (page 13).

The place of micro-credentials. The recognition by governments, industry, and employee groups of the need to focus on skills has led to the implementation of a National Micro-credentials Framework[23] - a nationally consistent framework for defining micro-credentials across higher education, vocational education, and industry of:

- VET skillsets or units of competency.
- Modularised, assessed components of existing higher education curriculum or subjects.
- Industry learning that is assessed (such as vendor certifications, professional learning).
- Other forms of assessed learning or competencies (e.g., vocational education, higher education, or industry courses not currently accredited by a regulatory authority, and those by other providers).

[23] https://www.education.gov.au/higher-education-publications/resources/national-microcredentials-framework

The key to the micro-credentials framework is 'assessed'. In seeking to lift the regulatory burden on the VET system, shifting the focus to the assessment is necessary. In doing so, as the National Micro-credentials Framework shows, a broad range of learning pathways is opened up for the employer and for the learner to gain the right skills more promptly.

5. Lifelong Learning and Latent Skills

If productivity and innovation are the drivers of economic growth and more secure and higher paying job roles, allowing businesses to grow, expand and employ more Australians, then one of the underpinning pillars of growth are people with richer and deeper knowledge and skills, and with a greater ability to apply the knowledge and skills to a range of workplace settings. The transformed nature of work requires people to change jobs and thus the need to have transferable skills that are recognised.

The requirement to recognise the importance of lifelong learning. To ensure we can optimise the potential of all types of people there must be a focus on building knowledge and skills to become more productive and innovative. This will shore up Australia's comparative advantage, through its people and the use of data underpinned by technology and open up opportunities for everyone to share in the economic prosperity of Australia, irrespective of background. Only then will we have some assurance as a national community on social inclusion and democratic inclusion.

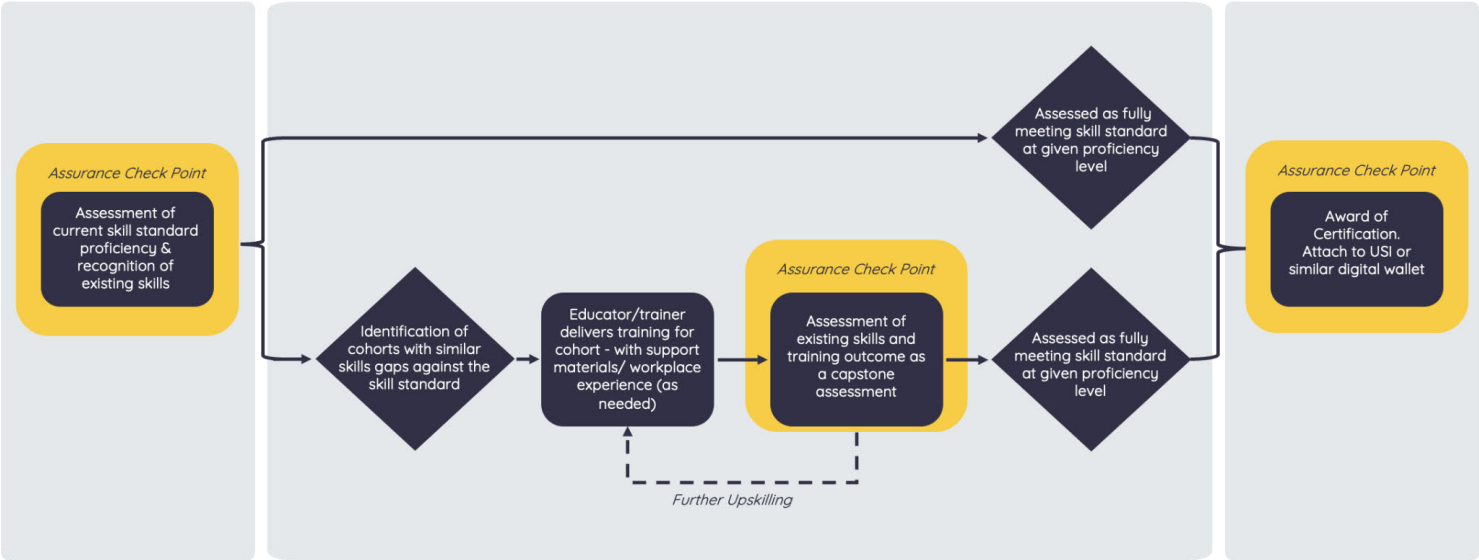
Such an approach will also expand the capacity of the economy, in a time of not just skill shortages but actual labour shortages. We need to expand the skills supply and the capability of the skill supply, as there is a finite supply of labour to the Australian economy, there is global competition for the same skills, and the labour market is ageing. One sector attracting people with digital skills will not solve the skills challenges for another sector. Collectively we need to expand the pie of digital skilled people.

The baseline is latent skills in the economy. We need an approach that recognises existing skills of the individual, that allows these skills to be recognised in the labour market and allows the individual to build on those skills as they journey along the job pathways of the economy, irrespective of their background.

This means a commitment to the self-actualisation of the individual. An individual that has fuller information, not an individual that is asked to engage in a paternalistic system that offers limited choice to the learner.

A key benefit of the skills-based approach. This defines one of the most significant benefits of a skill-based approach in supplying the labour market - recognition of existing skills, irrespective of how learnt, to an industry determined standard. This recognition allows for the building of further skills, and the transferability of skills, within a job role as the job role flexes or morphs in response to movement in the economy, or as that job role moves to a different pathway due to industry restructuring. The skills and the job role respond to the economy, as it is the economy that is the creator, rather than being stranded by an occupational definition and a long ago learnt occupation-based qualification.

Figure 1: Notional example - Learning Pathway of a Skills Based Approach, Journey to Recognition



To assist the reader in understanding the skills-based approach, Figure 1 above sets out one possible example. This is not a recommendation of a model as such, just a demonstration of what is possible. In this example:

- Employers (firms/industries/sectors) determine skills standards (knowledge, skills and application) and the required proficiency level for on-ramping to job pathways across their firm/industry, or for moving along job pathways.
- Assurance for skilling, upskilling, or reskilling is at the points of 'assessed'. It is on the assessor that the skilling, upskilling, or reskilling assurance burden rests.
- Any assessment can be 'brought up-front' to assess for existing or latent skills of the individual, allowing individuals to be aggregated into like cohorts (or in the case of on-line, cohorts of one are possible).
- Where an individual, irrespective of how learnt, meets all the requisite skill standard requirements then recognition may occur at this point allowing the individual to undertake other further education and training to build on this recognition aligned to their intent of movement along job pathways.
- Where cohorts need further skilling, the employer with the educator/trainer may co-design the learning pathway based on 'assessed' products as set out in the National Micro-credentials Framework. This allows the expertise of the educator/ trainer to surface, by lifting the regulatory burden, and allows for a cohort of similar needs to receive wrap-around support including for employability skills.
- A capstone assessment against the skill standards may then be made and, if required, additional skilling given before recognition is awarded.
- Where, in most cases, the skilling includes workplace integrated learning, again co-designed with employers, then there should be a much higher rate of completions and employment, as individuals are then well equipped for the firms or industry.
- Engagement of employers in co-design of the learning pathway, and inclusive integrated workplace learning, means assessment, while at an agreed skills standard and proficiency level, may be contextualised to an employer's workplace setting.

For governments, the opportunity cost of the next dollar currently spent on VET must have very low marginal returns, if not negative utility to the economy and that individual. Let alone the negative net social return on investment through learners and employees investing in formal training, failing or being ill-equipped, and never returning.

We can do much better, for the economy, employer, individual, and for government by shifting the national training system to a skills-based approach. The starting point is to recognise the latent skills in the economy, allow employees to build on these skills through lifelong learning, to become more productive, more innovative, and to undertake their journey across the economy.

6. Qualifications

Qualifications remain important. They provide a signal to the market of accumulated knowledge skills and application of knowledge and skills. Qualifications also provide intrinsic value to the individual and to the community.

A skills-based approach is a complementary pathway to a qualification and to existing learning pathways. Adopting a skills-based approach should mean qualifications have more relevance. It should mean there is greater flexibility for the learner, and the employer, to draw on an appropriate and better fit-for-purpose range of assessed products in higher education, vocational education and training, and in the current non-accredited space to build learnings for more relevant qualifications. In doing so, it should position the individual for on-going lifelong learning by customising the qualification outcome shaped to the employer market and to the individual's need.

A skills-based approach will build an individual's self-actualisation from being able to design a learning pathway that best meets their passions, characteristics and life-style choices, where this is informed by more relevant information. As noted above, bringing the learning pathway co-design closer to the employer/ firm/ industry should lead to a better-informed learner.

Opening opportunity through learning pathways. In terms of applying technology to the learning pathway, the nth degree is learning pathways that may be highly individualised by consisting of assessed products from around the corner, across the country, or internationally, integrated through technology for that cohort or even to the individual. As long as the learning product outcomes are 'assessed', contextualised to the workplace and demonstrating the proficiency level of an industry agreed skill standard.

It brings the best of breed assessed products directly into the Australian economy through the education and training interface with an employer seeking skills to remain globally competitive (in a digitalised global setting). It may also tend to point Australian qualifications towards global recognition both for international businesses operating in Australia and for employees operating offshore, who are then able to bring that experience back to the Australian economy.

Rethinking qualifications. People are our comparative advantage. We need qualifications that signal to the global market this is the case. Our skilled people are one factor, along with others such as low sovereign risk, that attracts onshore global investment and re-locations for global firms' operations. These jobs tend

to be more secure and higher paying, generating taxation outcomes to Australia, and opportunity and reward to employees.

This global better practice reach for 'assessed' learning products, and skilling to commence a lifelong learning journey, may be aggregated across sectors of the economy to create broad based sectoral qualifications. This is especially for those new to the labour market or on the fringe of the labour market.

As noted above, AlphaBeta for the Foundation for Young Australians in analysing 4.7 million job advertisements between 2012 and 2015, found someone already trained for or who has worked in one job, there are 44 different jobs that require only one additional skill and many technical skills appear across multiple job roles in a job cluster and are not just specific to a single job.[24]

This means there is commonality of skills within sectors of the economy (and in some cases across sectors). If 44 different jobs only require one additional skill, then there should be capability to generate a qualification that recognises those skills. While contextualising assessment to employers' workplaces should make new entrants, and transferability to other job roles, more of a match. No training can fully prepare an individual for a job role, without employer investment in on-the-job skilling. Nor should it from a return-on-investment perspective. And nor do employers seek that perfect outcome from the education and training sector.

The need for flexibility. The balance between skilling from the system and skilling acquired through a job pathway journey, may vary from sector to sector (perhaps according to risk), but identifying common skills should enable generation of fundamental qualifications for sectors of the economy, or even across the economy.

For example, infrastructure, mining, and extraction industries clearly have fundamental common (interchangeable or easily transferable) skills across those industries. The market has proved that time after time. When there is a mining boom, employees are enticed by market forces out of construction into mining (and vice versa), driven by supply and demand pricing of labour and skills. Across the broad human services sector, there is only one human mind and only one human body that indicates many of the required skills are common across multiple job roles. There are more technology workers with 'non-tech' firms (banking, large retail, public sector) than with tech firms. Service is service and it is great service when product knowledge is added. But the service sector fundamentals are generic to a large degree.

7. Unique Case: Digital Literacy and Digital Fluency

The need for digital skills is largely ubiquitous across the economy mainly driven by SaaS and IoT. These skills are common in demand skills, especially across the 99.6 percent of employing business in Australia that are SMEs.

If most workers are digital workers, then most employers are employers of digital skills, then the economy is already digitalised. An entry to materially engage in the economy, to open up the opportunity to share in

[24] https://www.fya.org.au/app/uploads/2021/09/The-New-Work-Mindset_2016.pdf

economic prosperity, should be irrespective of background. It is not, though, if a level of digital literacy and digital fluency is lacking.

As English literacy and fluency are foundational to engage in the economy, so is digital literacy and digital fluency in a digitalised economy. These are now economy-wide common skills.

This is the future here now. There are likely few technician jobs, if any, in the economy that don't require digital skills. It is not that technician jobs have disappeared or been automated. It is these job tasks have flexed and morphed to an economy that is digitalised. Digital literacy and digital fluency are foundational to building digital technical skills to enable material engagement in the economy.

The Education Council *Looking To The Future* report of June 2020 recommended the expectation of minimum literacy, numeracy, and digital literacy standards and if '…students leave school without meeting these standards, they should be given ample opportunity and support to achieve these proficiency standards later.'[25] This report was pre-COVID, whereas post the pandemic greater digitalisation of the economy is apparent and indicators are students study may have suffered due to lockdowns. It is urgent this nation takes action on an agreed digital literacy standard and seeks to action the Education Council's recommendation. The economy will not wait for those ill-equipped to materially participate.

The need to assess and measure digital literacy. In adopting a skills-based approach to post-secondary education and training, a skills assessment for digital literacy that recognises cohort need, and then provides public funded support to upskill to an agreed digital literacy standard across the economy, recognised through a national qualification driven out of the VET system is needed. It would go a long way to setting up an individual for lifelong learning. It would also encourage recognition of existing skills and be a strong social inclusion measure. A role perhaps for educationalists. It is already being seen, as has occurred with other literacy deficits, individuals disengaging through an unwillingness to self-identify a need for support to meet digital literacy standards, becoming further isolated from the economy and society.

Helping individuals to become more skilled, more productive, and more innovative starts with recognising existing skills. Ensuring everyone has the opportunity to materially engage in the economy, share in its prosperity, requires an agreed economy wide standard for digital literacy and digital fluency.

8. Conclusion

This submission canvases the macro context as to why Australia's current National Training System is not fit for purpose. The aim is to consider the key structural issues needing to be addressed. As a result, it covers many aspects of the National Training System, specifically those that are most important to address.

Importantly, while it sets out a view on the public policy challenge and an understanding of how we got to the stage of a National Training System not fit for purpose, the submission sets out a potential way forward based on a skills-based approach to education and training for an economy that is digitalised.

[25] https://apo.org.au/sites/default/files/resource-files/2020-07/apo-nid307138.pdf page 20

While the submission frames the new order of the economy being based on jobs-skills, it also sets out recent trends where the nature of a job may no longer be as applicable, as businesses that are dynamic and agile due to the demands of the market establish and dissipate teams as needed based around skills.

Australia needs education and training that meets the needs of those who learn in an applied way, and in many senses their time has arrived again given the need of employers for applied skills. Also needed is education and training that meets the needs of diverse and disadvantaged cohorts so they can materially engage in the economy.