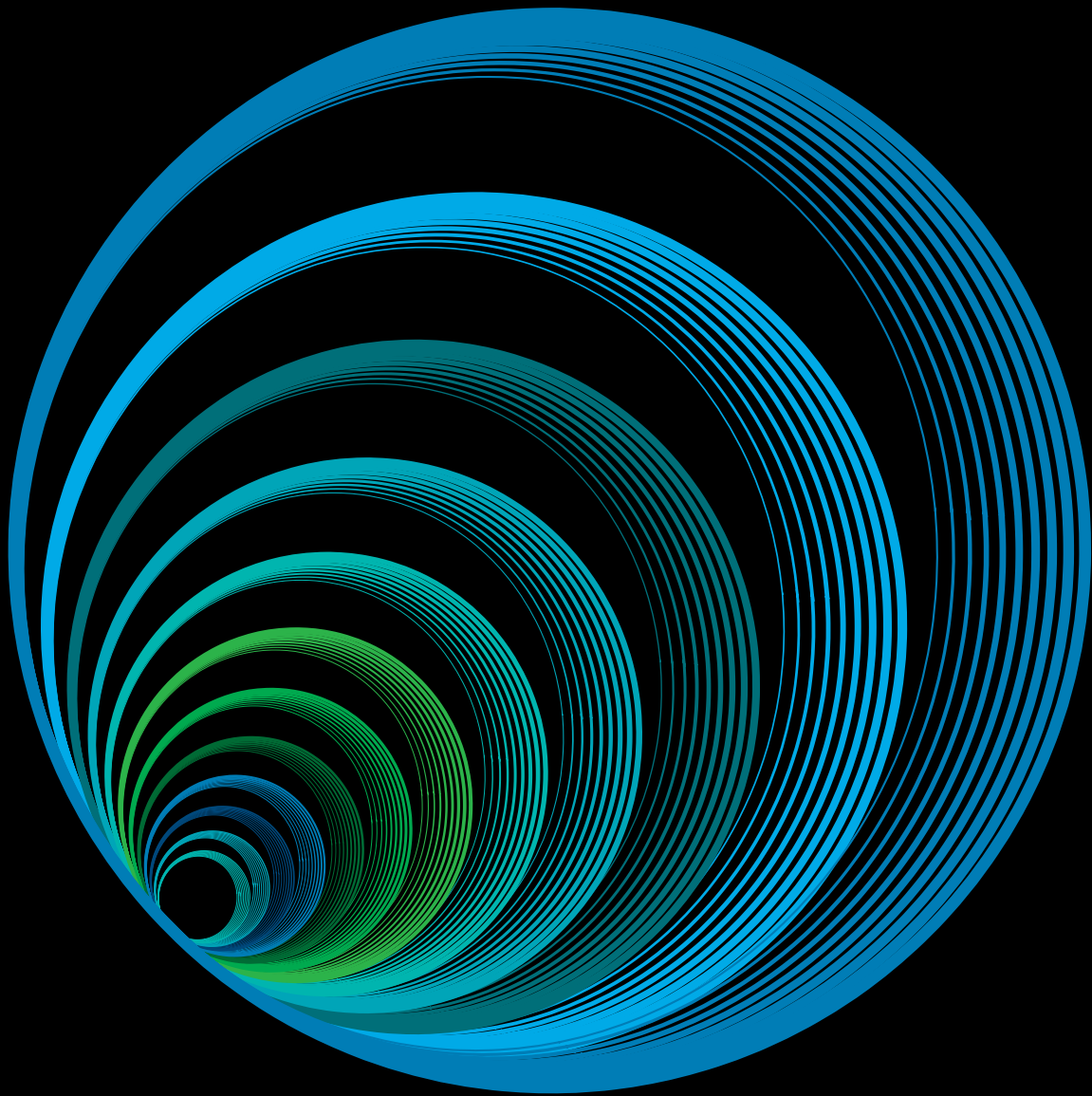


Deloitte.



Higher education for a changing world
Ensuring the 100-year life is a better life

About the survey

Deloitte commissioned a survey to gather information about current Australian workers' attitudes towards lifelong learning, and the needs and preferences of those who are interested in further education and training.

In the survey, we asked nearly 4,000 Australians aged 18 and over who are currently or have recently been in the workforce for their view on further study. Over 2,000 respondents either have recently completed study, are currently studying or intending to commence study in the next three years. We then asked this cohort further questions about how education providers could best meet their educational and training requirements.

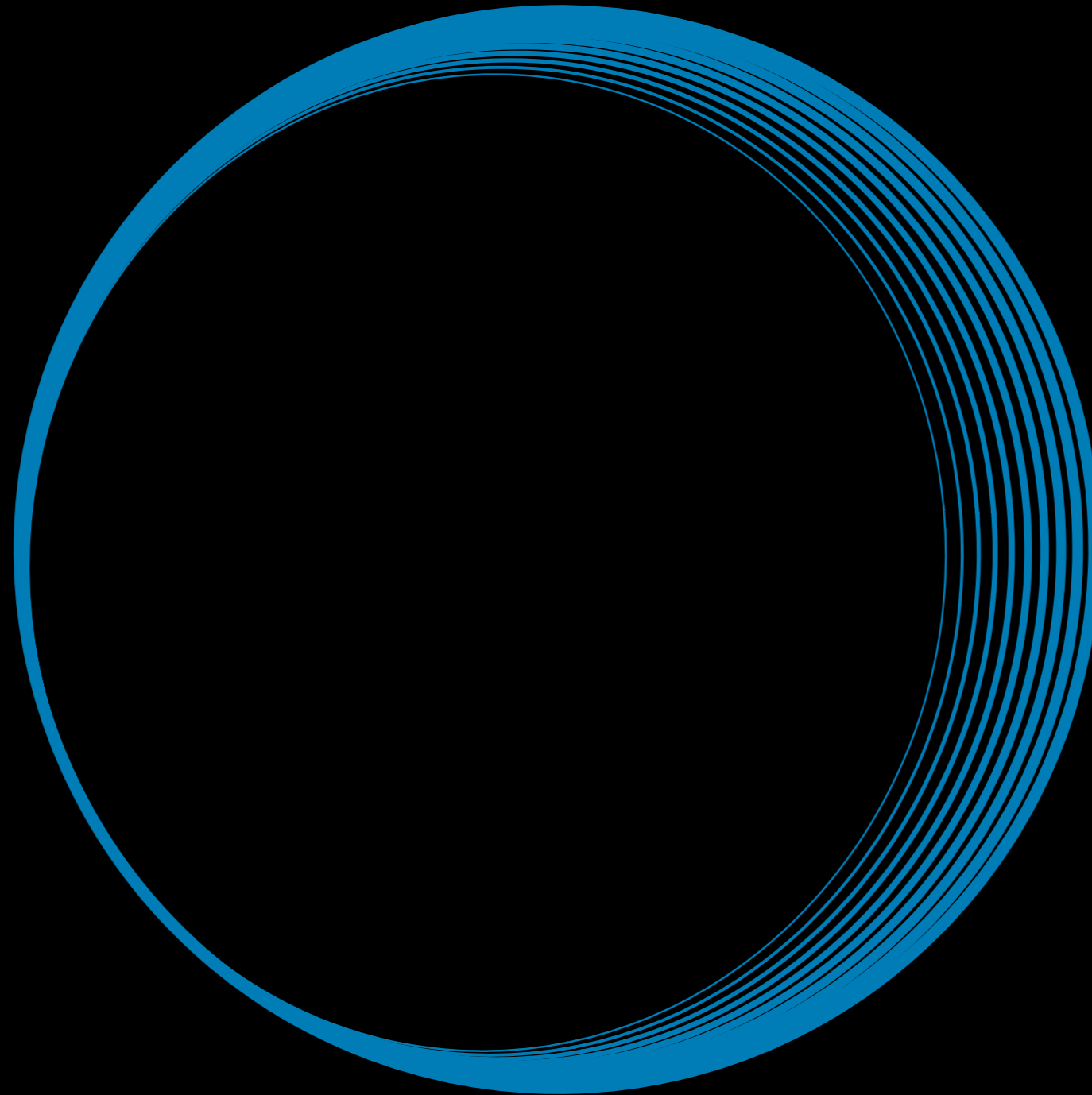
The survey was fielded throughout July 2018, and was nationally representative across age groups, genders and locations. The distribution of respondents across industry and occupation was monitored throughout the survey fielding period to ensure that the sample represented various industries and occupations. A summary of the survey method is provided in the Appendix.

This survey was designed by Deloitte and administered by Research Now.

Terminology and definitions

Study-interested workers

We use the term 'study-interested workers' to describe workers who have either recently completed study in the last three years, or those who are currently studying, or those who intend to commence study in the next three years.



Contents

| | |
|---------------|----|
| Introduction | 05 |
| Key finding 1 | 14 |
| Key finding 2 | 18 |
| Key finding 3 | 24 |
| Key finding 4 | 30 |
| Conclusion | 38 |
| Appendix | 40 |

“Just as globalisation and technology changed the way we lived and worked, so will increasing our longevity.”

Lynda Gratton and Andrew Scott,
The 100-Year Life: Living and Working in an Age of Longevity.

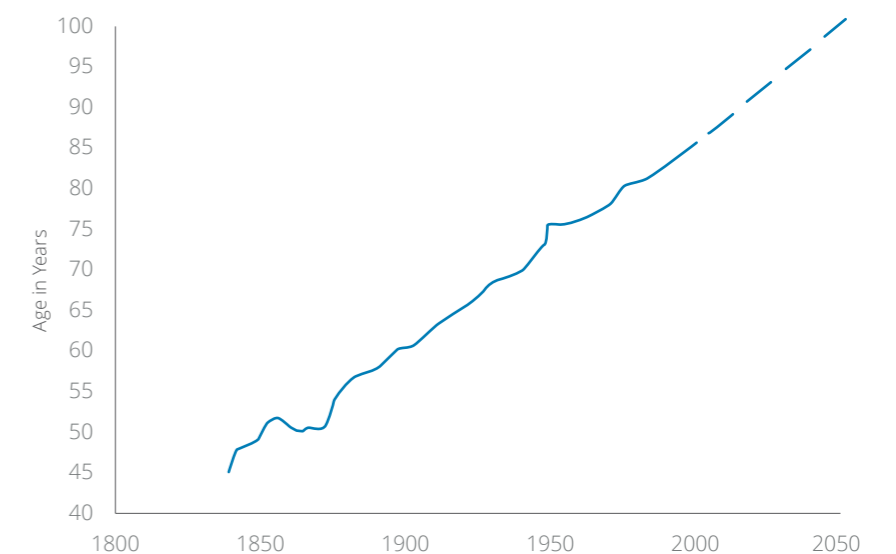
Introduction: The 100-year life

How many living centenarians do you know?

If you do know any, chances are you will know very few. However, in the not too distant future, centenarians will be far more common. As Lynda Gratton and Andrew Scott describe in their book *The 100-Year Life: Living and Working in an Age of Longevity*, around half of those aged 20 today can reasonably expect to live to 100. To put this into perspective, those who will live to 70 can expect to have approximately 124,000 productive hours in their lifetimes, while those who will live to 100 can expect to have around 218,000 hours at their disposal¹. This means a lot more time to live, create, work, recharge, and spend time with family and friends.

This shift has been occurring over a long time. Due to scientific advances over time such as tackling infant mortality, cardiovascular disease and the reduction of smoking rates, there has been a steady increase in life expectancy of three months for every year, equating to an additional two to three years life expectancy for every decade since 1840. Figure 1 demonstrates that although these changes have been occurring incrementally over decades, life is now much longer than it used to be with no sign of this slowing.

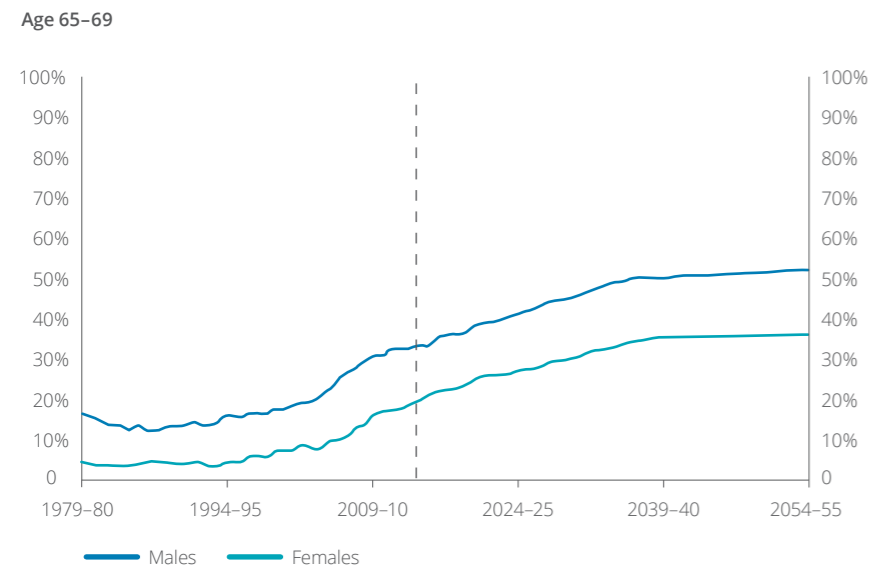
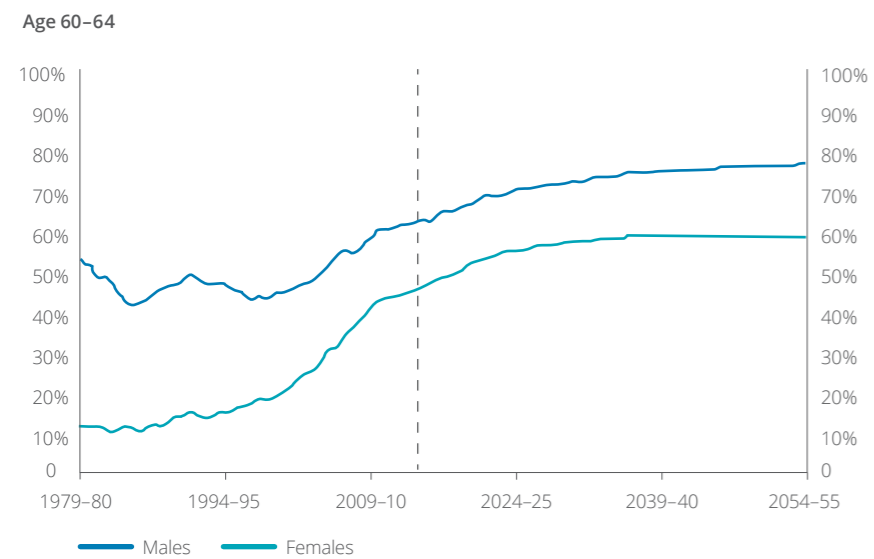
Figure 1: Best practice life expectancy



Source: Calculated using data from Human Mortality Database, University of California, Berkeley (USA) and Max Planck Institute for Demographic Research (Germany). Available at www.mortality.org. For an explanation, see Broken Limits to Life Expectancy by Jim Oeppen and James Vaupel, *Science*, May 2002, vol.296

1. Gratton, L. and Scott, A. (2016) *The 100-Year Life: Living and Working in an Age of Longevity*.

Figure 2: Participation rates – history and projections by age group and gender



“What does it mean to have a career today? More specifically, what does it mean in a world where careers span 60 years, even as the half-life of learned skills continues to fall to only about five years? In the past, employees learned to gain skills for a career; now, the career itself is a journey of learning.”

Rewriting the Rules for the Digital Age: 2017 Global Human Capital Trends, Deloitte University Press²

2. Deloitte University Press (2017) *Rewriting the Rules for the Digital Age: 2017 Human Capital Trends*.

We know that Australians are already working for longer. As the most recent Commonwealth Treasury Intergenerational Report shows (Figure 2) in the 34 years between 1980 and 2014, labour force participation rates for those aged 60-64 rose from 56.7% of men and 17.4% of women to 64.1% of men, and 34.8% of women³. Treasury predicts that in 2055, these rates will increase to 77.6% for men and 52% for women. Labour force participation rates are similarly expected to grow for the 65-69 year old age bracket. This represents a remarkable increase in mature aged workers across our industries into the future. From the basis of such trends, Gratton and Scott estimated that people will work well into their 70s or 80s, which translates into a 50-60 year career⁴.

Of course, we will not just be working for longer; how we work and what we work on will also be different, because the employment landscape and the nature of work itself is also changing dramatically. In addition to the anticipated change in age demographics of workers, which has inspired the research in this paper, we also know that rapid advancements in technology including robotics, artificial intelligence, sensors and big data will continue to transform the way we work.

3. Australian Commonwealth Treasury (2015) *Intergenerational Report 2015*.

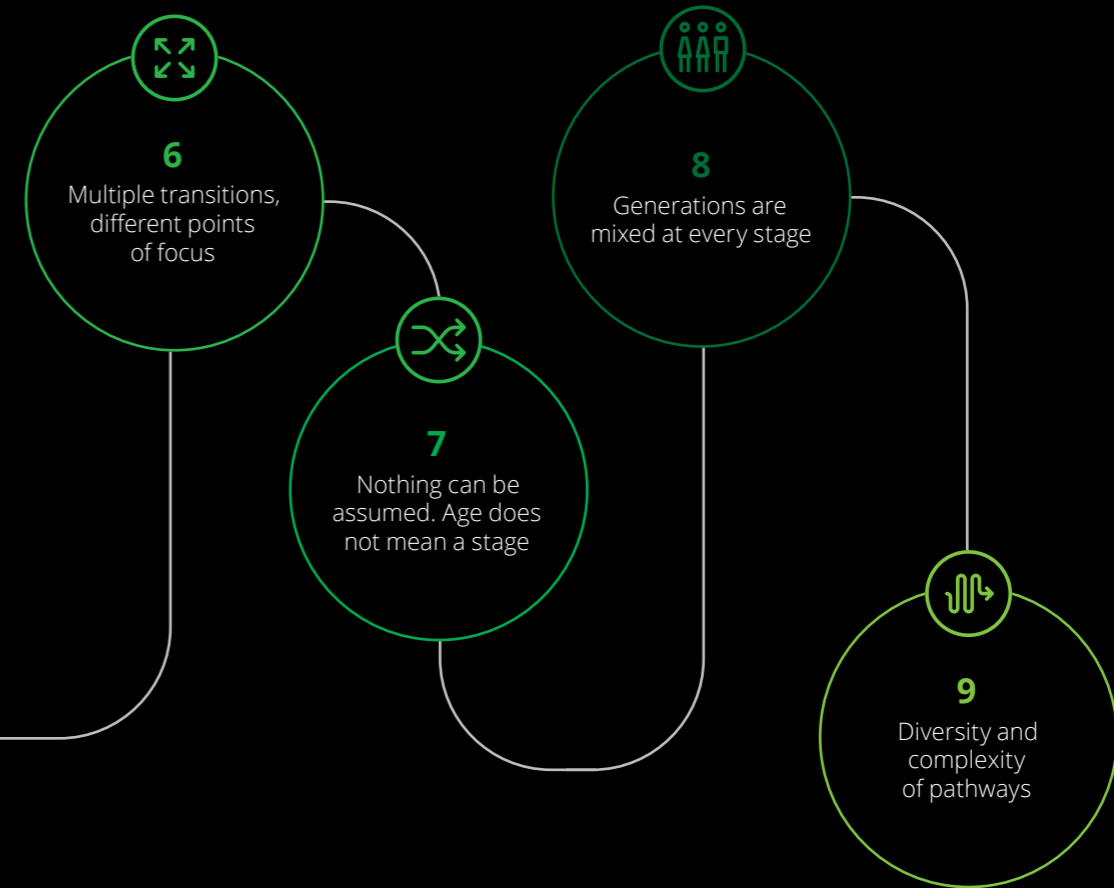
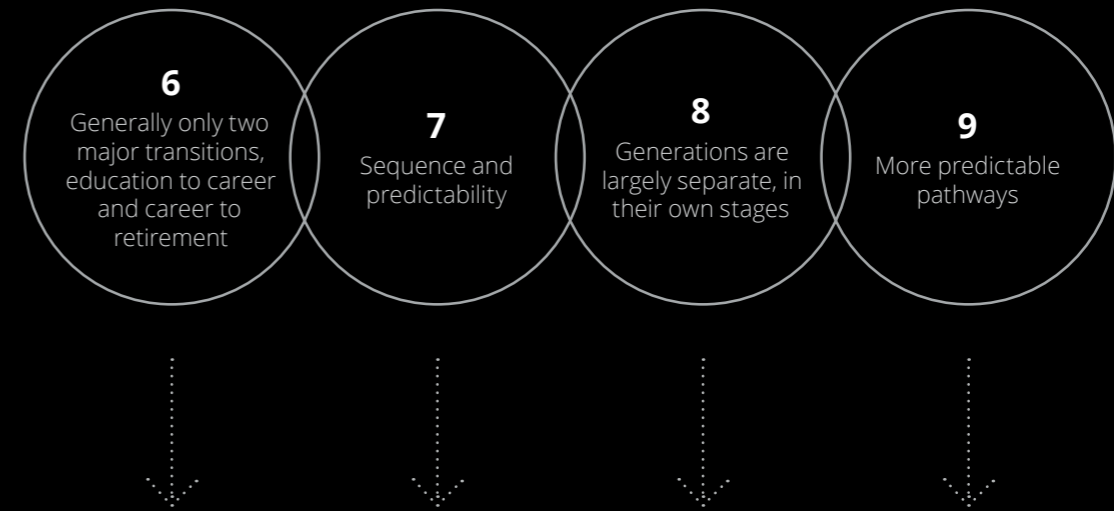
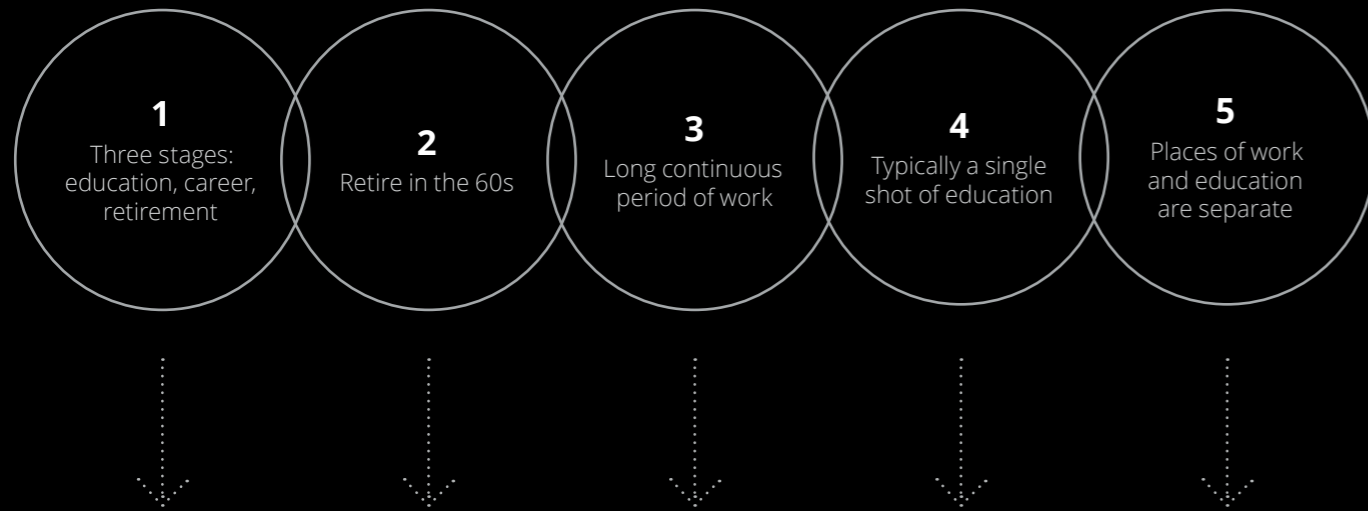
4. Gratton, L. and Scott, A. (2016) *The 100-Year Life: Living and Working in an Age of Longevity*.

Past technological revolutions – mechanisation, electrification, computerisation – have also radically reshaped work, jobs, and the organisation of business and society. What is different this time is that today’s advances in digital technologies are remaking not just manual and manufacturing labour, the focus of past revolutions, but every sector of the economy and society and the pace of change is much faster than ever before.

Although we have known for some time that the traditional notion of a linear three-stage life beginning with a ‘single shot’ of *education*, transitioning into a long, usually unbroken stage of *work* (notwithstanding family commitments) before entering *retirement* to ‘hit the golf-course’ is no longer suitable, the three-stage life model continues to be prevalent.

It is fair to say that the societal and institutional constructs that provide the scaffolding from which we orchestrate our lives have not yet adapted sufficiently to enable us to navigate the multiple transitions between learning, working and leisure that we need to keep up in a rapidly evolving world. Although our workplaces, for instance, are becoming more flexible, they are still not yet as conducive to study and life breaks as they could be. Such breaks continue to be the exception rather than the rule. And although in the context of a 100-year life, 65 is not old, it is still considered the entry-point into ‘old age’. Most higher education study programs today involve the delivery of full-degrees over extended periods. Although these qualifications are highly suitable for some students, they are not always suitable for adults working in rapidly changing jobs.

Traditional linear life



100-year life

Education and training to support the 100-year life

The 100-year life has significant implications for education and training.

Champions of education and training in Australia have long signalled the virtues of lifelong learning as a means to navigate increasingly complex career structures and to enrich lives. To ensure that our *longer* lives are *better* lives, we will need to engage much more frequently in education and training as we get older, continuously updating and refreshing our knowledge and skills not only to enable us to keep up with the accelerating pace of change across the industries in which we work, but also to revive and inspire us to make transitions in every stage of life.

Australian higher education trends data shows there has been little proportionate change in higher education participation by age-cohort over the last decade or so (see page 11). Participation data does show, however, an increased proportion of domestic students choosing to study via 'external' study modes (generally meaning fully online) in both full-time and part-time capacities.

The extent to which employers feel that the current tertiary education system is preparing labour market entrants is a perennial debate. There has also been a strong focus on the education and career motivations and preferences of millennials⁵. Little, however, is in the public sphere about the contemporary attitudes, needs and preferences for lifelong learning from current Australian workers.

To begin to address this information gap, we designed a survey of current Australian workers to better understand their views and intentions in relation to further education and training. For those interested in further study, we asked additional questions to gain insights into:

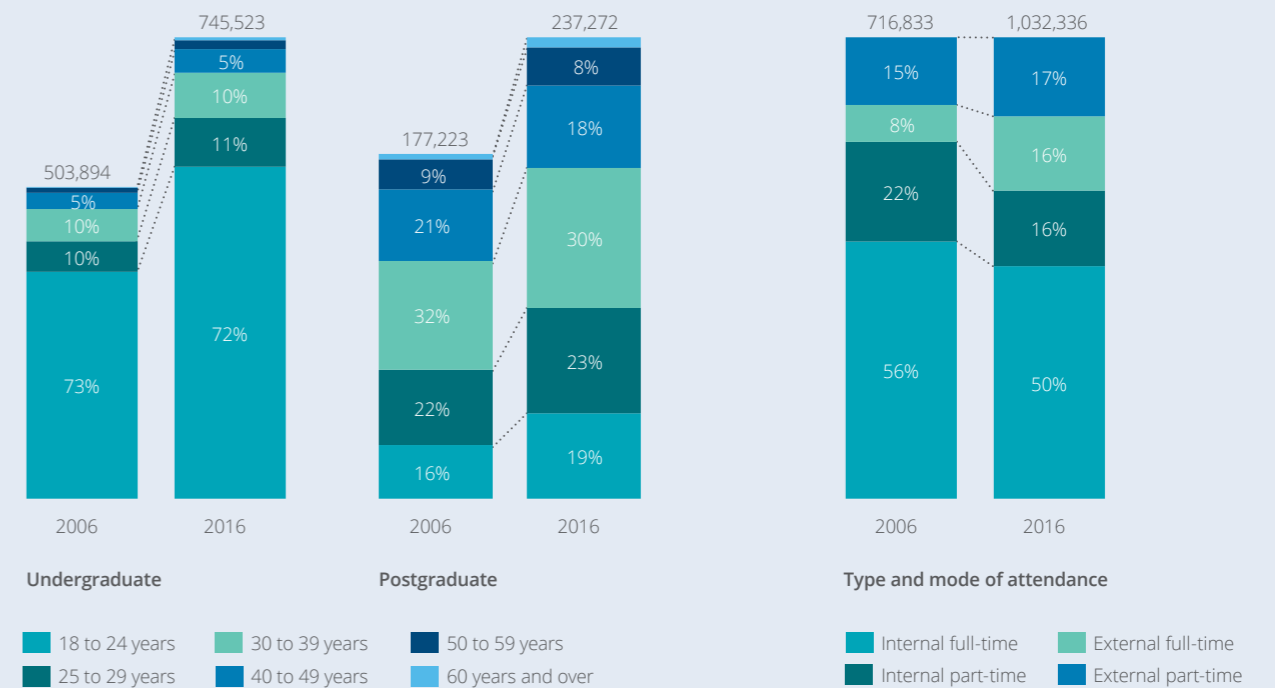
- Their motivations and perceptions around further education and training
- Their preferred study modes, ideal time commitment and time constraints
- The level of interaction they expect from industry to support their learning
- The extent to which they believe their jobs and careers may change in the future

We were also curious about the extent to which study-interested workers are aware of emerging education models and offerings, such as micro-credentials and whether they would consider learning at non-traditional providers, including massive open online course (MOOC) platforms.

The survey was nationally representative across age groups, genders and locations. The distribution of respondents across industry and occupation was monitored throughout the survey fielding period to ensure that the sample represented various industries and occupations⁶. Our survey provides a point-in-time window into the minds of the Australian workforce, spanning industries and age demographics. What we uncovered is a story of positivity and possibility. *Positivity*, because the majority of Australia workers clearly see the personal and professional benefits of engaging in education throughout their 100-year lives. *Possibility*, because of the range of opportunities that the data unveils for us, as a society, to innovate through targeted design of our workplaces and education products and experiences to make lifelong learning a reality for everybody.

Our survey has four key findings which, although they might seem intuitive, provide us with Australian workers' contemporary views towards further education and training and insights into what those who are interested in further study really want.

The overall proportionate age demographics of domestic higher education students have not changed significantly; however, mode of study trends are shifting.



While younger learners still dominate the higher education student population, those aged over 30 accounted for 47% of total increase in domestic postgraduate enrolments in Australia between 2006 and 2016.

Advances in digital learning have enabled an increased proportion of students to study full-time through partially or fully online options.

Note: External study mode in the above refers to off-campus study, which is primarily online.

5. See for example, the *Deloitte Millennial Survey 2018*.

6. Refer to the Appendix for a summary of the survey sample



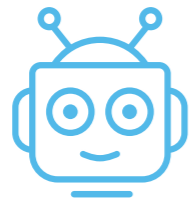
1. The multi-stage life model is still in its infancy: although the majority of surveyed Australian workers are 'study-interested'; enthusiasm wanes as we age and among those who potentially stand to benefit most.

55% of Australian workers surveyed across all age groups either have completed study in the last three years, are currently studying or are planning to undertake further study in the next three years.

31% of Australian workers surveyed are currently studying while **37%**⁷ plan to commence further study in the next three years. This includes formal and informal study.

Younger and high-skill workers in technical industries are more likely to be interested in further education and training.

75% of workers who did not complete any study in the last three years do not have any plans to pursue further study in the future.



2. Alert but not alarmed: study-interested workers know the *robots are coming*. But they have a plan.

12% of study-interested workers think their job will not change in the next 10 years.

One in three study-interested workers believe that technological change will be the most significant disruptor of their current job over the next 10 years.

68% of study-interested workers think it will be an enabler towards the achievement of their career goals.

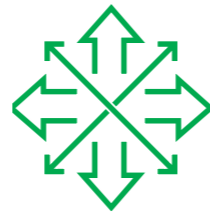
36% of study-interested workers are willing to cover the full costs of further study themselves and a further 30% are willing to cover partial costs.



3. Keep it real: study-interested workers prefer education and training *linked closely* to their jobs and industry.

31% of study-interested workers expect education providers to collaborate with industry to deliver content.

68% of study-interested workers place more importance on skill-based training than formal qualifications.

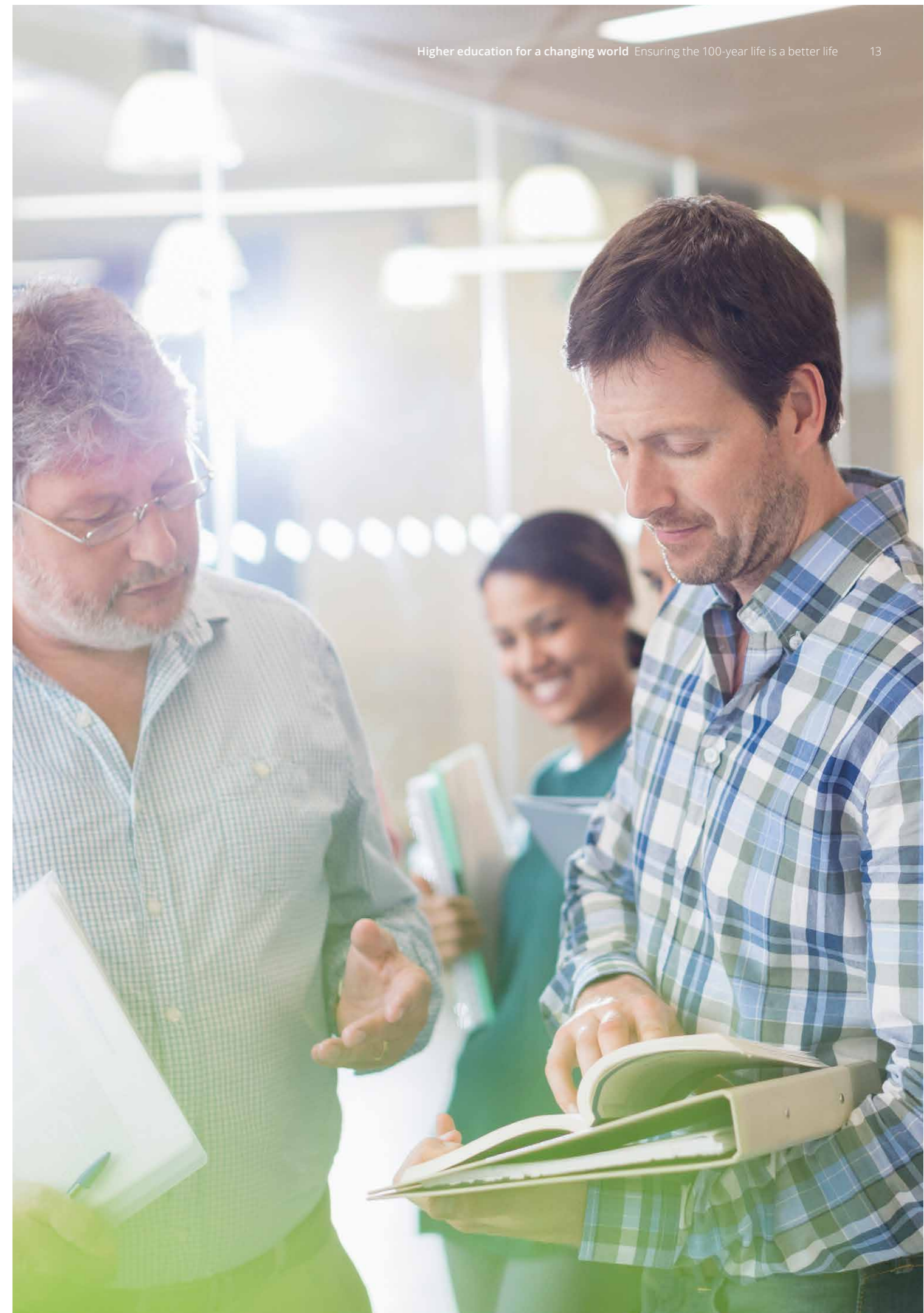


4. I'll work around you: study-interested workers want *flexible* and bite-size learning from tertiary providers.

78% of study-interested workers are willing to access study through Australian higher education and/or Vocational Education and Training (VET) providers in the future..

78% of study-interested workers want at least half of their learning content delivered online.

45% of study-interested workers prefer 'bite-size' intensive learning.



7. This includes workers who are currently studying.



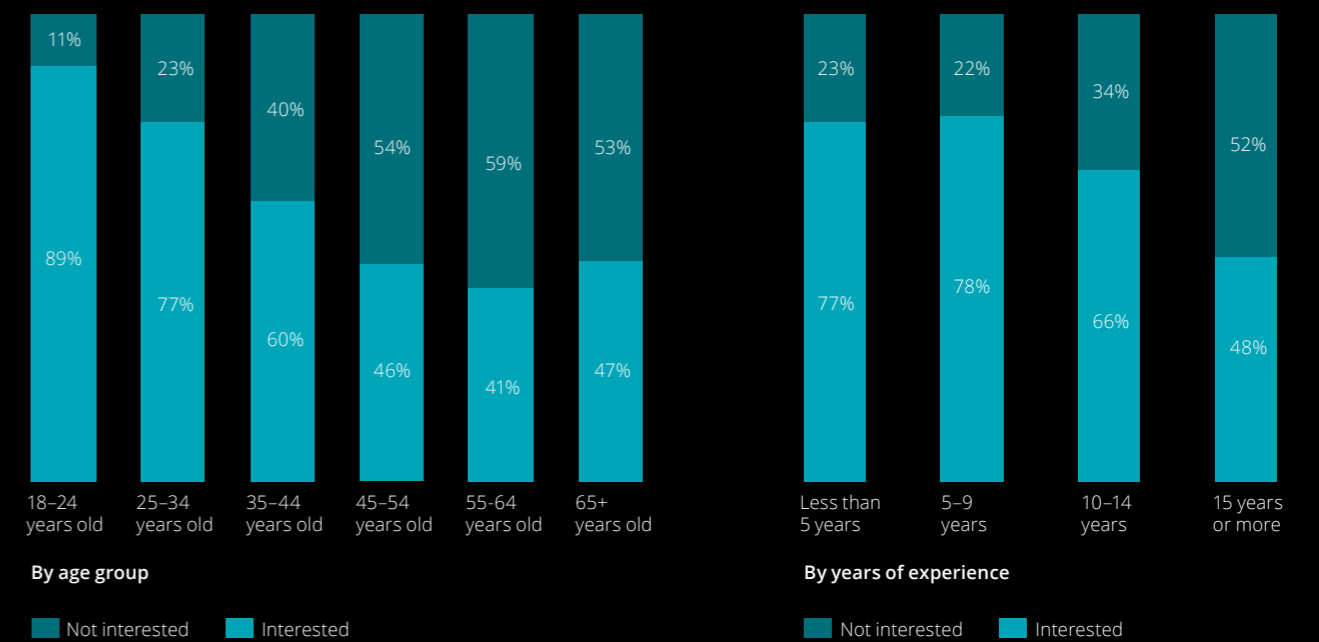
Key finding 1

The multi-stage life model is still in its infancy; although the majority of surveyed Australian workers are *'study-interested'*, enthusiasm wanes as we age and among those who potentially stand to benefit most.

In our survey, we identified workers who have recently completed study in the last three years, those who are currently studying or those who are planning to commence further study in the next three years as study-interested workers. The overall picture is positive: 55% of the Australian workforce surveyed are study-interested. However, there are

different levels of interest and engagement across age groups. The survey found that younger workers and those with less experience in the workforce are more likely to be interested in further study, while 52% of those with more than 15 years' experience have not and do not plan to study in the near future.

Figure 3: Current workers' attitude towards further education and training by age group and years of experience



Across the Australian workforce, 37% of workers are planning to commence study within the next three years. Of these workers, 58% are currently studying and 70% have recently completed study, pointing to the importance of an initial taste of learning to continuous development.

In contrast, 75% of workers who did not complete any study in the last three years, do not have any plans to pursue further study in the future. Of this cohort, 48% are between 18 and 54 years old, which means they are expected to continue participating in the labour workforce for at least 10 years and likely more, as we are working longer. It appears that when workers reach around the age of 35, life commitments have taken over and studying becomes less of a priority.

These findings suggest that the barriers to entry to continuous learning and development for Australian workers must be carefully understood and addressed.

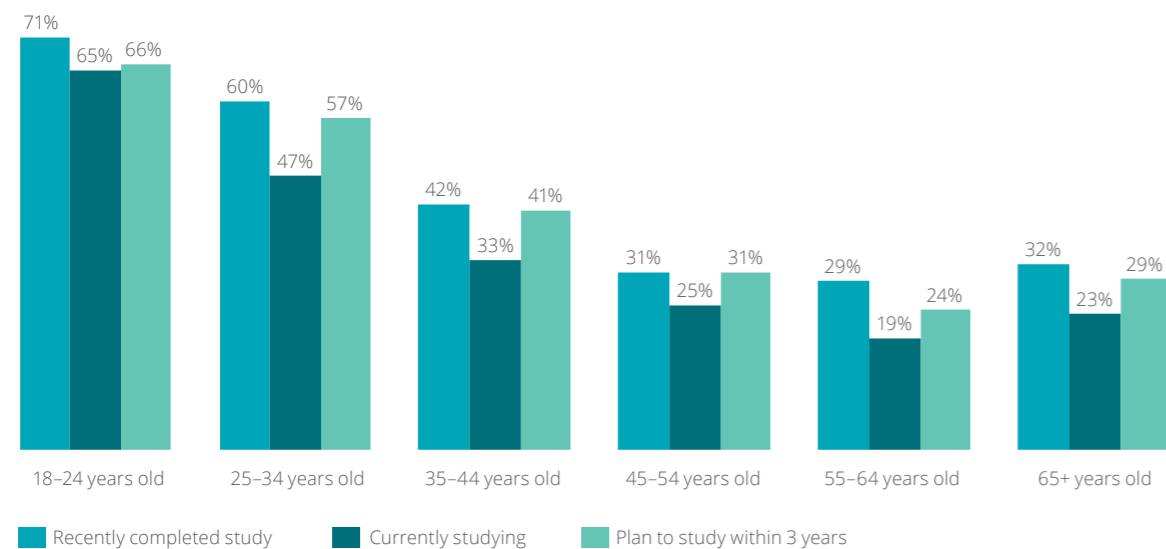
On aggregate, there is little difference in interest in further education and training by gender; however, female workers between 25 and 44 years old are more likely than their male counterparts to be currently studying (66% compared to 54%). Similarly, interest and demand for further education were found to be consistent across all Australian states.

There are however significant variances in the level of interest across industries and occupations. Knowledge intensive workers, i.e., those in managerial and professional occupations, are more likely to be interested in further study. In contrast, workers in manual occupations

including labourers and machine operators are less likely to be interested in further study. As this cohort of the labour force is more likely to be negatively impacted by the rise of automation and technological shifts⁸, it is crucial that government and education leaders understand their barriers to further training in order to better meet their needs.

Examining trends across industries, we found that surveyed workers in energy and utilities, arts and recreation services, information media and telecommunications, transport industry are most likely to be study-interested, whereas only 4 in 10 workers in the transport industry have either recently completed, are currently studying, or plan to study in the near future.

Figure 4: Current Australian workers' activities and plans for further education and training



8. Payton, A., and Knight, G., 2018, Skills for a global future, NCVET, Adelaide.

Figure 5: Current workers' attitude towards further education and training by occupation

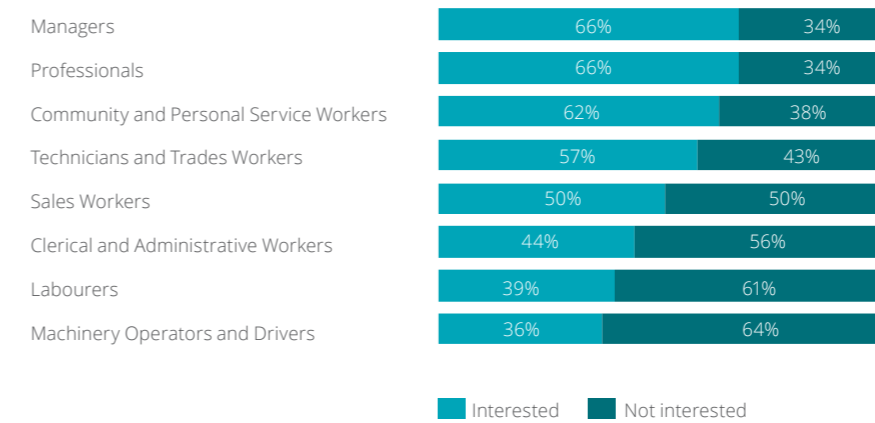
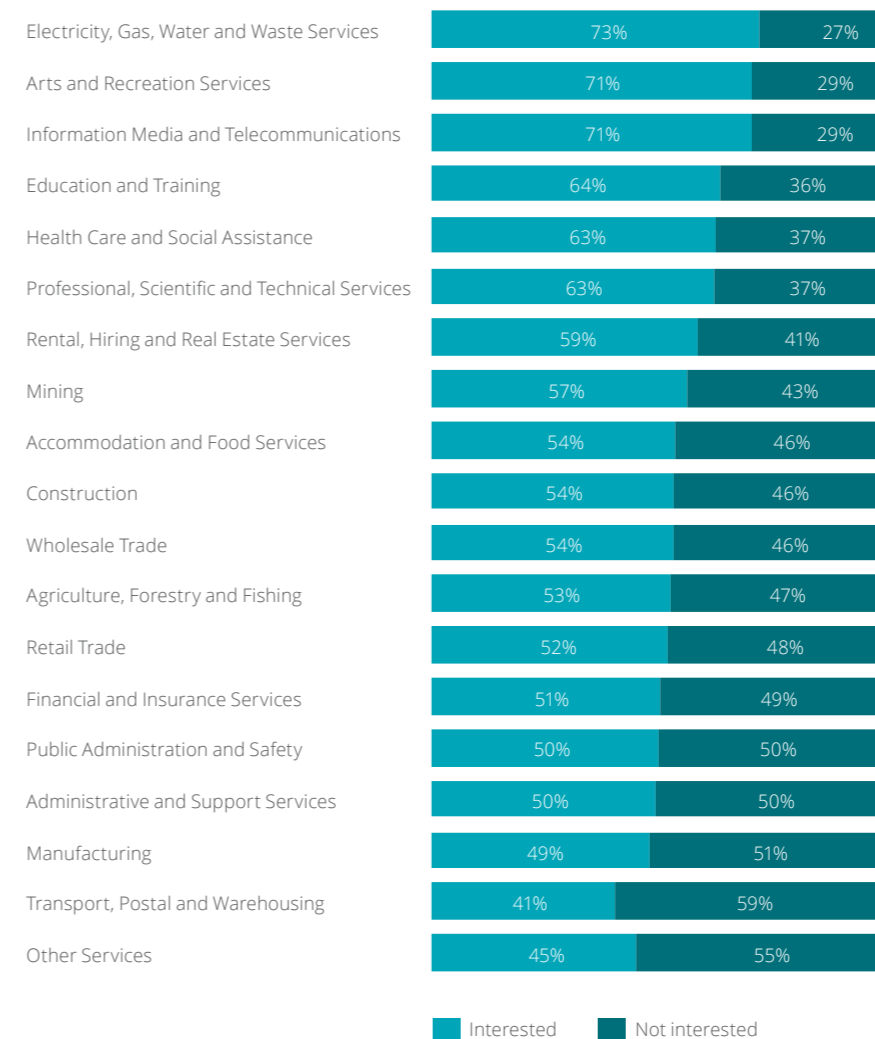


Figure 6: Current workers' attitude towards further education and training by industry





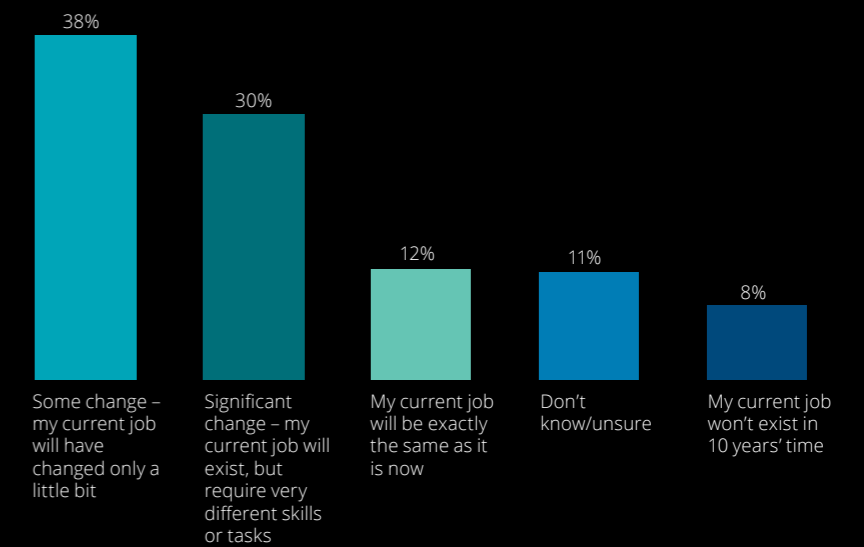
Key finding 2

Alert but not alarmed:
study-interested workers
know the *robots are coming*.
But they have a plan.

Australian governments, businesses, and community organisations do a lot of thinking and talking about the future of work and the implications that disruptive forces, particularly technological change, will have on jobs and workforce skills requirements⁹.

We asked study-interested workers how they felt about the future of work, and the magnitude and drivers of change they expect to experience throughout their careers. We were also particularly interested in learning about how this knowledge is linked to their motivations for further study.

Figure 7: How study-interested workers think the nature of their current job will change in the next 10 years



Note: This question allows multiple responses, hence total frequency adds to more than 100%.

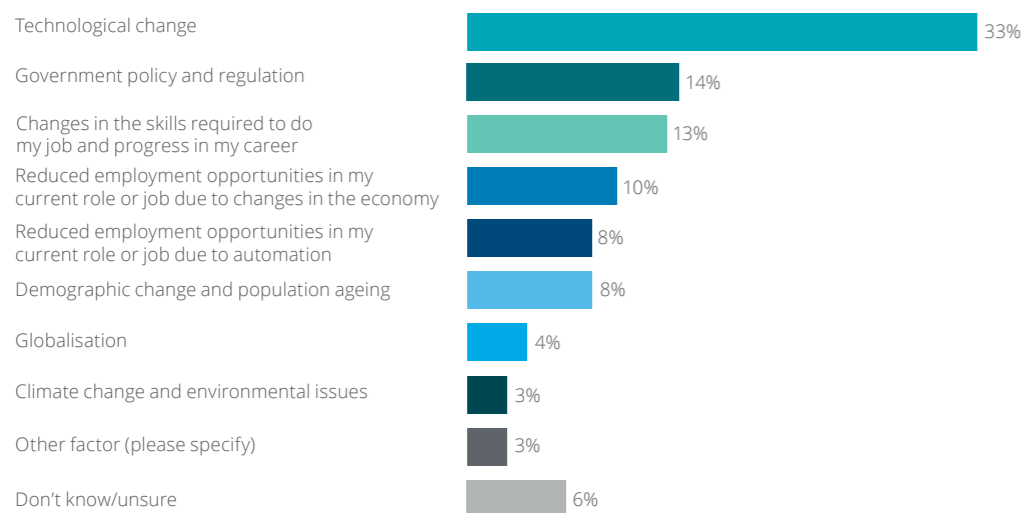
Jobs in the future

Perhaps not surprisingly, our survey reveals that there is a level of uncertainty about the future of work among study-interested workers, with 30% of these respondents believing that the nature of their jobs will change significantly and will require very different skills or tasks. An additional 8% believe their job will not even exist in 10 years' time (Figure 7).

It should also be noted, that there was a sizeable (38%) segment who believed their jobs will experience some, but not significant change. Only 12% of those interested in further study believed that their current jobs would be exactly the same. Workers from certain industries were more likely to predict *significant changes* than other industries, particularly workers from information administrative and support services, while others were more likely to predict *smaller changes* including those in mining, arts and recreation services, agriculture, forestry and fishing.

To gain an understanding about what is underpinning these levels of uncertainty, we also asked the study-interested workers to nominate what they thought the most significant drivers of change will be in their current jobs over the next 10 years. The results showed that technological change is viewed as the leading disruptor to current jobs, followed by changes in government policies and regulations and changes in the skills required to perform in jobs and progress in one's career.

Figure 8: Perceived drivers of change in job nature over the next 10 years



The top four motivations across all study-interested workers included:

- 26%** To 'develop skills or knowledge to be applied in my current job, role or industry'
- 20%** 'For personal interest'
- 19%** To 'enable me to transition to a new job, role or industry in the future'
- 17%** To 'improve the qualifications on my CV'

Motivation for further study

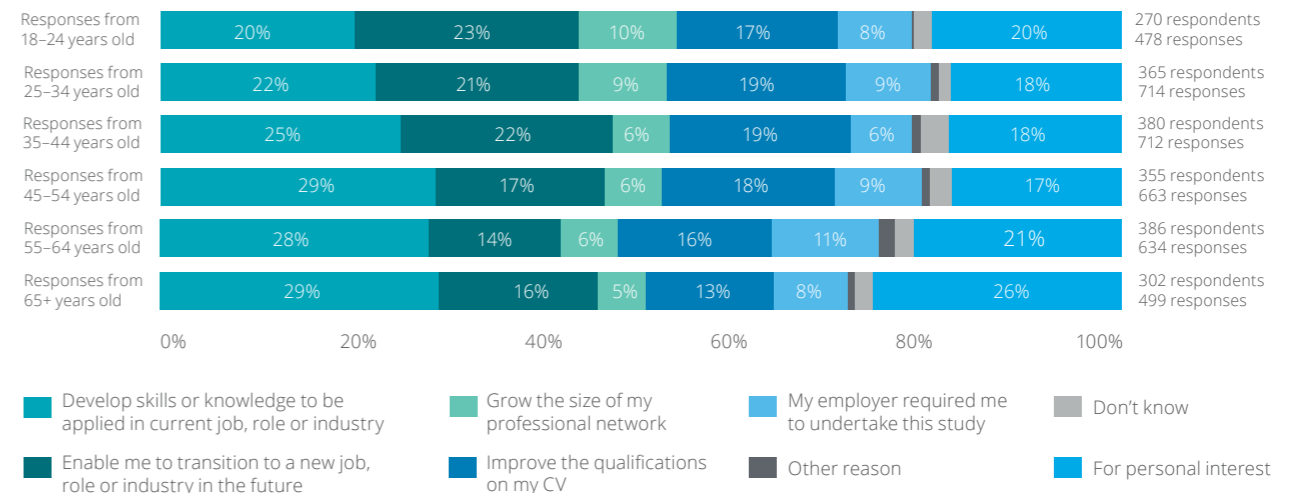
To get a longer term view of future study intentions and to determine whether those interested in further study see it as a means to achieve their career goals, we asked 'Do you think that further study will be an enabler of your ability to achieve your career goals over the next 10 years?'. The majority of participants (68%) responded 'yes'. Although responses to this question are positive across age groups, as might be expected, a lower proportion of individuals in older age brackets see further study as an enabler of career goals over a 10 year horizon.

Mindful that not all further study will be purely for career-orientated reasons, we also explored the broader motivations for study among the study-interested workers, asking them to indicate their motivations for further study. Respondents were able to nominate multiple motivations, and Figure 9 shows the distribution of 3,700 responses from 2,058 study-interested respondents by age group.

These results show the importance that study-interested workers place on further education and training to support their current job and career

trajectory, but also show the value that working Australians place on learning for personal enrichment. For career development education and training become more important as we age with 45% of study-interested workers aged 65 and over seeking further education and training to develop skills and knowledge for current and future jobs. Interestingly, younger workers and those above 55 have similar levels of motivation in studying for personal interest, while the middle-aged workers are likely to be more focused on career development.

Figure 9: Study motivation among the study-interested worker cohort



Willingness to pay

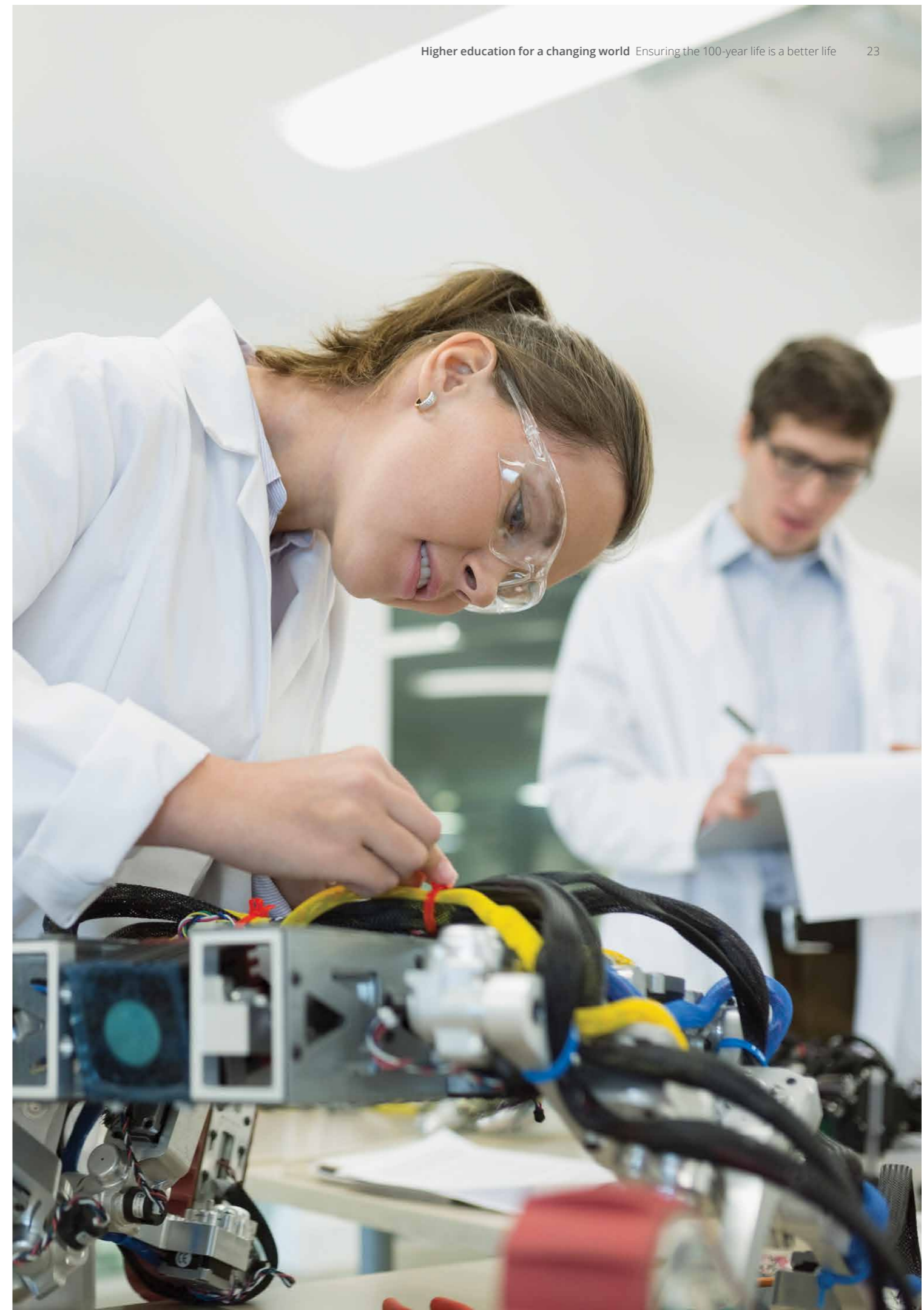
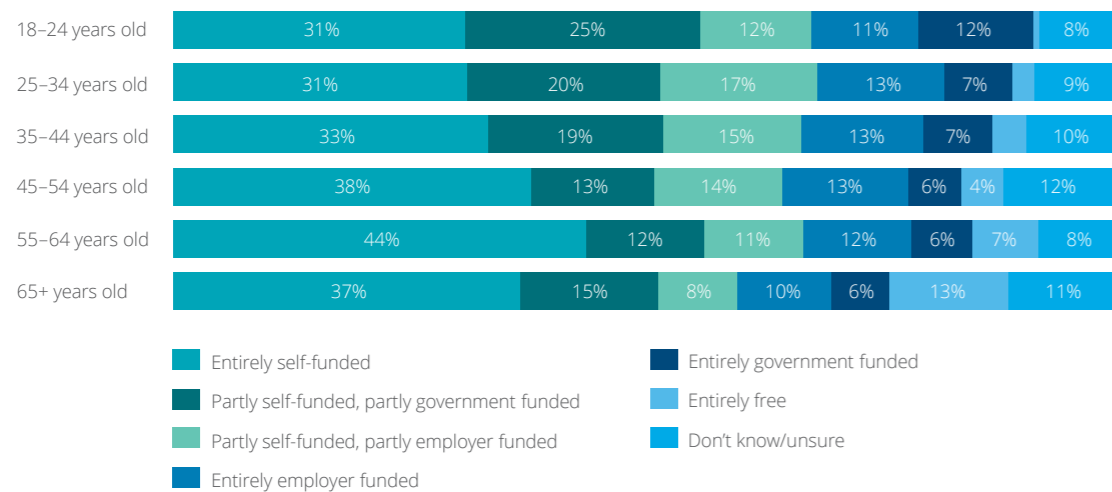
To confirm the importance of further study among study-interested workers, we asked this cohort about how they plan to fund their future education and training.

Approximately 36% of respondents were willing to cover the entire costs of further education themselves, and a further 30% were willing to cover partial costs (with the remainder covered by either employers or government). On the other hand, around 19% of study-interested workers were expecting either employers or the government to pay for the full costs of their study. Younger workers

(aged 18–24 years) were more likely to expect government funding, while workers aged 25–54 years were more likely to expect their courses to be fully or partly paid for by their employers.

The results demonstrate that study-interested workers across all age groups are serious about investing in themselves to adapt to the constantly changing nature of jobs. In what is a positive sign regarding our level of preparedness for ‘the age of longevity’, we can already see evidence that the majority of workers no longer see education as a ‘set-and-forget’ activity, with the responses highlighting a solid emphasis on continuous learning.

Figure 10: Intended sources of funding in the study-interested cohort





Key finding 3

Keep it real:

Study-interested workers prefer education and training *linked closely* to their jobs and industry.

Learners want both technical and transferable skills

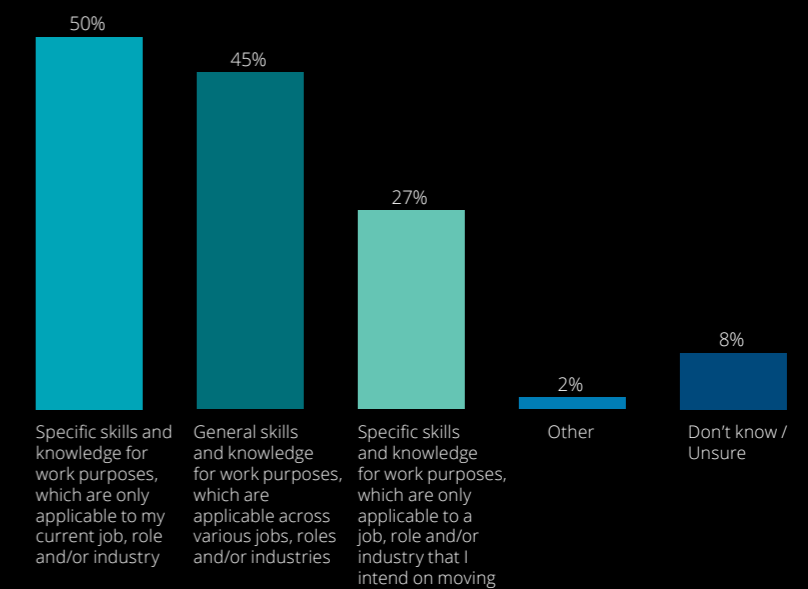
Today it is estimated that the technical skills that university graduates acquire have an expected shelf life of only five years¹⁰. Our survey demonstrates that updating technical skills is an important priority for study-interested workers with approximately half of survey respondents expecting to gain specific skills and knowledge relevant to their current job and industry.

Interestingly, 45% of study-interested workers also indicated a desire to develop transferable skills. There is much

commentary and analysis today about the growing demand for so called 'core skills' across industries – those skills that are transferable across jobs and industry, including attributes like communication, collaboration, interpretation, and design thinking.

In 2016, our colleagues at Deloitte UK examined occupational, labour, and earning statistics to understand the changing demand for individual skills, knowledge and abilities caused by technology shifts in order to forecast which skills will be most important for the next 20 years.

Figure 11: What skills and knowledge have you gained, or do you expect to gain, through your further study?



Note: This question allows multiple responses, hence total frequency adds to more than 100%

10. Eggers, W.D, Hagel, J (2012) *Brawn from Brains: Talent, Policy, and the Future of American Competitiveness*, Deloitte University Press.

This study, involving an assessment of 120 skills, abilities and areas of knowledge, found that high-priority STEM skills become more valuable when balanced with 'human talents', such as problem-solving skills, creativity, social skills and emotional intelligence¹¹.

In Australia, an analysis we conducted in collaboration with DeakinCo predicted that soft-skill intensive occupations are expected to grow at 2.5 times the rate of jobs in other occupations, and that soft-skill intensive occupations will account for two-thirds of all jobs by 2030, compared to half of all jobs in 2012¹².

Both studies suggest that flexibility to adapt is crucial.

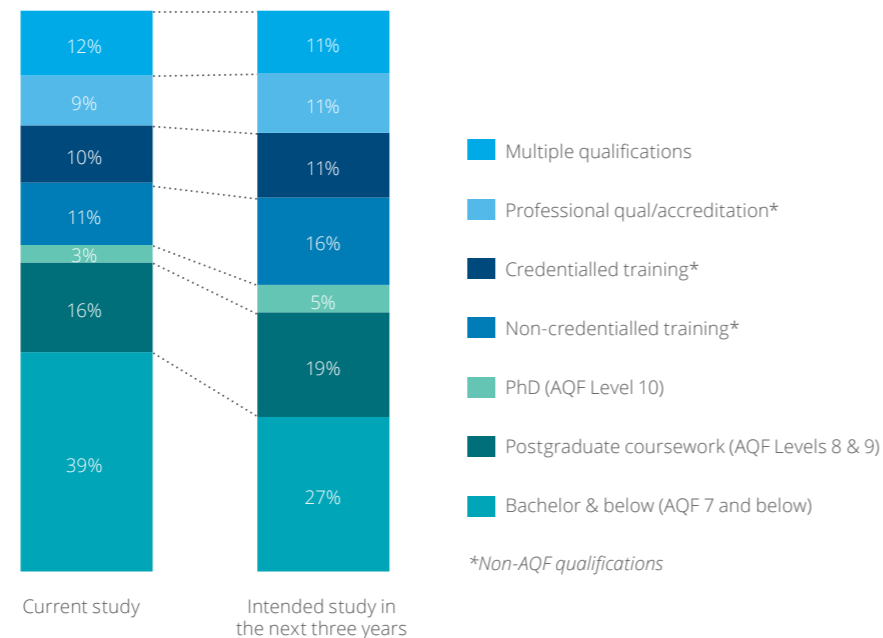
The fact that study-interested workers place importance on both technical and generic skills underscores the continuing importance of technical skills, and the complementary role of soft skills. Australia's Chief Scientist, Dr Alan Finkel, recently reminded us of this complementarity through reference to the 'T-shaped worker', whereby the vertical line represents deep expertise in a discipline and the horizontal bar represents flexibility to apply that expertise creatively, as part of a team in a workplace, and to develop new skills as opportunities present. Finkel asks us to think of this concept as a 'garden trellis' – "without the trellis you're just ground cover, sprawling out in all directions, no matter how good the soil."¹³

Skill-based training vs formal qualification

Now we turn to the specific learning qualifications and products pursued by our study-interested workers. At the time of the survey, just under 60% of the study-interested worker cohort were currently studying and the types of study were diverse.

Formal study options i.e., those developed and accredited under the Australian Qualifications Framework (AQF), accounted for 58% of current students, with qualifications at or under AQF Level 7 representing the largest type (39%).

Figure 12: What are the study-interested workers studying or planning to study?



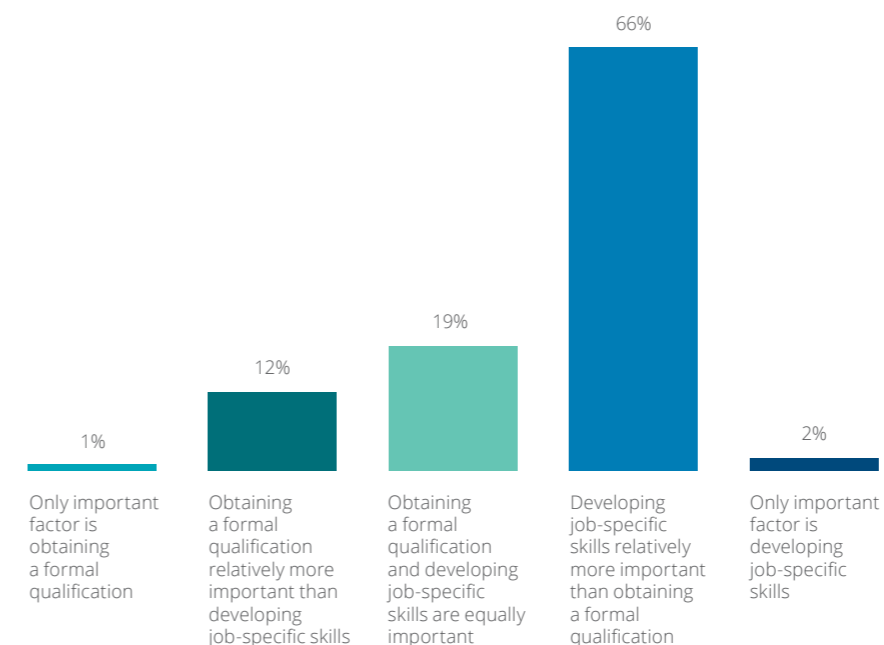
Around 30% of workers who are currently studying were doing non-AQF qualifications, either a professional accreditation (9%), informal credentialled training e.g. short courses, individual units of study (10%) or informal non-credentialled (11%). A larger share (38%) of workers who intend to study in the next three years are planning to pursue a non-AQF study product (Figure 12). This is important because, should these future intentions be acted upon, it would involve a significant increase in participation in short courses or

individual units. There also appears to be significant interest in postgraduate education among study-interested workers in the future.

We were also curious about the relative importance current workers place on the attainment of formal qualifications compared to the development of job-specific skills set. As depicted in Figure 13 below, survey participants were asked to indicate, on a percentage scale, the relative importance placed on each option.

Study-interested workers were more likely to prioritise job-specific learning, with 68% of study-interested workers placing more importance on skills-based training over formal qualifications. This result shows that while formal qualifications remain a focus for the study-interested worker cohort, they are also firmly interested in accessing learning that applies to their unique job contexts.

Figure 13: Relative importance between formal qualification and job-specific skill sets



11. Deloitte UK (2016) *Talent for Survival: Essential Skills for Humans in the Machine Age*.
 12. Deloitte Access Economics (2017) *Soft Skills for Business Success*, DeakinCo.
 13. Finkel, A. (2018) *Master the Foundations, and Rule the Universe*, speech to the CONASTA conference.

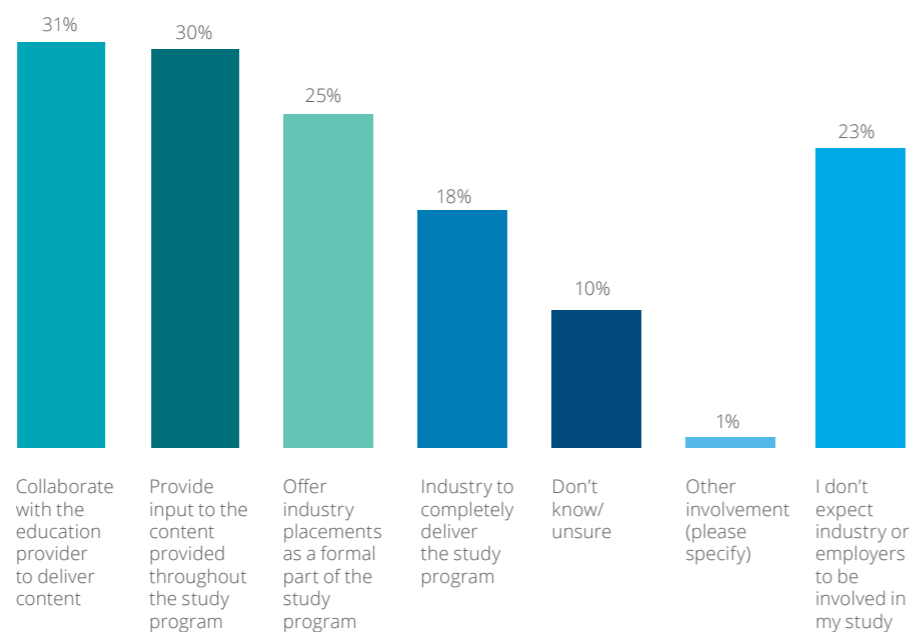
Work-integrated learning

There is a range of both emerging and established work-integrated learning initiatives designed to better align education and training with the ever-evolving demands of industry at systemic and institutional levels¹⁴. However, perceived discrepancies between the skills and knowledge required by industries and employers and those acquired through formal education and training remain a perennial issue.

Although it is common to see industry as the ultimate beneficiary of work-integrated learning experiences, we were interested in the extent to which study-interested workers themselves value the integration between industry and learning. Our survey asked the study-interested worker cohort to indicate how they expect industry or employers to be involved in their study, and found that 31% expect education providers to collaborate with industry or employers to deliver learning content (Figure 14).

The results below highlight that study-interested workers are aware that their education and training needs to be closely aligned with the skills and competencies they require for employment. This is a pertinent issue given that 35% of skills demanded for jobs are expected to change by 2020 alone, much less in the long run¹⁵. In order to ensure that their study programs are equipping them with relevant and up-to-date skills, it appears existing workers expect a strong degree of collaboration between education providers and industry to enable the

Figure 14: How do you expect industry or employers to be involved in your study?



Note: This question allows multiple responses, hence total frequency adds to more than 100%.

integration of employability skills and competencies required into study programs.

These findings show that current workers believe their employers share significant responsibilities for their further learning requirements. This aligns with the Deloitte 2018 *Millennial Survey* where 39% of respondents believed that their own employers, rather than society in general, should be addressing educational needs – another indication of young people's belief that businesses can play a crucial role in helping to improve society as a whole.

In such a climate, it is perhaps not surprising that traditional apprenticeship models are coming back into sharp focus whereby an individual can *earn* (as a formal employee) and *learn* (through formal education delivered by a formal education provider) under a three-way partnership model between the learner, employer and education provider, including at the higher education level. Given the significant value Australian workers place on the integration of learning and work, it would be useful to investigate demand for 'higher apprenticeships' in more detail in future research (reference case study).

CASE STUDY: HIGHER APPRENTICESHIPS

Globally, higher-level apprenticeships are on the rise¹

Although models vary across national education systems, higher apprenticeships generally refer to the combination of entry-level paid employment with high-level technical and academic education and training. Higher apprenticeships tend to range from the equivalent of high level VET qualifications right through to Masters Degrees. Entry requirements and selection are at the discretion of the employer and vary from program to program.

In the UK, higher apprenticeships have been achieving impressive student and employer outcomes. For instance, employers rated qualified higher apprentices as 25% more employable than those who took an alternative route into work, and the model is experiencing high completion rates, better staff retention and a strong return on investment for government². The range of employers participating in higher apprenticeships is diverse including, for example, aeronautical companies, tech companies, the army and the public broadcaster.

In Australia, higher apprenticeships are also receiving strong interest, with the Australian Government funding a series of small-scale pilots to contribute an evidence base to inform future policy development and funding settings^{3,4}.

One such pilot, involving a collaboration between Siemens, Swinburne and the Australian Industry Group (AiG), focused on the advanced technical skills that workers will require to thrive in 'Industry 4.0' (the fourth industrial revolution). These skills and domains include smart manufacturing, the internet of things (IoT), cloud computing, big data and automation.

The Siemens higher apprenticeship qualification involves a blend of VET and higher education qualifications, with built in exit points at Diploma and Associate Degree level. The qualification also articulates into a Bachelor level qualification. The first intake involved 20 apprentices, and although it is early days, partners have described the pilot as 'an overwhelming success' with a second year intake now currently underway⁵.

Case study references

1. NCVET (2017). Focus on Higher-level apprenticeship pathways, <http://www.voced.edu.au/content/focus-higher-level-apprenticeships-pathways>
2. UK Skills Funding Agency, Higher Apprenticeship and Degree Apprenticeship Delivery from April 2015 to April 2016, 2019/Higher_Apprenticeship_and_Degree_Apprenticeship_Delivery_from_April_2015_to_April_2016.pdf
3. Griffin (2017). Higher apprenticeships – opportunities and barriers

4. DET (2016). Apprenticeship Training- alternative delivery pilots: <https://www.australianapprenticeships.gov.au/alt-del-pilots>
5. Siemens (2016) Ai Group, Swinburne and Siemens partner for high-level Industry 4.0 apprenticeship initiative, <https://www.siemens.com/content/dam/webassetpool/mam/tag-siemens-com/smdb/regions/australia/press/press-releases/2016/20160905-ai-group-swinburne-and-siemens-partner-for-high-level-industry-4-0-apprenticeship-initiative.pdf>

14. Such as the National Strategy on Work Integrated Learning in University Education

15. World Economic Forum (2016) *The future of jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*



Key finding 4

I'll work around you:

Study-interested workers want *flexible* and bite-size learning from tertiary providers.

So, we know that the majority of Australian workers generally are, or plan to, continue their relationships with education, but *where* and *how* do they want to learn? And are there any patterns that can be identified across industries, age groups and occupations?

Traditional educational institutions or global and cloud-based providers?

We asked study-interested respondents 'From what type of providers are you willing to undertake further study?' and allowed them to select multiple responses. Our results showed that study-interested workers are open to accessing further study from a range of providers, including directly from industry and exclusively online providers (including MOOCs). In aggregate, 78% of all study-interested workers are willing to study at Australian higher education and/or VET providers, suggesting that Australian education providers are the preferred choice overall.

The results also illustrate that there are different preferences by industry and occupation. Figures 15 and 16 (page 32 and 33) show the distribution of 3,737 responses across our 2,058 study-interested respondents. VET providers are the preferred choice for community and personal services workers, labourers, and machine operators and drivers. Further, VET providers are the most popular provider-type overall for existing workers aged between 55 and 64, a cohort which, in the context of the 100-year life, will no longer be on the doorstep of retirement. In a climate of disruption across all industries, this is an encouraging sign for the education sector.

Figure 15: Choice of providers by workers who are considering future study

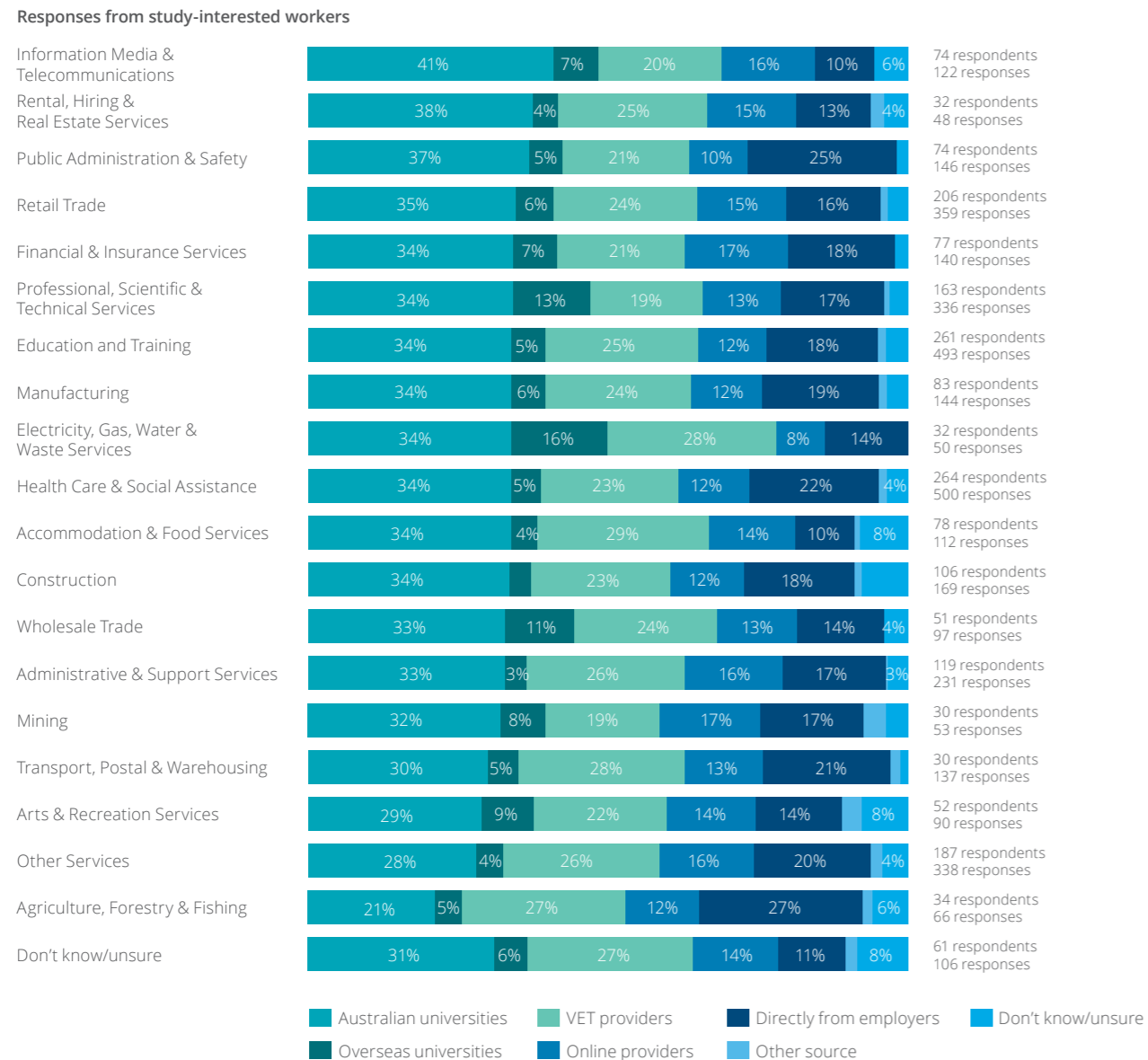
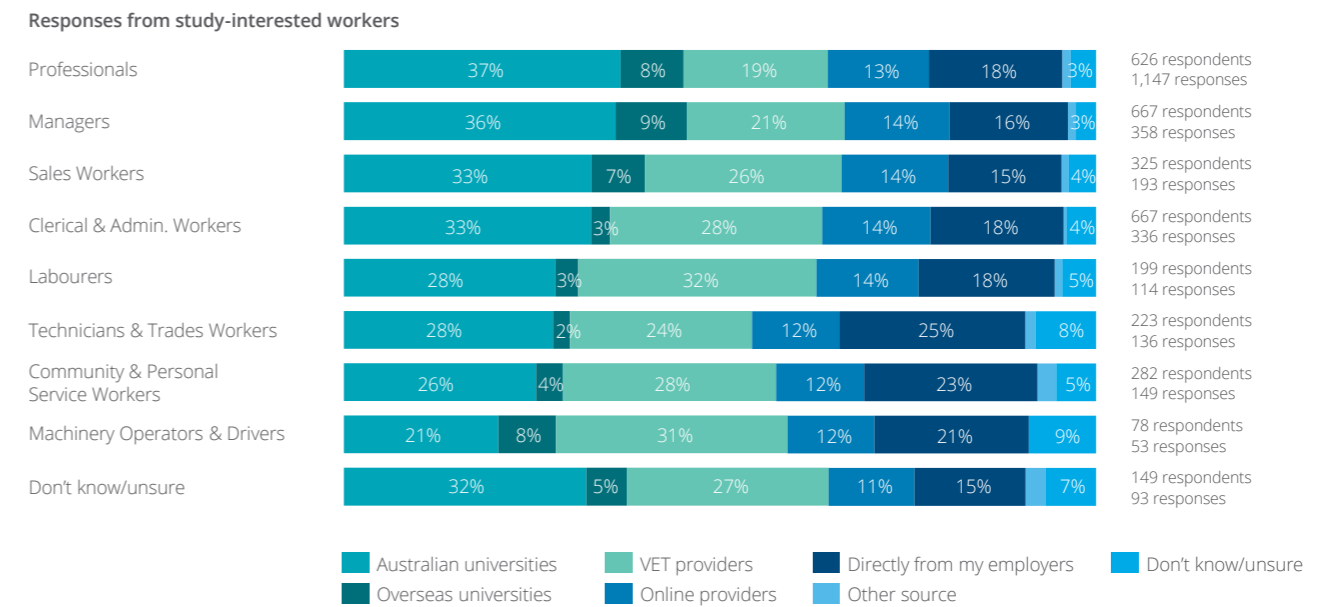


Figure 16: Choice of providers by workers who are considering future study



Nevertheless, Australian education providers still need to be aware of emerging competition as education is now a global market. In the Financial and Insurance Services and Mining industries, 17% of workers who are considering future study would choose an exclusively online provider. Nearly one in ten high-skill workers (professionals and managers) would consider an overseas university as their study destination. This preference is particularly strong in the Energy and Utilities sector, as well as the Professional, Scientific and Technical Services sector.

Flexible learning

As life and work become increasingly complex, fast-paced and technology enabled, we are all looking for ways to make best use of time. Although education is much more than a commodity, the fact is, like any good or service, we increasingly want to access, consume and experience it when it suits us, particularly when it is competing with our job requirements.

At the same time, the skills that graduates acquire through higher education will soon have an expected shelf life of only five years¹⁶. Combine these factors with the need to sustain work throughout a 60-year career, and the need for flexible learning options intensifies further¹⁷.

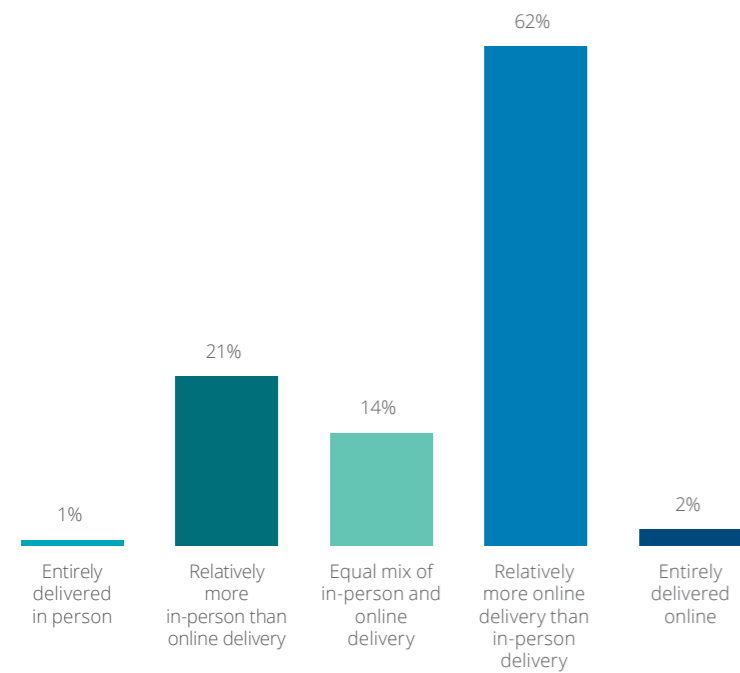
The large increase in both MOOCs and 'off-campus' higher education delivered by Australian higher education providers (31% of total domestic higher education enrolments in 2016¹⁸), demonstrates that students are demanding learning experiences that allow them to learn and participate around their busy lives. Of course, students on-campus too, are also benefiting from the increased flexibility provided through blended delivery models, including through innovations such as flipped classrooms and personalised learning analytics.

16. Eggers, W.D, Hagel, J (2012) *Brawn from Brains: Talent, Policy, and the Future of American Competitiveness*, Deloitte University Press.

17. Deloitte University Press (2017) *Rewriting the Rules for the Digital Age: 2017 Human Capital Trends*

18. Department of Education and Training, Higher Education Student Statistics 2016.

Figure 17: Study-interested workers' preference with respect to the mix of online and in-person delivery



With the understanding that fully online learning will not be a panacea, in addition to understanding their preferred study mode, we wanted to know how study-interested workers would like their learning to be structured, how much time they would like to commit to further learning on a weekly basis and what they thought about micro-credentials.

First, to get a sense of study-interested workers' preferred study mode, we asked respondents to indicate their preferred 'mix' of online and in-person delivery on a percentage scale.

The results showed that 78% of this cohort wanted at least half of their learning content to be delivered online (Figure 17). Moreover, workers are predominantly looking for blended learning experiences, with 62% of study-interested workers nominating a preference for relatively more online delivery than in-person delivery, but ultimately still desiring a mix of both formats. This suggests that there is clearly still demand for face-to-face engagement with teachers/trainers and peers.

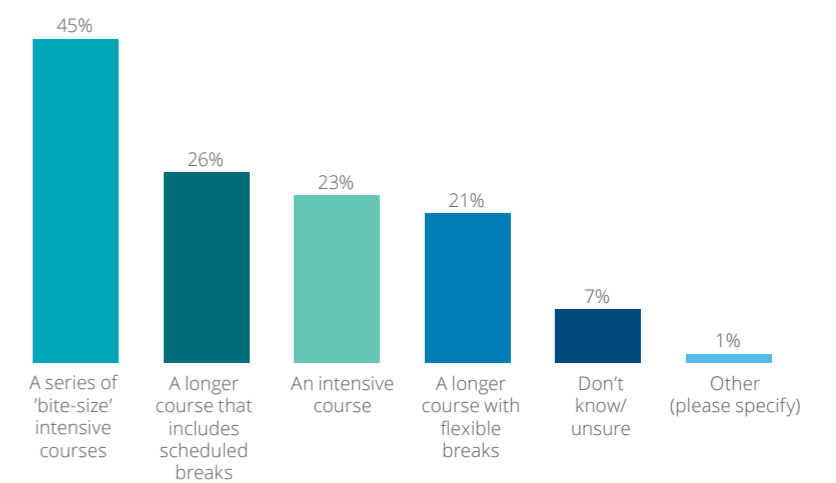
Bite-size

Our results showed that study-interested workers have a variety of needs in terms of how they would like their courses structured. Interestingly though, the most popular option for study arrangements was 'a series of bite-size intensive courses' (Figure 18), demonstrating that while study-interested workers are still participating in formal learning more, they are interested in study options that allow them to engage in short bursts of learning that would enable them to balance learning with other work and life priorities. This aligns with the strong preference for study that is related to current job requirements and/or professional development.

Additionally, 46% of this cohort also indicated that they are prepared to make a personal investment of time and commit between 3-10 hours per week, as opposed to less than 3 hours (19%) and more than 10 hours (25%). Around 40% of study-interested workers have indicated that they are more likely to commit/intend to engage in medium term study (six months to two years) than longer or shorter-term study.

Given the increase in educational products designed to meet such needs, particularly micro-credentials available via MOOC platforms such as Coursera, EdX and Udacity, we wanted to test the extent to which they were 'on the radar' of the study-interested workers.

Figure 18: Study-interested workers' preference with respect to study arrangements

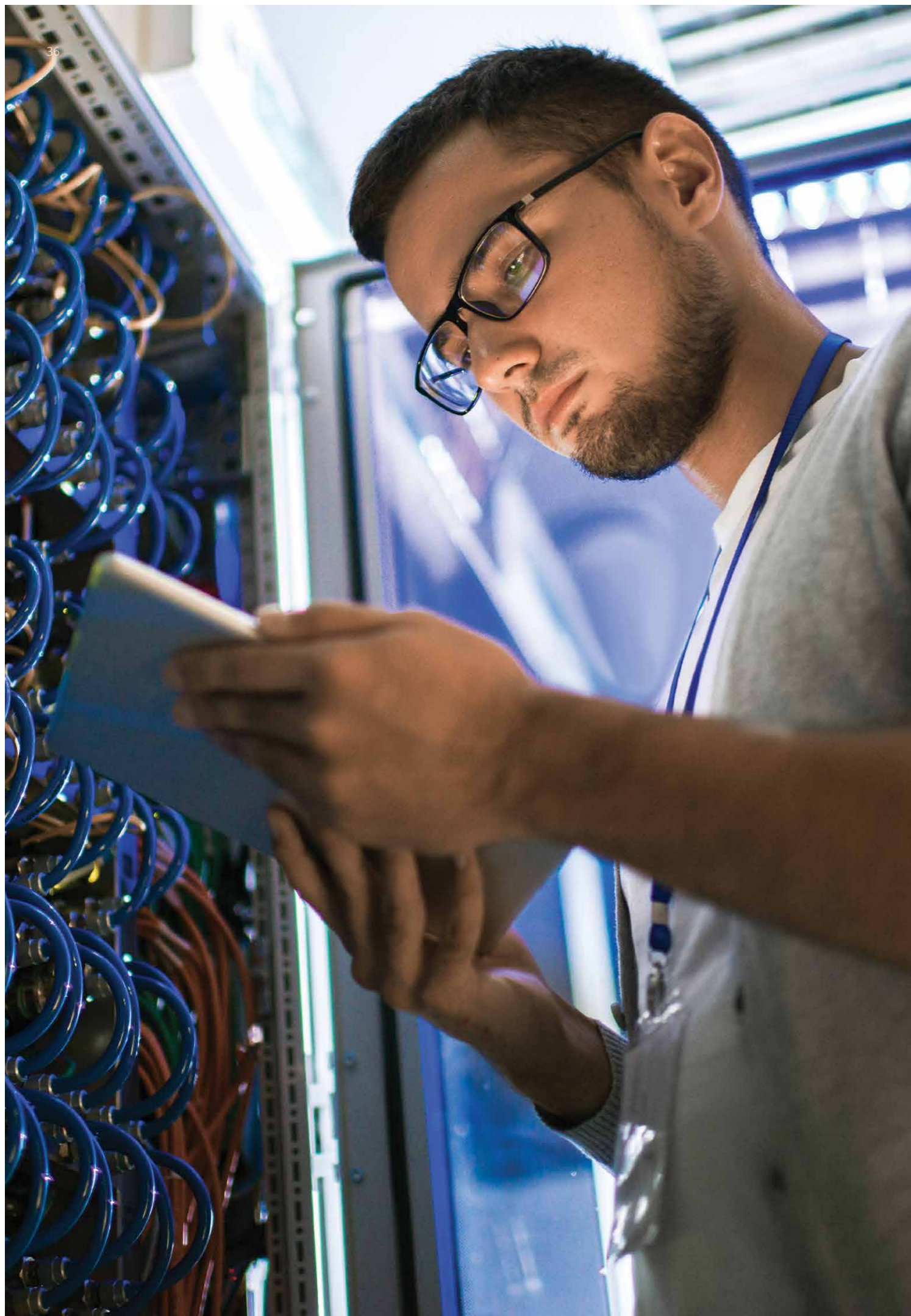


Note: This question allows multiple responses, hence total frequency adds to more than 100%

We found that over two-thirds of workers interested in further study were not aware of the existence of micro-credentials; however, once the concept was explained to them, 65% of respondents thought micro-credentials would be valuable to their career (a further 21% were not sure and 14% did not see value).

Examined together, these findings show that study-interested workers have a strong need for flexible delivery modes and learning structures, but that the market for micro-credentials is perhaps not quite mature enough to have broken through to become a 'front-of-mind' option for current workers.

We expect micro-credentials to be increasingly prevalent given they have the potential, if designed and delivered effectively, to meet a number of study-interested workers' needs, including their clear desire for 'bite-size learning' and for work and industry-aligned learning experiences. Further benefits include the ability to design 'stackable' and modularised credentials, which can be combined to form larger bespoke qualifications and to blend broad ranges of distinct skills and knowledge (e.g. technical and transferable skills). Micro-credentials can also be developed more quickly than larger programs, and can therefore be more responsive to changing employer and industry requirements.



CASE STUDY: HOW AT&T IS RADICALLY REDEFINING CORPORATE LEARNING TO RESKILL ITS WORKFORCE WITH MICRO-CREDENTIALS

In response to growing employee demand for continuous skill development and dynamic careers, AT&T has come up with a new learning and development model that focuses on innovation and leadership development by delivering a world-class learning experience, promoting lifelong learning for longer careers, and bringing multifunctional teams together to connect and collaborate.

Since 2013, AT&T has invested \$250 million in education and development programs for its 140,000 employees with a focus on continuous career development.

AT&T now offers a wide range of online learning opportunities and encourages employees to find new jobs, seek out mentors, and learn new technologies. AT&T has partnered with universities to pioneer affordable online courses in the skills it needs.

“We felt a fundamental obligation to reskill our workforce.”

John Donovan,
AT&T Chief Strategy Officer

AT&T offers tools and options for employees to:

1. Identify skill gaps through self-service platforms and in conversation with managers

Career profile tool: Used for assessing competencies, business experience and credentials. Quantifies skills and generates a single talent-and-development profile that an employee can compare with new job requirements to identify skills to acquire.

Career intelligence tool: Analyses hiring trends within the company and profiles of different jobs.

Job simulation tool: Presents realistic job-related situations and rates how people respond to them to assess their suitability for various jobs.

2. Fill these gaps through online courses, certifications and degree programs

Individual courses: Employees can undertake courses on emerging-technology and earn digital badges for completing certain tutorials and assessments.

Nanodegrees: Employees have access to course bundles created by Udacity for training in high-demand technical specialties such as software engineering, coding and web development.

Online master's degrees: Georgia Tech, Udacity and AT&T have teamed up to offer a fully accredited online master's degree in computer science – the first of its kind delivered through a MOOC platform.

AT&T offers up to \$8,000 in annual tuition aid per employee for degrees and nanodegrees, with a lifetime cap of \$25,000 for undergraduate degrees and \$30,000 for graduate degrees.

Results

- Through May 2016, employees had taken more than 1.8 million emerging technology courses
- By the end of 2015, the company had handed out 117,000 badges to 53,000 employees
- At the beginning of 2016, 323 employees had enrolled in the online Masters program, and another 1,101 were in the process of earning nanodegrees
- Internal sourcing of STEM jobs have increased by more than 20% from 2012-2015
- Time required to take new offerings from idea to customer implementation on a major global scale has been cut in half since 2014
- 21% of 1,600 articles written on the topic of software for applied networking in 2015 featured AT&T as the world leader – twice as many as their closest telecom competitor.

Case study references

1. Deloitte, 2017: Careers and learning: Real time, all the time 2017 Global Human Capital Trends: <https://www2.deloitte.com/insights/us/en/focus/human-capital-trends/2017/learning-in-the-digital-age.html#endnote-sup-14>

2. John Donovan and Cathy Benko, “AT&T’s talent overhaul,” Harvard Business Review, October, 2016, <https://hbr.org/2016/10/atts-talent-overhaul>, accessed October 3, 2016. View in article

Conclusion

We believe that one of the most effective ways to make a *longer* life a *better* life is through a sustained relationship with education and training. And it seems that, through their actions and intentions, many Australian workers agree.

Our survey provides a range of insights for those with a role to play in fostering an education system that supports the 100-year life. Although some of the findings might seem intuitive, this survey provides a point in time evidence base about what study-interested workers are looking for in their further study experiences. Perhaps the most prominent theme that comes through our results is that the needs and preferences of workers are far from homogenous, and that there are opportunities to further align offerings to meet these needs.

We know that the education and training needs and preferences of Australian workers will continue to evolve in step with the world around us, and that we all have a role to play in responding to, and meeting these needs. As, Lynda Gratton puts it, "It is clear that lifelong learning would meet the needs of the trends that are currently underway. But this concept demands a focus on society-wide commitment that is not yet in place. We need to change that"¹⁹.

With increasing birth rates driving an impending wave of additional 18 year olds eager to be in post-secondary education from the early 2020s, international student growth and the need for workers to continuously update and refresh their education and skills, education providers will continue to create new offerings and adapt existing ones.

Governments have a role to play to ensure that the system-settings are fit-for-purpose in the age of longevity and a rapidly evolving economy. The 2018 Australian Qualification Framework Review presents an opportunity for government to consider how we can support and encourage a broader range of innovative educational products.

Employers will play an important role to ensure that workers are encouraged and supported to engage in learning throughout their careers, and play a stronger role in the design and delivery of education to better meet the needs of their employees.

We believe that together we need to develop a deeper understanding of the education and training needs and preferences of Australian workers, and an understanding of how these needs are likely to change over the course and stages of our longer lives. To do this, we think it is important that we ask workers – from across age groups, industry and occupation types, genders, and cultural backgrounds – what they really need and want.

This is the very reason we conducted this survey. We know that the research in this paper is not the whole story, nor does it provide all the answers. We hope that it is the first step in building a comprehensive evidence base to inform and accelerate improvements in our education system – that better prepares us all for the 100-year life.

"It is clear that lifelong learning would meet the needs of the trends that are currently underway. But this concept demands a focus on society-wide commitment that is not yet in place. We need to change that".

Linda Gratton and Andrew Scott,
The 100-Year Life: Living and Working in an Age of Longevity,

19. Gratton, L. and Scott, A. (2016) *The 100-Year Life: Living and Working in an Age of Longevity.*

Appendix: Survey methodology

Data for this research was gathered using an online survey designed by Deloitte and fielded by Research Now. The survey was targeted at individuals aged over 18 years and who are currently in or have previously been in the workforce.

A total of 3,756 survey responses were received. Of these, 2,058 respondents were recently engaged (i.e., completed in the last three years), currently engaged or intending to engage (i.e., commencing in the next three years) with further education, which was defined as study conducted since the respondent entered the workforce. This cohort is identified as study-interested workers.

As part of the survey, the study-interested workers were asked further questions about:

- Their views about the extent and drivers of changes to their jobs in the future
- Their motivation and perceived value of further education and training
- Their desired study products, including content, length, qualification type, and delivery mode
- The desired level of involvement of their industry and/or employers into course design
- Their preferred choice of education provider types

A subset of these questions, relating to the content and delivery of current and future study were only asked of those respondents who indicated that they were currently undertaking study or intending to undertake further study in the next three years.

The survey was nationally representative across age groups, genders and locations. A summary of these demographics is provided below. The distribution of respondents across industry and occupation was monitored throughout the survey fielding period to ensure that the sample represented various industries and occupations.

In this report, we make comparisons of some of our findings along the dimensions of respondents' age, work experience and industry of employment. The statistical significance of each comparison has been tested to ensure that the conclusions are valid. A two-sided t-test was used to determine whether the finding for one cohort is significantly different to that of another cohort along that dimension (e.g. whether workers in some industries are more likely to be interested in study than those in other industries). These tests relied on the average response for each cohort, the number of respondents in each cohort and the standard deviation (spread) of responses for each cohort, and used a confidence level of 95%.

Figure 19: Summary of the demographics surveyed



Contacts

Authors



Colette Rogers

National Education Lead
Partner, Deloitte
corogers@deloitte.com.au
+61 416 121 172



Lachlan Smirl

Partner,
Deloitte Access Economics
lsmirl@deloitte.com.au
+61 401 208 464



Sara Ma

Associate Director,
Deloitte Access Economics
sarama1@deloitte.com.au
+61 402 396 108



Kirsten Bright

Manager, Consulting
Deloitte
kibrigh@deloitte.com.au
+61 418 346 481

Deloitte.

This publication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively the "Deloitte Network") is, by means of this publication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this publication.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

About Deloitte

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte's approximately 264,000 professionals are committed to becoming the standard of excellence.

About Deloitte Australia

In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms, Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 7,000 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit our web site at www.deloitte.com.au.

Liability limited by a scheme approved under Professional Standards Legislation.

Member of Deloitte Touche Tohmatsu Limited.

© 2018 Deloitte Touche Tohmatsu.

MCBD_Sydney_07/18_055887