



**SURVEY REPORT**

Workforce Development Needs

**Skilling:  
A National  
Imperative**

The Australian Industry Group  
**2018**

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# EXECUTIVE SUMMARY



The pace of change in digital technologies continues to increase across the globe creating digitally-enabled environments that will affect every company. Education and training has been identified as one of the most critical factors shaping workforce outcomes that lead to future-focused companies. New approaches to education, training and re-skilling must be implemented to maximise the benefits of the digital economy. Change is progressing in our education and training systems but are they keeping up with the rapid pace?

The Australian Industry Group's 2018 Workforce Development Needs Survey suggests that in many areas this is not the case. The survey, which provides an important gauge of employer sentiment around skill needs and training practices at a critical time for industry transformation, has found major skills pressures facing employers. Without an education and training sector that can adapt quickly to the needs of the digital economy Australia's business sector will suffer competitively into the future.

As businesses adapt to new technologies and the changed conditions under which business is done they are facing new demands on their workforce capabilities and cultures. Imperatives include higher level skills, advanced technical and soft skills, digital literacy and changed management capabilities to effectively negotiate autonomous work roles and partner with machines. Frequent re-skilling is becoming a constant.

The major pressure points identified in the survey include:

**Skills shortages:** it is apparent that skills for both current and future-oriented occupations are not meeting demand. 75 per cent of respondents report skills shortages, most often in the technician and trades worker category. Difficulties remain with the recruitment of employees with STEM skills. For the first time in our survey skills shortages were reported for those with skills in business automation, Big Data and artificial intelligence solutions.

**Digital skills:** the rapid changes through digitalisation are requiring a number of occupational categories to be prioritised for digital technology training and changes anticipated or caused by its rollout. Managers require significant capability improvements in technology/digitalisation, with employers prioritising them (33 per cent), over technicians/trades workers and administration staff (both 18 per cent), followed by professionals (16 per cent). In the age of digitalisation all workers will need digital skills at various levels.

**Literacy and Numeracy:** with the workforce increasingly requiring foundation skills that include not only literacy and numeracy but digital literacy and advanced soft skills, it is disturbing that 99 per cent of employers are affected in some way by low levels of literacy and numeracy in their workforce. They are dissatisfied with the basic numeracy and literacy levels of over one-fifth of school leaver entrants. It is also a concern that dissatisfaction levels are high for the self-management, planning and organising, problem solving, initiative and enterprise skills of school leavers.

**Leadership and Management:** the digital economy requires a major change in the way work is done and managed as entire business processes and organisational cultures are upended. Being aware of the activities that are most likely to change from a technical perspective allows managers to rethink how workers engage with their jobs and how digital platforms can better connect workplaces.

The survey found that 62 per cent of employers believe a lack of leadership and management skills is having a high impact on the business, an increase on 2016. They report the most significant capability improvements required by managers are in technology/digitalisation, resulting in managers being prioritised for this training. Reflecting the need for managers to navigate constant change, employers said their capabilities must also improve for problem solving, initiative and enterprise.

**Employer actions:** employers are active in implementing strategies to alleviate some of these skills pressures. A greater percentage of employers intend to increase expenditure on training in 2018: the highest level since we began the survey in 2012. There has been an increase in the percentage of employers engaging apprentices/trainees, with a substantial proportion being of mature age (42.9 per cent). Employers report a significant increase in their internal company training and support from supervisors and mentors to boost literacy and numeracy skills. And companies have steadily increased their links with education and training sectors since 2014 - a vital strategy in the faster moving economy.

As Australian industry transforms through digitalisation it requires the necessary skills to adapt. This in turn will increase the number of people able to be involved in the digital economy. Change is happening at a frightening pace and our education and training systems need to renew at this same pace. These new survey findings provide rich data important in the development of education and training policy, systems and approaches that enable an effective workforce for the future.

Innes Willox, Chief Executive, Australian Industry Group

# 1. KEY FINDINGS

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## DEMAND FOR SKILLS

- > Employers are experiencing greater challenges finding the skills they need, with the percentage reporting skills shortages increasing over four years to 75 per cent in 2018.
- > Occupations most frequently reported in shortage were from the Technicians and Trades Workers occupational group.

## DIGITAL SKILLS

- > Employers listing occupations experiencing skills shortages included those with skills in business automation, Big Data and artificial intelligence solutions.
- > Employers are still experiencing difficulties recruiting employees with STEM skills, particularly technicians and trades workers and professionals.
- > Within their workforce, employers are prioritising managers for digital technology training and changes anticipated or caused by its rollout (33 per cent).
- > Employers reported the most significant capability improvements required by managers are in technology/digitalisation.
- > Technicians and trades workers and administration staff are the next equal priority for digital technology training and changes from its rollout (both 18 per cent), followed by professionals (16 per cent).
- > Interestingly, employers expressed high levels of satisfaction with the technology/digital capabilities of recruited graduates/school leavers from all education and training sectors.

## APPRENTICESHIPS AND TRAINEESHIPS

- > There has been an increase in the percentage of employers engaging apprentices/trainees.
- > School leavers make up the majority apprentices/trainees with a substantial proportion being of mature age (42.9 per cent). A very low percentage are utilising the school-based pathway.
- > Over a third of employers intend to increase the number of apprentices and trainees over the next twelve months across all sectors, in particular the manufacturing sector (48.1 per cent).
- > Employers have increased their concern about the suitability of applicants since 2016 indicating continued difficulties in sourcing and recruiting apprentice candidates.

## WORKPLACE LITERACY AND NUMERACY

- > Employers continue to report that low levels of literacy and numeracy are affecting the business. 99 per cent state they are affected in some way - an increase on the 2016 survey.
- > The most significant effect on the business is poor completion of workplace documents and reports followed by teamwork and communication problems.
- > Internal company training and support from supervisors and mentors has increased significantly since 2016.

## STEM SKILLS

- There has been an increase in recruitment difficulty for STEM skills workers over the last four years in a range of occupational categories, in particular technicians/trades workers, professionals, sales workers and managers.
- Expectations of difficulties in recruiting STEM skill workers over the next 12 months has jumped considerably for all categories of occupation compared with the 2014 and 2016 surveys.

## GRADUATES AND SCHOOL LEAVERS

- The most important recruiting factor for higher education graduates is the contribution the graduate will make to the business culture.
- Employers of VET graduates rated relevant work experience as the most important factor.
- The importance of enterprise and employability skills increased as a recruiting factor for both sectors since 2016, reflecting a need for workers with transferable skills to navigate constant change.
- Satisfaction levels were highest for higher education graduates, followed by VET graduates, and lowest for school leaver applicants.
- Dissatisfaction with higher education graduates has decreased across a number of characteristics since 2016.
- Employers are dissatisfied with the basic numeracy (29 per cent) and basic literacy and use of English (22 per cent) of school leavers.
- Characteristics driving greater levels of dissatisfaction for school leavers include self-management, planning and organising; and problem solving, initiative and enterprise.

## LEADERSHIP AND MANAGEMENT

- There is an increase in the percentage of respondents indicating that a lack of leadership and management skills is having a high impact on the business (62 per cent).
- The most significant areas requiring major or medium improvements are technology/digitalisation (68 per cent) and problem solving, initiative and enterprise (68 per cent).

## TRAINING EXPENDITURE

- The intention to increase expenditure on training in 2018 is the highest recorded since we began the survey in 2012 at 52 per cent.
- Managers are the largest priority for training followed by technicians/trades workers.
- Managers and professionals have increased in priority for training since 2016.
- The main providers used for training are universities or TAFE institutes to deliver full qualifications, followed by consultants or vendor companies for short courses, seminars and webinars.
- At the same time NCVER data found that 54.5 per cent employers did not use an external provider for non-accredited training over the last 12 months.

## TRAINING STRATEGIES

- The main strategy employers are using to meet skill needs is to retrain existing staff on the job (68 per cent) and employ experienced employees (64 per cent).
- There has been a significant increase in the strategy to employ workers with basic skills and upskill them.
- Employers have accessed endorsed skill sets for training from consultants (23 per cent), private training providers (22 per cent) and TAFE (18 per cent).

## LINKS WITH EDUCATION SECTORS

- The percentage of employers reporting links with universities and VET providers has increased since 2016 while links with secondary schools have been maintained.
- There has been a significant increase in links to VET providers which are now at 47 per cent, and a modest increase in higher education links at 41 per cent.
- Employers with no links to education sectors have decreased considerably.
- Links with universities increased for work placements, partnering for research and project work.
- Employers said the most important form of support in order to link with universities is accessing examples of student activities that could assist the business, followed by a relevant point of contact at a local university, and information on supervising and mentoring students.
- Industry links to VET providers are highest for apprenticeship arrangements and work placements.
- Links to secondary schools are mainly through work placements and work experience.
- Respondents plan to increase or establish new links over next year across all sectors – most significantly for the higher education sector (38 per cent), followed by VET sector links (29 per cent) and secondary school links (23 per cent).
- Companies stating they intend to increase their links or establish new links with all education and training sectors over the next year has steadily increased from 2014 – 2018.

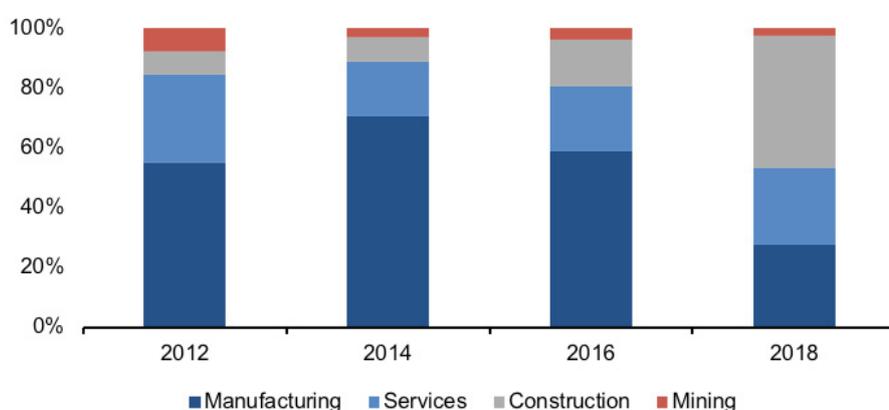
# 2. SURVEY RESPONDENT CHARACTERISTICS

This report summarises the results from the Workforce Development Needs Survey 2018 and provides the Ai Group with significant data about the workforce development and skills needs of employers. Similar surveys have also been conducted in 2012, 2014 and 2016 enabling a time series comparison. The 2018 survey attracted responses from 298 companies employing a total of 111,209 employees.

## 2.1 INDUSTRY SECTOR DISTRIBUTION

The company responses are divided into four main industry sectors: manufacturing, services, construction and mining.

**CHART 1** COMPOSITION OF EMPLOYER SURVEY RESPONSES

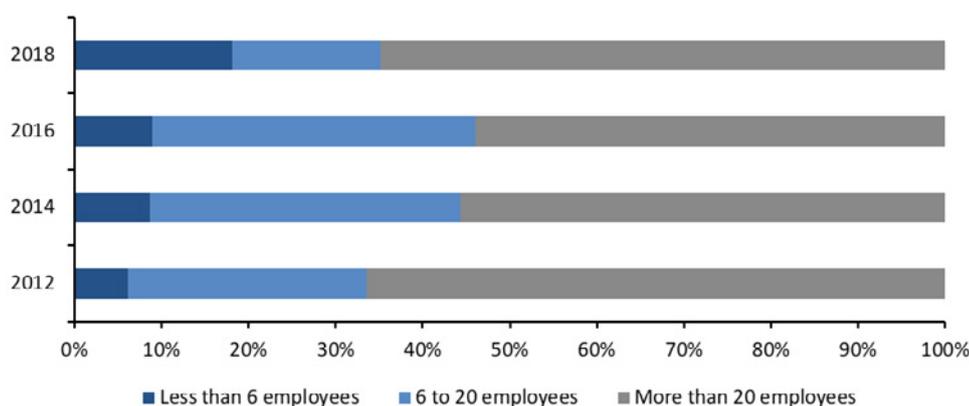


In this survey the construction sector provided the largest group of responses (43.9 per cent), followed by manufacturing (27.5 per cent), services (25.8 per cent) and the mining sector (2.6 per cent).

## 2.2 COMPANY WORKFORCE COMPOSITION

Within this industry mix employers were also asked to indicate the size of their workforce. Consistent with previous surveys the composition measures less than 6 employees, between 6 and 20 employees and more than 20 employees. As in previous surveys the more than 20 employees category provided the largest response with over 63 per cent of the sample. The 6 to 20 employees category provided 16.7 per cent of the responses, less than in previous surveys. The less than 6 employees category provided a larger number of responses compared to other surveys at 17.7 per cent.

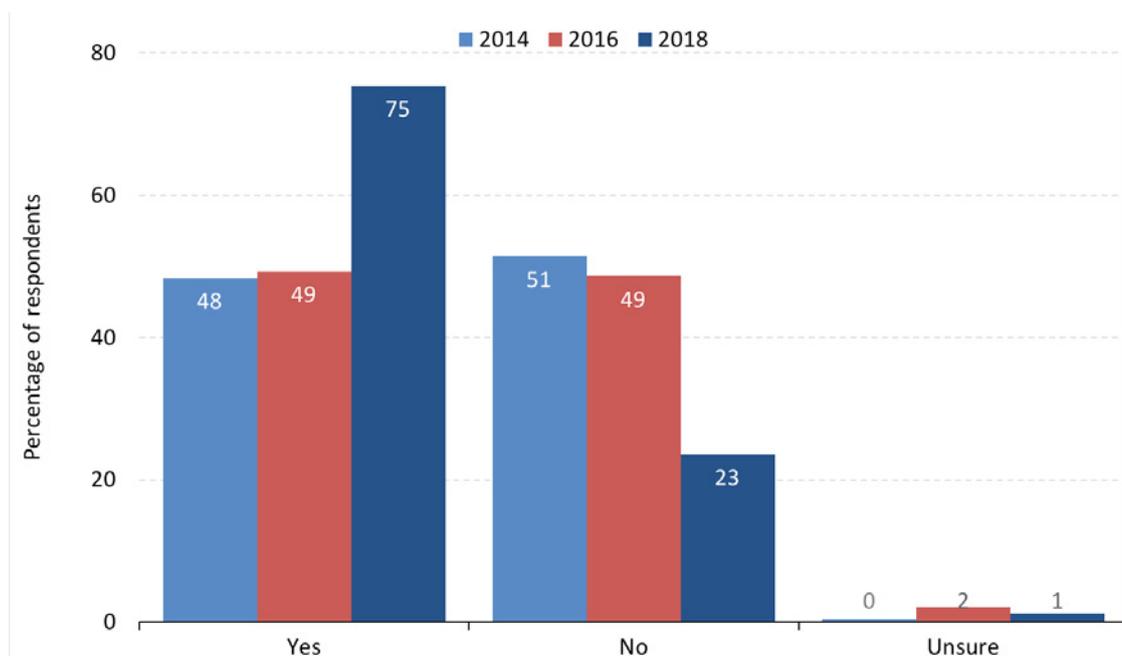
**CHART 2** NUMBER OF EMPLOYEES



# 3. DEMAND FOR SKILLS

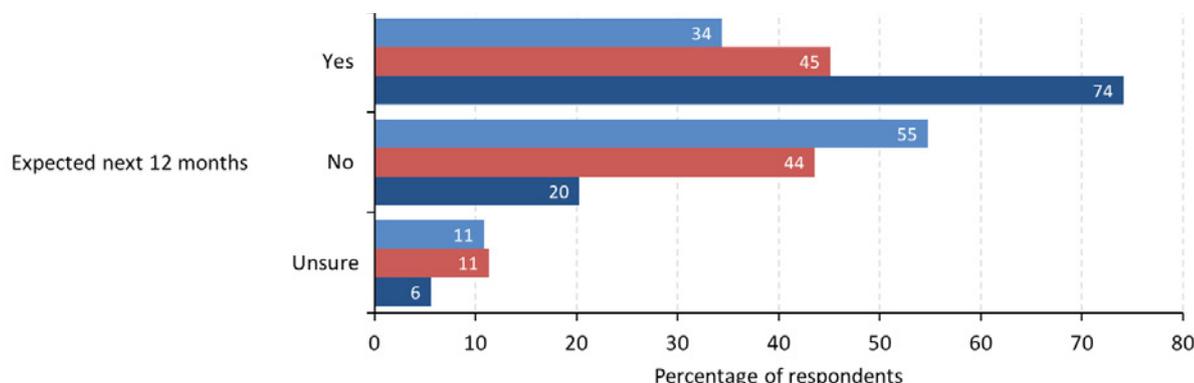
The 2018 survey indicates employers are having greater challenges in finding the skills they need. Employers responding have identified a significant leap in skills shortages. Over the last three surveys the percentage of employers experiencing skills shortages in the last 12 months has increased from 48 per cent in 2014, to 49 per cent in 2016 and to 75 per cent in 2018. This trend indicates that demand for skills has become a growing issue for employers.

**CHART 3 CURRENT EXPERIENCE OF SKILLS SHORTAGES.**



Employers were also asked whether they expected skills shortages in the next 12 months. The results were very similar to the current year with 74 per cent of employers expecting skills shortages in the next 12 months. This has also progressively increased from 34 per cent in 2014, to 45 per cent in 2016 to now reach 74 per cent.

**CHART 4 EXPECTED SKILLS SHORTAGES IN THE NEXT 12 MONTHS**

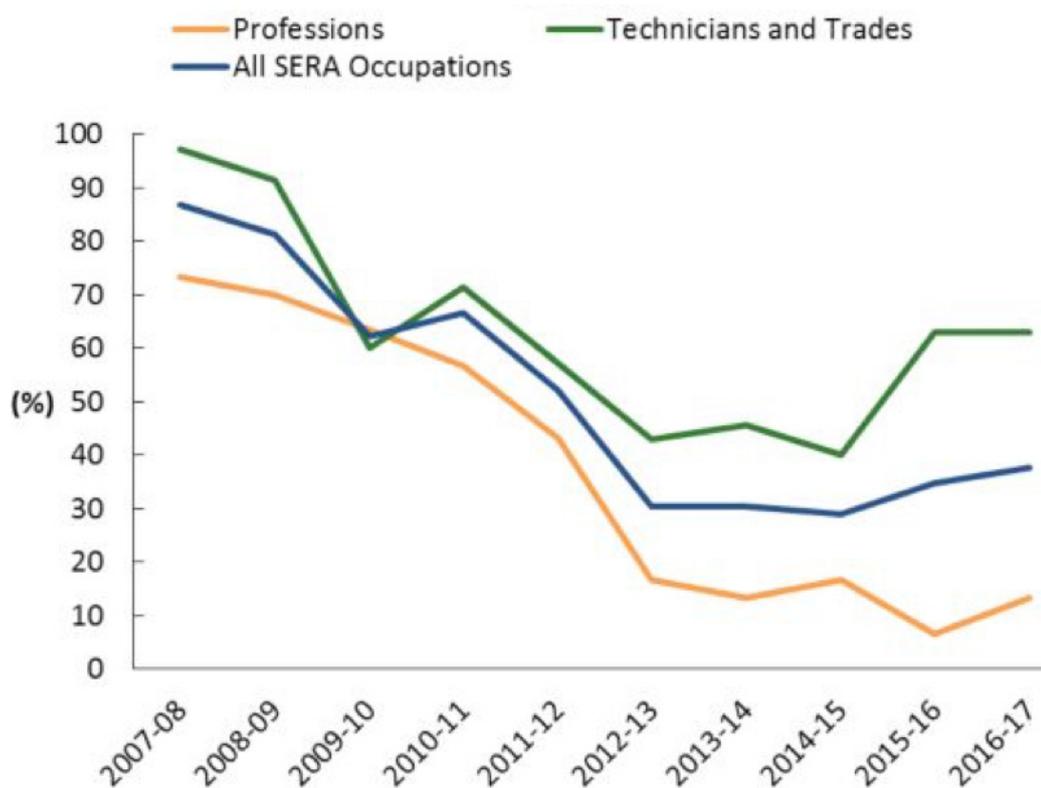


Respondents were asked to list their top three job roles experiencing skill shortages. The majority of skills in demand fell into the category of trades workers and technicians and ranged across a broad number of occupations such as construction trades workers, electricians and mechatronics/ automation trades workers. Test, service and instrument technicians also featured as experiencing shortages. Other noticeable shortages were reported for sales staff, managers, project managers and engineers.

These responses are consistent with data available from the Commonwealth Department of Industry about the occupation categories experiencing skills shortages. As has been the case for a number of years Technicians and Trades Workers have experienced the most significant shortages at over 60 per cent. There are some 22 occupations within this category as part of the national skills shortages list. This includes occupations such as:

- Engineering, ICT and Science Technicians
- Automotive and Engineering Trades Workers
- Construction Trades Workers
- Electrotechnology and Telecommunication Trades Workers
- Food Trades Workers
- Skilled Animal and Horticultural Workers
- Hairdressers

**CHART 5** PROPORTION OF CONSISTENTLY SURVEYED OCCUPATIONS IN SHORTAGE



On the other hand, there has been a significant reduction by employers reporting skill shortages in professional occupations. This has reduced from 43 per cent five years ago to 13 per cent for 2016-17. This is related to the considerable boost in participation in higher education over the same period. The skills shortages that do exist occur in the following occupations:

- Architects, Surveyors
- Business, Human Relations and Marketing Professionals
- Design, Engineering and Science Professionals
- Construction Engineers
- Health Professionals
- Veterinarians.

In the Ai Group survey digital transformation is likely to have influenced the reporting of skills shortages for occupations requiring skills in business automation, Big Data, artificial intelligence solutions and digital skills.

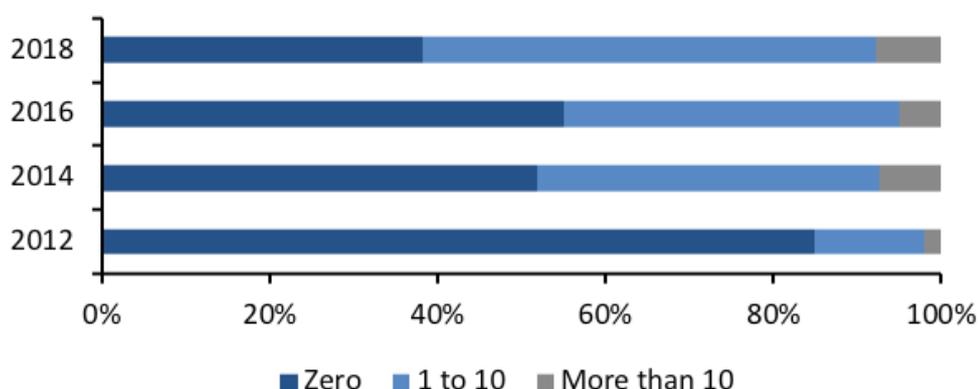
1. *The Skilled Labour Market, a pictorial overview of trends and shortages, 2016 - 17,* [www.employment.gov.au/skill-shortages](http://www.employment.gov.au/skill-shortages)

# 4. SPECIFIC SKILL ISSUES

## 4.1 APPRENTICESHIP TRAINING

The number of responding companies that employ apprentices or trainees has grown substantially over the past six years. 53.9 per cent of employers responded that they currently employ 1-10 apprentices (up from 39.9 per cent in 2016), and 8 per cent employ more than 10 (up from 5 per cent in 2016). In 2012, more than 80 per cent of survey respondents indicated that they employed no apprentices or trainees. This number has shrunk to less than 40 per cent in 2018.

CHART 6 FTE TRAINEES OR APPRENTICES



This increase in the number of employers with apprentices and trainees, runs counter to the latest data released by the NCVET, which shows a decline in apprenticeship commencements since 2012. According to the NCVET, apprenticeship and traineeship commencements in 2017 declined by 1.7 per cent from 2016, and 33.3 per cent since 2013<sup>2</sup>. Much of that decline has been in traineeships, and generally attributed to the reduction in Commonwealth incentives for existing workers and traineeships not considered to be high priority, or on the national skills needs list. On the other hand, the NCVET data shows that the decline is slowing, and that two states (New South Wales and Queensland) are now showing an increase in commencements.

CHART 7 : COMMENCEMENTS 12 MONTHS ENDING 31 DECEMBER<sup>3</sup>

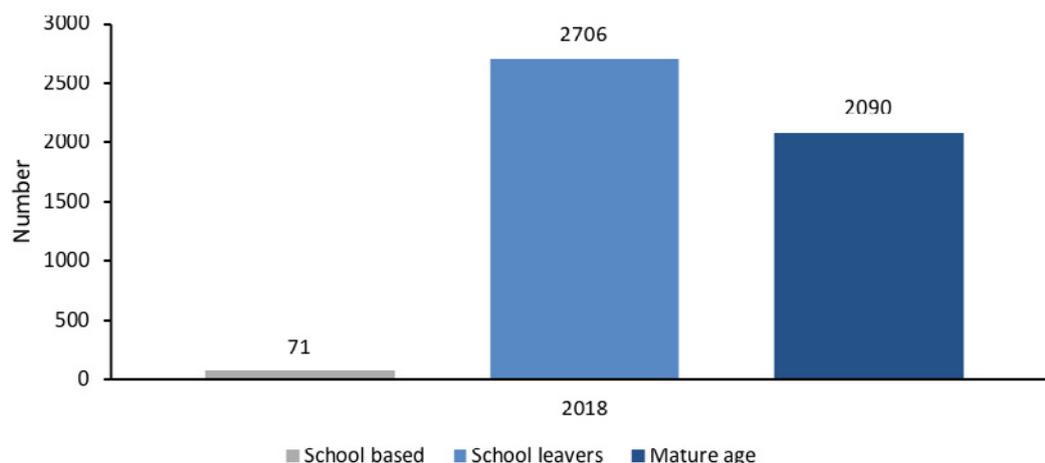


The majority of apprentices are school leavers, but mature aged apprentices form a substantial component (42.9 per cent) of total apprenticeship numbers. This would suggest that employers are turning to (more expensive) older workers to recruit as apprentices because apprenticeships are less attractive to school leavers.

2. Apprentices and trainees 2017: December quarter, NCVET, 2018

3. *ibid*

CHART 8 TYPES OF FTE TRAINEES OR APPRENTICES



School based apprentices are still relatively rare, making up only 1.5 per cent of total apprenticeship numbers of those surveyed. This contrasts with NCVET data, that reports school-based apprentices as currently 8.2 per cent of total apprenticeship numbers.<sup>4</sup> The top five industry sectors for school-based apprentices are:

- Retail Services,
- Tourism, Travel and Hospitality,
- Business Services,
- Sport, Fitness and Recreation, and
- Community Services.<sup>5</sup>

TABLE 1 SCHOOL-BASED APPRENTICES AND TRAINEES 2013 - 2017

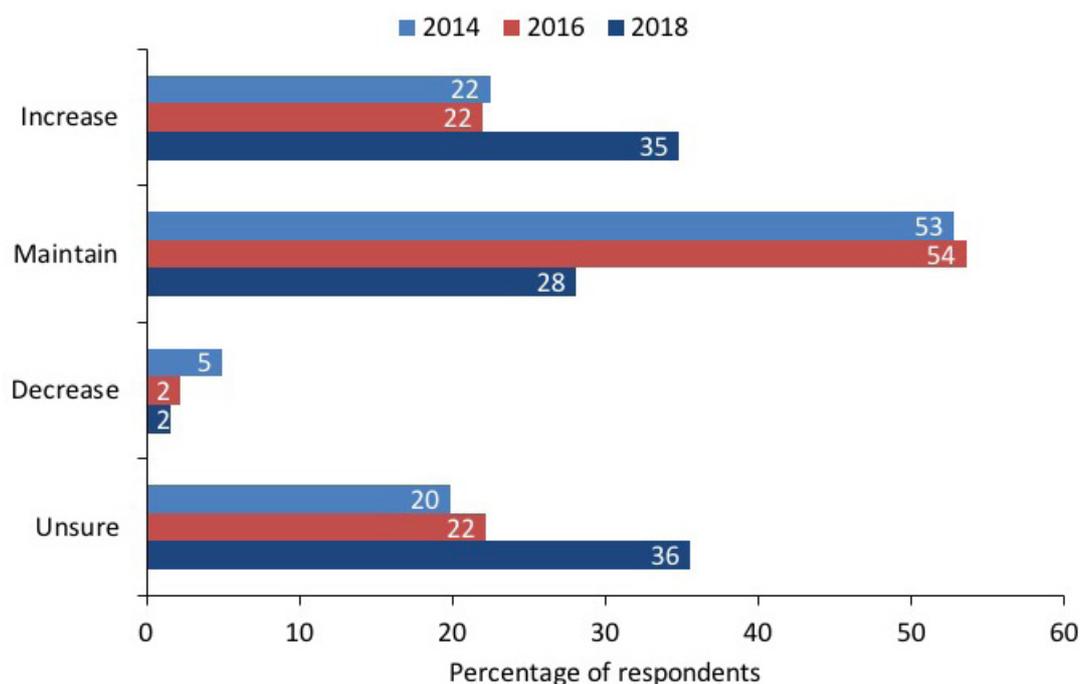
	2013 (’000)	2014 (’000)	2015 (’000)	2016 (’000)	2017 (’000)	2016-17 % change
<b>School-based apprentices and trainees</b>						
New South Wales	2.5	2.8	2.2	2.2	2.5	11.0
Victoria	3.6	3.9	3.6	3.3	3.0	-9.0
Queensland	13.1	11.7	11.1	8.7	11.3	29.2
South Australia	0.9	0.3	1.1	1.3	1.0	-18.9
Western Australia	1.1	1.2	1.2	0.8	1.3	71.1
Tasmania	0.6	0.7	0.6	0.6	0.5	-7.5
Northern Territory	-	0.2	0.2	0.1	0.1	42.6
Australian Capital Territory	0.3	0.2	0.1	0.2	0.2	-14.8
<b>Total school-based apprentices and trainees</b>	<b>22.1</b>	<b>21.0</b>	<b>20.1</b>	<b>17.2</b>	<b>20.0</b>	<b>16.1</b>

The growth in the number of employers with apprentices and trainees is likely to continue. 35 per cent of employers indicated an intention to increase the number of apprentices and trainees over the next 12 months, up from 22 per cent in 2014 and 2016. All sectors showed an increase, but the increase is more marked in the manufacturing sector, with 48.1 per cent indicating an intention to increase, up from 21.2 per cent in 2016.

36 per cent of employers were unsure if they would change their apprentice or trainee numbers, indicating a level of uncertainty about the future.

4. VET in Schools 2017, NCVET, 2018.  
5. VET in Schools 2016, NCVET, 2017

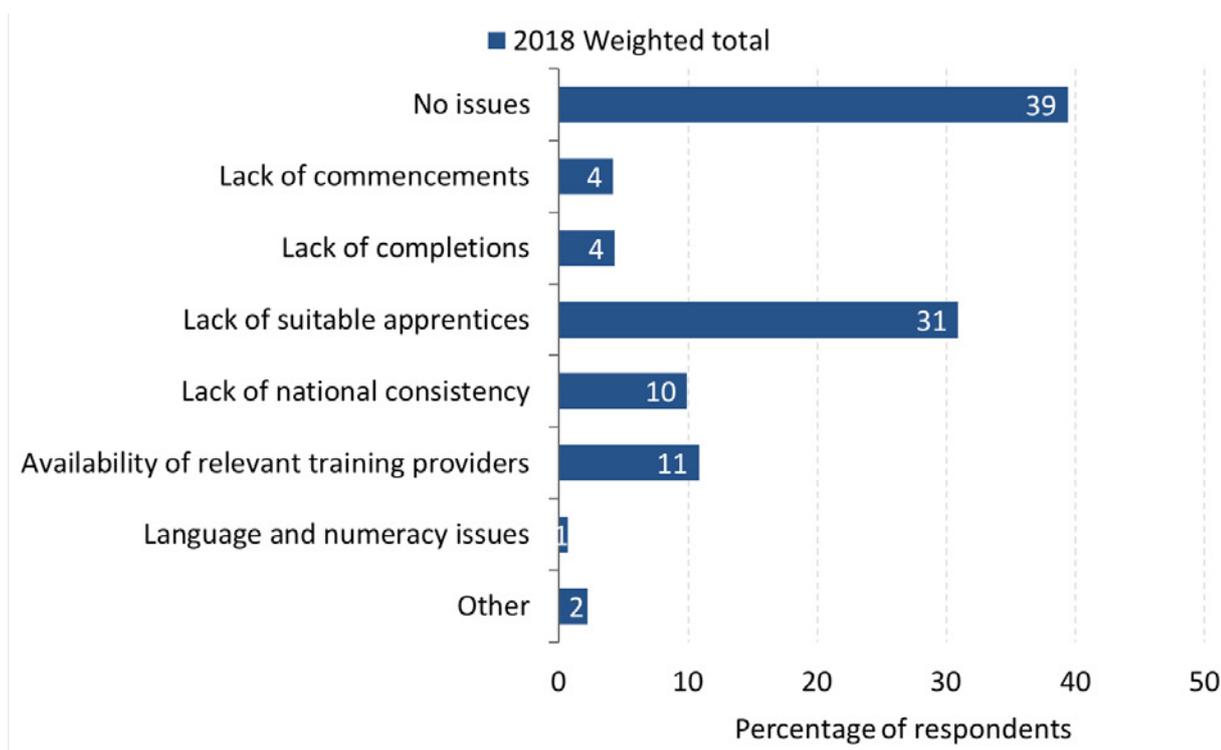
CHART 9 INTENTION TO CHANGE APPRENTICE AND TRAINEE NUMBERS



Employers were asked what the main issues of concern to them around apprenticeships and traineeships were. 31 per cent noted a lack of suitable apprentices. This compares to 25.7 per cent in 2016, revealing increasing frustration with sourcing apprenticeship candidates. Language and numeracy issues were not raised as an issue this time, despite 10.4 per cent reporting concerns in 2016.

Other areas of concern about the lack of national consistency and the availability of relevant training providers continue to be reported by employers. The comments about training providers ranged from the low levels of government funding for TAFEs to training programs that do not keep up with technical developments or new methods being applied in the workplace.

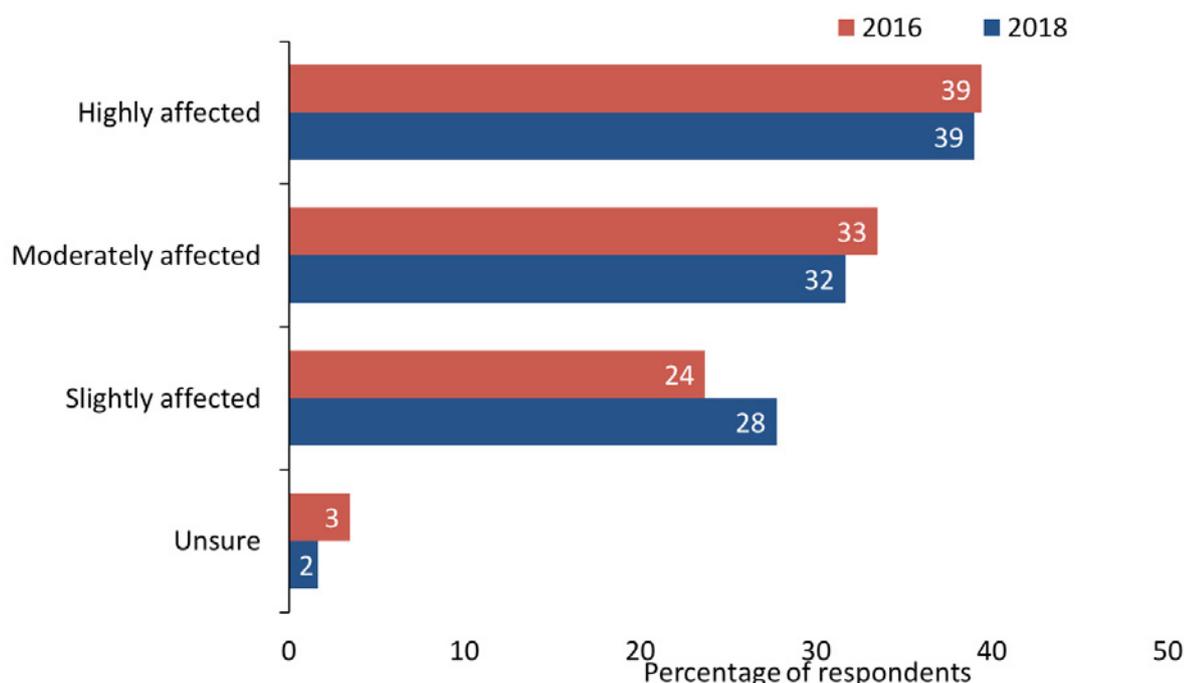
CHART 10 MAIN ISSUE OF CONCERN AROUND APPRENTICES AND TRAINEES



## 4.2 WORKPLACE LITERACY AND NUMERACY

Employers continue to report that low levels of literacy and numeracy are affecting their businesses. The highest response rate, the same as for the 2016 survey, was that 39 per cent of employers indicated that their businesses were highly affected by low levels of literacy and numeracy. Taken together a significant 99 per cent of employers reported that their business was affected in some way, an increase from the 96 per cent report from the previous survey.

**CHART 11** BUSINESSES AFFECTED BY LOW LEVELS OF LANGUAGE, LITERACY AND NUMERACY



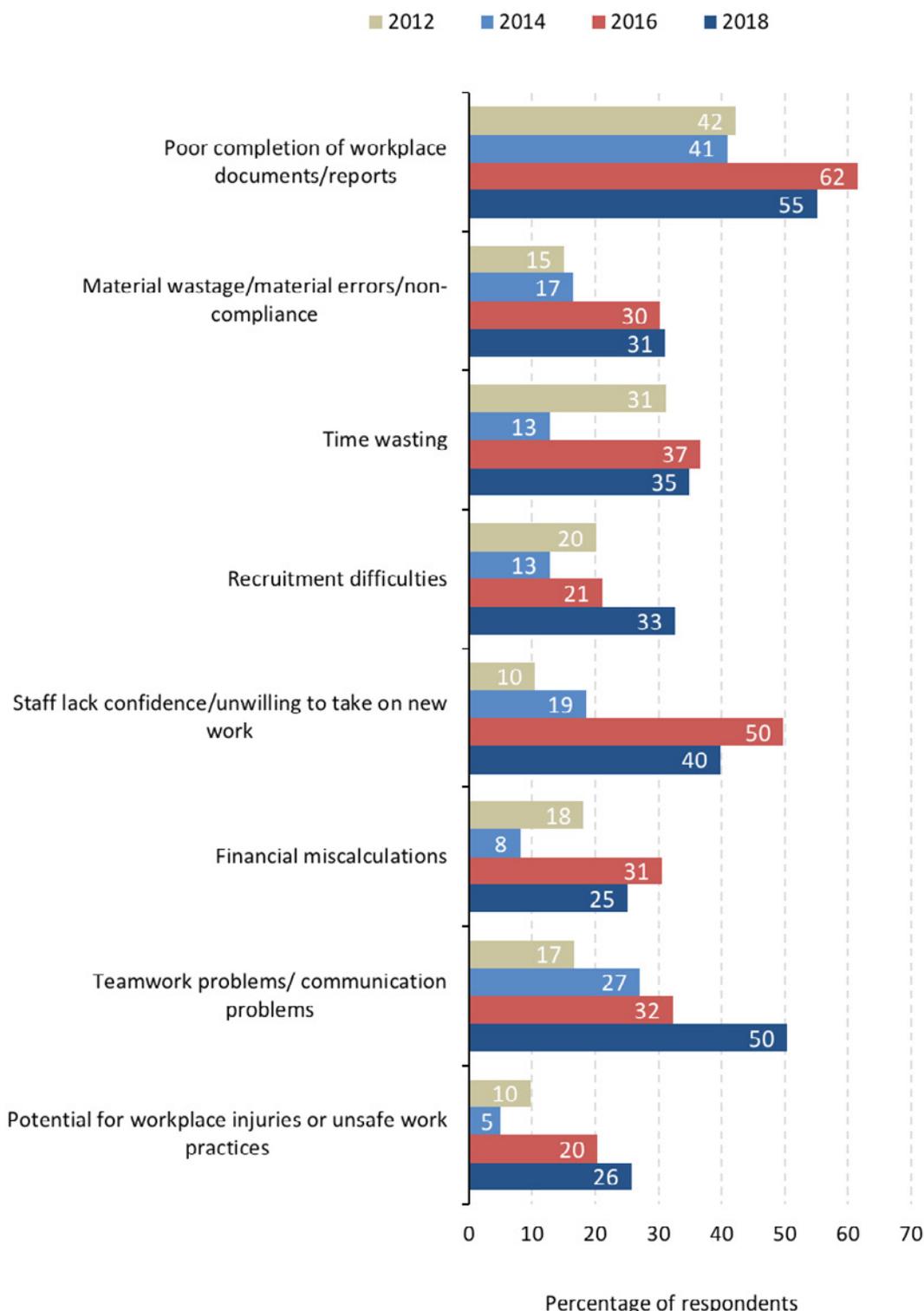
Employers have reported a wide range of effects on their businesses. The most significant issue remains the poor completion of workplace documents and reports at 55 per cent. This has been the highest recorded effect across all four of the workforce development surveys.

Other significant effects in 2018 include: teamwork and communication problems (50 per cent); a lack of employee confidence and an unwillingness to take on new work (40 per cent); time wasting (35 per cent); recruitment difficulties (33 per cent); and material wastage and errors (31 per cent).

The significance of the effects varies somewhat across the four surveys. Four effects increased in 2018 and reached their highest level since the surveys began. These are:

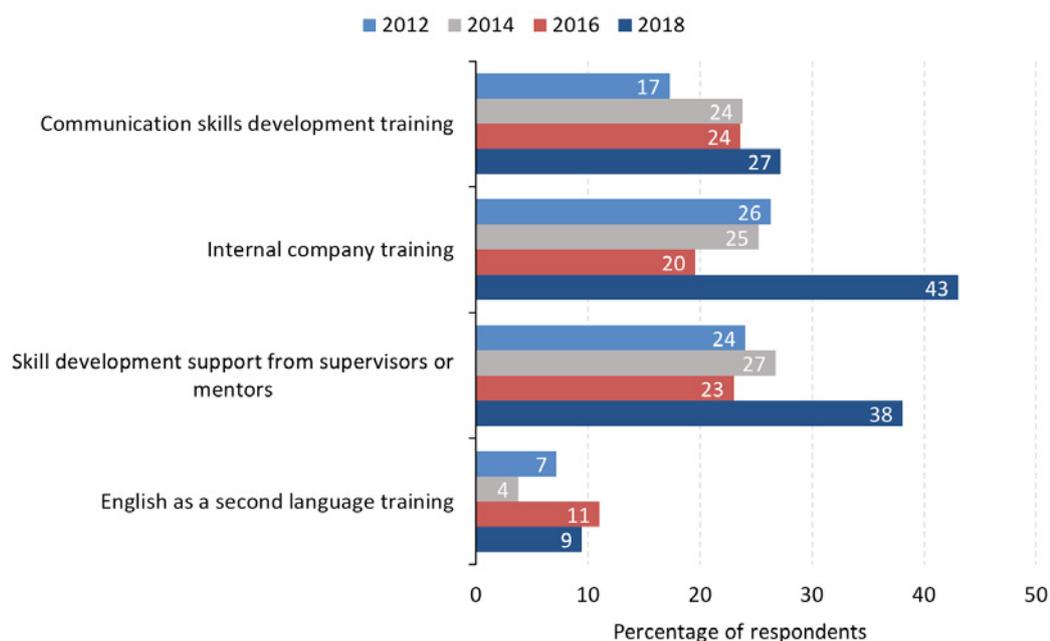
- Teamwork and communication problems (50 per cent)
- Recruitment difficulties (33 per cent)
- Material wastage and errors (31 per cent)
- Potential for workplace injuries or unsafe work practices (26 per cent)

CHART 12 EFFECTS OF LOW LEVELS OF LANGUAGE, LITERACY AND NUMERACY



Employers were asked to indicate what measures they have used to help address the problem of low levels of literacy and numeracy within the workplace. Three significant measures have been utilised and each has achieved their highest level of support in 2018. These are internal company training (43 per cent), skill development support from supervisors or mentors (38 per cent) and communication skills development training (27 per cent).

CHART 13 WORKPLACE IMPROVEMENT OF LITERACY AND NUMERACY

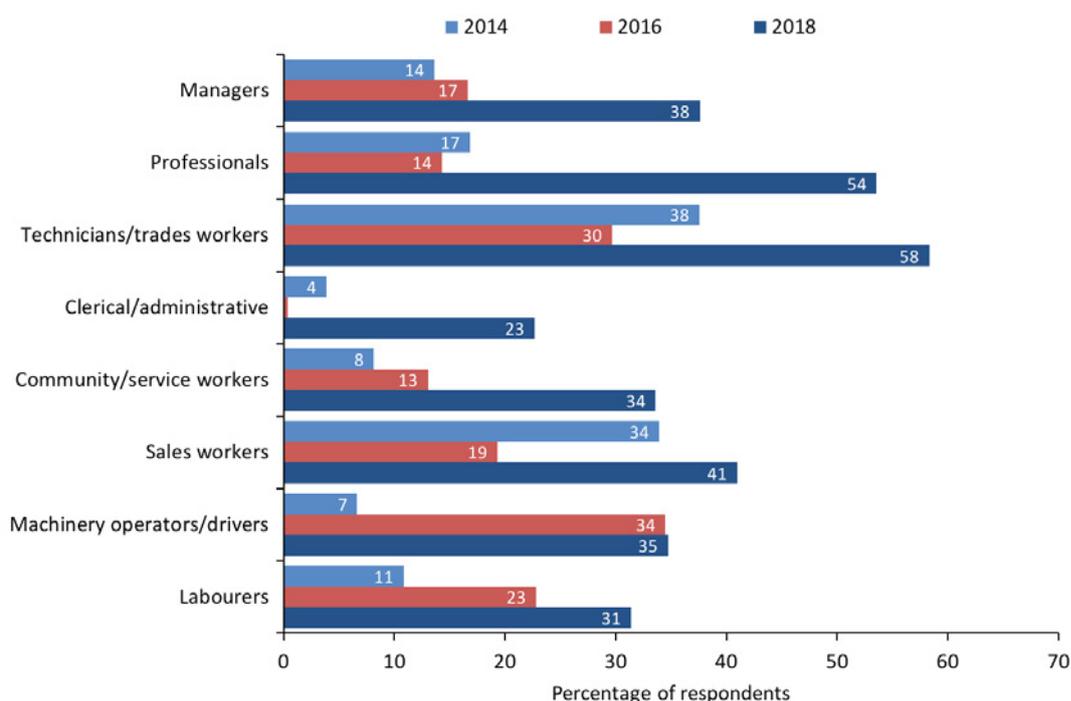


It is not surprising that employers are looking increasingly to their internal resources given the absence of a specific workplace literacy and numeracy program.

### 4.3 SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS

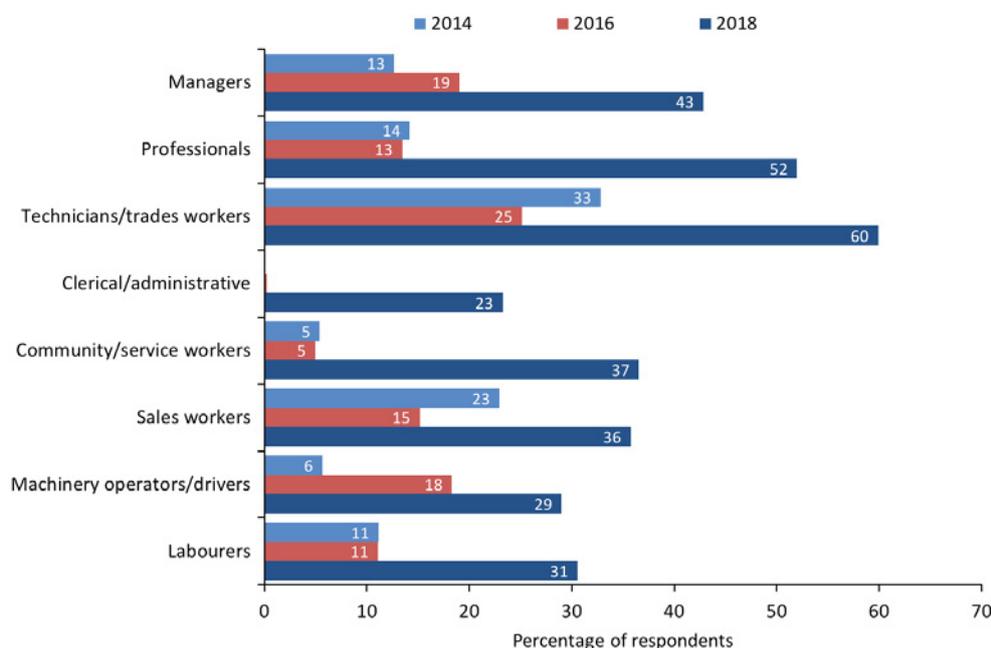
Employers continue to report difficulties recruiting employees with STEM skills. This is the case across a range of occupations with the most prevalent difficulties being technicians and trades workers (58 per cent), professionals (54 per cent), sales workers (41 per cent) and managers (38 per cent). In all of these occupation groups there has been an increase in recruitment difficulty compared to the 2014 and 2016 surveys. These increases have been significant for professionals (40 per cent), community and service workers (21 per cent), managers (21 per cent), sales workers (22 per cent) and technicians and trade workers (28 per cent). This data indicates that employers are seeking employees with STEM skills across a wide range of occupations.

CHART 14 DIFFICULTY RECRUITING STEM IN THE PAST 12 MONTHS



Recruitment difficulties for STEM skills are also expected in the next 12 months. This is the case for all surveyed categories of occupations compared to previous surveys. Once again the highest overall levels of recruitment difficulties are expected to be technicians and trades workers (60 per cent), professionals (52 per cent) and managers (43 per cent).

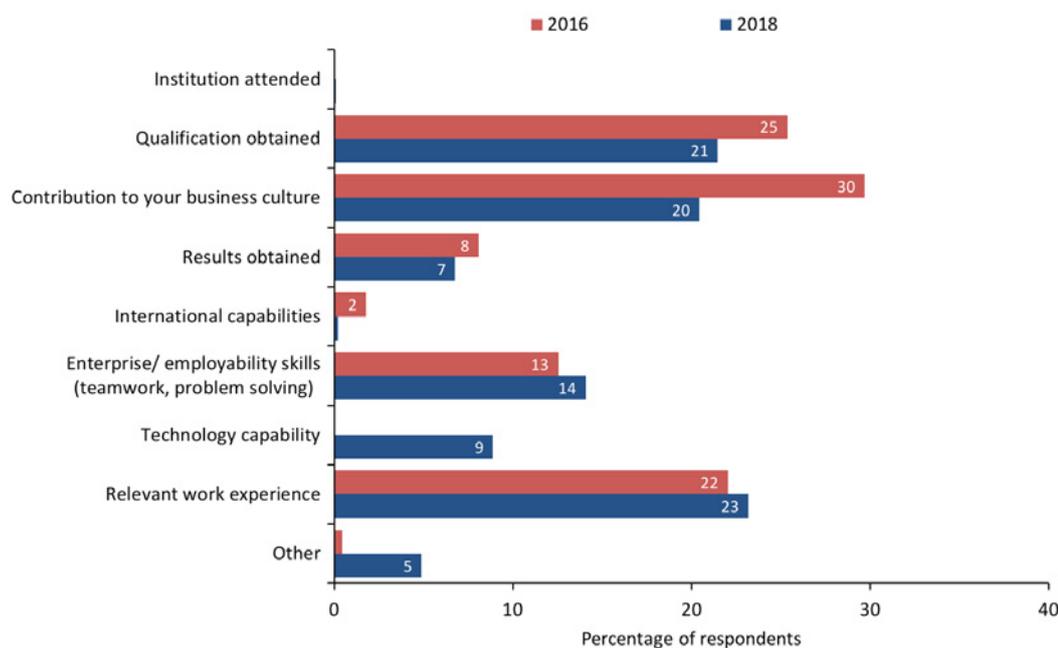
**CHART 15 EXPECTED DIFFICULTY RECRUITING STEM IN NEXT 12 MONTHS**



#### 4.4 SKILLS OF RECRUITED GRADUATES

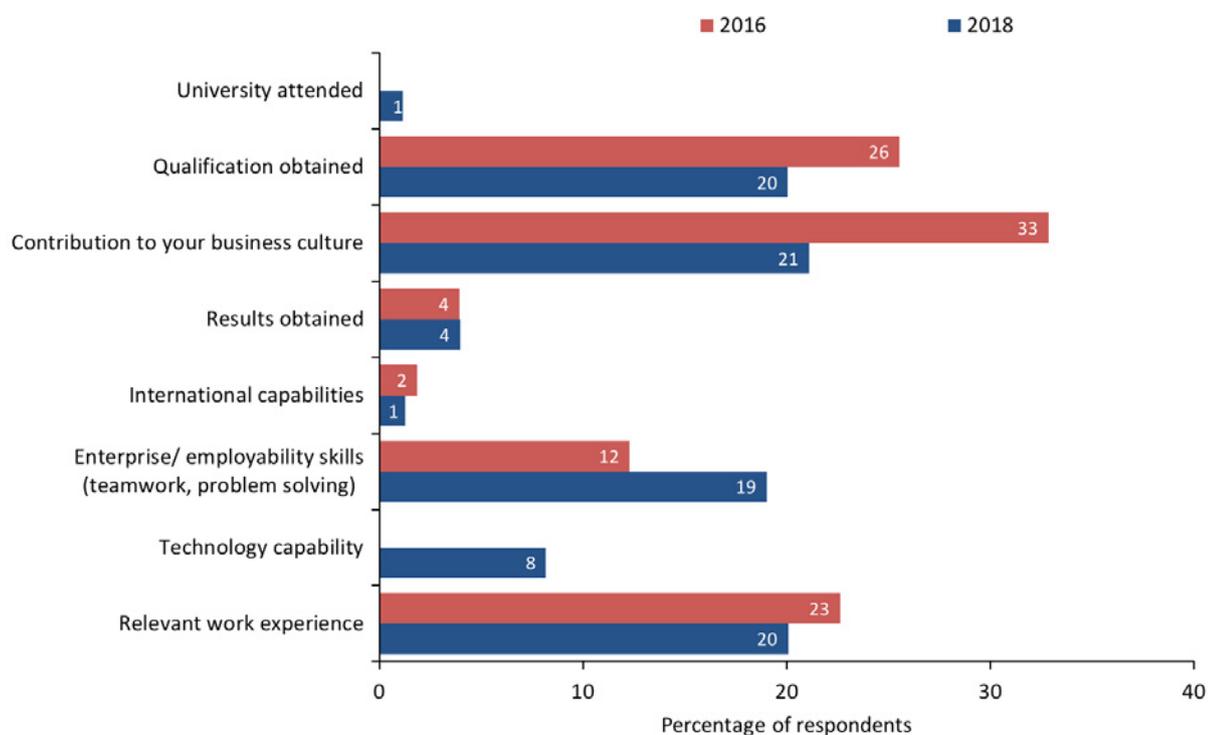
Ai Group’s survey asked respondents about the most important factors when recruiting graduates and their satisfaction levels once they are recruited. For university graduates the most important factor is a graduate’s contribution to the business culture (21 per cent), relevant work experience (20 per cent) and the qualification obtained (20 per cent). The importance of these top three categories declined over the two years from 2016, while the importance of enterprise and employability skills and work experience increased. This particular result reflects the need for workers with transferable skills that enable them to navigate the constant changes and complex challenges in the transforming economy.

**CHART 16 MOST IMPORTANT FACTORS WHEN RECRUITING UNIVERSITY GRADUATES**



Respondents reported similarly important factors in the recruitment of vocational education and training graduates. Most important is graduates' relevant work experience (23 per cent), the qualification obtained (21 per cent) and contribution to the business culture (20 per cent). The importance of enterprise and employability skills increased from 12 per cent to 19 per cent.

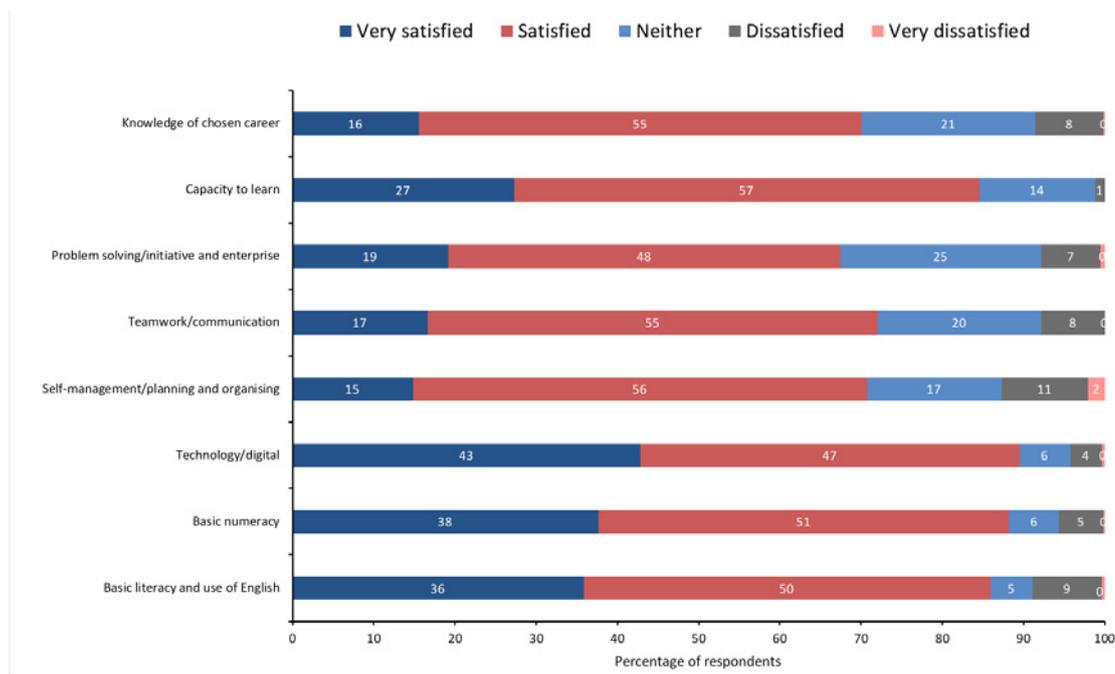
**CHART 17 MOST IMPORTANT FACTORS WHEN RECRUITING VOCATIONAL EDUCATION GRADUATES**



Satisfaction levels with various capabilities of graduates/applicants differed across the three education and training sectors. The highest levels of satisfaction were reported across all categories of capability for graduates from the higher education sector, followed by graduates from the VET sector with the lowest levels reported for school leaver applicants. Employers were most satisfied with the technology/digital skills of graduates/applicants from all education training sectors.

For higher education graduates, dissatisfaction by employers, while relatively low, was highest with regard to self-management, planning and organising (13 per cent), basic literacy (9 per cent), team work/communication (8 per cent) and knowledge of chosen career (8 per cent). The highest levels of dissatisfaction expressed by employers in the 2016 survey all decreased in the 2018 responses. These areas had included teamwork/communication and self-management; problem solving initiative and enterprise; and planning and organising. Dissatisfaction with basic literacy and knowledge of chosen career rose from 2016 to 2018.

**CHART 18 SATISFACTION WITH UNIVERSITY/HIGHER EDUCATION GRADUATES**



At the same time as respondents reporting increased satisfaction levels for higher education graduates from 2016 to 2018, the 2017 Graduate Outcomes Survey found that undergraduate employment outcomes improved slightly from 70.9 per cent in 2016 to 71.8 per cent in 2017. The graduate full-time employment rate has progressively improved since 2014, consistent with a modest improvement in the overall labour market over the period.<sup>6</sup>

**TABLE 2 UNDERGRADUATE EMPLOYMENT OUTCOMES 2016 AND 2017**

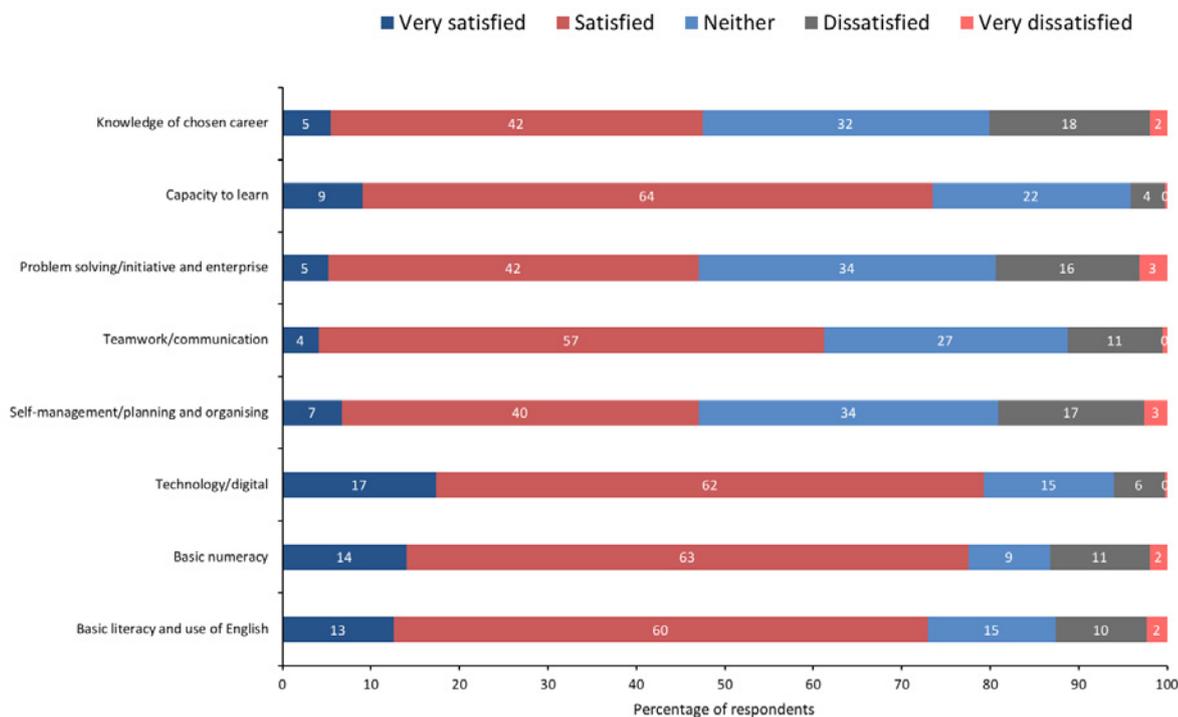
	2016			2017		
	Male	Female	Total	Male	Female	Total
Full-time employment	70.1	71.5	70.9	71.2	72.1	71.8
Overall employment	83.3	88.1	86.4	84.2	87.7	86.5
Labour force participation rate	91.1	92.5	92.0	91.6	92.3	92.0

In terms of short term outcomes, the 2017 Graduate Outcomes Survey found that graduates from more vocationally oriented higher education study areas had better success in the labour market immediately upon graduation. Conversely, graduates with more generalist degrees can take longer to enter the labour market immediately upon graduation. According to the 2017 Graduate Outcomes Survey-Longitudinal (GOS-L) this discrepancy is removed three years after graduation, with many more graduates finding work, particularly those with more generalist degrees.

The three highest areas of dissatisfaction by employers with vocational education and training graduates include self-management, planning and organising (20 per cent), knowledge of chosen career (20 per cent) and problem solving, initiative and enterprise (19 per cent).

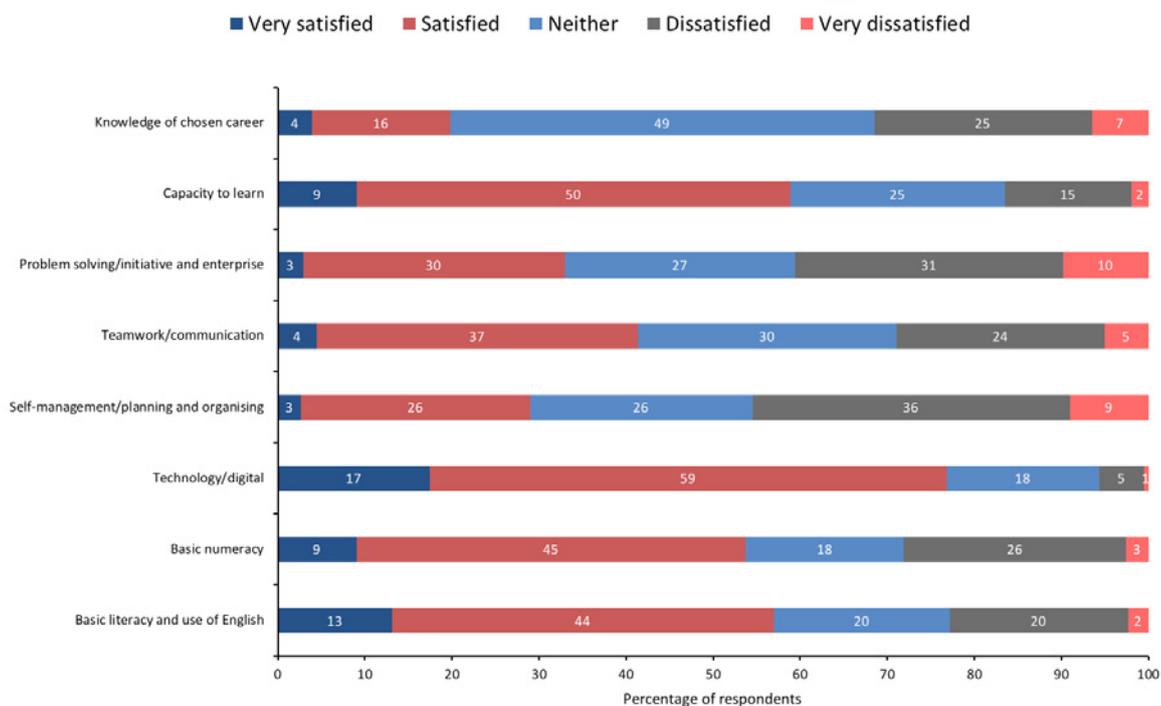
<sup>6</sup> 2017 Graduate Outcomes Survey, National Report, Quality Indicators for Learning and Teaching, Australian Government Department of Education, January 2018

CHART 19 SATISFACTION WITH VOCATIONAL EDUCATION AND TRAINING GRADUATES



Employers were significantly more dissatisfied with the range of characteristics of school leaver applicants. Of most concern is self-management, planning and organising (45 per cent dissatisfaction) and problem solving, initiative and enterprise (41 per cent). 29 per cent are dissatisfied with the basic numeracy of school leaver applicants and 22 per cent with the basic literacy and use of English.

CHART 20 SATISFACTION WITH SCHOOL LEAVER APPLICANTS

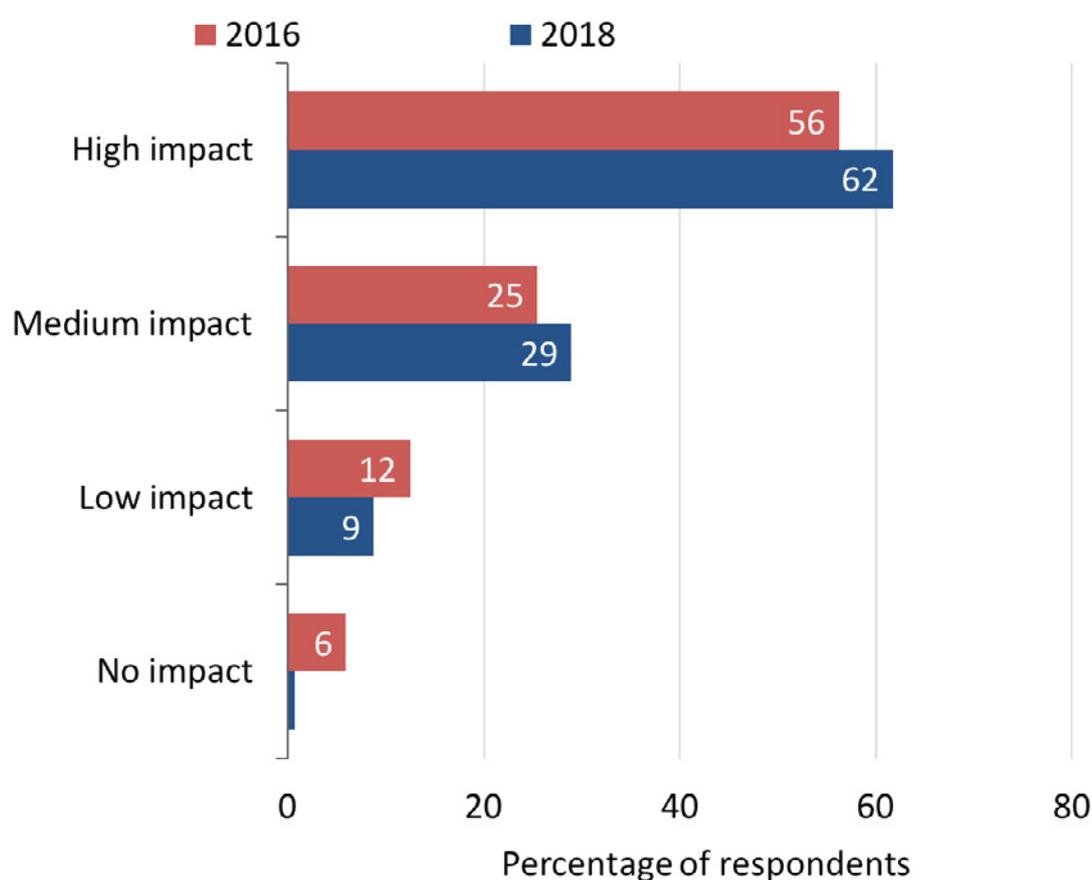


## 4.5 LEADERSHIP AND MANAGEMENT SKILLS

Leadership and management capability is taking on a renewed focus through industry's transformation to the digital economy. This capability is a key driver that enables companies to steer the interconnectivity between systems, machines and people. Concepts of management are being challenged as companies increasingly operate with autonomous workers tasked with making their own real-time decisions with regard to technologies, systems and teams. Leaders and managers must also be adept at dealing with uncertainty and constantly changing landscapes in the networked-knowledge economy.<sup>7</sup>

The percentage of respondents in Ai Group's survey indicating that a lack of leadership and management has a high impact on their business has increased from 56 per cent in 2016 to 62 per cent in 2018. Coupled with this the percentage of employers stating that there was no impact on the business from a lack of leadership and management decreased from 6 per cent to under 1 per cent over the two years.

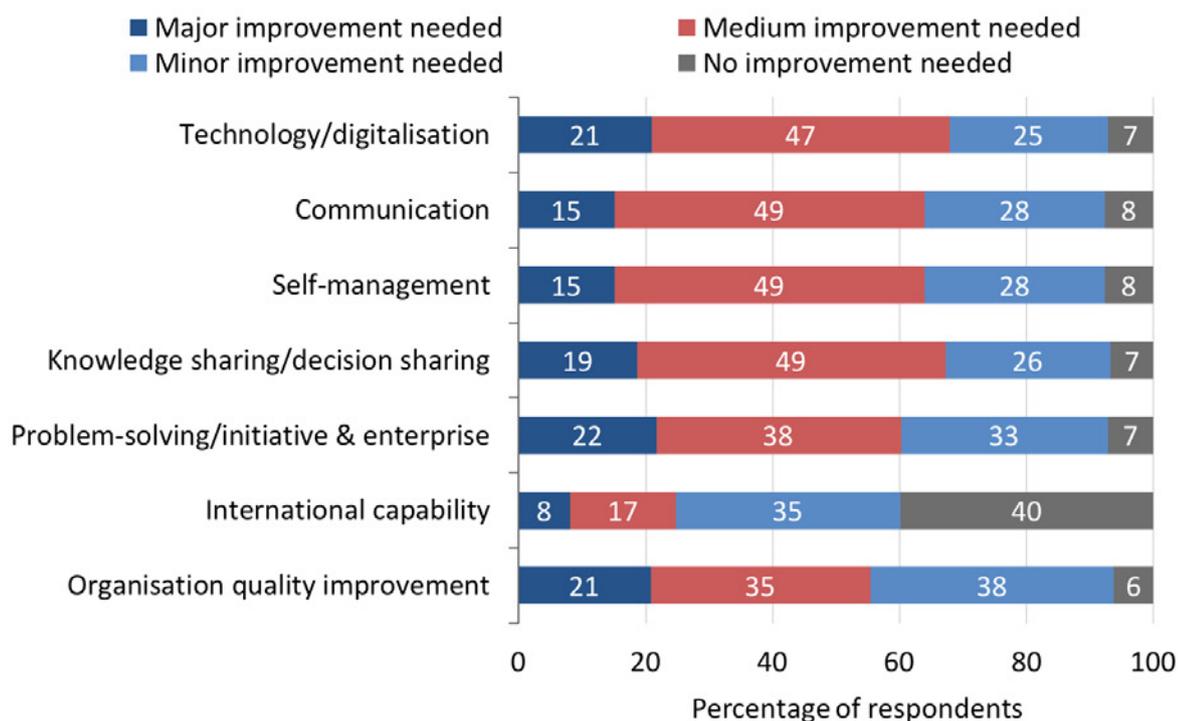
**CHART 21** IMPACT OF LEADERSHIP AND MANAGEMENT SKILLS



Respondents were asked to consider the kinds of improvements that are needed with regard to leadership and management skills. The most significant areas requiring major improvements include problem solving/initiative/enterprise (22 per cent), technology/digitalisation (21 per cent) and organisational quality improvement (21 per cent). Similar areas were stated as the main leadership and management aspects requiring medium improvements - communication/self-management and knowledge sharing (49 per cent) and technology/digitalisation (47 per cent).

<sup>7</sup> *The Future of Manufacturing Education Initiative, Final Report, Australian Business Deans Council, 2014.*

**CHART 22** MAIN AREAS IN WHICH IMPROVEMENTS TO LEADERSHIP AND MANAGEMENT SKILLS ARE NEEDED



To understand and recognise the upcoming changes in digitalisation and automation, leaders need to identify where their own organisation will be transformed and then put in place plans to migrate to new business processes enabled by digitalisation.<sup>8</sup>

The greater challenges for leaders are the workforce and organisational changes that will have to be put in place as automation upends entire business processes, as well as the culture of organisations. The digital economy requires a cultural change in the way work is done and managed. The role of a senior manager now focuses on the ability to locate knowledge, assess how valid it is and then put it to use in collaboration with other people.

Another new management challenge in a world where knowledge is dispersed across firms, industries and countries is the globalisation of innovation. The increasing geographic dispersion of knowledge, research and development also requires new forms of collaboration and levels of coordination.<sup>9</sup>

8. Chui, Maniyika and Meremadi, *Where machines could replace humans – and where they can’t (yet)*, McKinsey Quarterly, 2016

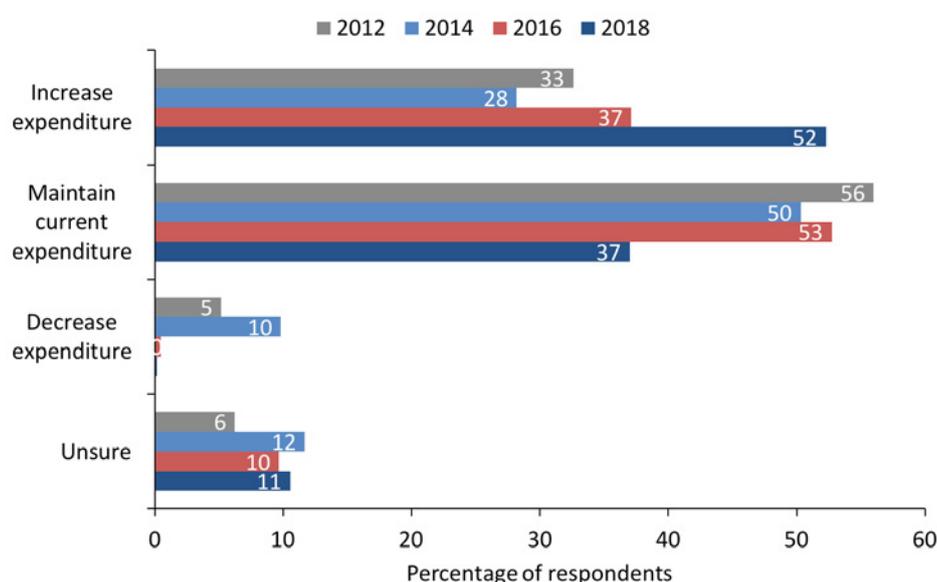
9. Australian Business Deans Council, *op. cit.*

# 5. COMPANY SKILL STRATEGIES AND PRACTICES

## 5.1 TRAINING EXPENDITURE

Employers were asked about their workforce development expenditure over the next 12 months. The largest response for 2018 was to increase expenditure (52 per cent). A further 37 per cent intend to maintain expenditure and 11 per cent are unsure. The intention to increase expenditure is the highest recorded across the four surveys. These results indicate a degree of confidence by employers to proceed with workforce development expenditure.

**CHART 23** CHANGES TO EXPENDITURE OVER THE NEXT 12 MONTHS



## 5.2 TRAINING STRATEGIES

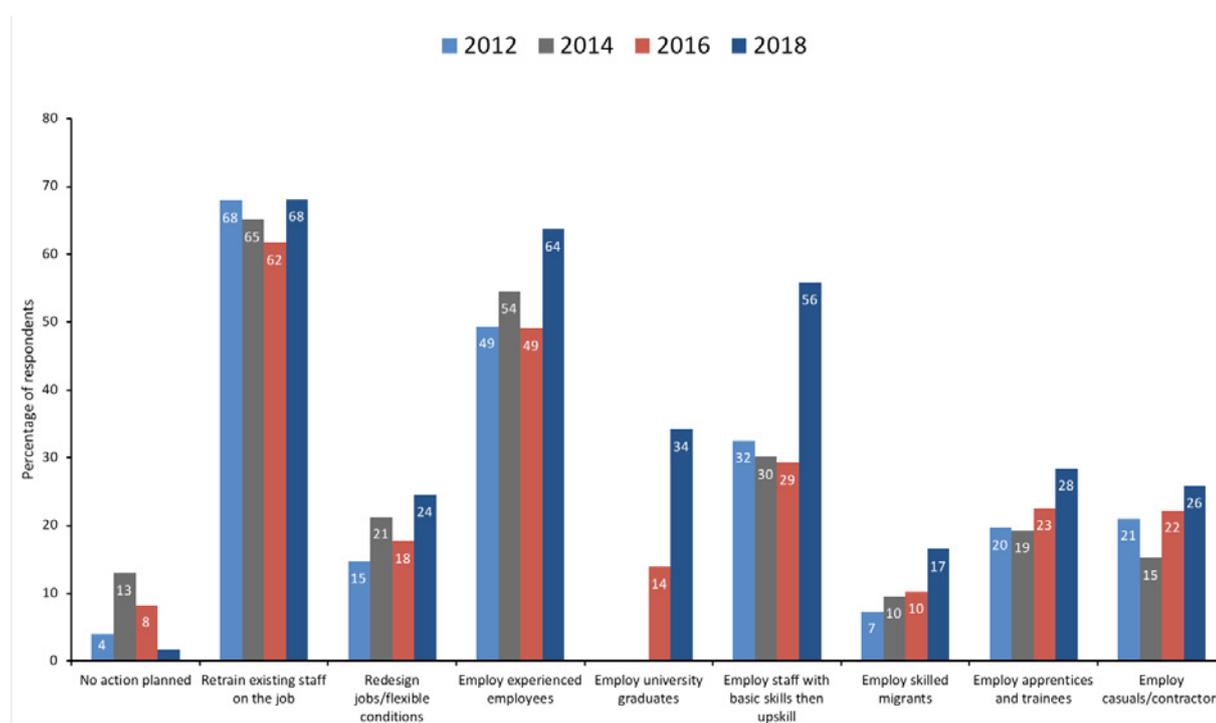
Employers engage in a wide range of strategies to meet their skill needs. For 2018 the most prominent measures are retraining existing staff on the job (68 per cent), employing experienced employees (64 per cent) and employing staff with basic skills and then upskilling (56 per cent). Other strategies include employing university graduates (34 per cent), employing apprentices and trainees (28 per cent), employing casuals and contractors (26 per cent), redesigning jobs and using flexible conditions (24 per cent) and employing skilled migrants (17 per cent).

In terms of the responses across the four surveys, retraining existing staff on the job has been the largest response on each occasion. Employing experienced employees has been a prominent strategy for each survey response as well. The 2018 response of 64 per cent is the highest across the four surveys and is a 15 per cent increase on the previous survey.

The strategy of employing staff with basic skills and then upskilling has significantly increased by 27 per cent since the last survey. All other strategies have increased from 2016 to 2018 as well. Employing university graduates has increased by 20 per cent, employing skilled migrants has increased by 7 per cent, redesigning work practices and using flexible conditions increased by 6 per cent, engaging apprentices and trainees has increased by 5 per cent and employing casual and contractors increased by 4 per cent.

This increased activity represents a considerably greater engagement with training strategies by employers in 2018.

CHART 24 HOW BUSINESSES INTEND TO MEET SKILLS NEEDS OVER THE NEXT 12 MONTHS



The most common strategies used to cope with lack of employee proficiency are similar to those reported by NCVER. Training existing staff remains the highest response at 86.9 per cent, a slight increase from 2015 to 2017. Recruitment of new staff has slightly decreased from 59.2 per cent in 2015 to 56.7 per cent in 2017.<sup>10</sup>

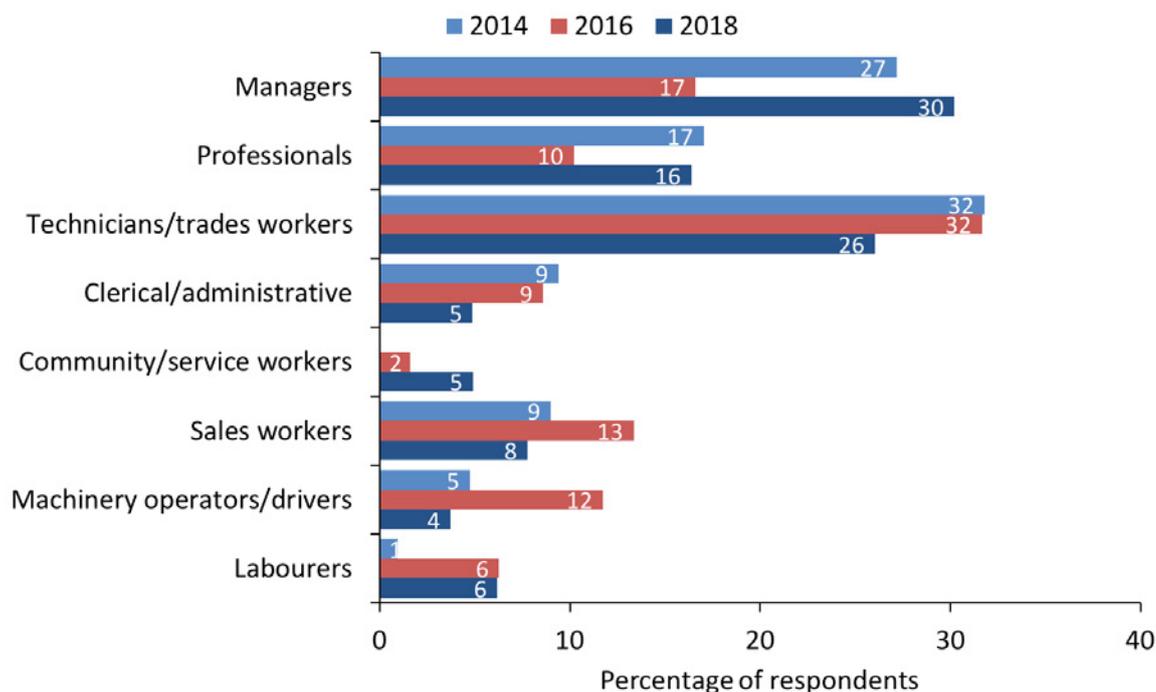
TABLE 3 STRATEGIES USED BY ORGANISATIONS TO COPE WITH LACK OF PROFICIENCY OF EMPLOYERS, 2015 AND 2017 (%)

	2015	2017
Internal reorganisation	57.2	57.3
Recruitment of new staff	59.2	56.7
Trained existing staff	86.0	86.9
Taken other action	32.2	30.6
None of these	4.8	4.5

Managers are the largest priority for training and development (30 per cent). This is followed by technicians and trade workers (26 per cent) and professionals (16 per cent). In terms of the last three surveys managers have increased in priority by 13 per cent and professionals by 6 per cent. Technicians and trades workers have decreased from 32 per cent in the two previous surveys to 26 per cent this year.

10. Employers' use and views of the VET system 2017, NCVER, Commonwealth of Australia, 2017, table 7, page 14.

CHART 25 PRIORITY FOR TRAINING AND DEVELOPMENT

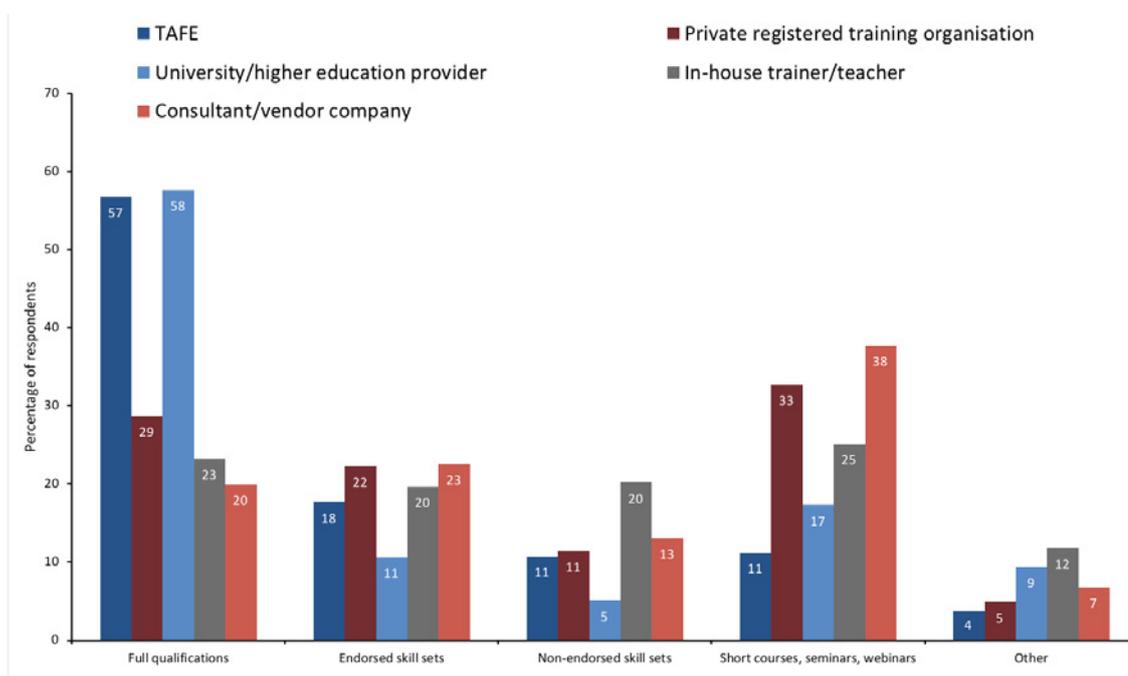


In terms of providers used for workforce development in 2018 the largest responses were for full qualifications delivered by universities/higher education providers (58 per cent) and by TAFE (57 per cent).

The next most accessed providers are consultants or vendor companies providing short courses, seminars and webinars (38 per cent), followed by short courses, seminars and webinars delivered by private Registered Training Organisations (33 per cent) and full qualifications delivered by private Registered Training Organisations (29 per cent).

The most subscribed type of training is still full qualifications followed by short courses, seminars and webinars. Endorsed skill sets have received some support delivered by consultants (23 per cent), private Registered Training Organisations (22 per cent) and TAFE (18 per cent).

CHART 26 TYPES OF TRAINING AND PROVIDER



The NCVER data collected on types of provider used for training augments the picture of provider usage.<sup>11</sup> The NCVER found that TAFE was the largest provider used for apprentices and trainees at 66 per cent, however this figure has decreased since 2015 when it was 68.4 per cent. In 2017 private training providers are the most favoured to provide nationally recognised training with 54.6 per cent. The use of TAFE for nationally recognised training decreased significantly from 27.2 per cent to 19.3 per cent over the two years measured, while the use of universities for nationally recognised training increased from 5.1 per cent to 8.7 per cent over the same period.

Over half (54.5 per cent) of employers did not use an external provider for unaccredited training in 2017 indicating that a significant amount of training takes place using in-house personnel. Where employers did use external providers for unaccredited training, private training providers were most used, increasing from 18 per cent in 2015 to 20.9 per cent in 2017. The use of suppliers/manufacturers of equipment and/or product as providers of unaccredited training also increased slightly from 9.9 per cent to 11 per cent over this time.

**TABLE 4 TYPE OF PROVIDER AND MAIN PROVIDER USED FOR TRAINING IN THE LAST 12 MONTHS, 2015 AND 2017**

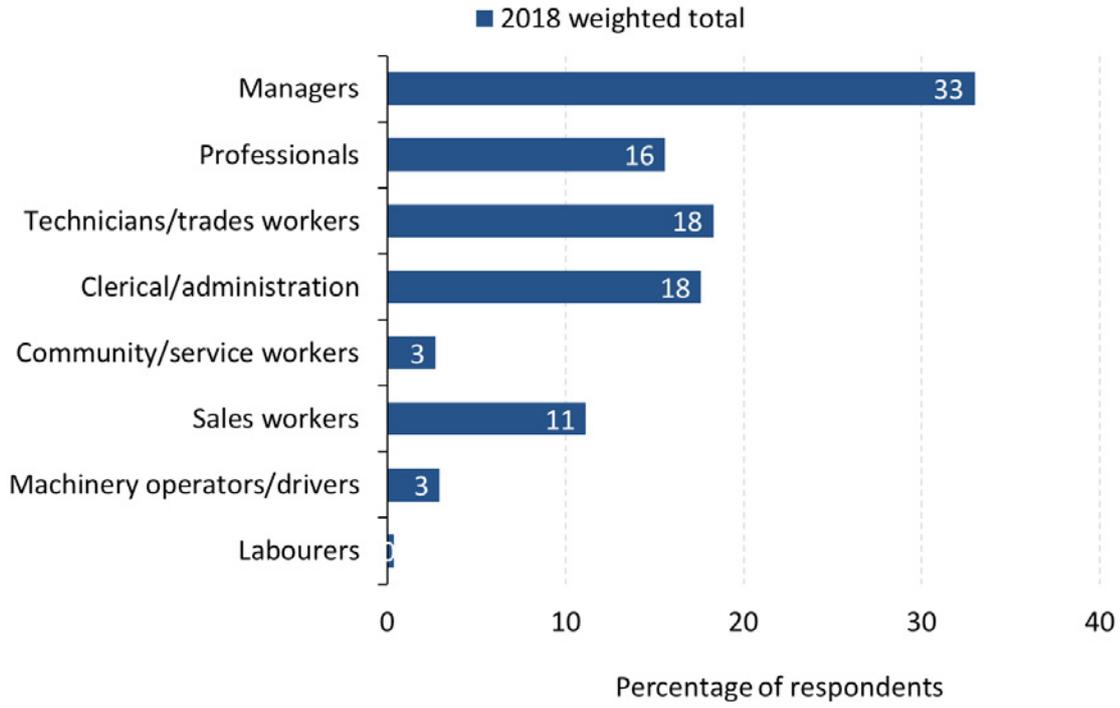
Type of training provider	All types of providers used		Main provider used	
	2015	2017	2015	2017
<b>Apprentices and trainees</b> (Base: all employers with apprentices/trainees)				
TAFE	68.4	66.0	66.2	62.4
Private training provider	22.4	25.4	18.8	21.2
Professional or industry association	10.9	7.7	8.8	6.7
Other providers used for training apprentices/trainees	5.4	9.9	4.4	7.4
No external training provider used	1.8*	3.1	1.8*	2.3*
<b>Nationally recognised training</b> (Base: all employers using nationally recognised training)				
TAFE	27.2	19.3	18.0	12.2
University	5.1*	8.7	3.5*	6.7*
Private training provider	56.3	54.6	52.6	51.0
Professional or industry association	23.3	23.4	21.1	20.7
Other providers used for nationally recognised training	2.7*	7.3	1.7*	5.3
No external training provider used	3.3*	4.2	3.1*	4.2
<b>Unaccredited training</b> (Base: all employers using unaccredited training)				
TAFE	2.4*	1.6	1.7*	1.2*
Private training provider	18.0	20.9	15.7	19.7
Professional or industry association	15.0	14.7	14.1	12.7
Supplier/manufacturer of equipment and/or product	9.9	11.0	8.0	9.9
Other providers used for unaccredited training	2.9	2.9	1.7	1.9*
No external training provider used	58.4	54.5	58.7	54.7

## 5.3 DIGITAL TECHNOLOGY TRAINING AND DEVELOPMENT

For the first time in the Ai Group survey, employers were asked about the priorities in their workforce for digital technology training and development, and changes anticipated or caused by its rollout. Managers are the largest priority (33 per cent), followed by technicians and trades workers and administration staff (both 18 per cent). Professionals were rated next at 16 per cent.

<sup>11</sup>Employers' use and views of the VET system, 2017, NCVER, commonwealth of Australia, 2017, Table 14, page 20

CHART 27 PRIORITY FOR DIGITAL TECHNOLOGY TRAINING AND DEVELOPMENT

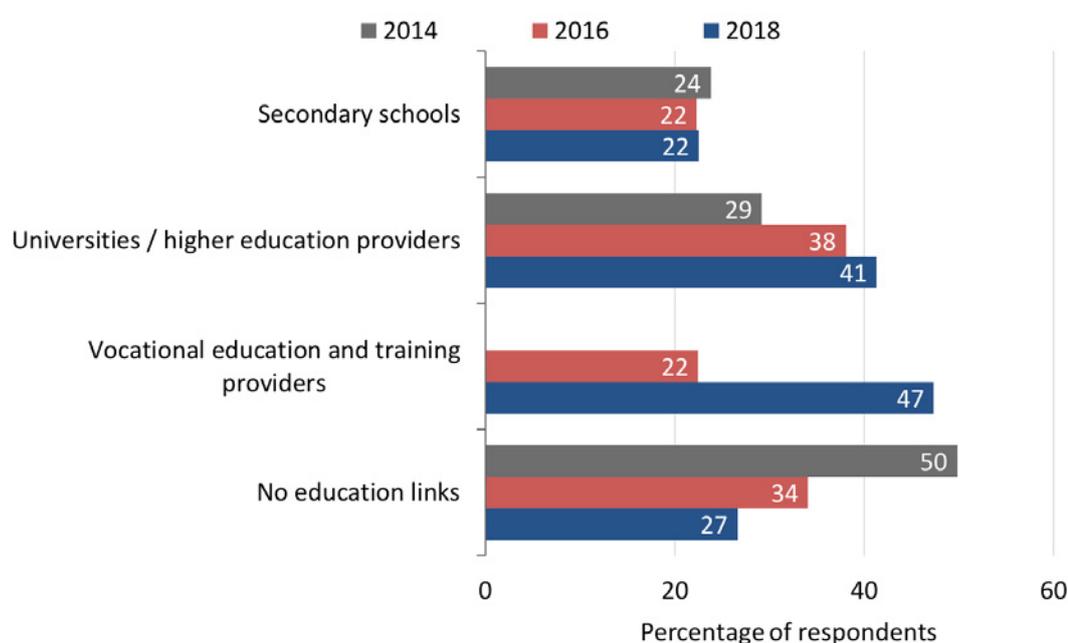


## 6. LINKS WITH EDUCATION SECTORS

Industry links to the education sectors are a critical factor in industry competitiveness. For 2018 the links with universities and higher education providers and VET providers have increased on the previous year while those with secondary schools are lower but have been maintained at the previous survey level. The links to VET providers are the highest at 47 per cent, a significant increase from 22 per cent in the previous survey. The links with universities and higher education providers have steadily increased to reach 41 per cent in 2018. The links to secondary schools have remained stable at 22 per cent.

Companies having no links with education sectors has significantly decreased from 50 per cent in the 2014 survey to 27 per cent this year.

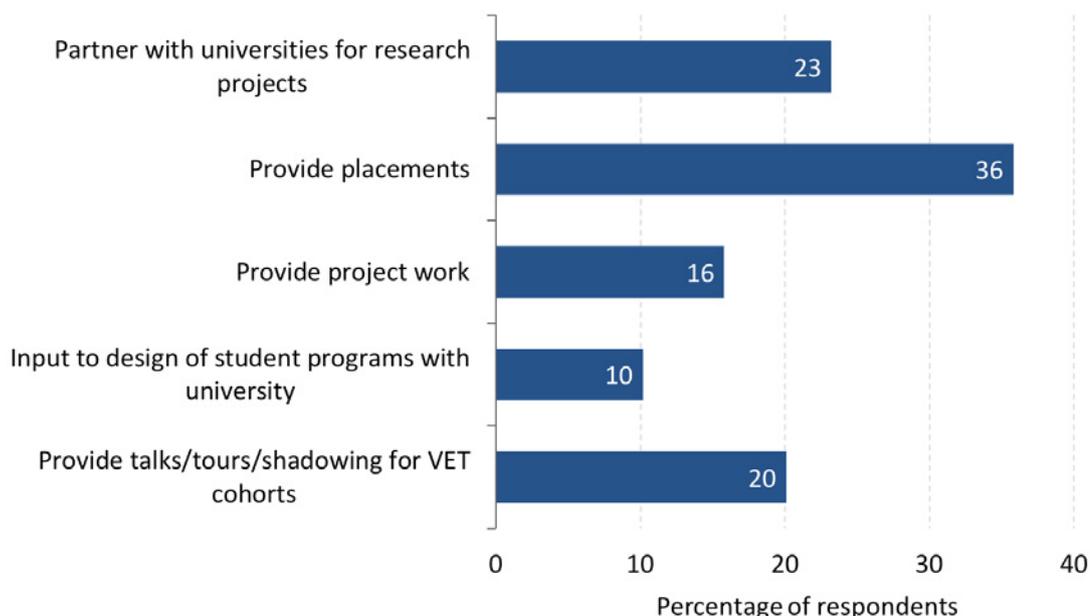
**CHART 28** LINKS WITH EDUCATION PROVIDERS OVER THE PAST 12 MONTHS



*\*VET providers were not included as an option in Ai Group's 2014 survey*

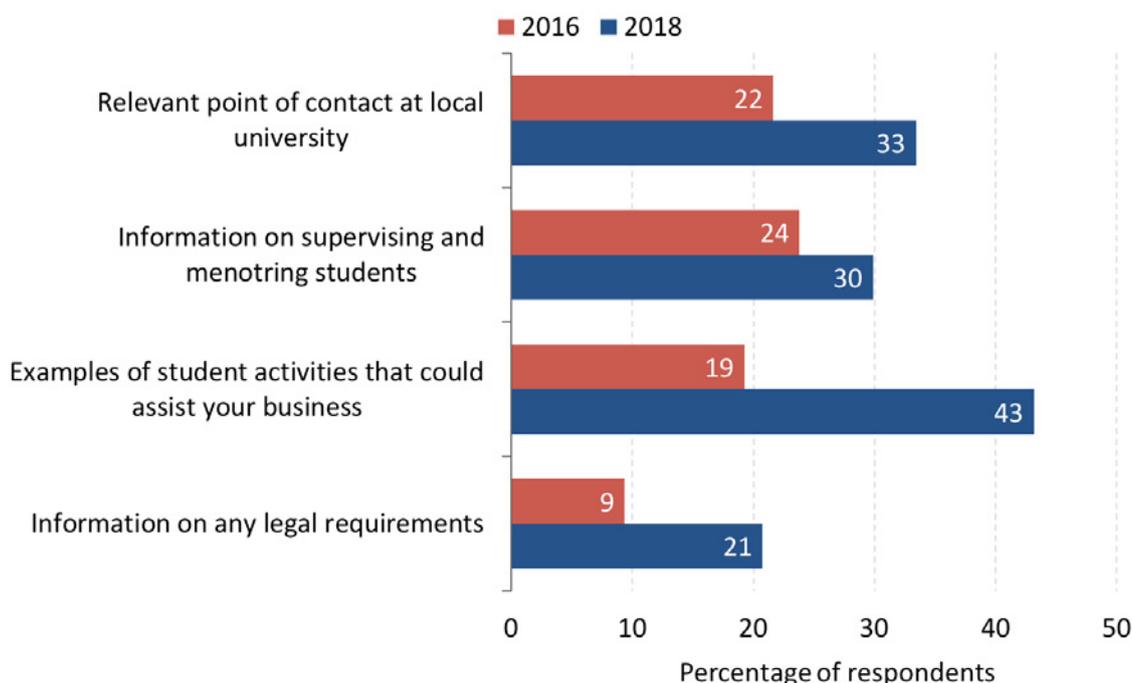
The nature of the links with universities and higher education providers are various and all have increased from the previous survey. The leading type of link is the provision of work placements at 36 per cent, an increase of 6 per cent on the previous survey. Partnering with universities for research projects has grown from 15 per cent in 2016 to 23 per cent this year. The provision of talks, tours and opportunities for work shadowing has decreased marginally to 20 per cent. 16 per cent of employers reported linking to universities through project work.

**CHART 29** TYPES OF LINKS WITH UNIVERSITIES OVER THE PAST 12 MONTHS



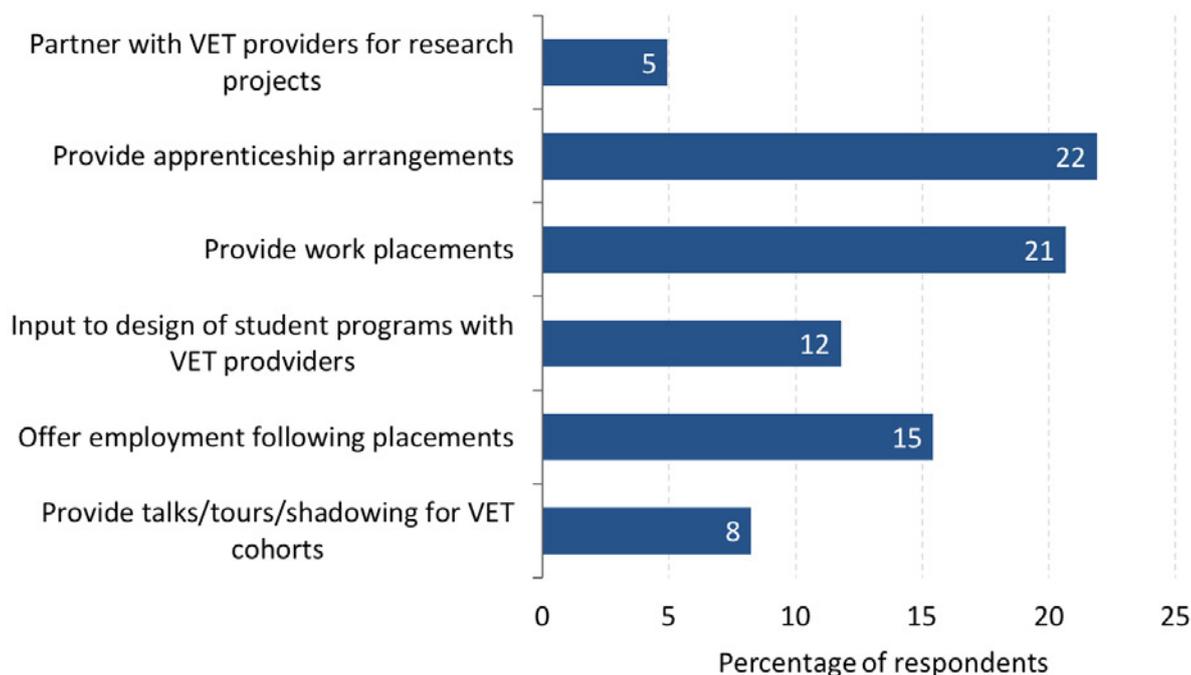
In order to assist links with universities employers were asked what support would allow them to involve university students in their organisation. Compared to 2016 the support identified to assist increased across all categories. Since the 2016 survey examples of student activities that could assist the business has become the most important form of support (43 per cent of employers), ahead of a relevant point of contact at a local university (33 per cent), information on supervising and mentoring students (30 per cent) and information on legal requirements (21 per cent).

**CHART 30** SUPPORT TO INVOLVE UNIVERSITY STUDENTS



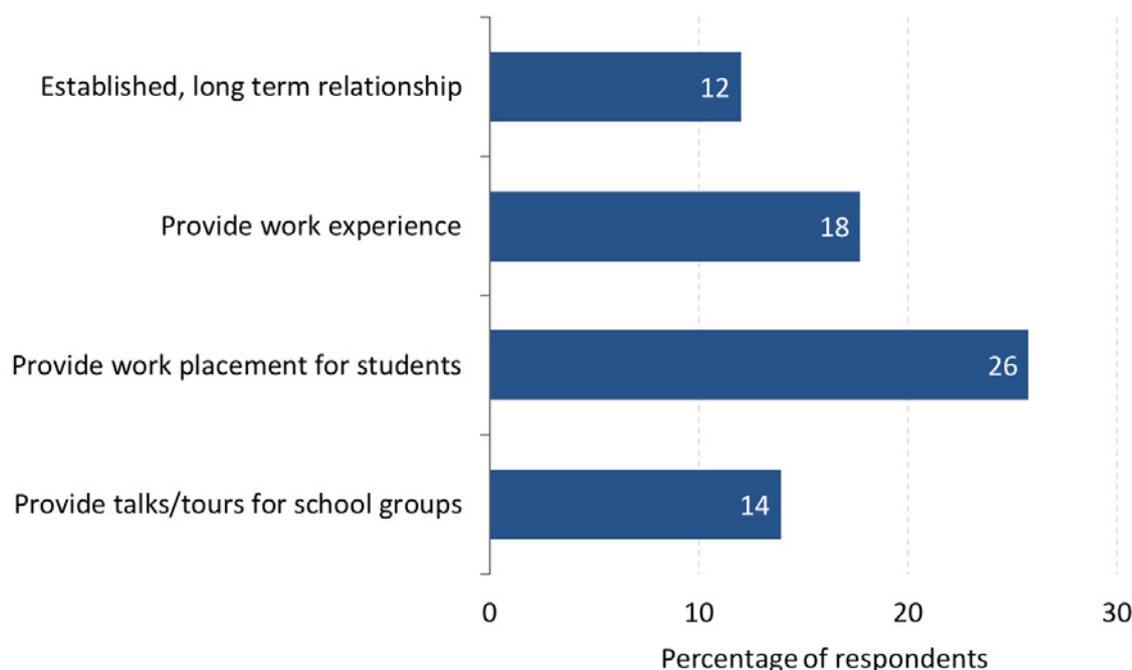
Industry links to VET providers are the highest for apprenticeship arrangements (22 per cent) and work placements in companies (21 per cent). 15 per cent of respondents have maintained links by offering employment to students after placements.

**CHART 31** TYPES OF LINKS WITH VET PROVIDERS OVER THE PAST 12 MONTHS



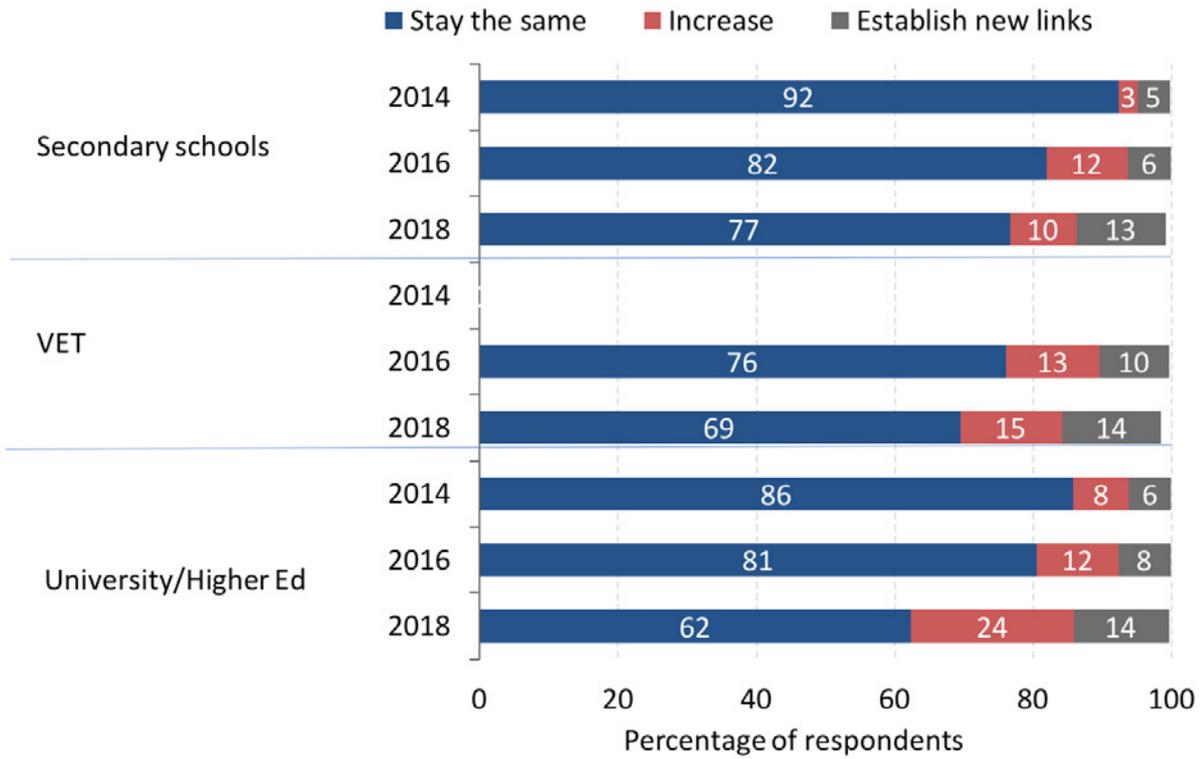
The most prominent industry link to secondary schools is for the provision of work placements (26 per cent). The next most significant link is the provision of work experience (18 per cent).

**CHART 32** TYPES OF LINKS WITH SECONDARY SCHOOLS OVER THE PAST 12 MONTHS



Respondents plan to increase links and establish new links across all education and training sectors over the next twelve months. Intended increased links and new links are most significant for the higher education sector (38 per cent), followed by VET sector links (29 per cent) and secondary school links (23 per cent). The trend for companies to increase their links or establish new links has steadily increased across education and training sectors from 2014 - 2018.

**CHART 33** PLANS FOR LINKS WITH SECONDARY SCHOOLS, VET AND HIGHER EDUCATION OVER THE NEXT 12 MONTHS



\*The 2014 Ai Group survey did not ask this question in relation to the VET sector.

## Workforce Development Services



Recruitment  
Services



Graduate Employment  
Services



Apprentice and  
Trainee Centre



Accredited Training



Short Courses

## Other Ai Group Services



Membership



Legal



Policy  
Development



Consulting