Ai GROUP SURVEY

Listening to Australian businesses on workforce
and skills 2024

The digital and AI revolution, jobs and skills

MAY 2024

Ai Group's Centre for Education and Training surveys a cross-section of Australian businesses every two years to learn more about skills and workforce challenges across the economy.

This comprehensive, future-facing survey asks companies about the external and internal factors driving their skills and workforce needs now and into the future. It also asks where the skills challenges or shortages are, and the steps businesses plan to take to develop or acquire the skills and capabilities they consider they need to succeed.

The survey has asked businesses about digital transformation and digital skills for some time, providing data on the evolving demand for these capabilities. This year, for the first time, the survey takes a deeper look at the impact of generative AI, exploring what it might mean for workforces, jobs and skills.
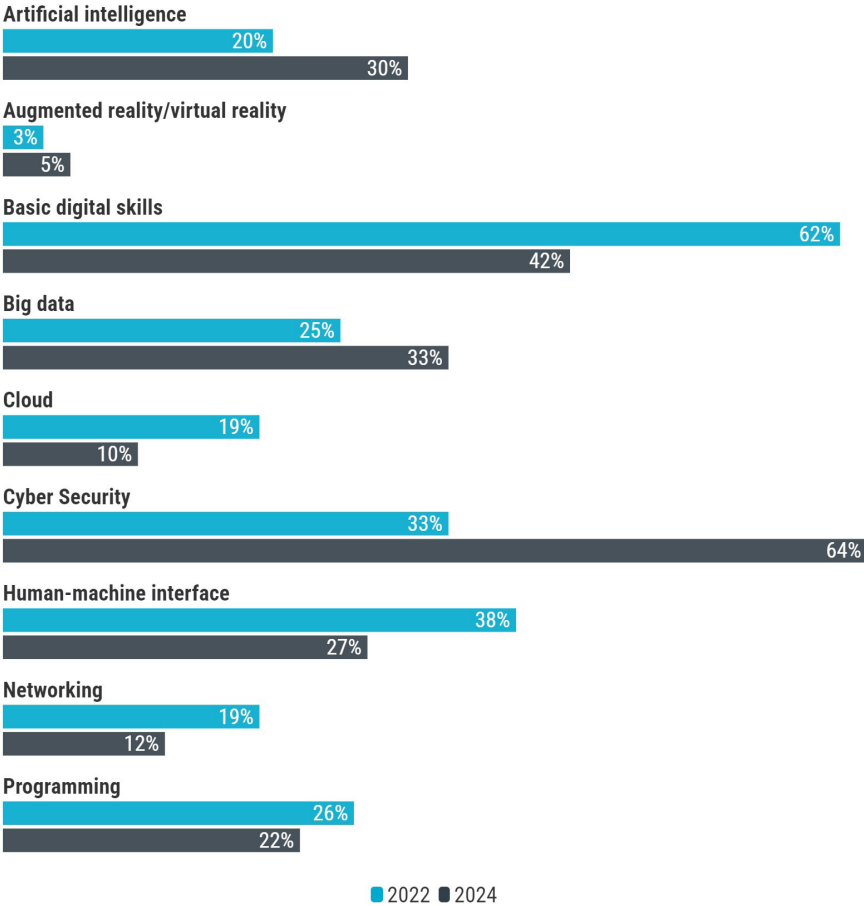
Cyber security skills the number one priority for business, followed by basic digital skills

Cyber security skills are number one in a long list of digital and technology skills businesses are seeking in 2024.

64% say they need cyber security skills and capabilities in their business. This has risen from 33% of businesses surveyed in 2022.

Basic digital skills remain a high priority for Australian businesses, with 42% of those surveyed in 2024 reporting they need these skills in their business. This demand has lessened somewhat from the last survey in 2022, when basic digital skills were the highest priority, with 62% of Australian businesses needing more of these skills.

Which digital capabilities are you needing in your business?

Artificial intelligence
- 20%
- 30%

Augmented reality/virtual reality
- 3%
- 5%

Basic digital skills
- 62%
- 42%

Big data
- 25%
- 33%

Cloud
- 19%
- 10%

Cyber Security
- 33%
- 64%

Human-machine interface
- 38%
- 27%

Networking
- 19%
- 12%

Programming
- 26%
- 22%

■ 2022 ■ 2024

More businesses seeking skills in artificial intelligence and big data

In 2024 30% of companies surveyed say they needed **artificial intelligence skills** in their business, up from 20% in 2022.

Demand for **big data skills** is also up since the previous survey. 33% of businesses surveyed in 2024 said they needed these skills in their business, up from 25% in 2022.

Less demand for programming, networking and cloud skills

The proportion of businesses reporting a demand for cloud computing, programming, networking and human-machine interface skills has dropped off over the last two years.

This may suggest businesses are beginning to consolidate and leverage the gains from their investment in digital infrastructure over the past few years. Now, as the valuable pool of data grows and new technologies become sophisticated enough to make productive sense out of this data, businesses are switching their focus to protecting their assets and investing in cyber security capabilities.

Businesses were able to rank their need for these digital skills in order of priority. They were able to rank as many as applicable.

Improving the digital capability of managers and professionals the focus
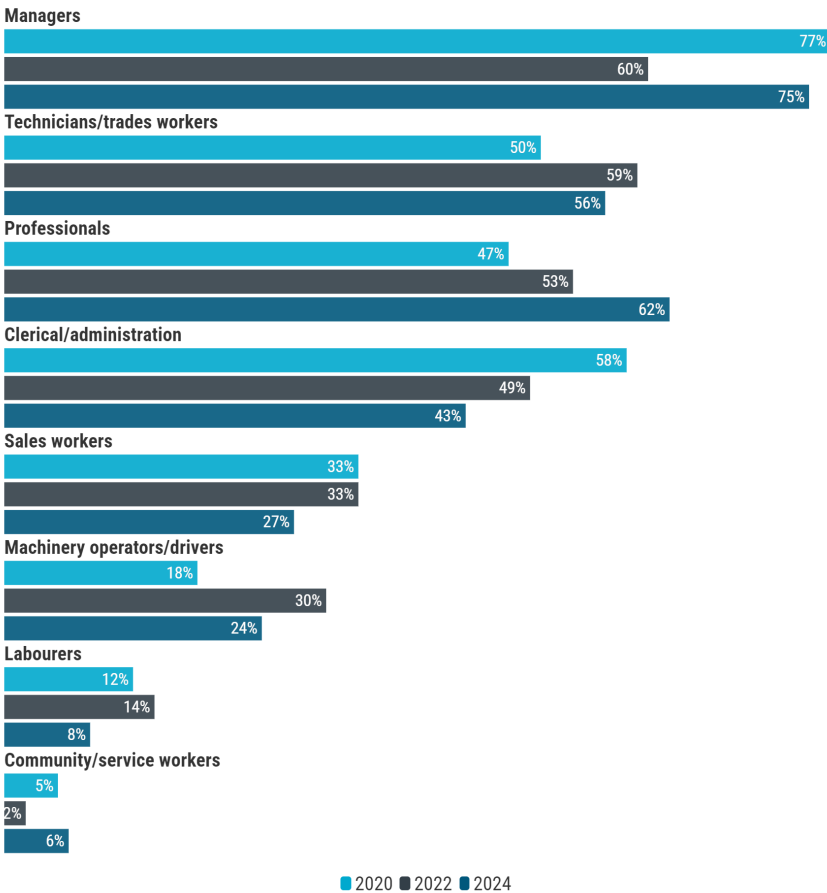
This year **businesses are focused on improving the digital capabilities of managers**.

Three quarters (75%) of businesses surveyed intend to focus their efforts on improving the digital skills of their managers (up from 60% in 2022) and a return to pandemic-era levels (77% in 2020).

Professionals are also a key focus, with 62% of respondents intending to improve the digital capability of the Professionals in their business, closely followed by **Technicians and Trades** workers (56%).

Since 2020, businesses have been increasing their focus on improving the digital capabilities of Professionals and reducing their focus on Clerical/Administration workers and Sales Workers.

If you intend to improve the digital capability of your business, which employees are you prioritising?

Managers
- 2020: 77%
- 2022: 60%
- 2024: 75%

Technicians/trades workers
- 2020: 50%
- 2022: 59%
- 2024: 56%

Professionals
- 2020: 47%
- 2022: 53%
- 2024: 62%

Clerical/administration
- 2020: 58%
- 2022: 49%
- 2024: 43%

Sales workers
- 2020: 33%
- 2022: 33%
- 2024: 27%

Machinery operators/drivers
- 2020: 18%
- 2022: 30%
- 2024: 24%

Labourers
- 2020: 12%
- 2022: 14%
- 2024: 8%

Community/service workers
- 2020: 5%
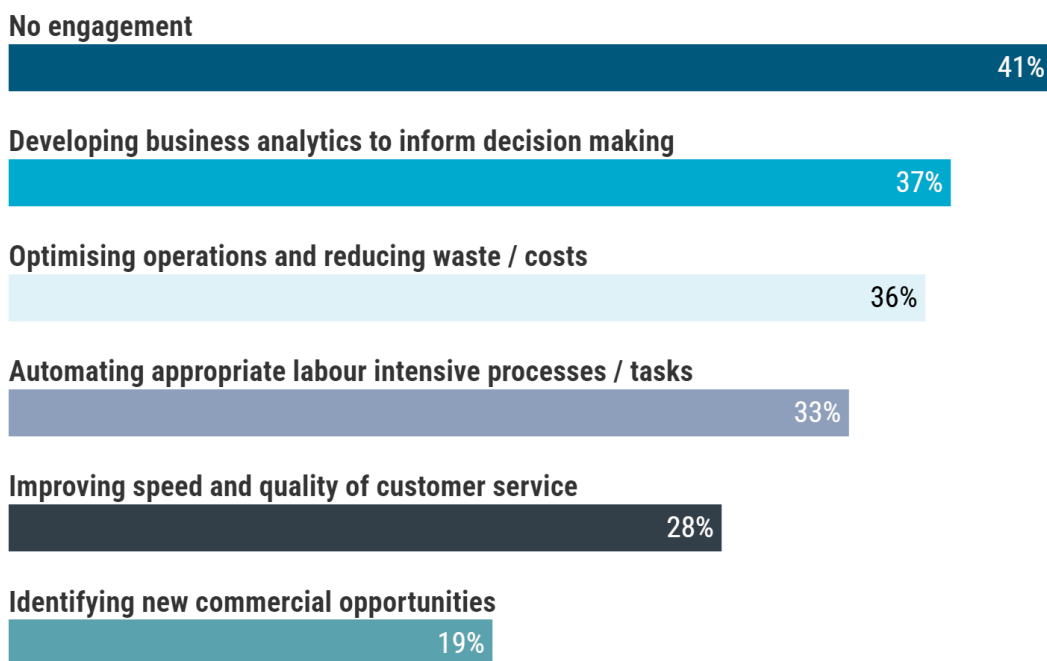- 2022: 2%
- 2024: 6%

■ 2020 ■ 2022 ■ 2024

Many businesses yet to engage with AI

With the rise in availability and potential applications of generative AI in the workplace, this year's survey sought to understand more about how businesses are engaging, or not engaging, with this technology.

41% of the businesses we heard from reported 'no engagement' with AI.

Small and medium sized businesses were the most likely to report no engagement, with 27% of small businesses and 29% of medium businesses yet to engage.

In what way is your business engaging with Artificial Intelligence?

No engagement
41%

Developing business analytics to inform decision making
37%

Optimising operations and reducing waste / costs
36%

Automating appropriate labour intensive processes / tasks
33%

Improving speed and quality of customer service
28%

Identifying new commercial opportunities
19%

37% of the businesses were utilising AI to **develop business analytics to inform decision making** and 36% were using the technology **to optimise operations and reduce waste/cost**.

Others were using it to **automate appropriate labour intensive processes/tasks** and improve the speed and quality of customer service.

19% were using AI technology to identify new commercial opportunities.

The implications for jobs and skills are clear. More businesses using AI to automate labour intensive processes and tasks is likely to reduce demand for clerical and routine jobs and skills. On the flipside, as more businesses utilise the technology to create a greater volume and depth of business analytics, there is likely to be greater

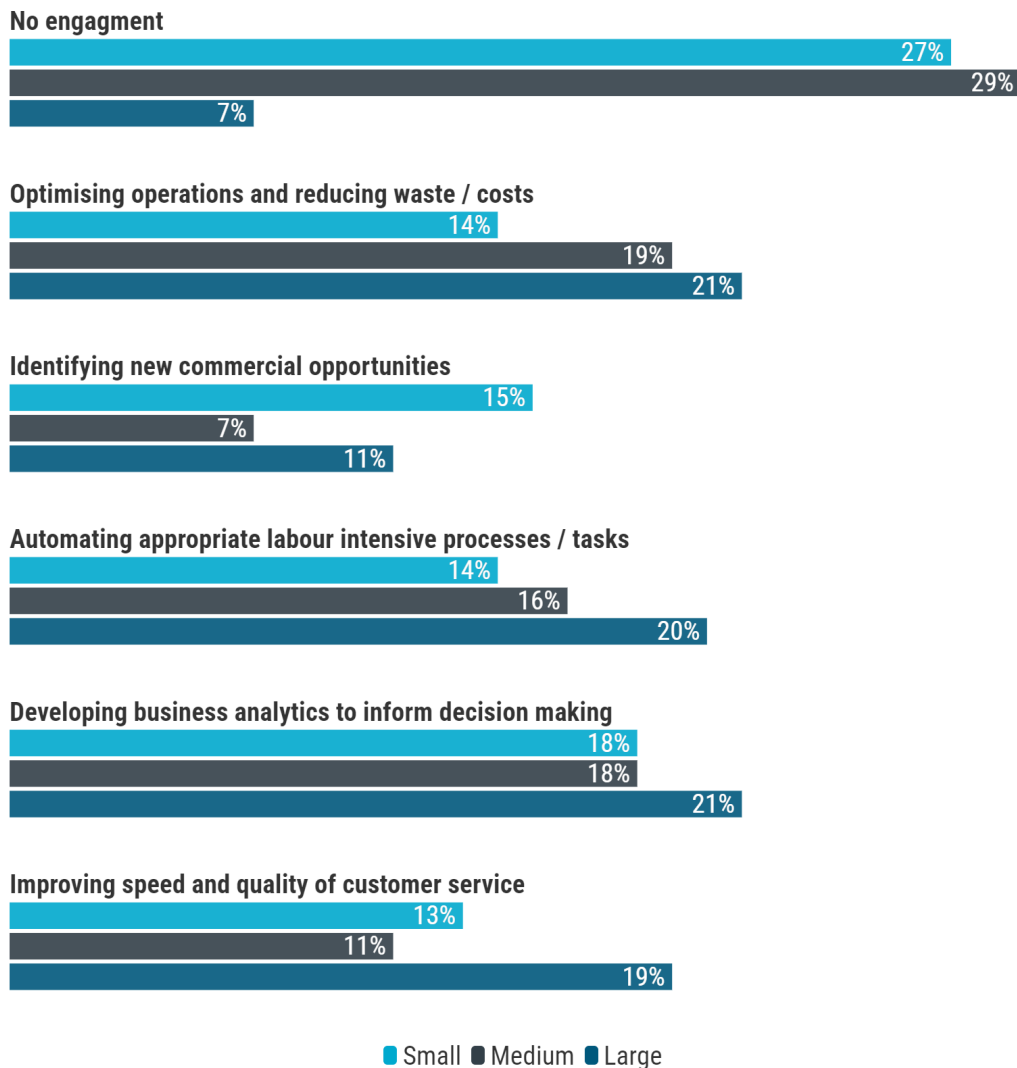demand for managers and leaders with skills in data management and analysis.

Large businesses most likely to be utilising AI

Large businesses were the most likely to be engaging with AI – only 7% of large businesses said they were yet to engage with the technology.

Large businesses were most likely to be **using AI to develop business analytics to inform decision making** and optimise operations to reduce waste/costs.

Small and medium businesses were more likely to report 'no engagement'.

Engagement with AI by business size

No engagment
- Small: 27%
- Medium: 29%
- Large: 7%

Optimising operations and reducing waste / costs
- Small: 14%
- Medium: 19%
- Large: 21%

Identifying new commercial opportunities
- Small: 15%
- Medium: 7%
- Large: 11%

Automating appropriate labour intensive processes / tasks
- Small: 14%
- Medium: 16%
- Large: 20%

Developing business analytics to inform decision making
- Small: 18%
- Medium: 18%
- Large: 21%

Improving speed and quality of customer service
- Small: 13%
- Medium: 11%
- Large: 19%

■ Small ■ Medium ■ Large

A small number of firms reported they were using AI in various functions of their business, such as marketing, tender writing, report writing and research. A number also mentioned that at the time of the survey, they were integrating AI with their existing software suite to complete specific tasks.

A lack of skills, capabilities and understanding of the technology is holding businesses back

There is a clear message here – a lack of human skills and capabilities is preventing many businesses from embracing and utilising AI technology.

When asked about the barriers holding them back from doing more with AI, the top three answers were **insufficient understanding of the opportunities, skills gaps** and **leaders lacking the skills and capabilities**.

63% of companies reported a lack of understanding of the opportunities AI presented for their business as the reason for not engaging further with the technology.

What are the barriers holding you back from doing more with Artificial Intelligence?

Insufficient understanding of the opportunities in your business

63%

Skills gaps

53%

Leaders lacks skills and capabilities

41%

Lack of research and development budget / capital

37%

Skills gaps in broader labour / hiring market

24%

Regulatory barriers or risk

10%

Few businesses cited regulatory barriers or risk as a reason for not engaging further with AI.

Many companies noted that at this point they simply don't have the capacity to divert attention away from their day-to-day operations to investigate or implement AI in their business.

AI knowledge and skills gaps right across the economy

The lack of knowledge and skills about the AI opportunity was fairly evenly spread among small, medium and large businesses.
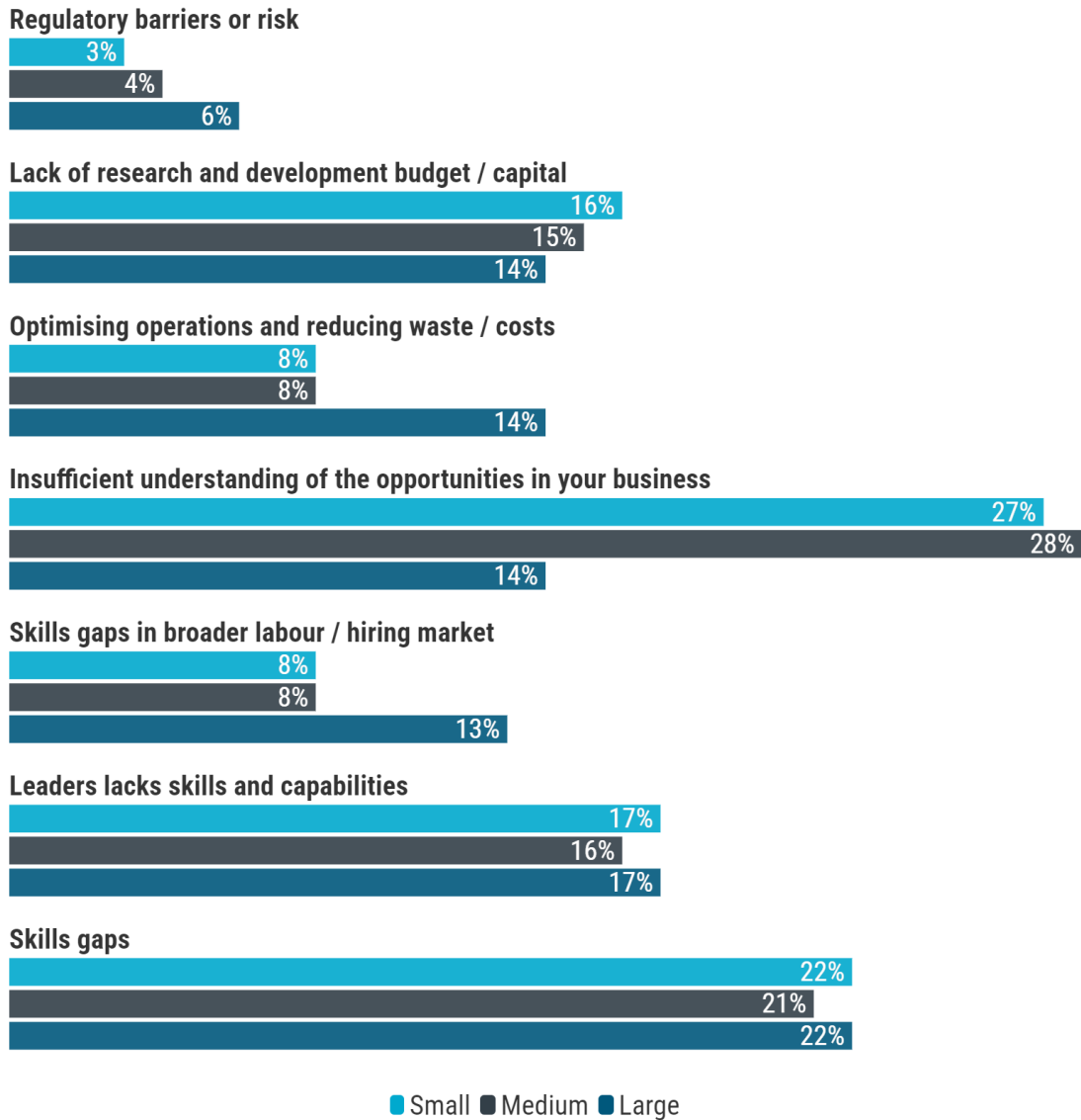
Large businesses were as likely as small businesses to report skills gaps as a barrier to embracing AI – 22%, 21% and 22% respectively for small, medium and large businesses.

Likewise, businesses of all sizes reported leaders' lack of skills and capabilities to be barrier to doing more with AI.

More small and medium businesses reported insufficient understanding of the opportunities for their business.

Barriers to engaging with AI by business size

Regulatory barriers or risk
- 3%
- 4%
- 6%

Lack of research and development budget / capital
- 16%
- 15%
- 14%

Optimising operations and reducing waste / costs
- 8%
- 8%
- 14%

Insufficient understanding of the opportunities in your business
- 27%
- 28%
- 14%

Skills gaps in broader labour / hiring market
- 8%
- 8%
- 13%

Leaders lacks skills and capabilities
- 17%
- 16%
- 17%

Skills gaps
- 22%
- 21%
- 22%

■ Small ■ Medium ■ Large

Overall, the survey responses on this issue tell us that, for many Australian businesses, a link has not yet been drawn between their business needs and the potential applications of AI.

For the majority of businesses we heard from, there was a self-reported lack of understanding and lack of skills to make sense and use of the technology at this point – including among business leaders themselves.

The businesses we surveyed

We heard from businesses across a range of industry sectors
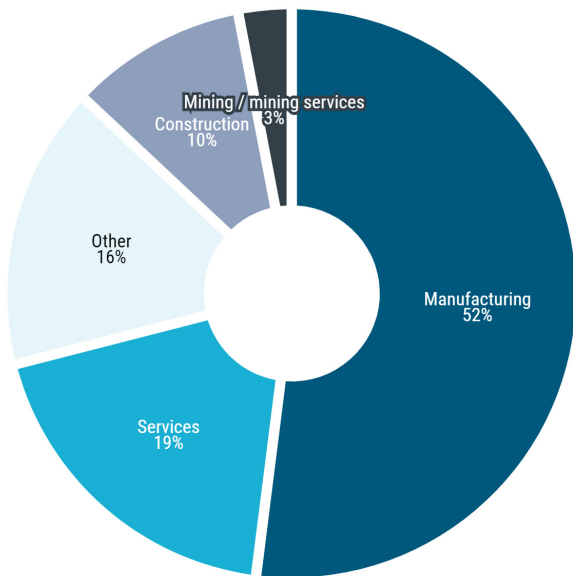
A total of **251** Australian businesses completed our survey in the first quarter of 2024, employing a total of

**291,232** Full Time Equivalent (FTE) employees.

52% of the respondents reported being part of the manufacturing sector. This included a diverse range of manufacturers, including those making food, beverages, chemicals, equipment, building materials, metals, textiles and furniture.

19% came from the services sector, and a further 10% from construction. Respondents selecting 'other' were diverse and included defence/aerospace, aviation, recyclers and not-for-profit community organisations. The remaining 3% reported being from the mining/ mining services sector.

We heard from businesses right around the country

38% of the businesses we heard from were based in Victoria, 26% in New South Wales and 22% in Queensland. 10% were from South Australia, with the remaining 4% located in Western Australia and the ACT.
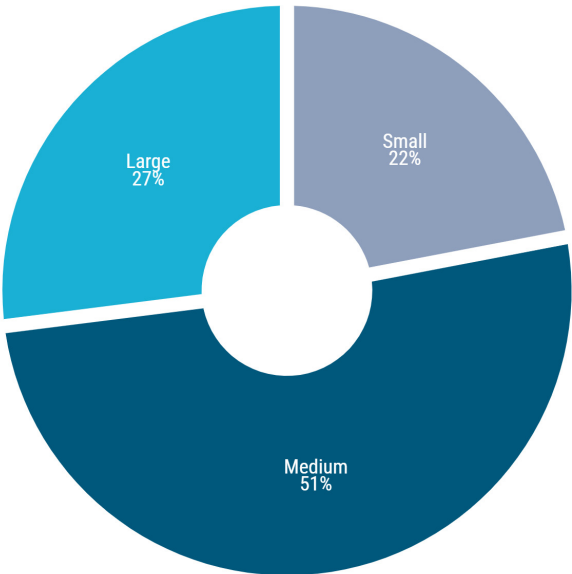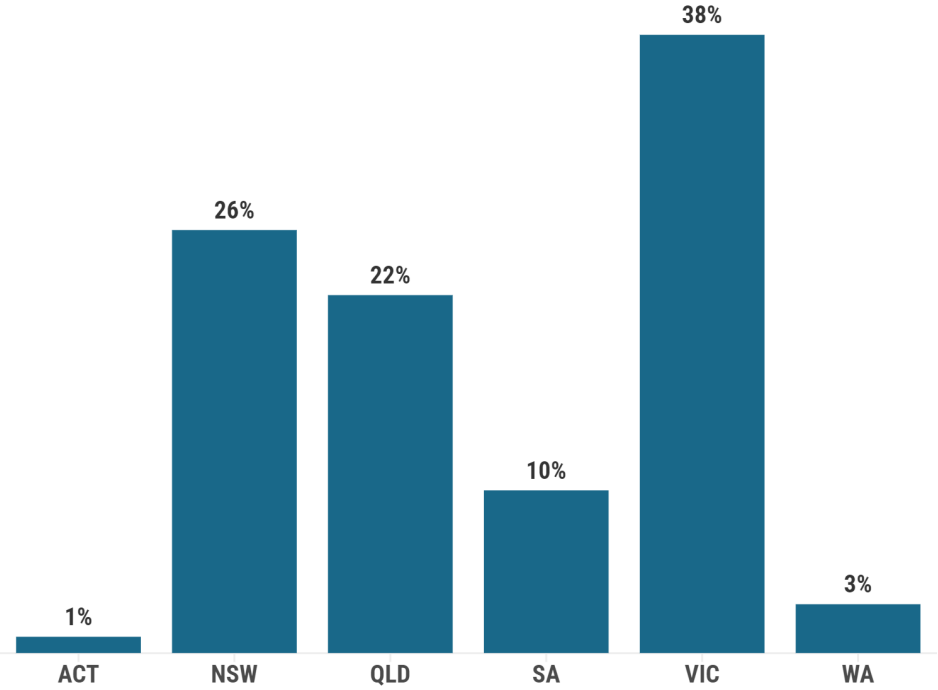
We heard from businesses of all sizes

22% of the businesses we surveyed were small (between 0-19 employees), 51% were medium sized (between 20 and 199 employees) and 27% were large (200 or more employees).

Respondents provided their best estimate of their full-time equivalent headcount active in the business. Using these estimates, the responses have been grouped according to the Australian Bureau of Statistics categories of small, medium and large businesses.

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