NAB LABS AUSTRALIAN BUSINESS INNOVATION INDEX 2018
BUSINESS INNOVATION BEHAVIOURS IN AUSTRALIA
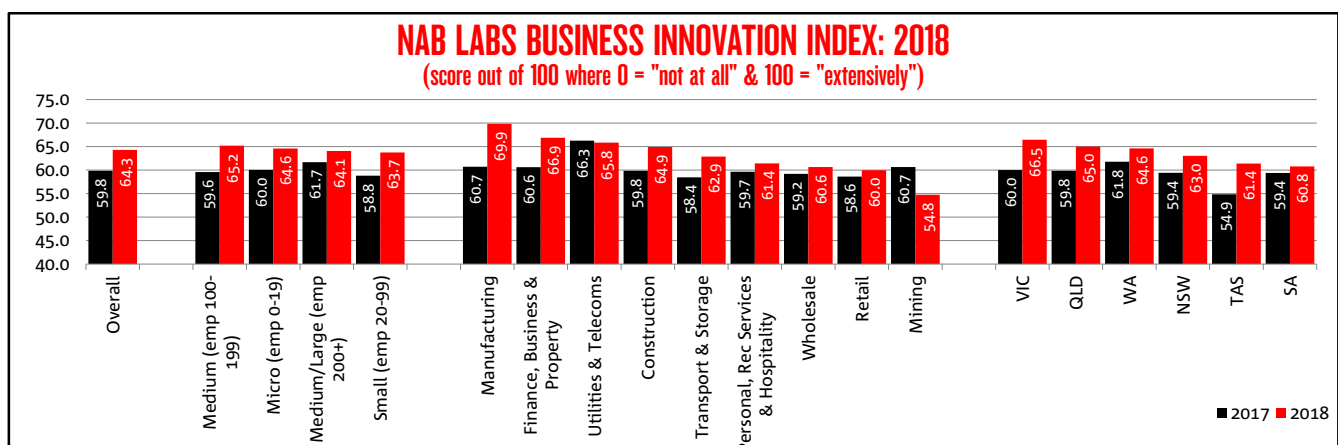
NAB Behavioural & Industry Economics

Businesses believe the culture of innovation in Australia improved significantly over the past 12 months. Importantly, this is also being reflected in actual behaviours as measured by the NAB Labs Innovation Index, with innovation increasing irrespective of business size. Manufacturing, Finance, Business & Property Services have replaced Utilities & Telecoms as the most innovative sectors in 2018, while VIC and QLD have overtaken WA as the most innovative states. Leadership, technology, execution and customer focus are viewed as the key drivers of innovation. In this report we also take a closer look at the opportunities and threats from digital disruption. The findings suggest that Australian firms may not be moving fast enough to meet the challenges they may face from new digital platforms.

KEY FINDINGS - INNOVATION

- The **NAB Labs Business Innovation Index** rose to 64.3 in 2018, up from 59.8 in 2017. All 3 Index components - doing things **differently**, **more quickly** and **more cost efficiently -** improved, with cost efficiency still the main driver of innovation.

- Innovation was more extensive across all **sizes of business**. Medium-sized business scored highest for overall innovation (65.2), followed by micro-businesses (64.6).

- **By industry**, Manufacturing (69.9) and Finance, Business & Property Services (66.9) replaced Utilities & Telecoms (65.8) as the most innovative sectors in 2018. Innovation in the Mining industry was much less extensive (54.8) than in 2017.

- Innovation improved in all **states**, with the biggest gains in VIC, TAS and QLD. As a result, VIC (66.5) and QLD (65.0) overtook WA (64.6) as the most innovative states in the country, and SA (60.8) replaced TAS (61.4) as least innovative.

- Businesses perceptions of the **culture of innovation** in Australia (6.3 points out of 10) were viewed more positively than at any time since 2016. Firms also rated the culture of innovation within their own firm (6.3) on par with Australia. They were least positive about culture of innovation within their own industry (5.9).

- Overall, Australians businesses were 'moderately' satisfied with the **culture of innovation within their own firms**. Businesses operating in the Manufacturing, Finance, Business & Property Services and Utilities & Telecoms were the most satisfied, and Mining firms the least satisfied by some margin.

- Firms believe their innovation activities provide positive **benefits** for both their customers and own their own business. Firms with higher levels of innovation are also likely to see clearer benefits from their innovation activities.

- Just over 1 in 2 firms believe having **leadership** that is committed to innovation and pro change is the most important factor in building a culture of innovation within an organisation. Next biggest were **understanding and embracing new technology** (40%), **execution** (29%) and **customer focus** (29%).

- Firms reported 'low' levels of **radical innovation** (3.6) - unchanged from 2017 - but reported 'moderate' **incremental innovation** - higher than in 2017 (6.3 versus. 5.5). Incremental innovation was higher in all industries except Mining.

NAB LABS BUSINESS INNOVATION INDEX: 2018
(score out of 100 where 0 = "not at all" & 100 = "extensively")

Category	2017	2018
Overall	59.8	64.3
Medium (emp 100-199)	59.6	65.2
Micro (emp 0-19)	60.0	64.6
Medium/Large (emp 200+)	61.7	64.1
Small (emp 20-99)	58.8	63.7
Manufacturing	60.7	69.9
Finance, Business & Property	60.6	66.9
Utilities & Telecoms	66.3	65.8
Construction	59.8	64.9
Transport & Storage	58.4	62.9
Personal, Rec Services & Hospitality	59.7	61.4
Wholesale	59.2	60.6
Retail	58.6	60.0
Mining	60.7	54.8
VIC	60.0	66.5
QLD	59.8	65.0
WA	61.8	64.6
NSW	59.4	63.0
TAS	54.9	61.4
SA	59.4	60.8

■2017 ■2018

SPECIAL FOCUS: DIGITAL DISRUPTION - KEY FINDINGS

- Most businesses recognise that new digital platforms are enabling them to reach customers in new ways. This has been most prevalent in relation to having a **website**. In fact, nearly all surveyed businesses (95%) said they operated with a website.

- Many companies - around 3 in 4 - are also utilising **social media** to reach customers. Adoption has been highest in medium/large sized firms (85%) and lowest in micro firms (63%). By industry, more Personal, Recreational & Hospitality Services firms (86%) had a social media presence, just ahead of Retail (84%) and Finance, Business & Property Services (82%).

- Around 3 in 4 firms said they operate **everyday digital tools** (e.g. EFTPOS, product scanning etc.) **to support customer interaction**. This was most prevalent in Retail (96%) and least prevalent in Mining firms (14%).

- Almost 9 in 10 businesses also operate **everyday digital tools to support back end operations of their business** such as online bookkeeping software and online inventory management systems. Take up has been highest in Retail (90%) and lowest in Mining (57%).

- On average, Australian businesses are more likely to view **digital disruption as an opportunity**. Utilities & Telecoms firms are the most optimistic, followed by Finance, Business & Property Services Firms. Retail firms are the least optimistic, followed by Mining firms.

- Australian businesses also believe they are 'moderately' **vulnerable to some form of disruption**, scoring scored 5.7 on a scale of 10. Vulnerability ranges from 6.0 in medium/large sized businesses to 5.5 in small businesses. The range is much wider by industry, with Finance, Business & Property (6.5) and Utilities & Telecoms firms (6.5) the most vulnerable and Mining firms (4.6) the least vulnerable.

- It appears Australian firms may not be moving fast enough to meet the challenges they may face from digital disruption. Overall, they scored only 5.5 points on a scale of 10 when asked to define the extent their organisation was **adequately preparing for some form of digital disruption**.

- Although there was little variation in how vulnerable business thought they were by size, there were significant differences by industry. Transport/Storage (6.0), Finance, Business & Property Services (6.0) and Utilities & Telecoms (5.6) firms led the way (an encouraging result given these sectors also rated among the more vulnerable to digital disruption), with Mining businesses the least prepared (3.7).

- In order to better understand how Australian firms had prepared for digital disruption, we asked them to rate the extent their business had **embraced or addressed some of the innovations/challenges** they faced in the past 2-3 years.

- On average, business had focussed most on making efforts to **protect their data against cyber-attack** (e.g. installing anti-viral/security protection software, using encryption etc.). In total, they scored 7.7 points on a scale of 10.

- The next key areas were around providing efficient **internal and external digital communication tools to support employees working from home** (6.3) and **ensuring that their website was frequently updated and that their business placed high in search results as result of search engine optimisation** (6.2).

- The areas where business had focussed on least were **enhancing where possible their products or service with digital features such as LiveChat to provide live online customer support** (3.6) and **speeding up and automating where possible their transaction processing** (4.5).
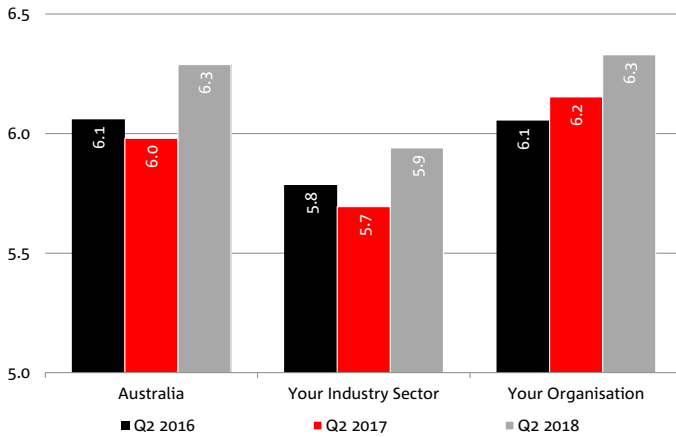
MAIN REPORT
THE CULTURE OF INNOVATION

CULTURE OF INNOVATION
(0 = not at all innovative; 10 = extremely innovative)

One way to measure business innovation is to simply ask businesses how they view the culture of innovation in Australia as a whole, within their industry sector and within their own business.

In 2018, businesses rated the culture of innovation in Australia more positively than at any time since 2016, scoring 6.3 out of 10 (where 1o is 'extremely' innovative).

Firms were least positive when asked to evaluate the culture of innovation within their own industry - albeit they did score a little higher (5.9) than in 2017 (5.7).

When asked to assess the culture of innovation within their own firm, they were a little more positive, scoring 6.3 (6.2 in 2017) and on par with Australia.

CULTURE OF INNOVATION: AUSTRALIA
(0 = not at all innovative; 10 = extremely innovative)
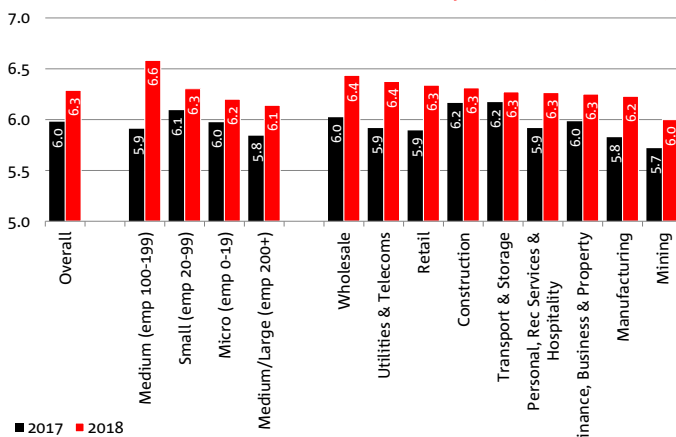
By size, all firms rated culture of innovation in Australia higher than in 2017. But medium-sized firms (6.6) were much more positive than medium/large ones (6.1). Firms in all industries also rated culture of innovation higher, with Wholesale (6.4) and Utilities & Telecoms firms (6.4) most positive and Mining least positive (6.0).

When it came to their industry, medium-sized firms (6.1) were most positive and medium/large firms least positive (5.7). By sector, Utilities & Telecoms (6.6) led the way, with Finance, Business & Property Services (6.3) the big improver. Mining firms (5.9) said their industry had gone backwards, and firms in Wholesale (5.7) said culture of innovation in their industry hadn't changed.

When asked to rate their own organisation, all firms by size were more positive - especially medium-sized firms (6.6). But the results by industry were mixed. While Finance, Business & Property Services (6.6) viewed it much more favourably, Mining firms (5.6) were far less positive. Utilities & Telecoms sector firms were also less positive (6.8), but still the most positive overall.
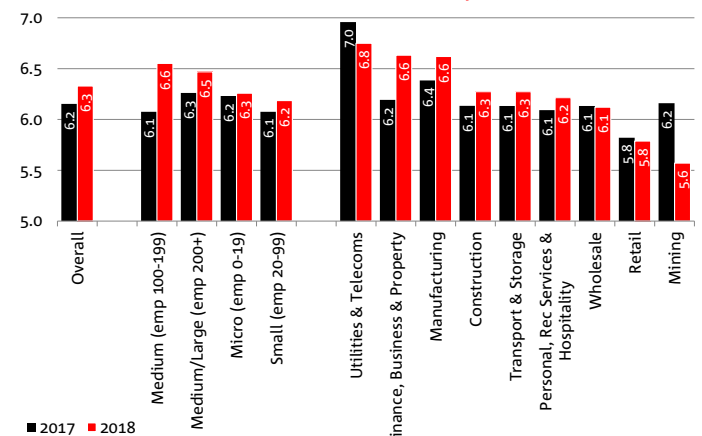
CULTURE OF INNOVATION: YOUR INDUSTRY
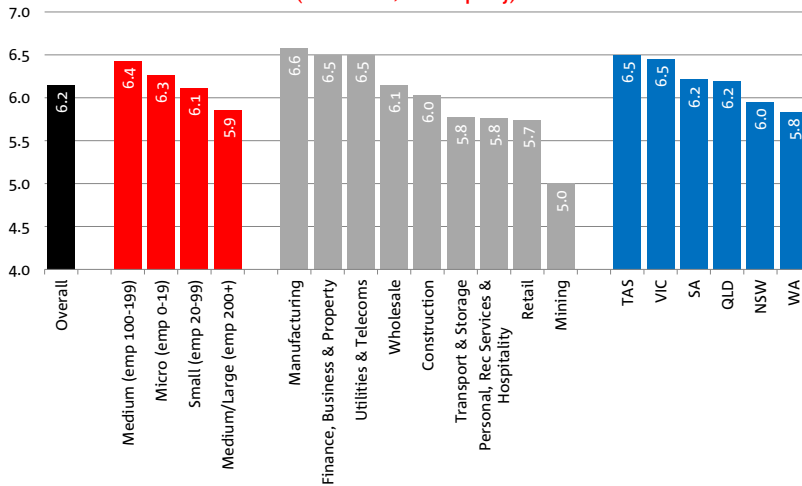(0 = not at all innovative; 10 = extremely innovative)
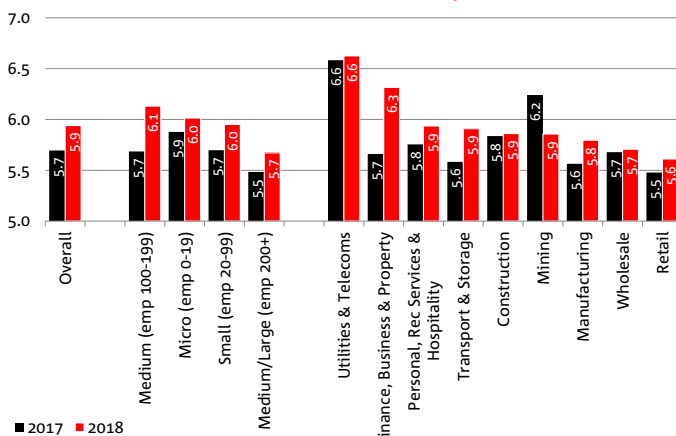
CULTURE OF INNOVATION: YOUR ORGANISATION
(0 = not at all innovative; 10 = extremely innovative)

SATISFACTION WITH CULTURE OF INNOVATION IN YOUR FIRM
(0 = not at all; 10 = completely)

Australian firms rated the culture of innovation within their own business highest and on par with Australia. But to what extent were they satisfied with the culture of innovation within their own business?

The survey results suggest they were only 'moderately' satisfied, scoring 6.2 points out of 10 (10 is 'completely' satisfied).

But this ranged from 6.4 in medium-sized firms to 5.9 in medium/large firms, and from 6.5 in TAS and VIC to 5.8 points in WA.

The range by industry sector was much greater, with Manufacturing (6.6), Finance, Business & Property Services (6.5) and Utilities & Telecoms firms (6.5) the most satisfied and Mining firms (5.0) the least satisfied by some margin.

A number of factors can drive the culture of innovation within a business. And according to surveyed businesses, the most important is **leadership** that is committed to being innovation oriented and pro change, according to over 1 in 2 (51%) businesses. The next biggest factor is understanding and embracing new **technology** (40%).

Other key factors include **execution**, or the ability to not only generate new ideas but also implement them (29%), **customer** focus and a good understanding of their needs and requirements (29%) and **vision** or goals that are clearly articulated and understood by all those within the business (24%).

But what's considered to be important varies considerably by business size and by industry. For example, leadership mattered to 62% of medium/large firms, but to only 43% of micro firms. The difference was even more pronounced by industry, where leadership was most important for 86% of Mining firms, but for only 37% of Wholesale businesses.

Among other noticeable differences, technology was a lot more important for Transport & Storage firms (55%), but it did not resonate with Utilities & Telecoms firms at all. But 3 in 4 (75%) Utilities & Telecoms firms said execution was important - by far the highest of any industry. By size, customer focus was much more important for micro businesses (41%) and technology highest for medium-sized firms (48%).

For a more detailed breakdown, see table on following page.

MOST IMPORTANT FACTORS IN BUILDING A CULTURE OF INNOVATION WITHIN AN ORGANISATION (%)*
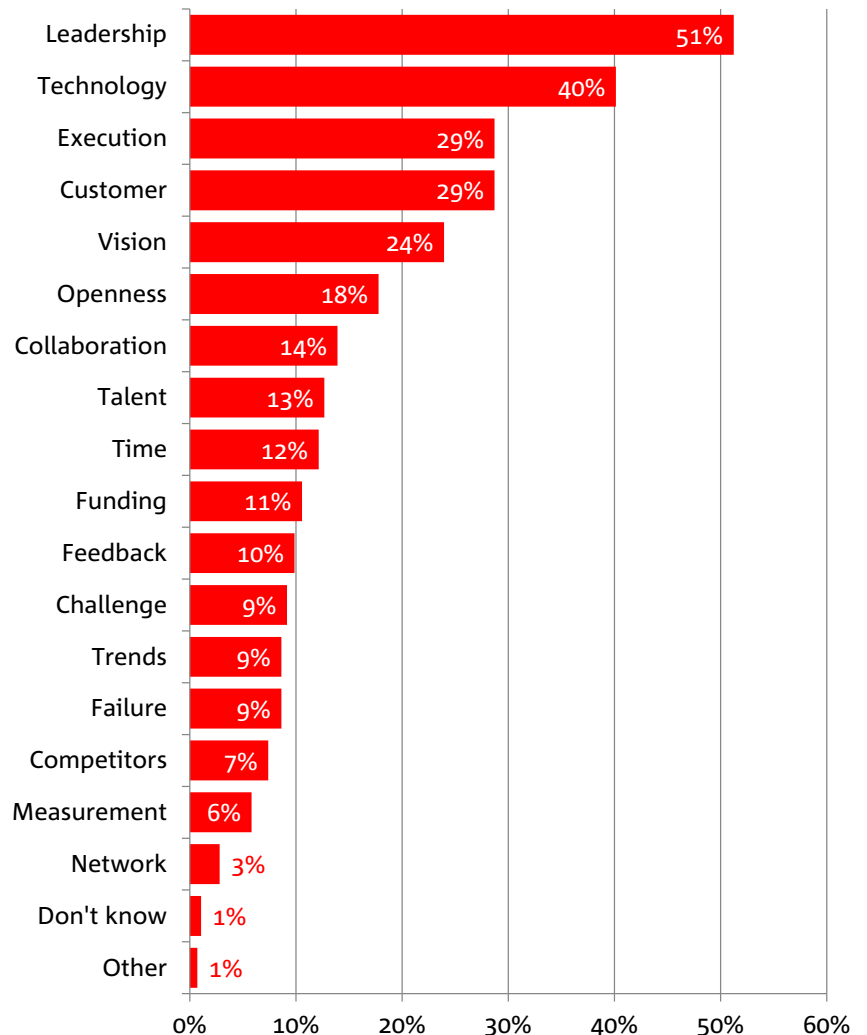
*multiple responses allowed

MOST IMPORTANT FACTORS IN BUILDING A CULTURE OF INNOVATION WITHIN AN ORGANISATION (% of respondents, multiple responses allowed)	All	Micro (employ 0-19)	Small (employ 20-99)	Medium (employ 100-199)	Medium/Large (employ 200+)	Mining	Manufacturing	Construction	Retail	Wholesale	Transport/Storage	Finance, Business & Property	Personal, Rec Services & Hospitality	Utilities & Telecoms
LEADERSHIP: Leadership committed to being innovation oriented and pro-change	51%	43%	50%	54%	62%	86%	48%	51%	49%	37%	64%	56%	55%	50%
TECHNOLOGY: Understanding, embracing & adopting new technologies	40%	37%	40%	48%	39%	43%	45%	43%	37%	34%	55%	46%	32%	0%
CUSTOMER: Customer focus & good understanding of customer needs/requirements	29%	41%	29%	16%	24%	14%	30%	22%	44%	41%	14%	19%	30%	25%
EXECUTION: Ability to not only generate ideas but implement them	29%	29%	28%	29%	28%	14%	25%	34%	19%	34%	23%	31%	27%	75%
VISION: Vision/goals are clearly articulated & understood by all within the business	24%	22%	27%	21%	22%	0%	24%	15%	15%	22%	32%	32%	26%	37%
OPENESS: Open mindset with belief new & good ideas can come from anyone, anywhere	18%	20%	17%	18%	16%	29%	14%	22%	15%	18%	9%	17%	22%	25%
COLLABORATION: Fostering exchange of ideas & collaborative working	14%	11%	13%	17%	17%	0%	15%	18%	7%	15%	9%	14%	17%	0%
TALENT: Ability to attract/retain/reward talent & accept diversity in gender, age, etc.	13%	14%	15%	9%	11%	14%	11%	15%	18%	10%	9%	15%	8%	25%
TIME: Setting aside dedicated time for ideas & creativity separate from daily business	12%	12%	12%	11%	13%	14%	17%	9%	10%	12%	9%	15%	9%	0%
FUNDING: Sustained funding for ideas & creativity	11%	10%	9%	17%	10%	29%	13%	4%	9%	10%	14%	13%	8%	25%
FEEDBACK: Seeking feedback from customers/employees/suppliers on products/services/processes	10%	14%	7%	10%	9%	0%	8%	7%	15%	15%	18%	7%	9%	25%
CHALLENGE: Constantly challenging orthodoxies & status quo	9%	5%	10%	11%	12%	29%	8%	15%	9%	7%	9%	6%	12%	0%
FAILURE: Viewing mistakes not as risks but as opportunities to gain knowledge	9%	6%	9%	7%	12%	14%	9%	7%	9%	10%	0%	7%	11%	13%
TRENDS: Being well informed on the latest trends impacting the marketplace	9%	14%	9%	6%	3%	0%	11%	7%	19%	7%	9%	3%	10%	0%
COMPETITORS: Understanding competitors, their products/services & how they compare to their own	7%	9%	7%	9%	6%	0%	11%	7%	12%	9%	9%	4%	5%	0%
MEASUREMENT: A framework to help judge the new initiatives/ideas	6%	5%	6%	6%	6%	14%	3%	6%	7%	4%	9%	6%	7%	0%
NETWORKS: Ability to leverage networks/collaborations to harness the capabilities/assets of others	3%	2%	2%	2%	4%	0%	0%	1%	1%	4%	0%	5%	4%	0%

NAB LABS BUSINESS INNOVATION INDEX

NAB LABS BUSINESS INNOVATION INDEX
(0= not at all; 100 = extensive)

	Innovation Index	Do things differently	Do things more quickly	Do things more cost efficiently
2016	67.6	67.9	66.7	68.3
2018	64.3	64.5	63.3	65.1
2017	59.8	60.3	58.3	60.9

The NAB Labs Business Innovation Index provides another measure of innovation that is more intuitive and easily applicable to all business, regardless of size, type, industry or location.

The Index is based on the extent to which firms' have 'tweaked', 'adjusted', 'improved' or 'changed' anything in their business that allowed them in the past year to do things:

- *differently;*
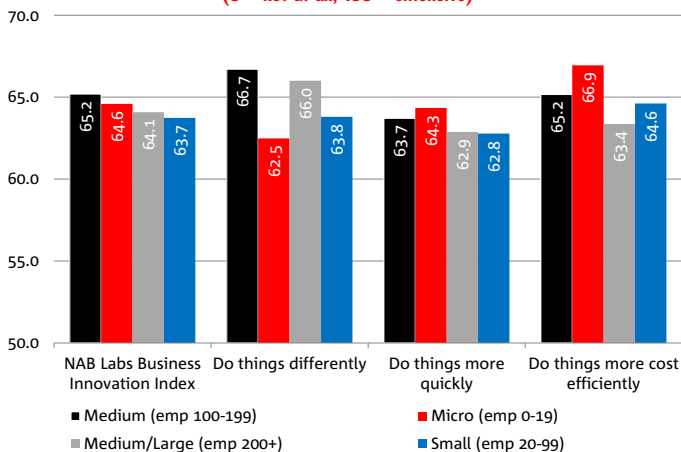- *more quickly; and*
- *more cost efficiently*

Overall, the NAB Labs Business Innovation Index rose to 64.3 points in 2018 (where 100 is 'extensive'). This was up from 59.8 in 2017 but down from 67.6 in 2016.

All 3 components of the Index improved over the past year. Cost efficiency (65.1) continued to be the biggest driver of innovation, ahead of doing things differently (64.5) and doing things more quickly (63.3 points).

NAB LABS BUSINESS INNOVATION INDEX: BUSINESS SIZE
(0 = not at all; 100 = extensive)

	NAB Labs Business Innovation Index	Do things differently	Do things more quickly	Do things more cost efficiently
Medium (emp 100-199)	65.2	66.7	63.7	65.2
Micro (emp 0-19)	64.6	62.5	64.3	66.9
Medium/Large (emp 200+)	64.1	66.0	62.9	63.4
Small (emp 20-99)	63.7	63.8	62.8	64.6

The NAB Labs Business Innovation index does however mask differences in the overall level of innovation and drivers of innovation by business size.
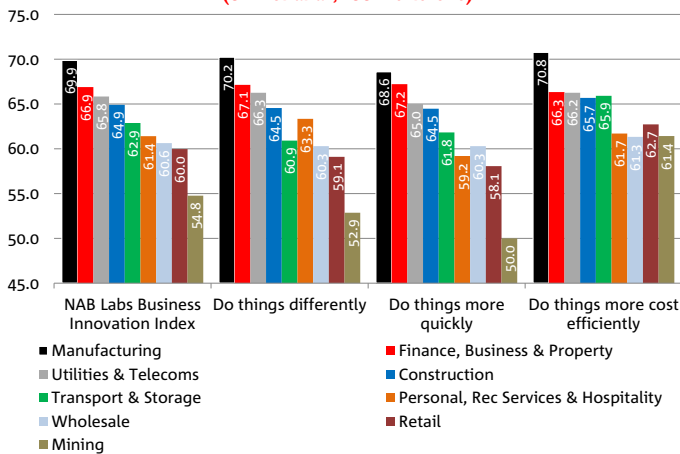
Medium-sized business scored highest for overall innovation (65.2), and also well above the same time last year (59.6). They also scored highest for doing things differently (66.7), just ahead of medium/large businesses (66.0).

Micro-businesses were the next most innovative (64.6) and were more innovative than at the same time last year (60.0).

Innovation in this group was also the highest when it came to doing things more cost efficiently (66.9) and more quickly (64.3), but they were the least innovative when it came to doing things differently (62.5).

Innovation was also more extensive in small and medium/large sized firms relative to last year.

NAB LABS BUSINESS INNOVATION INDEX: INDUSTRY
(0 = not at all; 100 = extensive)

Legend:
- Manufacturing
- Utilities & Telecoms
- Transport & Storage
- Wholesale
- Mining
- Finance, Business & Property
- Construction
- Personal, Rec Services & Hospitality
- Retail

NAB LABS BUSINESS INNOVATION INDEX: STATES
(0 = not at all; 100 = extensive)

Legend: VIC · QLD · WA · NSW · TAS · SA

EXTENT INNOVATION ACTIVITIES HAVE BENEFITTED YOUR CUSTOMERS/BUSINESS VS. INNOVATION INDEX
(100 = completely/extremely)

Legend: Customer · Business · Innovation

By industry, Manufacturing (69.9) and Finance, Business & Property Services (66.9) replaced Utilities & Telecoms (65.8) as the most innovative sectors in 2018. The Manufacturing sector also reported the highest levels of innovation across all innovation drivers.

In contrast, innovation in the Mining industry was much less extensive (54.8 vs. 60.7 in 2017). The sector is now rated the least innovative industry overall, after being second highest in 2017.

Innovation in the Mining sector was significantly lower in regards to doing things more quickly (50.0) or differently (52.9) than in any other sector.

Innovation rated higher in all other sectors relative to last year, except in Utilities & Telecoms where it was marginally lower (65.8 vs. 66.3 in 2017).

Innovation has also improved in all states over the past year.

The biggest gains were in VIC, TAS and QLD. Consequently, VIC (66.5) and QLD (65.0) replaced WA (64.6) as the most innovative states in the country, while SA (60.8) replaced TAS (61.4) as least innovative.

VIC also led the country for doing things differently (67.7) and more quickly (65.3), but WA continued to lead for doing things more cost efficiently (66.5), just ahead of VIC (66.4) and QLD (66.4).

Cost efficiency was the biggest driver of innovation in WA (66.5), QLD (66.5), NSW (64.0) and TAS (61.3), but doing things differently was the key driver in VIC (67.7).

Doing things more quickly contributed the least to overall innovation in VIC (65.3), QLD (63.6), WA (63.1) and SA (60.4), but doing things differently added the least in NSW (62.5).

We also asked businesses to tell us if they thought their innovation activities had provided a clear benefit for their customers (e.g. cost, time, functionality, experience etc.) or a clear improvement in their business (e.g. time, revenue/profit, employee drive, brand, reputation etc.).

The overall results suggest that both their customers (62.8) and business (65.0) benefited 'moderately', but the impact was somewhat bigger for their business than for their customers.

This was true across all firms by size and industry, except Utilities & Telecoms firms, where customers were identified as the main beneficiaries.
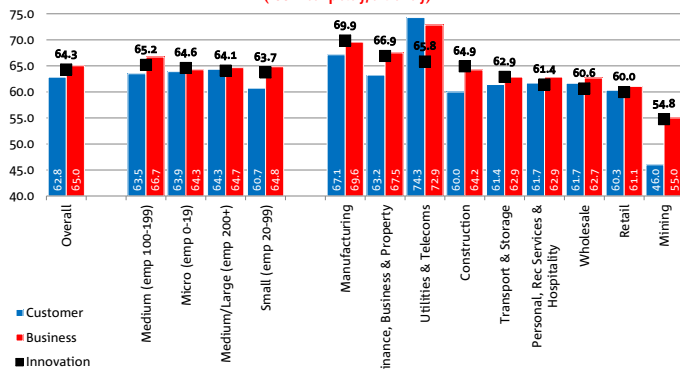
The survey also suggests that businesses with higher levels of innovation were often more likely to see clearer benefits from their innovation activities.

This was most obvious in the Mining sector. Not only did this sector report the lowest level of innovation, but their customers and businesses also benefited the least from their innovation activities.
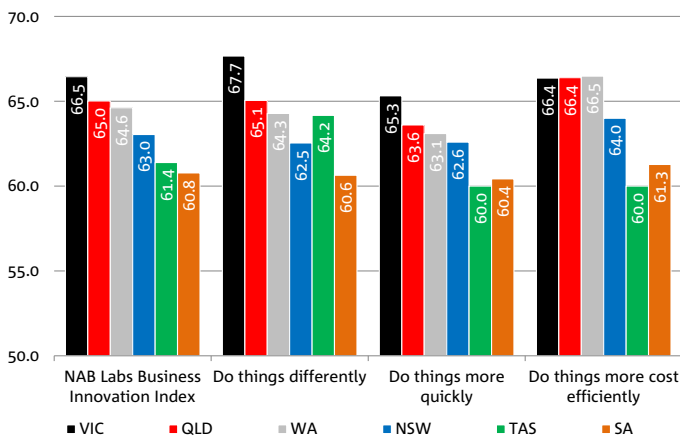
SOME EXAMPLES OF WHAT BUSINESSES HAVE DONE "DIFFERENTLY"

"Changes to enable a customer-centric model. HR queries are now through a 'mailbox' instead of having HR personnel attached to business."

"Adjusted flow sheet and production methodology to recover more products that would normally be lost to waste via installed new equipment."

"Automated some manual processes."

"Changed finance procedures to produce results within a reduced number of days."

"Chatbot with Machine Learning and Artificial Intelligence capabilities."

"Different equipment to provide clients with real time feedback instead of waiting for analysis to be done after site visits."

"Hired an admin person and telemarketer."

"Introduced e-document control across the organisation. Moving towards reduction in paper-based data and documentation."

"Telephony. Moved from fixed phones to soft phones."

"Tender rehearsals."

"Tried to computerise and capture contract cleaning times to try and more correctly identify worked hours."

"We are installing RF [radio frequency] picking devices."

"Embraced 'Results Based Accountability' and 'Advantaged Thinking' principles."

SOME EXAMPLES OF WHAT BUSINESSES HAVE DONE "MORE QUICKLY"

"By limiting outsourcing to third parties, we're able to streamline processes considerably without compromising quality."

"Changes to job workflows including creating new job pathways and greater focus on procedures to remove bottlenecks."

"Improvements to communication between departments resulting in better cooperation and cohesion."

"Improved technology to improve information flow to make faster decisions."

"Reduce quotation turnaround time via automation and off shores services."

"Purchase of CAD drawing programs which has reduced drawing time dramatically."

"Introduced modular pre-fabricated solutions to reduce site construction times by providing easy, safe and simple installation techniques."

"Introduced tablets to do outgoing and ingoing inspections of rented premises."

"Made larger moulds to produce quicker. Reduced human element by adding robots and conveyors."

"New stock layout which has led to improved efficiency."

"Purchased our own delivery truck for urgent orders."

"Re-designed product to dispense cash quicker."

"Sourcing product directly from low cost country (China), cutting lead times.

SOME EXAMPLES OF WHAT BUSINESSES HAVE DONE "MORE COST EFFICIENTLY"

"Ask 3rd party consultant to review our process to identify areas of improvement."

"Better tooling to make more products in one run and changed suppliers."

"Bringing some tasks in-house which were outsourced."

"Built new modern hatchery facility."

"Competitive tendering for works and looking at external consultants to reduce costs on everyday purchases like mail and printing."

"Government form filling not in direct medical line out-sourced to accounting and legal counsel. Internal catering, organising payments of membership fees by doctors etc."

"Hired an outsourced phone answering service."

"Introduced additional robotics, changed manufacturing processes, consumable and wastage reduction initiatives and implemented energy saving concepts including LED lighting."

"Now delivering our invoices and monthly statements to customers electronically."

"Prefabrication / assembly off site for speed / efficiency / cost savings."

"Sourced raw materials from Asian countries and introduced off site assembly of components in a more controlled environment."

"Started using corporate traveller for travel."

"Temperature management system introduced into main production kitchen which regulates fridge and freezer temperatures to ensure economic operation is achieved at all times."

RADICAL & INCREMENTAL INNOVATION

EXTENT ORGANISATIONAL INNOVATION IN THE PAST 12 MONTHS HAS BEEN RADICAL OR INCREMENTAL
(10 = extensive)

Category	Radical	Incremental
Overall	3.6	6.3
Medium (emp 100-199)	4.1	6.4
Micro (emp 0-19)	3.8	6.2
Small (emp 20-99)	3.5	6.1
Medium/Large (emp 200+)	3.3	6.4
Manufacturing	4.6	6.9
Utilities & Telecoms	4.4	6.9
Finance, Business & Property	3.7	6.7
Construction	3.6	6.3
Retail	3.6	5.6
Wholesale	3.3	5.8
Transport & Storage	3.3	6.6
Personal, Rec Services & Hospitality	2.9	5.8
Mining	2.3	5.0

Innovation can be 'radical' (e.g. the development of a new business, product and/or process that transforms a business) or 'incremental' (e.g. an improvement to an existing product, service or process. Businesses were again asked to identify the extent to which their innovation behaviours had been radical or incremental in 2018.

On average, they reported 'low' levels of radical innovation (3.6 out of 10) - unchanged from 2017. But they reported 'moderate' levels of incremental innovation - and higher than in 2017 (6.3 vs. 5.5).

All firms by size reported relatively low levels of radical innovation in 2018 (ranging from 4.1 in medium-sized firms to 3.3 for medium/large firms) with radical innovation levels broadly unchanged across all business sizes.

Incremental innovation was broadly similar across all business sizes. It was however noticeably higher than in 2017 for medium-sized (6.4 vs. 5.2) and small (6.1 vs. 5.1) firms.

By industry, Manufacturing firms scored highest for radical innovation (4.6) and Mining firms the lowest (2.3).

Radical innovation was higher than in 2017 in the Manufacturing, Construction, Retail and Finance, Business & Property Services industries, but lower in all other sectors.

Incremental innovation was also highest in Manufacturing (6.9) and Utilities & Telecoms (6.9) firms and lowest in Mining (5.0). Mining was also the only sector where incremental innovation was less extensive than in 2017, while the level of incremental innovation in the Wholesale industry was unchanged.
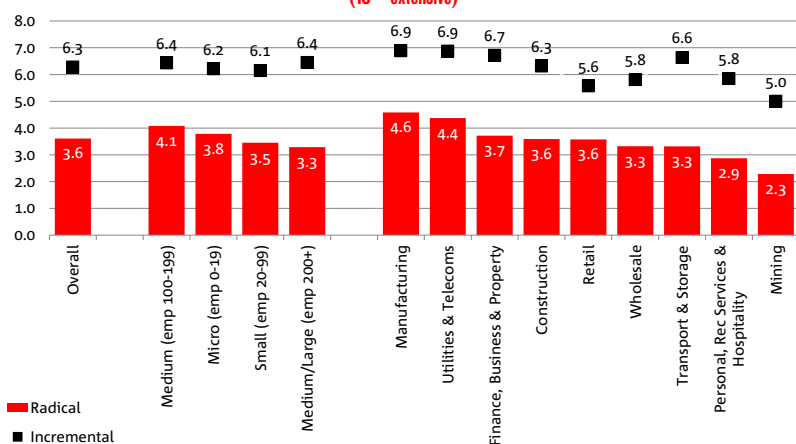
"RADICAL" INNOVATION THAT HAS TAKEN PLACE IN YOUR FIRM OR INDUSTRY

"Artificial intelligence."

"We've introduced a new brand that is significantly different to our main brand. The two brands are custom designed and limited range and colour product. To us, this is radical."

"Autonomous trucks in mining applications."

"Change from MYOB/QuickBooks to Xero."

"Developed an App to alert customers of our imminent arrival."

"Changing from PC based system with some sort of server arrangement to a highly structured server in cabinet, properly cabled environment, no loose cables lying around, and corporate standard backup regime. Has cut computer maintenance cost by 60%.

"Developed a new type of portable and mobile trolley-based survey data capture system."

"Employees work when they want, where they want and how often they want, constrained only by the amount of work available and subject to contract requirements."

"Have gone from no service to patrons in gaming area to full service at the machine."

"Implemented a new approach to delivery of distance education, with teachers working remotely from the College in regions throughout the state. Early adopters for Google Apps for Education (G-Suite) in 2010 for use throughout the College but particularly in our Distance Education department."

"Introduced a new drainage system that reduces labour by 70% and speeds installation."

"Invented a road pod to suit our truck. We've patented this and selling it Australia wide."

"Moved to a new warehouse facility."

"Our industry is conservative and regulated in nature so radical innovation just doesn't happen!"

"Our revised communication processes enable us to project our customer's product requirements up to 5 years in advance and service those requirements in a timely and efficient manner."

"We've moved away from a typical hierarchical structure to a flat structure where employees have the ability to broaden their scope. For example, our creative people apply their skills across all communication platforms and disciplines. They're no longer art directors, copywriters or designers only concerned with their area of expertise. They're now 'creatives' who generate ideas and execute them seamlessly."

"INCREMENTAL" INNOVATION THAT HAS TAKEN PLACE IN YOUR FIRM OR INDUSTRY

"5 year IT upgrade plan."

"Greater investment in brand and customer excellence including a large increase in digital marketing on the back of a major upgrade in web page design and content."

"Adding robotics and conveying equipment to reduce the manual handling of product in packing."

"Adjustments to packing and roasting lines."

"Analogue to digital 2-way radio migration."

"Automation of resin sand coating."

"Brought our own drone for aerial shots of properties."

"Changed from fingerprint login to facial recognition time clock system."

"Changed management to be more responsible for local decisions."

"Changing freight companies."

"Combining telephony and presence tools into one seamless functionality from smart whiteboards to conferencing via video and telephony."

"Company review of culture and member lifecycle undertaken but only at initial stages."

"Corporate traveller implementation changes travel booking and accounting processes."

"Document management - online quoting."

"Electronic processing of supplier invoices eliminating manual data entry."

"Further staff training and incentives."

"Movement to certification-based accreditation."

"Moving some operations from outside sources to in house."

"Rearranging of transport routes to make them more efficient."

"Road pods have increased deliveries per day satisfying our customers. Trucks are loaded promptly as pods are loaded as soon as jobs are completed."

"A 4% fee increase was recently invoked to cover planned capex."

"Trialling reversing sensors for trucks. Trialling all around video cameras on waste trucks."

"We're building a mountain bike track on our school grounds to assist with enrolments. We're going to build a WW1 trench as part of history studies and also plan to build an aeroplane."

DIGITAL DISRUPTION

Innovation in technology and digital business models is disrupting markets and challenging the way business has traditionally operated at an unprecedented rate. In the words of the Reserve Bank's Chief Information Officer, digital disruption is "about innovating to break the ranks of status quo, it redefines the norm and changes the markets and competitors around us. This comes through a relentless focus on the customer and offering new business models and new ways of applying technology."[1]

Some of this disruption can be very positive for business, allowing them to deliver new and better products and services more quickly and cost efficiently, but it can also pose challenges. In this part of the survey, NAB asked business to tell us about their digital innovations, whether they view digital disruption as an opportunity or a threat, how vulnerable they think they are to digital disruption and if they're adequately prepared for it.
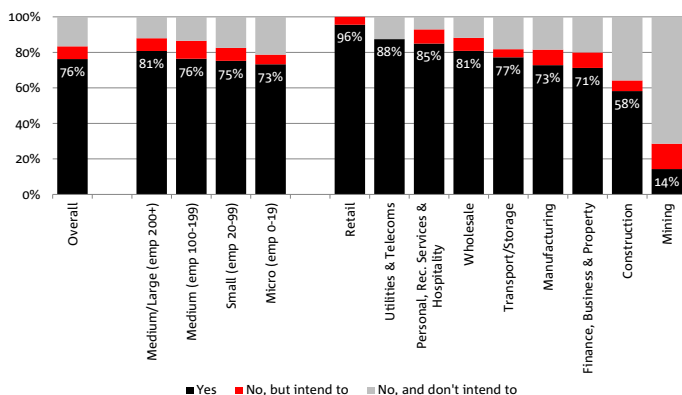
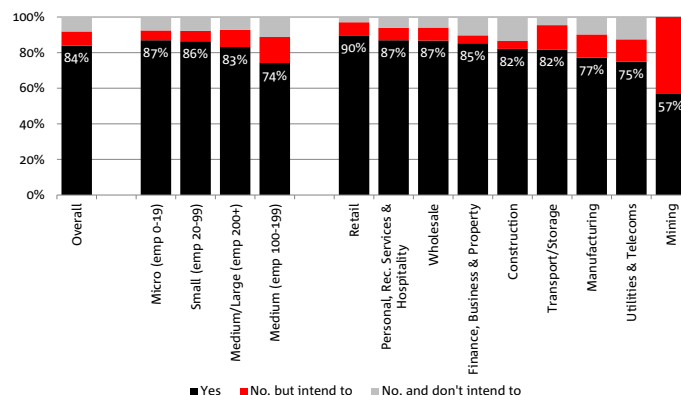**DOES YOUR BUSINESS OPERATE WITH A WEBSITE**
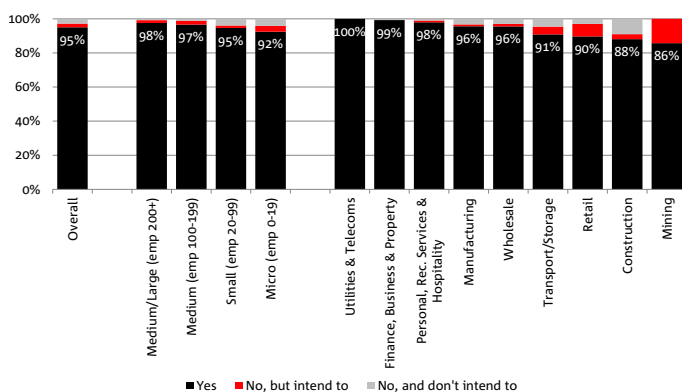
DOES YOUR BUSINESS OPERATE WITH A SOCIAL MEDIA PRESENCE
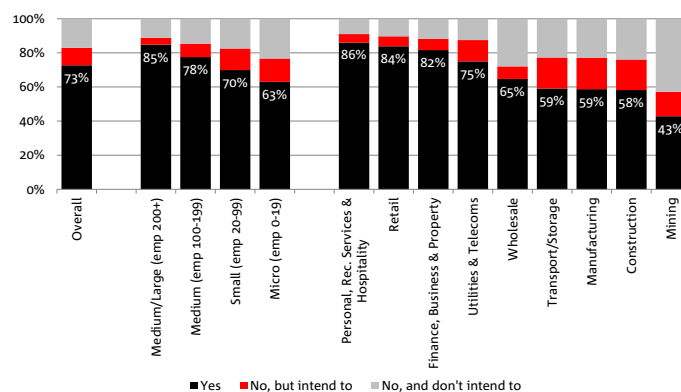
DOES YOUR BUSINESS OPERATE WITH EVERYDAY DIGITAL TOOLS TO SUPPORT CUSTOMER INTERACTION

DOES YOUR BUSINESS OPERATE WITH EVERYDAY DIGITAL TOOLS TO SUPPORT BACK-END OPERATIONS


Most businesses recognise that new digital platforms are enabling them to reach customers in new ways. This has been most prevalent in relation to having a website. In fact, nearly all businesses (95%) said they operated with a website. By business size this ranged from 98% of medium/large firms to 92% of micro firms. There was greater variation by industry, where it ranged from 100% in Utilities & Telecoms to 86% in Mining.

Many companies - nearly 3 in 4 (73%) are also utilising social media to reach customers. Adoption has been highest in medium/large sized firms (85%) and lowest in micro firms (63%). By industry, perhaps not surprisingly given the rise of the 'experience' economy, more Personal, Recreational & Hospitality Services firms (86%) had a social media presence, ahead of Retail (84%) and Finance, Business & Property Services (82%). Far fewer firms in the Mining (43%), Construction (58%), Manufacturing (59%) and Transport Storage (59%) sectors had a social media presence.

Around 3 in 4 firms (76%) also operate everyday digital tools (e.g. EFTPOS, product scanning etc.) to support customer interaction. Not surprisingly, this was most prevalent in Retail (96%) and least prevalent in Mining firms (14%). Even more firms (84%) operate everyday digital tools to support back end operations of their business such as online bookkeeping software and online inventory management systems. Take up has been highest in Retail (90%) and lowest in Mining (57%).

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[1] *Sarv Girn, Chief Information Officer,* **Digital Disruption - Opportunities for Innovation and Growth**, *Speech to the Committee for Economic Development of Australia (CEDA) Adjusting Australia Series, Sydney (11 June 2014)*
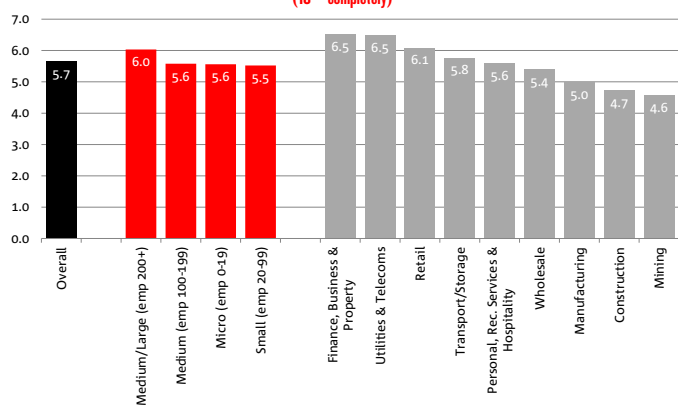
DIGITAL DISRUPTION - OPPORTUNITY OR THREAT?
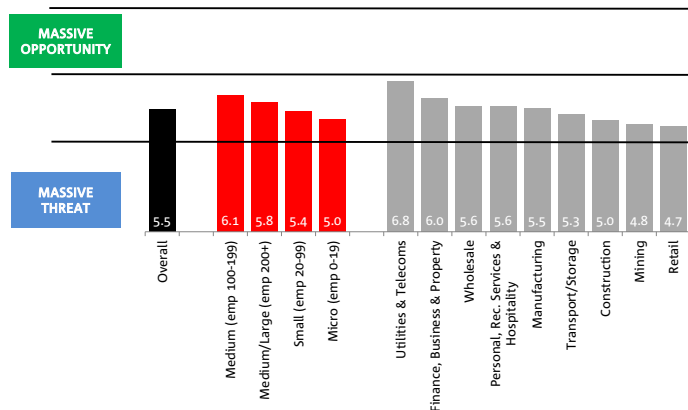
Digital disruption has undoubtedly brought many benefits to customers. It has also provided opportunities for those businesses that are investing in digital transformation and innovations to adapt and out-perform their competitors. But, it can also pose threats to existing companies who have not or aren't adequately prepared for some form of disruption.

When we asked Australian businesses to tell us whether they believed they were vulnerable to some form of digital disruption, all firms saw it as an opportunity.

Utilities & Telecoms firms were the most optimistic, followed by Finance, Business & Property Services Firms. Retail firms were the least optimistic, just ahead of Mining firms.

By business size, medium-sized firms were most optimistic and micro businesses the least optimistic.

VULNERABILITY TO DIGITAL DISRUPTION
(10 = completely)

Although most businesses saw opportunities arising from digital disruption, they said their business was still 'moderately' vulnerable to some form of disruption.

When asked to score how vulnerable they thought their business was, on average firms scored 5.7 out of 10 (10 is 'completely' vulnerable).

But some groups believe they are more vulnerable than others. By size, vulnerability scores ranged from 6.0 in medium/large sized businesses to 5.5 in small businesses.

The range was much wider by industry. Firms operating in the Finance, Business & Property (6.5) and Utilities & Telecoms sectors (6.5) said they were the most vulnerable. These sectors have already changed considerably due to digital technologies, but higher vulnerability suggests they see more disruption ahead.

In contrast, Mining firms (4.6) said they were the least vulnerable.

ADEQUATELY PREPARED FOR SOME DIGITAL DISRUPTION
(10 = completely)
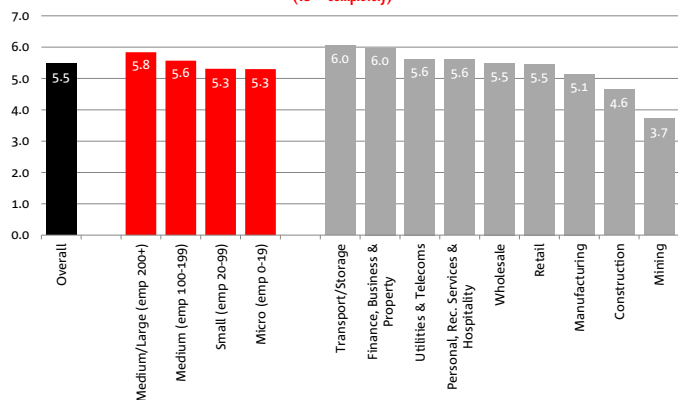
It also appears that Australian firms may not be moving fast enough to meet the challenges they face from digital disruption.
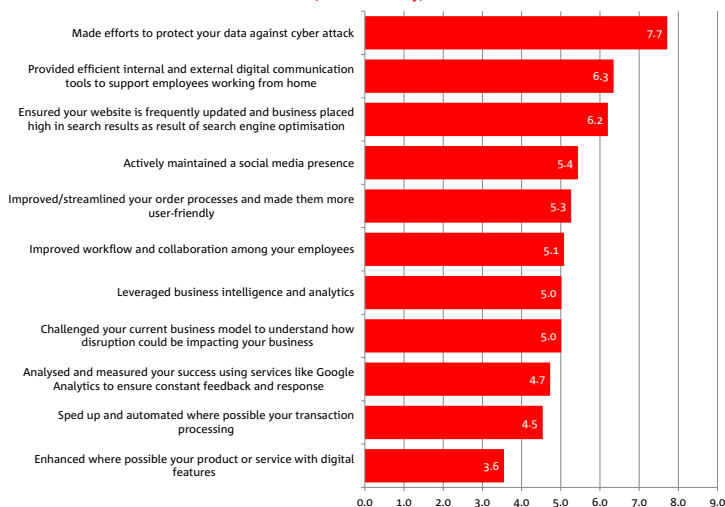
Overall, they scored just 5.5 points on a scale of 10 (where 10 is completely) when asked to define the extent their organisation was adequately preparing for some form of digital disruption.

By business size, there was little variation, with scores ranging from 5.8 for medium/large firms to 5.3 in small and micro businesses.

By industry, Transport/Storage (6.0), Finance, Business & Property Services (6.0) and Utilities & Telecoms (5.6) firms led the way - a particularly encouraging results given they were also rated among the more to digital disruption.

Mining businesses said they were the least adequately prepared (3.7) for disruption.

EXTENT YOU/YOUR BUSINESS HAS OVER THE PAST 2-3 YEARS...
(10 = extensively)

Category	Score
Made efforts to protect your data against cyber attack	7.7
Provided efficient internal and external digital communication tools to support employees working from home	6.3
Ensured your website is frequently updated and business placed high in search results as result of search engine optimisation	6.2
Actively maintained a social media presence	5.4
Improved/streamlined your order processes and made them more user-friendly	5.3
Improved workflow and collaboration among your employees	5.1
Leveraged business intelligence and analytics	5.0
Challenged your current business model to understand how disruption could be impacting your business	5.0
Analysed and measured your success using services like Google Analytics to ensure constant feedback and response	4.7
Sped up and automated where possible your transaction processing	4.5
Enhanced where possible your product or service with digital features	3.6

In order to better understand how Australian firms have been preparing for digital disruption, we asked them to rate the extent their business had embraced or addressed some of the innovations/challenges they faced in the past 2-3 years.

On average, business have focussed most on making efforts to protect their data against cyber-attack (e.g. installing anti-viral/security protection software, using encryption etc.). In total, they scored 7.7 points out of 10 (where 10 is 'extensive').

The next key areas were around providing efficient internal and external digital communication tools to support employees working from home (6.3), which includes things such as access to email, shared drives and work documents from home. Next was ensuring that their website was frequently updated and that their business placed high in search results as result of search engine optimisation (6.2). For example, understanding how people use key words in their searches so that their business is front and centre when people search for their product or service.

Areas that businesses have focussed on least were enhancing where possible their products or service with digital features such as LiveChat to provide live online customer support (3.6), speeding up and automating where possible their transaction processing such using barcode scanning as opposed to manual entry (4.5) and analysing and measuring their success using services like Google Analytics to ensure constant feedback and response to track and report website traffic and gain customer insights (4.7).

There are however important differences in how businesses are addressing these issues by business size. In particular, the survey results suggest that medium/large businesses were more extensively focussed on all factors than smaller businesses. One possible reason is that larger businesses may have greater access to capital to fund investment in underlying technologies that are driving these innovations/challenges.

The industry in which a firm operated in was also a big differentiator. For example, enhancing where possible product or service with digital features was the area that business focussed on the least (3.6). But for Utilities & Telecoms firms (6.3) and Finance, Business & Property Services firms (5.1) it was much more important.

It is also apparent that Mining firms have been the least extensively focussed across all areas.

In contrast, firms operating in the Utilities & Telecoms industry have been the most pro-active across nearly all areas.

See table on the following page for more detail by business size and industry sector.

TO WHAT EXTENT HAVE YOU/YOUR BUSINESS OVER THE PAST 2-3 YEARS DONE THE FOLLOWING… (out of 10 where 10 is extensively)	All	Micro (employ 0-19)	Small (employ 20-99)	Medium (employ 100-199)	Medium/Large (employ 200+)	Mining	Manufacturing	Construction	Retail	Wholesale	Transport/Storage	Finance, Business & Property	Personal, Rec Services & Hospitality	Utilities & Telecoms
Made efforts to protect your data against cyber-attack (e.g. installing anti-viral /security protection software, using encryption, etc.)	7.7	7.3	7.7	7.8	8.2	6.3	7.7	7.4	7.2	7.7	6.7	8.1	8.1	8.7
Provided efficient internal and external digital communication tools to support employees working from home (e.g. access to email/share drive/work documents from home)	6.3	5.5	6.3	6.8	7.1	5.7	6.0	6.3	5.2	6.1	6.7	7.4	6.0	8.9
Ensured your website is frequently updated and your business placed high in search results as a result of search engine optimisation (e.g. understanding how people use key words in their searches so that your business is front and centre when they search for your product or service)	6.2	5.8	5.9	6.7	6.7	4.5	5.7	5.3	6.2	6.4	5.2	6.8	6.7	7.0
Actively maintained a social media presence (e.g. Facebook, Twitter, Instagram, LinkedIn)	5.4	4.6	5.3	5.9	6.4	2.9	4.1	4.5	6.1	4.6	4.5	6.2	6.8	5.1
Improved/streamlined your order processes and made them more user-friendly (e.g. reducing the number of steps in your order process for customers/suppliers)	5.3	5.1	5.0	5.1	6.0	1.9	5.8	4.0	5.6	5.8	6.3	5.2	4.9	6.4
Improved workflow and collaboration among your employees (e.g. created working groups that allow employees to work on new ideas, etc.).	5.1	4.3	5.1	5.5	5.6	3.7	5.1	4.5	4.3	4.5	5.3	5.9	5.1	7.3
Leveraged business intelligence and analytics (e.g. using data and customer feedback collected via tools like Google Analytics, POS systems, Accounting Packages to drive new sales/revenue or reduce cost)	5.0	4.3	5.0	4.8	6.1	2.9	4.4	3.9	5.0	4.5	5.5	5.7	5.9	4.8
Challenged your current business model to understand how disruption could be impacting your business (e.g. looked at other business models such as pricing structures, selling direct to customers, etc.)	5.0	4.4	4.9	5.0	5.9	3.1	5.0	3.9	4.5	4.6	6.6	5.6	5.3	6.4
Analysed and measured your success using services like Google Analytics to ensure constant feedback and response (e.g. using Google Analytics to track and report website traffic and gain customer insights)	4.7	4.1	4.7	4.9	5.5	2.0	4.0	3.6	4.8	4.5	4.3	5.4	5.6	5.6
Sped up and automated where possible your transaction processing (e.g. using barcode scanning as opposed to manual entry)	4.5	3.5	4.5	4.9	5.6	1.1	4.4	2.8	5.5	4.7	4.5	4.8	4.9	5.9
Enhanced where possible your product or service with digital features (e.g. Live Chat to provide live online customer support)	3.6	2.7	3.2	4.6	4.4	1.1	2.8	2.4	3.9	3.0	4.3	4.6	3.6	6.3

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