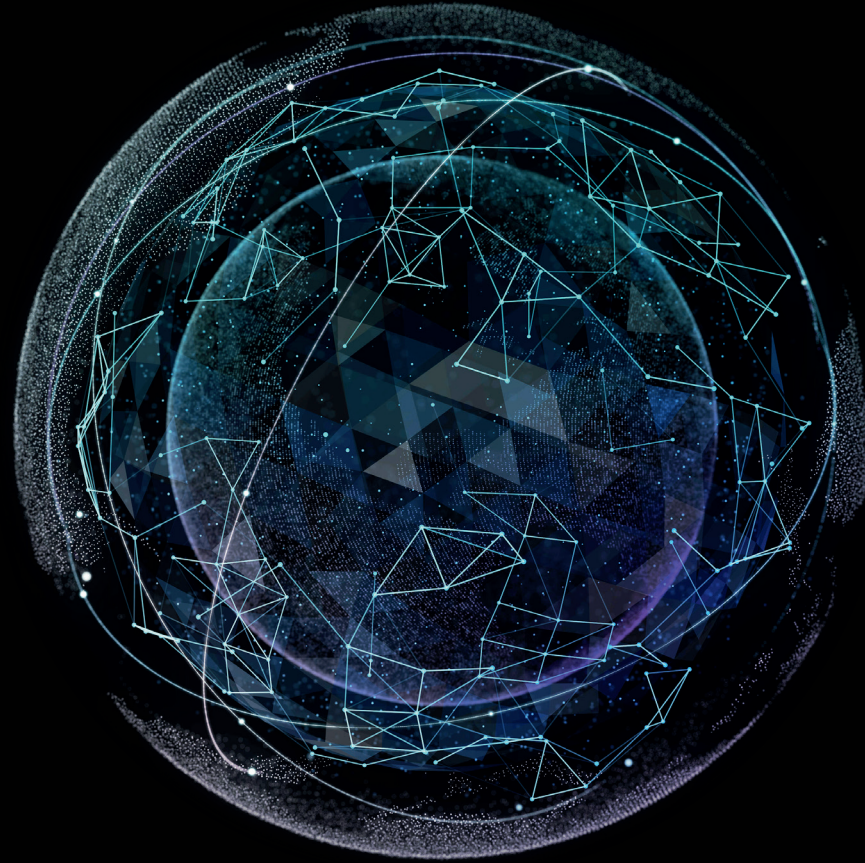


# Deloitte.



## Demystifying data

The business benefits of improving data maturity in Australia and New Zealand

Amazon Web Services  
September 2020




**Deloitte**  
Access **Economics**

Opportunity for an additional **AU\$1.5/NZ\$1.6 million** in revenue (equivalent to a **9%/12%** increase) from increasing data maturity, according to research commissioned by Amazon Web Services (AWS). This revenue could allow businesses to hire an additional **16** full-time employees in Australia and **22** in New Zealand.





### Why data?

Some of the potential business benefits include **improving customer experience**, enabling innovation and mitigating risk.

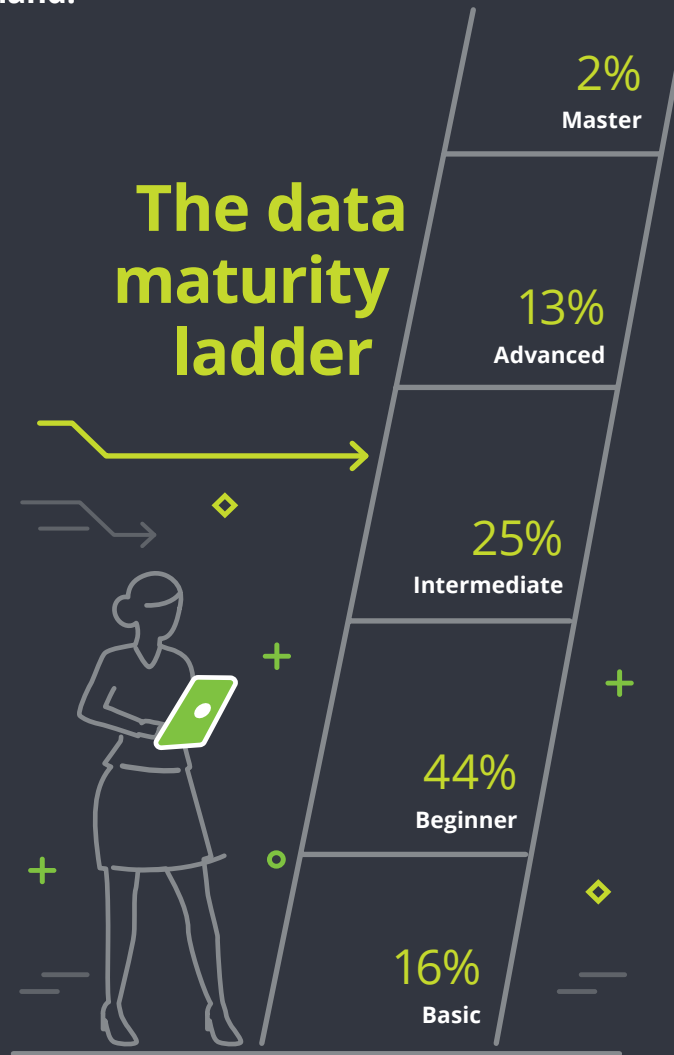
### State of play

-  **93%** of businesses have invested in data analytics tools or software in the past year
-  More than **one quarter** get meaningful insights out of their data monthly or less often
-  **8 in 10** businesses employ dedicated data and analytics staff

### What's getting in the way?

- Data quality (**17%**) 
- Funding (**15%**) 
- Data access (**13%**) 
- Workplace culture (**12%**) 


## The data maturity ladder



Findings based on a survey of 275 businesses in Australia and New Zealand with over 100 employees.

### Taking action

**25%** of businesses are aspiring to reach the top data maturity rung in the next five years. Taking proactive steps could help businesses reach this goal:

-  **Strategy:** Identify where analytics can drive better business outcomes
-  **People:** Create a data-driven culture
-  **Process:** Create accountability in internal data management
-  **Data:** Drive high quality insights from high quality data
-  **Technology:** Use cloud solutions to support data driven insights



# Executive summary

## Businesses overwhelmingly see the value of data for understanding and improving customer experience.

More than just numbers on spreadsheets, data is any information that is collected or created through observation. This can include reviews, customer feedback, video footage, and more.

Businesses overwhelmingly see the value of data for understanding and improving customer experience. Two-thirds of businesses are already using data to understand and improve customer experience, and a further 29% intend on using data for this in the future.

Leveraging data can help businesses to better understand their customers and create a competitive advantage. It can inform decision-making, optimise solutions and enable innovation.

This report presents a new data maturity model to assess how sophisticated businesses in Australia and New Zealand are when it comes to data. The framework scores businesses across five pillars of data maturity: understanding of data, organisational strategy, capability and culture, tools, and processes.

The majority of surveyed businesses (60%) had basic or beginner data maturity levels when measured against these criteria. The most commonly cited barriers included data quality (17%) and funding (15%).

Modelling for this report finds that even a one-point increase in businesses' data score is associated with additional revenue - \$1.5 million in Australia, and \$1.6 million in New Zealand. This revenue could allow businesses to hire 16 full-time employees in Australia and 22 in New Zealand.

Technology is only one part of solution. Roughly one quarter of businesses analyse data on an ad-hoc basis or not at all, while less than half manage access to data across the business.

Most medium and large businesses (with 100 or more employees) in Australia and New Zealand understand the potential benefits of data. Yet few have a good understanding of their ability to harness this potential. Two in five businesses overestimate their data maturity.

This report outlines a roadmap for businesses seeking to improve their data maturity, drawing on research and consultations with business leaders. From building a culture of analytics, to transforming analytics into actionable insights, there are simple steps businesses can take to becoming a data-driven organisation.

### This report

Deloitte Access Economics was commissioned by Amazon Web Services to analyse the data maturity of medium and large businesses in Australia and New Zealand (ANZ), and to highlight the benefits of, and barriers to, being data-driven. The analysis draws on a survey of businesses, as well as three case studies which provide real-world examples of how businesses are leveraging data to improve the customer experience.

### The business survey

This report is informed by a business survey fielded by Dynata in July 2020.

Survey respondents were marketing or finance purchasing decision makers, representing businesses with 100 employees or more. In total, 275 businesses participated, including 66 from New Zealand and 209 from Australia.

Figures contained in the report relate to surveyed businesses only, unless otherwise specified. As such, results will only be representative of businesses with 100 or more employees, rather than smaller businesses.

# Demystifying data

More than 59 zettabytes – that's 59 trillion gigabytes – of data will be created, captured, copied and consumed in 2020.<sup>1</sup> Technologies such as cloud computing can help businesses to capitalise on this ever-increasing volume of data. But businesses first need to be able to recognise what data is available – both internally and externally.

Data can broadly be defined as any information that is collected or created through observation. As such it can take any number of forms – from sounds, to videos and imagery, sensor and spatial information. Data can be qualitative or quantitative, structured or unstructured. It can be directly captured, purchased or generated.

From entertainment and communication (streaming music, capturing videos, making phone calls) to finance and logistics (share prices, freight movements), businesses and individuals generate, analyse, and use data in every part of daily life. This data can then be used for a variety of purposes. For example, customer-focused businesses can use feedback, ratings, and call centre logs to improve the customer experience.

Sources:

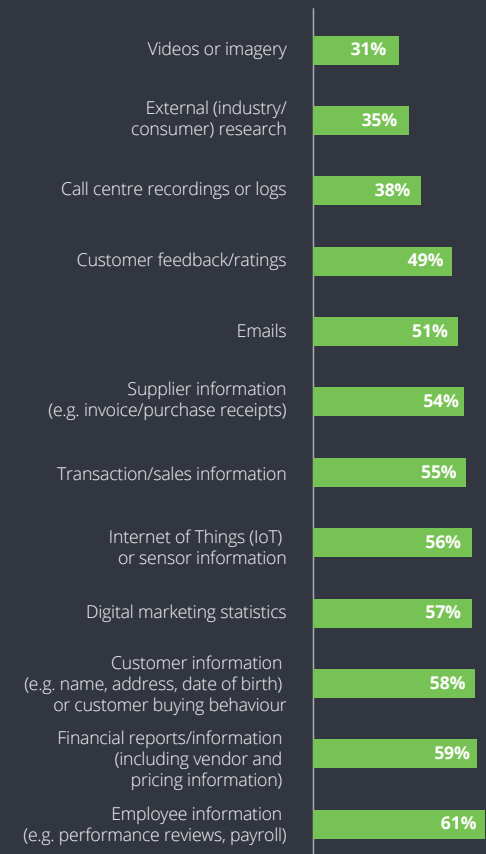
1. IDC, *Worldwide Global Datasphere Forecast, 2020-2024: The COVID-19 Data Bump and the Future of Data Growth* (2020).
2. Australian Bureau of Statistics, *Business Use of Information Technology 2015-16* (Cat. No. 8129.0).

Businesses are increasingly able to capture, store, and analyse this data. As recently as mid-2016, 70% of all businesses had no data capabilities.<sup>2</sup> Today, almost all organisations collect and store information about customers, employees, and finances. Beyond numbers, businesses capture a range of other data – security footage, product photos, customer feedback forms.

However, businesses need to do more to get the most out of the information they are capturing. The first step is recognising data for what it is. Two in five businesses surveyed did not view customer or financial information as data.

Yet, this information can be used to meet a range of business needs. In particular, customer data can be leveraged by businesses to better understand their customers and optimise customer interactions. By providing exceptional customer service, businesses can build trust with their customers. This helps to establish brand loyalty and prevent customer churn.

## The proportion of businesses that identified the following as organisational data:



Source: Deloitte Access Economics and Dynata.

# What can data do?

## Each type of data brings a raft of potential use cases.



**Customer feedback/ratings.** This data can inform staff incentives (commissions depending on customer rating), be used to inform training, or be considered in product development (for example for marketers).



**Customer information.** Data on location, age, or purchasing habits can be leveraged to build personalised recommendations, or shape better customer experiences.



**Call centre recordings/logs.** Voice and speech recognition technologies can track customer sentiment (in retail) or monitor compliance (in finance).



**Imagery.** Image processing technology can convert photos in to machine-readable or searchable text, or identify anomalies in scans (for example structural faults in engineering).



**Supplier information.** Analysing invoicing and purchasing data can highlight opportunities for cost reduction (cheaper inputs in construction), or help with compliance (for example modern slavery in supply chains).



**Industry/consumer research.** Third-party data can help to drive organisational strategy for boards, and support lead generation for those in sales/marketing.



**Video.** Video content analysis can detect motion or particular objects, which might be used for risk mitigation or security (in galleries or venues).



**IoT/sensor data.** Can be used with capital/equipment for predictive maintenance (in manufacturing, roads, utilities), or for tracking the location of items (in wholesale, logistics).

# Why data?

Data and analytics can contribute to a range of business outcomes. For example, data and analytics can support **better customer experiences and engagement**, which can be critical to maintaining and building market share. Two-thirds of businesses are already using data to improve the customer experience and a further 29% intend on doing so in the future.

Data is also an important driver of innovation. It can help businesses create new products or services and make more informed decisions, to better meet their customers' needs.

Businesses also recognise the benefits of being data-driven for the bottom line. One in four businesses in ANZ think the number one benefit of data is improved productivity or increased sales.

Sources:

1. Brynjolfsson, E., Hitt, L. & Kim, H. 'Strength in numbers: How does data-driven decision-making affect firm performance?' (2011).
2. Deloitte Access Economics, *ACS Australia's Digital Pulse* (2020).

And there's substantial evidence to support this. One estimate indicates data-driven businesses have productivity levels and output 5-6% higher than what they would otherwise.<sup>1</sup>

More broadly, data in and of itself can be an asset for businesses. For example, online recruitment boards use job postings to create employment reports, which are used to inform government and industry. Just under half (48%) of the enterprise value of the ASX200-listed companies typically comes from internally generated assets such as data.<sup>2</sup> Yet only 8% of businesses surveyed think 'data as a revenue stream' is the top benefit.

## The proportion of businesses that ranked the following as the top benefit of data and analytics:



Source: Deloitte Access Economics and Dynata.  
Note: Rank 1 only.

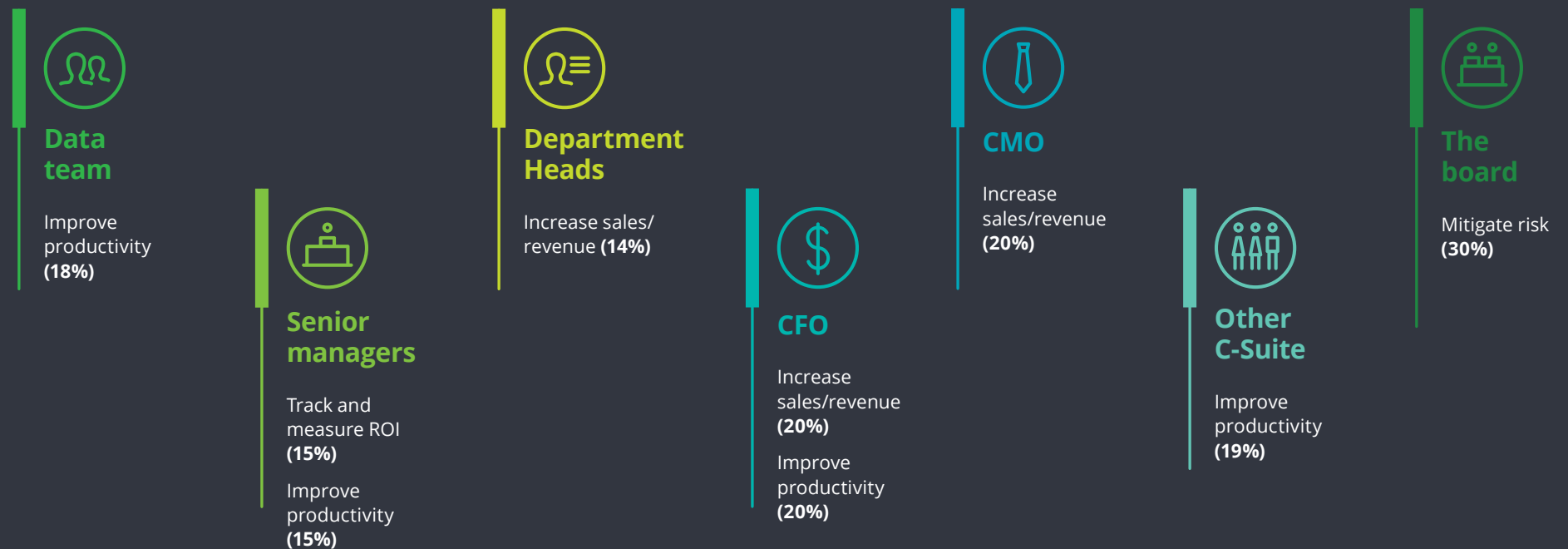
# The perceived benefits of data vary by role

Who's driving the data agenda – whether it be C-Suite executives or data professionals – can shape perceptions of the top benefits of data.

**Most common top ranked benefit of data in organisation, by top advocate for data in the organisation (%)**

Data maturity

Taking the next step



Source: Deloitte Access Economics and Dynata.

# The perceived benefits of data vary by industry

Businesses in different industries have differing views on the benefits of using data, demonstrating how data can deliver value for businesses in a variety of ways.

## Top ranked benefits of data in an organisation, by industry

### Improve productivity



Administrative and support services



Professional, scientific and technical services



Education and training

### Increase sales and revenue



Wholesale trade



Manufacturing



Accommodation

### Streamline business processes



Finance and insurance



Retail trade



Information, media and telecommunications

Source: Deloitte Access Economics and Dynata.





# Case study: Toll Group

## Interview with Vibhu Tandon, Head Of BI and Analytics.

Toll is one of the largest freight and logistics companies globally. It operates an extensive global logistics network across 1,200 locations, in more than 50 countries.

In 2017, Toll began a three-year IT transformation program, spanning ten different initiatives.

**“At the time, it was unheard of”, said Vibhu Tandon, Toll’s Head of BI and Analytics.**

The objective of these initiatives was to simplify, standardise and improve Toll’s IT landscape. Driven by Toll’s global leadership team, these initiatives formed the building blocks of transformation to help deliver higher-value to customers.

One of the initiatives focused on the implementation of an integrated telematics platform, helping to enable more effective management of transport asset deployment, operation and maintenance. Previously, it was challenging for Toll to understand the size and location of their fleet, motivating the adoption of a common telematics approach across Toll’s operations.

Beyond tracking Toll’s fleet, the integrated platform also provides valuable datasets, such as fleet location (latitude/longitude), timestamp, kilometres, engine run time (including idling), fuel consumption, harsh braking, and more.

Telematics coupled with business operational knowledge is helping Toll to improve safety, asset utilisation, fuel usage and response to operational incidents. **“We built capability around what and how we could use the data, working hand-in-hand with the business to determine broader uses”, said Tandon.**

And it doesn’t stop there – already Toll are looking for new and different ways to use the data. In the context of COVID-19, this means tracking when a driver travels through a COVID-19 hotspot zone.

Toll is also sharing some of their telematics data with the Department of Infrastructure, helping to inform industry, government and the community about current freight network performance and future infrastructure needs.

Tandon had three pieces of advice for businesses’ looking to build their analytics capability:

- **Don’t wait for data to be perfect.** It’s important to start pulling insights from the data as soon as possible, while still acknowledging exceptions within the data.
- **Ensure a strong relationship with other parts of the business.** For data professionals, this means bringing other teams on the data journey with you, and having a clear understanding of who is responsible for what data.
- **Think about different data sources** – even outside your own organisation. Government and community data can be useful tools for businesses to draw on and get insights from.



# State of play

Each organisation's approach to data can – and often should – be unique. How organisations collect, analyse, and use data will vary between countries, industries, and businesses. The business survey identified some of the most common approaches.

- **Tools:** The most commonly used tool by businesses included analytics capabilities embedded in applications, such as CRM or accounting/payroll software, adopted by close to half of all businesses (48%). A higher share of Australian businesses used these applications than New Zealand businesses (51% compared to 38%). Around half of businesses surveyed use cloud-based analytics software (46%).
- **Investment:** 93% of businesses have invested in data analytics tools or software in the past year. The same proportion have invested in training existing staff in analytics. Businesses are more likely to up-skill existing staff (93%) than to hire data professionals (87%).
- **Analytics:** Financial and sales data were the most frequently analysed data types. This data was analysed at least weekly by roughly 40% of businesses. Customer feedback was the most frequently captured data source – captured by 99% of businesses. A higher share of New Zealand businesses frequently analysed captured data compared to Australian businesses.

For example 50% compared to 37% for financial data, and 42% compared to 31% for customer feedback.

- **People:** 8 in 10 businesses employ dedicated data and analytics staff, and senior managers are most commonly cited as the strongest advocate for the use of data in businesses (20%), even more frequently than data professionals (19%).

But are businesses really getting the most from data? Despite all of this activity, over a quarter only get meaningful insights monthly or less often. This suggests there is a large proportion of businesses that could better leverage data to drive better business outcomes.

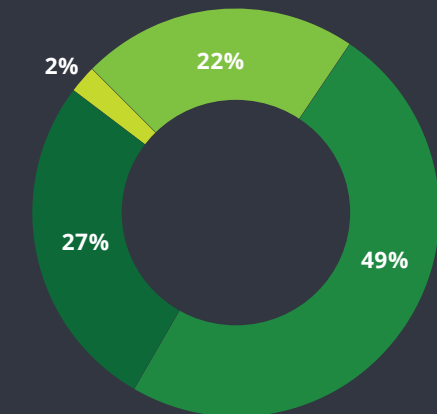
## Spotlight on data security

Data security can affect customer engagement and business performance. Close to a third (32%) of all consumers have switched companies or providers over their data policies.<sup>1</sup>

Good data security requires businesses to have trustworthy suppliers and partners. Yet it also relies on having the right policies and procedures in place internally.



## How frequently businesses get meaningful insights from their data:



- At least daily **22%**
- At least weekly **49%**
- At least monthly **27%**
- At least every year or less frequently **2%**

Source: Deloitte Access Economics and Dynata.

Sources:

1. CISCO, 'Consumer Privacy Survey: The growing imperative of getting data privacy right' (2019).

# A framework for assessing data maturity

To assess data maturity, each business was scored against five pillars: data, strategy, people, technology, and process (first column in the table below). The scores from each pillar were then summed together and grouped based on cut-off scores, to assign each business into an overall data maturity category. These categories range from basic to master, as shown in the first row below. Further detail on the methodology is provided in Appendix A.

	Basic	Beginner	Intermediate	Advanced	Master
Data	Narrow understanding, data not captured	Limited understanding, data captured	Some understanding, data captured	Detailed understanding, data captured	Complete understanding, data captured from multiple sources
Strategy	None	Implemented in silos	Some investment in data and analytics	Firm wide strategy, ongoing investment in data and analytics	Firm wide strategy, dedicated analytics budget
People	No data culture or capability	Some data capability but lack of data culture	Emerging data team with capability and growing culture	Data team with good capability and culture	Data-driven culture, dedicated data team with high capability
Technology	Unable to draw insights from data	Unable to draw insights from data	Analytics informs solutions	Analytics informs decision-making	Analytics is embedded into strategic decision-making
Process	Data is not analysed, no data governance	Data is not analysed	Data is analysed on an ad-hoc basis, some data governance	Data is routinely analysed, some data governance policies	Data is analysed frequently, strong data governance policies

## The self-assessment

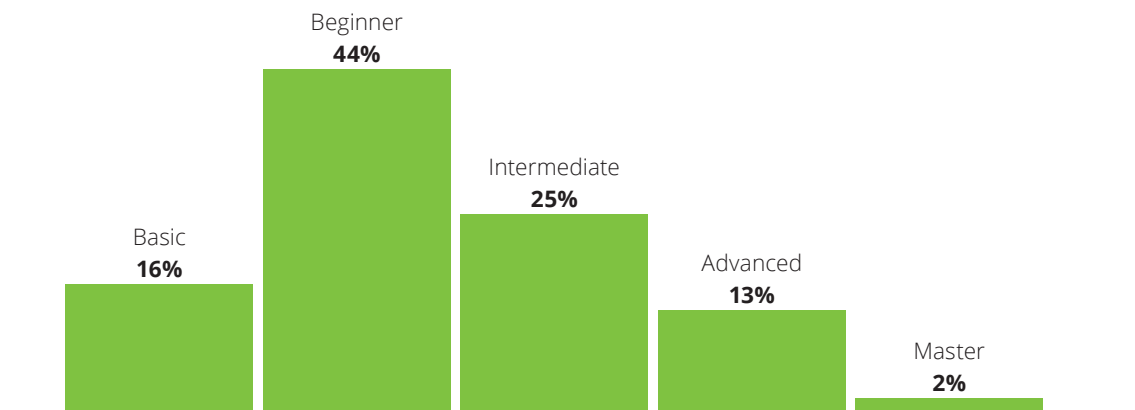
Businesses were also asked to rate their own data maturity, based on Amazon Web Services's data maturity scale (see Appendix C).

The self-assessment included five data maturity categories: basic, opportunistic, systematic, differentiating, and transformational.

The self-assessment is not directly comparable to the data maturity ladder shown to the left. However, it does incorporate elements of the data maturity framework, such as strategy.

# Taking the second step

Most businesses with 100 employees or more across ANZ are in the first stages of their data and analytics journey. Three in five (60%) have basic or beginner maturity levels. Many have taken the first step, from basic to beginner. These businesses are beginning to capture and catalogue data, but are yet to establish formal processes around data use, and do not have a firm-wide data strategy. Even beyond the beginner level, there is room for improvement. Only 2% of businesses were classified as data masters.



Source: Deloitte Access Economics and Dynata.

Other international attempts to categorise businesses based on their analytics maturity have found similar results. Based on a four-scale maturity rating, analysis by Kearney and the Melbourne Business School found that over half of all businesses were in the bottom two categories (56%), and only 8% were in the top category.<sup>1</sup>

Sources:

1. Kearney and the Melbourne Business School, 'The untapped value of analytics' (2020).

## What's stopping businesses from taking the second step?

One problem may be over-confidence or businesses not knowing what they don't know.

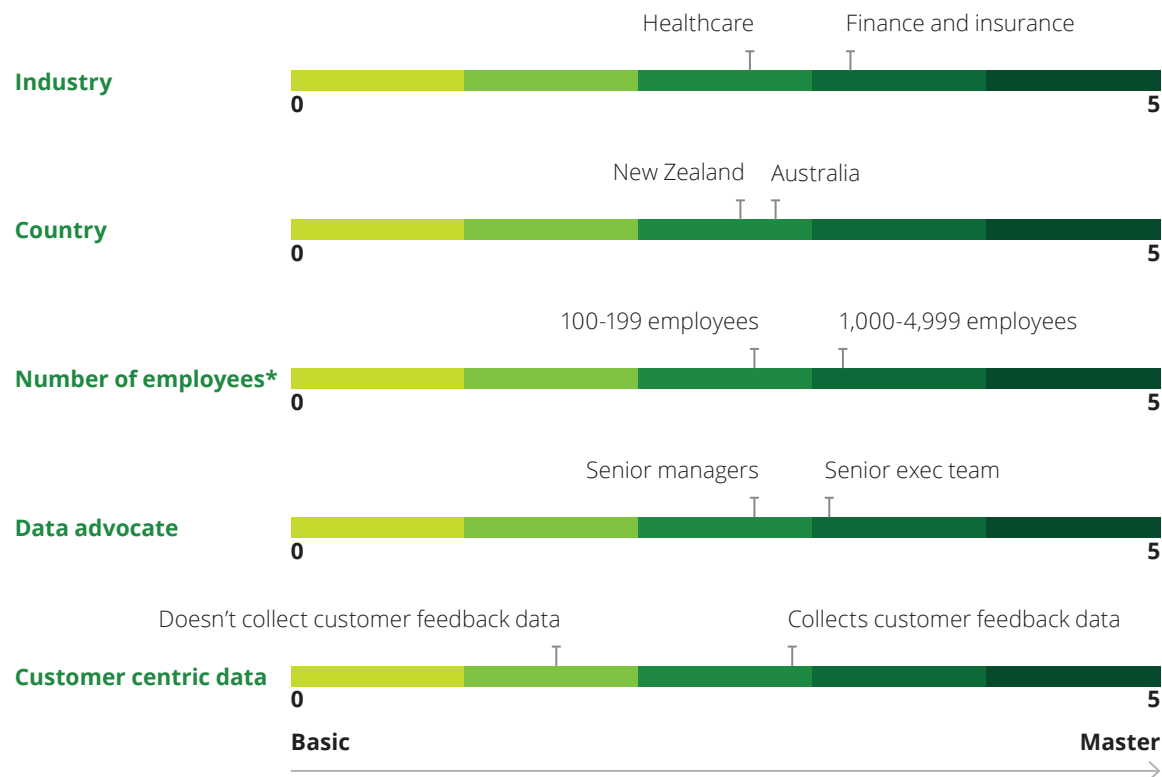
Businesses were asked to rate their own data maturity, based on Amazon Web Service's data maturity index (see Appendix C). Compared to businesses' actual data maturity scores, 40% over-reported in the self-assessment (while 31% under-reported, and 29% reported accurately).

Businesses with lower levels of data maturity were much more likely to over-report. For example, 87% of businesses classified as basic over-reported, compared to just 13% of intermediate businesses and 6% of advanced businesses.<sup>4</sup>

This suggests businesses that are most likely to benefit from moving up the data maturity ladder, are also the least likely to realise there is room to improve.

# What's the score?

Businesses' data maturity varies across industries, business sizes, and countries. Inside organisations, data maturity also depends on who's advocating for the use of data, customer-centricity can also be a factor.



\*Note that businesses with less than 100 employees were not surveyed.

## Data maturity and use of cloud

Cloud is the delivery of computing services via the internet, helping businesses to store and analyse data more flexibly. It helps businesses increase reliability and scalability, and integrate more easily with analytical tools.

Cloud use is an important determinant of businesses' data maturity. **Businesses that use cloud have on average 14% higher data maturity scores, relative to businesses that don't.**

Businesses were also asked to assess their cloud maturity levels, based on a five-point scale, ranging from 'standardise' (the lowest level of cloud maturity) to 'orchestrate' (the highest level). See Appendix C for more detail.

Businesses that self-selected into the 'orchestrate' category were 1.5 times more likely to have advanced or master data maturity levels, relative to 'standardise' businesses.

Similarly, 16% of 'standardise' businesses had basic or beginner levels of data maturity, compared to just 6% of 'orchestrate' businesses.



# Incentives for levelling up

Most businesses recognise that data and analytics are good for business performance. But it's not always clear how good. Being able to understand the return on investment is critical to getting leadership buy-in, and helping to embed a culture of analytics throughout the businesses.

For this report, Deloitte Access Economics has modelled the relationship between business performance data and data maturity scores to determine the impact of being data-driven on the bottom line for businesses.

The results suggest there are significant benefits associated with leveraging data and analytics. For Australian businesses, the results show that moving from beginner to intermediate data maturity is associated with additional revenue of AU\$1.5 million and profit of AU\$1.4 million, taking in to account existing business size and industry.<sup>1</sup> For a business employing 20-199 people, this is equivalent to a 9% increase in revenue,<sup>2</sup> or the potential to hire an additional 16 full-time employees.<sup>3</sup>

Sources:

1. Note: Based on the assumption that the business achieves a one-point increase in their data score, equivalent to moving from the bottom of the 'beginner' category, to the top of the 'intermediate' category.
2. Based on the average revenue of businesses in Australia employing 200-199 people. Australian Bureau of Statistics, *Australian Industry 2018-19* (Catalogue No 9155.0); Australian Bureau of Statistics, *Counts of Australian Businesses, including Entries and Exits, June 2015 to June 2019* (Catalogue No 8165.0).
3. Based on average weekly earnings. Australian Bureau of Statistics, *Average Weekly Earnings, Australia, May 2020* (Catalogue No 6302.0, 13 August 2020).
4. Based on average revenue of businesses in New Zealand employing 20-199 people. Stats NZ, *Annual Enterprise Survey: 2016 Financial Year* (2017).
5. Stats NZ, *Earnings from wage and salary jobs by sex, age groups, region and full-time and part-time status* (2020).
6. Kearney and the Melbourne Business School, 'The untapped value of analytics' (2020).

For New Zealand businesses, moving from beginner to intermediate data maturity is associated with additional revenue of NZ\$1.6 million and profit of NZ\$1.5 million, holding other factors equal. For a business employing 20-199 people, this is equivalent to a 12.5% increase in revenue,<sup>4</sup> or the potential to hire an additional 22 full-time employees.<sup>5</sup>

There are other factors that could be driving these results. For example, higher revenue could enable firms to achieve higher levels of data maturity. Business performance could also be lifted by other digital changes happening within the business at the same time. Further detail on the methodology is provided in Appendix B.

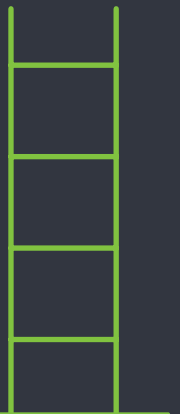
Other attempts to assess the benefits of being data driven have produced similar results. Kearney and the Melbourne Business School found that moving up one category in data maturity (on a four-level scale) was associated with a 15% increase in profits.<sup>6</sup>

**For the average medium business, moving from beginner to intermediate data maturity\* is associated with:**

- 9%** additional revenue for Australian businesses
- 12.5%** additional revenue for New Zealand businesses

**This revenue could allow businesses to hire an additional:**

- 16** full-time employees in Australia
- 22** full-time employees in New Zealand



\*Note: Based on the assumption that the business achieves a one-point increase in their data score, equivalent to moving from the bottom of the 'beginner' category, to the top of the 'intermediate' category.

# Case study: Livestock Improvement Corporation

## Interview with Andrea Black, Chief Information Officer

Farming is often characterised as livestock and land, but every asset and activity on a farm can also be thought of as a data point. By recording and analysing that data, farmers can make better decisions that improve the welfare of their animals and how their land is managed while boosting the quality and quantity of the food they produce.

For more than 100 years the farmer-owned co-operative organisation Livestock Improvement Corporation (LIC) has been helping farmers use data to make better decisions about the management and breeding of their livestock.

LIC's Chief Information Officer Andrea Black says in recent years much of that work has shifted into the digital realm, including the creation of the digital platform MINDA, which enables farmers to access data about their cattle herds from any location via a PC or smartphone.

**“From animal health history, to calving, to pasture data, in today’s farming environment, being able to access the information you need, when you need it, is critical to productivity and profitability.”**

LIC is now utilising technology from AWS to speed up its data processing capabilities, which is enabling it to provide a broader range of data services for farmers.

One example is SPACE which uses satellite imaging and machine learning algorithms to analyse farm images and deliver detailed reports to farmers on the state of their pasture.

**“Traditional pasture measurement methods are laborious and time consuming. SPACE has automated the pasture cover collection process and has reduced the amount of time required to make pasture management decisions.”**

The analytics capabilities in SPACE are enabling farmers to make better decisions regarding where their cattle should graze.

- Pastures can be better managed to avoid over-grazing and degradation.
- Cattle’s nutritional intake can be improved by better managing the feed types they have access to.

By making data available in this way, Black says LIC can help farmers make better choices and then monitor and learn from the outcome of their decisions.

# What's getting in the way?

There are a range of barriers which prevent businesses from achieving data driven insights. Results from the business survey indicate that one of the most common barriers faced by businesses is **data quality**, cited by 17% of businesses. A lack of **funding (15%)**, and difficulties with **data access (13%)** were also among the top barriers identified by survey respondents.

Perceived barriers to achieving data driven insights differ by levels of data maturity. Businesses with basic data maturity most commonly cited data access as a barrier (22%), followed by tools and technology (16%), and workplace culture and politics (16%). In contrast, businesses with beginner or intermediate data maturity indicated that data quality (18% of these businesses) and funding (16%) were top barriers.

However, these perceived barriers may not be the only - or even the largest - challenges that businesses face. For example, one major barrier evident in the business survey results is the **lack of understanding** among businesses of **what data is**.

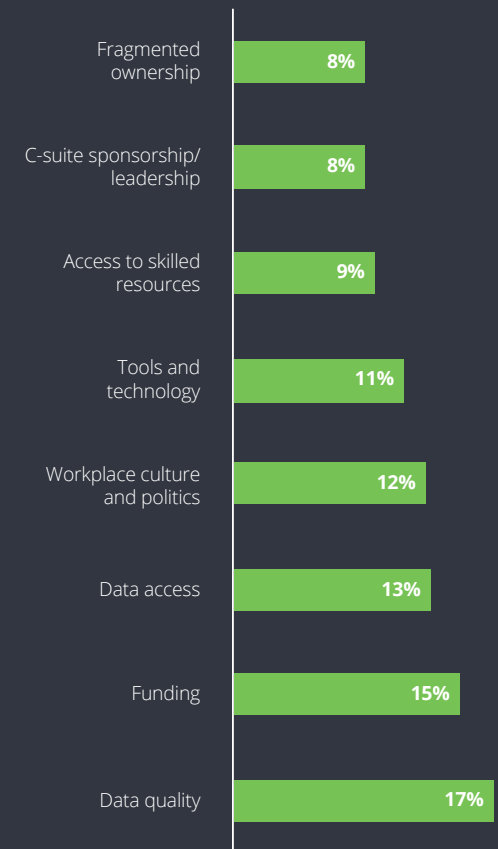
This may prevent businesses from fully leveraging the data sources which are already available to them, or identifying the data sources which they need. This lack of understanding flows through to how businesses use – and don't use – their data.

For example:

- less than 50% of businesses surveyed **understand and manage access** to data across the organisation
- roughly one quarter of businesses **never analyse data**, or analyse data on an ad hoc basis only
- nearly 30% of businesses only get meaningful insights from their data on a **monthly basis**, or less often.

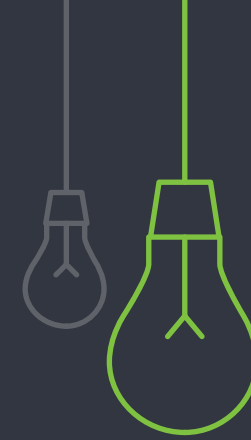
The inability to identify, manage and use existing data sources is therefore a significant barrier preventing many businesses from achieving data driven insights.

Survey respondents cited a range of barriers to achieving data driven insights:



Source: Deloitte Access Economics and Dynata.





# Case study: Jemena

The energy sector is changing. Demand for energy is increasing, while consumers are increasingly turning to cleaner and more sustainable energy sources. This means services providers, such as Jemena, are having to adapt to the new norm and prepare for a more sustainable future.

Jemena provides gas and electricity services to over a million households and businesses in Australia daily. They are one of the largest energy distributors in the country. By leveraging data and analytics, Jemena seeks to optimise solutions and become a more user-centric organisation.

A key part of this process is understanding their customer base better. Since the introduction of smart meters in Victoria, the company has collected around 500 billion data points around power use. Yet, as noted by Frank Tudor, Managing Director at Jemena,

**“Accessing that amount of data to extract intelligent insights can be challenging”.**

To leverage this data more fully, Jemena collaborated with Deloitte, to build a new cloud-based application that leverages machine learning technology such as Amazon SageMaker to deliver valuable insights from its smart meter data to help customers make better energy decisions.

These consumption insights helped Jemena identify patterns in energy consumption, and in turn provide more relevant communications and advice to their customers such as energy saving tips.

**“We knew at an aggregate level what the relationships were between seasons and consumption. But we had no idea of the widely different patterns among consumers”, says Francois Marbaud, Jemena analytics manager.**

As a result of this analysis, Jemena have been able to deliver a range of innovative solutions to optimise service delivery.

- Using personalised insights, Jemena is able to proactively inform customers of spikes in energy use, to help them to avoid bill shocks.
- Real-time data enables Jemena to deliver targeted communications encouraging customers to scale back usage during peak times, preventing the electricity grid from becoming overloaded and helping them to save on their bill.

By engaging with the right tools and upskilling staff, Jemena now has the resources it needs to extract meaningful insights and to know what to look for in the data.



# Taking action

Getting better traction out of existing data may not require extensive funding or access to new data sources, but a better understanding of what data is available, and how it can be used. Drawing on findings from a broad literature review, the list below highlights proactive steps that can help businesses get the most out of their data assets.

- **STRATEGY:** In the short term, businesses should define their **analytics strategy**, or their vision for using data driven insights to achieve better outcomes. Businesses should also seek to identify where the opportunities lie to better extract value from their data assets, including any quick wins within the business. By aligning the analytics strategy with business goals, businesses can accelerate return on investment and maintain stakeholder support.<sup>1</sup>
  - **PEOPLE:** Integrating analytics into business requires business leaders to help **create a data driven culture**. Previous research by Deloitte highlights the link between having a data-driven culture and improved business performance.<sup>2</sup> Workplace culture and politics are often a barrier to change, putting data analytics in the 'too hard' basket.
- Business leaders can facilitate the uptake of data driven approaches by setting expectations that insights should be backed by data.
- **PROCESS:** Maximising the value of data to an organisation requires establishing **clearly understood internal processes and governance** around data management and insights generation.<sup>3</sup> This includes allocating responsibility for the delivery and use of analytics within the business, and managing risks through independent quality assurance processes.
  - **DATA:** Access to **quality data sources** is important to improving the quality and impact of analytics. Raw data from internal and external sources needs to be cleansed, secured, and structured in a way that supports the business to produce high quality insights.<sup>4</sup>
  - **TECHNOLOGY:** Moving to the **cloud** can enable businesses to store and process data in a flexible, secure, cost-effective manner.<sup>5</sup> Businesses engaging with cloud technologies in the survey had a 14% higher data score on average, relative to businesses that did not.

Sources:

1. Deloitte, 'Becoming an Insight Driven Organisation: Realize return on your analytics investment sooner' (2016).
2. Deloitte Insights, 'Analytics and AI-driven enterprise thrive in the Age of With' (2019).
3. CISCO, 'Consumer Privacy Survey: The growing imperative of getting data privacy right' (2019).
4. Deloitte, 'Insight Driven Organisation Survey' (2018).
5. Oracle, 'Achieving the Cloud Computing Vision' (2010).



## STRATEGY

Identify business needs and how analytics can drive better outcomes, including any quick wins within the business, and build a data strategy aligned to your business strategy



## PEOPLE

Identify and champion data-driven leaders to create a data-driven culture and invest in lifting the data literacy of the organisation



## PROCESS

Create accountability in internal data management and insights generation



## DATA

Ensure that data management practices are driving high quality insights from high quality data



## TECHNOLOGY

Use cloud solutions to support data driven insights

# The time to act is now

While most businesses are still at the beginning of their data journey, most have big aspirations for what they want to achieve. In the next five years, 25% of businesses are aspiring to reach the top data maturity level – more than 10 times the amount at this level today.

**It's more important than ever that businesses are able to deliver value to their customers.** The case studies detailed in this report demonstrate how leveraging data can help businesses to understand their customers better, enabling businesses to improve the customer experience and drive operational efficiencies.

Taking the second step will require an investment – of time, effort, or capital – but it's important to prioritise. Currently, most businesses with over 100 employees have basic or beginner data maturity levels. Yet many are planning to take action.

Delaying investment in data maturity will also mean missing out on the associated benefits. By moving from basic to mastery, a business could receive an additional AU\$7.5 million (NZ \$8 million) in revenue.<sup>2</sup>

Key to realising these ambitions is having a plan in place, with clearly defined goals and actions, to keep businesses accountable and on track. Our recommendations (see previous page) are a good starting point for businesses looking to build their data and analytics capabilities.

And with so many businesses not extracting the most value from their data assets, it's likely there's something you can do to help your business thrive.

Sources:

1. Note: Based on a business with a data score of 0 achieving a data score of 5, see Appendices A and B for more detail.



# Appendices

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# Appendix A: Data maturity

## Methodology

To calculate businesses' data maturity, the following steps were undertaken.

01. Survey questions were divided among the five data maturity pillars: data, strategy, people, technology and process. The number of questions in each pillar varied.
02. Each response within each question was allocated a score, based on the within-question level of data maturity. The maximum possible score in each question varied.
03. Businesses' responses were scored then summed together within each pillar based on the scoring adopted in step 3, then normalised to one.
04. The scores across the pillars were then summed to yield a total score ranging from 0 to 5. In the sample, the average score was 2.9. The lowest score was 0.1 and the highest 4.3.
05. Respondents were then grouped into five data maturity categories based on the cut-off scores shown in the table to the right.

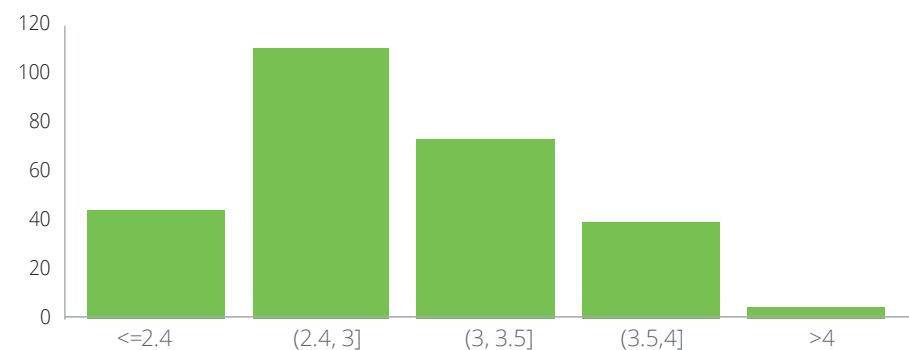
The 'basic' category was defined as scores less than 2.4. This would be the score a business would receive if their data was not exploited, managed in silos, analysis was ad hoc and largely transactional. Likewise, businesses in the 'master' category were defined as scores greater than 4. This would be the score a business would receive if data any analytics was central to business strategy, with use of advanced tools, strong investment and a well developed data culture. Intervening categories (beginner, intermediate, advanced) were then defined using equal intervals, with rounding adjustments.

## Data maturity level cut-offs, based on respondents' data score

Data maturity level	Lower bound	Upper bound
Basic	0	2.4
Beginner	2.4	3
Intermediate	3	3.5
Advanced	3.5	4
Master	4	5

Source: Deloitte Access Economics and Dynata.

## Distribution of responses based on cut-off- scores



Source: Deloitte Access Economics and Dynata.

# Appendix B: Benefits modelling

## Methodology

Data maturity score ranges from 0 to 5. In the sample, the average score is 2.9, the lowest score is 0.1 and the highest score is 4.3.

Revenue and profit categories (ranges) from the survey were converted to numbers by using the midpoint of the categories, except for the last category where the minimum amount was used (as an underestimate). This is shown in the table to the right.

A standard linear regression model was used to determine the impact of a one-point increase in respondents' data scores on revenue and profit. Results controlled for industry, country, organisation type (for example, unlisted company or public sector) and number of employees. Including number of employees ensures that the results account for the size of businesses.

$$revenue = \beta_0 + \beta_1 data\_score + \beta_2 industry + \beta_3 country + \beta_4 organisation\_type + \beta_5 no\_employees + \varepsilon$$

$$profit = \beta_0 + \beta_1 data\_score + \beta_2 industry + \beta_3 country + \beta_4 organisation\_type + \beta_5 no\_employees + \varepsilon$$

The results are presented on the next page. Some caveats apply, as detailed below:

- There is likely a degree of reverse causality, with higher revenue or profit allowing firms to achieve higher levels of data maturity.
- There is evidence of revenue and profit increasing along the data maturity 'steps' (i.e. from basic to beginner, intermediate, advanced and mastery), however these results are based on data scores in bins rather than using the full amount of variation available in the data score.
- The revenue and profit numbers are based on midpoints of categories, providing less accuracy.
- There may be omitted variable bias. For example, data maturity would be correlated with digital maturity, which includes data maturity as well as other elements of digital engagement. Other work by Deloitte Access Economics indicates that digital maturity is positively associated with firm financial performance.<sup>1</sup>

## Conversion of revenue/project bins into variables

	Revenue bins	Revenue variable	Profit bins	Profit variable
1	Less than \$1,000,000	500,000	Less than \$1,000,000	500,000
2	\$1,000,000-\$4,999,999	3,000,000	\$1,000,000-\$4,999,999	3,000,000
3	\$5,000,000-\$9,999,999	7,500,000	\$5,000,000-\$9,999,999	7,500,000
4	\$10,000,000 or more	10,000,000	\$10,000,000 or more	10,000,000

Sources:

1. Deloitte Access Economics, Benefits of small business digital engagement (2019).

Source: Deloitte Access Economics and Dynata.

# Appendix B: Results

## Results

A one-point increase in the data score is associated with additional revenue of \$AU\$1.5 million (NZ\$1.6 million). This is statistically significant at the 1% level.

A one-point increase in the data score is associated with additional profit of AU\$1.4 million (NZ\$1.5 million). This is statistically significant at the 1% level.

Self-reported data maturity does not have a statistically significant effect on revenue or profit, as measured by opportunistic, systematic, differentiating and transformational levels of self-reported data maturity relative to basic self-reported data maturity. This indicates that firms may be over-reporting their data maturity (e.g. large variation in actual data maturity for high levels of self-reported data maturity).

Dependent variable	Revenue	Profit
Intercept	2,442,187 (2,249,138)	1,549,618 (2,313,383)
Data score	1,525,429 (347,036)***	1,396,726 (356,948)***
Mining	1,731,245	- 1,033,294
Manufacturing	40,499	- 761,956
Electricity, gas and water supply	- 480,405	- 1,126,268
Construction	413,040	- 1,275,894
Wholesale trade	- 534,376	- 602
Retail trade	316,770	- 786,103
Accommodation, cafes and restaurants	702,566	609,091
Transport, postal and warehousing	1,698,639	539,409
Information, media and telecommunications	917,258	930,337
Finance and insurance	868,845	- 97,860
Rental, hiring and real estate services	296,714	- 468,782
Professional, scientific and technical services	- 611,444	- 2,162,310
Administrative and support services	- 1,702,593	- 1,655,828
Public administration and safety	- 871,221	- 1,939,203
Education and training	- 145,982	- 583,982
Health care and social assistance	- 553,789	- 1,735,892
Arts and recreation services	448,615	336,051
<b>New Zealand</b>	<b>- 608,974</b>	<b>- 753,738 *</b>
Unlisted company	982,625 **	- 13,557
Partnership	- 893,697	- 1,028,808 *
Trust	- 2,185,895 **	- 2,236,949 **
Public sector	- 201,061	- 374,513
Not-for-profit	135,366	- 1,535,282 *
200-499 employees	118,394	464,829
500-999 employees	- 373,556	374,791
1,000-4,999 employees	679,175	1,756,069 ***
5,000-9,999 employees	1,796,294	2,374,793 **
10,000+ employees	1,470,136	2,845,574 **

Source: Deloitte Access Economics

Note: Dummy base categories: Agriculture, forestry, fishing and hunting (industry), Listed company (organisation type), Australia (country), 100-199 employees (number of employees). \*\*\* Significant at 1% level \*\* Significant at 5% level \* Significant at 10% level. Standard errors are shown in parentheses for intercept and explanatory variable.

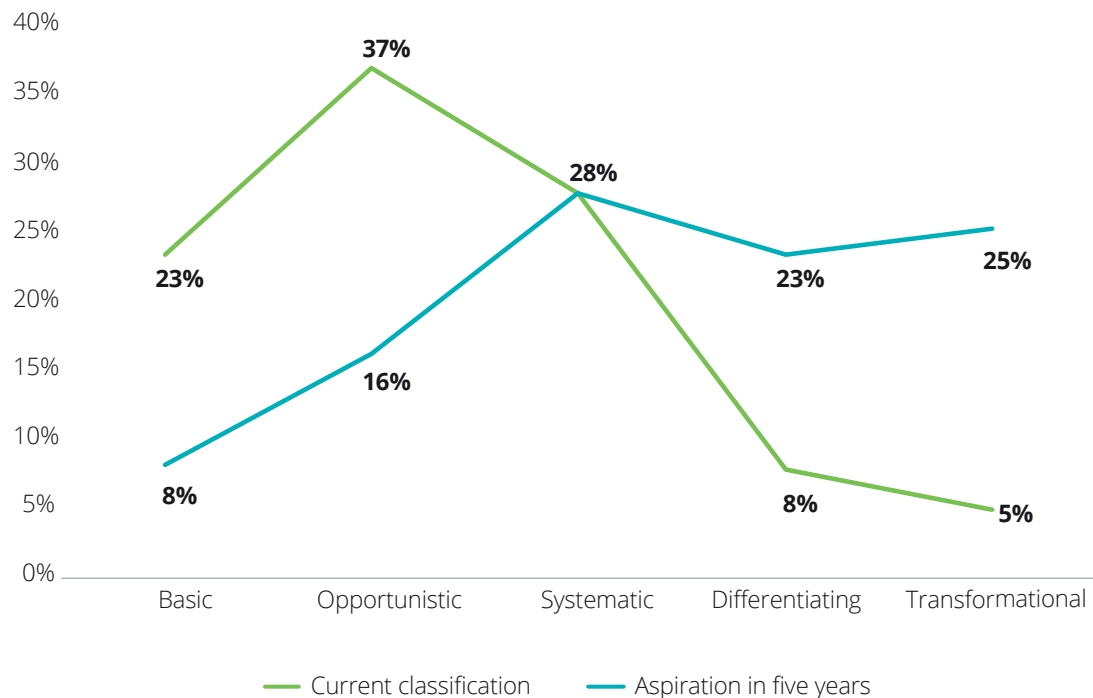
# Appendix C: Self-assessed data maturity

Businesses were asked to assess their data maturity based on the categories shown to the left.

It is noted these categories are based on Amazon Web Services' data maturity scale and are therefore not directly comparable to the data maturity scoring presented in this report.

## Categories

- **Basic:** Data is not exploited, managed in silos, analysis is ad hoc, largely transactional in nature
- **Opportunistic:** IT attempts to formalise information requirements, hampered by culture, strategy is not business relevant, data quality and insight efforts in silos
- **Systematic:** Strategy and vision forming, agile emerging, data sources starting to integrate, business championing data and analytics initiatives
- **Differentiating:** Business led, CDO function emerging, linked to innovation and performance, data driven ROI
- **Transformational:** Data and analytics is central to business strategy, data driven investments, strategy is continually evolved, CDO is a strategic function



Source: Deloitte Access Economics and Dynata, n=275

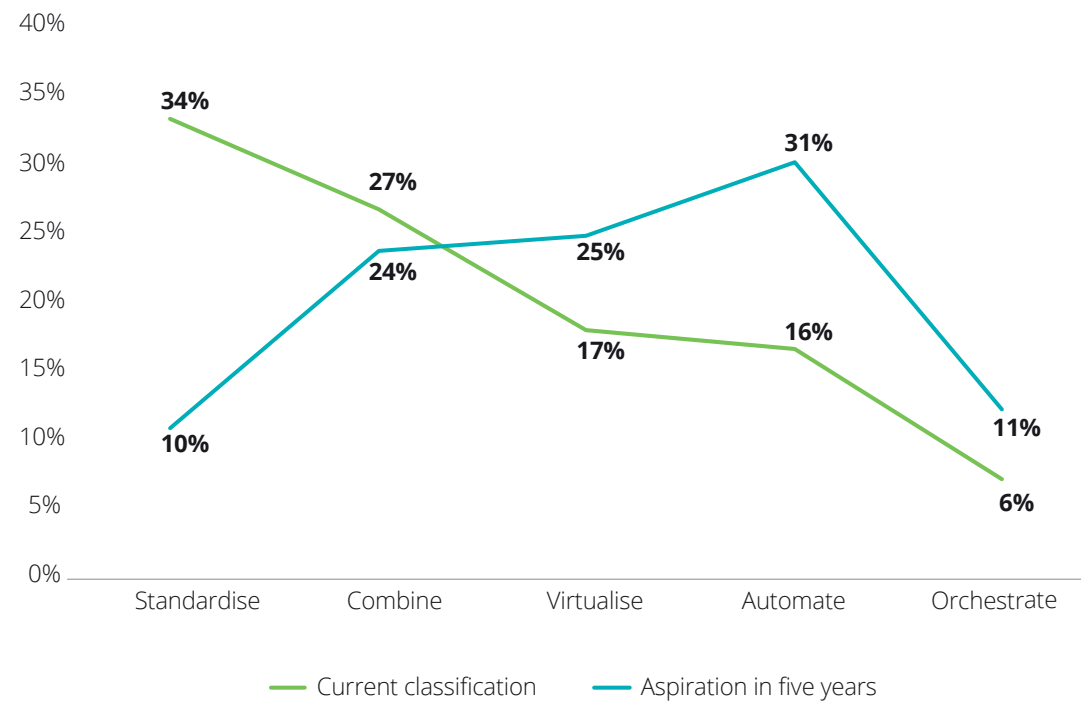
Note: When thinking about your organisation's data maturity, at what stage would you classify your organisation?



# Appendix C: Self-assessed cloud maturity

## Categories

- **Standardise:** Focused on lower cost, consistent use of technology, enhanced performance and reduced complexity
- **Combine:** Increased efficiency, improved management, and improved governance
- **Virtualise:** Moving to centralised control, initial use of cloud services, improved resource management and utilisation
- **Automate:** Self-provisioning, automated governance, adaptable security, improved user experience, service oriented
- **Orchestrate:** Dynamically aligned to the business, self-adapting, enhanced business agility



Source: Deloitte Access Economics and Dynata, n=275

Note: When thinking about your organisation's cloud maturity, at what stage would you classify your organisation?

# Contact us

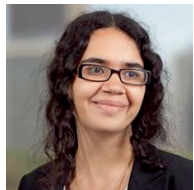
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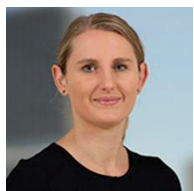
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