

## Open banking What does it mean for analytics and AI?

September 2018 (revised March 2019)

A lack of consumer data has historically been a barrier to entry for new players in financial services. Open banking has the potential to change this. By 1 February 2020, all major banks in Australia will be required to make available to customers data on their credit and debit cards, deposit, transaction and mortgage accounts, and by 1 July 2020 data on all products recommended by the Farrell Report.<sup>1</sup> By 1 July 2021, all banks will be required to have implemented open banking for all products recommended in the report.

As ownership of customer data shifts from the bank to the customer, the entry barrier for new entrants reduces. Organisations, both incumbent financial institutions and new entrants, can use this data to identify the product or service which is most appropriate for a potential new customer, provide new services to customers, and to determine the credit risk and price of credit facilities.

Financial institutions with existing customer relationships will need to harness the data they have to drive customer loyalty and engagement by ensuring their products and services remain competitive.

Artificial intelligence (AI) is already driving a dramatic shift in how financial institutions attract and retain active customers.<sup>2</sup> In an environment where customers are able to share their data, the ability to aggregate, manage and analyse data will become increasingly important.

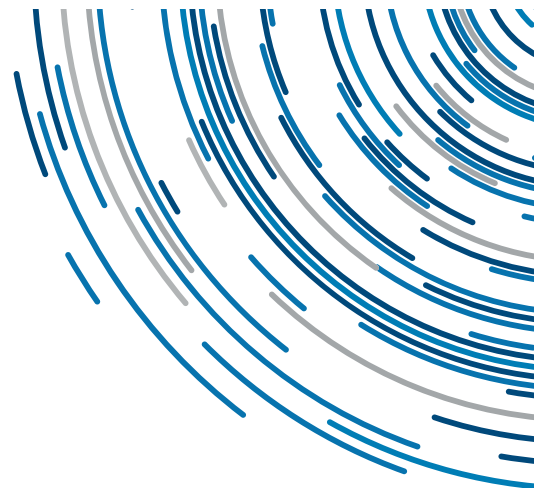
To compete effectively and drive value for customers, organisations will need to leverage analytics and artificial intelligence – including machine learning and deep learning – to deliver a more personalised customer experience and develop innovative new propositions.<sup>3</sup> Critical will be the speed with which banks can analyse customer information with the use of algorithms and automation.

### Notes

<sup>1</sup> The Australian Government, the Treasury, open banking customers' choice convenience confidence, Scott Farrell, December 2017. See also: [https://static.treasury.gov.au/uploads/sites/1/2018/02/Review-into-Open-Banking\\_-\\_For-web-1.pdf](https://static.treasury.gov.au/uploads/sites/1/2018/02/Review-into-Open-Banking_-_For-web-1.pdf)

<sup>2</sup> World Economic Forum, *The New Physics of Financial Services – How artificial intelligence is transforming the financial ecosystem*, August 2018. See also: <https://www.weforum.org/reports/the-new-physics-of-financial-services-how-artificial-intelligence-is-transforming-the-financial-ecosystem>

<sup>3</sup> Deloitte, *Open Banking, How to flourish in an uncertain future*, June 2017. See also: <https://www2.deloitte.com/uk/en/pages/financial-services/articles/future-banking-open-bankingpsd2-flourish-in-uncertainty.html>



## Data scope

The Farrell Report outlined various categories of data:<sup>4</sup>

Customer-provided data (excluding identity verification) <sup>5</sup>	Transaction data	Value-added customer data	Aggregated data sets
Included in open banking	Included in open banking	NOT included in open banking, subject to Rules and Standards	NOT included in open banking, at least in its initial phase
<ul style="list-style-type: none"> <li>• A customer’s personal address and contact details</li> <li>• Information on their financial situation provided when opening an account, or applying for a loan</li> <li>• Information that has been provided for the purpose of making payments, such as payee lists.</li> </ul>	<ul style="list-style-type: none"> <li>• Records of deposits, withdrawals, transfers and other transactions undertaken by a customer (such as direct transactions with merchants)</li> <li>• Account balances</li> <li>• Interest earned or charged</li> <li>• Other fees and charges incurred by the customer.</li> </ul>	<p>Examples include:</p> <ul style="list-style-type: none"> <li>• Income/assets checks</li> <li>• Customer identity verification checks</li> <li>• Credit reporting data</li> <li>• Credit scores</li> <li>• Data on an individual customer that has been aggregated across the customer’s accounts and standardised, cleansed or reformatted to make it more usable.</li> </ul>	<p>Examples include:</p> <ul style="list-style-type: none"> <li>• Average account balances by postcode</li> <li>• Average account balances by income quintile</li> <li>• Average size of small business overdrafts by industry segment.</li> </ul>

Source: Farrell Report (2017), Chapter 3, The scope of Open Banking; Deloitte analysis

Customers, including former customers, will be able to direct a data holder to share all customer and transaction information that has been provided to them by the customer (or former customer).<sup>6</sup>

Value added customer data, also referred to as derived data, represents a broad spectrum of potential data. The Farrell Report had recommended that ‘value-added customer data’ should not be included in the scope of open banking.<sup>7</sup> The Farrell Report was concerned that imposing an obligation to share value-added customer data could breach intellectual property rights, or interfere with existing commercial arrangements. However, in the draft Consumer Data Right (CDR) legislation released in August 2018, the definition of data subject to sharing under CDR includes data that is ‘directly or indirectly derived’ from specified data.<sup>8</sup> The final determination of what constitutes ‘value-added’ or ‘derived’ customer data will be subject to the Rules and Standards. It is also possible that there will be a phased requirement for sharing certain ‘value-added’ or ‘derived’ customer data.

While aggregated data may not be included in the initial phase of open banking, the Farrell Report recommended that the inclusion of aggregated data should be revisited after the broader CDR becomes operational.

Banks will also be required to make information on their products and services easily available in a form that facilitates its digital use. This could include information about terms and conditions and pricing, which banks are under existing obligations to publicly disclose.






### Notes

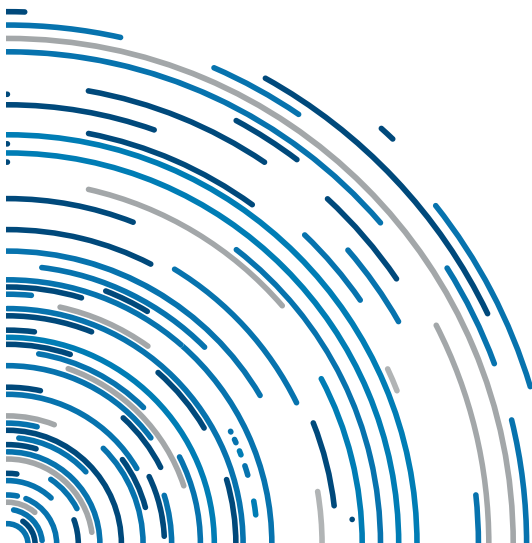
<sup>4</sup> Farrell Report (2017), op. cit., Chapter 3, The scope of Open Banking, pages 33-40  
<sup>5</sup> The Farrell Report recommended that the sharing of customer-provided identity verification data should be reconsidered by the ACCC once consideration of proposed reforms to AML laws have been finalised and concerns on liability have been resolved. Farrell Report (2017), op. cit., Recommendation 3.4, pages 38-39  
<sup>6</sup> Farrell Report (2017), op. cit., Recommendation 3.1, pages 34-35  
<sup>7</sup> Farrell Report (2017), op. cit., Recommendation 3.3, pages 37-38  
<sup>8</sup> Commonwealth of Australia, Treasury Laws Amendment (Consumer Data Right) Bill 2018, Schedule 11, Part 1, section 56AF(1) and (2)

## Getting ready for open banking

The banking industry is expected to deploy open banking related AI applications in a range of domains. Critically, AI will enable banks to better connect and react to the flows of customer data through open banking.

The additional data shared under open banking provides opportunities for organisations to use AI for both product innovation and customer insights.

Insight	Implications
 <p><b>Wider view of customer</b> You'll have a better understanding of the products your customers hold outside your bank</p>	<ul style="list-style-type: none"> <li>• Potential access to additional information about how customers spend their money for use in relevant risk, pricing and cross sell models, subject to the purpose for which customers have provided information</li> <li>• New product and customer experience innovation as banks are able to now see their customers' whole portfolio, allowing banks to create different ways of engaging and innovative customer tools like a chatbot that can give you a price on a personal loan in real-time</li> <li>• Consider <b>updating existing customer models</b> to incorporate these insights and invest in identifying open banking product innovations now</li> </ul>
 <p><b>Understanding churn</b> You'll be tipped off when your customers are seriously considering a competitor's product</p>	<ul style="list-style-type: none"> <li>• When customers request data be shared with particular competitors you will be able to infer why they are going, when they are likely to leave and perhaps what the pricing or product offer is going to be</li> <li>• <b>Re-think churn models</b> to harness this highly valuable trigger</li> </ul>
 <p><b>Know me better (and earlier)</b> You'll have better information sooner about customers' preferences, risk profile and persona that can help you onboard and price better</p>	<ul style="list-style-type: none"> <li>• <b>Redesign customer onboarding processes</b> to leverage the additional insight provided by open banking data</li> <li>• <b>Enhance pricing and risk models</b> to leverage additional data - competitors will begin optimising with this; customers will expect banks to harness this data</li> </ul>
 <p><b>Market insights</b> You can find out more about the market which you don't currently own</p>	<ul style="list-style-type: none"> <li>• The new flow of information will make it possible for participants in the banking industry to understand the market better</li> <li>• Through access to information such as product rates and fees experience from competitors, banks and FinTechs will be able to much more quickly benchmark the market</li> <li>• Consider how <b>models for market demand, product innovation uptake, competitor understanding</b> that drive banks can be redesigned to better leverage these new insights</li> </ul>
 <p><b>Understanding 'Lost Pipeline'</b> You'll know more about those customers who assess your products but choose not to engage</p>	<ul style="list-style-type: none"> <li>• Banks can optimise their sales processes because they will have greater information about the customers who agreed to provide information but never purchased a product</li> <li>• Consider <b>redesign of customer acquisition models</b> and capabilities to leverage open banking data. A machine learning model that adapts and reacts to customers who look like not moving ahead with the product can be targeted for additional contact 'on the fly'</li> </ul>



## Becoming insight driven

Ultimately, to really be ready to capitalise on open banking, organisations will need to become insight driven organisations (IDOs)<sup>9</sup> and embed analysis, data and reasoning into their decision-making processes.

With the volume of data available, both internally and externally, organisations can easily get caught up in data processing and data analysis and lose sight of using data to improve the decision making process. This challenge will be amplified in an open banking environment. But so will the advantages of being insight-driven and of developing the capabilities to be an IDO.

Depending on your current capability level and your organisation's response to open banking, certain capabilities may be more important than others. While open banking will create opportunities, these will only be realised by organisations that are capable of innovating with data, turning data into insights, insights into decisions, and creating strategic advantages.

However, putting in place the capabilities to become more insight driven is not the only area to focus on – there are additional considerations for IDOs in an open banking world.

### What is an insight driven organisation?

An IDO entrenches data, insight and reasoning into the decision-making processes of the organisation. It not only turns analytics into a core capability across the organisation, it promotes a culture of data-driven decision-making. In essence, it gives everyone access to the insights they need to inform their decision-making, tackle complex business problems and answer the 'what's next' question.



"Many great insights fail to generate business value, because they are not acted upon."

**Carl Bates, Lead Analytics Partner, Deloitte UK**

## Being able to effectively leverage a richer and broader data set than you have today

If you are not set up to use the data you have today, then you are unlikely to be able to leverage an extended data set available from open banking.

Organisations seeking to use data for competitive advantage often opt to embed a culture of innovation and insight, which encourages continuous questioning, focusing on 'crunchy questions' – which are practical detailed inquiries into business issues.

While open banking will provide additional data, many banks have struggled to use the data they already have on their customers. 'Incumbent banks have traditionally been unable to make full use of the data they have at their disposal. It is undeniable that they are strong in areas like risk and credit scoring. However, their ability to achieve a holistic view of the customer is hindered.'<sup>10</sup>

An important area of focus to utilise data effectively is uplifting capabilities in data governance and architecture. In a recent article from Gartner, the research firm highlighted that up to 60% of data and analytics teams' effort is being spent on data wrangling and data preparation.

By uplifting data governance and architecture capabilities along with other core IDO capabilities, data and analytics teams can refocus on delivering insights that can be discovered through appropriately processing, protecting and analysing an organisation's own data at the same time as taking advantage of external data.

## With more data comes greater responsibility

Organisations' analytics and AI strategies and automation processes need to not only deliver value to customers via use of their data, but also to ensure they are only using data for the primary purpose for which it was collected and that they are doing this in a responsible and ethical manner.

In our article in this series on [privacy](#) we noted that enhancing the customer experience, without compromising information privacy and security, will be vital to a successful open banking scheme.<sup>11</sup> In an open banking world, organisations need to be able to address heightened expectations about how a consumer's data can and should be utilised, and the transparency with which it will be used and shared.

"With big data comes big responsibility," states the Chief Data & Trust Officer of a telecommunications company. "Organisations not only need to do the right thing, they need to show their customers that they are doing it." This involves keeping the ethical position of their target market in mind – and adjusting their data collection and use in ways that honour these nuanced social behaviours.<sup>12</sup>

The Farrell Report recommends that privacy protections be modified so that an organisation that receives personal data through open banking can only use it for the primary purpose for which it was collected, unless they can demonstrate a secondary use that is 'directly related' to the primary purpose.<sup>13</sup>

### Notes

- <sup>9</sup> Deloitte, *Becoming an Insight Driven Organization: Realize return on your analytics investment sooner*, 2016. See also: <https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/deloitte-analytics/deloitte-nl-data-analytics-point-of-view-becoming-an-insight-driven-organisation.pdf>
- <sup>10</sup> Deloitte (June 2017) op. cit.
- <sup>11</sup> Deloitte, *Open Banking: Privacy at the epicentre, June 2018*. See also: <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/financial-services/deloitte-au-fs-open-banking-privacy-epicentre-170718.pdf>
- <sup>12</sup> Deloitte, *Privacy for sale – To the highest bidder*, 2017. See also <https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/deloitte-analytics/ca-en-data-ethics-and-privacy-survey.pdf>
- <sup>13</sup> Farrell Report (2017) op. cit., p56 and Deloitte, (June 2018) op. cit.

## Understand how to harness the potential of AI responsibly

AI is not a new concept, but it is only in recent years that financial services firms have started to learn about and understand its full potential. A recent survey highlighted that three quarters of executives involved in cognitive technologies believe that AI will substantially transform their companies within three years.<sup>14</sup> This can only be amplified in an environment in which more customer data is being shared.

The impact of cognitive technologies is growing as their performance has greatly improved in recent years. The rise of advanced data analytics and cognitive technologies has led to an explosion in the use of complex algorithms.

AI is already giving rise to new ethical dilemmas.<sup>15</sup> The heightened ethical responsibilities for use of data includes how data is interpreted via algorithms. This requires an understanding of any unintended consequences and potential biases in algorithms. The use of socially sensitive data such as gender, ethnic background, and family status may have unintended consequences when utilised to develop strategic pricing models. For example, analytics and algorithmic pricing could inadvertently change the pricing or access to credit for very specific customer segments. This could discriminate against a protected class of people.<sup>16</sup>

"Even as many decisions enabled by algorithms have an increasingly profound impact, growing complexity can turn those algorithms into inscrutable black boxes. Although often enshrouded in an aura of objectivity and infallibility, algorithms can be vulnerable to a wide variety of risks, including accidental or intentional biases, errors, and fraud."<sup>17</sup>

When managing data in an open banking environment organisations will need to consider:

- How they will provide an appropriate level of transparency on their use of algorithms; and
- How they will monitor, and objectively review the workings and outputs of their algorithms.

In an open banking world, organisations need to not only have a view and a strategy on the role AI will play in their business to deliver improved customer outcomes, but more importantly how they will govern and manage the risks associated with AI.

### Notes

<sup>14</sup> Davenport, Thomas H and Rajeeve Ronanki, *Artificial Intelligence for the Real World*, Harvard Business Review, Jan-Feb 2018. See also <https://www2.deloitte.com/us/en/pages/deloitte-analytics/articles/hbr-report-artificial-intelligence-for-the-real-world.html>

<sup>15</sup> World Economic Forum (August 2018) op. cit.

<sup>16</sup> Petrasic, Kevin with Benjamin Saul, James Greig, Matthew Bornfreund, *Algorithms and bias: what lenders need to know*, White & Case, 20 January 2017. See also: <https://www.whitecase.com/publications/insight/algorithms-and-bias-what-lenders-need-know>

<sup>17</sup> Deloitte, *How CDO's can manage algorithmic risk*, June 2018. See also: <https://www2.deloitte.com/insights/us/en/industry/public-sector/chief-data-officer-government-playbook/how-cdos-can-manage-algorithmic-risks-and-data-ethics.html>

<sup>18</sup> Market Gravity (Deloitte), *Open banking: Will banks become the next dumb pipes?*, September 2017

<sup>19</sup> Deloitte (June 2017), op. cit.

## Capitalising on the wealth of data available

The availability of data, combined with analytics, will enable organisations to broaden their offerings to retail customers, from helping them improve their money management to providing ideas on how to spend their money.<sup>18</sup>



### Keep me on track

Get better visibility and control of my finances across accounts



### Make banking more convenient

Do banking when and where I want



### Reward my spending

See all my loyalty and rewards in one place



### Keep my money safe

Keep an eye on my money and prevent fraud



### Save me money

Find opportunities to save me money



### Save me time

Take the hassle out of money-related tasks



### Give me inspiration

Find me the best place to eat, drink, shop or visit

Research by Deloitte identified that 'new entrants, or incumbents who embrace digital transformation, can differentiate themselves by offering an improved customer proposition that provides greater pricing transparency and a better user experience.'<sup>19</sup>

## Key questions organisations should ask

Open banking will accelerate the importance of an organisation's approach to analytics, AI and automation. As they prepare for open banking, organisations should consider the following questions:

1. Are you ready to use the open banking data your customers provide you to the fullest extent? Or are you just making sure you can share data to meet compliance obligations?
2. How will a more complete view of a customer change how you engage with customers?
3. How will it change how your competitors engage with your customers?
4. Will the products, services and pricing you provide to your customers be differentiated based on whether your customers have shared all their banking data with you?
5. Will open banking create conduct risks for you if differentiated products, services and pricing are provided to customers who choose not to use open banking to share data with you?
6. Does open banking data provide additional ways to transform customer experiences through AI?
7. Do you have frameworks in place that address not only data privacy obligations, but ethical implications?
8. How will your customers react to seeing their shared open banking data actually used?
9. Have you considered the changes required to your analytics architecture to ensure the operational impact is minimised?

## Last word

Open banking presents a significant opportunity both for consumers and for organisations providing financial services. New insights will prompt a re-think by financial services organisations on how they use data for their core decisions.

Organisations that have the ability to tap into the value of data, as well as an understanding of the implications of how data is used to drive insights, will be best placed to capitalise on open banking. However the ethical and reputational consequences of how this data is utilised need to be kept front of mind in developing an Analytics and AI strategy and capability.

Embedding these capabilities will take time to develop and mature. It is critical to get these capabilities in place to 'road-test' them early.

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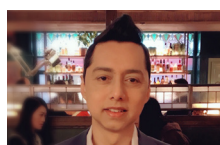
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