Driving better consumer outcomes in the era of big data and artificial intelligence

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Introduction

Today I would like to speak about how data can be used to drive better consumer and investor outcomes.

I have three main points I would like to make today:

- First, technology is now facilitating the collection and analysis of vast amounts of data – which twenty years ago would have been unimaginable.

- Second, there are opportunities for businesses – particularly financial services organisations – to use this data to deliver a more tailored value proposition to their customer base.

- Third, data gives ASIC the opportunity to become more pre-emptive and proactive as a regulator.

Collection and analysis of data

Over the last 20 years, the amount of data that has been generated, collected, and stored has increased exponentially. Businesses today can leverage data-driven strategies to innovate, compete and obtain value from the information they hold. This rapid evolution of how data is collected and stored presents both new opportunities and new risks.

Recently, the UK Competition and Markets Authority ordered the UK's nine largest banks to share specified data with each other and third parties. The Open Banking Standard indicates how financial data should be created and shared, and how access to financial data should be provided.

In Australia, the Productivity Commission has recently invited contributions to its new public inquiry on data availability and use. They will seek to explore the benefits of providing greater access for third parties to big data holdings, public and private, and consider new models for making data available. They will also consider the current policies and regulations in place to protect the privacy and confidentiality of individuals and businesses.

Financial services providers have been able to increase their own efficiency through the use of data, streamlining processes and better pricing risk.

Opportunities for business to understand their customer base and tailor products

But industry is not the only one who can benefit from increasingly sophisticated use of data. The flow of data between customers and financial services providers presents opportunities for businesses to better understand their customers and design products better tailored to what customers actually want and need.

The end game here is the opportunity for a better customer experience. So now I would like to touch on a number of ways in which data can be used to tailor products and services for consumers – and to help them make better decisions and better manage their risks.

Data for financial health

First, data can be used to help empower consumers to take control of their financial health.

A number of businesses provide tools that aggregate and analyse consumer account information. They provide tools for expense analysis, cash flow management, bill reminders and savings goals.

Other businesses, for example, work with large employers to advise their employees on ways to maximise their salaries, benefits and other financial resources through insights gained from analysing large data sets.

Comparisons

Second, there is potential for choice engines – such as comparison websites and data aggregators – to help consumers make better financial decisions. Access to data can facilitate more meaningful comparisons between products.

Internationally, governments and regulators are increasingly considering ways to enhance consumer outcomes and drive competition by requiring product and service providers to make machine-readable data available to third parties, who may then be able to aggregate such data into useful choice engines.

For example, in Norway, insurers (apart from life insurers) are required to disclose information – including price and claims information – on *Finansportalen*, a comparison website established by the Consumer Council of Norway.

Insurance risk data

Third, I'd like to talk about insurance underwriting data being used in new ways.

As part of their underwriting process, insurers collect a significant amount of data that are relevant to consumers and can help them manage their risks. The Financial System Inquiry final report emphasised the importance of insurers providing relevant information to consumers to assist them to set their sum insured. Since this time, we have seen improvements in this area. But, critically, we have also seen insurers provide their information in a way which can help consumers understand their risks.

For example, NRMA launched its website, 'Safer Homes'. Based on its own data, it gives consumers the level of average building and contents insurance in their area. It gives information about the most common types of insurance claims in their area. In this way, NRMA is assisting consumers to assess and monitor their own risk and consider their insurance needs.

The Insurance Council of Australia (ICA) is also working closely with government and consumers to help communities understand risks and work towards practical solutions. The ICA has initiated several programs to tackle the impacts of extreme weather and the availability of hazard data to help understand risk and develop a more sustainable response to managing catastrophes.

Life insurance claims

Fourth, I'd also like to mention claims reporting in insurance.

Last month, we issued our report on life insurance claims handling. In this review, we found that data limitations, including inconsistent definitions across insurers, mean that it is difficult for consumers to fully compare the claims performance of particular insurers or policies.

To improve public trust, there is a clear need for better quality, more transparent and more consistent data on life insurance claims. ASIC and the Australian Prudential Regulation Authority (APRA) have committed to work with insurers and other stakeholders during 2017 to establish a consistent public reporting regime for claims data and claims outcomes. Having a consistent framework will enable consumers to better compare insurers and policies, driving competition and bringing transparency to claims ratios.

And, of course, I don't think standardised reporting is limited to life insurance – it has the potential to be extended to other industry sectors to improve consumer outcomes.

How ASIC is using data

Now, I would like to turn to how ASIC is using data to be a more pre-emptive and proactive regulator. Effective use of data gives us the opportunity to focus on identifying risks at an earlier stage – and acting in a more timely way.

To this end, I'd like to touch on:

- our regulatory transformation – which we call 'FAST 2'
- developing our capabilities in investigative data analytics and machine learning
- developments in monitoring equities markets.

FAST 2

First, on FAST 2. We are committed to transforming our regulatory business by more effectively capturing, sharing and using our data.

Over the next three years, we are building an integrated platform that includes a single repository of internal and external regulatory information, with the ability to search across this information easily.

Currently, we have a fragmented collection of largely Lotus Notes databases. We are now extending the roll out of Microsoft Dynamic CRM (FAST 1) from markets stakeholder teams to our financial services stakeholder teams, to better capture, share and use our data and data from third parties (such as the Australian Taxation Office (ATO), Bloomberg and Morningstar).

Investigative data analytics

We are also focused on further strengthening our capabilities in investigative data analytics and machine learning. We are developing both our skill sets and processes by hiring people with deep experience in data analytics and investing in systems and processes facilitating data capture and analysis.

We are implementing new software-as-a-service (SAAS) software known as Enhanced Investigative Analytics (EIA) for use in investigation and enforcement matters. EIA allows pattern matching across our extensive evidence database using algorithms. It allows us, for example, to map target relationships and create chronologies, well beyond traditional word or enhanced word search capabilities.

The power of data takes us towards the possibilities of machine learning and artificial intelligence.

We are currently undertaking a pilot with a regulatory technology (regtech) firm looking at a cognitive learning tool and its application to webpages of accountants. We are looking at whether it has the potential to reveal unlicensed or misleading conduct in relation to self-managed superannuation fund (SMSF) activities.

Another pilot we are currently doing uses a program called Nuix where we can identify documents relevant to a matter and feed these into the program. Nuix will then search large sets of evidence documents and make suggestions on other documents that may be relevant for review.

And, as we continue to develop our FAST 2 program, we will look to identify more opportunities for machine learning to enhance how we detect, understand and respond to misconduct.

Monitoring equities markets

MAI

In markets regulation, we are focused on tools that help us to monitor and analyse price and volume variations more efficiently to identify insider trading and market manipulation.

When we took over market supervision from the ASX in 2010, we introduced our surveillance system named Market Analysis and Intelligence (MAI), which was developed by First Derivatives. This enables us to more quickly and more efficiently identify insider trading and market manipulation.

In combination with additional data transmitted to ASIC from market operators, MAI now enables us to watch and tag individual investors, and gives us greater flexibility to filter data and modify alerts. MAI uses purpose-built algorithms and sophisticated data analytics to identify suspicious trading, and allows greater levels of detection of insider trading and market manipulation. MAI has given us a greater capacity to evaluate market integrity on a more holistic level and to spot recurrent suspicious behaviour on the part of individuals.

Market cleanliness

In leveraging the data we have access to, and our data analysis capabilities, we recently developed an innovative new market cleanliness measure to identify anomalous trading ahead of price sensitive announcements.

Our review looked at possible insider trading and information leakage ahead of material, price-sensitive announcements by analysing price movements or shifts in trading behaviour before these announcements. The new measure is made possible by our recent access to enhanced surveillance data through our MAI system, which allows the identification of individual origin of order accounts.

We found an overall improvement in the measures of cleanliness in the Australian listed equity market over the past decade.

Behavioural insights and Chief Data Office

Importantly, we are also expanding our Behavioural Insights team, which helps us with tools for understanding and influencing human behaviour and complements our other regulatory tools, such as education and enforcement.

Finally, I would like to mention that ASIC has now established a Chief Data Office. The Chief Data Office will support ASIC to be a data-driven, forward-looking regulator and will help continue to build our capabilities in data analytics for our surveillance and enforcement activities.

Conclusion

Data can be a powerful tool and brings enormous opportunity to positively influence outcomes by creating new value for both industry and consumers.

The potential of data is obviously huge, and I've only mentioned a few examples today. However, we have to be cognisant of the risks data brings also.

Consumers want control of their personal data and also want to share it in exchange for benefits. But clearly, in this space, trust is critical. Consumers need to be comfortable with:

- where their data is being stored
- how it is being used
- who it is being shared with.

Data storage and sharing arrangements must ensure that trust is maintained. Trust in data sharing can quickly perish if the considerations of security and privacy are not aligned.