

Intelligent Decision Automation for Telecommunications in the Digital Age



The Value of Intelligent Decision Automation

Across the globe, technological advancements are regularly pushing the automation potential of organisations. Advancements in artificial intelligence, machine learning and robotics continue to transform the current day workplace, presenting new possibilities for our future.

However, automation is not about machines taking over the world, the potential here cannot be captured through mere labour substitution.

"The opportunities for automation lie in reliably smarter processes achieved through the automation of predictable activities augmented with artificial intelligence capabilities."

In order to do this, businesses need to replace activities rather than jobs - ultimately creating efficiency and performance gains through reliable operations. By achieving this, the productivity of an organisation increases, which benefits not only the customer but the people. McKinsey predicts that these benefits could translate to an additional \$4,000 to \$15,000 in wages per Australian by 2030.¹

An organisation's ability to extract meaning from data, in an agile and adaptive manner, is a capability found in machine learning and artificial intelligence. Organisations are awash with data. The challenge is creating meaningful connections between the various pockets of siloed data to support improvements in operational efficiencies, decision-making, customer experience and profitability.

Leveraging Analytic Driven Automation

This competitive advantage can be achieved at scale, especially when adopted across the wider organisation. This helps to manage growth and risk within a business across the customer lifecycle. Integrated capabilities across credit risk, fraud, collections, revenue assurance and personalisation bring smarter decisions across the whole customer lifecycle.

For example, adaptive machine learning ensures that the most recently predictive data is used to tune models. This helps enable decisions that are more accurate, increasing revenue and reducing bad debt. Collections could be faster through smarter contact strategies built off channel preference. In the same way, personalised services for those at risk of debt can help bring down the number of people entering bad debt, mitigating the risk of customers with a high likelihood of failed payments.

For telecommunications companies, the traditional business model has long been challenged as:

- Over-the-top (OTT) players entered the market.
- Adoption of mobile rose.
- New network technology (such as 5G) changed the industry landscape.

These trends continue to drive convergence with multiple industries such as media, entertainment and technology.

The role of digital and the possibilities it presents to the current business model also cannot be ignored, particularly in developing new services and delivering a cost-effective and more productive organisation. These key industry drivers in conjunction with the possibilities in analytics and its supporting technology will help sustain the business model through what is perceived to be a tipping point for the telecommunications industry.

That's why the role of intelligent decision automation is more vital than ever. The opportunities to automate and augment within the larger ecosystem that will onboard, check & validate, offer, service, and collect from customers will drive down costs, enhance customer experiences and improve growth. Ultimately, this helps to maintain the profitability of the business through times of disruption and change.

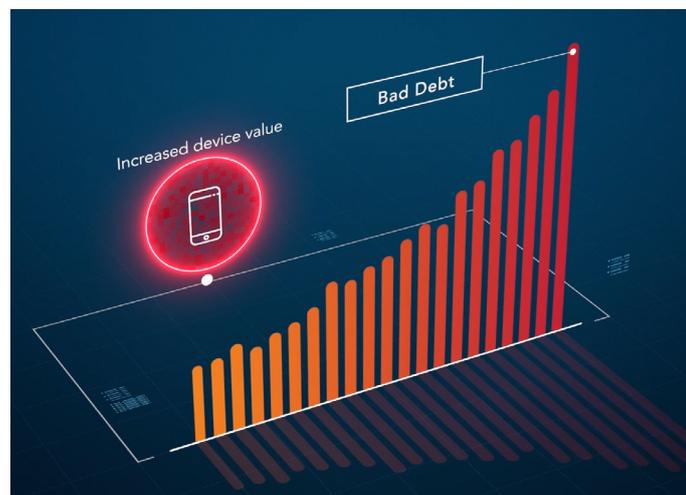
The end state of the telco industry is yet to be determined, but those who adapt and capture opportunities through better decisions will thrive. For those who succeed, they will achieve much of their success through better use of data and adaptive analytics. This combination will unlock early opportunities by easily converting current processes to be reliably smart, such as credit risk, fraud, and collections.

Managing Risk and Exposure

How a business manages risk and exposure determines the financial health of an organisation. There is no silver bullet that removes all risk and, as such, layers of technology, people and processes are needed for managing it.

Criminals come up with increasingly sophisticated ways to commit fraud and their ability to adapt is currently exceeding industries' ability to keep up. For example, investment in fraud management in financial services is higher than any other industry, yet card fraud in Australia grew by 4.8% to \$565m in 2018.²

The increasing value of devices is putting similar pressures on fraud and bad debt losses in communications. A layered approach to managing the risk should be supported in an agile, adaptive and



integrated automation hub that utilises the power of artificial intelligence and machine learning in order to manage risk centrally rather than in siloes.

Redundancies and inconsistencies increase cost of managing risk and exposure

For most businesses, the two areas are often reviewed exclusively and not in conjunction, usually resulting in:

- Overlapping strategies.
- Separate functions and teams.
- Disparate systems and processes.

This leads to siloed decisions, which results in missed opportunities for reducing exposure and risk for a business.

The key benefits of consolidation and consistency

The customer acquisition space provides a good example of this issue. When organisations onboard a new customer, fraud and credit risk assessments for that person are usually done separately and at different times, creating not only inconsistency but inefficiency.

If the two assessments for fraud and credit risk are driven off the same data and processes at the same time, there will be minimal discrepancy but also a richer view to enable smarter decisions.

By removing these siloes and inconsistencies, one of our customers experienced an increase of 60% in sales. This was driven by a significant reduction in application acceptance time as a result of evaluating the risk of a customer in real time.

Not only that, the feedback from historical decisions helps to improve the scoring and identification process based on real scenarios. This means the decisions will become smarter and smarter, helping businesses to continuously improve their fraud and risk management strategy.

Siloed & Complex



How to increase profitability driven by Intelligent Decision Automation

The collections strategy in any given organisation continues to evolve with digitisation and availability of new data sources, helping these businesses better manage debt resulting in better margins and earnings before interest, tax, depreciation and amortisation (EBITDA).

Besides the general movement towards digitisation and automation, collections strategies can also be made smarter through enhanced behavioral segmentation and modelling. Telco providers have a wealth of untapped user information that could be used to understand:

- When a customer is active.
- What channels they are using.
- How they are likely to be influenced by a particular strategy.

Harnessing advanced analytics is critical in a time where credit delinquency is projected to rise. This is a direct result of the softening housing market conditions, combined with high household debt, higher interest rates and the conversion of interest-only mortgages to principal and interest repayments.³

Agile and responsive strategies through in-house modelling

Credit decisioning, both in the on-boarding and debt collection space, is traditionally outsourced to consultancies who have qualified resources and

experience. Businesses benefit from one of two methods from these companies; generic pooled models or custom-built models on the organisation's own data.

However, things have recently changed. The world is becoming faster, richer in data and digitally driven through availability of new tools and technology. The desire for organisations to develop their own in-house capability is being powered by three factors:

1. Material annual costs growing with number of models.
2. Limited control and ownership over model development process.
3. Most importantly, prolonged turnaround of model renewal and ad hoc analytics.

Competitive advantage through model sophistication and governance

Technology developments, changing consumer behaviors and expectations, mean organisations' in-house teams must be able to:

- Build a large number of segmented models using various traditional and advanced algorithms.
- Create, deploy and test models in a short time.
- Mix and match any model development/ programming language in a single integrated environment without unnecessary data movement.
- Easily and consistently deploy models into production (batch, real-time, streaming).
- Implement proper governance and audibility around model development, validation and deployment process.
- Produce complex 'What-If' analysis in a short time.
- Process and derive insight from an extremely large volume of detailed structured and unstructured data sourced from in-house systems and the outside world in real time.
- Maintain costs related to activities which are not directly generating revenue.
- Being able to grow business outside of traditional segments and markets.



Without these competitive advantages, organisations risk falling behind. Some organisations have already set up their internal modelling environments, while in many cases they have adopted tools which has generated various issues. Some of these issues - and their unique pain points - include:

Multiple systems and processes driving up effort and maintenance costs.

- Regular additional integration effort to keep various systems working together.
- Manually intensive process to transfer outputs and inputs between several tools used in single end-to-end processes, e.g. prepare data, build model, execute model.
- Higher total cost of ownership as you need to maintain more hardware, system administrators and pay for several products from different vendors.
- As most of the tools and solutions from other vendors are “black boxes”, adding new features and capabilities is a long process requiring additional payments to vendors.
- Many vendors are charging full cost of software for license after new major version releases.

Increased training overhead and inconsistent approaches leading to inconsistent results.

- Users must learn how to work with multiple different systems and programming languages, increasing operational risk, new employee on-boarding time and cost. This limits candidate pools, and potentially reduces quality of deliveries.
- Use of tools from different vendors quite often leads to inconsistencies between estimates and as

a result different approaches, formulas, definitions and programming languages are used to derive the same item.

Disparate systems result in longer processes and loss of traceability.

- Longer time to prepare and analyse data, build and deploy models, configure and execute strategies, monitor and act on early warnings.
- Tools usage quite often means extensive use of code instead of UIs and comes with drawbacks.

To address these issues, SAS is observing more and more organisations around the world adopting and modernising their risk modelling and decisioning environments.

Research is also supporting this trend. IDC and McKinsey are ranking modernising and adoption technologies in the risk-modelling and decisioning space, including machine learning capabilities, as one of the key focus areas for credit risk-bearing organisations.

Revenue Growth and Improved CX

Despite the focus on customer experience strategies since 2010, Australian brands are struggling to meet CX standards, proven by the decline in Forrester’s Australia Customer Experience Index.

This indicates organisations are failing to create human connection with customers, resulting in a gap in meeting expectations.⁴ Companies are failing to differentiate, creating a great opportunity for sustainable growth through improved customer experience.⁵

Capturing signals, not touchpoints

Since the introduction of digital and data-driven strategies, the face of marketing has been forever changed. Customer experience is no longer achieved through key touchpoints directed at certain segments.

The end-to-end journey of the customer must be personalised. To achieve this, there needs to be consistent and intelligent responses to the signals in a customer's engagement with an organisation across all channels.

The competitive advantage in this context becomes data's power to:

- Turn information into insights.
- Continuously improve through feedback loops.
- Maintain relevance and integrity.

The combination of these things enables businesses to deliver an excellent customer experience, ultimately resulting in sustainable revenue generation.

If this process could be automated, service delivery would not only be smarter and more timely, but also significantly more cost effective.

The role of AI and decision automation in driving personalised interactions

However, timeliness and responsiveness are not the only factors in driving a better customer experience. The way a customer is treated is critical as we turn to digitised experiences, where a response is sometimes needed within a few seconds, or even in real time to create the right experience.

This is especially critical in a time when consumer trust in organisation's use of data is low, bringing to the forefront the importance of integrity and ethics. Traceability and governance will be key in the insights generated to ensure accountability and integrity is maintained in customer experience creation.

Trust needs to be based on a deeper understanding of the customer. Artificial intelligence can help drive this deep understanding, assisting not only in design but in the continuous improvement of the services delivered to the customer, going beyond just offer-based marketing.

Decision automation also helps to maintain integrity. Being able to trace this understanding builds accountability in the workforce, bringing consistency of customer treatment, which also can be scaled and automated through artificial intelligence learning capabilities.

Responsive but traceable interaction management system

In order to create informed customer journeys and experiences, the customer ecosystem must:

- Manage and integrate the data across channels.
- Build, govern and iterate the modelling processes.
- Enable these models to drive intelligent decisions in an automatic manner.

Such integration and analytics decisions saw a 17% uplift in inbound sales and an increase in the share of wallet per customer for the same SAS customer mentioned earlier in this paper.

The Power of Intelligent Decision Automation

The ability to augment to build smarter processes and reliability lies in data, artificial intelligence and machine learning. These opportunities will only be unlocked if executed through automation at scale across various functions.

Better decisions across different parts of the customer lifecycle not only helps to manage risk and exposure, but supports growth of the business by bringing more focus on personalised customer experiences across all parts of their journey.

It is a capability that will enable strategies with a real competitive advantage through improved performance and speed. While also managing risk as well as capturing new opportunities to protect and grow businesses sustainably.

To learn more about how SAS can help you do just that, reach out to us today!

www.sas.com

¹ McKinseys, "Australia's automation opportunity: Reigniting productivity and inclusive income growth", March 2019

² Australian Payments Network, Fraud Statistics July 2017 June 2018 <https://www.auspaynet.com.au/resources/fraud-statistics/July-2018-June-2018#summary-table>

³ <https://www.afr.com/real-estate/mortgage-delinquency-rates-to-see-moderate-increase-through-2019-moodys-20181029-h1788v>

⁴ <https://www.cmo.com.au/article/630236/forrester-brands-struggling-meet-cx-standards-2017/>

⁵ KPMG, "2018 Customer Experience Excellence Report - Australian Summary", January 2019



To contact your local SAS office, please visit: sas.com/offices

www.sas.com

Authors:

Linda Byun | SAS Australia & New Zealand
Carl Eastwood | SAS Australia & New Zealand
Gerrit Van Wyngaard | SAS Australia & New Zealand
Abdullo Akhadov | SAS Asia Pacific

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration. Other brand and product names are trademarks of their respective companies.

Copyright © 2019, SAS Institute Inc. All rights reserved. G107827.0830