

undiscovered opportunities  
insurance | analytics



## How to build analytics into the insurance value chain

unlock value

profitable growth

deep experience

innovation

insight

whole brain analytics

..... We work with insurers to find opportunities that deliver profitable growth while protecting and optimising their enterprise.

Drawing on our deep insurance experience and a new, whole brain analytics approach, we'll help you unlock new areas of value.

# Rethinking analytics

The proliferation of big data, faster computers and innovation in analytics, has opened new opportunities for insurers to better understand the past, control the present and confidently embrace new opportunities in the future. This paper explores how insurance companies can apply whole brain analytics to solve business problems and find new areas of value. It also explains the practical realities of embedding a useful and usable core analytics capability throughout the organisations.

As Google's Eric Schmidt famously explained, since the dawn of civilisation until 2003, the human race produced 5 exabytes (5 billion gigabytes) of data. Now we are producing 5 exabytes every two days - and the pace is accelerating.

At the same time, we have powerful computers and algorithms that are reducing the cost of collecting and analysing all this data. This latest example of Moore's Law allows insurers to triangulate their own internal information with oceans of external data from social media and mobile devices. This presents an opportunity to look at your existing data from a host of different dimensions, revealing causes, correlations and insights management would never otherwise have seen.

Other industries are already using statistically-based algorithms to crunch through big data: powering Netflix recommendations; accurately predicting, not just how many, but which patients will be admitted to hospitals next year; calculating the quality of Bordeaux wine (and hence its appropriate pricing); and forecasting how long someone will stay in a job.

Insurance companies already hold vast swathes of data on their customers, and are using analytics for actuarial purposes and marketing campaigns. But most executives know they have only just skimmed the surface when it comes to turning their data into value.

With little room to move the traditional levers of tightened underwriting and expense control any further, there's never been a better time to leverage the power of big data and analytics. Under pressure from many fronts - including global competition, smarter consumers and regulatory convergence - Australian insurers urgently need new ideas for improving business performance and creating competitive advantage.

## Many insurers are asking us:

- ▶ What more can our own data tell us?
- ▶ What else could we learn if we added external data to our models?
- ▶ How can we build the power of analytics into day-to-day decision-making?

## Human beings leave a digital record

Now the internet is inextricably woven into the fabric of our lives, wherever we go and whatever we do, we leave digital traces: mobile phone calls, financial transactions, traffic patterns, social media and the data that we, as consumers, trade for free services. This digital profile reveals our movements, spending patterns, relationships, health issues and many more intimate details of our daily lives.



we are producing

**5bn**  
gigabytes  
of data every 2 days

A leading Insurer utilised customer behavioural analytics to increase profits by more than 2% of GWP

A leading household insurer with more than 4 million customers leveraged its data to build deeper insights into its customers, optimise pricing strategies and enhance propositions to meet customer needs.

The insurer developed behavioural customer segmentation and price optimisation models to test price elasticity based on differential pricing for each customer segment. Attitudinal surveys were utilised to understand customer perceptions on the price:value trade off. Pricing strategies for each customer segment were refined based on insights gained.

The insurer used controlled pilots and continuous improvement techniques to gather more intelligence and improve strategies for each customer segment.

This resulted in market leading retention rates, and material improvements in profitability.

This proposition was awarded a five star rating by an independent financial research company specialising in rating, comparing and analysing financial products.

# Upgrade to whole brain analytics to support quicker, better decision making

Support decision making by combining rational analytics with emotional analytics to ensure data informs strategy and the strategy is explained by the data.

Traditional analytics approaches source data that is available, complete and well organised. They apply analytic and statistical techniques to the data to suggest conclusions that the data supports. Analysts rarely are, or believe they are empowered to use intuition in forming conclusions. Business operating models are typically designed with an expectation that analysis produced hard facts, leaving analysts wary to step beyond the objective and verifiable.

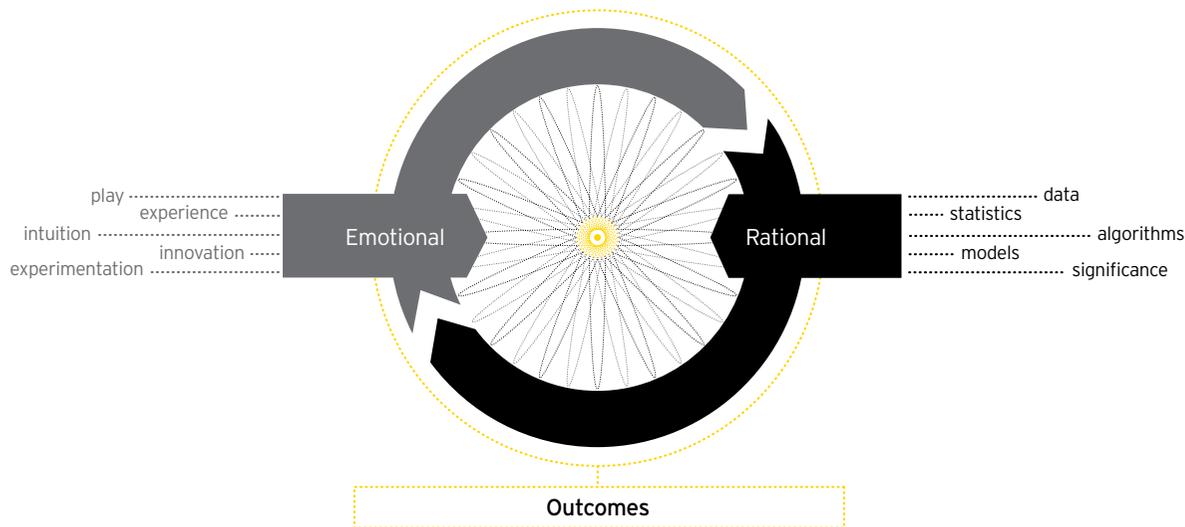
Executives have deep knowledge of products, processes, customers and the business context that analysts often lack. However, executives typically only rely on analysts to perform the “science” of statistical inference. They typically peruse statistics and information provided by analysts to

form hypotheses and make decisions based on what they interpret, or “gut feel”.

This type of approach is usually linear, discards available information, is delayed “after the fact” and can often be disjointed by not applying business experience and intuition in the early stages of the analytic process.

Adopting a different approach where emotional and rational thinking operate symbiotically will enable you to quickly reach better, more insightful decisions. We call this whole brain analytics, a new methodology that combines rational (data, algorithms, statistics, models) with emotional analytics (experience, intuition, experimentation).

Whole brain analytics ensures the analytics process is informed at the right time with deep business experience, ensuring the right questions are asked, the right assumptions made and appropriate analytical models applied.



## Whole brain analytics approach

Diagnose the business problem or opportunity and create hypotheses

Combine rational and emotional analytical models to predict outcomes and understand feasibility

Undertake rapid experimentation to test hypotheses

Pilot solution and develop implementation plan

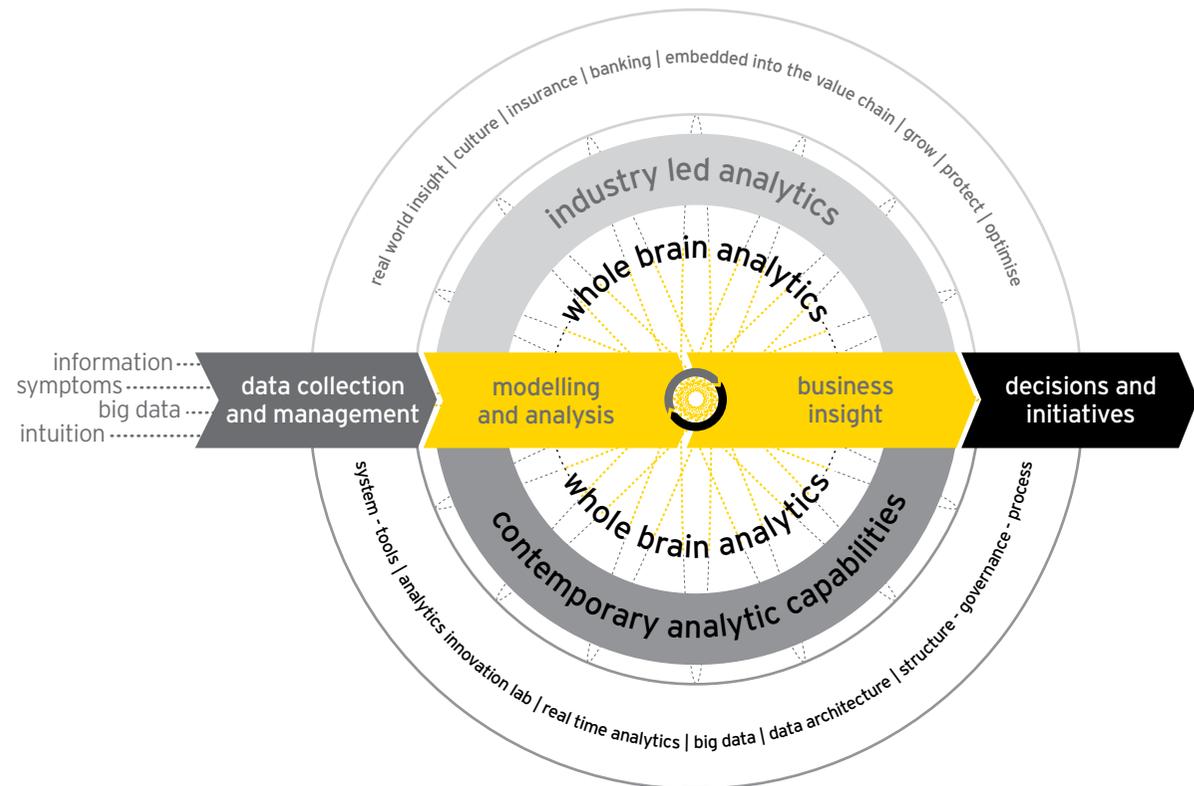
Uncover the real cause of your toughest problems, be able to anticipate the future and identify opportunities to differentiate and grow your business.

## Embed analytics as a core, interconnected competency across the business value chain

Although many insurers have established analytics as a strategic priority, success depends on their ability to build a robust core capability and competency that can be leveraged across the enterprise.

An analytics mindset should be embedded in the business, supporting specialised business processes and strategic decision making - increasingly in real time.

Whole brain analytics provides a catalyst for embedding analytics into the business value chain, utilising methods and processes that bring business intuition, technology and data closer together. It facilitates more effective collaboration and applies modelling techniques that enable you to develop a deeper understanding of the information you have, so you can anticipate the future and make better business decisions.



# Industry led analytics

## An example - analytics working across the insurance value chain

Infusing whole brain analytics into an insurers DNA will provide a strategic capability that can be used to identify valuable new opportunities not readily apparent. Building this capability could be your single most important initiative in the next 3-5 years.

### Research/strategy

Grow customer profitability by looking at your own information, digital and social media to identify high potential customers, their behaviours and preferences.

Use this information to help you define your customer experience strategies and implement initiatives that will delight your priority customers and attract new ones with the most potential.

Continuously monitor and re-evaluate customers' potential, risk attributes, situation and environment to test the ongoing validity of segmentation and retain a realistic view of customer profitability and risk, as their circumstances change.

Mine the data in the risk world to understand how market and credit events are related and use it to better plan for funding, reducing your risk of having to obtain emergency funding at punitive rates.

### Product

Use your new customer insight to develop highly relevant and attractive products and product bundles for specific customer segments or individual customers, together with an effective pricing strategy that maximises the delicate risk reward balance.

Harness more sophisticated, risk-based pricing to allow you to introduce products at the right price that would once have been deemed too risky to develop.

### Distribution

Embed the intelligence you build about your customers into your distribution strategy to: generate quality leads where customers have a high propensity to buy; and determine the most effective distribution channel to cost effectively capture their business.

Improve your risk culture by profiling employees for mismatches in the risk profile required by the role. Identify and monitor leading risk and profitability indicators across the distribution network to detect poor selling practices and refine your strategy.

### Servicing

Build a digital record about your customers, their behaviours and preferences to develop effective loyalty programs and retention strategies, which will make it difficult for other insurers to attract your highly valued customers.

Analyse customer interactions and channel choices to improve customer service and deliver new service to sale opportunities. This data will also reveal opportunities to reduce the cost to serve by eliminating services your customers do not value.

## Contemporary analytics capability

Leading organisations that use analytics to drive important decisions progressively build their analytics capability. Assessing the maturity of your skills, organisation design and technology capability against current and future needs will guide your priorities and planning process.

### Develop a robust governance and operating model

A well defined governance and operating model that clearly articulates how you will embed analytics into the business will ensure everyone involved understands the strategy, key processes and their role in making the initiative successful. The governance and operating model should explain:

- ▶ What success looks like and the objectives, drivers and success metrics you will use
- ▶ Who the capability will support and how the engagement model works with all stakeholders
- ▶ How you will be organised to deliver analytics by providing a conceptual view of the operating model (across people, process, technology) and how to establish an effective governance model to support decision making

This will allow you to align decisions and activities across the operating model dimensions to avoid the risk of overlaps or inconsistencies. It will also maximise the effectiveness of the analytics capability you have.

### Evaluate the strength of your information architecture

As the volume, velocity and complexity of your data increases, you will need a comprehensive and scalable information architecture. This is the foundation of your analytics capabilities – an important corporate asset for competitive differentiation.

Right now, your underlying information architecture is likely to be extremely complex, with multiple products across multiple line of businesses, servicing millions of customers across multiple channels and geographies.

Some key questions:

1. Do you have a comprehensive and integrated view of enterprise wide data combined with relevant external data (360° view of the customer)?
2. Is your data accurate, consistent and auditable?
3. Do you have formal controls and governance to protect the integrity of your data?
4. Is your information architecture cost effective allowing you to maintain, support and upgrade?
5. Is your data aggregated and transformed ready for use?

Answering these questions will help you develop an extendable, agile and flexible information architecture to support your changing business and regulatory requirements.

### Use the right tools

You need to use the right tools to support the analytics you require and meet the exploding demand for intelligence and actionable insights. In particular, analysing large volumes of structured and unstructured data can require special toolsets and skills. Select the right tools, based on your immediate and future business requirements and existing technology landscape.

### Develop real-time analytics

Real-time analytics capabilities offer new opportunities to provide high value analytical services to your business units and customers. For example, you can present front line staff with real-time customer information, driving informed sales conversations and enabling them to target customers with relevant value propositions based on their immediate needs.

### Use an analytics innovation lab for rapid experimentation

You may decide to establish an Analytics Innovation Lab, bringing scientific methods, leading technology and stakeholders together in a collaborative, rapid-cycle environment. The lab accelerates idea generation and supports experimentation. Once a high-impact analytical solution is proven in the lab, you can quickly roll it out to the rest of the business.



**Establishing an effective analytics capability requires the right organisational model, skills, tools, methods and information architecture**

## An Australian life insurer division used whole-brain analytics to increase NPAT by more than 7%

“We were flying blind. We didn’t know who was churning, or why”

### The real questions

#### Our client wanted to know:

- ▶ What is driving our higher lapse rates?
- ▶ Where are the hot spots?
- ▶ What specific actions will quickly improve our lapse rates?
- ▶ What specific actions will support a longer-term acquisition strategy?
- ▶ How much additional revenue will fall out of these actions, so we can prioritise them and assign appropriate resources?

### What we did

1. Performed a 4-week rapid diagnostic
  - ▶ Identified the impact of a lapse on NPAT, potential causes of lapses and the business processes at each customer touch point
  - ▶ Diagnosed the actual patterns and drivers of customer lapses
  - ▶ Identified high customer lapse rate hot spots that could be immediately targeted
2. Developed short and long-term retention strategies
  - ▶ Created short-term tactical remediation initiatives, including: changes to sales targeting, proactive marketing campaigns and management information
  - ▶ Designed a high-level retention strategy (based on customer value and lapse risk) to guide retention activities and investment.
  - ▶ Formed a practical execution plan for delivering these initiatives, using the clients’ existing personnel and resources.

### What we found

- ▶ Some of the client’s sales force management activities were hindering customer retention
- ▶ High initial lapse rates for products sold through telemarketing
- ▶ A spike in lapse rates at the annual policy renewal date
- ▶ A slight increase in lapse rates for advisor-sold policies over time
- ▶ Pockets of high-lapse customers
- ▶ Geographic high-lapse hot spots
- ▶ Quick wins to shore up these easily identifiable customers
- ▶ Longer-term initiatives to correct process-based issues
- ▶ Predicted revenue uplift from each initiative

### Decision support tools

- ▶ A model to help the client identify future high-lapse customers
- ▶ An improved expected lapse measure, enabling management to identify if lapse rate changes are in line with portfolio changes

### business outcomes

- ▶ More than 7% increase in NPAT by reducing the lapse rate by 1.1% over the first six months
- ▶ Potential to further reduce the lapse rate to 2%, as the longer-term initiatives kick in

# Remove the stumbling blocks to developing your analytics capability

Insurance business units often shy away from analytics solutions, based on groundless concerns - often perpetuated by IT consultants trying to scare them into million dollar sales, or internal stakeholders trying to protect their turf. Here are the most common objections.

## 1. We don't have all the data

No one does. You probably have about 70% of the information, and we can help you bridge any gaps. We start by looking at all your data. It may appear you only have the mortgage application information on a new customer, but you also know which of your web pages they regularly visit. And, you may know a lot about their brother or their mother-in-law.

We'll also work with you to get the right quality data in your core platforms and information assets. Without a strong foundation of quality data, analytics quickly becomes unstuck. That's when insurers start cold calling people, only to be told "How many times do we have to tell you people, my father passed away last year." There are often simple ways to improve your data quality, such as getting customers to clean their own data during self-service processes, or verifying data as a matter of course during call centre enquiries: "Could I just check we still have the right mobile number for you?"

If you don't have the data you need, we can help you find it. Even if you're looking at a different market,

where you have no historical information, we can help you build a model for demand forecasting by: codifying your internal thinking; using external data; and collecting new information through surveys. The model will allow you to assess a range of emerging and possible scenarios, helping you to decide if the market is a viable growth play.

## 2. We don't have and can't afford the technology

Every organisation captures data and information in transaction, risk, customer, finance, HR and data warehouse systems. We always recommend starting with what you have, by looking at the data you are capturing, the tools you have and how you can leverage them to do analytics. Experimenting with analytics technology methods and skills, is an important step to finding the simplest and quickest means of moving success into the broader organisation.

## 3. We don't need analytics, we know how our business works

If your managers are still creating business cases using forecasts based purely on their own judgement, knowledge and experience, they are likely to be building in unconscious errors. As University of Chicago professor Richard H. Thaler recently pointed out in the New York Times (The Overconfidence Problem in Forecasting), most managers are overconfident - they don't recognise their own inability to forecast the future.

We can help you use analytics to get from 'we think' to 'we know', ensuring managers go to meetings armed with the data to support recommendations, not just intuition. Intuition is important and should be integrated into the analytic process, but it is dangerous to rely on it alone. Analytics won't make decisions for you, but it will point out other options you may not have considered and add confidence and rigour to the process.

## 4. We can't quantify the value

People often resist using analytics 'offensively' because it's hard to quantify the loss of not doing something. Predictive modelling can help you to quantify 'what if' scenarios, providing solid cost/benefit analysis. In our experience, once you calculate dollar outcomes using industry benchmarks, internal owners rapidly gain confidence to embark on high value projects.

## 5. We don't know where to start

The beauty of analytics is that it really doesn't matter. Once you use whole brain analytics to solve a business problem successfully, you then have the confidence (and the savings) to start the next project. Each time, your internal analytics capability grows, as more people become involved in the process, see results and find new areas to apply the latest analytics methodologies.

## conclusion

By combining analytics expertise with business knowledge, you will uncover the real cause of your toughest problems, be able to anticipate the future and identify opportunities to differentiate and grow your business. However, it's not enough to capture, integrate and analyse your data, you also have to act on what you find. This requires a culture that is ready to embrace novel and counter-intuitive ideas. Unless leadership sets the tone by expecting data-driven decisions and encouraging 'test and learn' experimentation, analytics will remain a siloed bolt-on rather a core strategic capability.

Just like any other strategic asset, you can create competitive advantage by finding new uses for your information. Whole brain analytics is the key to unlocking these untapped areas of value.

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