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THE MAGAZINE OF THE ACTUARIES INSTITUTE

DIGITAL

Actuaries



REPORT

Becoming an Analytics-Based Insurer:
A Road Map – Part 1

ROGIE XIE

Under the Spotlight

PODCAST

Actuaries go live with mental health
and insurance leaders

UPDATE

The gender pay gap for actuaries

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IMPORTANT INFORMATION FOR CONTRIBUTORS

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Spreadsheet to the Head Seat: Perspectives from actuaries turned leaders (Part 4)

By Danny Bechara and Byron Wong

This is the final instalment of a four part series where Byron Wong and Danny Bechara interview four actuaries-turned-leaders. In this instalment, the interviewees explore the importance of culture in leadership, their passions as leaders and their views on the direction of the actuarial profession

Interviewees

In case you missed the earlier instalments:

- The [first instalment of the series](#) covered the career journeys of each of the interviewees, as well as overcoming barriers to leadership.
- The [second instalment of the series](#) covered how actuaries can reach leadership positions, and the role education and mentoring play in forming leaders.
- The [third instalment of the series](#) covered how to build exceptional teams and be an effective leader.

Effective Leadership: Culture

Importance of Culture

Natalie reminded us that culture is “a part of the everyday, it’s not what you say, it’s what you do”. Without developing a clear and strong culture from the top, even the most successful organisations can break down.

James agreed, saying “you don’t realise how important [culture] is until you have people in the team that destroy culture.” He also stated that an important principle to maintaining a strong culture is that when decisions are taken which are against the culture you are trying to build, you have to, within your limits, “call it out immediately and, (depending on the situation), publicly”.

Brett also agreed that culture was “extremely important” – particularly in financial services. He identified integrity as what makes a culture stick; teams need to see the culture presented to them enacted by the senior leadership team. Without integrity and consistency, individuals within your teams won’t adopt the culture you have set out to create.

Leigh’s view was similar, explaining that establishing the right culture is best done through leading by example and setting the tone from the top. Leigh discussed how important it is for individuals to be in an environment where they can learn, and be given appropriate bandwidth to perform their role. This allows them to feel “challenged but not threatened” and “encouraged but not prescribed”.



Brett Clark
Group CEO and
Managing Director of TAL



James Collier
National Managing
Partner
of Finance and Risk
Consulting at KPMG
Australia



Natalie Eckersall
Outcome Director of
New Policy and
Customer Services at
MLC Life Insurance



Leigh Watson
Head of Life and Health
in Australia and New
Zealand at Swiss Re

This was emphasised when he said "I judge the success of my leadership by how my people progress, not by how I progress."

Evolution of Culture

Natalie's experience gained in one organisation for over 20 years gave an interesting perspective on how a culture evolves over time. She began at what was Aviva, which merged with MLC when it was bought by NAB, and has recently become MLC Life Insurance when the company was acquired by its current majority owner, Japanese life insurance giant Nippon Life Insurance Company.

It was clear in her eyes how the culture had changed. Aviva was quite agile, being a small organisation in Australia with a relatively simple business model; it was willing to take more chances and there was more accountability on individuals for making things happen.

After the merger with MLC, the culture remained largely similar but with more mature governance. Following this, and under NAB's ownership, the organisation gradually shifted focus and developed towards a bancassurance model. Becoming part of NAB Wealth meant that reputation became more important and technology more complex. As part of a large bank (with 35,000 employees), the team adopted the culture of a big bank, which had a stronger focus on short-term cash earnings.

Under the majority ownership of Nippon Life Insurance Company, a mutual organisation in Japan, the focus shifted to long term value. MLC Life Insurance now has around 1,600 people.

Throughout these changes Natalie stated how corporate ownership influences the culture of an organisation and how the focus and thinking can drastically change even though the core tenets of the business had not necessarily changed.

Passion

One of the real distinctive characteristics shared by leaders, regardless of which field they are in, is they each have a passion (or various passions) - a driving factor; motivation; something which gets them out of bed each morning.

Perspective 1: Brett Clark

Brett shared his passion to provide the best services to customers in order to bring confidence in the insurance industry back to the community. This passion is exhibited through his role as a member of the FSC Life Board Committee, where he gets to meet and work towards this with other people in the industry.

He is proud of the role TAL plays in industry initiatives (through the FSC, ASFA, Actuaries Institute and other industry bodies) to achieve this. In October 2017, Brett was named Australian Insurance Executive of the Year at AB+F's 15th Annual Australian Insurance Awards, reflecting his contribution to the industry. Brett also is passionate about working for an organisation which he describes as "more a health and wellbeing business than a life insurance business".

Perspective 2: Leigh Watson

Leigh is passionate about the products insurers manufacture, and creating a sustainable industry for both insurers and customers. He noted that insurance products make positive contributions to society, helping customers when they need it most (at times of financial hardship and/or disaster). Working in

an industry which helps society is a powerful driving force, and fits into Swiss Re's vision to "make the world more resilient".

Leigh also reinforced the importance of ensuring that the share of value (between customers, direct insurers and reinsurers) in the industry is appropriate, reasonable, and sustainable; which is something he works towards.

Perspective 3: Natalie Eckersall

Natalie's passion is for bringing fairness into the claims space whilst also delivering commercial results for her organisation. Her view is that striving for this balance is ultimately what the life insurance industry is about. She highlighted how important it is for the insurer to be trusted by the customer, and for the claims process to be customer-centric.

Natalie also discussed how she recently presented to the Parliamentary Joint Commission into life insurance; this was a great experience for her to consider a wide range of issues in insurance and to have a voice in the future of the industry.

Perspective 4: James Collier

For James, his passion has changed as he has progressed in his role at KPMG. He stated that initially his passion was to show a large firm (KPMG in his case) the values and culture an actuary can bring, and instilling that into the wider business.

Nowadays he stated that his passion lies in developing individuals and bringing the best out of his staff. He said that ultimately KPMG is a people business, and its value is from developing capable individuals. He finds fulfillment in pushing individuals to take on higher roles and responsibilities and further developing themselves.

Where should the profession go?

Ultimately, leadership is about taking the front foot, so the final topic we asked the interviewees is where they think the actuarial profession should go from here (over the next 5 to 10 years).

Brett stated that public policy beyond the traditional actuarial fields is the future for the profession. The actuarial skillset is a "potent package", combining the highly numeric, analytical base with communication and leadership; and therefore this skillset can be utilised in fields beyond typical actuarial work.

Leigh stated that leaders in the profession should use their skillset to address challenges in world health (including mental health) and in the ageing population, with these two social areas wide spanning in their impact to individuals. Leigh ended by saying the profession should not be too consumed with ensuring they have the main voice on every matter, but instead look to work with the other voices in the industry. As long as actuaries are getting their view across, it is a good thing.

Natalie voiced that the future for the profession relies upon the Institute continuing to stay in touch with its members, and support its people in areas of work they want to be involved in. Breaking barriers between actuaries and different industries is what will allow actuaries to make a greater impact in society. Staying current, and involving young actuaries were also important considerations.

James concluded on a similar point to Brett saying that actuaries are individuals who have a wide ranging skillset: they understand business and analytics, can apply judgment, understand probabilities and have strong IT skills. Based on this,

James' view was that actuaries are well placed to make large strides in the data analytics space.

James highlighted that data analytics, if correctly utilised, has the potential to add value to a wide range of businesses. Therefore, he sees data analytics as a key area for actuaries to expand into further.

Related Reads:

- [Actuarial Leadership: Past, present and future](#)
- [Inspirational leadership](#)
- [David Morrison, 2016 Australian of the Year on 'Empowering Leadership'](#)
- [Actuaries Leadership Forum 2016](#)
- [Inspiring new generations of leaders](#)

Related video:

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Gender pay gap for actuaries: an update

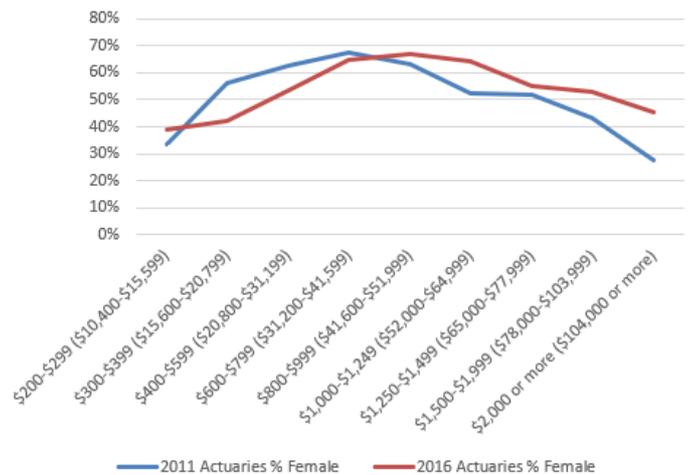
By Jennifer Lang

Jennifer Lang looks at the latest stats on average pay for actuarial men and women and finds that, if female actuaries are discriminated against (which there's no proof of), it's not as bad as it is for accountants!

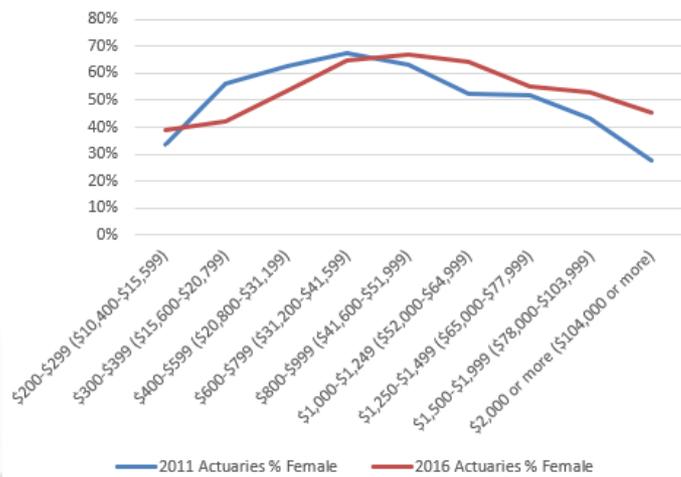
There's recently been a bit of interest in [Julia Lessing's](#) post here – [Is there really a gender gap for actuaries?](#) So I thought it was time to look at the most recent statistics.

I had a look at the latest information from the [Australian census](#) (using my new favourite toy, [TableBuilder](#)). The census is designed to include everyone, which is great. But it also relies on self reporting, and ranges of weekly income, so it isn't perfect.

Proportion female at each pay range



Proportion female at each pay range



So I started out by graphing the proportion of female actuaries (as a percentage of the total) at each pay range, according to the census. Note that the occupational definition in the census is actually actuaries, mathematicians and statisticians. The overall proportion female in this data set is stable between the two dates (43% in 2011 and 44% in 2016).

Interestingly, there is a high proportion of men at the very low pay ranges, but also not surprisingly, the proportion of women drops off the higher up the pay scale you go. The graph looks as if this gets less extreme in 2016, but I suspect this is a function of all pay ranges going up between 2011 and 2016.

So using the same data, to look at the average pay for men and women (approximating an average amount for each pay scale) men are paid 25% more than women in 2011 (in this occupation category) and 26% in 2016.

So are female actuaries discriminated against? None of this data proves it, but if they are, it's not as bad as it is for accountants. Male accountants were paid 31% more than female accountants in 2011, and 33% more in 2016.

Source: ABS

I dived into the data a bit more deeply, as you can look at number of hours worked in the week of the census (again, self reported). If we calculate an average hourly rate for men and women, for actuaries in 2011, male actuaries are paid 9% more per hour than female, and 10% more in 2016. For accountants, it is 12% and 14%.

An alternative way of looking at it is to just look at the differences between male and female pay for full-time workers. Just choosing those people who self reported their hours as exactly 40 per week, the male actuaries were paid 17% more per week than female actuaries in 2011 and 14% in 2016 (19% and 18% for accountants). That substantially increases the gap (which probably shows the limits of the data I am working with, rather than anything more insightful).

In my analysis above, I have corrected (approximately) for hours of work and occupation. That leaves seniority, age and experience creating at least a 10% gap between male and female actuaries in their pay. Depending on how I measure, I can show a higher gap than this, but I can't find any way to analyse this data to get a zero gap between pay for male and female actuaries.

[This article](#) in The Economist is the best overall explainer I've come across of the gender wage gap in the economy. At the level of the economy as a whole, the gender wage gap is made up of a whole lot of different factors:

- Hours of work – after correcting for number of hours worked, the gap narrows
- Occupation – after looking at the same occupation, the gap narrows
- Age and experience – after correcting for this, the gap narrows
- Level of seniority – comparing roles at the same level in an organisation gives a narrower gap than comparing roles at all levels

But of course many of those "corrections" above can be explained by discrimination in the workforce as well as being explained by individual choice. Most obviously, if women are clustered in the less senior roles in an organisation, but paid the same at each level, that doesn't mean there isn't discrimination – why are the women not getting the senior roles?

It would be surprising, given the weight of research showing various ways women are discriminated against in the workforce ([here are some interesting](#) recent articles and studies), if at least some of this gap in actuarial salaries between men and women wasn't due to discrimination. But at least the gap for actuaries is lower than for accountants. Why? And how can we make it better?

My personal theory is that the more the criteria for each role are measurable and documented, the less discrimination. As an illustration of this theory, here is a [link to a paper](#) that suggests that Occupational Licensing (of any kind – like requiring interior decorators to have a qualification) reduces racial and gender pay gaps. Actuaries have perhaps one of the toughest forms of occupational licensing there is, so maybe the actuarial qualification does reduce discrimination. ways women are discriminated against in the workforce ([here are some interesting](#) recent articles and studies), if at least some of this gap in actuarial salaries between men and women wasn't due to discrimination. But at least the gap for actuaries is lower than for accountants. Why? And how can we make it better?

As well as having some of the hardest entry requirements of any profession, how else can the actuarial profession reduce the impact of discrimination so that men and women are paid equally fairly for the work that they do?

[Register now](#) for the gender diversity Insights session being held on International Women's Day, Thursday 8 March 2018.

Gender Diversity - where to from here?

Presented by: Michael Rice, Jennifer Lang, Adam Butt and Alice Huang

12.00pm - 2.00pm
Actuaries Institute
Level 2, 50 Carrington Street
Sydney NSW 2000

Read the original article on Actuarial Eye [here](#).



Actuaries Podcasts go live with mental health and insurance leaders

By Elayne Grace

The Actuaries Institute has released its inaugural podcast series 'Peace of Mind', centred on its latest 'Mental Health and Insurance' Green Paper. The show, hosted by the Institute's Acting CEO Elayne Grace explores mental health conditions in the community, and discusses difficulties in diagnosis, underwriting, and claims management with the CEO of TAL, a Principal at Finity, and Co-Chair of the National Mental Health Commission.



“Insurance tries to give people ‘peace of mind’; to protect them from life’s uncertainties, but is it helping people who suffer mental health problems?”

So begins the conversation in our makeshift studio (the library) at Institute HQ, for our [inaugural podcast](#).

Following the [successful launch](#) of the Green Paper, Brett Clark, CEO of Australia’s largest life insurer TAL, joined me for [Episode Three](#) to reflect on this important topic.

TAL paid more than \$210 million for mental health claims (second only to the number of claims paid out for cancer) in the year to 31 March 2017.

“Permanent disability benefits which are typically associated with lump sum payments were designed and built at a time when mental health wasn’t even really on the radar (the 1980’s or earlier).

They were built for mostly physical illnesses or injuries which can manifest which say: ‘OK that person is permanently disabled and they need a lump sum of money to help them maintain their lifestyle’. So, these products...require a bit of a rethink,” says Brett.

The potential danger of rewarding lump sums to consumers suffering mental illness is a point covered in the Green Paper. Brett commended the Institute and the profession for getting involved in thinking “more deeply” about mental health.

Helping people “get well, stay well” is a large part of TAL’s business, says Brett, given 60% of the claims it pays are for people who are *living* with illness or injury, rather than death claims in a classic insurance sense.

TAL is working with Superfriend, the Financial Services Council (FSC) and the University of Sydney on mental health awareness projects. In July last year it hired Glenn Baird as its first head of mental health in attempt to better inform TAL’s underwriting processes and product development, and help its claims managers ‘rethink’ their dealings with customers suffering mental illness.

The National Mental Health Commission (NMHC) encourages the sector to be open to dialogue around this topic, as its Co-Chair Lucy Brogden discussed in [Episode Two](#).

“I’ve been involved the mental health insurance conversation for at least 12 years, and for me this [Green Paper] is a significant sign of progress and collaboration with the mental health sector and insurance. The Paper has some great recommendations and areas of focus, and I hope to see real change off the back of it,” says Lucy.



If you would like to hear a particular angle of this wide-ranging debate covered on the 'Peace of Mind' write to us at ActuariesMag@actuaries.asn.au!

We look forward to sharing more episodes with you soon on our Actuaries Podcast Channel, including on Career and our thought leadership series '[The Dialogue](#) – leading the conversation'.

The scale of mental illness in Australia

In our conversation, Lucy outlined the scale of mental illness in Australia.

"Around 20% of Australians experience a mental health issue at any given time"

At the very far end of the spectrum, there are those who experience severe psycho-social disability and are "well supported through programs like the NDIS and we're looking to see how that plays out", says Lucy.

"Then we have people that sit a bit further down the spectrum with things like schizophrenia, eating disorders, severe illnesses, often episodic, who may need some hospitalisation and somewhat acute systems, and there's about 650,000 people sitting in that bracket."

"Then if we come up towards the middle, we have around three million Australians experiencing mild to moderate mood disorders, that can give them some impairment at various times in the year, but are probably able to hold down a job, and participate reasonably well in community and family."

The role of actuaries

Actuaries love data, and this is precisely what industry and government bodies such as the NMHC need - reliable data offering relevant information that can better inform the insurability of mental illness.

[Episode Four](#) of 'Peace of Mind' went live last week, again featuring actuary and co-author of the Green Paper, Geoff Atkins. Continuing on from our discussion in [Episode 1](#) Geoff shared his learnings and [perspective on the issue](#).

"There is a real shortage of useful data for insurance applications and there's a lot of work being done on that," says Geoff.

The NMHC is keen to collaborate with the insurance sector on the data that it has, and find ways to help analyse it and connect it with its data linkage projects, including one with the Australian Bureau of Statistics.

"We need to access the good data that's out there, but it's often very siloed data," says Lucy.

As goes with the territory, the nuances in this problem are important: there isn't one fix for everything. I consistently found myself and the guests on this podcast coming back to the importance of collaboration here.

"The community including the insurance industry is very, very aware of the difficulties that have been present and are trying to do things but mostly on a pretty individualized and isolated basis. For example, the FSC has issued a standard requiring their member companies to give awareness training to their staff relating to mental health," explains Geoff.

"The Green Paper tries to scope all the relevant insurance sectors, and draw together some common threads and differences, so that developments can learn from each other, and inform each other, but still be specific to the circumstances of that individual product group and customer group".





Spreadsheet to the Head Seat: Perspectives from actuaries turned leaders (Part 3)

By Danny Bechara and Byron Wong

This is the third instalment of a four-part series where Byron Wong and Danny Bechara interview four actuaries-turned-leaders. In this instalment the interviewees give advice on how to build exceptional teams and become an effective leader.

- In case you missed the earlier instalments:
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in Australia and New
Zealand at Swiss Re

Building Exceptional Teams

The key role of a leader is to build an exceptional team. We asked each of our interviewees how they have gone about doing this, and what advice they can share.

Leigh said you often inherit a team, as opposed to having the opportunity to build a team from scratch. Therefore the challenge is to build upon the existing strengths, with Leigh's view being that you build team strength through diversity of individuals. This comes by attracting individuals with differing backgrounds and thought processes to your team and, continually encourage team members to take risks to build their skillsets and do something beyond their current sphere of knowledge.

Brett stated that as he had moved further away from the traditional actuarial fields, part of his team building was finding the right people in the business to lead areas which he personally hadn't been involved in before. In those circumstances, his advice was to surround yourself with expertise from those fields and learn to rely and trust them to complete the tasks they have been given. Brett also highlighted that diversity, though initially challenging, is a key aspect of building a well-rounded team.

Natalie's experience demonstrated that one of the most difficult parts of team building is knowing when certain individuals are not right for a certain role. There can be instances where an individual is not quite meeting their objectives and goals, not through a lack of effort, but just because that role is not right for them. Effective leadership in that situation is being able to be honest and open with the individual and having the difficult conversation sooner rather than later.

Effective leadership in that situation is being able to be honest and open with the individual and having the difficult conversation sooner rather than later.

James shared that “any business is a people business” and different firms face the same issues, at the heart of building effective teams is getting the culture right. James shared that in his role at KPMG there is a real push for collaboration to be an important tenet of the team, with team goals overriding individual targets. This means that individuals who assist others, contribute to thought leadership, and are willing to work effectively for the benefit of the team are rewarded. This reinforcement means that strong teams will naturally be built.

How to be an Effective Leader

Common Perspectives

Being Authentic

When asked what the most important skill a leader should have, three of the interviewees emphasised the importance of being *authentic*. They acknowledged that while this is sometimes seen as a 'buzzword', it was essential.

At its core, being authentic means staying true to yourself, expressing interest in things you are actually passionate about, and conducting yourself in a way which reflects who you are on the inside. This trait naturally leads towards you building trust and loyalty with those that you work with.

Understand Motivations

Another key skill is to *understand different people's motivations* and to tap into them. Both Brett and Leigh described how important this was, particularly when leading multi-disciplinary teams (such as the sales and operations functions).

Rather than assuming certain perceptions are held by your direct reports, ask them; seek to understand what it is they are looking to achieve. Keep in mind that not everyone wants to reach leadership positions (i.e. get promoted); some individuals enjoy their role as is or are in a stage of their life where they don't want to take additional responsibility.

By tapping into these individual motivations and understanding your team members, you will get the best out of them. Look to support them in pursuing their goals. As a leader, you need to balance the wants of the people you lead and the needs of the business you represent.

Perspective 1: James Collier

James raised *agility* as a key strategic skill. He emphasised that it is important for leaders to keep track of what is happening in their industry, understand the people in their organisation and seize opportunities. This is particularly crucial when the market moves – unless you are able to move with it by changing your approach, you will be left behind. Consulting with your team to get varied perspectives is important here.

James highlighted that staff want to: work somewhere they can achieve their goals, work for someone they look up to, and work for a business that is going somewhere. A leader's role is to facilitate these.

Not to be forgotten is succession planning. James' view was that your promotion can be eased if you have been able to groom a team member to step up into your role. A successful, cohesive team will then be able to manage that transition well.

Perspective 2: Brett Clark

Brett discussed how important role modelling behaviours and attitudes are in leadership. This affects the ways individuals view you and in turn how they act.

He stressed the importance of being true to yourself and not presenting a version of yourself which might be different in different situations, and having this integrity is key to leading individuals. In line with these values, Brett also stated the importance of humility and not getting ahead of yourself in the positions which you have.

Perspective 3: Natalie Eckersall

Natalie set out various practical skills that make leaders more effective. She stressed the obvious point of ensuring that roles and responsibilities of the people you lead are clear and thus individuals can be measured against this. Furthermore, she stated that as a leader you must have, and be able to present, a clear vision to those you lead. A vision acts as a motivator and inspiration for the individuals in your team and helps them see where they are going.

On top of all this, she mentioned leaders also need to be competent managers and achieve the outcomes they have been assigned. A healthy social skillset needs to be matched with delivering on commercial goals.

Lastly she stated that leaders need to ultimately be brave and learn how to deal with failures (as these will inevitably arise). Leaders need to be able to respond under pressure and be honest about the challenges they are facing.

Perspective 4: Leigh Watson

Leigh reiterated that an important part of leading individuals is giving them a "runway", so they are empowered to achieve their own goals. In this way you (as a leader) look for others to drive changes, but also act to "support and steer" them. By giving your team both space to perform their role and accountability for outcomes, they will be inspired to perform.

He indicated that ultimately it is trust that underpins everything in leadership. Although you will have to use different approaches for different people in order to build this trust, by having a mutual trust and a team mentality people will naturally respond positively.

The final instalment will explore the importance of culture in leadership, what the interviewees are passionate about as leaders, and their views on the direction of the actuarial profession.

Related Reads:

- [Actuarial Leadership: Past, present and future](#)
- [Inspirational leadership](#)
- [David Morrison, 2016 Australian of the Year on 'Empowering Leadership'](#)
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- [Inspiring new generations of leaders](#)

Related video:

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The Actuarial Olympics – ICA Berlin a preview for Sydney 2022

By Daniel Smith

The actuarial profession is a global one yet we often pay limited attention to what actuaries are doing outside Australia. Is it time we started thinking a bit more about what is happening outside of our own bubble? Daniel Smith believes so!

What better way to introduce yourself to the global actuarial profession than by attending the 2018 International Congress of Actuaries (ICA) in Berlin in June?

Firstly, a bit about the ICA:

- Congresses are held every four years (a bit like the Olympics).
- Countries bid to host the congress (a bit like the Olympics).
- Most of the presenters party after they've completed their event (a bit like the Olympics).
- The 2014 Congress was in Washington, 2018 is in Berlin and 2022 is in Sydney.
- The Congress runs over five days and enables actuaries from around the globe to present recent developments and insights, as well as attending Plenary sessions with world-renowned speakers.
- The program is typically organised into streams which enable attendees to focus on areas of interest and potentially attend selected days.

The ICAs are structured to enable a significant amount of social and networking time. This is a great way to catch up with overseas colleagues, learn more about how other countries are dealing with problems you are currently facing or to test your ability in understanding the various interpretations of English used around the world.

Coming to Sydney #ICA2022

Whilst the Congress in Sydney isn't until 2022, we have set up an Organising Committee and have a range of tasks underway. We've already won the bidding process, have locked in a location (the new Sydney Convention Centre), have locked in dates for 3 - 8 April 2022 and have a professional conference organiser (Arinex) assisting us. As an aside, Arinex assisted us the last time a Congress was held in Australia – in Sydney in 1984!

We will be advertising the 2022 Congress in Berlin and get to be part of closing ceremony (a bit like the Olympics). It would be great to have a large number of Australian delegates in attendance.

So, lock in your conference attendance for June this year, book some leave so that you can enjoy more than just the conference and I look forward to seeing you in Berlin at [ICA2018](#).



How artificial intelligence is changing retail value perception

By Jo Chidwala (/)

Reading time: 5 mins

Actuary with Woolworths Group Jo Chidwala, outlines the most popular types of AI, what they can do for retail and why those who invest in cognitive insights will reap long term rewards as the retail market is revolutionised by the internet and big data.

The giant tsunami wave that is changing the US retail landscape – with [almost 7,000 store closures](#) over the past two years – is set to sweep into Australia in 2018.

Based on [retail insights from Bain & Co](#), sales revenue for traditional retailers in the USA will reduce by 2.4% and profit margins will reduce by 1.5% by 2020, driven by strong competition from new market entrants like Amazon and Kaufland.

The battle to win back and retain customers continues to intensify with most traditional retailers in Australia actively participating in price wars to remain competitive. This aims to stimulate short-term sales momentum but can reduce long-term profitability. This is consistent with a [‘red ocean’](#) strategy which can be self-defeating, rather than broader strategies that help re-define the market.

Red Ocean vs. Blue Ocean Strategy	
Red Ocean Strategy	Blue Ocean Strategy
Compete in existing market	New market creation
Beat competition	Make competition irrelevant
Capture more of existing demand	Create new demand
Make the value/cost trade-off	Disprove the value/cost trade-off

Source: www.expertprogrammanagement.com

Customers don't evaluate pricing in isolation; other factors such as product range, store environment and seamless omni-channels strongly influence value perception. For example, Amazon has succeeded in establishing a low-price reputation and becoming a default search destination for thousands of products, without actually offering the lowest prices.

Leveraging AI to differentiate in a crowded market

Savvy organisations like Google, Facebook, Walmart and Alibaba are future proofing their businesses from competitive threats by building unique capabilities in artificial intelligence (AI) that are hard to replicate – a classic [‘blue ocean’](#) strategy. Such bold investments enable them to develop new products, create new markets, build customer loyalty hence, build trusted brands.

The most common type of AI currently used in the market is called supervised learning. This type of AI involves inputting data (A) to quickly generate some simple response (B). Within this

framework, one of the most exciting areas of development is deep learning technology, that leverages neural networks (inspired in part by how the human brain works) to make decisions.

Examples where supervised AI learning is deployed

Retailers are increasingly using cognitive technologies to solve business problems with most playing catch up to market leaders like Amazon. A [study by Davenport and Ronanki](#) proposes three main types of AI applications:

- Robotics and cognitive automation;
- cognitive insights; and
- cognitive engagement.

The most common application of supervised learning (AI) is in:

Process/cognitive automation – this entails automating physical and digital tasks. Robots that leverage machine learning technology are more advanced than earlier models because the “Robots” (that is, code on a server) act like a human being inputting and consuming information from multiple IT systems performing a range of tasks including:

- transferring data from e-mail and call centre systems into systems of record - for example, updating customer files with residential address changes or service additions;
- reconciling financial transactions and posting journals to balance accounts; and
- reading legal and contractual supplier documents to extract commercial terms using natural language processing.

Cognitive insight – this the second most common type of AI- it uses algorithms to detect patterns in vast volumes of data and interpret the meaning. These machine learning applications can be used to:

- better understand what individual customers want, when they buy, where they purchase and how they consume their products and services;
- maximize return on investment from price promotions using predictive modelling technics to present the best offers;
- automate personalised targeting of digital ads; and
- provide retailers with more accurate models to forecast demand at store level, hence reduce 'out of stock'.

Cognitive engagement – whilst this form of AI is the least popular, it still promises to generate projects that engage employees and customers using natural language processing chatbots and intelligent agents. The software could perform wide array of tasks including:

- Smart agents that offer on demand customer service addressing a broad array of issues from password requests to product support questions – all in the customers natural language;
- Product and service recommendations that increase personalisation, engagement and sales, including rich language or images; and
- Internal sites for answering employee questions on topics including grocery code of conduct, HR policy, employee and IT.

Looking Forward

Whilst upfront costs to build AI capabilities are deterring, retailers that endure short term pain and make bold investments now will gain long term market leadership.

Stimulating demand by anticipating customer purchases – an *example of ‘cognitive insights’ AI*

Enterprises that engage with their existing customers are poised to grow revenue by proactively cross-selling complementary products. These organisations understand what individual customers want, when they buy, where they purchase and how they consume their products and services.

“Retailers that leverage big data analytics will build deeper and personal relationships with their existing customers by meeting specific customer needs on time.”

According to [research by Askuity](#), retail out-of-stocks cost the industry billions every year. “Studies into the issue consistently reveal an average OOS rate of 8%. In other words, one out of every thirteen items that a customer wants to buy won’t be on the shelf when they’re ready to buy it.” Retailers and suppliers can leverage AI to manage inventory (by forecasting demand more accurately) particularly for untested price points or promotions. For example, supermarkets can forecast demand with improved precision at store level to avoid out of stock or overstocking when they run half price promotions

Customers want personalised offers and experiences– another *example of ‘cognitive insights’ AI*

The battle ground to acquire new and retain existing customers is shifting towards ‘below the line’ marketing strategies. With this approach, retailers proactively win-back or retain customers by delighting them with personalized and meaningful offers. This helps them to mitigate strong competitive threats, to increase customer loyalty, basket penetration and store traffic.

According to the CEO for a marketing firm called Huge, (Artificial Intelligence could make brand obsolete, 200]17), *“Most of the internet up until today has been about more options. Now with machine learning, it’s not about everything, it’s about the perfect product just for me.”*

Coupling AI with big data analytics allows organisations to fundamentally shift from a one-to-many (segmentation) marketing approach, towards a more personalised pricing approach that drives value perception and maximises the willingness to pay for products and services.

AI empowers enterprises to augment and personalise products to meet evolving customer needs. AI leverages existing customer loyalty data to better understand customer purchasing habits, product preferences and how customers interact with different product features.

Loyalty that lasts

Modern shoppers are proactively switching retailers, products and brands – and in the worst cases scenarios exiting the market universe. To extend customer lifetimes, leading supermarkets are paying a premium for customer loyalty by offering meaningful offers to their most trusted customers via reward/loyalty programs.

The virtual assistant (AI) cherry picks the right deals for customers, consequently, saving them both time and money. The accuracy and relevance of personalized offers tend to improve over time driven by the continuous feedback loop inherent within AI.



Under the Spotlight - Roger Xie

By Roger Xie

Roger Xie, Actuarial Analyst at Suncorp, is an energetic and passionate actuary who dreams of changing the world for the better. Recently, he became a member of the Rotary Club of Sydney, getting involved in many charitable activities around the world.

My favourite energetic pursuit... Tennis and fitness. I am a certified tennis coach and had the honour of representing Macquarie University at various regional and national level events during my time there.

The last book I read (and when)... Zero to One by Peter Thiel. It's my second time reading it. Thiel is one of the smartest human beings on the planet, a member of the original "PayPal Mafia", along with the likes of Elon Musk, Reid Hoffman and Steve Chen. This book provides a glimpse into one of Silicon Valley's most brilliant minds and I believe it will be an enjoyable & enlightening read for most.

My favourite artist/album/film... I am a big fan of filmmaker James Cameron and his work. I like how he keeps pushing the limits of imagination. Fun fact: Cameron first wrote the script for Avatar in 1995 but at that time the technology wasn't advanced enough for him to bring his fantasy to life.

I'm most passionate about... Pursuing a life of value and purpose. Early this year, I became a member of the Rotary Club of Sydney, the Sydney arm of Rotary International, a global network with over one million members actively involved in many charitable causes such as eradicating Polio worldwide in partnership with the Gates Foundation.

In my humble opinion, it is under-appreciated that our world today still faces countless BIG challenges in various areas: education, global health, justice and equality... And I think we all owe it to the world to do our part to address these issues. Designing solutions to these pressing problems requires a combination of sharp intellect, resources, commitment and force of will, I aspire to play my part in it in the years to come.

More recently, I'm grateful to have been nominated as an awardee for the 2018 Rotary Youth Leadership Awards program to be held in January 2018. I very much look forward to meeting

and hearing from other aspiring young leaders from across NSW and sharing with you my experiences and learnings afterwards in my next writing perhaps. Stay tuned!



In my life I'm planning to change... The world for the better.

Not many people know this but I... Wasn't born and raised in Australia. I grew up in Shanghai, China and moved to Sydney when I was 16, as an international student. Thankfully things have worked out quite well since!

Four words that sum me up... Passionate, driven, funny, kind

Where I studied to become an actuary and qualifications obtained... Macquarie University - Bachelor of Actuarial Studies with Bachelor of Applied Finance; currently studying for my Part IIIs.



My work history... Admittedly I have taken a very unconventional path, starting at the actuarial department of Cover-More Travel Insurance (now part of Zurich), followed by a brief stint with Aon's insurance data analytics & strategy consulting division.

I recently joined Suncorp as a Portfolio Analyst to work on a landmark project: the icare Transition Program. We are looking to complete this transition project in several months' time and I'll be joining Suncorp's pricing analytics team for commercial lines afterwards. I find all these experiences highly enjoyable and I'm grateful for all the valuable lessons I've learned from all the colleagues and managers I've met through this journey.

What I find most interesting about my current role... To provide some context for my current project: Earlier this year, Suncorp was successful in bidding for a significant share of NSW Workers Insurance claims management service. Since August, our team has done an extraordinary job transitioning 18,000 open claims to GIO (Suncorp); we have also recruited and trained over 450 new employees across three offices in Wollongong, Charlestown and Sydney to support our onboarding customers, a feat arguably unprecedented given its scale and timeframe.

As one of the few quantitative analysts on the team, it was fascinating to observe and learn how a landmark project as such is coordinated and executed. It has been a great pleasure to collaborate with and support a wide range of stakeholders using my technical skills. Additionally, the Workers' Compensation scheme is all about protecting the safety, health and wellbeing of our labour force. It gives me a great sense of fulfilment being part of a high-performing team that is making a positive impact on our community.

Who has been the biggest influence on my career (and why)... My mother. She has handled a lot of pressure and endured an incredible amount of hardship in her life. She is the person who really instilled in me a strong sense of confidence and a sense that I can do anything I set my mind to.

As I got older, I came to realise that my mother wasn't all that different than me. She had her own doubts and fears at times, and she wasn't always sure of the right way of doing things. Watching her overcome challenging times was very inspiring. It taught me that tough times never last, only tough people do.

My proudest career achievement is ... yet to come.

If I hadn't become an actuary, I would be... all the poorer for it!

10 years from now, I will be ... Vice President, Asia Pacific at Tesla, Senior Advisor at Gates Foundation and Forbes 30 Under 30 alum (one can dream right?)



Becoming an Analytics-Based Insurer: A Road Map – Part 1

By Stephen Lowe

Stephen Lowe, former managing director at Willis Towers Watson and past President of the Casualty Actuarial Society, shares his views on the benefits of combining actuarial knowledge and data science. This is part one of a two-part series, focusing on the requisite skills and technological advances driving current data science innovations.

An analytical arms race is disrupting the traditional insurance company business model and changing the imperatives for success. Predictive modeling is steadily expanding, reaching beyond merely being a tool for product strategy to becoming an integral function within a new data and analytics-based business model.

Necessary Skills

Since introducing predictive models to personal auto insurance more than 20 years ago, insurers have gradually expanded their use of predictive models to other insurance lines and applications. The three most common predictive modeling applications are underwriting/risk selection, evaluating fraud potential, and deciding when to order reports (such as credit), according to Willis Towers Watson's 2015 Predictive Modeling and Big Data Survey.

Additional applications in the ranking include: premium auditing, advertising strategy, claim triage, underwriting expense efficiency, determining litigation potential, agency management/compensation, loss control and agent placement/distribution management. Released in February, the report's conclusions were based on the responses of 61 North American property/casualty insurers.

Capitalizing on the new technological landscape requires a team that possesses three primary skills sets. The first is data hacking, which in this context does not refer to criminal activity but describes the mindset to develop solution-yielding approaches. Hacking skills include data sourcing knowledge, capabilities in

data assembly and management, and experience in scrubbing and extracting information from raw data.

A facility in contemporary analytics tools built on new era math and statistics is the second necessary skill. These include Generalized Linear Models (GLMs), Classification and Regression Tree Analysis (CART), machine learning, data visualization, etc., that permit deeper insights into relationships evidenced within the data. However, access to infinite data and statistical prowess is not enough to build a truly analytics-based insurance company. For that, the third skill is required: contextual knowledge, referred to by some as domain knowledge, which includes full appreciation of insurance risk.

Context is the deep knowledge of the critical nuances and complexity of insurance that assures a focus on relevant data rather than data for its own sake. No one can adequately and effectively analyze a set of data without fully understanding its context – the environment from which it emerged. Context, for example, is necessary for considering how the predictive models should be developed for appropriate decision-making and what will happen if the external environment or the internal incentives of the decision makers change.

Finding analytical professionals with the skills and knowledge required for becoming a truly analytics-based insurer differ from traditional business skills primarily because of three incredibly rapid technological advances. First, the cost of computation and data storage is no longer a significant part of the strategic calculus. Thanks to low-cost cloud servers, insurers can gather, retain and manage massive amounts of data.

Second, data sources are plentiful and growing exponentially as monitoring devices have become ubiquitous. Automobiles will allow insurers to capture location, acceleration and speed a dozen or more times a second and analyze how usage translates into accidents. By deploying drones, home insurers can capture roof condition before and after a storm to settle damage claims.

Third, the tools and applications to assemble, manipulate and analyze data are better than ever and continue to improve.

Summarizing and segmenting data is no longer necessary to make analysis manageable. Transactional-level data, even in volumes measured in terabytes, works with today's predictive models.

Technological change has been significantly profound. It has even shifted the focus of statistics away from traditional sampling theory since an entire population can now easily be analyzed. State-of-the-art applications and contemporary programming languages such as R and Python allow insurers to handle very large and complex data sets, perform analytics, create meaningful data visualizations and build quite effective predictive models.

Further, analytic models are also changing, from merely descriptive to predictive and ultimately, to prescriptive. Claim triage applications, for example, are prescriptive because they analyze the attributes of a claim when it is reported and recommend the appropriate adjuster based on their experience and expertise.

Conclusion

The availability of big data coupled with technological innovation are disrupting the traditional insurance company business model, moving it to one driven by analytics. Since data scientists and actuaries generally bring different skill sets to an analytics team, they will need to cross-pollinate until individual professionals can offer all three skills necessary for successful analytics: data hacking, modern statistical prowess and intimate insurance knowledge.

A discussion on some of the challenges insurers will face in incorporating these skills in their everyday operations follows in part two of the series



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