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Hugh Miller
Principal, Taylor Fry, FIAI

A CERA working in wider fields

What was it like when you started work?

When I started at Taylor Fry we did a lot of traditional general insurance work: valuations and reserving, which is a really good way to get started and learn technique. We also did a little bit of analytics, a lot of which was for the insurance sector and also broader financial services. Over the past few years it's been that analytics side which has grown quite rapidly and we do a lot of analytics work in insurance but we also do other areas now as well, which is quite fun, for example environment and tele-communications as well as a lot of loyalty work.

Any recent milestones?

A few years ago QANTAS airline took a stake in Taylor Fry and I think that was because they viewed that we (Taylor Fry) would be a useful adjacent business to them. They have a lot of data, information and analytics because they have such a large customer base and they've got a huge loyalty program. The view was that we would be able to add value to them by doing a lot of high end modelling, building on the data sets they already had.

What type of work do you do?

Taylor Fry does a lot of social sector work and that's actually where I've spent most of my time doing work in the past few years. Social sector work is basically analytics for government, is how I think about it. There are lots of government programs: welfare, housing and disability,

where they are spending a lot of money and are asking the question well how are we spending? Are we doing that well? Are there things we should be doing more of? There's a lot of modelling and projection work that can go on and add value to this line of work as well.

How do you use data sets?

It's a real privilege being able to see really interesting data sets and consider questions about and understanding how disadvantage works. One of the big trends is that you are able to link data sets together now in ways that perhaps haven't been done in the past. When you talk about achieving employment outcomes for people, it's impossible to talk about that without also understanding how people are moving through the justice, health or disability systems. Understanding disadvantage is actually one of the key questions and one that government is getting better at.

What growth areas are there?

One of the growth areas is what they call social impact investment and the question is: well if instead of just paying for a service (just paying for something that we've always paid for) in terms of having employees that deliver programs to people, how about we try and pay for outcomes instead? We could take third-party providers and say we'll pay you for every person you get into employment or we'll pay you for every homeless person you get off the street. Changing the emphasis from the delivery to the outcome is actually

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quite big and generates quite a lot of innovation both in how you deliver and set up programs but also the programs themselves and understanding what works for different types of people.

Do you enjoy your work?

I did a PhD in statistics many years ago, which was really fun. One of my great frustrations when I was doing it, is that you get a lot of time to develop new methods and techniques but what you don't get is access to interesting data sets. One of the real joys of doing the work I do nowadays is that I get access to, what I view as, some of the best data sets in the world, in terms of understanding what's going on in people's lives and trying to identify ways to make it better. That sense of making a difference is really one of the cool things about the job, which is why I try to do more of that, if possible.

Do you have any non-actuarial qualifications?

At university I studied pure maths, I did a PhD in statistics and now I call myself an actuary (most of the time) so I sort of characterized that as a slow descent into usefulness. Certainly the PhD in statistics means that I'm a little bit more confident when it comes to statistical design. Often when you get a new modelling project you have to think about what variables you want to model, how you want to set the models up and how you're going to link everything together. Having a bit of confidence on the statistics side, perhaps a little bit more than you get in the traditional actuarial education, is quite valuable and has been a benefit over the past few years.

What work challenges do you face?

Some of the challenges are the same. In government work we deal with people who deal with policy mostly, so often those are less technical people and you do have that challenge of how do you communicate and present results in a way that's meaningful for them and you don't overload them with numbers. That's common, I think, to most actuarial jobs but there are challenges unique to the work as well. One of those would be that you have to do a lot of background reading to try and understand some of the subject matter and, at the same time, recognize that people who have worked in the social sector for decades have a strong understanding of sort of the psychology and dealing with people and that's really a different sort of skill to ones that we traditionally need in the sector and certainly one that I don't pretend to be very good at.

What technical challenges do you face?

One of the other challenges is that our data and privacy is a hot topic and particularly government services where there is public accountability. The public does expect that our governments treat their data with respect. There are two elements of that: one is that governments are abusing and using the data in ways that people wouldn't think is reasonable, but, on the other hand, I think that people do expect that government use the data to make their services more efficient so by the time you filled out the same information on the tenth government form when you're moving locations you start to realise that government can be quite effective in terms of how they use and share their data. There's a challenge and opportunity there around data, governments and privacy but obviously treating that data with great respect and making sure you've got really strong security.

Do you have any contact with the public?

Some of our reports do get published publicly, sometimes a little email and press release and other times with big fanfare and that does raise the bar in terms of the quality of analysis we have to do and the quality of communication and reporting. I remember once a few years ago we'd accidentally used a dark grey bar on a bar chart to correspond to an ethnic group that had darker skin and that caused a certain amount of controversy.

How do your actuarial skills help?

There are lots of skills that I've learned in the actuarial framework, which are really useful. Certainly the ideas around the control cycle and how you think about a problem and set it up and making sure you've got the right accountability, scope and setup is really useful and something that I think gives us an edge over other types of researching and analysis that's done. That's been really useful and, in addition to that, a lot of the analytics that we were doing in the early days in the insurance sector is actually quite high-powered and that has been proven to be quite powerful when moving into other sectors as well.

Greatest future work challenge?

I love what I'm doing, so hopefully I'll continue to be able to do that in the future. There are always new things that I want to learn and explore as well and there are some technical things that are really exciting and I'd like to get better at. Deep learning is a hot area at the moment I'm doing some research in that, which is fun. I'm also keeping track of cloud computing and how that's all playing out so figuring out which sort of paradigms in cloud computing work will survive and win and then understanding how that translates into organisations and governments in terms of how they move their services and improve them over time will be really interesting. I guess, personally, I'll also have to get used to doing more management and helping other people do technical work, so that's certainly something that I'll be working hard on and hopefully getting better at in the future.

Is there an alternative to the CERA?

I think there's certainly a space there for an analytics credential, which is respected by the market. The opportunity is there for actuaries to get a foot in the door. One of the challenges is to have broad acceptance. You do have to think about how inclusive you want to be in terms of analytics professionals who don't have quite the same level of actuarial training and whether they can be included under such a banner.

What challenges are there to the code of conduct?

Certainly one of the challenges is that the existing professional code that we work with assumes that actuarial advice is fairly distinct units of information. You sort of have a specific question that you're answering, you come back with a specific answer and you can put the appropriate sort of inputs, reliances and limitations around that. That's what the code is designed to do and does that well at the moment. One of the questions as well is what happens when information and advice get a little bit squishier? When it's provided in more real-time or when it's more integrated into a workflow for a government or a business whether the same strict standard of actuarial advice still apply.

How can the actuarial profession improve?

For government work there's no divine right for actuaries to have the roles they do. In social sector, welfare and housing there are lots of actuaries working that space but there's no reason why it has to be an actuary and not a statistician or an academic. For whatever reason, actuaries have lucked into that role and there's certainly a little bit of work there to be done to promote and expand the brand. The Institute plays a role in highlighting that and promoting brand actuary. On the education side it's a bit trickier. There's always room for more analytics and technical skills in the education but there's always a question of how much do you do and how do you do it. Whether you can ask education to deliver everything or whether you accept that there'll always be something you have to learn outside of that when you're talking about niche or growth areas in the profession.