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Peter Withey
President, 2018-19

Presidential PERSPECTIVE

Message from the ASSA PRESIDENT



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Patron : Peter Withey
Editor : Mike McDougall
Pictures Editor : Jo Coetzee
Society News : Wim Els
Student News : Jeanine Wilson and Learoy Alcock
Design & Layout: Vegiah Design



Editorial

Mike McDougall (Chief Executive)

South African actuaries are awesome and widely respected around the world. This is not the jingoistic ramblings of a patriotic zealot, but is a theme that reverberates through many gatherings of actuaries. South Africans hold leadership roles in many of the IAA (International Actuarial Association) thought development committees; from banking to micro insurance and data science. This was further emphasised in the recent International Congress of Actuaries, where it was not unusual to hear actuaries from Europe and USA referencing South African organisations and South African actuaries when they were looking for examples of innovation and actuaries who do things differently.

When looking for examples of actuaries being awesome and earning respect, it is easy to focus on innovations from the leading and emerging corporations and larger consultancies. However, this would ignore the efforts of the smaller consultancies that are carving their niches in the local actuarial landscape by doing new things or by doing things exceptionally well. Those organisations rarely capture the headlines, but diligently work each day to serve their customers and uphold their professional promise.

This edition of *South African Actuary* has given some independent consultancies an opportunity to tell their unique stories. It takes passion and courage for actuaries to move out from the protective umbrella of a major financial services group or a large consultancy to establish their own company or consultancy. Some start in response to a particular market opportunity (say, the UK pension review work 20 years ago) while

others are driven by the desire to do things new or better.

The actuarial profession grew out of someone asking the questions: "What might happen?" and "How do I protect myself when that happens?" It is easy to become embroiled in the mind-numbing tedium of implementing regulatory changes and statutory reporting which, although essential, divert attention from the greater scope we have to do great things and ensure effective sustainability. As we continue in a time with significant current

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regulatory changes going live and the beast of IFRS 17 no longer on the horizon but on the patio, it is important that we do not lose scope of our higher purpose as a profession. It is here that the academics help play a significant - though not always practical - role. With the growing size of university classes, many mainline academics find they are more involved with teaching and student support than they have ever been before. It is here that the researchers and emeritus professors come into their own - combining decades of experience and wisdom with time to either work independently or with their graduate students to take our minds where they have never been before as they pursue their research unencumbered by anything other than the bounds of their minds and the university budgets. It is in context that we salute the tireless work of Rob Thomson.

In acknowledgement of Women's month, this edition caught up with two women actuaries who have made their mark - Karabo Morule and Waheeda Narker. 



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Karabo Morule

- World Economic Forum
Young Global Leader

What attracted you to the actuarial profession?

Karabo: One of the things I really appreciate of my parents is the schools I attended in building my self-confidence to play a significant role in the whatever I do. I attended high school at Roedean School; it is an opportunity I really appreciated and will forever be thankful for. In terms of what I wanted to be when I grew up, I wanted to be a judge, and then at some point I wanted to be an engineer because my exceptionally smart cousin was one and I wanted to be like her. According to my mom, I also wanted to be a firefighter at one stage. I don't remember, but I was never the type to be restricted by gender norms, or at least my formative years never boxed me into gendered roles. For example, I hated the colour pink because of its restrictive association with girls. It was at a school-arranged careers evening event that I heard of actuarial science. The actuary who was at the event spoke about how it the qualification gave a person a well-rounded business and commercial education and in particular, a proclivity to managing risks and he also highlighted the mobility opportunities one could have with a globally recognised qualification. Since I also love travel and wanted to experience working elsewhere in the world, I was hooked.

Then off to UCT.

Karabo: Yes, my brother was there already and there was an appeal to living in res, since my parents said that if I went to Wits, I would have to stay at home to save on the cost of fees. I was exceptionally fortunate to have been selected for a bursary from Old Mutual, a company always held in very high regard by my whole family, but Mr. Ray Cadiz offered me a scholarship and I did not have to work for him after graduating, unlike what is customary with all bursaries. So I had a difficult conversation with Old Mutual and took the offer. I asked Mr. Cadiz if I could do some vacation work experience so as to retain the employability benefits that come with the association with a large insurer which I had now given up. In my final year, with nine of the 15 examinations already passed, I

Karabo Morule is one of only two South Africans invited this year to join the World Economic Forum's community of Young Global Leaders (YGL). Invitees join a community and five-year programme that challenges them to think beyond their scope of expertise and be more impactful leaders. They are invited because of their ground-breaking work, creative approaches to problems and ability to build bridges across cultures and between business, government, and civil society.

So we caught up with Karabo, who matriculated from Roedean School in 1999 and qualified as a Fellow of the former Faculty of Actuaries and the Actuarial Society of South Africa in 2006.

attended a winter internship programme with a management consulting firm and was offered a permanent position. But I decided to rather pursue a postgraduate diploma in actuarial science at UCT, financed with a bursary-type loan, so that I could try and attain my qualification before going into the world of work fulltime. I was also tutoring while finishing off.

And then you went back to Old Mutual?

Karabo: No. I started at JPMorgan in Johannesburg, through their graduate programme, as an analyst in the team which markets equity derivative structured products to institutional investors. It involved pricing structures, drawing up term sheets and product presentations and back-testing products, using the data from Bloomberg. The programme entails also going to New York for two months for analyst training with other graduate recruits from all around the world. The programme was great as one had the opportunity to rotate into roles in New York or London on secondment, it was fantastic.

Then it was off to London for three-and-a-half years, during working in the Insurance Securitised Products team, still with JP Morgan. Apart from structuring and distributing insurance linked securities, I was involved in general pitching on other mortality/longevity related transactions, natural catastrophe bonds and embedded value securitisation. We were concentrating on longevity risk, which was a big thing in the UK at the time and we played around with the concept of a bond to manage that kind of risk, but ended up opting for a swap instead. To come up with such a mechanism was the benefit of having worked in a derivative space.

And then you followed the Soccer World Cup to South Africa.

Karabo: Kind of. I'm not that serious about soccer, although I am a Kaizer Chiefs supporter. And I love Formula One and tennis. But during my term in London, with exposure to the African diaspora community over there, I developed an enhanced appreciation for African cultures.

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And I like travelling to francophone countries to practice my French. This is something still dear to my heart. I returned home shortly before the 2010 World Cup, and that was when Old Mutual, through Ralph Mupita, offered me a position as Strategy and Marketing Executive in their Retail Affluent Segment.

Which led to the Corporate Segment and, eventually, the Personal Finance Segment.

Karabo: Yes, I started off in the Retail Affluent Segment, then became General Manager: Member Solutions in the Corporate Segment, followed by General Manager: Corporate Customer Solutions and, eventually, Managing Director: Personal Finance Segment. The Personal Finance segment was a part of the segment previously known as the Retail Affluent Segment and serves the middle-income retail market with financial solutions, which Old Mutual provides in the areas of savings, investment and insurance. I am accountable for leading the business, building the culture and delivery of results. I now serve as a member of the Old Mutual Limited Executive Committee as well. Insurance is a social good, and working in traditional insurance has groomed my passion for personal investments and savings.

Who stand out as major mentors or supporters during your career thus far?

Karabo: I am blessed to have a mother who prays for me all the time. Other major mentors have been those who I have worked with and people who mentored me directly to be a better professional – most of them have been my line managers but one also learns a lot from fellow

colleagues. I am very appreciative of my formative (work) years at Cadiz and the other places at which I interned, and my colleagues at JP Morgan too. I have learnt a ton of things about leadership and innovation at Old Mutual. I have learned to take every opportunity as a learning opportunity and I also try and read voraciously about business, leadership and customer centricity.

If you could give one piece of advice to today's students, what would that be?

Karabo: Try and embrace every aspect of the actuarial profession in some way, especially in considering your fellowship subject. And also understand how what you learn can be applied to the real world. And put in the work (and try and maintain a balanced lifestyle) but don't get despondent if you want to qualify and are not passing the exams in the cadence you want. For me, my practical experience in my first year of work at JPM played a big role in enabling me to qualify so there is something to be said for practical experience and diversity in those experiences. Also, learn about the legacy products – there is something about what many people want today which can be found in those products but one must also learn about why they fell out of favour to enable us to innovate and make them relevant for the modern world.

You are the second African South African woman to qualify as an actuary. Your views on transformation in the financial services sector and, in particular, the actuarial profession?

Karabo: Transformation of the financial services sector is critical to ensuring that we achieve an inclusive economy in South Africa given that segregation was legislated under Apartheid; this is core to the future sustainability of our country. We all need to work to achieving a country which is representative of its people at all levels of the economy and in Corporate South Africa in particular. Actuaries play so many roles in society and so ensuring we have the diversity in input and experience is key to the influential role we play in society.

You have received numerous awards and accolades. Pinnacle Women Magazine identified you in 2014 as one of 20 women to watch over the next 20 years, and the Mail & Guardian recognised you as one of their 200 Young South Africans in the same year. What does the Forum of Young Global Leaders (YGL) mean to you?

Karabo: It is a real privilege to have been selected to form part of the YGL class of 2018. In the short time I have been exposed to the platform and the network it provides, I have certainly had my horizons expanded and it has made me think differently about the impact one can have on the world. A fellow YGL is Felix Maradiaga who has dedicated himself to strengthening peace, democracy and the rule of law in Nicaragua and has been brining attention to the worsening political climate and human rights violations there, and has been physically attacked for his work. Another YGL in the same field of politics who is located closer to home is Lindiwe Mazibuko who is a co-founder of Apolitical, a platform to help public servants innovate and lead by connecting them to smart policies and the people behind them. The five-year programme run by the Forum of YGL will also provide me with an opportunity to attend top universities such as Harvard, Stanford and Oxford, as part of personal development and take part in key summits and I look forward to growing my impact as a leader. What is really close to me and to the work I hope to achieve leveraging the platform is what can be done to ensure our continent participates wholly in the Fourth Industrial Revolution – cognisant of the infrastructure deficit we have and the urgency to address that to spur growth and development. Financial inclusion is a topic which is also very close to my heart and I think the actuarial profession has a big role to play to enable financial inclusion across all income levels, and in particular higher levels of savings, long term savings in particular to support closing the infrastructure deficit mentioned before. 

Make a Difference THROUGH RESEARCH

ASSA Research Grants

ASSA provides financial support for research projects in actuarial and related areas, particularly with reference to the South African context. The main criterion is that the research is expected either to be of practical relevance and value to the actuarial profession, or it contributes significantly to actuarial knowledge. Particular emphasis is placed on the application of actuarial techniques

ASSA Research Prizes

There are five sponsored prizes offered by ASSA, with the intention to encourage and recognise research being produced. Prizes are awarded annually for:

► 1.

Published research. This prize is sponsored by RGA. The prize recognises research articles that have been published in a peer-reviewed journal in the previous calendar year, such as the South African Actuarial Journal (SAAJ).

► 2.

Papers presented at the Annual Actuarial or Practice Area Conferences, or at an ASSA Sessional Meeting. There is one prize for the best paper, and another for the best paper by a first time author. Both these prizes are also sponsored by RGA.

► 3.

For these papers, there is also a further prize available for the best paper on Risk or Reinsurance. This prize, sponsored by Swiss Re, recognises a meritorious paper on reinsurance, generally, or on the assessment, modelling and/or quantification of either life or non-life risks.

► 4.

Lastly, Discovery sponsors the prize for the best honours research assignment at a South African university.

These prizes include a cash component of R15 000, for the best published paper, and R12 500 for all the other prizes. In addition, these prizes also provide a contribution to the expenses authors may incur when attending a local or international conference, or in the case of the best honours prize, a contribution

“Thought leadership”

That is one of the objectives of the Actuarial Society of South Africa (ASSA) and maintaining a strong research function crucially contributes to helping ASSA achieving this objective. Two of ASSA’s initiatives to encourage members to get involved in quality research are to provide research grants and to recognise outstanding research through the various ASSA research prizes.

to new areas and to those of current social concern. The grant is contingent on intention to publish the research.

Please contact Robert Maxwell, the Chair of the ASSA Research Committee, per e-mail at robert.maxwell@nwu.ac.za or telephonically at either 018 299 2502 or 083 563 6702 for more information.

to assist in funding masters and/or doctoral degrees. A contribution of up to R40 000 is available for the honours prize and up to R50 000 for all the other prizes.

Historically there were normally a reasonable number of research papers that were presented at ASSA’s Annual Convention every year. Unfortunately, that was not the case in 2017, where only one paper was submitted. Roseanne Harris, in her final ASSA presidential newsletter in 2017, stated that this may be related to the change in the nature of the Convention, but there was a real need for properly researched information in the public domain to assist both policy makers and the public in making informed decisions. Roseanne also stated that ASSA is busy trying to address the challenge to establish a culture of rigorous non-commercial research.

Rob Rusconi in his 2016 editorial in the South African Actuarial Journal, argued convincingly that with a five-percent redirection of our actuarial research, the profession could meet Paul Lewis’ call to action for the South African actuarial profession to fundamentally change the way we see ourselves and the role that we play in society. In his latest editorial, Rob argued that for the actuarial profession to contribute meaningfully to the public interest high-quality and meaningful research is crucial.

Hopefully 2017 was an outlier and the ASSA research grants and prizes would encourage more members to either get actively involved in research or to modify company-specific research into research for the public domain ... and maybe bag the obvious bragging rights that comes with the winning one of these prestigious research prizes. 📌

Rob Thomson: Academic and Researcher

What attracted you to the actuarial profession?

My father was assistant general manager of the Old Mutual in the 1960s, so I got life assurance over the dining-room table. He had started actuarial exams but he didn’t finish, largely because of the war. So I wanted to pick up where he had left off.

And now my grandson Jadon is entering the profession and I’ll be passing the family baton to him.

What do you enjoy most about being an actuary?

I enjoy curiosity-driven research. Actuarial science is an interdisciplinary subject with great scope for research.

You were a partner in one of the first actuarial consulting firms. How did you become involved? Tell us more about consulting in those early days.

I was on the staff of the Chamber of Mines in the late 70s and early 80s. But I was frustrated with the slow pace of change in the mining industry, and with my own lack of involvement in the actuarial function, which was undertaken by JA Carson and partners. So I accepted a job offer from them.

Carson’s was an old-style partnership. There was no limitation of liability. We wouldn’t accept commission from underwriters of group life cover; we would charge our clients. We all belonged to the Rand Club, though I resigned when the Club decided not to accept women members. We were not allowed to sit down with clients of other actuarial firms. We didn’t undertake any services other than what we regarded as actuarial. That included arranging interviews with prospective investment managers, but not investment management per se, nor administration.

All this made us quite vulnerable to take-over by companies envious of our huge client base. In addition, I think we were overcharging for our services. I said as much to my partners and their response was that I

was free to use my own share of the income for involvement in civil-society advocacy. We had been participating with Shepley & Fitchett and Malan & partners in the setting of standard fees. We weren't supposed to be "competing" with each other. But when we saw that the professions were going to be subject to regulation against anti-competitive practice we stopped using standard fees. Nevertheless, our fees remained high.

At this time I was becoming involved in the Methodist Order of Peacemakers, marshalling anti-apartheid marches, participating in anti-apartheid demonstrations, standing on the streets in solidarity with people who had been evicted from their homes, opposing conscription and generally making a nuisance of ourselves. Carson's let me work a four-day week (and adjusted my share of net income) so that I could engage in these nefarious activities.

When conscription ended the End Conscription Campaign held a celebration. Mandela attended and acknowledged the role of the ECC. But some of us were concerned that the country was now highly militarised. We needed a society transformed by demilitarisation. So at the ECC event we decided to set up an organisation, which we called the Ceasefire Campaign, to advocate for cut-backs on military spending and arms production, and for the demilitarisation of South African peace activities in the rest of Africa. We were committed to nonviolent resistance. Our first campaign was during the 1994 elections: "Use the ballot, not the bullet". I was also involved in an organisation called Peace Action. We used to take statements from residents who had been attacked by third-force militants. A couple of times I found myself at the wrong end of rifle fire: once from a migrant hostel and once from police. I pay tribute to Carson's for letting me engage in these activities. But ironically the only time I was arrested was for disobeying police orders whilst participating in a demonstration against Shell's activities in Nigeria. Some of my students saw television footage of my arrest, so I soon achieved notoriety.

You were the first editor of the South African Actuarial Journal. Please share one or two highlights from your term as editor with us. (We had to rephrase this one. We had this as "Would you share ...?" and then anticipated a "Yes.!")

The best part about editing the Journal was the privilege of writing editorials and of having editorial independence to do so. The discipline of having to think about and articulate where actuarial science was going was very stimulating.

There was also an interplay between editing the Journal and giving guidance to students on how to go about their research and how to write it up. The guidance that I drafted for authors of articles for submission to the Journal was equally relevant to honours and masters research. I was unashamedly pedantic about English usage.

Many regard you as the doyen of actuarial researchers. What drove you into research and what would you advise young researchers?

The impetus for my involvement in actuarial research was the influence of Heather McLeod, who joined Carson's while I was there and was interested in stochastic investment modelling. She referred me to papers on the subject by David Wilkie and A.J. Wise. Suddenly actuarial science became alive for me. I began to see the profession as research-led. I realised that Carson's needed to do research. So I got my partners to allow me to spend a day a week on research. (This was in addition to my unpaid day-a-week on civil-society activism, but this time it was paid.)

In the early 90s Ginsburg Malan took over Carson's, against my vote. Amongst other concerns, I was concerned that there would no longer be an interest in actuarial research. Anthony Asher came to the rescue in inviting me to apply to join the Department of Statistics and Actuarial Science at Wits. When I asked Cyril Ginsburg whether I should accept the invitation, he enthusiastically endorsed it; one less mouth to feed. I guess it was

My advice to young researchers is to explore the edges of the actuarial paradigm. Try a little off-road cycling beyond the ruts of established actuarial practice. I have dealt with some aspects of the actuarial paradigm in my editorials in the Journal.

the client base that mattered, not the number of actuaries employed. So I have both Anthony and Cyril to thank for entering academia. At Wits I could spend about half my time on research.

My advice to young researchers is to explore the edges of the actuarial paradigm. Try a little off-road cycling beyond the ruts of established actuarial practice. I have dealt with some aspects of the actuarial paradigm in my editorials in the Journal.

My second piece of advice is that every statement they make in their research articles should have the backing of at least one of the three sources of authority: the literature, the data and the argument.

In the past many actuaries have been intimidated by the technical rigour and complexity of much of your research. In more recent years your research appears to have become more visionary and conceptual while becoming less technical. Has this change been intentional?

Maybe I'm getting older. But as my editorials suggest, I have been asking some of the big questions.

In 2012 Taryn Reddy asked me to supervise her master's research. After some discussion we settled on the triple bottom line: the idea that entities (both private- and public-sector) should not just report on their financial bottom lines, but on their ecological, social and economic bottom

lines. We found that talk of a triple bottom line was largely metaphorical; there were no scalar measures of the ecological and social bottom lines and economic bottom lines ignored externalities. We wanted to define such measures and then model them to assess the ecological, social and economic sustainability of an entity's activities in the future. Soon we realised that this was not just a master's dissertation; it was a doctoral thesis. It was a big question. It has necessitated a huge amount of reading in ecology, sociology and (social and) ecological economics, and in current thinking on sustainability, accountability and reporting. That's what my focus is on now. It's certainly going to involve some mathematical formulation; I haven't given up on that.

What attracted you to academia?

Research. I'm a bad teacher. And I certainly didn't go to Wits to get involved in admin.

How would you like your students to remember you?

I would like them to remember me as a challenging thinker.

What are your views on transformation of the Actuarial Society?

I would like to see transformation defined in terms of our effect on the biosphere, on human well-being and on the economy. In all three domains, South Africa—and in fact the world—needs a paradigm shift. That is not to detract from the need for broad-based black economic empowerment, in fact it includes that; we need radical change in all three domains. Actuarial science is an economic science.

Part of the world's problem lies in the dominance of neo-classical economics and the power of neo-classical economists to advise on policy at the macro-economic level and to influence corporate thinking at the micro-economic level. We are educated to accept neo-classical economics as our definitive paradigm. That must change.

What do you regard as the main challenge (or challenges) facing the actuarial profession in South Africa?

To my mind the main challenge is to reconsider the roots of actuarial science. When we model the assets and liabilities of an institution we need to embed that model in a model, or at least a scenario, of the state of the biosphere, of human well-being and of the economy. I used to argue that we should not try and model the whole economy because it's just another source of variability; after a few years the inclusion of exogenous variables at time 0 would not affect the intrinsic variables such as investment returns on various asset classes and inflation. That assumed an ergodic economy; one whose future would look like the past. But now, as I argued in my last editorial in 2013, we know that the future is not going to look like the past. And the future of the economy will be dependent on the future of human well-being, which in turn will be dependent on the future of the biosphere—the ultimate sine qua non.

In constructing these models we must not be drawn into the error of treating everything as part of the economy. That's what the neo-classical "environmental economists" have done by trying to put a price on everything. I ask them: "What is the price of the Earth?" In ecological economics, by contrast, the economy is treated as a subset of human society, which in turn is treated as a subset of the biosphere.

What matters about the biosphere is life. So we need to model the biosphere in terms of a scalar function of its indigenous biodiversity (i.e. the complexity of life) and its indigenous biomass (i.e. the abundance of life). And we must attribute changes in the biosphere to the effects of the activities of entities (both private-sector companies and public-sector agencies). For this we need to formulate both the measures (for the purposes of monitoring and accountability) and the models (for the purposes of time-series modelling to test the ecological sustainability of each entity).

Per-capita GDP is a bad measure of human welfare; it either disregards what happens outside

of the market economy or attempts to treat such things (like human rights and social relationships) as if they were for sale. And it places much more value on the wants of the wealthy than on the needs of the poor. What matters about human well-being is the satisfaction of universal human needs. So we need to model the well-being of the stakeholders of an entity in terms of need-satisfaction. Once again we need measures and models. Unlike the neo-classical economists, we must distinguish needs from wants, we must recognise the diminishing marginal value of income not only as in micro-economics but also in macro-economic aggregates, and we must recognise the boundedness of well-being at reasonable levels of sufficiency, so as to respect the limits imposed by a finite planet.

What matters about the economy is not its ability to produce human welfare, but its ability to produce goods and services. Whilst we still need to measure the production of goods and services, the measurement of human well-being is more important than that. So is the measurement of the state of the biosphere. Human well-being will depend, inter alia, on the state of the economy, so we need the economy if only for that purpose. And companies must add value. However, we must adjust the value added by an entity to allow for externalities (mostly cost-shifting) in order to reflect the true effects of its activities on the economy.

Besides measuring and modelling the effects of each entity's activities in each of our three domains, we shall also be able to measure and model the effects of individual products through their lifecycles from resource extraction to consumption. And we shall be able to measure and model the effects of each dollar of investment in the capital of entities. All three levels—entity level, product level and investor level—will add up to the same total in each domain.

It's a big undertaking to formulate all this, let alone to parameterise the models and to implement them in practice. For some of it we'll have to rely on other professions. But I think it's the way ahead. 

10 YEARS of the ACTUARIAL GOVERNANCE BOARD

The turn of the century saw an upsurge in consumer activism. The collapse of Equitable Life, the oldest life insurer in the United Kingdom, intensified the spotlight on the financial services industry and the actuarial profession.

Locally, the "actuarial black box" was being questioned as well, especially by trustees and members of retirement funds. Janina Slawski, President of the Actuarial Society in 2004 and 2005, was a key figure in initiating discussions on an external body that would exercise supervision over the professional conduct of actuaries.

Jeremy Andrew initially led the task team that looked into the establishment of such a body. He was succeeded by Judy Faure. Garth Griffin led the task team during the final stages. The Annual General Meeting still formed part of the Convention in 2006, and a number of amendments to the Constitution of the Actuarial Society were accepted at that meeting. This provided for the establishment of the Actuarial Governance Board (AGB), an independent supervisory body with specific responsibilities for matters relating to the professional conduct of actuaries.

The AGB is structured to be independent from the Society's Council, as the majority of its members are appointed by bodies external to the Society, including the South African Institute of Chartered Accountants, the General Council of the Bar and the financial services regulator. Furthermore, the mandate of the Board is embedded in the Society's Constitution.

In summary, the AGB designs the Society's disciplinary procedure and monitors the efficiency of the implementation thereof, and it

Being helped to learn a new field by a group of outstanding men **with their very different expertise and experience was a fascinating experience.**

have to approve the Code of Conduct. It may also look into and make recommendations on any matter that may affect the reputation and stature of the profession, e.g. professionalism aspects of education, CPD, transformation, etc.

After a lengthy appointment procedure, the AGB met for the first time on 15 August 2007. Its first priority was to redevelop the Society's disciplinary procedure. Major deficiencies identified at the time included –

- Investigations taking too long to be completed;
- Limited access to potentially relevant information during investigations;
- Inadequate resources;
- Technical loopholes that may be used to frustrate an investigation, and
- The extent to which members of the Society are formally required to commit that they will abide by its procedures.

Reg Munro chaired the first AGB. The other members were Mr Justice Ralph Zulman (appointed by the GCB), Prof Philip Sutherland (appointed by the then FSB) and Mr Tom Wixley (appointed by SAICA). The terms of the first members were staggered to ensure a gradual change in membership.

"I felt very honoured to be entrusted with a key role in this breakthrough development for the profession," Reg recalls. "Being helped to learn

a new field by a group of outstanding men with their very different expertise and experience was a fascinating experience. Tom Wixley, Philip Sutherland, Judge Ralph Zulman and Wim Els made the first four years great fun as well. Their contributions were enormous. We also learned lots of interesting stories about the Jockey Club!

“As the years passed, Louis Wessels, TN Aboobaker and Christo Geyer, the new Chair, maintained the standard that was set.”

Reg remembers the months spent working on the disciplinary procedure as frustratingly detailed sometimes, but Adv Willem van der Linde’s insights into arbitration closed the getting evidence loop.” Discussions with Prof David Butler led to the Actuarial Society becoming the first actuarial organisation to include arbitration in its disciplinary procedure.

He is disappointed at the AGB’s inability to speed up the disciplinary procedure. “It still appears to take too long to deal with actuarial misdemeanours, but that’s partially because of our National Constitution’s focus on procedural justice. At the same time, ASSA’s low numbers of complaints compared to other professions was a source of pride.”

The revised disciplinary procedure came into operation in January 2012.

The AGB played a significant part in the finalisation of the Code of Conduct for members of the Society, which was issued in June 2012, as well. Council approved recommendations by the AGB that By-law 3 be amended to remove the automatic termination of membership where compliance with the Society’s CPD Scheme has not been confirmed. At the recommendation of the AGB, Council also reopened the investigation into actuaries’ involvement in pension funds that exercised the Ghavalas Option.

The AGB regularly meets with the President and President-elect of the Society, as well as office-bearers like the Chair of the Professional Matters Board and Disciplinary Committee. It followed the introduction of the outcomes-based CPD scheme with interest and encouragement.

At the same time, ASSA’s **low numbers of complaints compared to other professions was a source of pride.**”

The AGB is currently finalising a revised and simplified disciplinary procedure. Christo Geyer, who succeeded Reg as Chair, believes the changes will significantly improve procedural and professional aspects. “The Disciplinary Committee has done sterling work under the existing framework, but there have been a number of inconsistencies and internal contradictions in the procedure document. Whilst there have not been high-profile disciplinary cases the last few years, this strengthening of the procedural arrangements will enhance professional governance to the benefit of all our members and stakeholders.”

He adds that serving on the AGB is an honour, “and the contribution from my non-actuarial colleagues is immense. There are deeply insightful perspectives around the table from the legal and accounting professions, the regulator and in the field of ethics. Variety of opinion is valued and robustly exercised; we also actively seek broader diversity and may exercise the right to co-opt an additional member from outside the profession.”

Current members of the AGB are-

- Mr Christo Geyer, Chair** (FASSA, Council appointee)
- Adv TN Aboobaker** (GCB)
- Mr Dumo Mbethe** (SAICA)
- Mr Louis Wessels** (FSB)
- Mr Francois Marais** (FASSA, co-opted)

Apart from finalising the disciplinary procedure, the AGB is looking into issuing guidance for parties involved in the implementation of the disciplinary process, encouraging transformation of the actuarial profession and encouraging the strengthening of relationships at the appropriate level with regulators, especially in view of the introduction of the Twin Peaks regulatory model.

We conclude with the words of the first Chair of the AGB, “I wish the AGB a long and successful life in keeping our profession effective and honest!”

Annual General Meeting 2018: Points to Ponder

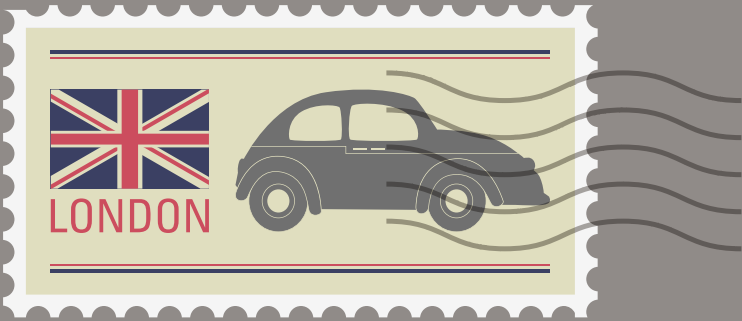
“Matters Affecting the Society, Not Requiring Special Notice” is a standing item on the agenda for the Annual General Meeting. It is one of those items that rarely take up more than a few seconds of attendees’ time.

This year was different, though. Points raised under this item included –

- The use of the President as default proxy.
- Why Student members do not vote at general meetings or for Fellow members on Council.
- Why so few members attend the AGM, and whether decisions taken at the AGM can be seen to represent the views of the majority of members.

A number of education-related issues were raised as well. If you have any views or comments on the points above, please send these to wels@actuarialsociety.org.za.

Waheeda Narker: LIFE IN LONDON



When she qualified in 2000, Waheedah Narker was one of the first 30 women actuaries in South Africa, and among the very first Black women. She has relocated to London, but has agreed to take time out of her busy schedule to share a few insights with her. We hope to continue this discussion at sessional meetings next time she visits South Africa.



How did you become aware of the actuarial profession, and what attracted you to it?

Waheeda: I was like many matriculants, unsure of what career to pursue having been encouraged to pursue a medical career (which would not have worked as I am squeamish when I see blood). I wanted a career that was intellectually stimulating, applicable to wider fields and that utilised my analytical skills. At UCT I became very good friends with a number of actuarial students and decided it was a career for me after an interview with Irene Petrony and Paul Tryens.

I never tried to be like a “guy” as I always believed I can maintain my femininity and still be an equal and earn everyone’s respect.

You were among a very small number of women in the lecture rooms. How did this make you feel?

Waheeda: It was not something I was particularly aware of, partly because I grew up with two brothers and was always surrounded by their friends. Our parents treated us as equals and encouraged us all to excel in what we did, respect everyone (regardless of race, religion or gender) and to never compare ourselves to anyone else. I am soft spoken but it has never stood in my way of being heard because I always believe if you prepare well and are passionate about your subject you will be heard. I never tried to be like a “guy” as I always believed I can maintain my femininity and still be an equal and earn everyone’s respect.

If there is one lesson from your days as full-time student that you would like to share with today’s students, what would it be?

Waheeda: Prepare well, be open to constructive criticism and lifelong learning so you can reinvent yourself when faced with changes in your life, work, industry and environment. It helps me to have a fulfilling career.

What was it like to switch from being a full-time student to being a full-time employee, studying part-time?

Waheeda: I felt the pressure of more responsibility, juggling multiple tasks and needing to invest in future product and proposition development. It was a steep learning curve and I quickly had to develop confidence in running meetings, public speaking, managing senior stakeholders and earning credibility. I learnt very quickly that senior colleagues in industry experienced the same (and still did), so if you need help reach out to colleagues (I have had many mentors over the years who helped me with both soft and technical skills).

How does working life today compare to when you started out?

Waheeda: My day is much more varied and interesting as I work in a wide range of areas (not restricted to pure technical actuarial, subject specific areas) across multiple geographies and need to draw on many skills in any one day. These are using my technical skills, strategic thinking as I need to be a few steps ahead of my clients, soft skills as I need to manage a range of people on my project teams and need to ensure I manage senior client stakeholders. The latter can be difficult both in terms of expectations and appropriate messaging/communication. In a typical day, I may be involved in reviewing a report, brainstorming new propositions with clients or within our company, have several client meetings which I need to prepare for both technically and in terms of communication, people management and then perhaps some client entertaining. I exercise daily to help relieve stress, do yoga and practice mindfulness to ensure I remain strong and healthy.

Tell us about the move to London, and what working there is like?

Waheeda: Moving to London was one of the best experiences of my life as I grew up having always been very pampered by my family in South Africa. It is a very vibrant, hectic, fast paced multicultural city. Work is very interesting as you work with a range of clients (small, large and multidisciplinary) and on projects across different regions (e.g. UK, USA, Asia, Europe). I work for a consultancy and we therefore need to always be a few steps ahead of our clients as they look to us for assurance or added value through thought leadership or expert opinions. We therefore invest heavily in ourselves and our propositions/products which means you get involved in very interesting, often ground-breaking projects which can be very challenging but rewarding when you see the benefits for the clients or industry. I also very much enjoy working with my clients and colleagues who come from many different countries, cultures and backgrounds and find it very fulfilling learning to get to know them and importantly from them,

as our success depends hugely on the diversity of thinking and collaboration as a team - it brings out the best in all of us. It is fun and rewarding!

How did your actuarial training prepare you for the work you are doing?

Waheeda: It has provided me with a good technical basis, strong analytical skills and the discipline (or shall I say perseverance) to tackle complex issues in a methodical way. While you study for your qualification, it may feel like a “prison sentence” at times but for me I feel it instilled in me a deep desire to seek out new knowledge and a curiosity to learn new things, which has the benefit of getting involved in interesting work ... a very fulfilling life and career.

And where are the gaps? What did you wish you had learnt, or been prepared for?

Waheeda: I think our preparation for working life could do with more soft skills training because as you progress in your career and with today’s ever changing (widening fields) working environment, it is more critical than ever to work well with people at all levels, assess situations quickly, bounce back from setbacks and to be a good communicator.

Any advice for today’s employed students?

Waheeda: Prepare, prepare, prepare – you will earn credibility! Be passionate about what you do and you will enjoy it. Always do everything with integrity, no matter how huge the pressure may seem at the time, as you will sleep well at night and it pays off in the long term. I’ve already mentioned being open to constructive criticism and to reinvent yourself as your environment changes as it will stand you in good stead to have a fulfilling and enjoyable career!

And a bit more about your life in general?

Waheeda: I am very close to my family who keep me grounded. I enjoy travelling to new undiscovered places to experience new cultures and ways of living. I love cooking, baking and trying new restaurants. I exercise 6 days a week (gym, walking, yoga) and am learning to play golf. I am like most girls and love clothes, shoes, handbags and nice perfume. I’m generally an easy going, positive, calm person who takes things in my stride. 🧘‍♀️

UPCOMING EVENTS

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IAA EVENT
– April 2019

Launching Technical Member of ASSA (TASSA) and importing Certified Actuarial Analyst (CAA)

Much has been spoken and written about the Certified Actuarial Analyst (CAA) qualification that was launched by the IFoA in 2014. It is now run by a joint venture set up between the IFoA and the American Society of Actuaries (SOA) and is growing its reach around the world with a particular focus on Africa and Asia. ASSA will be partnering with this JV to bring the qualification to South Africa.

We are also launching TASSA (Technical Member of the Actuarial Society) as a designation to recognise students who have made progress in their exams but are yet to achieve Associate or Fellowship status.

There has been a lot of discussion and confusion about CAAs, with some regarding them as almost actuaries and others seeing them as no more than office help. This article tabulates where TASSA's and CAA's fit in the actuarial hierarchy. 

	TASSA	CAA
Full title of designation	Technical Member of ASSA	Certified Actuarial Analyst
Are they actuaries	No	No
Might they become actuaries	Yes	No
Exams passed	All A100 and A200 series exams	CAA exams that cover 5 A100 and A200 level exams but examined at a less advanced level
Normative component	Foundation phase normative skills	CAA normative skills programme and ASSA's CAA admission programme
Target group	Junior actuarial students and actuarial students who no longer write exams	People who work alongside actuaries – underwriters, IT professionals, accountants, lawyers, etc.
Selling point	I have mastered actuarial technical skills but have not mastered the skill of integrating them that is required of actuaries	I am primarily a lawyer / accountant / underwriter / IT developer but have gained some rudimentary actuarial skills to help me be more effective in an actuarial work environment
If Fellow members are compared to medical specialists and Associates to GP's, where do I fit in?	A senior medical student or junior houseman	A pharmacist or prosthesis maker who has obtained some knowledge of clinical medicine

page

SPECIAL FOCUS ON CONSULTING FIRMS

South African Actuary invited some independent consulting firms to tell us about their background and activities. Here, in no particular order, are their submissions.

- 1 Analytical Aspirations
- 2 ARGEN Actuarial Solutions
- 3 Percept
- 4 Dynamo Analytics
- 5 Matlotlo and Moruba
- 6 SolveCo
- 7 Robson · Savage

1. ANALYTIX ENGINE

ANALYTICAL ASPIRATIONS

Early career

I started my actuarial career in 1993 and over the last 25 years have had the privilege to work for great organisations and with some amazing people. Although my specialist exam was in general insurance I spent my early years working predominantly in life insurance with some exposure to healthcare. I later became a life statutory actuary before branching out into data science related fields. Despite moving into the then wider fields of banking and more recently customer and marketing analytics, I have always felt that my actuarial training has been invaluable in providing a solid base to approach analytical problems in a systematic way. Given the option of starting over I would without hesitation follow the actuarial science path again.

Having joined a large audit firm as a junior partner some 15 years ago I was tasked with finding synergies between the newly acquired actuarial function and the traditional audit base. From this grew a specialisation in credit risk analytics. We started by borrowing resources from our established life actuarial team and working alongside the audit function to review credit impairment models for the banking sector. Working alongside the audit function allowed us

over time to transfer domain specific knowledge about credit risk to the actuarial and analytical team. While credit risk work was considered wider fields at the time, this is now very much “traditional” with a large fraternity of banking actuaries and ASSA having pioneered a world first banking qualification path for actuaries.

Some banking insights when banking was considered wider fields

While working with large banks in the credit risk domain a number of key themes emerged:

- While their customer segment strategies may have varied the regulatory and accounting models of most banks overlapped materially. Within my credit modelling team, we were able to build a universal model which was able to replicate most of our clients’ modelling results with relative ease.
- In general data and data volumes presented bigger challenges than access to modelling skills. Being able to properly interrogate large datasets on existing IT infrastructure was often a challenge limiting the number of investigations and scenarios that could be pursued. Learning to manage the data life cycle with particular emphasis on staging was critical to successful analytical delivery.

Despite the universities producing ever more dynamic graduates the demand for experienced analytics practitioners far outstrips supply. In particular what I call the grey hair deficit presents challenges. Modern statistical software allows us to build models faster than ever before, yet most companies battle to build ecosystems that evolve to deliver materially improved customer experience and financial results. Instead large organisations often find themselves repeating early stage analytics development with the



Pravin Burra, Ceo

promise of systemic innovation remaining elusive. That said, some organisations appear to have material analytical advantage over their peers proving that the dream can be made reality.

Driving analytics successfully

In my opinion there are two critical elements to success. The first is a clearly defined problem or vision statement which is critical to create organisational alignment and buy in. Business must see and understand how analytics will practically create competitive advantage if they are to fund an analytics journey of a 1000 days. This is easier in the regulatory space where model development is often not voluntary. In domains such as customer experience where spend is not compulsory, the need to motivate investment of both effort and money becomes more important. Iterating through smaller use cases is often useful to develop a track record of delivering value. What is important is to put successful use cases into sustainable production so that further layers of value can be aggregated eventually leading to systemic advantage.

The second element critical to success is the vigorous application of governance and the actuarial control cycle. Nothing destroys faith in an analytical program more than a temperamental model. Proofs of concept are by their very nature hypothesis tests which may or may not deliver value. However once value has been proven, a concept should become sustainable reality.

Models must move out of development into deployment which must include continuous monitoring with supporting triggers for recalibration and rebuild. South Africa is a fast-moving competitive environment where a data driven strategy that worked yesterday may not work tomorrow. To be sustainable we must monitor data trends continuously and when appropriate revise both our assumptions and if necessary our models themselves. Application of the actuarial control cycle allows us to develop a suit of analytical assets which can then be leveraged to take the competitiveness of our organisations to the next level.

The “newer” wider fields

I subsequently moved out of credit risk to a large retail bank to head the customer analytics function. This included trying to better understand customers from their data as well as taking responsibility for marketing analytics. Like every large organisation our systems were not perfect, yet I was pleasantly surprised by the wealth of data that could be obtained with a little effort. While data may reside in legacy systems a few joins is all it takes to create holistic views on our business and customer universe. An open mind and a willingness to explore can often go a long way.

While my exposure to that point had been more in traditional statistics (think logistic regression and GLMs) customers and their behaviour are decidedly non-linear. We were able to test and implement a number of machine learning models which brought with them new discoveries both in terms of analytical approaches and the insights that they delivered. Over the recent past the analytical rigour of open source has improved tremendously. Where just 10 years ago open source was unstable we found open source packages included in languages such as Python and R to be well supported and stable on even big data sets running to hundreds of gigabytes. The added benefit obviously being that open source provides an immediate cost benefit.

In May 2017 the Economist featured a cover with the tagline “**DATA IS THE NEW OIL**”. Actuaries are in my opinion the well positioned to be the Oilmen of the Future.

The new new

Looking ahead I have finally taken the leap to start my own business focusing on my areas of passion being data and analytics. At the **ANALYTIX ENGINE** we hope to focus on helping analytics to power business value within organisations. We intentionally differentiated the word ANALYTIX as our focus is not just on model build but rather on the process to extract analytical value. In our minds this includes a number of considerations:

- Developing an analytical strategy that focuses on business use cases that deliver value while simultaneously creating the capabilities that will support the longer term analytical journey.
- Choosing the appropriate infrastructure to support the volume and velocity of data and analytics. In particular, Hadoop and cloud architectures allow rapid scalability of both data engineering and analytics. The supporting analytics libraries are often excellent accelerators if applied responsibly.
- Given ever increasing demand we postulate that management's time is best spend focusing on solving business problems. This is however only possible if they have a data and analytics factory that can be relied upon.
- Architecturally we believe that organisations need to develop their own API or toolbox culture so that over time their analytical assets can be quickly applied to new

opportunities as they present themselves eventually leading to the aspirational data driven organisations that we all read so much about.

The **ANALYTIX ENGINE** was started earlier this year. Having previously headed large teams, starting a small business is decidedly different. Initially not having people to delegate tasks to was an interesting take on reality. While it was very easy to register a business, finding a trading name that included reference to analytics and was sufficiently unique took multiple searches with the CIPC. On the plus side, as a boutique business, we do get to focus on the work that we love being data and analytics. Specifically, I have enjoyed a recent project in the telematics space where we developed a solution for a client from tracking device to analytics on Google Cloud. I have been fortunate enough to have now assembled a team including another qualified actuary as well as some engineers and statisticians with the appropriate skills to support our analytical aspirations.

Conclusion

In May 2017 the Economist featured a cover with the tagline "DATA IS THE NEW OIL". Actuaries are in my opinion the well positioned to be the Oilmen of the Future. To the aspiring actuaries of tomorrow, follow your dreams with enthusiasm and professionalism and you may be pleasantly surprised at where your career takes you. 🇿🇦

HEALTH WARNING: Education can be a poverty trap!

Help us help more children to escape the poverty trap.

Contact Paper Video (Chris Mills, 072 347 6154, chris@papervideo.co.za) or the Actuarial Society Educational Trust (Mike McDougall, 021 504 4651, mmcdougall@actuarialsociety.org.za) and make education a powerful catalyst for change in more children's lives.



ARGEN Actuarial Solutions recently won Batseta's Imbasa Yegolide award as the Actuarial Firm of the Year for 2018 which was adjudicated with a specific focus on the "Treating Customers Fairly" principles. SA Actuary took a deeper look into this pioneering firm to find out where they come from and how they see the role of independent actuarial firms in the actuarial business sphere today.

Over the last 15 years there has been an increase in the number of independent actuarial firms which has expanded the range of actuarial employers in South Africa. The major employer of actuaries still is the large life offices, followed now by the banks; but there is a growing number of new opportunities available to actuaries in smaller independent firms. ARGEN Actuarial Solutions is probably the largest of these independent firms in the employee benefit arena.

THE STORY OF TWO ACTUARIAL FIRMS

Francois Rosslee and Tommie Doubell established Genesis Actuarial Solutions in 2000. The firm was initially set up to do Pensions Review work for the UK through a network of South African actuaries. During the Pensions Review, Genesis contracted with about thirty actuaries to provide the services to the UK.



Around the same time, in 2004, Arthur Els started the actuarial consulting firm Arthur Els & Associates. With Arthur's experience in supporting large pension funds the business serviced the more traditional pensions actuarial market, with an emphasis on high quality individual service.

Genesis and Arthur Els & Associates merged in 2014 to form ARGEN Actuarial Solutions. The intention of this merger was to establish the necessary scale to be recognised as a main player in this market, without sacrificing the independence that was the hallmark of the original companies.

Tommie Doubell, Managing Director of ARGEN, acknowledges that the office cultures differed quite substantially (Rumour has it that the Hyde Park office moved away from strictly formal office attire around the same time when they started wearing shoes in the Kroonstad office!). However according to Doubell "It was not a difficult merger, we had the same work ethic and values across the respective companies, which is what really counts."

The value of true independence

Financial advisors in the UK who advised individuals during the late 1990's to leave their defined benefit pension funds and to purchase personal pensions policies (similar to a regular contribution RA in South Africa), were held liable for any losses suffered by those individuals as a result of that advice.

These losses were calculated, with the benefit of perfect hindsight, as the difference between the value of the policy and the benefit that the member would have accrued in their defined benefit pension scheme. This was clearly the perfect situation for members who enjoyed the advantage of both Defined Benefit and Defined Contribution benefits without the associated risk of either of them. At the same time, This scenario presented a nightmare to the product providers who needed to fork out millions and millions of pounds as compensation for “inappropriate” advice.

According to Rosslee this scandal provided a most useful learning opportunity in respect of the risks involved where the lines between commercial interests and independent advice become blurred.

“Actuaries mainly from Britain were employed to do the calculations. Although we were based in South Africa we still had to comply with the same quick turnaround as the UK-based firms. In today’s technologically-driven work environment it is amusing to recall how we had to courier the physical boxes of files to and from the UK. Our young students accumulated quite a number of speed fines as they rushed to the airport with their cars’ back seats and boots stacked with boxes of files that had to be returned to the UK. It was interesting work and gave us good exposure to the UK market and excellent insights into a large number of defined benefit fund structures.”

Exporting actuarial service

According to Rosslee the Pension Review project was an ideal opportunity to showcase the quality of our South African actuaries to an international market and to illustrate the portability of these skills across borders. These highly rated skills could further be offered at exceptionally competitive rates as a result of the Rand/Pound exchange rates.

Technological advances made such out-of-country support so much more practical in recent years, the exchange rate became even more favourable in this context while our actuarial qualification and skills remain right up there with the best in the world. We are therefore firm believers that there are opportunities for South

African actuaries to provide extensive services to international clients.”

The rise of independent actuaries

It was historically difficult for smaller firms of independent actuaries to enter the employee benefit market; pension funds tended to appoint actuaries from larger firms who often served as valuers to that fund for many years. In the old Defined Benefit environment actuaries generally acquired an intimate knowledge of the Fund’s history, past practices and precedents which created an understandable resistance to change with Trustees. A further barrier to entry at the time was that funds often preferred a one-stop-shop approach where administration, consulting and actuarial services were offered by a single company.

However, a lot has changed over the past two decades. A much lower premium is currently placed on past knowledge of a fund’s operations in a Defined Contribution environment. Market forces have further made the actuarial market more competitive which has resulted in more regular reviews of service providers by Trustees. General principles of good governance have also nudged some Trustees towards a preference for independence, as opposed to the efficiencies that can be associated with a one-stop-shop approach, and in some instances there is now even compulsory rotation of valuers.

In addition to some doors that were opened to independent actuaries due to these changes, the surplus legislation required significant additional actuarial capacity which offered an opportunity to many independent actuaries to enter the pensions industry. Genesis Actuarial Solutions was fortunate in that this happened at exactly the time when the Pension Review work in the UK started to wind down leaving us with the necessary capacity to grab this opportunity with both hands.

Actuaries to the actuaries

“The surplus legislation added very significantly to the workload of actuaries. ARGENT was able to provide assistance where a large life company

or consultancy wished to outsource some of this additional workload. This enabled the existing actuarial teams in the large life companies and consultancies to continue servicing their clients’ daily actuarial needs whilst we handled their additional once-off surplus-related workload.”

This outsourcing model has also been followed by companies with dormant funds where there is no ongoing commercial value to the company in the long term, but the fund still needs to be serviced until its eventual termination.

“We believe the fact that such a business model exists is testimony to the absolute integrity and professionalism that the actuarial profession stands for. These attributes are essential to the success of this model since “competitors” effectively allow us right into their businesses. It gives us great pride to be able to refer to ourselves as the “actuaries to the actuaries” even in cases where we provide these services to professional colleagues who are commercial competitors in some respects,” Doubell said.

Where pension funds go to die

Pension funds are increasingly using the liquidation process to close down, since this limits any potential liability to trustees. This offers another opportunity to independent actuaries since the bigger traditional firms generally do not see this type of work as part of their longer-term core service offering. The outsourcing support that ARGENT provides has naturally led to us being appointed as liquidators to various terminating funds.

Corné Heymans, one of ARGENT’s directors, has been at the head of developing this area of business at ARGENT. No formal qualification is needed to perform pension fund liquidations; nevertheless ARGENT has found that the level of understanding of how pension funds work that actuaries can bring to a liquidation is most valuable and gives them an edge above a non-actuarial liquidator. However, Heymans states that the absolute responsibility that one accepts as appointed liquidator and some of the non-

actuarial aspects that one gets involved with, does present significant legal and administrative challenges.

Developing non-traditional fields

It has been a key focus area for the actuarial profession to expand into non-traditional actuarial fields. Independent actuarial firms have proven to be instrumental in these endeavours.

Heymans recalls one simple instance of non-traditional advice that clearly illustrated the value that actuarial thinking can bring to a non-actuarial problem: “I was involved with a non-profit organisation which asked me to look into the sustainability of their sources of income. Within a matter of minutes I performed a rudimentary analysis of the data provided and illustrated the results in a few graphs. The numbers revealed some unexpected but undisputable trends which completely changed the way that this board looked at their entire operation.” This goes to show how the most basic actuarial techniques can add immeasurable value in different spheres of life.

Doubell notes that ARGENT currently works in a number of areas apart from the traditional areas of pension valuations. “We expanded from pensions into individual loss calculations for Road Accident Fund accident claims a number of years ago. The interaction with legal professionals reminds us on a daily basis of the value of mutual professional respect, but also that such respect needs to be earned.

Another area where not many actuaries are involved in, is Enterprise Risk Management (ERM), an area Arthur Els has been pioneering with success. Arthur was the first actuary to obtain the CERA (Certified Enterprise Risk Actuary) by examination¹ designation in South Africa and his work on risk management in the construction industry has led to him becoming known as “the actuary in the hard hat”.

Arthur has his fellow CERA’s at ARGENT have found that the CERA expertise enables them

¹ Others had received it as recognition of prior learning when the designation was first introduced.

to add real value in the non-financial arena, by incorporating the company's balance sheet in the risk management process – the company is then aware of its financial risk-bearing capacity. The CERA is also able to quantify many of the risks to which the company is already exposed, using the value-at-risk approach. These two sets of values allow the client's risk committee to check that the company has not overextended itself and to determine what capacity is still available for new projects. The client is thus able to directly link future strategy, the strength of its balance sheet and current risks.

Africa and international exposure

"African countries generally have very little actuarial expertise, often having no qualified actuaries resident in a country. We provide actuarial services in a number of African countries, mainly to pension funds. A frustration is the strict procurement process which is normally required by the local laws. While it may have the benefit of preventing corruption in the tender process, it does often mean that the fund actuaries are changed after every valuation. This does not fit in well with our aim to provide consistent advice over a long term, while growing the knowledge of the local trustees and administrators through developing a long-term relationship.

"Despite the challenges, the work fits in well with our mission to care and give good client service. We have been able to partner with local actuarial contacts in Africa and make a real difference. Currently we have clients in Namibia, Botswana, Zambia in Southern Africa, as well as in Malawi and Tanzania, Uganda and Kenya in East Africa."

Doubell adds: "Our international ties have remained strong after the review work in the UK. We have been a member of Euracs (European Actuarial Consulting Services) for many years and are the only African member. The members are leading independent actuarial firms across Europe and we have been fortunate to share and benefit from the interchange. This keeps us up to date with trends and leading thinkers in the business internationally. As a result, for example, we participated in a Euracs contract for the

It has been great to see the development of our students over the years – from learning the ropes to checking the work and then into developing as professionals. We value each one and their contribution to create our specific flavour.

European Commission looking at international pension systems."

The professional promise

ARGEN encourages its actuaries to be involved in supporting the profession by serving on the structures of the Actuarial Society. Arthur and Tommie have both previously served as chair of the Retirement Matters Committee and Colin Hendriks has been acting as the chief examiner for the Pensions subject for many years.

"ARGEN Actuarial Solutions is no longer a 'new kid on the block' as one of the articles described their emergence at the time of the merger a few years ago but it has matured, with a solid and loyal staff and client base," says Doubell. "We have good depth in that we have 10 actuaries, including three CERA's, spread out over our offices in Hyde Park Johannesburg, in Centurion and in Kroonstad. Our personnel are committed to our values of being 'a safe pair of hands' to our clients and, while we do our work, we also try to partner with clients and establish good relationships. It is more to us than just a mission statement. It has been great to see the development of our students over the years – from learning the ropes to checking the work and then into developing as professionals. We value each one and their contribution to create our specific flavour."

Arthur is currently easing into a well-deserved retirement after some 40 years in the industry, with Tommie taking over as Managing Director while Thulani Khumalo, also an actuary and previously the Genesis Chairman, serves as non-executive chairman. 



The leap from academia to running a consulting company is surprisingly small. Dave Strugnell and I did that in late 2017, extending our marital partnership to co-creating a multi-disciplinary consultancy: **Percept²**. The success of a consulting company rests fundamentally on the skills of the people who make up the firm, and hence their ability to do their best work. The skills we developed and applied in designing a learning environment at UCT in which people can thrive are directly applicable in our efforts to create an inclusive and caring work environment that does the same. And the research skills we honed while in academia provide the building blocks for consulting work that is driven by curiosity, and that is both rigorous and creative in its execution.

Right Effort

For the curious of mind, the world offers up an endless array of tantalising problems to solve. Hence the need for focus and clarity: which problems to solve and why? It was clear to us early on that we are most interested in solving problems that promise an improvement in the quality of life of individuals. This sense of social purpose brought us, not unexpectedly, to the domains of health and financial services, the first of which is central to our concept of what it means to be human, and the second of which is fundamental to our ability, as human beings, to navigate the modern world. Both health and financial services are also key to addressing issues of inequality, the defining characteristic of 21st century life.



Dave Strugnell

Shivani Ranchod

The focus areas of the firm are also unsurprising given our career trajectories. My career has been deeply embedded in the health sector, the object of my intellectual affections. Dave's career, on the other hand, has been more eclectic, traversing almost every aspect of financial services.

The end-consumer lens has largely led us away from traditional actuarial work. In health, this has meant working on solutions to reduce patient information asymmetries, to support healthcare provider decision-making, to re-organise the delivery of care, to better align healthcare provider and patient incentives for value and to support policy initiatives aimed at improving access to quality care. In financial services, it means supporting the burgeoning fintech sector as innovation and technology come to bear on industries that have previously paid little more than lip service to customer centricity, leveraging data analytics and behavioural science to help service providers understand their customers and key business dynamics, guiding market players with ethical frameworks (including, for example, investment mandates), developing models to guide informed decision-making and supporting social security policy.

Collaboration

Our approach to work centres on the importance of collaboration. This applies both to the forging of long-term relationships with our clients, where we treat our clients with respect and recognise that they know their reality better than we do, and the multi-disciplinary way in which we work.

² The challenges of being both life and work partners is a topic for exploration in its own. Read more about how we are tackling the challenges that come with co-founding Percept: <http://percept.co.za/2018/04/05/slaying-the-bicephalic-beast/>

Dave's appreciation of multi-disciplinarity arises from a career journey that started with a degree in economics and philosophy³, an early fascination with computer science (and karaoke...don't ask), an unexpected detour into actuarial science, and then more recently, research in behavioural finance and the co-founding of a data science academy.

It also comes from a shared belief in the power of diversity, in every sense. We think that innovation arises from bringing together different ways of thinking, in an environment that enables constructive conflict and where every member of the team has a voice. That belief aligns seamlessly with our commitment to transformation of South Africa's society and economy.

To further fuel our multi-disciplinary approach, we broaden the Percept skill set by engaging a network of sub-contractors. This means supporting part-time work, enabling people to work as "slashers" or as "giggers" and using technological platforms that enable team communication (we use Slack). It also means that for every project that comes in, we think about the ideal skills mix and put together a carefully curated team.

Inclusivity

The best thing about starting a consulting firm has been the opportunity to design a work culture from scratch. And when I say design, I really mean design: conscious effort to create coherent strategies, processes and supportive elements, combined with a deep commitment to remain unattached to those solutions. Listening carefully to the people around you means having the requisite agility to return to your design elements time and again as circumstances change. Our workplace manifesto reflects our starting position (an image of what hangs on our office wall is reproduced here).

Institutional structures are a key impediment to workplace transformation, hence the need for careful design and consideration of what constitutes a truly inclusive environment. This encompasses everything from transparent salaries, to gender-neutral parental leave policies, to Ikigai (life's purpose) leave to create the space for diversity in the way people imbue life with meaning.

I wrote about some of the elements of a caring

workplace in a blog called "What's love got to do with it?". A fundamental characteristic of such an environment is that it allows people to carry their multiple roles and identities in a way that is integrated. This isn't easy. Paradoxically, it also means enabling people to have clear boundaries between their work lives and personal lives. Having these boundaries means that it becomes possible to be fully present at work, and at home, but also requires careful thinking about flexibility and accountability. Doing good work means being free to focus fully on work that is purposeful, that stimulates our curiosity and that feeds important aspects of our identities.

Building a caring organisation is akin to the process of creating and building a family. How is it that you enable your team to feel seen and heard, and, consequently, truly valued? Seeing the connections between the two leads to thinking about things like performance management completely differently. We've ended up with a personal growth framework instead – in the same way that a family finds ways to help each other grow and thrive, and not ways of performance managing each other.

Curiosity

We believe that progress is made by continually asking questions and investing energy in figuring out the answers, often making unexpected discoveries along the way. Our team has a diverse range of skills, interests and perspectives on the world, but curiosity is a defining and uniting characteristic: we are relentlessly curious about the world and how it works. And while we're keen to apply our wealth of skills and experience to making small and incremental improvements to the health and financial resilience of human beings, we're also deeply appreciative of how much we don't know. Taking pleasure in new knowledge and insights is part of the Percept DNA. 

³ TRead Dave's blog on the ethics of AI to get a sense of how his philosophical training underpins his thinking: <http://percept.co.za/2018/04/05/the-ethics-of-ai/>

⁴ The Explore Data Science Academy: <https://www.explore-datascience.net/>

⁵ Slashers are people who have more than one work identity. For example, I am a CEO slash academic. Giggers are people who work across more than one platform.



THE BENEFITS OF TECHNICAL PROCESS INDUSTRIALISATION

'Business Process Automation (BPA) is the technology-enabled automation of business processes. It is performed to achieve digital transformation or to increase service quality or to improve service delivery or to contain costs. It consists of integrating applications, restructuring labor resources and using software applications throughout the organisation. Source: Wikipedia

Technical Process Industrialisation extends this idea to areas of the business where advanced technical or subject matter expertise complicates a simple automation process.



Aliska van Niekerk



Wesley Montgomery

Introduction

We are in an era of big data, sophisticated algorithms and rapidly emerging technology. Stakeholders are increasingly expecting organisations to engage in more complex financial and statistical modelling of their businesses. Simultaneously, however, they are expected to deliver these analyses faster and more robustly, with fewer errors and resources. With the Financial Standards of Insurance regulation and IFRS 17 drawing closer, consistency across the reporting from models designed for different purposes, and keeping track of assumptions by granular cohort, will become a significant challenge unlikely to be solved in a spreadsheet.

Shortcomings in Current Processes

There are three key forces driving process industrialisation, namely; the increasing complexity of regulation and volume of data, the simultaneous need for speed in reporting and the increased need for transparency.

Multiple, overlapping and partly consistent regulatory requirements mean that entities have multiple processes to run on a frequent basis. There is also an increased amount of data, stored on a variety of sources, maintained by various departments in the company. Thus, it becomes difficult for a single person to have ownership of the whole process, whilst ensuring that every manual workaround gets updated every time the process is updated. In addition to the above, inconsistencies in data definitions across risk,

finance and actuarial make the comparability and the reconciliation of results a challenge. Also, to comply with new regulatory developments, such as IFRS 17, the business might use advanced modelling techniques, including stochastic projections, which are difficult to imagine doing in a spreadsheet.

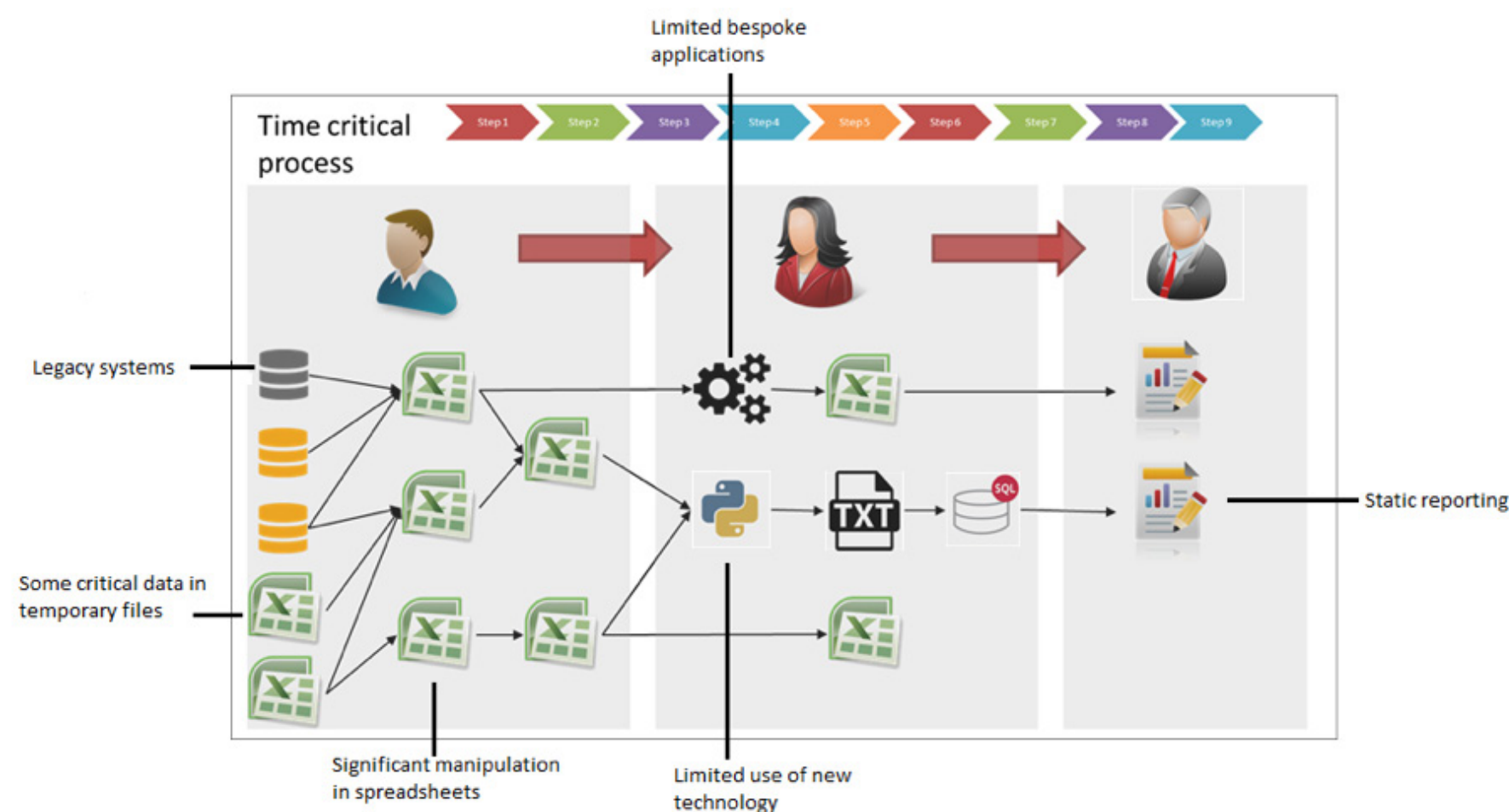
On the other hand, the demand for real-time (or near real-time) data is increasing strongly, both due to regulatory frameworks as well as competitive pressures. Management are using financial models in important and often, time sensitive, business decisions. Often, however, generating and structuring the necessary financial data needed to support these financial models take too long. For information to be relevant and useful, it also needs to be timely available.

There is also a greater need for transparency in financial planning and reporting processes.

This is because the consequences of model and parameter errors are more severe e.g. fines, reputational damage and sub-optimal decisions. There is a necessity to understand the processes better, but they are built up from numerous disjointed legacy systems, with several weaknesses and internal processes only a handful of people know. Thus, the governance around these processes is likely to be weak and there is significant key person risk involved.

Standard Response to Current Processes

Our standard approach is to simply add more people to each step of the process in order to collate the data and perform the necessary calculations in the same way as we previously did, as illustrated in the flow diagram below:



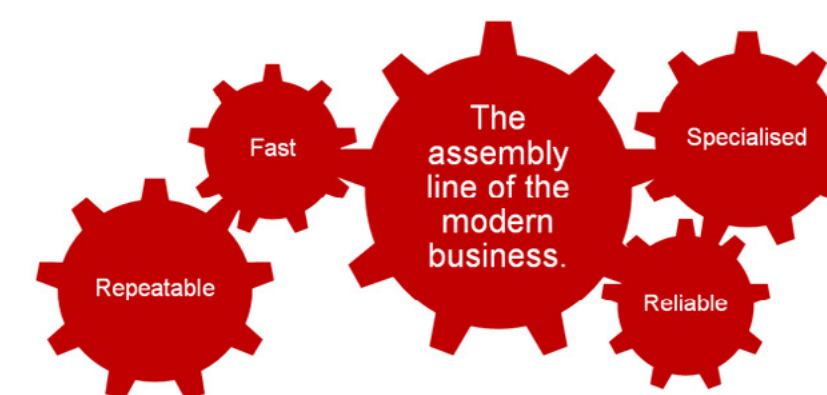
This approach leads to the following:

- Fragile models and additional ad-hoc manipulations & analyses having to be carried out
- It is expensive over the long-term and doesn't solve the critical path issue
- Less transparent processes
- Slower and more manual processes
- Inflexible and limited model outputs

The above-mentioned points all lead to further problems for the company, such as:

- An ever-increasing expense ratio – since money is thrown at new employees to keep things moving along
- Loss of market share to competitors who are using high-tech analytics and lightning fast processes
- Management having to explaining differences to the board & regulators with every report submission
- Never getting to the value-adding analysis because your process results are produced right at the last minute

Process Industrialisation Response

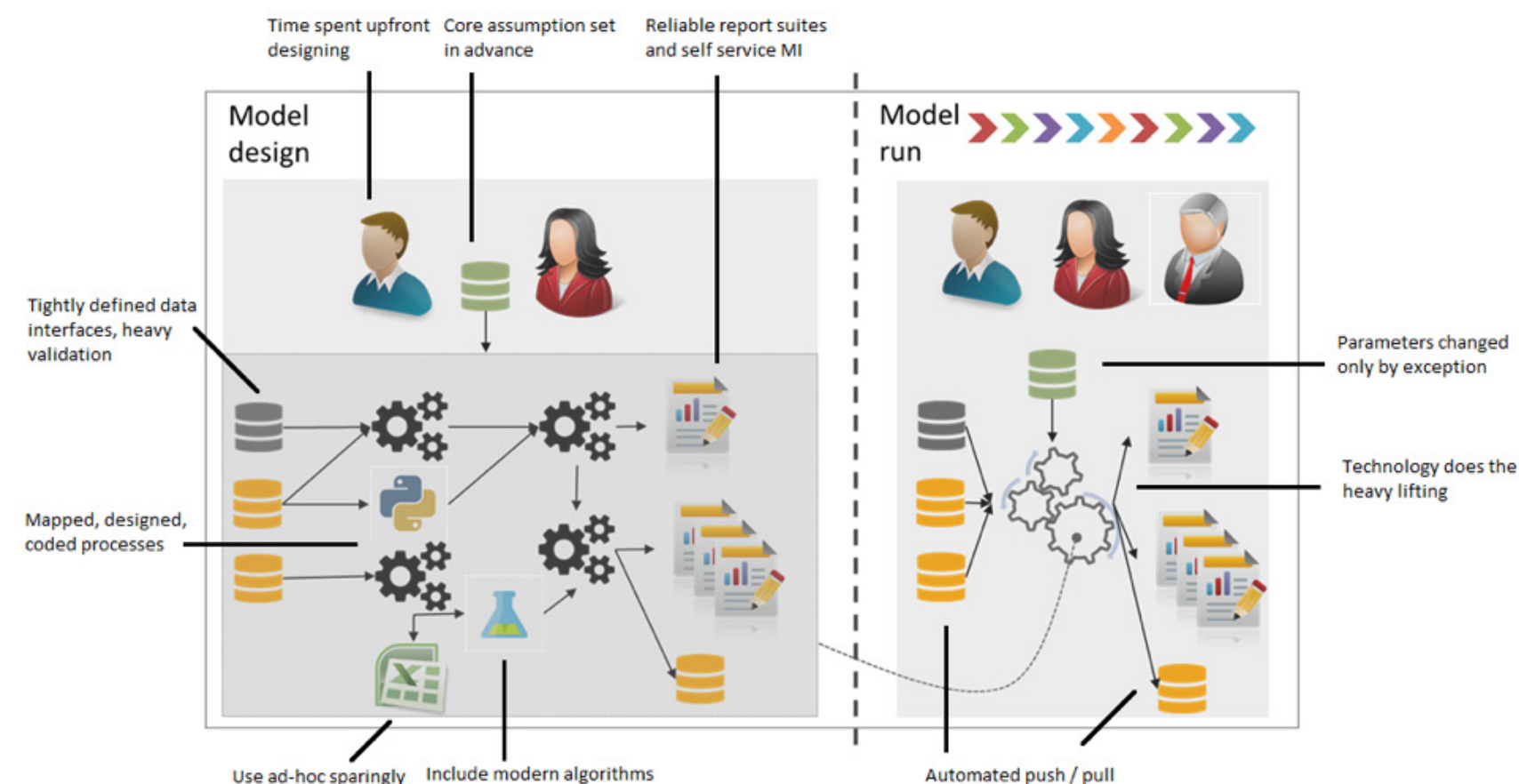


We need a fundamental rethink of our processes and we need to remove unnecessary experts from the critical path as far as possible, because people tend to slow processes down. We need to embrace enterprise-level technology and move away from spreadsheets, to centralised, locked-down and controlled applications. Some people

may argue that this is an unrealistic target as actuaries always need the ability to make manual adjustments. However, industrialised processes can be built in such a way, that they accommodate the ability to perform manual changes through a validated interface, thus ensuring the robustness of the process. If this is done successfully, the final result will be a process that is stable over time, produces results that are easily explainable whilst keeping track of the key assumptions and manual adjustments made along the way. This frees up more time for analysts and actuaries to focus on value-adding areas, such as expert judgment, analysis of change, profitability by source, as well as making recommendations to management. These areas are arguably the more interesting areas of actuarial work, and as such, it can have a positive impact on staff retention and reduce recruitment costs.

What does an Efficient, Industrialised Process Look Like?

The process illustrated on page 32 is likely to be faster, more reliable, more robust, consistent and transparent than a spreadsheet-based approach. However, significant upfront investment is needed to make such a process work efficiently. In order to make the industrialisation process as cost-effective as possible, management first need to decide which of the current processes are the most important and which parts can be discarded. This can be achieved by engaging with the different stakeholders, such as underwriters, actuaries and the board to determine what information would encourage them to make better decisions and make more efficient use of the information they receive. Time needs to be spend upfront designing a modelling environment which is both fit for purpose and meets the needs of all these internal and external stakeholders. Actuaries should be involved in the entire model building process, so as to ensure a strong operational and actuarial control cycle. 



Efficient, Industrialised Process

Next, there is a need to define the data sources, the assumptions, the process flow, the dependencies between the different components, as well as the necessary validation and reporting requirements. This includes finding out what data one function needs from another to carry out this part of the process. Actuaries also need to identify the mandatory validation points and build automated analyses and validation to be run during the process. There should be rigid validation between the various stages of the process to ensure each stage functions as intended. Manual workings also need to be coded into algorithms, clearly specifying the points in the model where manual intervention is needed, for example the updating of a valuation date.

Lastly, the process should be moved to an industrialised platform where the process can be built, secured and locked down, enabling automated batch processing of model runs. Industrialising is not about automating only

a small part of the business-critical processes, but about providing us with a clearly governed, start-to-end process, covering the links between multiple systems, projects, data sources and calculations.

Conclusion

Successful implementation of an industrialised process delivers a range of benefits that almost certainly outweighs the costs. The final result is a financial process which provides you with reliable, valuable business information in near real-time, which is more likely to be trusted and relied on by Boards and Management for their strategic decision-making. This will also free up resources, enabling actuaries to focus more on the assumptions, results, expert judgement and additional analyses, avoiding the risk that actuarial function work becomes a box-ticking exercise. ⚠️

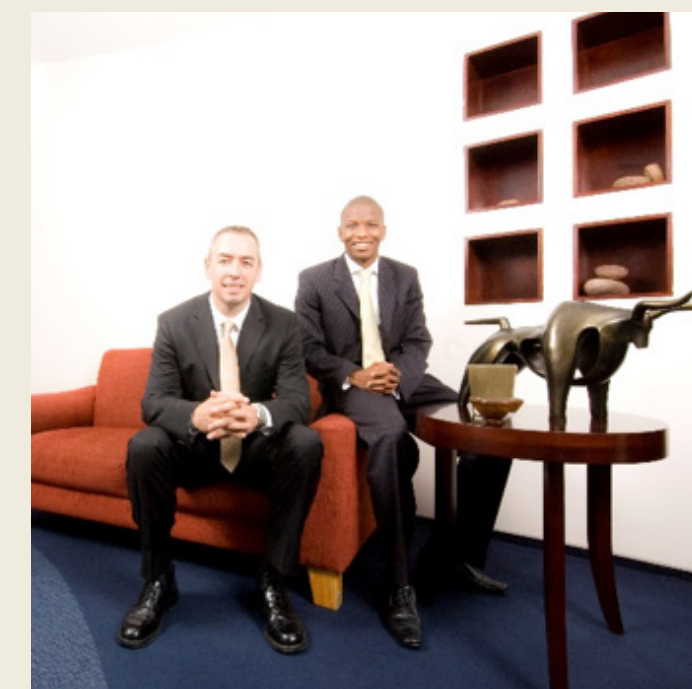
5.



MAXIMISING THE ACTUARIAL SKILLSET

Anchored on its founders, actuaries, Ranti Mothapo and Garth Barnard, Matlotlo Group is a Johannesburg-based team of actuarial consultants that is servicing the need for actuarial advice through two brands, Matlotlo Actuaries & Quants and Moruba Consultants & Actuaries. The two brands are solely for the market place in contracting with clients. Behind them sits one team of 12 actuarial consultants. "We think we should be operating with 18 to 20 actuarial professionals given the continuing demands from clients. Our profile and what we stand for seems to be an attractive value proposition" remarks Garth Barnard.

Moruba specifically contracts with retirement funds on actuarial services, whilst Matlotlo Actuaries & Quants contracts for a multitude of other consulting services. Asked why this is the case, Ranti responds that "Moruba has been branded differently to avoid confusion with the Group's forthcoming investment management offering that will also be targeting retirement funds. Our strategy is to expand from time based fees to product based fees and investment management is one such a way. I never wanted to hurry into that space. Being actuaries to retirement funds through our Moruba brand has allowed us to identify client needs and opportunities, build



Garth Barnard and Ranti Mothapo

solid relationships with trustees and all of this will in time be converted into a value adding investment offering to institutional clients".

"For now, we are firmly rooted in actuarial consulting and advisory services. Even when we get to expand into products we will find a way for the consulting business to be a service provider to the product areas." Further remarks Ranti. "I believe that by its nature consulting provides broader scope and greater developmental opportunities for both upcoming and established actuarial professionals".

As a consulting and advisory business, Matlotlo Group believes their most important revenue driver is its people, their skillset and ability to deliver solutions for clients. To this extent, Matlotlo Group has sought to differentiate itself by building an exciting and empowering environment for its actuarial consultants through an insistence that their team members need to be multi-skilled by working in at least two areas of actuarial practice. This approach has been a resounding success as most of their consultants do work in three or more different areas of practice.

This approach also seems to work for clients and positions the business well for continually unfolding opportunities. Most often, clients are

just looking for an actuary to assist them to solve their problem. It could be frustrating for clients when they are looking for an actuary but need to go through several actuaries that for some reason are not able to help with their enquiry.

Whilst some of the longer established consulting practices tend to have dedicated specialist teams, Matlotlo Group finds its approach of ensuring that their staff is multi-skilled to balance both sides of the equation, the needs of its people as well as those of its clients.

According to Ranti, the similarities between the different areas of practice are huge, definitely a lot more than the areas of difference. "I would probably say the extent of similarities is at least 2/3rds. For example, pension funds and life insurers deal in similar products, similar risk factors (qx and px), but distribute products differently and subject to different regulatory or financial soundness regime. So, an actuary working in life insurance could easily service a retirement fund. Historically, most actuaries were valuers for both life companies and retirement funds. Currently, there are actuaries with practicing certificates in both life and non-life insurance. These types of insurers have similar structures and regulatory or financial soundness regime, but different underlying risk factors. Non-life insurers and medical schemes have similar risk profiles, but different regulatory regimes and jargon. So, once the jargon is resolved an actuary can easily work across medical schemes and non-life work. You find these to be the case in audit firms that an actuary reviewing non-life insurance would also be doing reviews on medical scheme clients", says Ranti.

Ranti believes that developing multi-skills is like multi-linguicism; "In South Africa you easily find people fluent in four or five different languages. And the European football managers and tennis players are another example of people fluently speaking four languages. How do they do it and maintain it? They found themselves in a situation where they had to speak each of the languages, and once they knew the languages, they maintained them by regularly interacting in the social circles that speaks those languages. Similarly, we put our analysts in a situation where

"The open plan working environment and team meetings enable us to be aware of what other colleagues are grappling with. Even without being directly involved in a project in a particular field, one is able to have an appreciation of the challenges, the types of problems that need to be solved as well as the kinds of solutions that apply."

they have to learn (further) the real life application of actuarial science in different areas, and once the skill is developed, maintain their work presence across the different areas of practice instead of narrowing in on one area of practice to concentrate on".

"We feel the multiskilled approach makes us more valuable. With the same qualification, we feel that we can do more. Also, a wider range of actuarial jobs are available. Working as analysts there is no escaping getting the hands dirty with data, data checks and preparation, understanding of sector, product, choice of methods as well as sourcing information for setting of assumptions" comments 'Mampeo Leisanyane, who has been an actuarial analyst at Matlotlo Group for the last three years. "The open plan working environment and team meetings enable us to be aware of what other colleagues are grappling with. Even without being directly involved in a project in a particular field, one is able to have an appreciation of the challenges, the types of problems that need to be solved as well as the kinds of solutions that apply."

Asked about his inspiration for a jack-of-all-trades consulting firm, Ranti says "When I finished my degree, I felt I had not learned enough about financial markets, derivatives and banking, and so I decided to start my career in the trading room. After four years in banking, though I had

the qualification, I felt I was not an actuary. I could not fully or confidently join in the conversations of other actuaries. I missed other areas of practice. I felt I did not learn enough about actuarial science."

"I count myself fortunate that I was able to establish a consulting firm where I could do all kinds of actuarial work. I recall the first couple of years consulting as Matlotlo Group that I was amazed at how much fun I was having. I hadn't had such fun in a long time. I find a sense of gratification that I was able to establish the kind of firm I would have been keen to join after university. That would allow me to thoroughly engage in different kinds of actuarial work in the formative stages of one's career."

Ranti this one big challenge to the multi-disciplinary consulting model is that the current education system narrows the areas of practice studied post the core technical subjects. "When I studied to qualify as an actuary, I had to cover all practice areas that there was syllabus for at the time and this prepared one to work across different areas of practice. Unless they are very willing, it becomes difficult to employ qualified actuaries with over five years' of experience and ask them to consult in areas they last interacted with at the core technical level. An easy win is to employ graduates and actuarial analysts within four years of experience and expose them, concurrently, to multiple areas of practice."

Demand for actuaries is impacted by amongst others legislative developments. The intent to reduce the number of medical schemes and move towards NHI may curtail opportunities for actuaries consulting to medical schemes. Similarly, if discussions on a national retirement fund were to resume and the consolidation of retirement funds into umbrella funds were to continue, it would mean that the opportunities for actuaries to provide services to retirement funds will be limited. Previously, we had seen how a move from defined benefit to defined contribution funds disrupted the work of actuaries and the client's perception of the value of an actuary. At Matlotlo Group, the belief is that an actuary that has current experience across practice areas has more chances of remaining relevant.

To emphasise some more the benefits of a multi-disciplinary approach, Ranti say that Matlotlo Group provides Enterprise Risk Management ("ERM") services as well. "We recently took a strategic view that there are some retirement funds that are not looking to replacing their actuaries, but want an improved, value-adding ERM services. So, we segment the market and offer ERM services to those retirement funds that are not on our radar for actuarial services. Now for actuarial consultants to retirement funds to provide a risk management service to another retirement fund should be an easy thing to achieve."

The firm has been in existence for 10 years and has grown from strength to strength.

In this period, there has been some corporate activity relating to other actuarial consulting practices. Its resilience is attributed to the diversity of our sources of income, with a multi-skilled team that has a greater ability to align itself with more profitable opportunities. "There was a time we were doing lots of post-retirement medical aid liability valuations. The market became so competitive that we were happy not to enter into a price war, but to rather focus on other opportunities. We reduced our presence in that space, but still our revenue has continued to increase. Had we not been able to do a lot of other things, we could have found ourselves in a very difficult situation" says Ranti.

Another way Matlotlo Group is doing things differently is that the firm is deliberate in building a team that is representative of the people of South Africa. "I suppose as an emerging firm, this is easier to achieve because it is easily resolved by our selection process of the people joining our growing team, and in this process, we do not make anyone insecure. Our clients also joined us supportive of this mission and therefore are not themselves threatened by an environment that is undoubtedly empowering to all South Africans". Consequently, the firm finds itself in a position where clients would come to it with all sorts of problems an actuary can possibly assist in. "There is one client we first interacted with when we



valued their environment rehabilitation liability. They had received a range of numbers from other professionals, but these didn't satisfy their auditors. So they pulled the big guns, actuaries, and we were happy to resolve the problem. Later we found them stuck on some statistical analysis project with other professionals, and they quickly remembered that an actuary once came to their assistance and so we assisted with that project too. We were later asked to do advisory work on acceptable principles in structuring BEE deals. Then came a request for a post-retirement medical aid liability valuation. And to put the cherry on top, we did a valuation of some properties they own". That is not the only client of such a type that Matlotlo Group can make an example of. Ranti says the examples are countless. "Another example I can think of is doing valuation of technical provisions for an insurer, post-retirement medical aid liability and impairment provision for a loan book for companies in the same group". "I cringe on the thought that these clients' belief that actuaries are super-beings could ever be put in doubt when they encounter fellow professionals that may not be able to assist them", says Ranti jokingly.

"And that is the nature of being in a consulting environment. There is a sense of satisfaction in assisting clients. In organisation, not often do you find people being fascinated by making their bosses look good. We get fascinated making the officials we are interacting with in our clients look

good and exceed their performance targets. It gets even more real when we help a company with a new product that assists in their growth, or advise a medical scheme to launch a new benefit option that becomes very welcomed by members. In the retirement sector, we have clients that change service providers because the service providers were not able to assist them resolve challenges faced by members. Coming in

to provide a solution that takes away the worries and anxieties of members and ordinary people is a very rewarding feeling".

"I have been with the firm for 7 years now. I enjoy being a mathematician in finance and encountering different problems to solve. When I think about it, that is what I thought I would do as an actuary when I enrolled at university. I had no idea what kind of financial problems I would spend my life solving. Working in a multi-disciplinary environment has fully given me that. After 7 years, I am still not sure if I could choose one area of practice over the another", says Phumzani Madonsela, who was mentored by Ranti whilst at the University of Cape Town through ASABA. He later joined Matlotlo Group after 2.5 years at ABSA Capital.

As a concluding remark, Ranti says "The competition for relevance across professions and against technological advances is uncertain. We can never take comfort in the thought that the jobs we are doing now will always be as they are. However, the one sure way to retain relevance is to maximise all the skills that we have been introduced to in our actuarial education".

6. SolveCo:

SolveCo is a niche consulting firm, with branches in Johannesburg and Windhoek, providing actuarial services to clients in various countries in Africa. The company offers traditional and non-traditional services, such as system implementations, data reconstruction and forensic analysis.

Mia Geringer, founding director at SolveCo has nearly 20 years experiences in the industry which includes pensions, life insurance and reinsurance. She is also the founder and chairman of the Actuarial Society of South Africa (ASSA) Systems and Technology Committee that was introduced in 2017 with the vision to bridge the gap between IT and actuarial departments.

Our focus at SolveCo has always been to help clients, particularly where other consulting firms do not want to get involved or where a project is priced too expensive for a client. We do not employ any statutory actuaries or valuers which means we can provide a more cost-effective solution. For traditional actuarial services we partner with various actuaries and we found this to be very effective.

Administration System Implementation Projects

SolveCo might be the only actuarial consulting firm that provides a full system implementation service to insurance companies. Our mixture of actuarial science and IT skills provides us with a unique opportunity to add value to any implementation project. I believe that we have mastered this service over the last 10 years by



Mia Geringer

implementing or testing almost all the available life insurance admin systems in the South African market.

amiiti

SolveCo recently partnered with amiiti to build our own cost-effective Insurance administration system. This was a great opportunity to provide a full-service solution to our clients that are considering replacing or implementing a new administration system. The system was built for clients who struggle with the administration but cannot afford the high-priced solutions.

We have learned from all our previous implementation projects that any implementation needs a strong implementation team as well as a good system.

Our approach and our software allows the client the flexibility to configure components of the system to quickly adapt to an ever-changing business environment.

We are also very excited to have successfully implemented amiiti for a new start up insurer called Yalu. The client recently launched, and we are very proud to be part of the team.

Pension Fund & Policies Rebuilds

Our unique service offering includes clearing data reserves. We have been involved in various big projects of rebuilding pension funds and savings policies. The incorrect data can have a significant financial effect on a fund or company. We feel that more attention is needed to clear data reserves, particularly in the pension industry.

The longer this is left unattended, the bigger the problem becomes.

Our services include reviewing the data, data reconstruction and providing recommendations on the data fixes. These projects involve a lot of planning and dedicated resources. We have seen that they also take a long time to complete which could be perceived as a costly exercise. With our experience, we are best equipped complete these types of projects in the most efficient and cost-effective way.

Cell Captive Assistance

SolveCo engages with cell captive owners who do not have an in-house actuarial team. We play an essential role between the Cell Captive company and Cell Owner to translate the actuarial requirements to an easy and understandable format, for both parties.

Our consulting services include:

- Advice on the initial capital needs
- Product pricing and profit testing
- Five years projection modelling
- On-going reserving
- On-going pricing
- Any other customised solutions to look after the client's needs

Partnering with Statutory Actuaries and Valuers

SolveCo partners with Statutory Actuaries and Valuers. We assist with all actuarial calculations as needed. We provide the basic data check and investigation, modelling, calculation and submit results to the statutory actuaries and valuator for sign-off.

We enjoy these arrangements we currently have in place since we work with highly ethical and professional actuaries. The solution works for actuaries where they do not have enough staff to assist. Our cost structure enables Statutory Actuaries and Valuers to use our team for their calculations. 

7.

Robson
Savage

MAKING A MEANINGFUL DIFFERENCE

Robson Savage has proven that a company ethos that has heart, vibrancy and versatility as its base will reap bountiful benefits. The fact that this business has progressed apace since inception in 2000 bears witness to this. Adding an independent outlook and strong ethical backbone to the mix creates an environment of growth and purpose.

The raison d'être of Robson Savage is making a difference in the retirement fund sphere. Focused strategies have developed and evolved over time to deliver on this lofty aim.

The result of this renaissance of being resolute in mission and deed has been the growth of this company that was formed in 2000 and set out to provide a focused range of high quality services to retirement fund clients. This includes member administration, benefit and investment consulting, actuarial and financial planning services.

"What has been an exclusive feature of the business from the beginning was the



Jaco Bekker



Neil Savage

involvement of actuarial staff in all aspects of our retirement fund administration processing," says Neil Savage, Managing Director of the company. "Actuaries are always complaining about data quality so we decided to do it ourselves. We have perfected processes that result in spotless administration data, making stakeholders happy – and making the life of the fund actuary so much easier."

The company has grown through word-of-mouth and reputation, and has built a solid client base encompassing the funds and other arrangements of many companies, large and small, local and offshore, listed and private. Robson Savage comprises of some 60 staff members and is based in Johannesburg – with clients all over the country, they do a lot of travelling.

Many industry awards and recognition attest to the success of the formula.

"Indeed, it has been a factor of reputation and resilience that has resulted in our growth. It is something that my staff and I regard with pride and satisfaction.

"We naturally leverage as much as possible from having actuarial skills within the business. We do much value-add analytical work for clients, resulting in distinctive actuarial elements of thinking and judgment in the interpretation of results."

Savage says that when advising clients, there is a big payoff by being able to comment from an actuarial standpoint.

"It adds credence and gravitas," he says. "For example, regarding insurance policy terms and premium costings, we can use our heritage of training and experience in that sphere. Insurers must write business on terms that of necessity have to be commercially sound, but it's useful indeed to have an independent scan on the claims history and member data, and form a view on pricing."

One activity the company finds intrinsically interesting and invaluable is what may be termed as 'forensic administration'.

"Sometimes there is the need to conduct reconstructive work, often working backwards from member data schedules and investment portfolio reports. Applying all one's experience in analysing available information can be immensely rewarding."

One of the first tasks at hand was to deploy actuarial skills throughout the business.

Savage recalls his first job at Scottish Mutual Assurance in Glasgow, where actuarial skills were around every corner. The positive impact of this made a lasting impression, leading to a similar environment at Robson Savage.

Another exceptional aspect of the company is the fact that it is completely independent of any association with insurance companies or investment managers.

This is an area in which our profession is perfectly able to play a pivotal role. We live in an age where the blind use of standard metrics can be harmful to the consumer."

"This is actually central in terms of advising clients with no need to bow from pressures from within the corporate structure. It really is tremendous to review and analyse products, for example, without fear or favour, and from the sole standpoint of helping the client to achieve the best possible outcomes.

He says there has been a big decline in defined benefit activity as the rise of defined contribution funds progressed over the years.

"Having said that, we retain defined benefit skills and still provide valuator services for such funds. Interestingly, the need for defined benefit skills arises elsewhere. Accounting standard requirements, for example, lead to some post-retirement medical subsidies being valued as defined benefits."

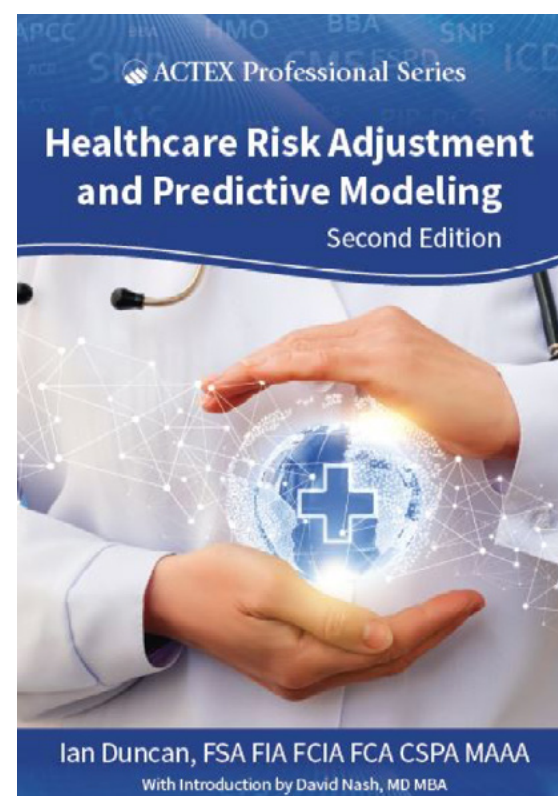
The company is always on the lookout to add to its experience portfolio. Activities in this regard have included the likes of payroll/package structuring and operation, analysis of risk arrangements, living annuity work, valuation of interests and employee share scheme valuations.

Head of actuarial Jaco Bekker believes that one challenge for the profession is the implied precision of calculations.

"Clients often assume, or are even led to believe, that the exact figure at the bottom of the page is, in fact, incontrovertible. The uncertainties and, therefore, risks are not always recognised or grasped. This is an area in which our profession is perfectly able to play a pivotal role. We live in an age where the blind use of standard metrics can be harmful to the consumer."

He believes the classic actuarial practice has all but disappeared.

"It has morphed into an entity that needs to expand its horizons and move with the times. Opportunities for innovation are central to the life of actuaries these days." 



Book review – South African-born actuary releases healthcare book for American actuaries

ACTEX Learning, a leading American publisher in the field of actuarial study materials, is proud to announce the release of the anticipated 2nd edition of Healthcare Risk Adjustment and Predictive Modeling by Ian Duncan, FSA, FIA, FCIA, FCA, CSPA, MAAA. This text provides a comprehensive guide for healthcare actuaries and other professionals interested in healthcare data analytics, risk adjustment and predictive modeling.

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The book begins with an overall discussion of health risk, clinical identification algorithms for diagnostic grouping and the use of grouper models before moving into data mining concepts and common approaches used by modelers. Duncan explores predictive modeling and risk-adjustment case studies through examples from Medicaid, Medicare Advantage, ACA Exchanges, ACOs, disability and depression diagnosis. Data sets are provided for those wishing to experiment with their own models. The use of predictive modeling and risk adjustment outside of the U.S. is also discussed.



Mr. Duncan matriculated at Maritzburg College and attended the University of Natal as it was then before earning a post-graduate degree in economics from Balliol College, Oxford and

is a Fellow of the Society of Actuaries, the Institute of Actuaries (London), the Canadian Institute of Actuaries and the Conference of Consulting Actuaries.

"All in all, this is the work of a superbly mathematical yet practical mind. Ian Duncan's work is a brilliant exposition of analytical techniques, coupled with a masterful explanation of how to apply health risk analysis in a series of relevant, real work case studies."

– Regina E. Herzlinger, Nancy R. McPherson Professor Business Administration, Harvard Business School.

"I admonish our students in the nation's first College of Population Health to 'shut the faucet' rather than 'mop up the floor.' Duncan has given us elegant tools to figure out exactly which faucet we are to shut, how long to keep it shut, and which faucets to avoid altogether! Kudos to Duncan for his contribution to the conversation surrounding the healthcare system."

– David B. Nash, Founding Dean of the Jefferson College of Population Health

Healthcare Risk Adjustment and Predictive Modeling sets the technological stage for the latest application of predictive modeling in the actuarial profession.

Ian Duncan, FSA, FIA, DCIA, FCA, CSPA, MAAA is an Adjunct Associate Professor of Actuarial Statistics in the Dept. of Statistics and Applied Probability at the University of California, Santa Barbara and the President of Santa Barbara Actuaries Inc. He has over 30 years of experience in healthcare and insurance product design, management, financing, pricing and delivery and has founded two previous companies to perform predictive modeling and outcomes analysis for healthcare. He is a frequent speaker about health outcomes, predictive modeling and risk adjustment. 



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Instructors are encouraged to request exam and desk copies for course adoption.

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SOCIETY NEWS



TAKING THE LEAD INTERNATIONALLY

It had not been formalised when we went to print with the previous edition, so let us start by congratulating Ashleigh Theophanides on her appointment as Chair of the International Actuarial Association's Big Data Working Group.

2018 CONVENTION

25-26 October,
Cape Town International
Convention Centre.

Need we
say more?

Colloquium 2019 – The Modern Actuary: Challenge, Influence, Lead

The Society will host an IAA Colloquium involving five IAA Sections from 2 to 5 April in Cape Town next year. This event will be used to host the annual practice area seminars as well. Each day will be allocated to a specific practice area, with internationally flavoured sessions running concurrently. This will allow members of the Society not only to be updated with local developments, but to interact with counterparts from other countries and discuss issues of relevance to other practitioners. Marius du Toit chairs the Organising Committee for this event.

For more information, visit <http://www.colloquium2019.org.za/> - and make sure to register on <http://www.colloquium2019.org.za/registration/>

SUBMIT YOUR STORIES



www.actuarialsociety.org.za



SAactuary@actuarialsociety.org.za



@ASSASLC

Recent Qualifiers

87 new Fellows were recognized at dinners in Cape Town and Johannesburg during April. August saw the first ceremonies for Associates and CERAs.



Engaging the Authorities

In the previous century, Tony van Ryneveld taught the Registrar of Pension Funds to play snooker. This year, a delegation comprising Wim Loots, Nilen Kambaran and Olatha Tuswa made a presentation to the parliamentary Portfolio Committee on Transport on the proposed Road Accident Benefit Scheme Bill. The Society commented on earlier discussion and policy documents in this regard. The Committee is continuing with public hearings, and the next edition of *South African Actuary* will deal with the presentation in more detail.

Sessionals and Seminars

It has been an active period for members of the Society, with the Life Assurance Seminar in Cape Town on 8 May (226 attendees) and in Johannesburg on 10 May (209 attendees). The Healthcare Seminar in Johannesburg on 15 May attracted 117 delegates. Banking (31 July) and Pensions (6 August) and Investments Seminars (30 August), all of which will be held in Johannesburg.

Sessional meetings hosted by the Alternative Investments Forum and Microinsurance Committee were well attended, too.

STORKED

Express may have been grounded, but the ASSA stork kept flying! Congratulations to Kenosi Magosha, Melusi Baloyi, Jacqui Wassenaar and Jeanine Wilson (and Godwin, Kjaere, Jan and Robbie!) on the arrival of Luvhani, Ntsako, Joshua and Pat.



... MAY THEY ADD ONLY MORE
JOY TO YOUR LIVES.

Transformation Workshops

The Society hosted half-day transformation workshops in both Cape Town and Johannesburg. The discussions covered topics like what transformation means to individuals and companies, unconscious bias, and the culture of the Actuarial Society. We had "woman drivers!" in Johannesburg and a Greek oracle in Cape Town. Delegates rated the workshops so favourably that we intend repeating these, as well as hosting more in-depth discussions on specific topics.

Below, a picture of the culture of the Actuarial Society is beginning to take shape.



A201 ATTACK

The Actuarial Society Academy is running a pilot programme for candidates sitting A201. The first workshops were held on 9 and 11 August in Johannesburg and Cape Town, respectively. Either the presenter or the subject matter caused one of the students to suffer an asthma attack ...



The New Technology

The Actuarial Society Academy was established to support Black students in facing obstacles that are unique to them. There were some very encouraging results, and some results that brought us back to earth with a serious bump. An example is the A301 (Actuarial Risk Management) support programme, where the first group of students comfortably outperformed those not in the programme, and the second group saw the exact opposite result. First semester 2018 saw us soaring around Cloud 9 again ... But the programme, led by Janette Larney and Frans Koning, has already kicked off for the second semester.

Sincere appreciation to Francois Johnson and Sanlam, who are providing a venue for these sessions.

Frans needed a podium. But, as you can see from the picture, a wastepaper basket placed on a desk works just as well. Free State technology?



Like Grandfather ...

We have a few members parent/child teams among our Fellows. There is a smaller club of grandparent/grandchild teams. The late Mr Tom Murray, first Vice-President and second President of the Actuarial Society (1949-50), qualified in 1927, and his grandson, Andrew Warren, in 1998. Among the academic qualifiers in the first semester of 2018 was Richard van der Berg, grandson of Mr Peter Milburn-Pyle, past President of the Actuarial Society (1992-93).

Richard says, "The most significant role model in my life is without a doubt my grandfather. The education I received is due to the support of that man and it is because of him that today, I'm an actuary. Whilst he excelled in his career and loved the science, it was in his nature to provide for his family - and it is his success on both these core aspects of life that guided me towards the very career I've chosen for myself.

"It is an absolute privilege to be able to be a part of this profession. Like my grandfather, I find the thinking and skills behind it fascinating. In this modern day and age, prediction and modelling of the future makes the occupation of an actuary undeniably relevant. With the accelerating rate of change we are witnessing in our lifetimes, the ability to provide a greater degree of certainty in the world, makes actuaries key experts in the field of finance.

"In his career, Peter Milburn-Pyle was once the Chief Actuary of the FSB, as well as a President of ASSA, but for me he will always be the humble man that I've known him growing up. One thing my grandfather taught me, was that forward thinking does not solely apply to your job as an actuary; that very way of thinking you can apply to the betterment of your own life and those of your family, friends, and community."

So, where are the other gramparents?!

Actuaries (and other members) IN THE NEWS



John Anderson and Stephen Empedocles won the RGA Prize for the Best Paper at the 2016 Convention, as well as the RGA Prize for the Best Paper by First-time Authors for their paper, The

retirement income frontier and its application in constructing investment strategies for retirement.

They presented the paper at ICA 2018 in Berlin, where they received a special award for producing an industry related paper on pensions that is relevant and of interest to German pension actuaries.

This is extremely impressive, since some 365 papers and presentations were offered at the Congress, but to be picked for a special award by actuaries from the host country is even more significant, since it shows that South African actuarial skills are rated highly by the rest of the world.



Raining Data

Willem Roos, founder and former CEO of Outsurance, was appointed CEO of Rain, South Africa's first ever data only mobile network.



INSPIRING Rural Youth

Alina Mamabola's work with the Thuto Foundation was highlighted in some regional papers. The Thuto Foundation is a non-profit organisation that aims to change the lives of rural youth, with educational information through projects such as the annual career university and bursary day (CUB day) winter school, establishing libraries as well as mentorship. The Thuto Foundation was registered as a non-profit organisation in December 2017, although they started with the annual CUB day in 2016. The Foundation works closely with local community organisations that share similar objectives and are currently working with the JSM community project helps to establish a library in Laastehoop. The aim of the Foundation is to see our rural areas developed as well as informed, educated, motivated and inspired to follow their dreams, get educated and start their own businesses.

The Foundation works closely with **local community organisations that share similar objectives**



Bare Necessities

Business Day presented Naked Insurance as South Africa's first operative insurer to relinquish underwriting profits through a business model that, according to co-founder Alex Thomson, solves the "conflict of interest" inherent in insurance firms. Sumarie Greybe is the other co-founder. Other mentions included Ventureburn listing Naked as one of seven insuretech start-ups to watch.

When Times are Tough

... do not cancel your vehicle insurance. This advice from Hannes van Rensburg, who is featured in our focus on independent consultants, was covered widely in savings month.



Ath it Again ...

Athi Rwexu took a break from her master's studies at the HeriotWatt University in Scotland to launch her app "Beta SigmaX" at Solomon Mahlangu and Uitenhage high schools. We covered this app in a previous edition of *South African Actuary*.



Healthcare Legislation

Barry Childs, Chair of the Society's Healthcare Committee, was quoted in various publications

on the *National Health Insurance Bill* and the *Medical Schemes Amendment Bill*. The Society's NHI Task Team will continue working on this issue.

Shivani Ranchod's presentation on an umbrella option as part of a framework for consolidating medical schemes, which she made to the conference of the Board of Healthcare Funders, was covered in the media as well. (But everyone knows what she looks like – the attractive and intelligent half of Dave Strugnelli!)

STUDENT CORNER

Terrible Joke

Lawyers vs Actuaries

A group of lawyers and a group of actuaries are travelling by train to conferences in the same city. The lawyers were surprised to see that the actuaries had only bought one train ticket for the entire group. When the conductor entered the front of the car, all of the actuaries got up and went into the same bathroom. As the conductor went down the aisle, the lawyers dutifully handed him their tickets. When he came to the bathroom he said, "Ticket, please." One ticket slid out, he punched it, and went on his way.

On the return trip home, the lawyers thought they'd try the same trick, but this time they noticed the actuaries had not bought any train tickets. As the conductor entered the front of the car, all of the lawyers got up and went into the same bathroom. One of the actuaries walked over to the bathroom, knocked on the door, and said, "Ticket, please."



PUZZLES

The missing dollar

Three people rent a room at \$30. They pay \$10 each and go up to the room. The owner realized he charged too much and it was only supposed to be \$25. He sends the bell hop up with the \$5. Each of the people keeps \$1 and they give the bellhop \$2 as they can't share it. So now each person has paid \$9 for the room (total \$27) and the bell hop has \$2... Where is the other \$1?

A Magic Number Puzzle- **THE GOAL IS 15.**

7	6	4
1	5	2
9	8	3

Nine numbers have indiscriminately placed in an equal number of squares in the chart drawing at left. The puzzle for you to solve is this: Leave the figure 5 in its present position in the centre square and rearrange the other eight numbers to make three rows of three figure each, so that when added horizontally, vertically or diagonally the sum will always be 15.

Where to find Job Adverts

ASSA's Job Board:

<http://www.actuarialsociety.org.za/assa-jobs/>

WANTING TO JOIN THE SLC TEAM??

The SLC is looking for volunteers – if you are a student member and would like to join the SLC then please click here to email us your CV



Send us your thoughts
and comments. **Click Here**

www.actuarialsociety.org.za