



*Actuarial 20/20*  
*The power of clarity*

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# 1

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## ACTUARIAL TEAMS: A VISION FOR THE FUTURE

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Actuaries were once accepted as the guardians of financial strength and equity in the insurance industry. They used analytical techniques applied to data to determine premiums and set capital and reserves.

Today, actuarial teams are still integral in financial services; however their role has become relatively more compliance focussed. Their contribution to broader business and strategic decisions has diminished. Actuarial teams have moved towards reporting and maintaining of models rather than strategic insight generation. Furthermore, underinvestment in actuarial teams over time, combined with the resourcefulness of the actuaries, has resulted in a generation of actuaries who are not well equipped to meet the strategic needs of the organisation.

In the future, the 20/20 actuary will be a value adding business partner that communicates insight to their stakeholders, by using efficient models, data processes and technology. They will be supported by effective organisational structures and provide strategic leadership that will be a catalyst for change. The actuary will be involved in the traditional reserving, pricing and capital modelling areas, and other non-traditional areas related to risk management and business roles.

This change can only occur through a transformation of actuarial people, systems and processes. In this point of view we assert that these transformations must encompass data systems across the organisation, technology infrastructure, operational and organisational efficiency, team structure and culture and talent development.

Our views are supported by a global survey and Deloitte's global actuarial discussions.

There is much to be gained from this transformation. For Management teams in the organisation, this is a unique opportunity to maximise existing capability that can generate significant value and provide a competitive advantage.

For Chief Actuaries and the actuarial professional, it is a unique opportunity to make a significant impact and reconnect more effectively with the business as a trusted advisor on issues beyond the technical.

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**Actuaries were once accepted as the guardians of financial strength and equity in the insurance industry. They used analytical techniques applied to data to determine premiums and set capital and reserves**

The 'Four Faces of the Chief Actuary' shown below represents the different leadership roles that a Chief Actuary and their actuarial teams and provide to their organisation.

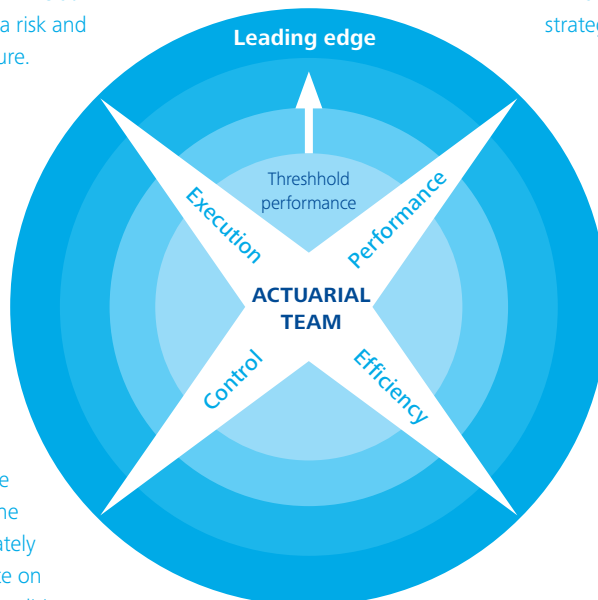
**Figure 1 – The Four Faces of the Chief Actuary**

**Catalyst**

Catalyse behaviours across the organisation to execute strategic and business objectives while at the same time creating a risk and business intelligent culture.

**Strategist**

Provide actuarial leadership in determining strategic business direction, and supporting other strategic activities vital to the future performance of the company.



**Steward**

Protect and preserve the critical frameworks of the organisation and accurately report and communicate on financial position and condition to internal and external stakeholders.

**Operator**

Balance capabilities, talent, costs, and service levels to fulfill the actuarial core responsibilities efficiently.

Currently, Chief Actuaries exercise stewardship and operational leadership exceptionally well. Whilst we see many Chief Actuaries having strong Steward and Operator characteristics, we would like to see Chief Actuaries playing a greater part as Catalysts and Strategists.

The Chief Actuary must drive change and precipitate business strategy in their organisations. They will be catalysts for the change rather than recipients of it, continually challenging the status quo.

Moving the Chief Actuary and the actuarial teams current proportion of time from the bottom of the 'Four Faces' grid to the top can be achieved by:

To achieve this, the focus of our advice and contribution must evolve. It must evolve from the 'what' to the 'so what' to the 'so what next'.

- Freeing up Steward/Operator time by streamlining processes, adopting more efficient work steps and leveraging data and technology
- Utilising freed up time for strategic activities by equipping the actuarial staff with enhanced tools and capabilities that further assist Management teams in running the company.

This change is not a one-off change, but an ongoing continuum of adaptation for a leader to stay attuned to his or her stakeholders' changing needs.



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For the actuarial profession, this is an opportunity to foster the perception of commerciality and agility while keeping the existing reputation for high standards and technical excellence

# 2

## TECHNOLOGICAL AND DATA ADVANCEMENTS

Historic under investment in data capture and intermediate IT systems, combined with legacy issues from growth and acquisition have created technology and data strains on actuaries.

In the face of this issue, actuaries have been resourceful (and territorial) in their behaviour, resulting in the development of shadow IT systems and data frameworks which met the actuaries' needs.

This shadow IT system has resulted in three complications:

1. Processes that often fall outside of company wide governance, or processes that have complex actuarial governance and control systems

2. The development of a generation of actuaries that have been supporting these data and shadow IT activities, reducing the actuaries' capacity to carry out more value adding tasks

3. The development of less than optimal actuarial models that fit these shadow data and IT systems.

The diagram below shows the current state of typical actuarial systems. In response to changes in products and processes, actuaries have typically added modules to deal with the changes. Over time, this has resulted in actuarial systems that are complex, difficult to maintain and that do not integrate well with the rest of the organisation's architecture.

Figure 2 – Illustrative current actuarial systems architecture

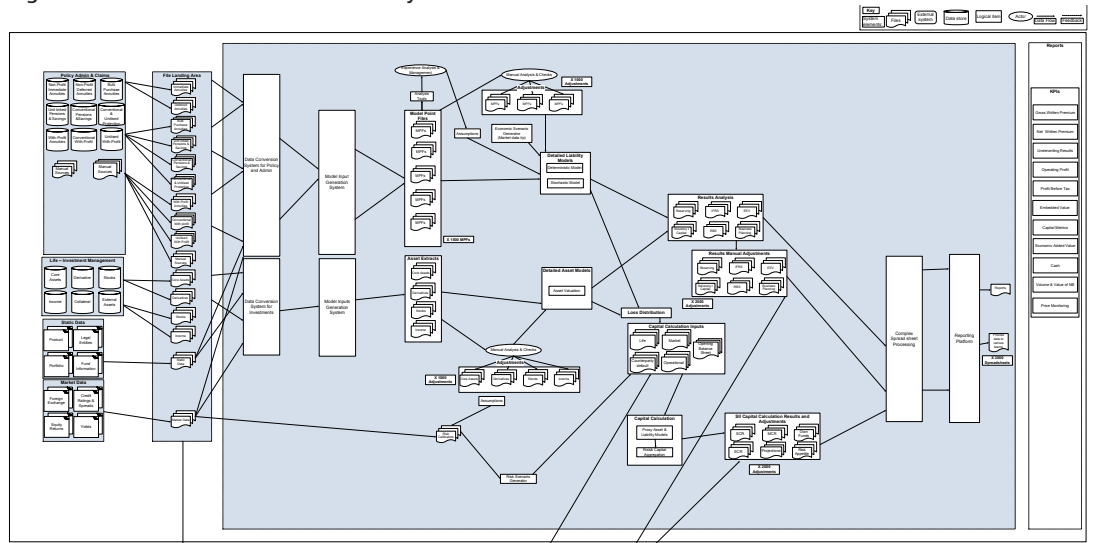
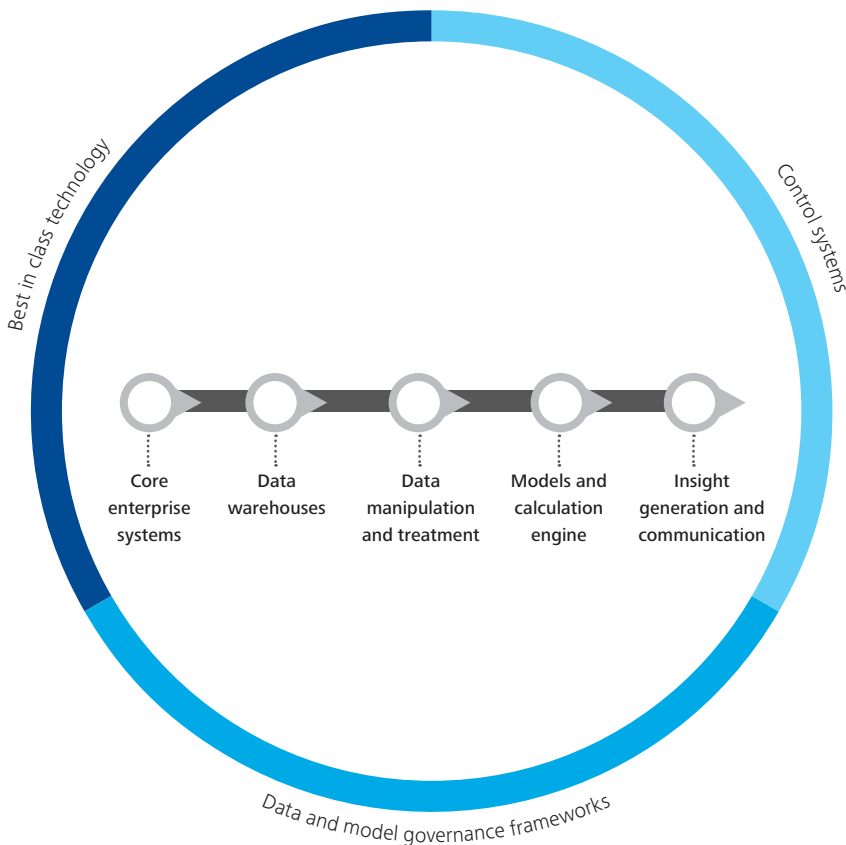


Figure 3 – An effective IT and data environment



The future actuaries will be plugged into integrated data and IT systems and enabled by analytical and business intelligence tools. They will benefit from enterprise wide controls, data disciplines and governance frameworks. This will result in actuaries spending less time on data cleansing, data processing and updating inefficient models. They will instead be spending more time on insights generation and business centred communication.

What can the actuaries and the broader organisation do to make this change happen?

By leveraging 'best in class' IT principles for actuarial teams such as specification, control, governance, documentation and sandbox environments, organisations can better utilise their actuarial teams. We will take this further and say that the entire organisation must adopt a holistic view of data and systems, with the core principle being 'one source of truth'.

This then results in the actuarial teams working with IT and actuarial systems not being standalone but part of the overall organisational systems and architecture, backed by the ongoing support, governance and controls offered by these systems.

The technological landscape of the future will have the following game changing features:

- Integrated data warehousing and data access
- Robust, effective and efficient reconciliations process
- Faster close process
- Ability to review and analyse data to create insight
- Technology aligned to outcome.

It is crucial for the data and technology aspects to be tackled appropriately in order for the actuarial teams to achieve operational efficiency.

As shown in the Figure 3, under an effective IT and data environment, the actuarial workflow (beginning from the core systems all the way to insight generation and communication) would exist within an environment that has:

- Best in class technology
- Consistent data and model governance frameworks
- Strong control systems.

# 3

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## OPERATIONAL AND PROCESS EFFICIENCY

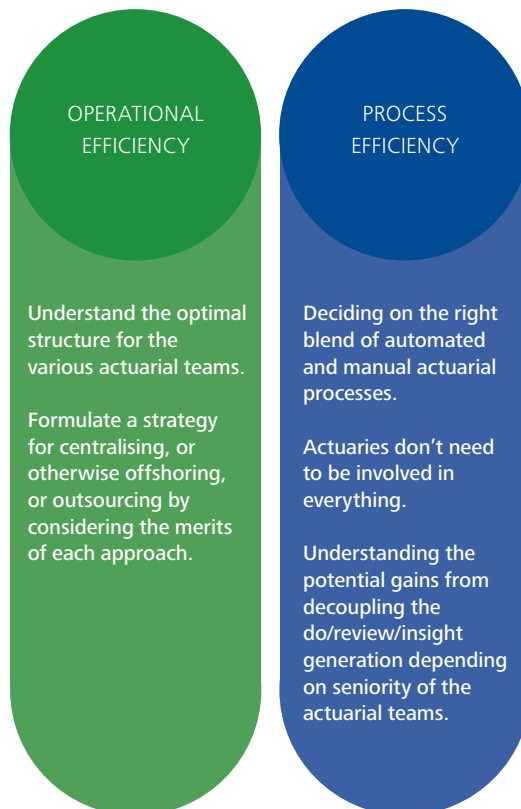
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In mature growth constrained markets, operational efficiencies are critical. Resources are scarce and teams are being asked to do more with less.

Actuarial teams are not immune, and must embrace operational and process efficiency or risk having it imposed on them.

Actuarial teams of the future will be increasingly multi-disciplinary in nature. Many actuaries will work alongside other professionals to improve the flow of ideas between the different perspectives. However, processes and structures to help actuaries maintain access to senior actuaries and have professional support and mentoring are important.

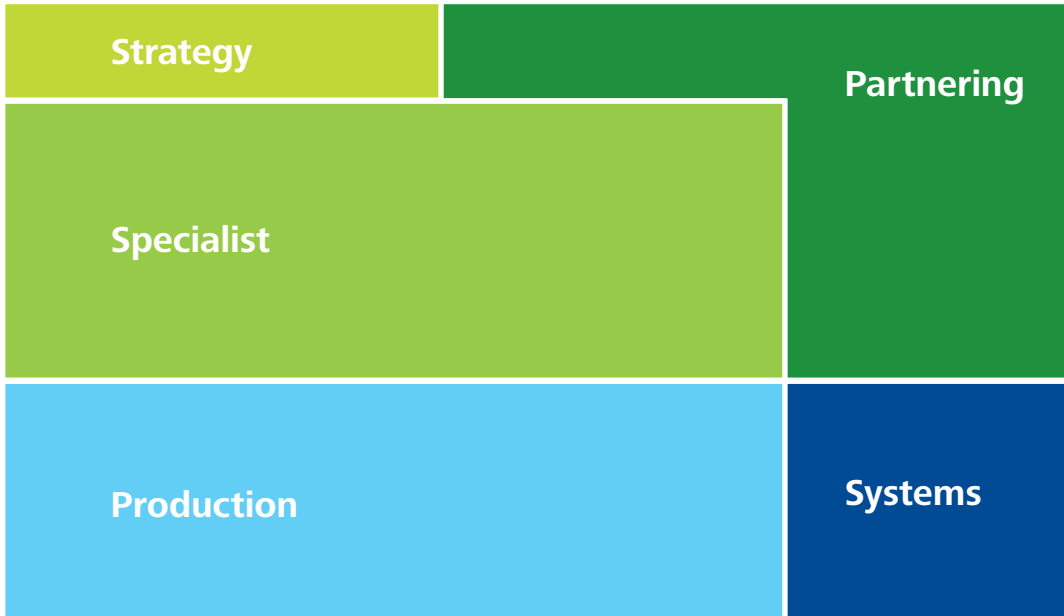
**Figure 4 – Operational and process efficiency considerations**



Organisations are increasingly off-shoring support functions. Management and Chief Actuaries need to consider the implications of this. We see fundamental impacts for junior actuaries coming into the profession and opportunities available to them. Where the detailed work is performed offshore, specific structures and processes must be in place to ensure junior actuaries get the hands on experience they need. This impacts the organisation more broadly in areas such as succession planning. There is also a role for the profession to train the future generation of actuaries to think more strategically and utilise the results from outsourced function to add value.



Figure 5 – Future state integrated actuarial team



There are many dimensions to consider when looking at optimal team structures. Striking the right balance in each of these dimensions below can have a critical impact on efficiency:

- Providing leadership to actuarial teams as well as within the organisation
- Structuring reserving and pricing teams
- Appropriately linking the different teams such as pricing, reserving, risk management, capital and reporting
- Integrating new teams from acquisitions
- Promoting collaboration between actuaries and with other teams through appropriate team structures, operating procedures and protocols
- Using rotation and cross skilling to maximise opportunities for learning and development

- Leveraging IT teams to perform data manipulations, cleaning, storage and reporting
- Creating teams with multiple skill sets that are outcome focused.

Figure 5 shows an example future state version of an organisation that teams actuaries with other skill sets and roles focused on achieving a specific outcome. Actuaries have a part to play in all of the boxes in Figure 5.

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**Actuarial teams are not immune, and must embrace operational and process efficiency**

# 4

## CULTURAL TRANSFORMATION

There is an important cultural change angle to actuarial transformations.

Actuaries typically define what is good through achieving a good enough level of ‘accuracy’ and technical sufficiency. Whilst these are important, the key question is what is good from a business perspective?

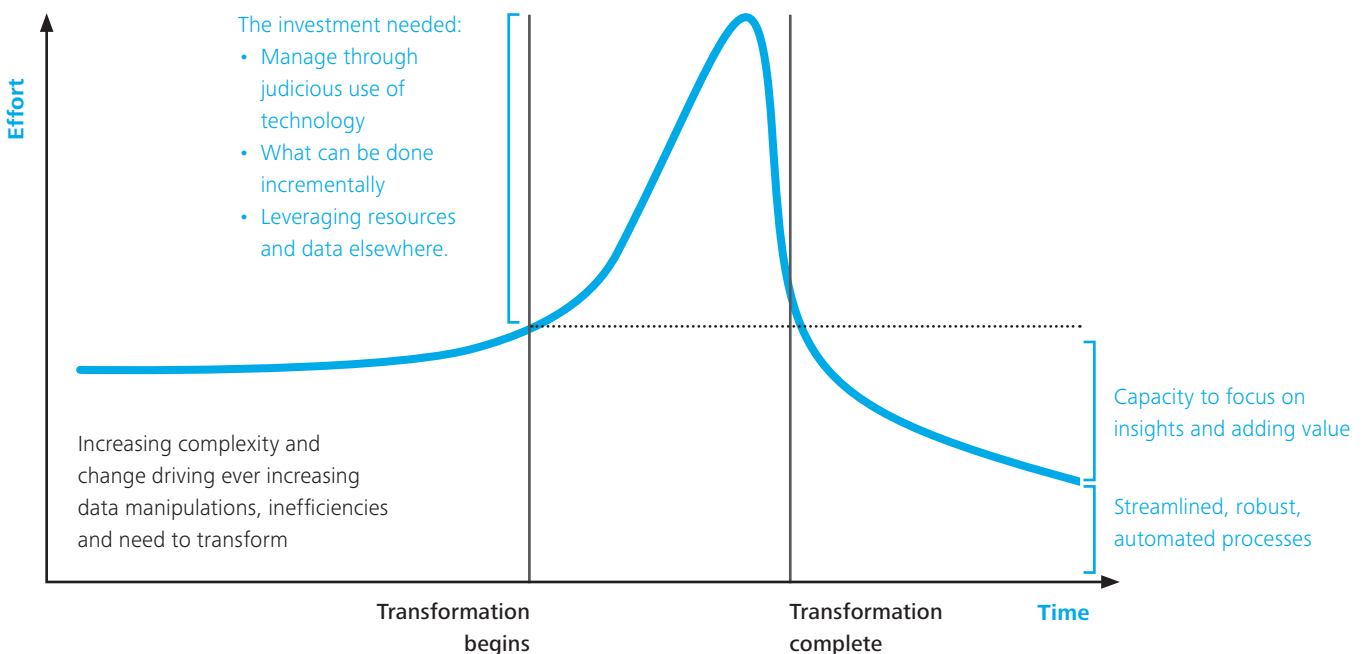
Actuaries and Management need to agree on the expectations from each key C-suite stakeholder and apply the concept of ‘proportionality’: When is the work good enough given the size and complexity of the insurer or class of business?

Furthermore, actuarial teams need to look at the ‘so what’ of the actuarial messages they communicate and then to the spheres of influence: the ‘so what next’ of their messaging. There is a need to focus the actuarial messaging and insights on what is important from a business and strategic context. Actuaries can add more value by expanding beyond building models and producing results.

There are tangible financial benefits to this through better understanding of pricing, improved profits and return on capital.

The challenge to transforming the actuarial function lies in achieving change with current and potentially constrained resources as shown below in Figure 6.

Figure 6 – Achieving an actuarial transformation with constrained resources



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**Actuaries and Management need agree on the expectations from each C-suite stakeholder and apply the concept of 'proportionality'**

Culturally, actuaries have been treading the ever-increasing data manipulations and 'work around' path. This is because they operate in an environment of constant change with new products and regulations coming into the market. As a result, manual processes or actuarially owned systems are implemented to overcome this change. Over time, these processes have taken up a larger proportion of actuarial time, and have reduced time and resources available to focus on more value add tasks.

Operational and process efficiency gains are necessary to shift the focus away from these manual processes to insights and value. The actuarial team together with management needs to utilise technology to generate the efficiencies.

As the above cultural changes are undertaken, individual employee preferences will dictate how they evolve and adapt. Some actuaries will prefer to work with technology, running and maintaining processes and models. Other actuaries will prefer to take advantage of the process improvements to use the outputs and additional capacity to provide business insights, leadership and drive strategy.

This process must be supported by cultural change as well as change management programs. These programs help the team transition from the current process and tools, change accountabilities, perceptions and interactions, and take other teams such as finance, underwriting, claims, marketing and operations on the journey.

# 5

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## CONCLUSION

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The actuarial profession is well known for their technical ability and knowledge of the insurance sector and its products. This has enabled the actuaries to make significant contributions to the areas that they work in.

However, the environment that actuaries operate in has evolved over time. There is greater emphasis on sharing and utilising insights gained from data and analytics across the entire organisation. The pace of business is considerably quicker. Actuarial teams need to change to stay relevant. It is within the capability of the Chief Actuary, actuarial teams and the wider organisation to respond to these changes.

Through transformations that cover data, technology, operations, processes and cultural changes, actuarial teams can undergo sustainable constructive changes that will be value adding to their management teams and their organisations.

It gives individual Chief Actuaries an opportunity to become regarded as catalysts for organisational change and as strategists influencing the organisation's future direction.

For organisations and management teams, this is an opportunity to create a competitive advantage through maximising the potential and value added from their actuarial teams.

For the actuarial profession, this is an opportunity to foster the perception of commerciality and agility while keeping the existing reputation for high standards and technical excellence.

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For organisations and management teams, this is an opportunity to create a competitive advantage through maximising the potential and value added from their actuarial teams

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