



An increasingly interconnected world: a challenging environment for actuaries

The ever-changing risk landscape

The risk landscape is constantly evolving, both in terms of threats emerging, as well as the speed in which these unfold. Think for instance of cyber risk. Where until recently, cyber risk was on every insurer's radar as one of their top emerging risks to keep an eye on, today, it has evolved into a mature risk, one which insurers cannot afford to ignore.

Aside from constantly evolving, risks are also getting increasingly interconnected. Developments over the past couple of decades, such as the rise of the internet and global trade have created an environment in which the occurrence of an isolated event can trigger a further event, and so on, which in turn may lead to a chain reaction of sorts, ultimately unfolding into a more widespread crisis. This makes that risks should be managed differently to how they were managed in the past. All in all, this changed landscape poses a challenge for actuaries.

Historically, actuaries relied on a combination of past experience and expert judgment when making predictions about the future. By combining historical data with our own judgement, we try to model what might happen. We choose a particular variable we believe provides a good prediction of the future risk and take various measurements of it using historical data. For this to work though, it should hold that the past is a good indicator of the future.

Unfortunately, this is becoming increasingly unreliable. Risks emerge as a result of a complex series of interactions among a large number of factors, and small changes in conditions can lead to significantly different outcomes. Take the COVID-19 pandemic for example. What started as a virus on mainland Asia caused a chain reaction of events, eventually culminating in global lockdowns, failing supply chains and economic distress.

As the dynamics of risk change, the same holds for the controls we put in place to monitor and manage them. As past performance is not necessarily a reliable predictor of the future anymore, controls should be continuously evaluated and updated such that they remain up to speed with the ever-changing risk landscape.

A CHANGING APPROACH TOWARDS RISK MANAGEMENT
In this new risk landscape, the insurance sector is moving towards a more holistic risk management approach [1]. Organisations are realizing that the avoidance of losses arising from the occurrence of adverse risk events is not always feasible, and as such, increasing efforts are being placed on monitoring (detecting risk as soon as it unfolds) and managing (containing and reducing the impact) the key risks.



Recent regulatory efforts emphasise this. With initiatives such as pre-emptive recovery planning [2] and operational resilience [3], regulators are further ensuring that insurers include a holistic risk management approach in their risk management toolkit.

Also, setting up controls to monitor vulnerabilities are advancing. Recent developments in Artificial Intelligence and Machine Learning have combined to enhance the tool kit available to risk managers. Innovative solutions can help insurers to go beyond traditional ways of managing risks by using smart machines to detect, predict, and prevent risks from materialising in high-risk situations. Autonomic computing combines automation and cognitive technologies to make systems self-managing – and potentially self-defending and self-healing against risks. [4]

OPPORTUNITIES FOR ACTUARIES

In here lies an opportunity for actuaries. To help insurers continue to ensure that they adequately identify future vulnerabilities, firms need to employ scenario testing to supplement any lessons learned as a result of actual disruptive events having occurred. Actuaries have much to offer in generating severe but plausible scenarios for the purposes of such analyses and their insights can make a real difference. Both in terms of identifying, measuring, monitoring, managing and reporting risk.

To be able to do this and to be of added value, actuaries need to understand the strategy, financials and operations of an organisation and how each of these areas and underlying processes relate to each other. An actuary also needs to be able to put all this in a broader perspective and assess how external factors such as the global economy, climate change or geopolitics can impact their organization and its risk exposures. In addition to all of this, the actuary must remain up to speed on the latest industry trends and regulatory requirements.

Whilst being a generalist, at the same time the actuary must often be a specialist. Through their technical skills, they should be able to translate their assessment of a company's risk exposures into scenario analyses, quantifying each vulnerability and putting in place appropriate controls to measure and monitor them.

Besides this, an actuary should also have interpersonal skills. Collaboration with the different stakeholders within the organization is key. This requires teamwork and building consensus. The actuary should also be able to communicate risk exposures and complexities both internally and externally. Measuring and monitoring risk is one, translating it into a concrete action for management to base their decisions on, requires a whole different set of skills. Negotiation and relationship building skills therefore also come very clearly into play.

THE FUTURE IN RISK MANAGEMENT

Risk management is a dynamic area with many opportunities for actuaries to work in. With risk management becoming a mature field of work and with continued attention being paid by regulators, expectations are that risk management will remain a focus area for some time to come. There is a great opportunity for actuaries to establish and consolidate a clear role within this field.

To remain relevant and truly add value though, the actuary should have a broad scope of interest, be able to effectively communicate and be able to take the lead in connecting the dots. National actuarial associations (such as Koninklijk Actuarieel Genootschap) can play a key role in helping actuaries to gain and maintain this skillset. ■

[1] Holistic IAIS Holistic Framework for the assessment and mitigation of systemic risk – <https://www.iaisweb.org/activities-topics/financial-stability/holistic-framework/>

[2] Solvency II and IRRD: Council and Parliament agree on new rules for the insurance sector
<https://www.consilium.europa.eu/en/press/press-releases/2023/12/14/solvency-ii-and-irrd-council-and-parliament-agree-on-new-rules-for-the-insurance-sector/>

[3] PS21/3 Building operational resilience
<https://www.fca.org.uk/publications/policy-statements/ps21-3-building-operational-resilience>

[4] Data science-potential uses in risk management
<https://www.milliman.com/en/insight/data-science-potential-uses-in-risk-management>

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