Deloitte.

Together makes progress

Upgrading the actuarial function

AI efficiency gains paired with skill set shifts can empower actuaries to focus on the most valuable work

Introduction

The actuarial function should adopt a continuous effort to bring efficiency to operations so actuarial teams can deliver maximum value to the enterprise. Through a combination of strategies including adoption of artificial intelligence (AI) and automation, skill set shifts, and role diversification, actuaries can reduce time spent on routine tasks and focus on producing greater value to the entire enterprise. This paper presents these strategic approaches and how they can be executed.

AI as an enabler

As we covered in a prior paper, AI is expected to serve as a powerful enabler for operational efficiency. In that paper, we discussed how AI can enable actuaries to more swiftly refine pricing by iterating through possible permutations of pricing models. This, however, assumed the underlying data was already cleaned and fit for purpose—a time-intensive task.

A powerful way that AI can enable efficiencies is by helping actuarial and insurance professionals effectively interact and generate value from unstructured data. By modernizing and mechanizing the process of data management, insurance companies could allow actuaries to focus on more profession-specific tasks and higher-value outcomes.

Here's how: Insurance companies need to deal with standardizing and organizing incoming information from claims forms, policy documents, and broker submissions, not to mention a growing suite of connected devices providing real-time data points. Traditionally, this data management work has been done largely by early-career actuarial professionals who are trained to use this data for rate indications and other strategic work.

Thanks to rapid evolution of machine learning algorithms, it's possible to train systems to standardize data by having them recognize patterns and apply consistent coding rules across large data sets. In addition, natural language processing models can extract and categorize unstructured text from claim descriptions, automatically assigning standardized codes for cause of loss, damage types, and coverage categories. And as new data patterns emerge, supervised learning algorithms can be trained on historical coding decisions to maintain consistency. There are countless other ways for insurance companies to use AI or machine learning on relatively common tasks such as fraud detection, risk modeling, and claim trend analysis.

These tasks are all highly manual, so by shifting them to machine learning and other AI-enabled tools, insurance companies can achieve not only cost savings but more consistent output. It could also produce far more demand for what actuaries are

very good at—strategic foresight, or the ability to identify how a company could be doing something better. Bottom line: Actuaries are an expensive resource and take years to develop. They should be spending less time on data management and routine modeling, and more time using their expertise to design and validate models that will result in strong business outcomes.

Our own experience demonstrates how powerful this effect can be—not only as an operational issue but as a financial advantage.

We've worked with a national P&C carrier to build an agentic AI tool that was designed to inform filing teams what objections they may receive from regulators before they even file. The tool ingests and analyzes filings of top competitors in any state for any line of business. This can improve approval times and allow carriers to get the latest rates in faster, leading to improved financial results.

Skill set shift

We see the actuarial profession shifting toward more strategic, high-value roles, and this can be accelerated when organizations embrace more modern ways of working. For example, some actuaries are focusing more heavily as business consultants who uniquely understand and interpret the complexity revealed by various incoming signals from the market. They provide actionable recommendations for senior leadership. Other examples include actuaries moving into advanced risk strategy and sophisticated predictive modeling, or overseeing AI algorithm development and validation.

This "skill set shift" calls on actuarial professionals to do more. Actuaries often spend a majority of their time on retrospective analysis, despite a strong desire to instead focus on the forward-looking activities of insight and foresight. With a shift toward foresight-driven activities, they can focus on higher-order pursuits such as enterprise-level portfolio management and identifying emerging risks. They interact more intentionally with other functions, such as underwriting and claims, and are embedded in teams that drive product development, strategize on M&A and new business ventures, and proactively address evolving regulatory standards. All of these tasks go well beyond the typical skills toolbox of deep mathematical expertise traditional to the profession.

Conclusion

Taken together, the actuarial function is shifting to higher and more valuable roles—but also more selective work. This is expected to involve a transition across the profession, but it allows actuaries to focus on work aligned to their skill sets and interests.

The technical skills of actuaries continue to be in demand but could evolve into a more supervisory role as actuaries collaborate with other teams and drive efficiency with AI and machine learning technologies. However, actuaries will still need to bring their unrivaled domain expertise and cooperatively work with data engineers to promote better data management and analysis.

Actuarial functions ultimately depend on a blend of actuarial and non-actuarial skill sets. The ideal actuarial team will likely need to leverage data engineers, data scientists, actuaries, process specialists, and other experienced professionals—either by embedding a mix of roles and skills within the actuarial function or through operating models that facilitate multifunctional teaming.

In short, actuaries will likely be moving increasingly to more decision-making roles, highly integrated at the strategic heights of their organization.

Contacts

Matt Carrier
ACAS, MAAA
Principal
Deloitte Consulting LLP
macarrier@deloitte.com
+1 312 486 3904

Jim Arns
ACAS, MAAA
Senior Manager
Deloitte Consulting LLP
jarns@deloitte.com
+1 312 486 4546

Tom Lapinski
FCAS, MAAA
Manager
Deloitte Consulting LLP
tlapinski@deloitte.com
+1 617 437 3365

Kelly Cusick
ACAS, MAAA
Managing Director
Deloitte Consulting LLP
kcusick@deloitte.com
+1 312 486 2480

Stefan Peterson
ACAS, MAAA
Senior Manager
Deloitte Consulting LLP
speterson@deloitte.com
+1 312 486 1463

Jack Richards
FCAS, MAAA
Senior Consultant
Deloitte Consulting LLP
jackrichards@deloitte.com
+1 312 486 1236

Deloitte.

Together makes progress

13100741