

Actuarial model governance: Empowering people with technology

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Model governance doesn't have to mean red tape and bureaucracy. If properly implemented, it can be an enabler and differentiator of actuarial skill, helping people focus on what they do best rather than getting bogged down in process. The right technology is critical to achieving model governance that lets people work smarter. This paper aims to contribute to the growing awareness of governance best practices with a more business-centric mindset toward model governance, advocating for technology as the enabling and activating ingredient.

THE GROWTH OF GOVERNANCE

The actuarial profession continues to evolve in exciting and interesting ways, particularly with respect to modeling. The modern actuarial function is modeling-intensive: We are consolidating modeling platforms, consolidating individual models into fewer but more multi-functional ones, and using model results to inform financial statements with more frequency. In order to more effectively serve these growing needs, organizations are attempting to broaden their vision and abandon the fragmented approach that has made modeling slow, inefficient, and error-prone.

However, this requires a significant shift in how modeling is done. In the past, it was the norm to have each team—pricing, valuation, asset-liability modeling (ALM), etc.—create and manage its own functional models, even when there was overlap among the business needs being served or an absolute need for consistency across assumptions, calculations, and results.

From time to time, individuals might communicate with other teams to try to reconcile the models, but in the end the organization still had separate models with separate ownership, often spread across a variety of different platforms. The result was typically a costly, confusing, and opaque environment.

This is the reality that many companies are trying to overcome by governing model creation, use, and change in a more comprehensive, thoughtful, and consistent way. This new environment represents a significant change from the world that many actuaries are accustomed to, one in which there is much more control over how models are created, changed, updated, and used. Companies must do the hard work of drafting a formal, documented model governance policy, including a standard model development process, change management process, and standards for testing, reviewing, documenting and coding models.

Unfortunately, as challenging as it is to develop these protocols around model governance and reach agreement with a variety of constituents, managing in accordance with these policies and procedures once they are created is often even more of a hurdle. The best governance framework in the world is useless if it is too complex to be implemented and sucks time away from valuable resources that could be put to better use.

Embedding the governance framework throughout the organization in a consistent way can be done with one of two basic methods: by hiring people to manage the process through documents, meetings, committees, reminders, training, and other costly activities, or by implementing technology that automates the process side of governance.

AUTOMATING GOVERNANCE

Imagine a modeling environment where actuaries spend less time policing and more time collaborating, developing insight, and bringing their actuarial skillsets to bear on the real issues. It's about expending energy in the right way, at the right time, and by the right people. This is possible today. However, while the technology underlying models themselves is a frequent topic of model governance conversations, the technology that helps people follow the rules and be more efficient inside of that process often receives less focus.

From a modeling perspective, the actuarial industry has become very good at developing and leveraging technology for calculation purposes, but for governance purposes, it still relies heavily on a manual system built around people, policies, and procedures. This is unfortunate because without modern, automated actuarial governance, organizations will waste time and talent at the expense of cooperation, sustainability, and innovation.

A high-performing modeling organization emerges from a proper balance across all three elements of the modeling triad: people, processes, and technology—for both the computations and the governance. An organization can adopt “hard governance” by leveraging technology to activate its governance framework and embed controls throughout the organization in a consistent way.

Having governance technology in place ushers people through a structured process and takes care of the questions of where to put information, who is responsible for approval, how changes get reported, and so on. This helps lighten the burden of governance implementation and management and, when properly designed, creates the conditions for success by enabling collaboration.

EFFICIENCY AND ACCURACY THROUGH AUTOMATION

With technology, automation becomes possible for many aspects of the modeling process that once would have required labor-intensive manual intervention. Aspects of model governance that can be automated today include:

- Model inventory
- Model execution
- Validation schedule
- Historical tracking of changes and change ownership
- Shared development and testing spaces
- Staged implementation and unwinding capabilities
- Workflow management (including development, testing, review, signoff, and implementation stages)

By removing manual steps, errors are reduced and projects can keep moving forward. Automation also helps people do their jobs, providing alerts to keep model development, maintenance, and change in the sights of the right people at the right time.

ENHANCED COLLABORATION

One of the most important aspects of governance is enabling people to work together effectively by coordinating activity across models. With governance technology that “speaks” to modeling technology, it is possible to enable simultaneous collaboration on complex models with simple, user-friendly methods for resolving conflicting changes.

INFORMATION MANAGEMENT

A governance technology solution can serve as the centralized repository for all artifacts related to models and model changes, such as planning documents, model documentation, evidence of review and testing, and signoff. By keeping these artifacts organized and

attached to the actual modeling project, team members can easily find them in the context of real projects so that they always have the best and latest information.

AUDITABILITY

Ideally, governance technology can capture all activity related to modeling, including who made changes and when, to support complete auditability. As with many aspects of governance, the technology that appears controlling at first is actually liberating. Solutions that have comprehensive auditability enable users to be more creative in developing products and modifying calculations and assumptions to fit evolving business models. If changes can be reliably and comprehensively tracked and reversed when necessary, people can experiment, test, and explore new avenues of possibility.

GETTING TO THE EFFICIENT MODELING ENVIRONMENT OF TOMORROW

For a number of reasons, actuarial organizations are being forced to develop and adopt more robust model governance. Those with the vision to see model governance as an opportunity to propel their organization to new levels of productivity and cooperation will realize a competitive advantage over those who view governance as an impediment to their business success. And those who leverage technology will travel even faster and more efficiently along the governance journey.

In the absence of governance technology, a human must track, manage, and coordinate all modeling activities, which takes time away from the higher-value activities he or she could be doing. Automated governance can increase comfort and confidence around the underlying calculations and logic and helps to optimize model change, development, and maintenance by replacing manual processes with the consistency and reliability of technology.

This enables organizations to regain and retain an understanding of their modeling approaches and assumptions to ensure consistency going forward. In a much broader sense, it frees up time for actuaries to apply their creativity and insight to real business problems rather than being overwhelmed by management details. The next generation of actuaries will hopefully come up through the ranks spending more of their time developing familiarity with the underlying relationships and calculations that drive the behavior of each business line. With actuarial model governance technology, the whole should always be greater than the sum of the parts: It should enable the business to reduce risk while also maximizing the actuarial talent within an organization.

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