



Models are playing an increasing role in supporting insurance companies' business models. With this increasing use comes increasing levels of risk. Model risk management requires a comprehensive risk management framework around model development and modeling processes, including rigorous risk assessment, validation and control procedures. A model risk management framework must include policies and procedures that clearly describe roles and responsibilities as well as define the major elements of the risk management process, including identifying, measuring, validating, remediating, monitoring and reporting. The framework elements should be tailored to the size of the institution, the scope and complexity of the models, compliance requirements and the materiality of risk.

KPMG LLP (KPMG) professionals have many years of experience in developing model risk management capabilities for the insurance industry. Information about this key service offering from KPMG is summarized below.

## The Challenges

- Obtaining stakeholders' confidence over model performance and reliability of results
- Defining an "in-scope model" for model governance
- Ensuring consistency of standards, appropriate level of rigor, and timeliness of model validation and remediation activities
- Balancing the tension between assumptions and model credibility while educating stakeholders on model assumptions, effectiveness and limitations to facilitate use of output to inform decision making

## The Goals

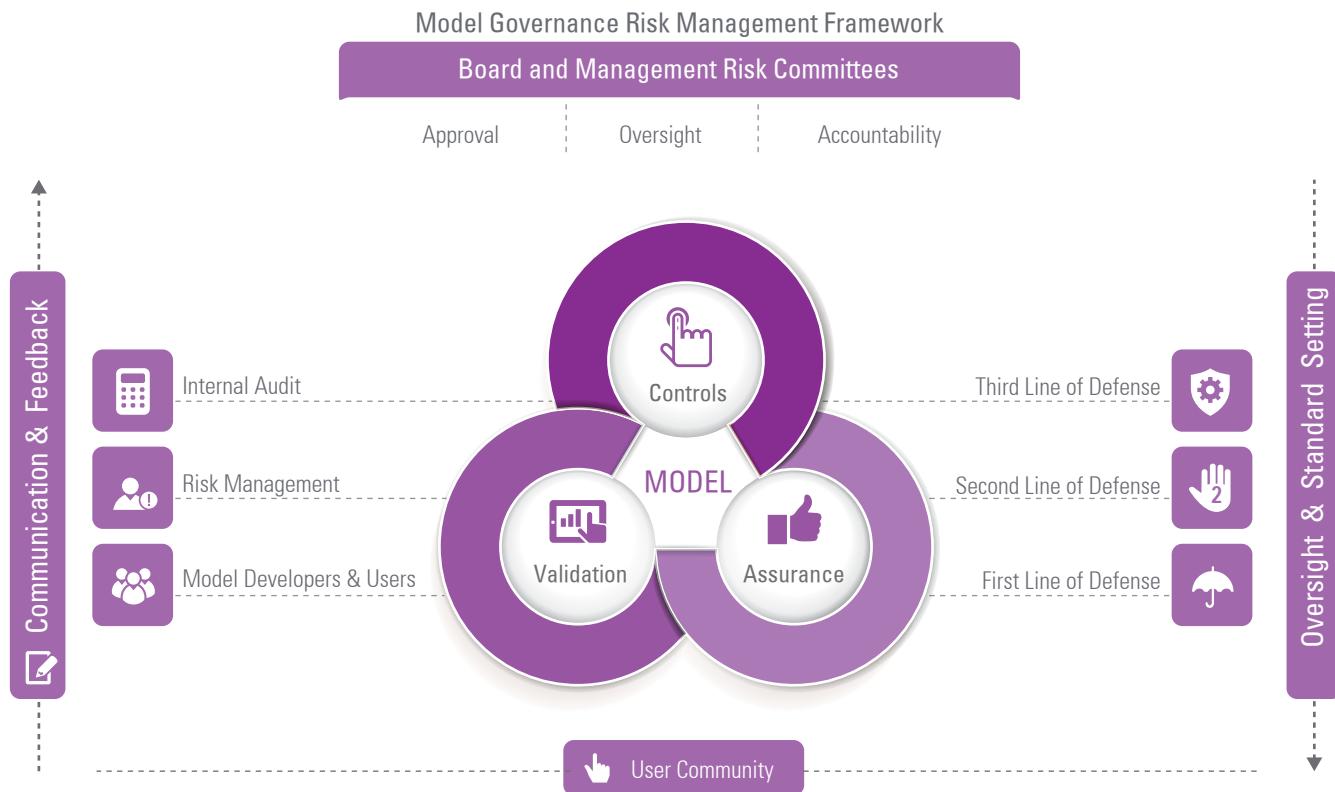
- Development or refinement of the target operating model to align model risk management capabilities with the overall risk management framework
- Creation of the structure, process, and oversight necessary to provide stakeholders with confidence in model risk results
- Development of an “in-scope” model definition, model inventory, risk assessment methodology and process, risk assessment results, model risk ranking, key control objectives, and model validation protocols that provide an appropriate level of assessment rigor based on model type and risk level
- An embedded cadence of model validation and remediation activities across all “in-scope” models
- Educated stakeholders on model assumptions, effectiveness, and limitations to facilitate use of output to inform decision making

## Our Approach

- Leverage a knowledge base of lessons learned from previous engagements, industry leading industry practices (including banking) and our understanding of regulatory standards such as SR 11-7 and rating agency expectations
- Focus on strengthening senior management and the board’s active involvement in model governance
- Engage business functions for conducting model risk assessments and maintaining a strong control environment
- Assist management to assign clear authority for risk management under the direction of the Chief Risk Officer for driving model governance and model governance activities
- Assist with the development of formal reporting of model risks, controls and validation results to stakeholders



# Model Governance Risk Management Framework



## Our Team

- **A senior team leadership with deep, relevant skills.** Our senior team is a seasoned group of professionals with both industry experience as Chief Risk Officers and Chief Actuaries as well as many years of professional services experience assisting insurers develop model risk management programs.
- **A global team with multidisciplinary experience.** We can deliver a talented multidisciplinary team from around the globe to assist companies with developing risk management capabilities and reviewing and assessing your insurance risk management program on a global scale. Our team includes

specialists from a variety of disciplines such as Enterprise Risk Management, insurance risk, market risk, credit risk, actuarial, reinsurance, hedging, modeling and finance professionals, and global insights on operational risk.

- **A practical and well-developed approach.** Technical knowledge and both industry-based and advisory-focused experience are important, but quality of delivery is equally important. We have a tried and tested approach and a demonstrated track record of efficient, quality delivery on our projects.

## KPMG's Five Key Principles of Model Risk Governance

1

A governance framework including validation procedures is designed and implemented to provide stakeholder confidence that models achieve their intended purpose.

2

While controls and validation procedures will vary, a consistent model governance framework is applied across all "in-scope" models.

3

The governance framework provides for the necessary rigor specific to each model. The criticality, complexity, maturity and reliance on a model determine its importance and, in turn, establish the level of controls and validation needed for that model.

4

The governance framework promotes independence of control evaluation and validation of models.

5

A model risk assessment process is developed to establish the level and controls and validation needed for a particular model.

### Contact us

For more information on KPMG's Insurance Risk Management Advisory Solutions, or to arrange an in-house presentation, please contact one of the representatives listed below or visit the KPMG Insurance Web site at <http://www.kpmg.com/US/en/industry/insurance>.

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