Model Management Brief: Third-Party Model Management

A third-party model (aka vendor model) is any model built by a company other than the firm that uses it. These models typically use datasets spanning multiple entities as opposed to just the data from the model-using firm (models built using a sole firm's data are typically referred to as "custom" models).

Prominent examples of third party models in the financial services sector include credit scores built by FICO or one of the three credit bureaus, and fraud scores built by various third parties to detect fraud at account opening or for individual transactions. In these examples, credit bureau data from a broad swath of US consumers and fraud incidence data from multiple financial institutions (FIs) are used to build the models (as opposed to credit data from just one bank's customers, or fraud transactions data from a single FI's transactions history). There are many other examples of third party models such as those used for asset and liability management, AI-based language generation, market risk measurement, asset valuation, cyber risk detection, and portfolio management, among others.

While third-party models may offer advantages in cost-efficiency, data breadth, and modeling expertise (especially for smaller firms without internal model development capabilities), managing them presents unique challenges. Proper oversight and management ensures they align with an organization's risk appetite and management strategies, as well as regulatory requirements. Although third-party management is broad-ranging in scope and activities, the following are key practices specific to effective third-party management of models.

Key Practices for Third-Party Model Management

1. **Conduct Due Diligence of Modeling Capabilities-** Before adopting a third-party model, perform a comprehensive evaluation of the vendor's capabilities, including:

- industry track record and longevity,
- model development and testing processes and expertise,
- model development data quality and relevance to the firm's use case, products, and customer,
- how the model performs on data samples on which the third party has previously been tested, and
- how the model complies with any regulatory requirements.

Engage your firm’s model experts and regulatory compliance team to take part in this assessment. It is important that firms have a policy or procedure outlining due diligence steps, specifying which teams will play which roles and have which responsibilities.

2. **Negotiate and Establish Vendor Relationships-**

Take care to define expectations on service level agreements (SLAs) for

- model update frequency,
- technology support and issue resolution, and
- amount of time the third party will devote to answering questions to provide the firm with a deeper understanding of the model during its use.

In addition, the firm should establish the frequency of performance testing and the types of metrics and reports that will be provided to the firm; ensure your model experts agree these are appropriate and sufficient.

3. **Partner across the Model-Owing Team and Legal on Contract Provisions-**

A knowledgeable model owner or the firm’s model risk management team should collaborate with the legal department to ensure the contract with the third party includes language for provision of detailed model documentation and an agreement on the frequency with which the third party will provide the firm with model performance monitoring reports. Clarify in the contract if the performance tracking will be on the institution’s own data and experience, or more broadly-based, such as the full industry population (obtaining both is ideal).

Standard contract language should include a detailed listing of items the third party will document including:

- data sources and model inputs including variable definitions and any important data transformations made,
- modeling methodologies and algorithms employed,
- results of model testing and benchmarking,
- listing of model risks and limitations,
- details on performance monitoring including data and metrics used.

Any deviations or deletions from this standard contract language the third party might wish to make should be approved by internal model experts to ensure the requirements on the third party align with the institution's risk appetite.

4. **Work with the Third Party to Complete Model Documentation-**

   Once the contract has been executed, the firm should ensure that its standard model documentation templates are filled out for the model, either by the third party itself or internal model experts using information provided by the third party. This would include clearly defining the purpose and intended use of the model, as well as all the technical items mentioned above.

   Many third party vendors are reluctant to share full model methodology details, citing intellectual property concerns. However, firms should push for as much transparency as possible. In our experience, most third-party methodologies are not as unique as vendors claim. Firms should insist on adequate disclosure to meet regulatory and risk management standards.

   The value of vendor models is often derived from their broad-based datasets obtained through data partnerships, user-friendly interfaces, dashboards, and reporting, as well ability to leverage cloud infrastructure and advanced computational power. All these are important reasons to consider third-party models, but unique modeling methodologies not available to individual firms or other vendors is typically not among them.

   If a vendor is unwilling to disclose key methodology details, document what information is missing and assess the risk of the lack of transparency. Work within your firm's governance processes to determine if the lack of information poses a level of risk that warrants the model be used with compensating controls. These may include limiting the model use to a subpopulation, at least initially; deeper or more frequent human review before taking action on individual outcomes along with an ability to override the outcome; and ongoing benchmarking to other similar tools and models.

5. **Evaluate Model Performance on an ongoing basis-**

   Establish ongoing performance monitoring frequency and metrics to assess the model's effectiveness. This includes tracking its accuracy, stability, and relevance in light of changing market conditions or regulatory landscapes. Regular performance reviews will help ensure the model remains reliable and compliant with your risk management framework. It is important that the model performance be tested on the firm's own experience and data, and not just a broader industry data sample. This testing may be done internally by quantitative experts or by the third party vendor if the vendor has access to the firm's own data.

6. **Implement Robust Model Validation-**

   Even though a third-party model may have been validated by the vendor, it's crucial to conduct independent validation within your organization just as you would for internally developed models and to continue to perform validations on the same cycle as for internal models. Internal validation processes ensure the model's assumptions, inputs, and outputs are appropriate for your specific use, and that the third party has provided sufficient documentation for the model to be reasonably understood by the using firm and their regulators.

7. **Contingency Planning-**

   Prepare for potential model failures by developing documented contingency plans that outline how to handle situations where the model may underperform or fail to meet your risk management needs. This may involve having backup alternative models or non-model tools at the ready for rapid deployment, and/or identifying manual processes that can be quickly implemented.

Summary- Managing third-party models requires:

- thorough due diligence before the decision to adopt,
- clearly defined, detailed contracts and SLAs,
- ongoing performance tracking and validation,
- proactive engagement with vendors to ensure transparency and ongoing support, and
- well-documented contingency plans for underperformance or failures.

By following these practices, firms can adopt and use third-party models while maintaining strong risk management.

If you need assistance optimizing your third-party model oversight, **Model Management Advisors** can help you properly and safely integrate third-party models into your model management framework. Contact us today to discuss how we can assist your team**.**