Frequently Asked Questions on the model validation role in AI & compliance model validation team

What a “model” is?

Models are simplified representations of real-world relationships among observed characteristics, values, and events. A *model* consists of three components: an information input component, which delivers assumptions and data to the model; a processing component, which transforms inputs into estimates; and a reporting component, which translates the estimates into useful business information.

What “model risk” is?

Model risk is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. Model risk occurs primarily for two reasons:

• The model may have fundamental errors and may produce inaccurate outputs when viewed against the design objective and intended business uses.

• The model may be used incorrectly or inappropriately.

How to manage model risk?

A guiding principle for managing model risk is "effective challenge" of models, that is, critical analysis by objective, informed parties who can identify model limitations and assumptions and request appropriate changes.

Model risk management begins with robust model development, implementation, and use. Another essential element is a sound model validation process. A third element is governance, which sets an effective framework with defined roles and responsibilities for clear communication of model limitations and assumptions, as well as the authority to restrict model usage.

What model validation is?

Model validation is the set of processes and activities intended to verify that models are performing as expected, in line with their design objectives and business uses. Effective validation helps ensure that models are sound. It also identifies potential limitations and assumptions, and assesses their possible impact. As with other aspects of effective challenge, model validation should be performed by staff with appropriate incentives, competence, and influence. All model components, including input, processing, and reporting, should be subject to validation; this applies equally to models developed in-house and to those purchased from or developed by vendors or consultants. The rigor and sophistication of validation should be commensurate with the bank's overall use of models, the complexity and materiality of its models, and the size and complexity of the bank's operations.

Could you describe a typical validation project?

It depends on the scope, materiality and moment in the life cycle of the model. But a common project can last circa 3 months, and involve:

- Reading and assessing all the material that the first line of defence that submitted to the validators
- Effective challenge of the model, which means performing qualitative and quantitative tests, in the proportion needed by the model
- Communication with stakeholders, primary model owners and developers
- Proper formalization of the performed tests and their conclusion

Which skills do I need to be a strong validator?

A mix among:

- Communication skills
- Stakeholder management
- Writing skills
- Coding skills (preferable in Python)
- Statistical skills
- Logical thinking

Everyone has skills in which he/she is stronger and others in which is weaker, but a minimum level for each of the above is needed.

Which models are in the scope of your team?

The following areas:

- Financial Crime models (majority of the BoW), which include transaction monitoring models, client risk rating and entity matching
- Monitoring and oversight models, which include communication surveillance, trade surveillance and employees surveillance
- Cognitive AI, which include a range of different models

The majority of the text above comes from SR 11-07. Please read more on SR 11-07, Supervisory Guidance on Model Risk Management.