KPMG

The Future State of Model Validation

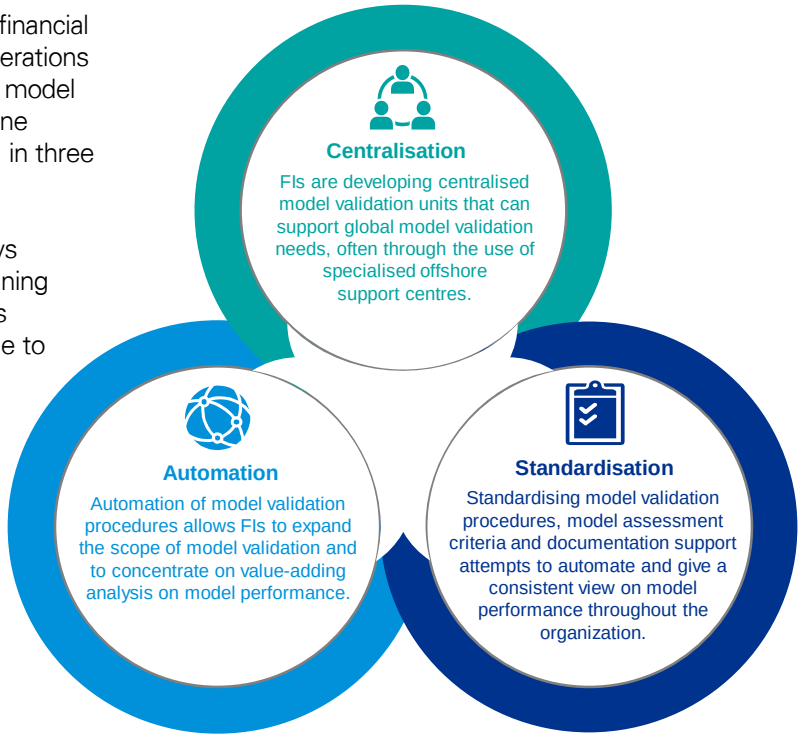
Centralisation vs Localisation

How do financial institutions balance the desire to optimise model validation processes while ensuring models meet the expectations of local business users and the requirements of local regulators?

Redesigning the operating model for independent model validation

As model use continues to proliferate throughout organisations, financial institutions (FIs) are being forced to consider how to optimise operations for their independent validation units (IVU). Increasing breadth of model usage and the greater complexity of model forms (e.g. AI, machine learning, etc) are incentivising institutions to explore optimisation in three areas: automation, standardisation and centralisation.

1. **Automation:** Automating model validation procedures allows independent validation units to become more efficient in running model diagnostics and assessing model performance. This is important as models become more complex and FIs continue to make greater use of models to solve business problems.
2. **Standardisation:** Standardisation and automation go hand-in-hand for enhancing the efficiency of model validation procedures, as the greater the level of standardisation the easier it will be for FIs to automate model validation procedures.
3. **Centralisation:** The final area for optimisation is to centralise the model validation unit, having a global or a few regional centres to perform model validation for all models. This allows FIs to gain efficiencies and to better plan the workload and resourcing within model validation units.



Avoiding blind spots in a centralised operating model

Centralisation allows for economies of scale and efficiencies when performing model validation procedures, which are often similar for model groups (e.g. similar diagnostic tests for certain model forms). The aim of a centralised model validation unit is to reduce the cost of effective model risk management and responsibility for managing model risk of the entity's global model inventory.

The problem that is posed by a centralised model validation unit is the ability of the independent model validation unit to assess the validity of local model adjustments and ensuring model development and model validation comply with the requirements of local regulators. The responsibility for model development lies with the model developer and model owner, who should also be responsible for ensuring that models are adjusted to reflect local conditions and local regulatory requirements. However, when the model validator is agnostic to local conditions these model adjustments may not be subject to sufficient review and challenge.

Therefore, while centralisation will almost certainly provide efficiency gains and reduce the cost of effective model risk management, FIs should ensure that there are no blind spots in their model validation operating model. For example, if an algorithmic trading model has not been correctly calibrated to the local market index and the model goes haywire, then events of model failure like this could easily undo the efficiency gains and cost reductions produced through centralisation.

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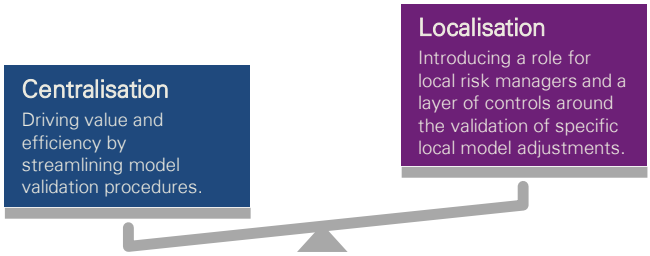
Regulators' expectations on local ownership and accountability

While the formal guidance and regulations on model risk management are still developing, regulators will ultimately hold model owners accountable for model use and performance within their risk management policies and frameworks. The Federal Reserve's SR11-7 states that "business units are generally responsible for the model risk associated with their business strategies". The pervasive thinking may be that model ownership responsibilities are ensuring that models are properly developed, implemented and used in accordance with their original purpose. However, while model validation procedures are performed by an independent party, regulators still hold model owners responsible for ensuring "models in use have undergone appropriate validation and approval processes" (SR11-7) and are therefore responsible for any issues arising from model deficiencies that result from insufficient model validation.

This is an important consideration for FIs in Hong Kong particularly in the case of their automated trading models, which are likely to both use more sophisticated statistical techniques and be tuned to react to local indicators. Banks should ensure that this local element is captured sufficiently during model validation and independent reviews. The SFC's Manager-in-Charge regime and the HKMA's recent papers on the "High-level Principles on Artificial Intelligence" and "Sound risk management practices for algorithmic trading" clearly indicate that regulators hold local senior management accountable for any decisions driven by these types of models.

Striking the right balance between centralisation and localisation

The clear trend within the industry is towards a centralised model, supported by the benefits of standardisation and automation. However, to assuage the concerns of local business users, model owners and regulators, FIs should ensure that there is an element of local control and involvement within the model validation process. This should be incorporated into the processes of the IVU, and relevant internal controls should be implemented.



How can KPMG support you?

01 Target Operating Model Design

KPMG can assist in the design of the operating model for IVUs and work with FIs on the incorporation of processes to involve local businesses in the model validation process.

02 Risk Control Frameworks

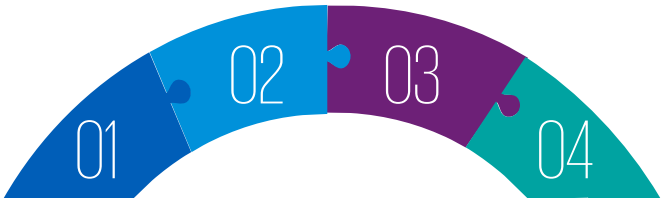
KPMG can assist FIs in developing and implementing risk control frameworks within the model validation process.

03 Policies & Procedures

KPMG can assist in the development or review of model validation policies and procedures.

04 Automated Model Validation Procedures

KPMG can assist FIs in designing and implementing automated model validation procedures.



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