

Agile Model Risk Management: A New Way Forward for Financial Services



Introduction

We talk to a lot of banks, asset managers and insurers that are struggling with model risk management (MRM). They're not struggling with the concept; they certainly see its growing importance to the health and reputation of their business, in the face of rapidly growing model use and intensifying regulatory scrutiny. What they're struggling with is the time and effort it's increasingly taking to achieve their MRM objectives.

Besides being highly regulated and highly model-dependent, these businesses tend to have a few things in common that underpin their MRM struggles:

- Model development and ownership is more widespread across the business than it used to be — and uses a greater diversity of tools— thanks to an explosion in user-friendly applications for turning data into insight.
- There's little chance of an increase in people or budgets to manage the risk of this huge growth in the scale and scope of model use. Together with the fact that model risk affects the whole lifecycle — from model scoping and development, through enhancement, to decommissioning — the reality is that small MRM teams must rely extensively on the goodwill and input of model owners and end users.
- Their MRM activities use tools not specifically designed for the job, mainly standard desktop applications such as Excel spreadsheets for the inventory, Word documents for evidence, and email for workflow and collaboration. Sometimes, as we'll see, they may use a 'homespun' application, built internally on a platform such as SharePoint, which can have its own challenges for many organizations.

There's nothing to be done about the first two factors: this is the reality facing financial service organizations of a certain size and complexity. But there's nothing at all inevitable about the last factor, as this paper will show.



The pain — and cost — of using the wrong tools

Standard desktop software and ad-hoc internal applications can be powerful in the right context. But for the businesses we talk to, they simply can't provide the sophisticated management controls required for best-practice model risk management. Every business — not to mention its customers, investors and regulators — expects MRM to be done properly, but the use of manual or ad-hoc tools can make this unnecessarily time-consuming and costly.

Model inventory management

However one approaches MRM, the model inventory will be the foundation of everything that follows.

What system do you use to maintain your model inventory?



During a recent webinar hosted by UK Finance, a survey of more than 150 risk, model and operations managers in the UK banking sector revealed the prevalence of different approaches used to implement a model inventory, perhaps reflecting where these organizations are in their MRM journey.

As you can see in the figure, standard office tools such as Excel are the most frequent 'go to' for inventory management. This is because the skills to use these tools are pervasive, and they have the flexibility to deliver a base level of functionality for MRM.

For some financial service institutions (mainly the smallest), this level of functionality is sufficient. But in our experience, most organizations end up spending far too much time and effort 'managing the spreadsheet' rather than the model ecosystem

and its business impact. While a spreadsheet or basic database can be helpful for those first getting to grips with model inventory management, it's just too manual and inefficient — leading to issues with inventory version control, change management, reporting and auditing — to be a good long-term model inventory solution for MRM today.

Similar issues face those who, believing that there's no better alternative, build their own ad-hoc model inventory tool in a development environment (SharePoint being the most popular). For some, this does bring more scalability, efficiency and control to their model inventory management, but many find that their in-house development resource and skills struggle to keep up with the growth in model use, the pace of regulatory change, and the advance of business needs.

It's possible to press a governance, risk and compliance (GRC) solution into the service of model inventory management, and this has the advantage of aligning MRM to wider corporate risk management practices. But these solutions can take considerable development time and budget to adapt properly for MRM, and (just as with the development of an in-house solution) few financial service institutions have the depth and breadth of in-house development resource to guarantee success. What tends to happen is that standard desktop tools are pressed into service to bridge the gaps — and once deployed, they are difficult to retire.

Control and oversight

Regulatory frameworks such as SR 11-7 and CECL (in the US), and SS3/18 and SMCR (in the UK), among others, place a significant premium on model control and oversight. They've created a range of new requirements, such as controls governing changes in assumptions, calculations, formulas and data sources, and use of the four-eyes principle for review.

Standard office desktop tools simply lack adequate controls to achieve the standards required. For those using ad-hoc in-house applications, again we find that they struggle to keep up systematically with the always-evolving control requirements of changing business and regulatory needs.

Audits

If you rely on standard desktop tools and email to flag changes to models and record approvals, tracking this activity can quickly become difficult (especially if model owners or other key stakeholders have since left the business). If an auditor asks a question about a specific change,

up to a year may have passed since the typical back-and-forth via email, meetings, or whatever other activity went into approving the change and dealing properly with its implications.

So where do you start? Do you hope there's someone still around who remembers when and why the change was made, and how the appropriate level of oversight was applied? Do you trawl through emails in the hope that there's a trail? Standard office tools are not designed for efficient discovery.

Paying the cost

The inefficiencies we've highlighted proliferate through many MRM activities across the model lifecycle, including critical test and validation exercises. At best, the cost of these inefficiencies to the business is poor use of highly skilled and expensive people. Instead of focusing their expertise on contributing to business competitiveness or speed to market, modellers and risk managers are continually diverted by the effort of completing important administrative tasks with the wrong tools.

That's not a brilliant 'best' scenario, and it's due to worsen as model use continues to proliferate and the administrative burden multiples.

But it's much, much better than the worst-case scenario, which is that mistakes happen, they aren't caught, and things go badly wrong for the business.

The many advantages of doing it right

While it's *possible* to avoid the worst happening without the right MRM tools, you have to work very hard to do so. Even if you're committed as a business to doing this work, the fact that it's hard makes it more likely that things will go wrong. The right tools, by contrast, fundamentally reduce the effort it takes to do MRM well, and to provide good audit trails and transparency — all of which in turn significantly reduces the chances of something going awry.

Avoiding the worst-case scenario is not the only benefit, of course. Even if we discount the possibility of something going badly wrong, there's a lot to gain from investing in an MRM-specific solution, including:

- Freeing your expensive, valuable modellers and risk managers to focus on what they do best
- Easier identification of where improvements to models or controls will bring the most business benefit
- Portfolio optimization due to more accurate estimations of risk
- Greater confidence in business decisions and operations
- More robust compliance and full auditability through the model lifecycle

And all of this comes without needing to throw more people at the problem.

Fundamentally, using an MRM-specific solution allows you to do more with the same resource. You can maintain control even as model use grows, and extend risk management beyond the areas where compliance makes it obligatory. It becomes easier to build a culture and understanding of risk management throughout the business, which in turn makes the business more stable — and more attractive to potential customers and partners.

So why do businesses still use generic tools for MRM?



Breaking the status quo

A big part of the problem is the assumption that investing in the right tools for MRM is a significant investment — in time, money and disruption to the business. This makes it more likely that businesses will succumb to the inertia of continuing with the way things are. The status quo may not be ideal, but it seems a safer bet than the hard work it would take to eventually get to a better situation.

But what if it isn't very hard to get to a better situation? What if it doesn't take much time, money or disruption? Then the case for action suddenly looks much more compelling, especially if you step back and consider just how much work MRM is currently taking (or how much risk you're taking, if the reality is that model risk is not being adequately managed at all right now).

Agile MRM

It's true that rolling out and adapting a sophisticated GRC system will typically require a big IT project. But end-to-end GRC solutions are not the only alternative to standard office tools if you want to implement a sound MRM framework and appropriate controls. Nor does the business case for a big GRC solution always stack up for the organizations that we talk to.

Agile, or 'in-between', MRM solutions do exist. They enable you to apply key MRM best practices and do so efficiently, to the satisfaction of regulators and auditors. And if you choose the right one, you can be ready within weeks and typically realize payback on the investment within a year.



What to look for

What should you look for in an MRM solution that hits the sweet spot? What questions should you ask when exploring your options? Here are a number of considerations to get you started.



Proof of time-to-value claims

While it's compelling to hear that a real difference in MRM efficiency can be achieved within weeks, and that the investment will likely pay for itself within a year, perhaps you're sceptical of the claim. Perhaps you worry that it's only true in specific circumstances that may not apply to your business.

So if you're considering such a solution, ask the provider to talk you through their experience with other financial service businesses in enough detail to uncover relevant similarities and differences. Check also whether there are different levels of solution that typically take less or more time to implement.

Dig into how tailored the solution is to your needs out-of-the-box, because that usually has a big impact on time to value and the level of MRM control you'll be able to achieve. Customization takes time (often a problem with generic GRC solutions), whereas if a solution comes with enough industry- and MRM-specific templates built-in, a lot of that time is cut out.

Usability is another critical factor in realizing the potential of a new solution. Explore how effectively the proposed solution can serve the needs of the different stakeholders and model types within your business.

Core functionality and flexibility

Naturally the solution needs to cover MRM best practices and — much of the point of such solutions — deliver a good level of MRM-specific workflow control and automation. You want it to be agnostic about modelling platforms, tools and formats so that you can manage them all in one place. And as important as it is to avoid the need for heavy customization, you do nevertheless want the flexibility to fine-tune the software to your critical needs.

On the inventory side you want a solution that goes beyond letting you capture all the relevant information — model definitions, ownership, risk, controls, issues, validation information and so on — to also help you visualize data dependencies and flows. Document management is another core must-have.

