Institute and Faculty of Actuaries

IFoA Life Conference

The Unified Theory of Model Risk Management: Panel discussion

Panellists for today

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Model Risk Myopia

Model risk is considered one of the leading operational risks for life insurance companies.

Historically, insurers have concentrated on cash flow and financial reporting models, with Internal Models also being a key focus given regulatory requirements.

These are not the only critical models for insurers and there are also other models used outside the actuarial domain and are currently often excluded from model risk frameworks.

The approach to managing model risks in these areas receives less scrutiny and the approach can vary considerably.

Overlooking these models can create risk blind spots.

Does your Board understand the totality of the model risk universe?

Do you have model risk blind spots and how are you addressing them?

Typical life insurer model universe

Key:
- Common in MRM framework
- Getting more focus
- Less common in MRM framework

Liability Valuation models
- Liability cashflow models
- Out of model adjustments

Assumptions Models
- Discount rates
- Economic scenario generators
- Operating assumptions
- Cost allocation

Credit Asset Model
- Internal credit rating
- Effective value testing
- Fair value valuation

Risk Calibration Models
- Insurance risk
- Economic risk
- Credit risk
- Counterparty risk

Capital, Provisions and Other Balance Sheet Items
- Capital, RM, TMTP models

Pricing Models
- Product Pricing
- Special Quotes

Business Planning and Forecasting Models
- Forecasting models
- New business income and capital projection

Risk management models
- Stress & scenario testing
- Hedging models
- Liquidity models
- Credit Asset exposure

Operational Management Models
- Customer payouts, e.g. policy value
- Trading algorithm

ESG models
- Climate change
- Carbon Emission

AI and Machine Learning
- Emerging models

Source: KPMG study and analysis

Parent vs Entity models
- Extent of reliance on Group vs Local Entity models

Tax Models
- Deferred tax asset, LACDT computations

ETL Tools
- Data transformation and consolidation

Accounting Disclosure and Ledgers
- Insurance impairment
- Group vs Entities disclosure

What is model risk management?

Key: Business | Risk management function

Executive Owner (Board, CRO)

- Have we got the right scope?
- How do we get buy-in from the business?
- How are the responsibilities split between Line 1 and Line 2?

Policy / Framework

MRM activities – led by Line 2 *(with support/input from the business)*

- How many models do we have?
- Is it a model, EUC or something else?
- Are we using the right technology for our inventory?

Model Inventory

- How often and how far do we need to provide independent review and challenge of the models?
- What are the key risk indicators we need to track and monitor?

Risk Assessment

Monitoring

- What skill sets are needed?
- How do we demonstrate value add from MRM?
- How new technologies can help with more effective and efficient validation?

Independent challenge / validation

- What information really matters to the Board?
- How do you get the right engagement from Board on the key matters?

Reporting

Business activities – led by Line 1

Model development

Model Review / Approval

Model Use

What was the trigger or turning point that led your organisation to focus on MRM?

- *Was it driven by regulatory change, internal transformation, increased model complexity, increased risk awareness or other specific events?*
- *How did you build internal consensus around the need for a formalised MRM approach? Were there cultural, technical or resource related hurdles?*
- *Where are you now in your MRM journey?*
- *How wide is your MRM in terms of model coverage?*

What was your strategy for developing the initial design of your MRM framework?

- *Did you begin from scratch, or did you modify an existing framework such as Internal Model Validation?*
- *What did you feel were the most challenging areas?*
- *Who were your key allies and supporters in those early stages?*

The range of models in the universe could be quite extensive. What approach did you take to identify all the models?

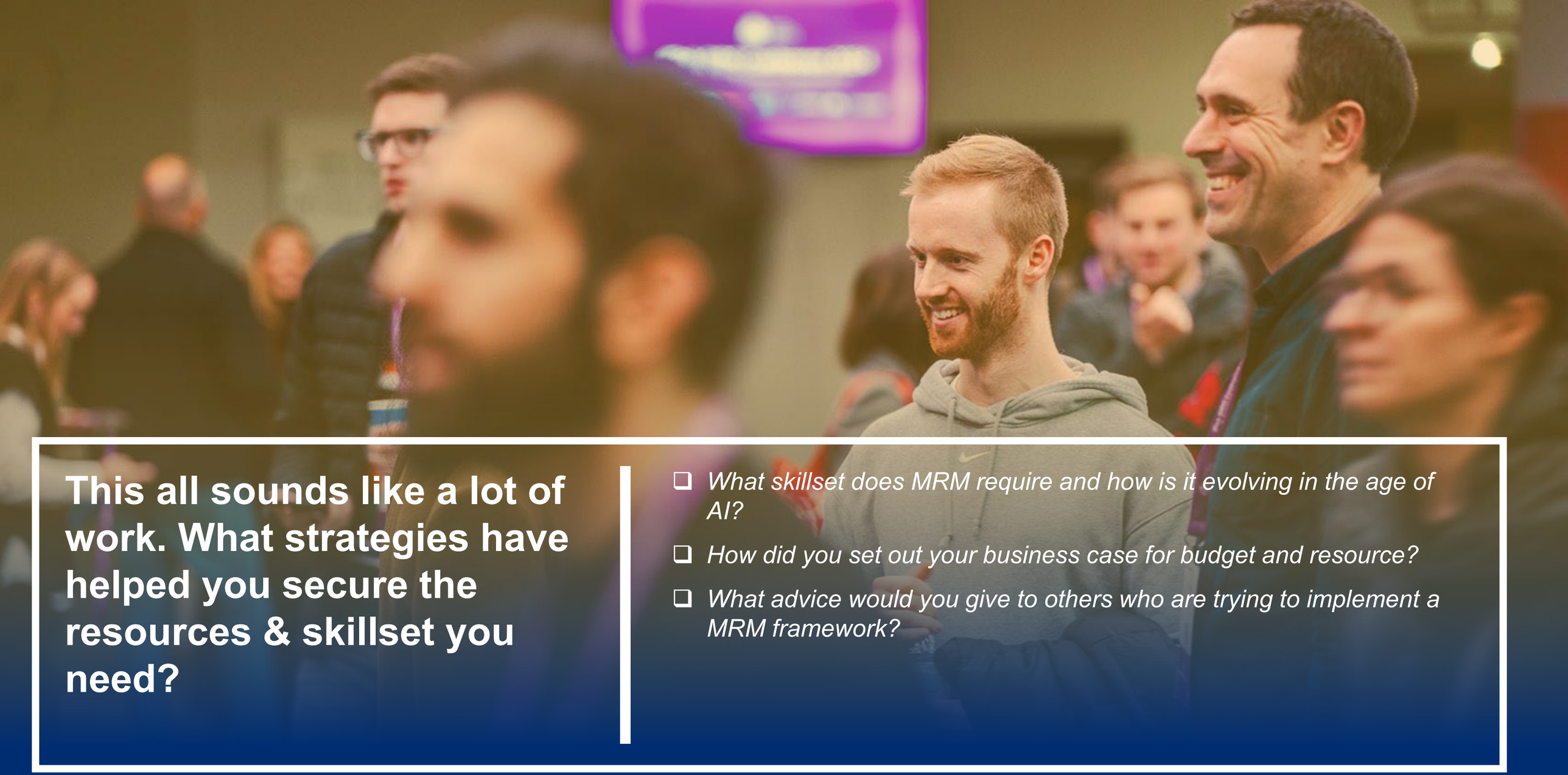
- *How did you engage with the business in the identification process? Did you use surveys, interviews, system scans, model discovery software?*
- *How long did this process take?*
- *How do you ensure your view is up to date as new models are developed or old ones retired?*

How did you deal with the perennial debate over whether something was a model?

- *What are examples of types of tools where this debate frequently occurs? How do you handle such cases?*
- *Did you encounter pushback from teams who didn't see their tools as models?*
- *What is the most surprising thing that ended up being classified as a model in your organisation?*

What are Deterministic Quantitative Methods?

- *What are DQMs as introduced under SS1/23 ? How do they differ from EUCs and models?*
- *How are these tools recognised in your current frameworks?*
- *Which areas within your firms are most likely to include these types of tools? Do they currently follow any MRM-like processes?*



This all sounds like a lot of work. What strategies have helped you secure the resources & skillset you need?

- *What skillset does MRM require and how is it evolving in the age of AI?*
- *How did you set out your business case for budget and resource?*
- *What advice would you give to others who are trying to implement a MRM framework?*

Q&A

DRAFT

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Thank you!

The views expressed are personal and do not reflect the views of the organizations that the individuals represent.