From risk to resilience: Implementing AI governance framework for central banks

Introduction

Artificial Intelligence (AI) is not just an innovative technology. It has now become an enabler for various industries and sectors including the banking sector. It could help banks in refining their economic forecasts, enhancing supervisory functions and streamlining internal operations.

However, as with any new technology, with the advent of AI comes new risks and challenges. Central banks are the primary governors of monetary and financial stability and they operate with an entirely different risk appetite compared to private financial institutions. Hence, the adoption of AI is not just about embracing technological innovation but also a governance challenge. Governance of AI models is extremely crucial in order to ensure accountability, transparency and ethical use. This requires a delicate balancing act, where central banks need to embrace the benefits of intelligent automation while also maintaining transparency, accountability, interpretability and trust. A robust governance framework could provide guidelines and best practices which can help financial institutions in designing, deploying and monitoring AI tools so that they are aligned to ethical and legal requirements.

Bank for International Settlements' Governance of AI Adoption in Central Banks (January 2025)

'Governance of AI adoption in central banks'[1] in January 2025, which offers a structured and well defined approach for managing and mitigating the risks and opportunities of AI implementation across various functions within central banks.

In June 2024, BIS had also published **'Artificial intelligence and the economy: Implications for central banks'**[2] which had highlighted the impact of AI on the financial sector and the macroeconomy. It had also highlighted opportunities such as enhanced payment system oversight and better cybersecurity defences. The report recognised the potential as well as the inherent risk of widespread AI adoption and called for stronger data governance and deeper central bank collaboration efforts. Based on this, the current **BIS report** – Governance of AI Adoption in Central Banks (January 2025) – has provided guidelines for governing AI applications within central banks to ensure responsible integration and safeguarding against identified/un-identified risks.

1 https://www.bis.org/publ/othp90.pdf

2 https://www.bis.org/publ/arpdf/ar2024e3.pdf

Interpreting the framework

As central banks explore how AI can be integrated across their key functions, BIS's report, Governance of AI Adoption in Central Banks (January 2025), charts the trajectory of the evolution of AI's adoption in the banking sector while drawing attention to gaps in governance which needs to be addressed before AI can be considered safe and scalable in central banks.

The framework is not just a static set of guidelines but also an important document which can guide how central banks can govern modernisation of their processes and innovation. The report proposes ten actions (highlighted below), which includes setting up interdisciplinary AI committees, maintaining inventories of AI tools and embedding regular monitoring and reporting mechanisms. These actions reflect a pragmatic and forward-looking approach where AI is considered to be a governance domain in its own right.

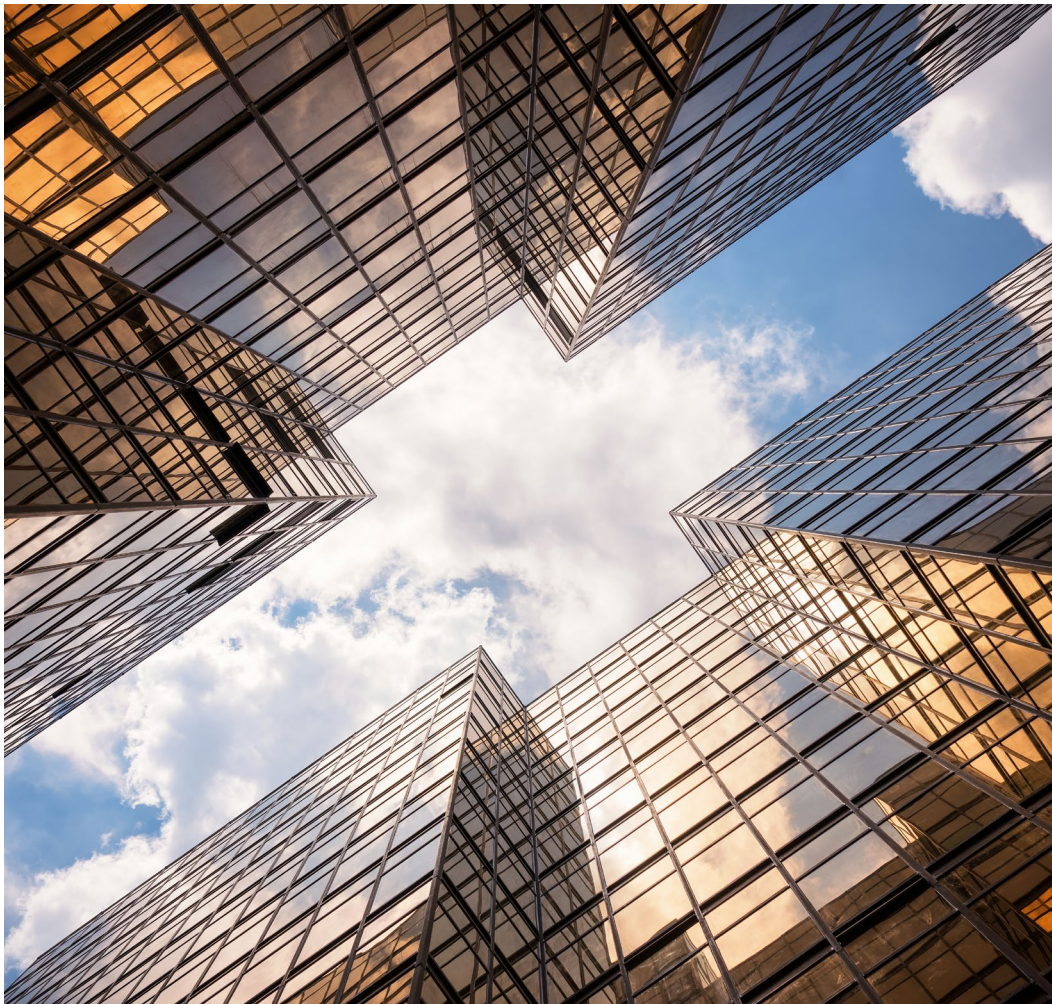
Figure 1: Ten actions proposed by the BIS report

Establish an interdisciplinary AI committee
Define principles for responsible AI use
Establish an AI framework and update existing guidance
Maintain an AI tools inventory
Map AI tools and stakeholders
Perform a detailed assessment of risks and controls
Perform regular monitoring
Report anomalies and incidents
Develop and improve workforce skills
Perform ongoing reviews and adaptations to the framework

Source: https://www.bis.org/publ/othp90.pdf

- The framework emphasises adaptive governance. It recognises that AI models, more particularly generative AI (GenAI) models and large language models (LLMs) evolve very quickly, therefore, governance models also need to be agile to keep up with the rapid technological developments. It encourages institutions to move away from traditional, top-down controls and build a governance system that is dynamic, multidisciplinary, and continuously learning.
- Another highlight is the reinforcement of the three lines of defence (3LoD) model, adapted specifically for AI risks. The responsibility of the 3LoDs — where the first LoD owns and monitors AI risks, the second LoD ensures compliance and drafts the policy, and the third LoD provides independent assurance is not new, understanding how these lines should be recalibrated to handle AI-specific risks like model opacity, data drift, prompt injection and shadow AI use remain a challenge. The report emphasises the need for new types of oversight such as technical audits for algorithmic fairness and continuous performance monitoring which could become gold standard in AI governance.

The report also acknowledges the ethical, environmental and reputational risks related to AI particularly in institutions that operate with a public mandate. Issues like biased outputs and unexplainable results are not just technical glitches but could erode public's trust in central banks.



Bridging the gap: Challenges in implementation of the BIS framework

Though the BIS framework on AI governance offers a comprehensive, well-structured approach for adopting AI, the challenge lies in its implementation. For many central banks, especially the ones operating in complex regulatory environments or with outdated infrastructure, the journey from developing the framework to its full-scale adoption is a long and arduous journey.

Since the operationalisation of AI governance is often hindered by practical constraints, the report highlights the following challenges in AI's adoption:

a. **Third-party risk:** Central banks often rely on third-party AI services, tools, components or algorithms. To prevent third-party risks arising from these service providers developing a mature third-party risk management model is essential.

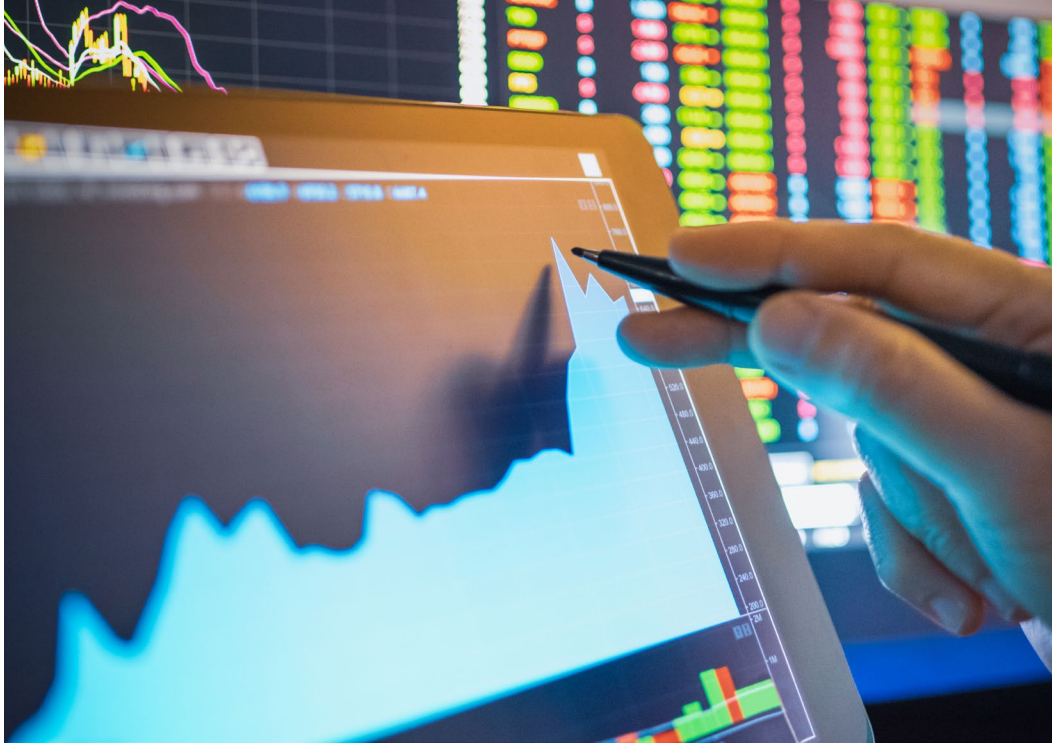
b. **Data security:** For central banks data security and confidentiality are of utmost importance.

c. **Workforce capability gaps:** To build AI knowledge, central banks need to define basic and specialist training and awareness programmes on AI usage, governance and compliance.

d. **Governance of GenAI models:** AI systems with excessive functionality or permissions may take decisions actions with unintended consequences. For example, an AI tool for reading documents may inadvertently be given permissions to delete documents as well. Therefore, developing governance models for GenAI tools is important to ensure that such inadvertent errors can be minimised.

These challenges and their brief summary have been highlighted below:

- **Lack of governance in a fragmented AI landscape:** Without a proper governance structure in place, different departments tend to experiment with AI tools without any oversight and control in place. This creates gaps in visibility and introduces unmanaged risks. Tools deployed without formal risk assessments, data fed into external systems without proper classification and the resultant outputs are often accepted without any validation. The consequence of these actions can range from minor internal inefficiencies to large scale reputational harm or serious data breaches.



- **Legacy infrastructure in central banks:** Many central banks work with complex, interdependent systems. Integrating AI solutions into these systems while maintaining data integrity and complying with security protocols is a massive task. The BIS report underscores the importance of understanding compatibility risks and allocating resources to infrastructure planning, however, banks are yet to prioritise this task in their transformation journey.
- **Talent gap:** The BIS framework encourages upskilling and training as one of its ten governance actions, however, AI fluency remains limited within most central bank teams particularly in risk, legal and audit functions. Due to the lack of internal resources, banks rely on external vendors, which in turn increases third-party risk.
- **Disconnected pilot projects:** Many AI adoption projects are pilot projects which are far removed from the company's long-term goals. The BIS framework encourages institutions to define their AI risk profile at the onset, but this step is often skipped when AI tools are deployed without assessing the needs and risks for their organisation. Without this assessment, it becomes difficult to evaluate whether an AI model aligns with priorities of the bank or violates its ethical boundaries. From a central bank's perspective, even an accurate model could raise concerns if it produces results which are unexplainable or inconsistent with public messaging. In such a case, the reputational risk for central banks increases.

Regulatory oversight is not well-defined especially in areas where AI-specific regulations are still in development. Though the BIS report points to the growing relevance of international standards such as the EU AI Act or ISO frameworks, implementing these frameworks in practice is a challenge especially when the guidance keeps changing and interpretations vary. Central banks need to proceed cautiously amid legal ambiguity and ensure that there are robust governance mechanisms in place to avoid the risks listed above.

Way forward for banks

Although the BIS framework has set the stage for responsible AI's adoption, its implementation is the more crucial step and requires drafting of governance policies and a framework to monitor the adoption of AI tools for banks. Robust AI governance requires a deliberate, structured approach which will not only address the risks but will also support innovation and ensure trust among all the stakeholders.

For the framework to be implemented successfully, the following steps can be considered by banks:

Establish a robust governance framework: Before implementing any new use case, central banks will need a clear vision to define what responsible AI means for their institution.

Financial institutions need to develop the governance framework and define the role and principles of each department to ensure the ethical use of AI. Some of the areas the framework can focus on are deciding how AI will be incorporated into the decision-making workflows, aspects where human oversight is a necessity and how risks such as model bias, data leakage and unintended consequences can be detected and managed.

Build control into the design: The most effective way to ensure resilience is to adopt a 'controls-by-design' approach. Rather than depending on risk assessments post-implementation, controls need to be embedded early in the model development lifecycle. The BIS report emphasises the need for human validation of AI outputs especially in GenAI models prone to hallucinations. Banks can ensure that this aspect of the framework has been implemented by real-time monitoring tools to detect data drift, logic failures or abnormal outputs.

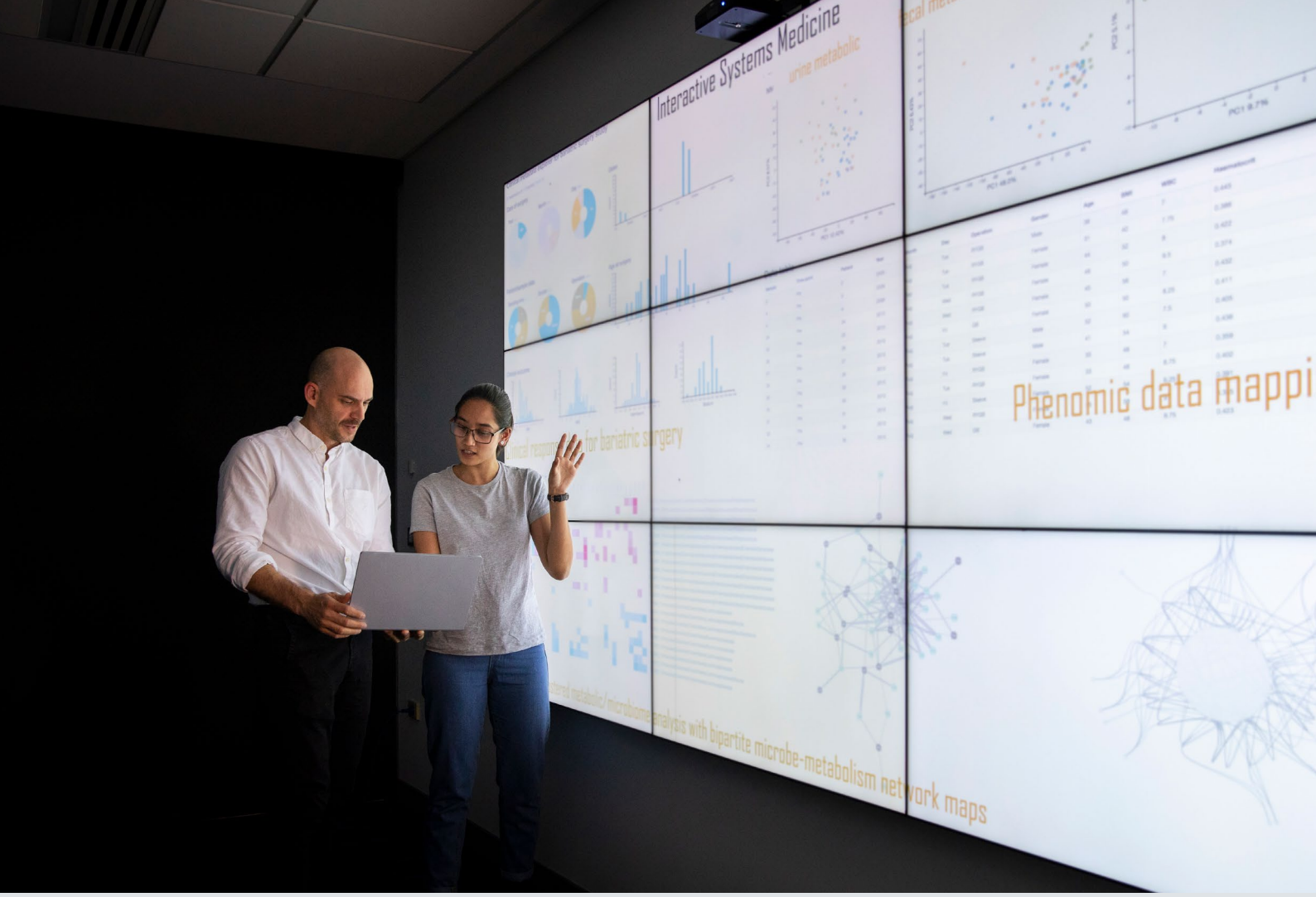
This is where the 3LoD model can be beneficial. Banks need to define the roles and responsibilities of each of the 3LoDs with AI specific considerations and ensure that model developers are not only validators of their own models and the internal audit teams have received training on the AI model so that they can evaluate complex black box systems.

Develop a central inventory and use case register: For successful governance, visibility is key. Without a clear inventory of AI tools, use cases and third-party services, central banks will struggle to manage the risks. The BIS report suggests that maintaining an up-to-date inventory will allow institutions to track models use cases, data dependencies, model owners and model users' information which in turn will support clarity and accountability.

Tools such as centralised inventories with metadata tagging can assist banks with quick retrieval of all AI based models. Associated controls for these models along with model tiering and risk classification will enable both operational clarity and ease of regulatory reporting. This will also lay the framework for continuous monitoring of AI models, which is the need of the hour.

Prioritise workforce readiness and cross-functional collaboration: The workforce needs to upskill themselves in areas like responsible AI, cyber risks in AI systems and prompt engineering for LLMs. It will also require a cultural shift and institutions need to encourage collaboration between legal, compliance, IT, operations and supervisory teams so that AI is governed holistically across various functions of an organisation.

Adopt an agile, iterative governance approach: The BIS report highlights the need for dynamic governance models which can keep up with AI's evolution. For banks, this can include scanning mechanisms for emerging risks and running regular scenario simulations to assess governance readiness. The focus of banks should be keeping oneself abreast of the changes in technology.



Conclusion

BIS's Governance of AI adoption in central banks is an important document which defines the intricacies of responsible AI and the use of AI in public financial institutions. However, the implementation of the framework will require guidance, strong leadership, operational clarity and a willingness to reimagine how innovation can be leveraged and governed.

AI has already revolutionised how information is processed, risks are identified and decisions are made. Without establishing a governance framework, banks could increase their exposure to reputational, legal and operational risks. Therefore, it is important to establish governance principles, engage cross-functional teams and embed AI into the institution's broader risk culture. With the right governance and controls framework in place, central banks can lead by example as they balance innovation with trust and uphold the principles of responsible AI.

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