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# COMPARATIVE ANALYSIS OF FREE-AI COMMITTEE REPORT

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Neelansh Rao<sup>1</sup>

## I. ABSTRACT

*Artificial intelligence (AI), including machine learning and generative AI, is transforming financial services by improving customer engagement, credit assessment, risk management, fraud detection, and operational efficiency. Its growing deployment, however, also creates material concerns relating to data protection, operational resilience, market integrity, cybersecurity, and model governance. Against this background, the Reserve Bank of India constituted the Committee on the Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI) to formulate a comprehensive framework for responsible AI adoption in the financial sector. The Committee's Report advances seven guiding "Sutras" and six strategic pillars. The pillars combine innovation enablement through infrastructure, policy, and capacity with risk mitigation through governance, protection, and assurance. This paper undertakes a comparative legal and policy analysis of the FREE-AI recommendations alongside the regulatory approaches of the European Union and Singapore. It uses a doctrinal and comparative method to examine their respective approaches to AI governance, accountability, transparency, consumer protection, data governance, audit, and innovation across the AI lifecycle. The comparison identifies convergences in governance, transparency, and consumer protection, but differences in regulatory design and implementation. The analysis finds that the FREE-AI framework seeks to balance financial innovation with safeguards for fairness, explainability, security, and systemic stability. While the European Union adopts a more prescriptive, risk-based regime and Singapore relies substantially on principles- and guidance-based supervision, the Indian framework offers a sector-specific, phased model designed to support responsible deployment by regulated entities. The paper argues that its effectiveness will depend on clear supervisory standards, institutional capacity, reliable data governance, and robust assurance mechanisms.*

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<sup>1</sup> Advocate at District court (India). Email: rneelansh@gmail.com

## II. KEYWORDS

FREE-AI; Artificial Intelligence Governance; Financial Regulation; EU AI Act; Monetary Authority of Singapore (MAS).

## III. INTRODUCTION AND RESEARCH PROBLEM

Artificial intelligence (AI) is increasingly used across the financial sector for credit assessment, fraud detection, customer service, compliance, risk management, and operational decision-making. While these applications may improve efficiency and financial inclusion, they also raise concerns regarding algorithmic bias, opacity, data protection, cybersecurity, consumer harm, and systemic risk. The governance of AI in finance therefore requires a framework that enables innovation while ensuring accountability, fairness, transparency, human oversight, and operational resilience.

In India, the Reserve Bank of India's Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI) seek to provide a sector-specific foundation for the responsible adoption of AI by regulated entities. The Report combines innovation-oriented measures with risk-mitigation mechanisms, including governance, data lifecycle controls, consumer protection, assurance, and capacity-building measures. However, the practical significance of these recommendations can be properly assessed only through comparison with established international approaches.

This paper addresses that comparative regulatory gap by examining the FREE-AI framework alongside the European Union AI Act and the Monetary Authority of Singapore's AI governance initiatives. It evaluates how these frameworks address AI risk classification, institutional accountability, data governance, audit, consumer protection, innovation sandboxes, and incident reporting. The research problem is whether the FREE-AI framework provides an effective and balanced model for regulating AI in India's financial sector while preserving responsible innovation and financial stability.

### A. Research Objectives

This paper seeks to:

1. Examine the principal recommendations, guiding Sutras, and strategic pillars of the RBI's FREE-AI framework for the financial sector;
2. Compare the FREE-AI framework with the European Union AI Act and the Monetary Authority of Singapore's AI-governance initiatives;
3. Assess the comparative approaches to AI governance, data lifecycle management, accountability, audit, consumer protection, cybersecurity, and innovation enablement; and
4. Evaluate whether the FREE-AI framework provides a balanced and workable model for responsible AI adoption in India's financial sector.

## **B. Research Questions**

This paper addresses the following research questions:

1. How does the RBI's FREE-AI framework, particularly its innovation-enablement and risk-mitigation architecture, compare with the risk-based approach under the EU AI Act and the AI governance approach of the Monetary Authority of Singapore (MAS)?
2. To what extent do the FREE-AI recommendations address key regulatory concerns relating to AI governance, data lifecycle management, accountability, audit, consumer protection, cybersecurity, and human oversight in the financial sector?
3. What institutional, supervisory, and implementation measures are necessary for the FREE-AI framework to support responsible AI innovation while preserving consumer protection and financial stability in India?

## **C. Research Methodology**

This study adopts a doctrinal and comparative legal research methodology. It examines primary legal and regulatory materials, including the Reserve Bank of India's FREE-AI Committee Report, relevant RBI policy statements, the European Union Artificial Intelligence Act, and the Monetary Authority of Singapore's publications on AI governance and AI model risk management. Secondary academic literature, regulatory commentary, and institutional reports are used to contextualise these primary sources.

The comparative analysis focuses on AI governance, risk management, data lifecycle controls, accountability, audit, consumer protection, cybersecurity, innovation enablement, and incident reporting in the financial sector. The European Union has been selected as a comparator because the EU AI Act provides a binding, horizontal, risk-based regulatory framework for AI. Singapore has been selected because MAS has developed financial-sector-specific principles and supervisory guidance concerning the responsible use and management of AI. These comparators enable an assessment of the extent to which the FREE-AI framework balances innovation, regulatory accountability, consumer protection, and financial stability within the Indian financial sector.

## IV. GLOBAL LANDSCAPE OF AI FRAMEWORK

### A. European Union AI Act (EU AI Act)

The EU AI Act utilizes a risk-based framework, classifying AI systems into unacceptable, high, limited, and minimal risk levels, with varying regulatory obligations for each category. High-risk AI necessitates risk assessment, which involves iterative approach to identifying, analyzing, evaluating, and mitigating risks to health, safety, and fundamental rights during the entire lifecycle of the system<sup>2</sup>. Some regulators such as European Securities and Markets Authority provide guidance to retail investment services on AI implementation, in which innovation and compliance with MiFID II are balanced, focusing on the interests of its clients and high-risk management.<sup>3</sup> European Insurance and Occupational Pensions Authority (EIOPA) emphasize on importance of effective data governance, fairness, and transparency in AI in the insurance business in line with the existing regulations and enhancing the oversight and protection of consumers.<sup>4</sup> The General Code of Practice

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<sup>2</sup> European Union, Artificial Intelligence Act, Article 9: Risk Management System (adopted 2024) <https://artificialintelligenceact.eu/article/9/> accessed 1 October 2025.

<sup>3</sup> European Securities and Markets Authority, Public statement on the use of artificial intelligence (AI) in the provision of retail investment services (ESMA35-335435667-5924) (30 May 2024) [https://www.esma.europa.eu/sites/default/files/2024-05/ESMA35-335435667-5924\\_Public\\_Statement\\_on\\_AI\\_and\\_investment\\_services.pdf](https://www.esma.europa.eu/sites/default/files/2024-05/ESMA35-335435667-5924_Public_Statement_on_AI_and_investment_services.pdf) accessed 1 October 2025.

<sup>4</sup> European Insurance and Occupational Pensions Authority, 'Regulatory framework applicable to AI systems in the insurance sector' (nd) <https://www.eiopa.europa.eu/document/download/b53a3b92->

provided by the EU AI Act encourages voluntary compliance regarding general-purpose AI where organizations would be spared the responsibility of complying with the regulations.<sup>5</sup> According to a report of the European Banking Authority (EBA), 40 percent of EU banks are using general-purpose AI with the main aim of customer service and operational efficiency, which is a risk-seeking approach in the future. In developing general-purpose AI, banks are developing protections, setting up checks, and balances and ensuring that humans remain involved in the work.<sup>6</sup> This stresses the commitment of the EU to the creation of responsible AI as well as its strict control and regulation.

### **B. Monetary Authority of Singapore (MAS)**

The MAS released paper on artificial intelligence model risk management (MRM) in December 2024<sup>7</sup>, based on the best practices identified through the analysis of AI MRM within financial institutions. The recommendations include the adoption of fairness, ethics, accountability, and transparency (FEAT) in the board, establishment of AI oversight groups, and creation of AI committees. In order to maintain AI inventories, document data provenance, assess risks, and ensure independent validations and testing, companies must maintain AI inventories.

The use of AI should be covered by risk policies, the competencies of the staff should be improved, and the applied AI should be monitored, which is why the human involvement must be emphasized. In the case of GenAI, it suggests limited application to internal support, setting controls, testing, imposing input/output limits, and ensuring data security. In the case of opening internal AI controls to outside parties,

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[08cc-4079-a4f7-606cf309a34a\\_en?filename=Factsheet-on-the-regulatory-framework-applicable-to-AI-systems-in-the-insurance-sector-july-2024.pdf](#) accessed 2 October 2025.

<sup>5</sup> European Banking Authority, 'Special topic – Artificial intelligence' (EBA, 2024) <https://www.eba.europa.eu/publications-and-media/publications/special-topic-artificial-intelligence#ipn-0-5444760227677956> accessed 2 October 2025.

<sup>6</sup> European Banking Authority, 'Special topic – Artificial intelligence' (EBA, 2024) <https://www.eba.europa.eu/publications-and-media/publications/special-topic-artificial-intelligence#ipn-0-5444760227677956> accessed 2 October 2025.

<sup>7</sup> Monetary Authority of Singapore, *Information Paper on AI Risk Management: Observations from a Thematic Review* (December 2024) <https://www.mas.gov.sg/publications/monographs-or-information-paper/2024/artificial-intelligence-model-risk-management> accessed 1 October 2025.

the companies will need to conduct compensatory testing and revise the contracts to make them more understandable. The emphasis is made on fairness and accountability while addressing the regulation of bias, enhancing transparency to the customers, and prohibiting the use of harmful AI use. The MAS plans to transform proposed practices to supervisory requirements with an emphasis on compliance based on evidence-based inspections, which indicate the strict regulatory regime in Singapore.

### C. RBI Free AI report

On 6 December 2024, the RBI in its Statement on Developmental and Regulatory Policies<sup>8</sup> set up a committee to develop FREE-AI, to establish a comprehensive and proactive framework for responsible and ethical use of Artificial intelligence (AI) in financial sector.

The report advocate that artificial intelligence enhances financial inclusion with the help of multilingual and multimodal features, which will improve efficiency in areas of operations, fraud detection, and compliance. It has a reserved attitude to the benefits of AI, supporting the expansion of access to credit and protecting fairness, transparency, and systemic stability.

The report offers a two-pronged strategy for regulating AI and Machine learning (ML) application in the Indian financial sector to ensure that innovation and risk mitigation can be effective adopted at the same time.

**1. Innovation Enablement Framework-** The report highlights the following aspects<sup>9</sup>:

- **Infrastructure:** It suggests building a digital public infrastructure and data platforms specific to the financial sector, incorporating

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<sup>8</sup> Reserve Bank of India, 'Statement on Developmental and Regulatory Policies' (Press Release, 6 December 2024) [https://www.rbi.org.in/Scripts/BS\\_PressReleaseDisplay.aspx?prid=59245](https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=59245) accessed 9 October 2025.

<sup>9</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.3 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 27 August 2025.

collaborations with initiatives like AI Kosh to foster reliable AI model development.

- Policy: It advocates for adaptive policies, recommending the creation of an AI innovation sandbox to facilitate safe experimentation.
- Capacity: It advocates for capacity building within regulated entities and regulatory authorities, particularly at executive and board levels.

**2. Risk Mitigation Framework-** The report highlights the following aspects<sup>10</sup>:

- Governance: It suggests that financial institutions adopt board-approved AI policies and that AI guidance document to be released by the RBI to establish consistent standards.
- Safeguarding: It suggests that consumers should be made aware when interacting with AI systems, along with improved cybersecurity, consumer protection, and AI-focused auditing measures.
- Assurance: It recommends strong AI audit frameworks, extended product approval procedures, and enhanced business continuity strategies.

The report further proposes seven principles to govern the application of AI and machine learning to the Indian Financial system<sup>11</sup>:-

1. Public trust should be foundation of AI systems
2. AI usage disclosure and allowing human intervention to override AI systems.
3. Responsible and useful innovation should take priority over cautious restraints.
4. AI system should be designed and tested to promote fairness, equality and inclusion

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<sup>10</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.4 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 27 August 2025.

<sup>11</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.3 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 27 August 2025.

5. Entities deploying AI system would be accountable for decisions of AI system
6. AI system should be understandable by design to entities deploying them.
7. AI system should be safe, sustainable and resilient to cyber and other risks.

## V. ANALYSIS OF RECOMMENDATIONS OF FREE-AI REPORT

In this section, the key recommendations of RBI FREE AI report have been examined, compared with leading practices of European Union AI act (EU AI Act) and Monetary authority of Singapore (MAS)

### 1. Financial Sector Data Infrastructure

It emphasises the creation of high quality digital public financial data aligned with AI Kosh; India Datasets platform as part of the INDIA AI Mission.<sup>12</sup>

The EU imposes strict governance of data for high-risk AI systems and strengthens existing regulations like the GDPR. It further requires financial institutions to adapt their data infrastructure to meet standards laid down in act. Whereas, The Monetary Authority of Singapore (MAS) is enhancing its financial sector's data infrastructure through initiatives like the MAS Data Analytics Exchange (MAX) for natural catastrophe data and industry-wide Know-Your-Customer (KYC) utilities. The MAS prioritizes sovereign cloud adoption and strong data security guidelines to ensure compliance.<sup>13</sup>

### 2. AI Innovation Sandbox

The Report recommends creation of AI innovation sandbox to facilitate secure and controlled development of AI solutions for Regulated entities, FinTechs, and innovators.<sup>14</sup>

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<sup>12</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.10 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 27 August 2025.

<sup>13</sup> Asia Insurance Review, Singapore: MAS to help financial sector gear up for the Future Economy' (Asia Insurance Review) <https://www.asiainsurancereview.com/Magazine/ReadMagazineArticle?aid=39069> accessed 1 October 2025.

<sup>14</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.13

Singapore's MAS already operates initiatives such as the FinTech Regulatory Sandbox<sup>15</sup> and the Veritas Initiative.<sup>16</sup> Under the EU AI Act, developers can test AI innovations under regulatory supervision, with a requirement for each EU member state to establish a sandbox by August 2026, aiming for legal certainty and compliance with regulations of Act.<sup>17</sup>

### 3. Capacity Building within Regulated entities

Regulated entities must cultivate AI-related capabilities and governance skills for the Board and executive team, alongside organized and continuous training, upskilling and reskilling initiatives for the wider workforce utilizing AI, to effectively address AI risks and promote ethical and responsible AI integration. It aligns with the IndiaAI mission for talent development and tech R&D leadership.<sup>18</sup>

EU AI Act require rigorous capacity building for high-risk financial AI system, including senior governance and ethical training.<sup>19</sup> Institutions must provide upskilling, AI literacy, and competency checks, which will be overseen by the EBA and ESMA. The Singapore's MAS encourages cooperation through the Pathfinder Program and requires AI capabilities, all the while testing generative AI applications for workforce development plans.<sup>20</sup>

### 4. Framework for Sharing Best Practices

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<https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 27 August 2025.

<sup>15</sup>Monetary Authority of Singapore (MAS), 'overview of Regulatory Sandbox' (MAS Singapore) <https://www.mas.gov.sg/development/fintech/regulatory-sandbox> accessed 2 October 2025.

<sup>16</sup> Monetary Authority of Singapore (MAS), 'Veritas Initiative' (MAS Singapore)(Oct 2023) <https://www.mas.gov.sg/schemes-and-initiatives/veritas> accessed 2October 2025.

<sup>17</sup> European Union, Artificial Intelligence Act, Article 57: AI Regulatory Sandboxes ( 2024) <https://artificialintelligenceact.eu/article/57/> accessed 10 October 2025.

<sup>18</sup> Reserve Bank of India, *Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI) in the Financial Sector: Report of the Committee* (Report, 13 August 2025) para 4.4.35 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 1 October 2025.

<sup>19</sup> European Union. (2024, June 13). Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024. EUR-Lex. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689> accessed 1 August 2025.

<sup>20</sup> Monetary Authority of Singapore, 'PathFin.ai: MAS pathfinder programme' (August 2025) <https://www.mas.gov.sg/schemes-and-initiatives/pathfinai> accessed 2 October 2025.

The financial institutions require a framework for sharing AI use cases and best practices for responsible scaling. It will enhance institutional learning, combats fraud in fast payments, and ensures clear rules as the IndiaAI mission promotes democratized AI access like AI enabled DPI.<sup>21</sup>

The EU's AI Act requires financial institutions to interact with regulators and share AI-related information for compliance purposes, providing formal exchange channels between EBA, ESMA, and EIOPA. European Commission launch AI pact<sup>22</sup> to also promotes the exchange of best practices and experiences in managing high-risk AI systems.<sup>23</sup> In response, Singapore's MAS offers Project MindForge to address generative AI difficulties and its PathFin.ai program for AI experience exchange among more than 30 institutions, combining partnerships and supervision forums for all-encompassing AI best practices in finance.<sup>24</sup>

## 5. Board-Approved AI Policy

To facilitate safe AI adoption, Regulated entities should develop board approved AI policy addressing accountability, risk measures, governance and protection of consumers, ensuring alignment to organizational values.<sup>25</sup> This policy should also support the IndiaAI Mission's safety and accountability goals, promoting effective AI integration in daily operations while emphasizing responsible governance.

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<sup>21</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.39 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 1 October 2025.

<sup>22</sup> European Commission, 'AI Pact Events' <https://digital-strategy.ec.europa.eu/en/policies/ai-pact-events> accessed 10 October 2025.

<sup>23</sup> A Henderson, G Scott, C Moille and M Dixon-Ward, 'EU AI Act: Key points for financial services businesses' (Goodwin Law, 9 August 2024) <https://www.goodwinlaw.com/en/insights/publications/2024/08/alerts-practices-pif-key-points-for-financial-services-businesses> accessed 3 October 2025.

<sup>24</sup> TechNode Global Staff, 'Singapore launches Pathfinder program to help financial institutions adopt AI' (TechNode Global, 16 July 2025) <https://technode.global/2025/07/16/singapore-launches-pathfinder-program-to-help-financial-institutions-adopt-ai/> accessed 9 October 2025.

<sup>25</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.44 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 3 October 2025.

At the global level, the accountability of boards is increasingly becoming common. In the EU, supervisory authority (such as ESMA) suggest that the management authorities remain in charge of utilizing AI, even in the cases of third-party models;<sup>26</sup> The EU AI Act provide for internal AI policy for AI deployment. Consequently, the requirement of the AI strategy approved by the board of RBI is similar in a certain sense, narrower in terms of industry.

## 6. Data Lifecycle Governance

Regulated entities must develop comprehensive data-governance frameworks governing the collection, use, quality, retention, deletion, traceability, and security of personal data used throughout the AI lifecycle. Where processing falls within the Digital Personal Data Protection Act 2023, such frameworks must also be aligned with the Digital Personal Data Protection Rules 2025, notified through G.S.R. 846(E) dated 13 November 2025. The Rules prescribe detailed requirements concerning clear notices, reasonable security safeguards, personal-data-breach intimation, retention and erasure, cross-border transfers, and enhanced obligations for Significant Data Fiduciaries, including annual data-protection impact assessments and audits and due diligence regarding algorithmic software.<sup>27</sup>

The phased commencement structure is material for financial-sector compliance. Rules 1, 2 and 17–21 came into force upon Gazette publication; Rule 4 takes effect one year thereafter; and Rules 3, 5–16, 22 and 23 take effect eighteen months after publication. Regulated entities should use this transition period to map AI training, validation and inference data; document the specified purpose and applicable consent or statutory ground for processing; establish retention-and-erasure schedules; maintain access controls and processing logs; and ensure that contracts with Data Processors impose equivalent safeguards. These measures strengthen transparency

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<sup>26</sup> European Securities and Markets Authority, Public Statement on AI and investment services (ESMA35-335435667-5924) (30 May 2024) [https://www.esma.europa.eu/sites/default/files/2024-05/ESMA35-335435667-5924\\_Public\\_Statement\\_on\\_AI\\_and\\_investment\\_services.pdf](https://www.esma.europa.eu/sites/default/files/2024-05/ESMA35-335435667-5924_Public_Statement_on_AI_and_investment_services.pdf) accessed 3 October 2025

<sup>27</sup> Digital Personal Data Protection Rules 2025, G.S.R. 846(E), rr 1(2)–(4), 3, 6–8, 13 and 15.

and accountability while reducing privacy, bias, and cybersecurity risks in AI-enabled financial services."

The EU AI Act sets demanding data lifecycle requirements on high-risk AI systems, such as representative and bias-checked datasets and detailed documentation as per GDPR and DORA. Financial supervisory regulators exert compliance with AI by emphasizing on data governance.<sup>28</sup> The MAS of Singapore provides validation checks, metadata tagging, and traceability of data under its AI Model Risk Management system which has data drift and third-party governance controls within AI supply chains.<sup>29</sup>

## 7. AI System Governance and Audit Framework

Regulated entities (Res) must establish governance mechanisms across the AI model, focusing on documentation, validation, and monitoring for model drift. In high-risk areas like finance, clear governance and human oversight are crucial, aligning with the IndiaAI Mission for consistent assurance and incident management using AI kosh.<sup>30</sup> Further REs need to develop an AI audit structure where internal audits must correspond to the risk profile, and internal audits should be independent third-party audits.

The EU AI Act has the strictest international standards with high-risk AI systems undergoing systematic risk management throughout the design, up to decommissioning, including a comprehensive set of documents, human controls, and integration with EBA/ESMA/EIOPA oversight.<sup>31</sup> It also provide for internal

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<sup>28</sup> European Parliament & Council of the European Union. (2024, July 12). Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence OJ L1689/1 [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L\\_202401689](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401689) accessed 3 October 2025.

<sup>29</sup> Monetary Authority of Singapore, *Information Paper on AI Risk Management: Observations from a Thematic Review*(December 2024) <https://www.mas.gov.sg/publications/monographs-or-information-paper/2024/artificial-intelligence-model-risk-management> accessed 3 October 2025.

<sup>30</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.48 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 3 October 2025.

<sup>31</sup> European Securities and Markets Authority, Public Statement on AI and investment services (ESMA35-335435667-5924) (30 May 2024) <https://www.esma.europa.eu/sites/default/files/2024->

oversight through AI governance committee, Chief AI ethic officer etc.<sup>32</sup> High-risk AI systems are subject to the applicable conformity-assessment procedure before being placed on the market or put into service. Providers must maintain the required technical documentation and quality-management records throughout the system's lifecycle. A new conformity assessment is required where a high-risk AI system undergoes a substantial modification. Where a notified body issues a conformity certificate under Annex VII, the certificate is valid for the period stated in it, not exceeding five years for Annex I systems and four years for Annex III systems; any extension is subject to reassessment under the applicable conformity-assessment procedure.

The Singapore MAS requires the cross-functional supervision forums, validation approaches throughout the AI lifecycle, and the model drift and third-party AI systems and specific controls, but also accurate inventories and human control over autonomous applications. Model Risk Management requires risk-based internal auditing and third-party involvement of complex models, to which audit expectations are modified every six months and reflect the new AI risks.<sup>33</sup>

## 8. Consumer Protection and disclosure by Regulators

It is suggested to use a standardized disclosure framework, which includes the AI uses, risk analysis, third parties' audits, customer protections, data breaches.<sup>34</sup> It favours IndiaAI Mission, which builds trustful AI and reveals the gaps in the system further partnership in "Safe and Trusted AI" by enhancing customer trust in AI.

The EU AI act emphasis on risk-based approach and product liability directive place legal monetary liability on institutions which fails to comply with directive. Regulator

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[05/ESMA35-335435667-5924\\_Public\\_Statement\\_on\\_AI\\_and\\_investment\\_services.pdf](#) accessed 4 October 2025.

<sup>32</sup> Single Stone Consulting, 'AI Governance: Ensuring Ethical AI Implementation' <https://www.singlestoneconsulting.com/blog/ai-governance> accessed 4 October 2025.

<sup>33</sup> Monetary Authority of Singapore, *Information Paper on AI Risk Management: Observations from a Thematic Review* (December 2024) <https://www.mas.gov.sg/publications/monographs-or-information-paper/2024/artificial-intelligence-model-risk-management> accessed 4 October 2025.

<sup>34</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 5 October 2025.

have a duty of imposing fairness tests and setting consumer education on AI rights.<sup>35</sup> The MAS in Singapore incorporates AI consumer protections in its FEAT guidelines<sup>36</sup>, requiring it to disclose AI clearly and have grievance mechanisms in place as well as encourage digital literacy efforts on AI in finance.<sup>37</sup> Further financial institutions are required to make public disclosures on their AI usage, governance, and consumer safeguards with an aim to increase trust in AI.

## 9. Cybersecurity Measures

Regulated entities are advised to improve cybersecurity that will respond to AI risks, implement AI-defensive strategies, and train consumers. The FREE-AI Framework is oriented at governance and monitoring, and the IndiaAI Mission is on the way to secure AI. Recommendation 19 calls on India to have AI-conscious threat modeling in order to have resilience in its investment ecosystem.<sup>38</sup>

Under the EU AI Act and the Digital Operational Resilience Act (DORA) financial institutions must establish a comprehensive security framework for high-risk AI systems, ensuring system resilience against cyberattacks, continuous monitoring for incident management, strong data integrity through governance, vulnerability management throughout the system's lifecycle, supply chain security for third-party providers, and logging for traceability of AI-driven decisions to ensure accountability. Equally, MAS of Singapore is managing AI cyber risk by its Technology Risk

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<sup>35</sup> Eris Law Advokatbyrå AB, 'The EU's Double-Edged Sword: Balancing Innovation with Consumer Protection in the AI Age' (Eris Law, 2025) [https://erislaw.se/artiklar/the-eus-double-edged-sword-balancing-innovation-with-consumer-protection-in-the-ai-age/#:~:text=The%20European%20Union's%20dual%20legislative,9%2D2024%2D0138\\_EN.pdf](https://erislaw.se/artiklar/the-eus-double-edged-sword-balancing-innovation-with-consumer-protection-in-the-ai-age/#:~:text=The%20European%20Union's%20dual%20legislative,9%2D2024%2D0138_EN.pdf) accessed 4 October 2025.

<sup>36</sup> Monetary Authority of Singapore, Principles to promote fairness, ethics, accountability and transparency (FEAT) in the use of artificial intelligence and data analytics in Singapore's financial sector (Information Paper, 19 December 2022) <https://www.mas.gov.sg/~media/MAS/News%20and%20Publications/Monographs%20and%20Information%20Papers/FEAT%20Principles%20Final.pdf> accessed 4 October 2025.

<sup>37</sup> Monetary Authority of Singapore, 'MAS strengthens collaboration between financial institutions and training institutes to enhance artificial intelligence and data analytics skills' (MAS Media Release, 22 May 2023) <https://www.mas.gov.sg/news/media-releases/2023/mas-strengthens-collaboration-between-fis-and-training-institutes> accessed 5 October 2025.

<sup>38</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.56 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 5 October 2025.

Management Guidelines that mandate proactive AI threat modeling, continuous anomaly detection, and regular penetration testing as a way of simulating attacks. MAS also advocates AI security best practices during public-private Cyber Week events.<sup>39</sup>

### **10. AI Incident Reporting and Sectoral Risk Intelligence Framework**

The financial sector regulators must create an AI incident reporting system among the entities and FinTechs to facilitate the reporting of AI-related problems such as harmful outputs and breach in time. This facilitates open reporting, zero punishments of first-time reports, consolidates anonymous reports to create risk intelligence, facilitates the IndiaAI Mission, and improves direction and datasets to assess safety.<sup>40</sup>

The EU AI Act introduces the obligation to report major incidents involving the fundamental rights to EU authorities by high-risk operators of the AI systems within 15 days.<sup>41</sup> The MAS of Singapore also requires the reporting of AI incidents under its Technology Risk Management framework of the financial organizations, which focuses on ongoing monitoring and governance especially in the case of generative AI and third-party failure.

### **11. AI Toolkit**

The AI Compliance Toolkit can help Regulatory Entities (REs) to ensure responsible AI principles: fairness, transparency, accountability, and robustness. It was created by a Self-Regulatory Organization (SRO), provides such resources as checklists and metrics, helps equitably supervise and generate audit-ready evidence, especially in favor of micro, small, and medium enterprises (MSMEs).<sup>42</sup> For example, HDFC Bank

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<sup>39</sup> Monetary Authority of Singapore, Technology Risk Management Guidelines (18 January 2021) <https://www.mas.gov.sg/regulation/guidelines/technology-risk-management-guidelines> accessed 5 October 2025.

<sup>40</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.63 <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 5 October 2025.

<sup>41</sup> European Union, Artificial Intelligence Act, Article 73: Reporting of Serious Incidents' (EU Artificial Intelligence Act) <https://artificialintelligenceact.eu/article/73/> accessed 6 October 2025.

<sup>42</sup> Reserve Bank of India, Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI Committee Report) (13 August 2025) para 4.4.78

deploys EVA (Electronic Virtual Assistant), an AI-based chatbot that provides customers with information and assistance regarding the Bank's products and services.<sup>43</sup>

The EU AI Act don't specify single AI toolkit but sets risk-based frameworks with strict conditions on high-risk AI systems that focus on transparency through disclosures relating to AI inventories, risk management, reporting, and governance. This is supposed to inform AI application decisions in the financial industry. Comparatively, the Veritas Toolkit developed by the MAS is used to evaluate AI appropriateness of financial organizations in accordance with Fairness, Ethics, Accountability, and Transparency (FEAT). The given open-source toolkit provides methods of assessing bias and explainability that will help to establish cooperation between regulators and industry to enhance compliance and trust in AI practices.<sup>44</sup>

## VI. COMPARATIVE ASSESSMENT: REGULATORY DESIGN AND IMPLEMENTATION

The comparison reveals that the FREE-AI framework occupies an intermediate position between the European Union's binding, risk-based regulatory model and Singapore's principles-led, supervisory approach. The EU AI Act establishes horizontal obligations for specified actors, particularly providers and deployers of high-risk AI systems. It requires lifecycle risk management, appropriate data governance, technical documentation, record-keeping, human oversight, quality-management systems, post-market monitoring, and reporting of serious incidents. In contrast, Singapore's approach develops AI governance through the FEAT principles and MAS's supervisory expectations concerning AI model risk management. The RBI's FREE-AI Report adopts a financial-sector-specific model that combines broad

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<https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FREEAIR130820250A24FF2D4578453F824C72ED9F5D5851.PDF> accessed 6 October 2025.

<sup>43</sup> HDFC Bank, 'EVA ChatBot – Your Personal Assistant' (n.d.) accessed 22 June 2026.

<sup>44</sup> M Dimitrov, 'Singapore's MAS launches Veritas Toolkit 2.0 for responsible AI in FinTech' (FinTech Global, 3 July 2025) <https://fintech.global/AIFinTechForum/singapores-mas-launches-veritas-toolkit-2-0-for-responsible-ai-in-fintech/> accessed 6 October 2025.

ethical principles with recommendations on governance, assurance, infrastructure, policy, and capacity.<sup>45</sup>

A significant point of divergence concerns risk classification. The EU AI Act expressly differentiates between prohibited, high-risk, transparency-risk, and minimal-risk uses of AI, thereby connecting the intensity of legal obligations to the potential harm created by the system. The FREE-AI Report does not prescribe an equivalent statutory classification for all AI applications in finance. Instead, it expects regulated entities to formulate board-approved policies and risk controls appropriate to their AI use cases. This approach gives institutions flexibility to adapt controls to diverse financial applications, including credit scoring, fraud detection, customer interaction, and compliance monitoring. However, it may also result in uneven risk assessment unless RBI guidance establishes common materiality thresholds, minimum documentation standards, and criteria for identifying high-impact AI systems.

The divergence is equally apparent in relation to accountability and assurance. Under the EU model, regulatory duties are supported by formal compliance mechanisms, including conformity assessment in relevant cases, documentation obligations, market surveillance, post-market monitoring, and serious-incident reporting. Singapore places particular emphasis on institutional model-risk-management arrangements, including governance structures, AI inventories, data provenance, validation, monitoring, and appropriate human involvement. The FREE-AI recommendations similarly stress board responsibility, audit, lifecycle governance, consumer disclosures, cybersecurity, and incident reporting. Their effectiveness, however, will depend on the conversion of these recommendations into sufficiently clear supervisory expectations. A framework that requires institutions to maintain AI inventories, classify systems by materiality, document testing and human-override arrangements, and report significant failures would make accountability more operational and capable of regulatory verification.<sup>46</sup>

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<sup>45</sup> Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024, arts 9, 10, 14, 17, 72 and 73.

<sup>46</sup> Monetary Authority of Singapore, *Artificial Intelligence Model Risk Management: Observations from a Thematic Review* (Information Paper, December 2024).

The Indian framework's principal strength lies in its attempt to connect responsible governance with innovation enablement. The Report envisages sectoral digital infrastructure, an AI innovation sandbox, capacity building, and sharing of best practices, alongside governance and assurance measures. This design is particularly relevant to India's financial sector, where regulated entities differ substantially in technological capacity and where AI may support multilingual service delivery, fraud prevention, and broader financial inclusion. A purely restrictive regime could discourage experimentation by smaller institutions and fintech firms; conversely, an unduly flexible regime could weaken protections for consumers whose access to credit, insurance, or payment services is affected by automated systems. FREE-AI's dual architecture seeks to address this tension, but it requires differentiated compliance obligations so that high-impact systems receive greater scrutiny than low-risk internal tools.

Accordingly, the comparative analysis suggests that the FREE-AI framework should retain its adaptive, sector-specific character while incorporating certain operational features visible in the EU and Singaporean approaches. RBI guidance should specify baseline governance obligations applicable to all regulated entities and enhanced obligations for material or high-impact AI systems. These enhanced obligations may include pre-deployment testing for bias and accuracy, independent validation for critical models, documented human oversight, periodic review for model drift, third-party risk controls, auditable records, and prompt reporting of material incidents. Such measures would not replicate the EU AI Act mechanically; rather, they would translate its lifecycle-accountability logic into the institutional realities of India's financial sector.<sup>47</sup>

The comparison therefore supports the conclusion that FREE-AI is a promising foundation, but not a complete compliance regime in itself. Its long-term effectiveness will depend on detailed guidance, supervisory capacity, common reporting standards, and a coherent relationship with existing Indian rules on data protection,

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<sup>47</sup> Reserve Bank of India, *Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI) in the Financial Sector: Report of the Committee* (2025).

outsourcing, cybersecurity, and consumer protection. The framework can achieve a sustainable balance between innovation and financial stability only when its ethical Sutras are accompanied by measurable governance requirements and credible assurance mechanisms.

## VII. SUGGESTIONS AND RECOMMENDATIONS

The comparative analysis indicates that the FREE-AI framework should be developed into an operational supervisory framework through clear, proportionate, and risk-sensitive measures. The following recommendations are proposed for the Reserve Bank of India (RBI), other financial-sector regulators, and regulated entities.

- 1. Establish a mandatory AI model inventory and risk-classification framework:** Regulated entities should be required to maintain an updated inventory of all AI and machine-learning systems, including third-party and generative-AI tools. The inventory should record the system's purpose, data sources, provider, affected customers, level of automation, materiality, testing history, and responsible business owner. RBI should also prescribe a common classification framework distinguishing low-, medium-, and high-impact AI uses. Systems affecting credit decisions, insurance pricing, fraud-related account restrictions, customer eligibility, or material financial advice should receive enhanced scrutiny.
- 2. Introduce enhanced pre-deployment and periodic assurance requirements for high-impact AI:** Before deployment, high-impact AI systems should undergo documented testing for accuracy, bias, explainability, privacy, cybersecurity, and operational resilience. Regulated entities should conduct periodic validation to identify model drift, deteriorating performance, discriminatory outcomes, or changed risk profiles. Independent internal review should be mandatory for material systems, while external assurance should be required where the model is highly complex, materially affects customers, or is supplied by a third party. This approach would translate the FREE-AI principles of accountability, fairness, and safety into verifiable compliance practices.

- 3. Develop a sector-specific AI regulatory sandbox:** The proposed AI innovation sandbox should provide controlled testing environments for regulated entities, fintech firms, and technology providers. Entry should be limited to use cases that demonstrate a clear public or sectoral benefit, such as fraud prevention, multilingual customer support, financial inclusion, compliance automation, or improved accessibility. Sandbox participants should be required to define testing parameters, consumer safeguards, exit conditions, data-protection measures, and incident-reporting arrangements before live testing. Lessons from successful and failed trials should be anonymised and shared through regulatory guidance to strengthen sector-wide learning.
- 4. Strengthen third-party AI governance:** Financial institutions increasingly rely on external cloud providers, model developers, data vendors, and AI-service providers. RBI should require contracts with such providers to address data ownership, confidentiality, audit access, model documentation, testing rights, incident notification, business-continuity arrangements, and accountability for harmful outputs. Regulated entities must remain responsible for compliance and consumer protection even where an AI system is externally developed or hosted.
- 5. Create a standardised AI-incident reporting and supervisory intelligence mechanism:** RBI should prescribe time-bound reporting of material AI incidents, including harmful or discriminatory outputs, significant model failures, data breaches, cyberattacks, major service disruption, and unauthorised automated decisions. Reports should enable regulators to identify sector-wide risks and issue anonymised alerts, supervisory advisories, and good-practice guidance. A non-punitive reporting channel for early-stage or near-miss incidents may encourage institutions to disclose risks before consumer or systemic harm occurs.
- 6. Promote meaningful consumer transparency and human review:** Where AI materially influences a customer-facing decision, regulated entities should provide clear notice of the AI's role and offer accessible channels for human

review, grievance redressal, and correction of inaccurate data. Such safeguards are particularly important for automated credit, payment, insurance, and fraud-prevention decisions, where opaque outcomes may affect an individual's access to essential financial services. These measures would preserve the flexible and innovation-oriented character of FREE-AI while establishing minimum governance standards capable of consistent supervisory enforcement.

## **VIII. WAY FORWARD**

The FREE-AI committee report is an elaborate regulatory framework which deal with integration of AI in the financial services of India, with a focus on capacity building, data governance, cybersecurity, and AI audit. The recommendations are based on the international practices, e.g., the tiered risk regime in the UK and the efforts in Singapore in respond to the reality of AI capacity demanded by the IndiaAI Mission and the DPDP Act. The report focuses on board-level accountability, data lifecycle governance, consumer protection, and the establishment of digital public infrastructure, and understand the various challenges associated to implementation of AI. The new compliance requirements:

1. cataloging AI models,
2. third-party audit.

The critical challenge that might arise in the future is the ability to implement these recommendations effectively to guarantee innovation as well as risk management.

## **IX. CONCLUSION**

This paper has examined the RBI's FREE-AI framework in comparison with the European Union AI Act and the Monetary Authority of Singapore's approach to AI governance in financial services. The comparison demonstrates that all three approaches recognise the need for accountability, transparency, fairness, human oversight, data governance, cybersecurity, and consumer protection in the deployment of AI. Their regulatory design, however, differs significantly.

The EU AI Act adopts a binding and risk-based framework that imposes progressively stringent obligations in relation to specified AI systems, particularly those categorised as high-risk. Singapore, by contrast, relies substantially on principles-based governance and supervisory expectations, with emphasis on fairness, ethics, accountability, transparency, model validation, and institutional risk management. The FREE-AI framework adopts a sector-specific and balanced approach by combining innovation enablement with governance, protection, and assurance mechanisms.

The analysis finds that FREE-AI offers a credible foundation for responsible AI adoption in India's financial sector. Its focus on board-level responsibility, data lifecycle governance, audit, consumer protection, cybersecurity, capacity building, and AI innovation infrastructure is responsive to the opportunities and risks created by AI-enabled finance. Nevertheless, the framework will require detailed supervisory guidance and measurable compliance standards to ensure consistent implementation across regulated entities.

The effectiveness of FREE-AI will ultimately depend on whether its ethical Sutras are translated into operational obligations, including AI model inventories, proportionate risk classification, independent validation of high-impact systems, meaningful human oversight, third-party governance, and timely reporting of material AI incidents. A calibrated implementation of these measures would enable India to promote innovation and financial inclusion while preserving consumer confidence, financial stability, and institutional accountability.

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