Aix-Marseille Graduate School of Management
Aix*Marseille Université

ADOPTION OF AI IN SUSTAINABLE FINANCE:

Perceptions, Challenges, and Opportunities Among International Financial Institutions

Master thesis defense

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Under the guidance,
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Background

- Growing pressure on financial institutions to integrate ESG (Environmental, Social, Governance) factors.
- AI offers scalable tools for ESG data processing, risk modeling, and reporting.
- AI adoption introduces new governance, explainability, and data challenges.

Research Questions

- How is AI used in sustainable finance today?
- What challenges limit adoption?
- How feasible is global scaling, especially in emerging markets?
- Are current ethical and regulatory frameworks sufficient?
- What role will AI play in the next 5–10 years?

Sustainable finance needs intelligence that moves as fast as the world does—AI provides that edge.

Literature Review

Key Insights

- AI ENHANCES ESG INTEGRATION, REPORTING, AND CLIMATE RISK MODELING.
- COMMON CONCERNS: NON-STANDARD ESG DATA, MODEL OPACITY, GREENWASHING.
- GOVERNANCE FRAMEWORKS (MODEL RISK, DATA PROTECTION) ARE PARTIAL.
- FEW STUDIES ANALYZE PERCEPTIONS FROM PRACTITIONERS USING INTERVIEWS AND SURVEYS.

Gap

- NEED FOR PRACTITIONER-LEVEL INSIGHTS ON REAL AI ADOPTION ACROSS GLOBAL INSTITUTIONS.

“AI is the bridge between ESG intention and credible action in financial markets.”

METHODOLOGY

Approach: Qualitative + Quantitative mix.

Interviews

- **5 anonymized experts** from EU and global financial and infrastructure institutions.
- **Focus**: AI use cases, benefits, barriers, scalability, future outlook.

Survey

- **n = 11 practitioners** from banking, asset management, fintech.
- **Close-ended + open text** on adoption, challenges, feasibility.

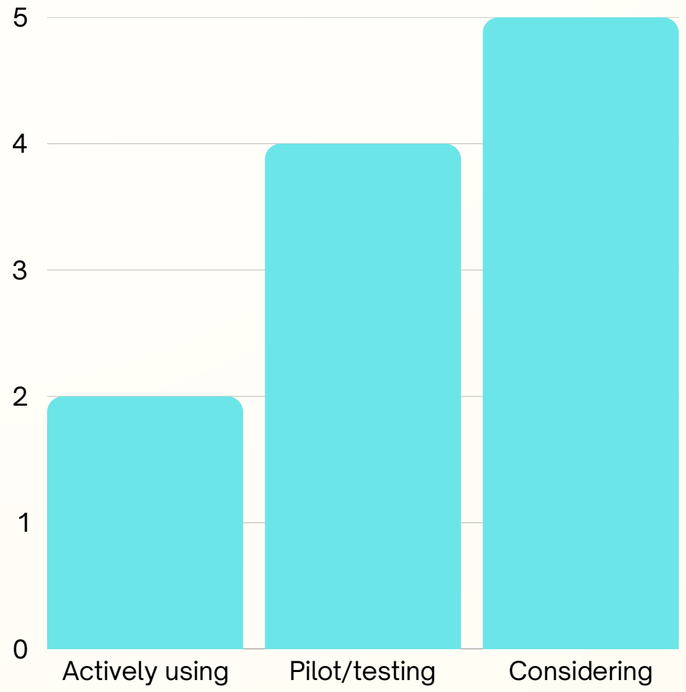
Analysis:

Thematic coding of interviews.
Keyword and frequency analysis from survey.

“We chose to listen to the voices shaping AI and sustainability from the front lines of finance.”

KEY FINDINGS

AI Adoption Status (Survey)

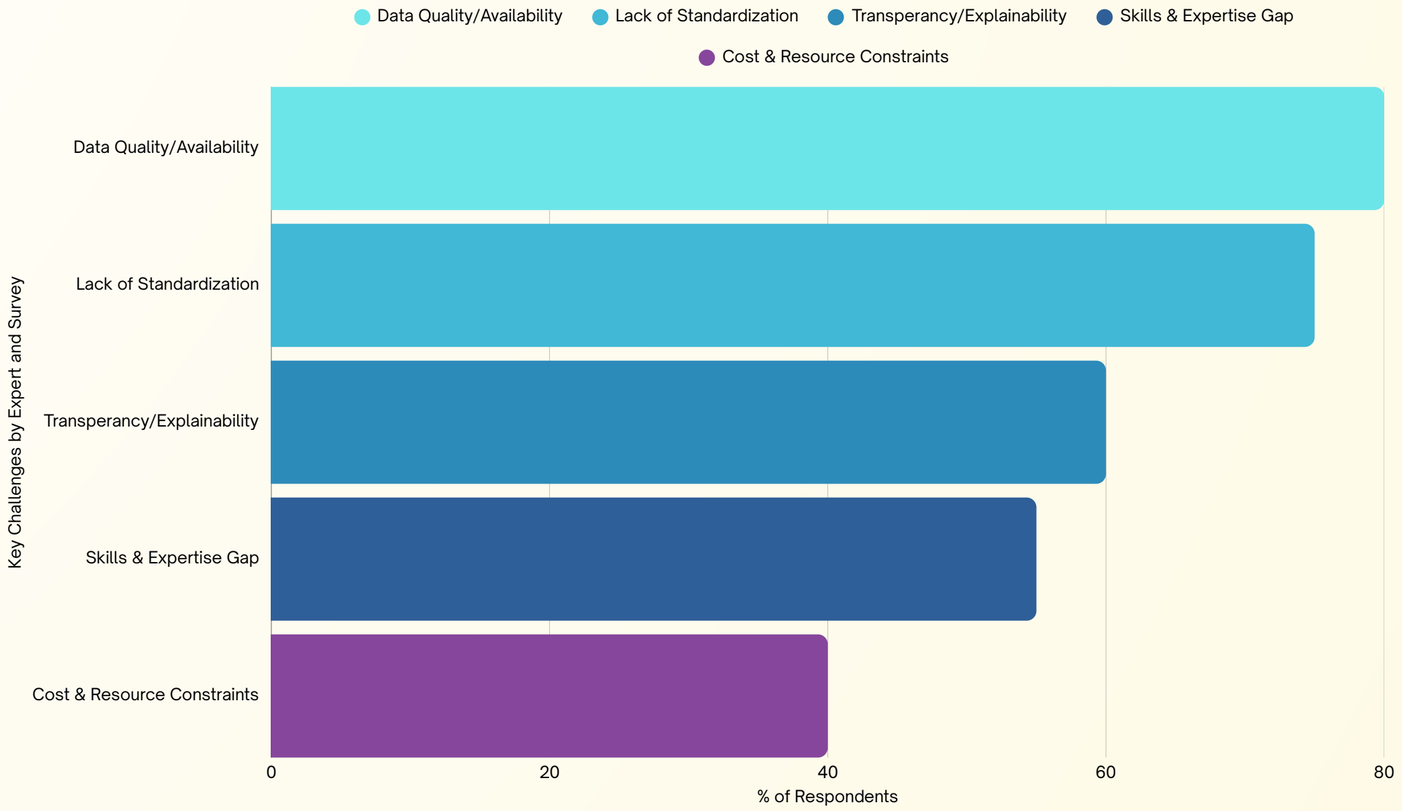


Use Cases (Interviews & Survey)

- ESG scoring and screening.
- Document intelligence and compliance.
- Climate/operational risk prediction.
- Responsible lending and underwriting.

Primary Challenges (Survey)

- Data quality (8/11)
- Model explainability (4)
- Institutional resistance (1)



“Without explainability and clean data, AI becomes another black box—not a solution.”

CASE HIGHLIGHTS

John Da Gama-Rose
Head of Banking & Financial Services, Global Growth Markets – Cognizant | Intuitively designing and digitally engineering the future of sustainable Banking and Financial Services

Phil Bourne
Mortgage Strategy and Transformational Change Specialist

Gaurav Sharma
Senior Data Scientist

Karthik Padmanabhan
Vice President Commercial Lending Operations at Accenture

Shivam M.
Senior Data Scientist

AI for ESG compliance and provenance in EU supply chains.
LLM-enabled underwriting and fraud detection
Mortgage automation through document intelligence.
Enterprise AI for EMEA/APJ delivery across BFSI
Predictive grid redispatch for renewable prioritization.

Common Themes
Human-in-the-loop remains essential.
Union/regulator engagement improves trust.
Models must be auditable and explainable.

“We don’t just automate—we negotiate with unions and regulators. Trust is part of deployment.”

RECOMMENDATIONS

For Institutions

- Strengthen ESG data infrastructure.
- Build explainable, auditable models.
- Implement human-in-the-loop for critical decisions.
- Co-design adoption with workforce.
- Localize AI tools to context.

For Regulators

- Set explainability standards.
- Enforce anti-greenwashing controls.
- Enable supervised sandboxes.
- Support EM infrastructure and workforce training.

“If AI is to serve sustainable finance, it must be governed as responsibly as the markets it aims to improve.”

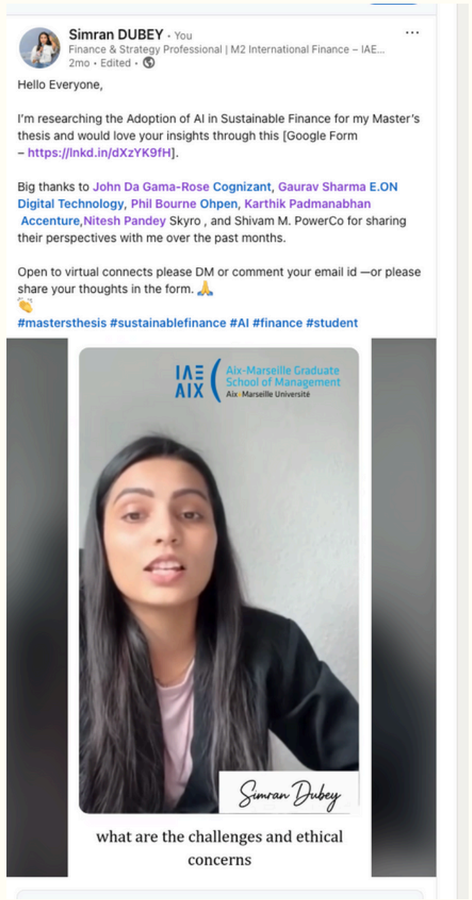
CONCLUSION

- AI is being piloted to support ESG goals, risk visibility, and reporting.
- Major barriers: data quality, model risk, and workforce readiness.
- Global scaling is feasible but conditional on infrastructure and local adaptation.
- Over the next decade, AI will embed into capital and risk workflows—if governance keeps pace.

“AI in finance isn’t a replacement—it’s a recalibration of how we see value, risk, and responsibility.”

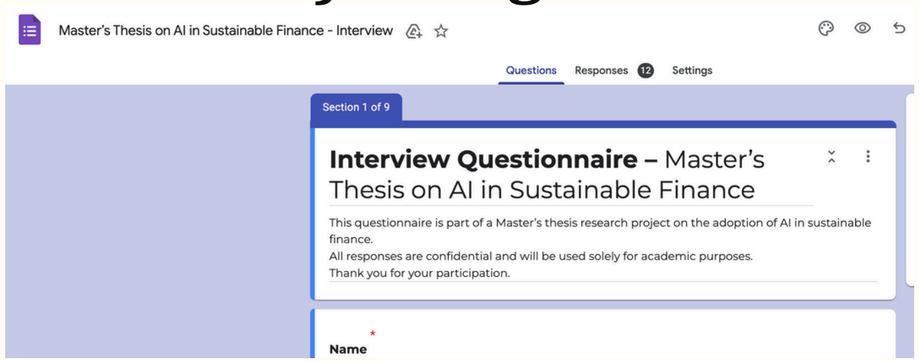
EFFORTS

Linkedin Post



Interview Guide

Survey- Google Form



Thank You