مجلس محافظي المصارف المركزية ومؤسسات النقد العربية
COUNCIL OF ARAB CENTRAL BANKS AND MONETARY AUTHORITIES GOVERNORS

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AI Adoption in the Financial Services

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Agenda

- Overview
- Ethical use of AI – data management
- Risk management processes
- Building National Strategies for AI in the financial industry
- Different countries initiatives in Regulating and Governing AI

Overview

- Artificial intelligence is **transforming** the world in many aspects. It is essential for **Arab countries** to consider how to make the most of the **opportunities** from this transformation and to address its **challenges**.
- The deployment of AI in finance **could amplify risks** already present in financial markets given their ability to learn and dynamically adjust to evolving conditions in a fully autonomous way, and **give rise to new overriding challenges and risks**.
- There are **AI governance frameworks or principles that apply across industries** and, more recently, several financial authorities have initiated development of similar frameworks for the financial sector.
- Existing requirements on governance, risk management, as well as development and operation of traditional models also apply to AI models.
- While most of the issues arising from the use of AI by financial institutions are similar to those for traditional models, **the perspective might be different**.
- The challenges and complexity presented by AI call for **a proportional and coordinated regulatory and supervisory response**.
- Given emerging common themes on AI governance in the financial sector, there seems to be scope for financial standard-setting bodies to develop international guidance or standards in this area.

Overview

- **Policy makers and regulators have a role in ensuring that the use of AI in finance is consistent with regulatory aims of promoting financial stability**, protecting financial consumers, and promoting market integrity and competition

- Policy makers should consider sharpening their focus on **better data governance by financial sector** firms, aiming to reinforce consumer protection across AI applications in finance

- Policy makers should consider **disclosure requirements around the use of AI techniques** in the provision of financial services and that it may impact the customer outcome

- Regulators should consider **promoting the ongoing monitoring and validation of AI models**, which are fundamental for their risk, as one of the most effective ways to reinforce model resilience, prevent, and address model drifts

- Policy makers could consider **the increased technical complexity of AI**, and whether resources will need to be deployed to keep pace with advances in technology.

Ethical use of AI - introduction

- Unprecedented growth in sophistication and application of AI – increasing ethical responsibility
  - **Pre-emptive and pro-active** action required

- Numerous examples: academic, public-private and political:
  - Academic – e.g. parallel between ethical AI and Principalism (medical ethics) (Mittelstadt 2019)
  - Adoption of principles and standards spanning international borders (OECD 2019)
  - Well-defined political guidance and strategies (e.g. UAE, UK's recent AI strategy 2021)

- **Diversity of approaches and applications of AI** (even within the financial services) means it is difficult to **create encompassing ethical frameworks or guidelines**, as well as translate these into actionable outcomes.

Ethical use of AI - key concerns

Non-maleficence and beneficence
Do no harm, maximize benefit

Transparency, explainability, justice, fairness
Bias and manipulation

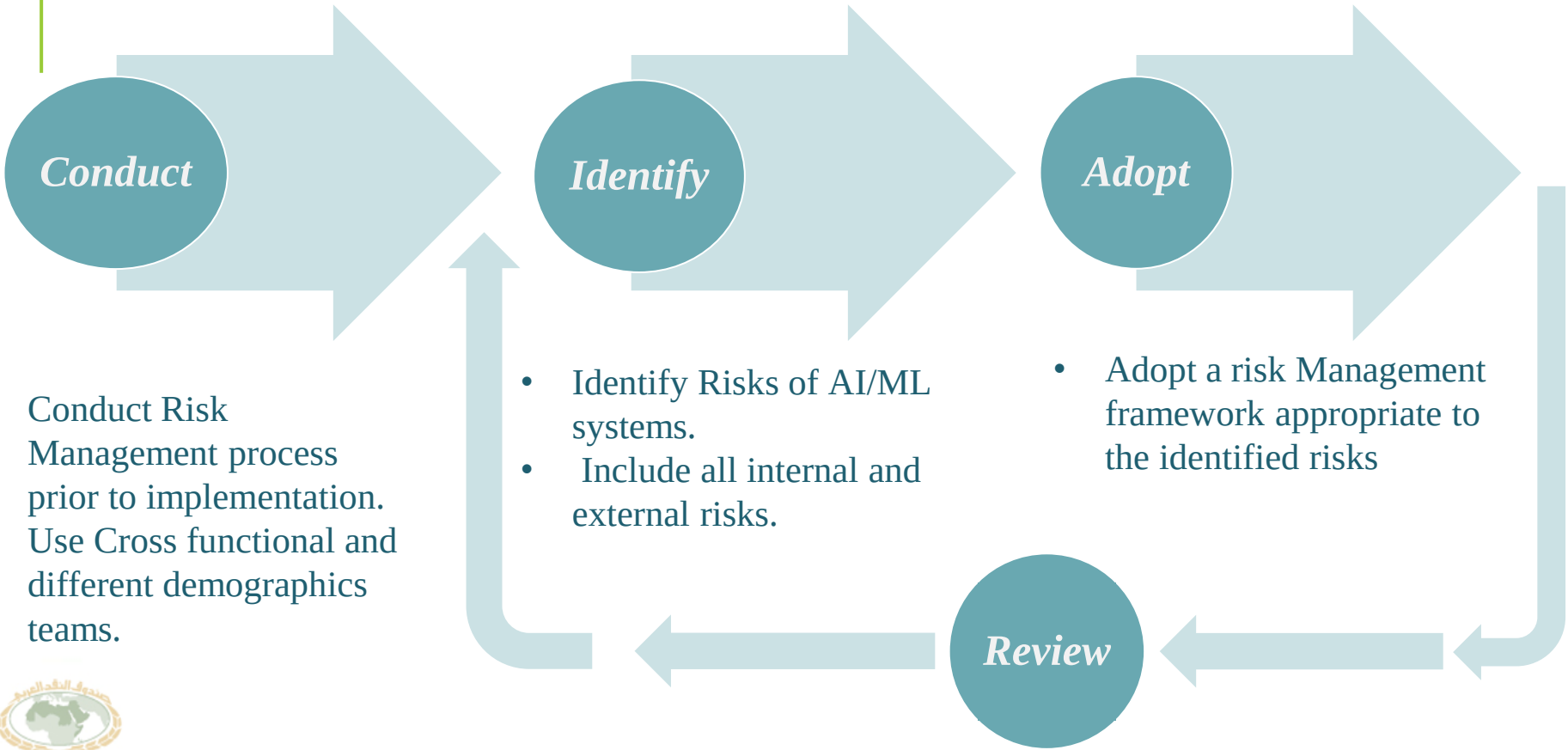
Responsibility and accountability
Mistakes, costs etc.

Privacy and surveillance
Including data

Sustainability
Socio-economic

Superintelligence

RISK MANAGEMENT



- Conduct Risk Management process prior to implementation.
- Use Cross functional and different demographics teams.

- Identify Risks of AI/ML systems.
- Include all internal and external risks.

- Adopt a risk Management framework appropriate to the identified risks

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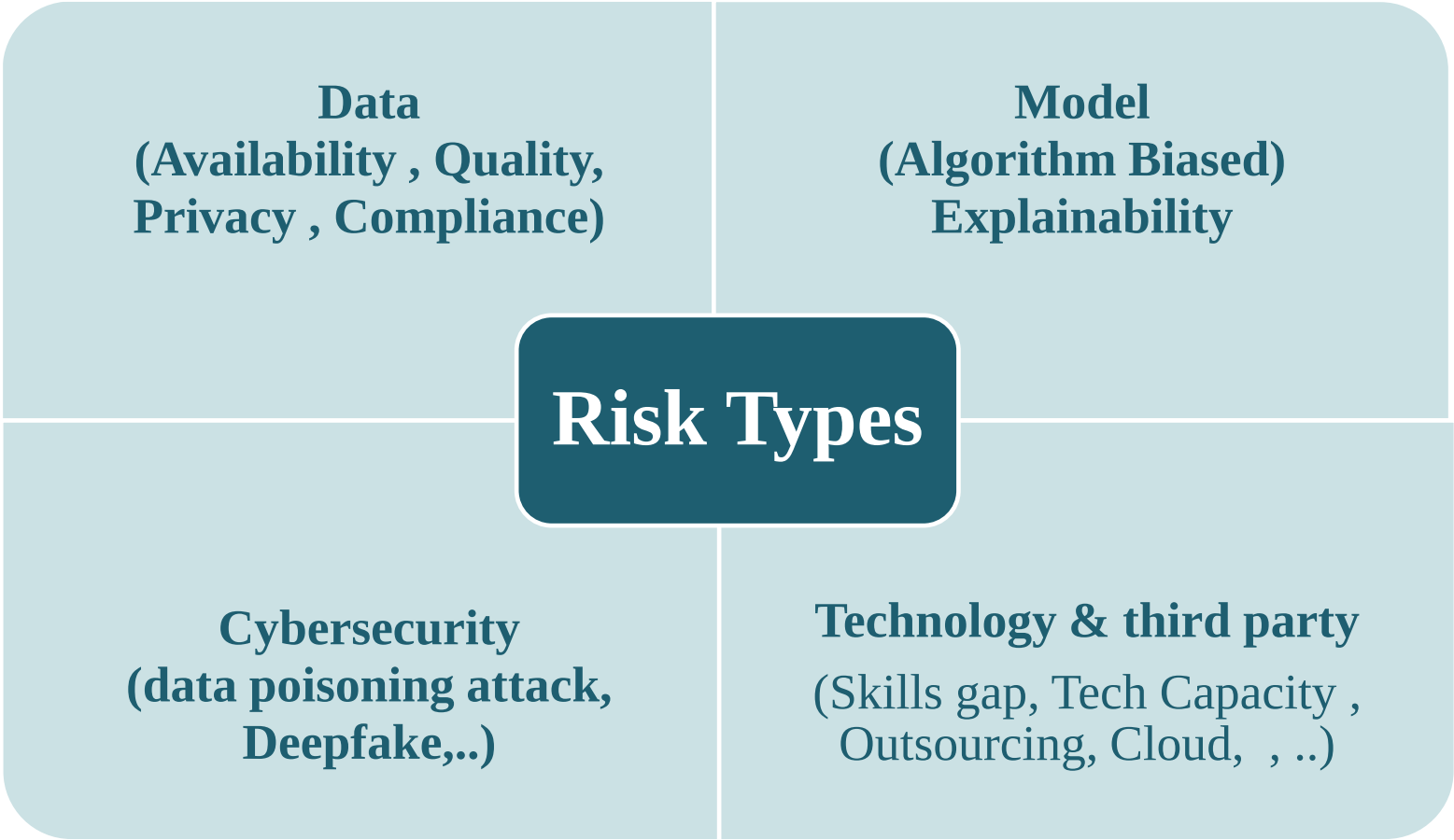
AI/ML RISKS


Data
(Availability , Quality, Privacy , Compliance)
Model
(Algorithm Biased) Explainability
Risk Types
Cybersecurity
(data poisoning attack, Deepfake,..)
Technology & third party
(Skills gap, Tech Capacity , Outsourcing, Cloud, , ..)

RISK MITIGATION

- **Training and awareness - Risk Management team**
- **Risk Management Framework specific to AI/ML**
- **Oversight and Monitoring**
- **Use of Algorithm for AI Bias (New)**
- **AI team** – different demographics and cross functional

Building National Strategy for AI Adoption in the Financial Industry?

*The **AI Strategy for financial services at the national level,** is a policy instrument that promotes the proper & ethical adoption of AI.*

Framework fostering the AI Ecosystem

- Vision and Objective of AI strategy across the financial sector
- Identify: Application areas for AI in financial services, sources and enablers, Stakeholders of AI ecosystem
- AI governance scheme
- Setting ethical principles for AI adoption
- Policies and initiatives to enhance AI in the Financial Sector
- Communications with AI strategy stakeholders and collaboration within the AI ecosystem at the national level
- Monitoring and evaluation

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Countries' Initiatives on AI in Financial Services

Different models are designed based on countries objectives, needs, and capabilities.

UK

- **UK AI Strategy - 10year -** based on 3 main pillars:
  - Investing and planning for the long-term requirements of the UK's AI ecosystem;
  - Supporting the transition to an AI-enabled economy across all sectors and regions of the UK;
  - Ensuring that the UK gets the national and international governance of AI technologies "right".
- **Regulatory and governance framework includes** concerns around fairness, bias, accountability, safety, liability, and transparency of AI systems.
- It sets out the **short, medium, and long-term plans** for achieving each of the three pillars.
- It outlines how the UK Government sees the various consultations and policies related to **data and innovation** will work together to create a pro-innovation environment for AI.

Countries' Initiatives on AI in Financial Services (Cont'd)

Monetary Authority of Singapore (MAS)

- In 2018, MAS announced a generally accepted principles to promote **fairness, ethics, accountability and transparency (FEAT)** in the use of AI and data analytics (AIDA) in Singapore's Financial Sector with a clear focus on **client interfaces, data governance, model validation frameworks and control procedures**
- In 2021, MAS announced the Artificial Intelligence and Data Analytics (AIDA) Grant as part of the Financial Sector Development Fund (FSDF) to promote AIDA adoption.

Hong Kong Monetary Authority, PCPD, SFC

- HKMA issued in Nov 2019 a detailed circular on '**High-level Principles on AI** that proposes **12 high-level principles for AI**, including governance, explainability of regulations, data quality, ethical, fair and transparency including implementation of the Ethical Accountability Framework, on-going monitoring and effective management of third- party vendors and data protection.
- PCPD issued the "Guidance on the Ethical Development and Use of AI to embrace **3** fundamental Data Values being **respectful, beneficial and fair to stakeholders,** and **7 Ethical Principles for AI**.

Countries	Initiatives in regulation and governance
EU	- The EU's approach to artificial intelligence centres on excellence and trust, aiming to boost research and industrial capacity and ensure fundamental rights. - The Commission published its AI package in April 2021, proposing new rules and actions to turn Europe into the global hub for trustworthy AI. This package consisted of: • a Communication on Fostering a European Approach to Artificial Intelligence; • the Coordinated Plan with Member States: 2021 update; • a proposal for an AI Regulation laying down harmonised rules for the EU (Artificial Intelligence Act). - The Commission aims to address the risks generated by specific uses of AI through a set of complementary, proportionate and flexible rules. These rules will also provide Europe with a leading role in setting the global gold standard. - This framework gives AI developers, deployers and users the clarity they need by intervening only in those cases that existing national and EU legislations do not cover. The legal framework for AI proposes a clear, easy to understand approach, based on four different levels of risk: unacceptable risk, high risk, limited risk, and minimal risk.
France	- The main objectives of the French 5-year national AI strategy "AI for humanity" (2018) are to: - Improve the AI education and training ecosystem to develop, retain and attract world-class AI talent; - Establish an open data policy for the implementation of AI applications and pooling assets together; - Develop an ethical framework for a transparent and fair use of AI applications. - In 2021, the Prime Minister Jean Castex announced a renewed open and shared data strategy following a 2020 Report by MP Eric Bothorel which includes data and datasets for AI. - Ethical matters to ensure a fair and transparent use of AI technologies and algorithms are central to the French AI strategy. In this regard, Cédric Villani's recommendation in the AI policy report to create a "digital technology and AI ethics committee in charge of leading public discussion in a transparent way, and organised and governed by law" has effectively led to the creation early 2020 of a Pilot National Digital Ethics Committee (CNPEN). In the pilot phase, it has been tasked about 3 areas of AI ethics but will extend progressively its outreach.

Source: https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence; https://publications.jrc.ec.europa.eu/repository/bitstream/JRC122684/ai_watch_report_national_ai_strategies.pdf
https://knowledge4policy.ec.europa.eu/ai-watch/france-ai-strategy-report_en

Countries	Initiatives in regulation and governance
Singapore	- In year 2018, MAS announced a generally accepted principles to promote fairness, ethics, accountability and transparency (FEAT) in the use of artificial intelligence and data analytics (AIDA) in Singapore's Financial Sector with a clear focus on client interfaces, data governance, model validation frameworks and control procedures to ensure that the relevant parties are deploying AI and data analytics in a responsible manner. - Issuance of Model AI Governance Framework released in 2019 which was a voluntary set of principles covering ethics, compliance and governance, stakeholder management as well as operational issues on AI adoption across industries. The guidelines were further updated in year 2020 with inclusion of real-world use cases - MAS announced the first phase of the Veritas Initiative, a framework which enables financial institutions to evaluate their AIDA-driven solutions against the FEAT principles. This was executed through launch of Global Veritas Challenge where it invited FinTech innovative solutions to address problem in certain areas focused on implementation of these principles. - Various white papers were issued by Veritas Consortium to share the collective experience of the consortium and the methodology for validating the application of these FEAT principles under various used cases including credit risk scoring, customer marketing to translate this guidance's into practical implementation and took kit for the application of the FEAT principles.
Hong Kong	In Nov 2019, Hong Kong Monetary Authority (HKMA) responsible for licensing and supervising banks in Hong Kong, issued a detailed circular on 'High-level Principles on Artificial Intelligence' aimed at giving guidance to the banking and FinTech industry on the development and use of AI in the Hong Kong financial services sector. The circular proposes 12 high-level principles for AI, including governance, explainability of regulations, data quality, ethical, fair and transparency including implementation of the Ethical Accountability Framework on-going monitoring and effective management of third- party vendors and data protection. In August 2021, Office of the Privacy Commissioner for Personal Data (PCPD) Hong Kong issued the "Guidance on the Ethical Development and Use of Artificial Intelligence" (Guidance) to help organisations understand and comply with the relevant requirements of the Personal Data (Privacy) Ordinance (PDPO) when they develop or use AI. These guidelines recommends that organisations embrace three fundamental Data Stewardship Values when they develop and use AI – being respectful, beneficial and fair to stakeholders and sets out the following seven ethical principles for AI covering accountability, human oversight, transparency and interpretability, data privacy, fairness and beneficial AI and reliability, robustness and security. These guidelines also provide structured guidance in accordance with general business processes, to assist organisations in managing their AI systems, which covered four main areas: • Establish AI strategy and governance; • Conduct risk assessment and human oversight; • Execute development of AI models and management of overall AI systems; and • Foster communication and engagement with stakeholders.

Thank you

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