

Adopting Artificial Intelligence in Financial Services: A Risk Management Perspective

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**Presentation to Network of Consulting Actuaries
22nd February 2019**

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1. The landscape

- Change leads to innovation and disruption
- Artificial intelligence (AI)
 - Data >> forecast >> autonomy / action
- “Move fast and break things” (Facebook)
- Status update about AI
 - “... the situation seems rather less revolutionary and more evolutionary... the scale of adoption of advanced analytics across the industry so far is relatively slow” (Bank of England, 2018)
 - “We are surrounded by hysteria about the future of artificial intelligence and robotics” (MIT Technology Review, 2017)

2. A changing risk profile

- AI models:
 - Use vast amounts of data, including new forms of data; no dependence on theories
 - Re-assess / re-calibrate the model
 - Same or different explanatory model
- Robo-advice
 - Conduct Risk / TCF – identify target customers
 - Feeds into business strategy and plan
 - But might the investments be different?
- Credit risk underwriting for a credit card business
 - Credit risk management – target rating
 - Feeds into business strategy and plan
 - But might the portfolio rating be different?

3. Other transformational technologies

- Technology is available but limited adoption
- Parallel with adoption of electric power
 - Electric power stations from 1880 but as late as 1910s manufacturing relied on steam power
 - Changing from steam required re-designing factories
 - More than changing the power source
- AI adoption requires a different mind-set
- Considering AI tools from the perspective of risk management can help

4. Alignment with risk management

- 'Protect and enable' perspective of risk management

	Traditional risk management	FinTech
Protect	Compliance activities	Managing cyber risk exposures
Enable	Using economic risk capital in decision making	Using AI tools to support business decisions

- Different modus operandi
 - 1000 AI projects in Google in 2016
 - Need a decentralised approach

But HOW can risk management enable AI?

5. Tone from the top

- Board sets out expectations, covering
 - Wider consideration of technology
 - Senior Management / ExCo Accountability
 - Purpose and link with strategy
 - Consider specific implications for risk management and governance
- Plus,
 - Executive leadership for AI / technology adoption
 - Comms strategy to reach middle management and staff

6. Risk management frameworks (1/2)

- Identify enhancements
 - Take into account the governance considerations that apply to these frameworks
- 1. Roles and responsibilities
 - Management ownership of each AI tool from the outset
- 2. Conduct Risk considerations
 - Generic to the activity, e.g. if developing robo-advice then must consider how to evidence 'know your customer' requirements
 - Discrimination legislation, an unintentional consequence; test before launch and regularly
 - 'Right of explanation' - GDPR requirement, does it bite?

6. Risk management frameworks (2/2)

3. Understanding the risks

- Is it appropriate to operate a 'black-box'?
- 'Explainable AI' – development choice
- Technically feasible to extract explanations, e.g. how much certain input factors affect an outcome

4. Data governance

- Provenance of external data
- Cyber-security considerations

5. Outsourcing

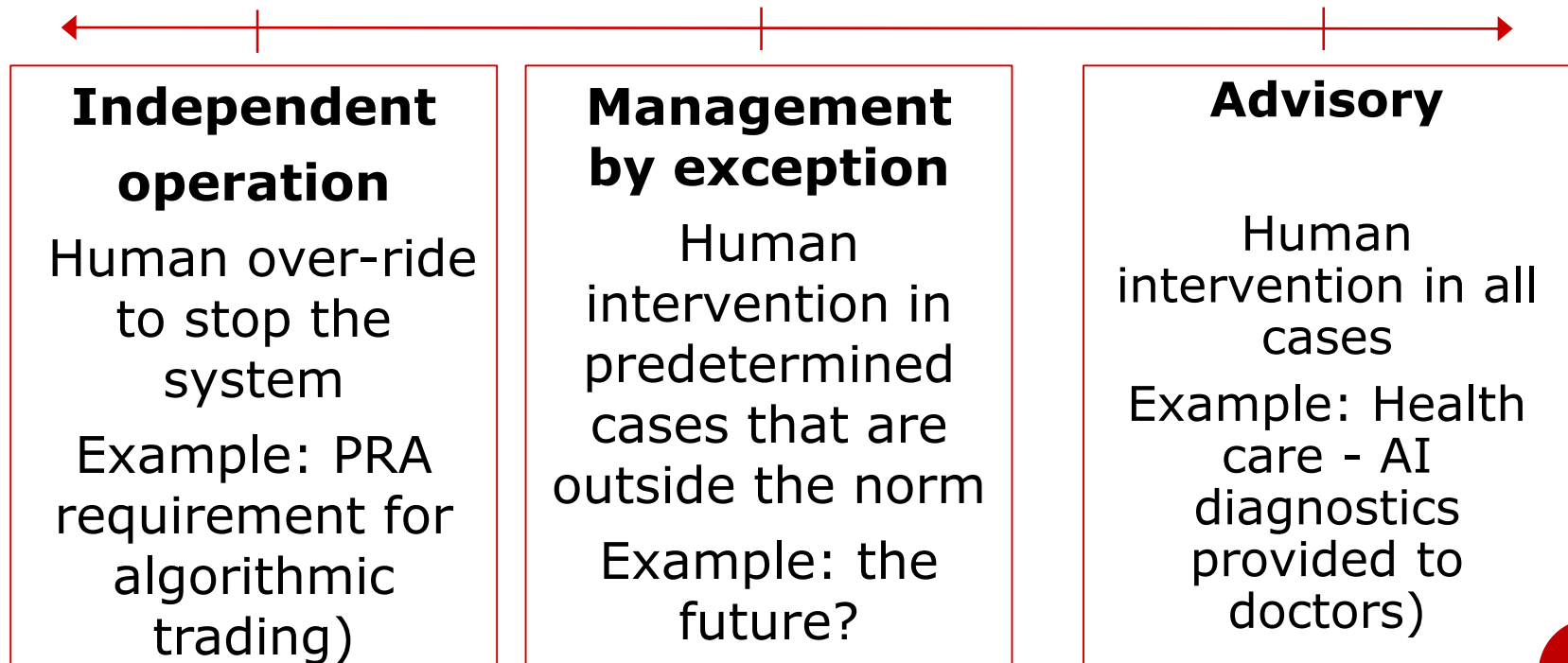
- A partner may be required for developing AI tools
- How is the ownership structure of intellectual property?

6. Model Governance

- Covering documentation and change controls

7. Business Model

- Consider how AI tools change how financial services compete – cumulative effect?
- Impact on Target Operating Model: human intervention in the operation of the AI tool



8. Summary

- How can AI become a source of competitive advantage in financial services?
- Different mindset needed – electricity
- Protect and enable approach to risk management can help:
 - Develop and embed 'Tone from the top'
 - Adapt risk management approaches
 - Consider impact Target Operating Model
- Consider the above before you are embarking on development of AI tools!