

Docs: Level 3 MLOps Processes Lifecycle

- AI / Machine Learning
- Real-world applicability: AI magic-dust doesn't exist pg. 6.
- As an Analyst, I need to be able to pg. 7.
- As a Fin. Services executive, what is the promise of AI?**
- As a PE Investor, what posture on AI to take? pg. 9.

Reputationally, No Bank Wants to Rush this Process

Most executives certainly want AI solutions that provide actionable insights, drive operational efficiency, ensure compliance, enhance risk management, and foster innovation. But with this nascent technology, many risks prevail (see below). AWS commissioned Celent to look at the future adoption waves in banking and capital markets. The report is publicly available from AWS here. We summarise some salient points here, but please refer to the full report directly. Per Figure 2, they contrast adoption in both an **Employee-facing** (left) and **Customer-facing** (right) setting. The takeaway is that banks will look to prove viability internally before rolling-out solutions to clients.

Potential Risks of AI usage in Finance

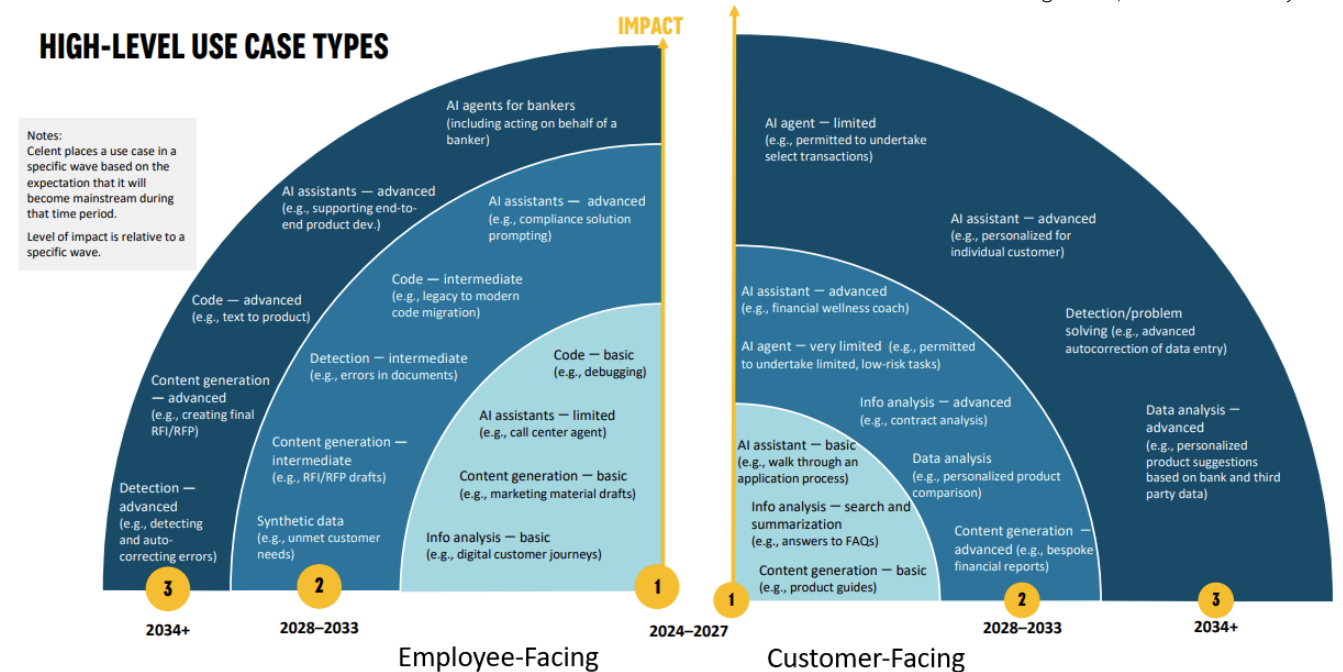
An increasingly pervasive use of AI in the financial system is commonly associated with a number of potential concerns. Some of the main risks that AI entails in the context of securities markets, according to ESMA, are the following:

- **explainability** - lack of explainability of an AI model may potentially impair model performance and risk management.
- **concentration, interconnectedness and systemic risk** - making substantial advances in the development of AI systems is resource intensive – barriers to entry may arise and lead to outsourcing to the few large asset managers with the resources to invest in technology, data, infrastructure, and talent.
- **algorithmic bias** - the term refers to a systematic behaviour of an algorithm creating outcomes that can be considered unfair – for instance because they penalise certain individuals based on biological features – and that may be different from the algorithm's intended function.
- **operational risk** - the systematic use of AI models in securities markets may exacerbate the operational risk resulting from inadequate internal control processes or from external events (e.g. cybersecurity risk).
- **data quality and model risk** - AI depends on data as its 'fuel': the success of AI tools is highly dependent on data quality, and poor-quality, noisy data can easily result in unreliable models.

Celent GenAI Adoption WaveGram

- 1 Wave 1** - Use cases in the first wave can be described overall as pragmatic due to regulatory uncertainty and an evolving ecosystem. The focus is on use cases that promise productivity/efficiency gains in low-risk areas with relatively low integration costs. Early innovators will bring more advanced use cases into production that will not experience mainstream adoption until wave two. They stand to gain a competitive advantage and drive further investment.
- 2 Wave 2** - The second wave will be characterized by higher impact applications and deeper integration of GenAI into workflows. Fuelled by adoption accelerators (e.g., lower cost and risk), FIs will test and implement more use cases and reach new frontiers (e.g., AI assistants for customers and AI generation of RFPs). The concept of augmented humans will be widely embraced across industries and FIs will deliver highly personalized interactions via customer-facing applications.
- 3 Wave 3** - No one can accurately predict what will transpire in ten years. Instead, Celent offers a few visions of how GenAI could be coupled with other advanced technologies (e.g., quantum computing, distributed ledger technology, and virtual reality) and how AI agents could play a role in financial services. As GenAI matures further, customer-facing use cases will approach the scope and impact of employee-facing use cases.

Figure 2: Generative AI Making Waves, Celent (May 2024). Commissioned by AWS.



Celent High-Level Use Cases	Examples
Content Generation	Document drafting, report generation
Content Management	Categorization, tagging, curation
AI Assistant – Knowledge Source	Research assistant, information retrieval
AI Assistant – Automation	Autofill, next best action suggestions, autonomous agents
Code Development	Debugging, refactoring, coding
Information Analysis	Synthesis, summarization
Data Analysis	Augmentation, visualization
Synthetic Data Generation	Text versions for analysis, time series data generation, scenario generation
Workflow Improvements	Suggestions for workflow amendments, automated changes to workflows
Detection Models	Errors, fraud, problem solving

Sources: Celent interviews, research, surveys, and analysis

Figure 1. Generative AI use-cases in Finance - source: Celent Research - Generative AI Making Waves, Commissioned by AWS