QuantumBlack
AI by McKinsey

The Promise of AI & GenAI in Banking: Separating Hype from Potential

Enterprise Finance Forum, Cairo

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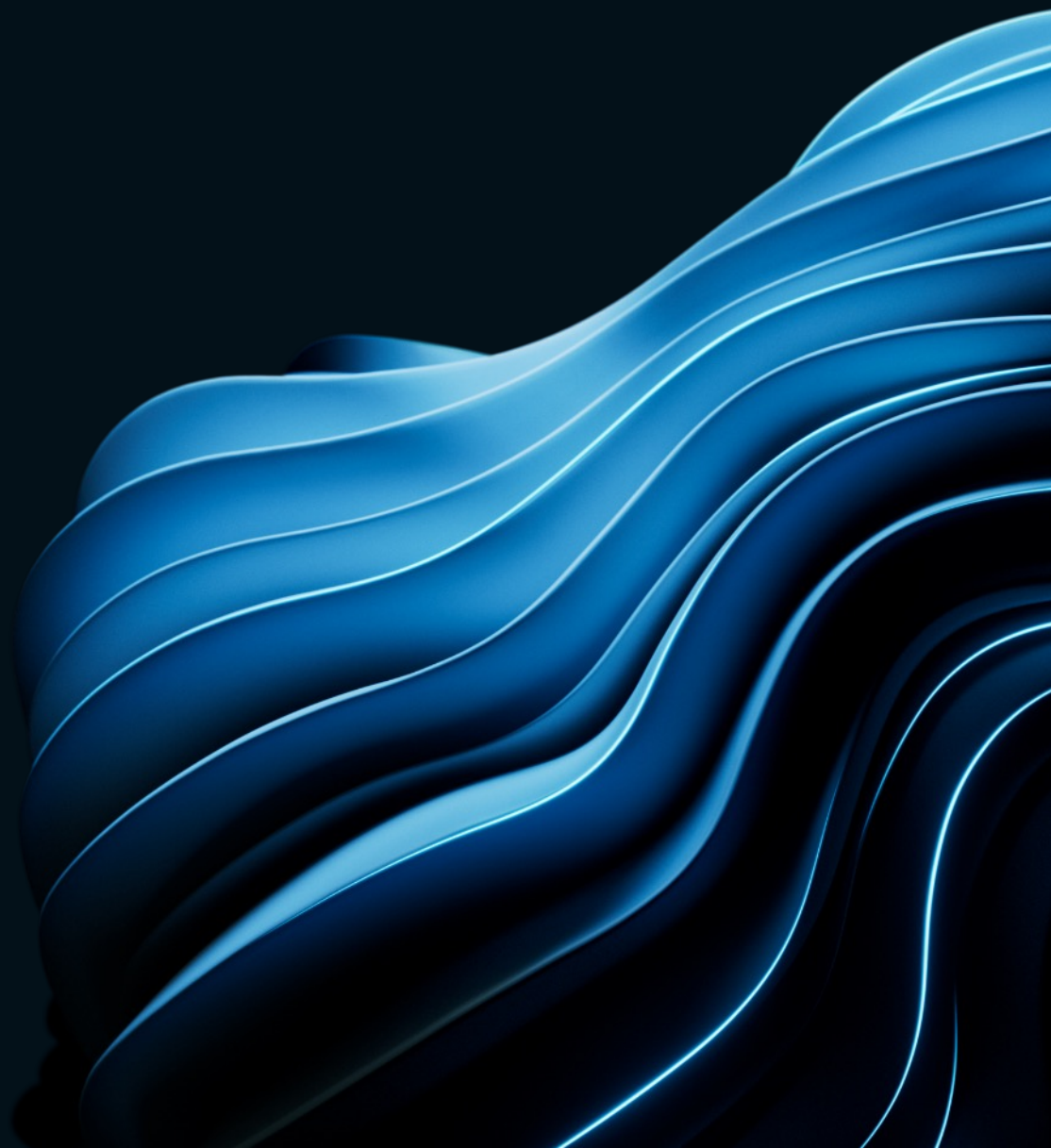


Three messages we hope you take away from this session

1. **AI/GenAI opportunity is real**, there is major adoption within the industry given the new levels of maturity

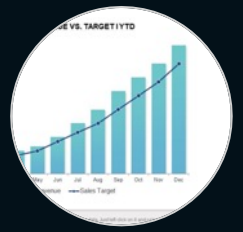
2. There is a long list of potential use cases across enterprise functions and business groups, **but most of the momentum comes from a few use case classes**

3. The move from pilot to production requires significant effort; ability to **scale and drive adoption will differentiate winners from losers**

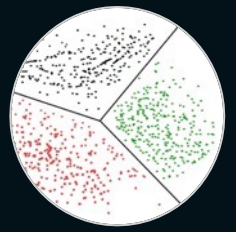
Generative AI represents a natural evolution of Analytical AI/ML, addressing a novel set of challenges…

Analytical AI/ML

Analytical AI algorithms are used to **solve analytical tasks faster and more efficiently than humans** — e.g., being able to classify, predict, cluster or evaluate data



Forecasting sales



Segmenting customers

Sentiment analysis

Generative AI

Generative AI algorithms are used to **create new content on par with humans or greatly enhancing humans** — e.g., generating audio, code, images, text, and videos

Design concepts

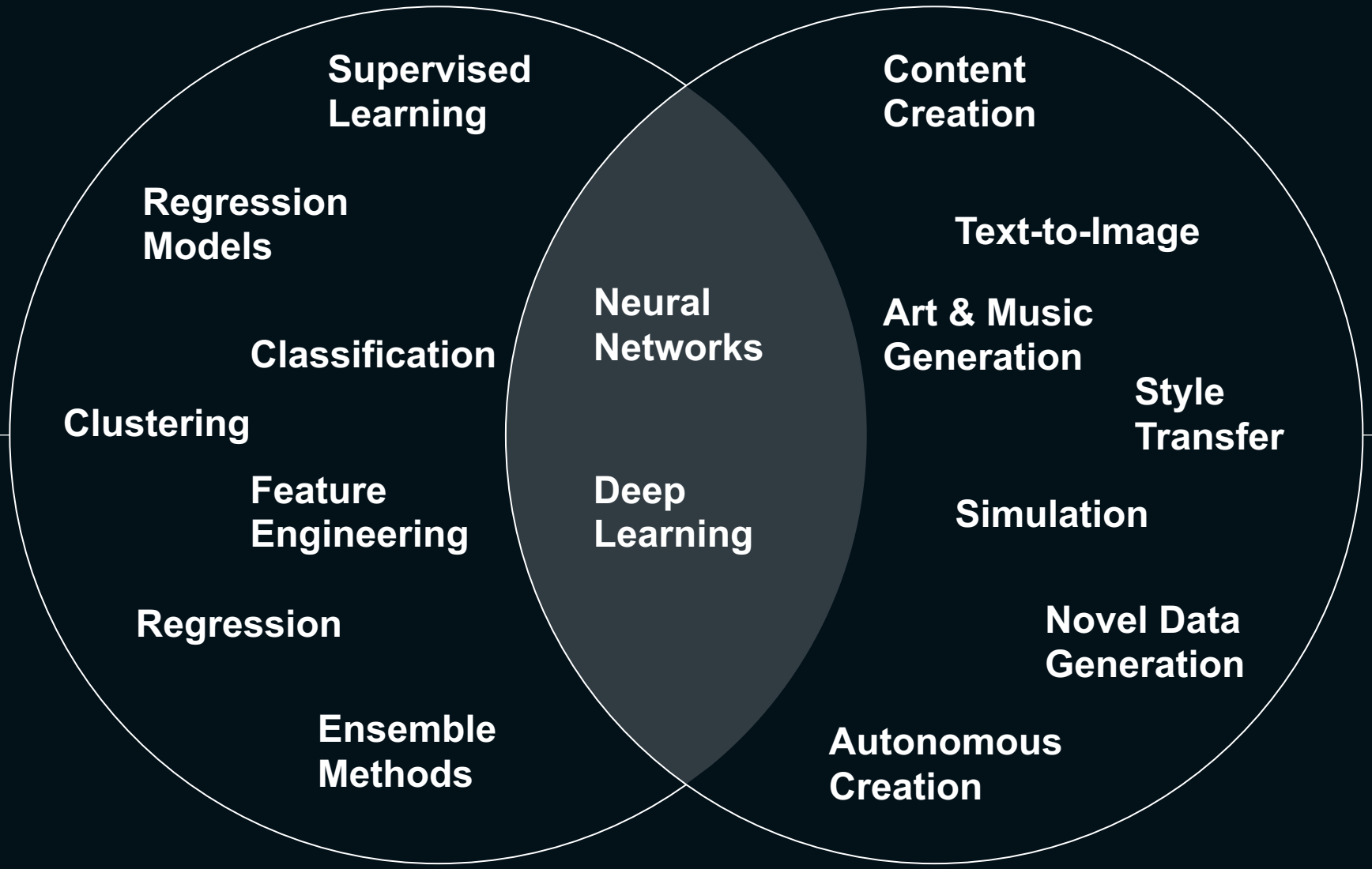
Marketing or social media copy

Code generation

…with a few overlapping, but mostly distinct features

Not Exhaustive

Analytical AI/ML is broader, focused on developing algorithms that can learn from data



Generative AI is specifically concerned with generating new content or data that wasn't in the training set

GenAI is evolving at lightning speed; However, contrary to mainstream opinion, it is not yet the answer in every situation

High-stakes scenarios where errors, factual inaccuracies, or value judgements can cause harm

Disease diagnostic

Applications involving **heavy volume** of requests and/**or** tight response **time limits**

High frequency stock trading

Unconstrained, long, open-ended generation that may expose **harmful or biased content** to users

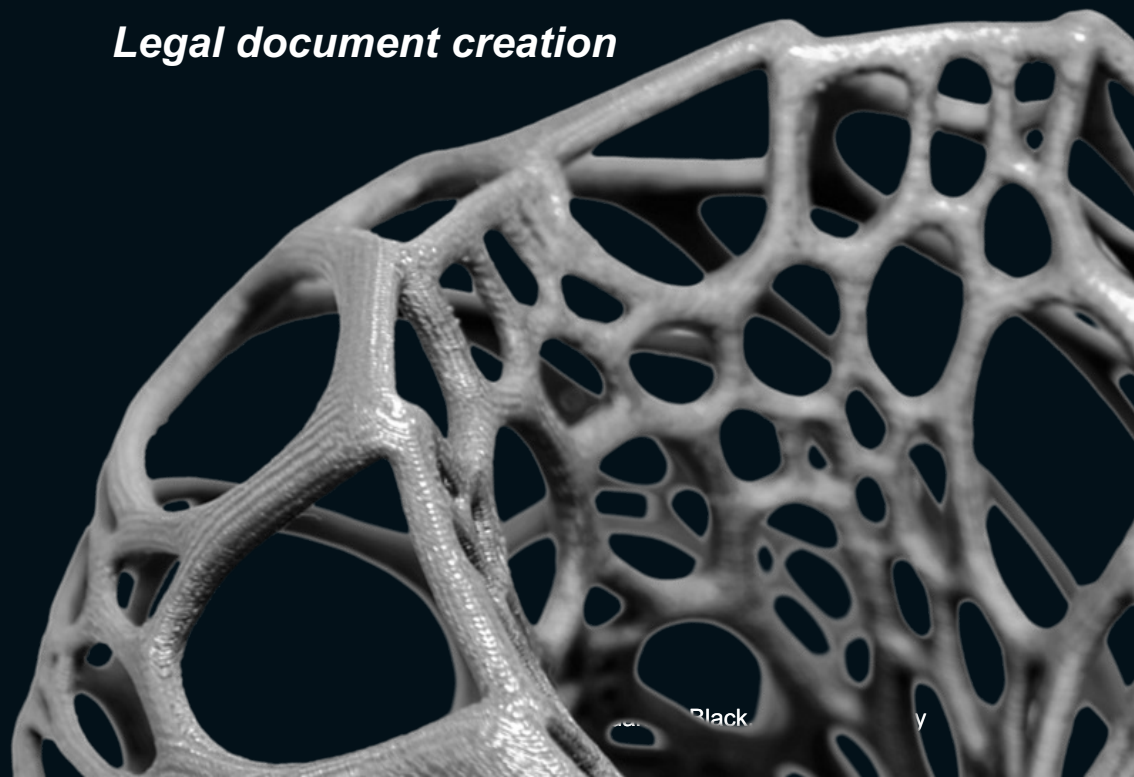
Legal document creation

Applications requiring **explainability** and/or full understanding of potential failure modes (e.g., highly regulated environments)

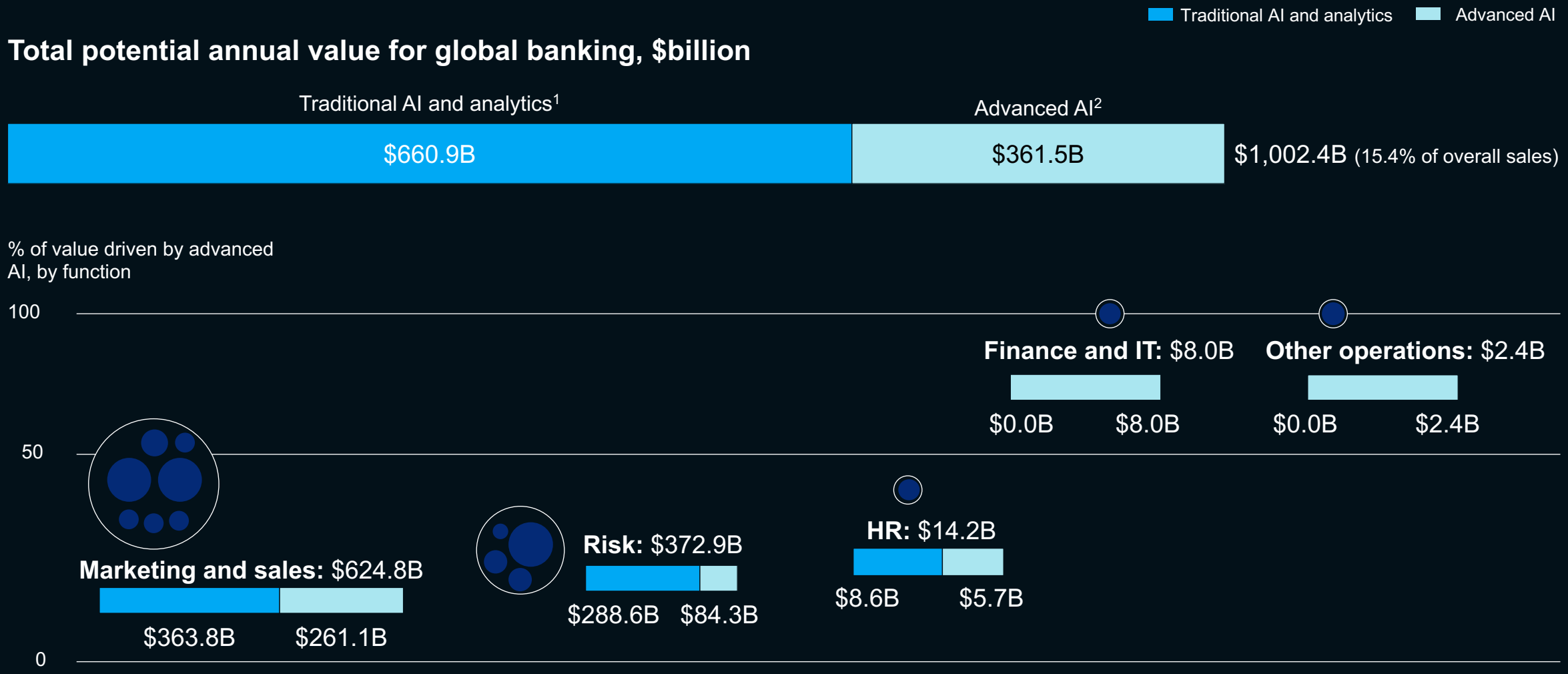
Credit scoring

Applications requiring **numerical reasoning** (from basic arithmetic to optimization)

Demand Forecasting



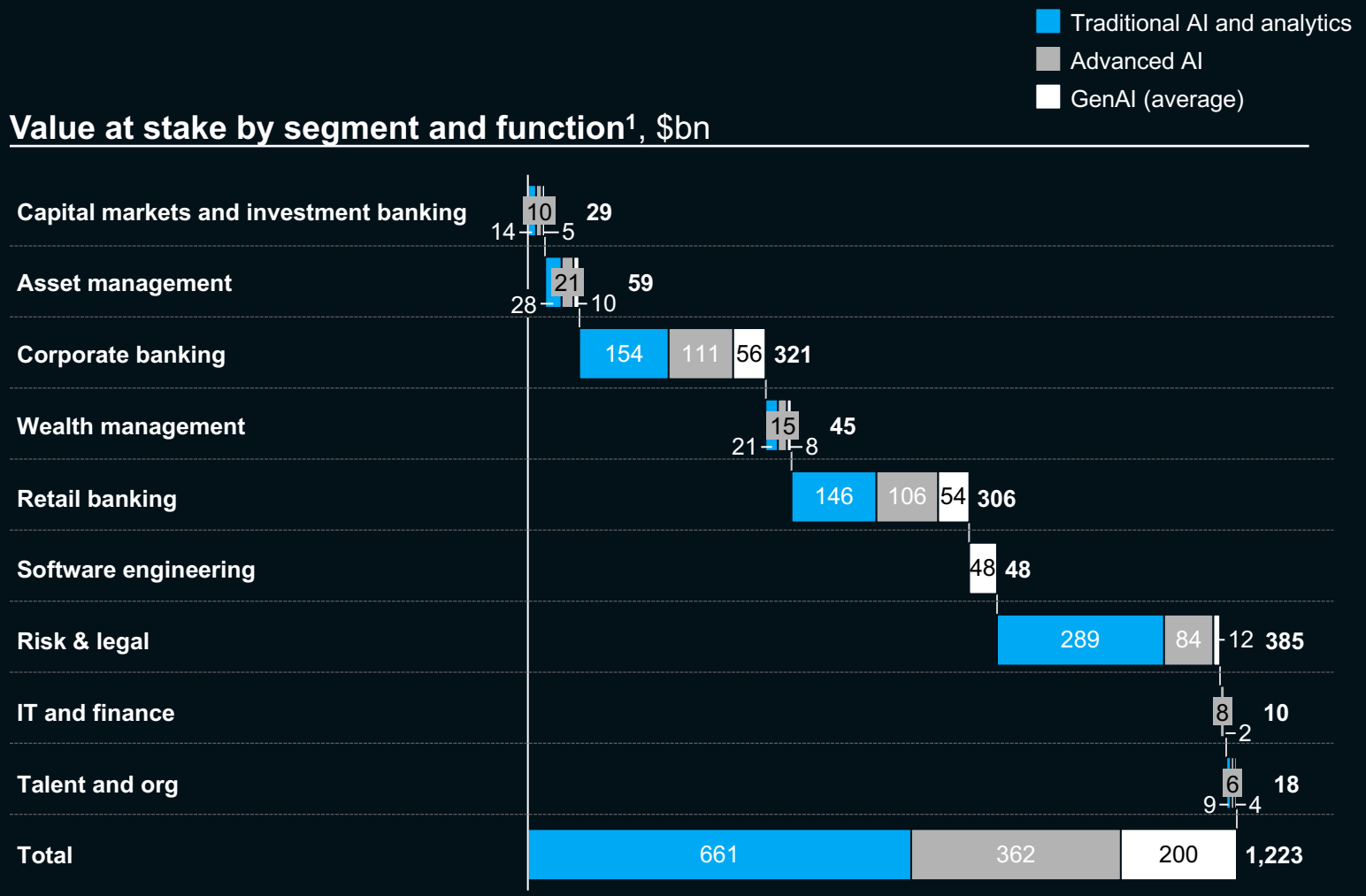
While the potential annual value of AI and analytics for global banking could reach as high as $1 trillion…



1. Traditional machine learning (clustering) and statistical techniques (e.g., basic regression)
2. Deep learning neural networks (e.g., convolutional neural networks)

Source: “The executive’s AI playbook”, McKinsey.com. (See “Banking”)

...GenAI has the potential to deliver significant incremental value



GenAI potential productivity lift

3-5%

Margin improvements due to productivity lifts

~$200B-$340B

Value at stake from GenAI

1. Assumes 0% overlap of traditional AI and Gen AI (GenAI assumes the lower end of value at stake), top-down estimation based on projected growth and value pools

Source: QB Traditional AA/AI analysis, MGI The economic potential of generative AI

About 75 percent of the value that Generative AI use cases could deliver falls across the “4 C’s”

		Example use cases	Example impact
A	**Customer engagement** Further simplifying tedious manual processes	**Virtual customer service copilot** to shape (preliminary) responses based on product offering and documentation, similar Q&A, current policies, client interaction history	>60% Automation potential of customer interaction volumes over 5-10 years
B	**Coding & software** Decreasing tech debt and delivering SW faster	**Translate code from legacy systems** at scale, including automated assessment of legacy landscape, prioritizing interventions and re-factoring	>55% Productivity gains for developers utilizing coding co-pilots
C	**Concision (virtual expert)** Augmenting performance of employees	**Provide an always-on deeply technical support bot** trained on proprietary knowledge (e.g., policies, research, customer interactions)	~80% Productivity gains in verifying statements in news and social media
D	**Content generation** Generating tailored content at scale	**Generate personalized M&S content** tailored to client profile and history (e.g., personalized nudges), and generate alternatives for A/B testing	~80% User adoption of the AI legal assistant Harvey, with usage of at least once per month

GenAI is reimaging activities across support functions

Customer Engagement | Coding | Concision | Content generation

Use case examples across support functions, not exhaustive

Finance

FP&A enhancement
Leverage GenAI for research and synthesis of data, summarization and generation of reports

Accounting document processing
Improve sorting and extracting of documents/ receipts by adding GenAI in document recognition process

Risk / Compliance

Standardized report generation
Accelerate generation of reports, e.g., external risk mandatory report, annual internal compliance reporting

Genuine document creation
Increase productivity of document creation process by using GenAI to generate first drafts

Legal

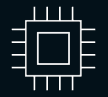
Legal due diligence, research & summary
Review, highlight and summarize legal documents and contracts, regulatory documents, regulation & policies

Contract generation
Accelerate generation of contracts by leveraging GenAI's content generation ability, e.g., first drafts of standard agreements

HR / Recruiting

HR Support Automation
Automation of HR processes using unstructured employee data, e.g., drafting employee reports, first-line interactions for employee onboarding, Q&A on employment queries

Workforce training & learning
Draft personalized learning content & feedback based on talent profiles, synthesis of employee feedback and existing / available trainings



IT

IT IVR enhancement
Equip IVR systems with GenAI to better understand natural language, e.g., improve the accuracy of voice recognition and handle complex customer requests

IT Helpdesk Chatbot
Build more impactful chatbot experience to address IT helpdesk inquiries and root cause

Source: McKinsey report, The economic potential of generative AI: The next productivity frontier

We are seeing AI drive inspirational innovations and breakthrough customer propositions across financial institutions

Morgan Stanley

Built an **AI assistant using GPT 4** that helps their tens of thousands of wealth managers **quickly find and synthesize answers** from a massive internal knowledge base of ~100,000 pieces of research

JPMorgan Chase & Co.

Building IndexAI, an AI service chatGPT that **provides their customers with investment advice**. Customers will able to market easily, reason and pick suitable options based on their current financial health

BANK OF AMERICA

Using GenAI to improve **fraud detection and prevention** based on customer transaction data and social media activity. For example, the system can identify transactions that are made from unusual locations or that are for unusually large amounts of money

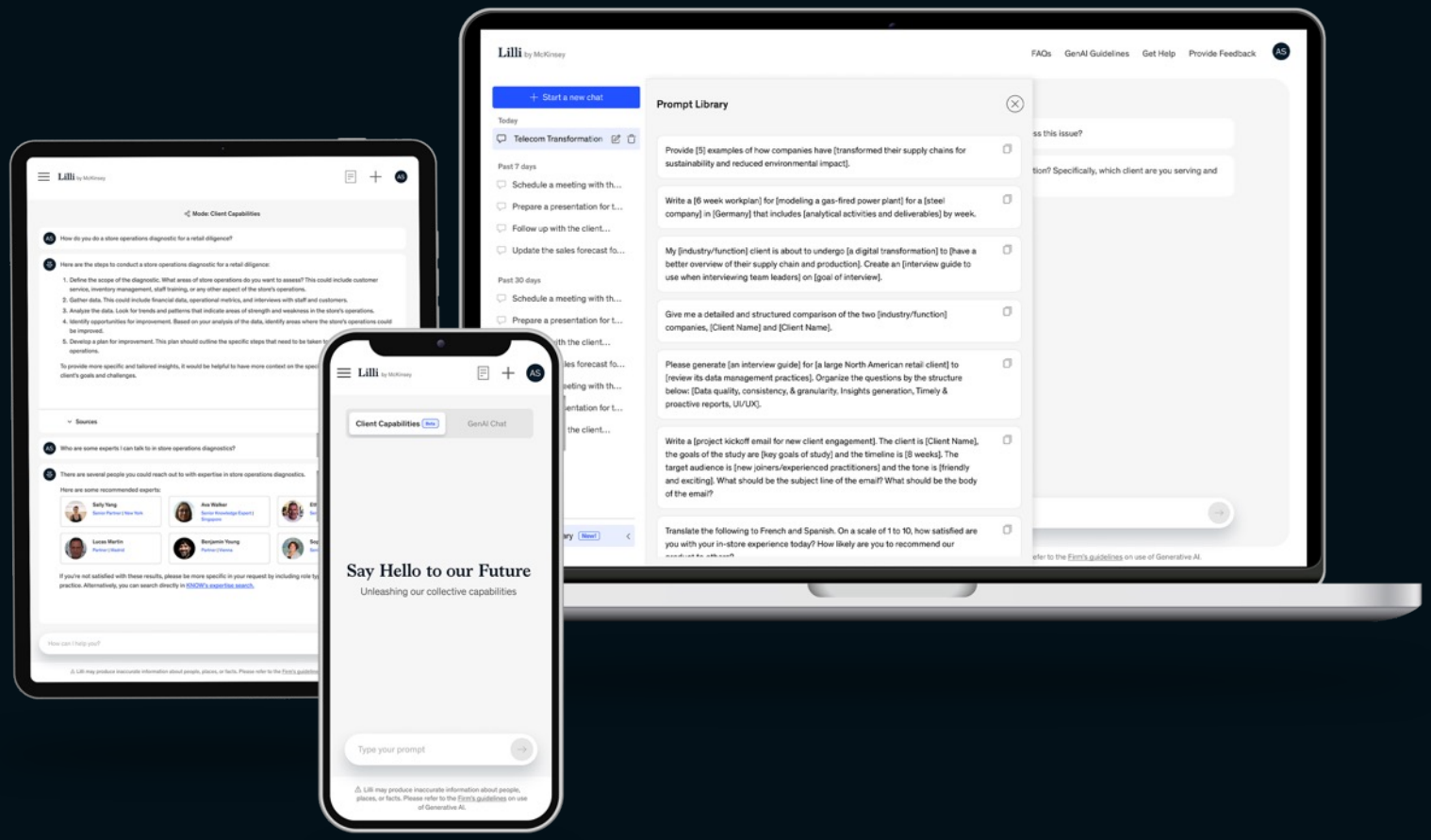
Goldman Sachs

Piloting chatGPT-style AI tool to **accelerate code development and testing**. “In some cases, developers have been able to write as much as 40% of their code automatically using generative AI” – Marco Argenti, chief information officer

Broadridge

Launched BondGPT, powered by OpenAI GPT-4, to **answer bond-related questions and assist asset manages, hedge fund manages, and dealers** to accelerate their often-complex bond selection and portfolio constructions processes

Concision (virtual expert): McKinsey's GenAI based conversational AI that shortens weeks of research into hours



Lilli is a conversational AI tool powered by GPT 3.5 with access to a carefully selected corpus of McKinsey knowledge. Lilli can provide tailored answers questions posed to it by McKinsey colleagues and enable them to access and synthesize our proprietary information and assets (in addition to public internet)

60k
Internal knowledge resources

50k
companies' financial data and insights

10k
Publications from McKinsey.com

25
Data sources

66% **of employees now use the app multiple times a week**

50,000 **questions were answered in the first 2 weeks of launch**

The tool has dramatically cut down the time spent on research and planning (from weeks to mere hours, and from hours to just minutes in others)

Value from Generative AI requires much more than just the underlying foundation models

Models are required but not sufficient

Data architecture will be a must, including access to large bodies of unstructured data

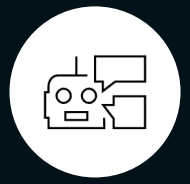
Cloud infrastructure will be in more demand than ever before

UI/UX and applications to get GenAI into production at scale with the right UI/UX interface is critical

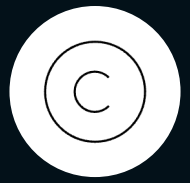
Processes and people implications will be critical to address in order for GenAI unlock its full potential ("human in the loop")

Organizations starting their GenAI journey should focus on Responsible AI from day 1

Risk categories to address with Responsible AI



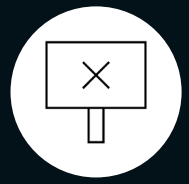
Impaired fairness
Algorithmic bias; misrepresentation of generated content as human-created



IP infringement
Infringement on copyrighted or otherwise legally protected materials

Privacy concerns
Unauthorized use/disclosure of personal or sensitive information

Malicious use
AI-generated promulgation of malicious content



Performance & explainability risk
Inability to explain model outputs appropriately and model inaccuracies

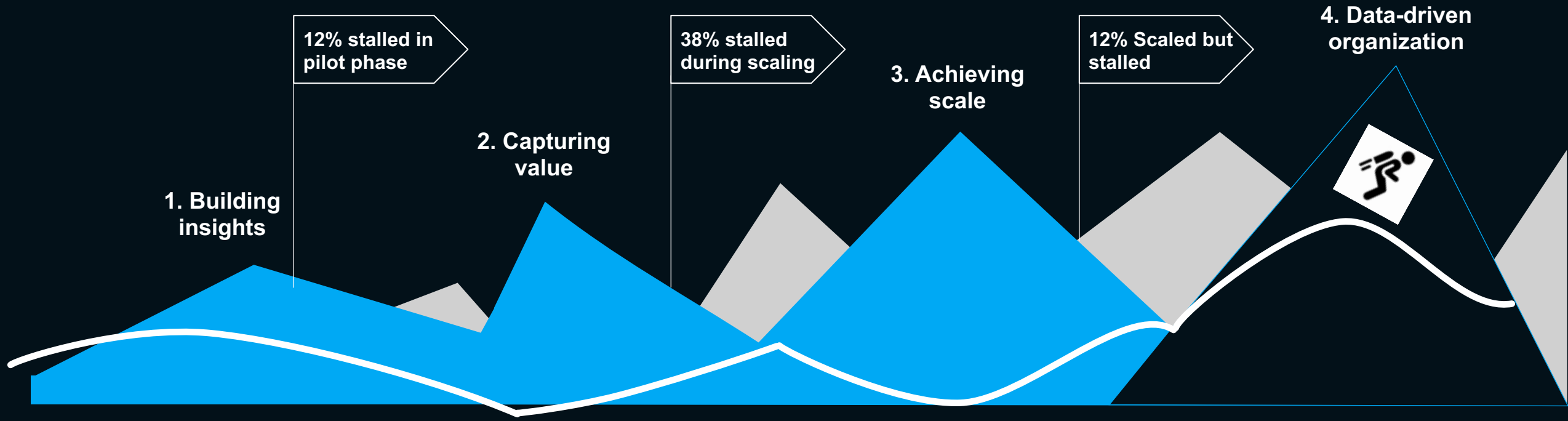
Security threats
Vulnerabilities in generative AI systems that may be breached or exploited

ESG impact
Non-compliance with ESG standards; reputational risk

Third-party risk
Risks associated with the use of third-party AI tools

Moving towards a data-driven organization is hard, 62% of companies fail on the journey

% of respondents, amongst 1,000+ executives who launched transformations



Pilot or launching 1st use case

Analytics is a function, not yet led by business

Experimentation

CEO support is clear

Business "pulls" for more Digital

Analytics is sub-scale across the enterprise

Transition to production

Center of excellence

Dedicated resources, investment, and org commitment

Digital is at scale

Pipeline of use cases for enterprise

Focus on usage, adoption and value

Analytics is part of cultural DNA

Functions are integrated, siloes are dissolved

Embedded insight driven decision making is the norm

ML production systems

100's of models in production

Source: McKinsey & QuantumBlack
How to restart your stalled digital transformation. McKinsey.com. March 2020. 28% succeed – rest do not know or have not got a program