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Banking on AI: Financial Services Sector Harnesses Generative AI for Security and Service

Generative AI Tracker® Series

DECEMBER 2023

Generative AI Tracker® Series

What's Inside

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   TRUTH, AT THE SOURCE

Background

Emerging Challenges of Generative AI in Finance

The financial services sector has long served as the proving ground for the application of emerging technologies. The current era of disruption is no exception to this history. Generative artificial intelligence (AI) represents the latest in this line of transformative technologies reshaping finance and banking, with applications for everything from enhancing consumer interactions to refining risk assessment models. Its influence is already pivotal in financial decision-making, yet generative AI introduces significant challenges. These encompass the risks of propagating incorrect financial information, exposing sensitive banking data to security breaches, and expanding the digital gulf between modern and developing economies.

Banks and financial institutions (FIs) are actively developing strategies to navigate these complexities, employing innovative approaches to mitigate the risks associated with generative AI integration. Moreover, the institution and expansion of regulatory guardrails are crucial for managing these challenges, ensuring that the deployment of generative AI in the financial sector is both safe and secure. The focus lies not only in recognizing — and harnessing — the potential of generative AI but also in emphasizing the importance of strategic and regulatory frameworks to fully capitalize on its capabilities.
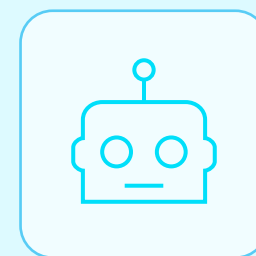
76%

Share of consumers concerned about the dissemination of misinformation through generative AI
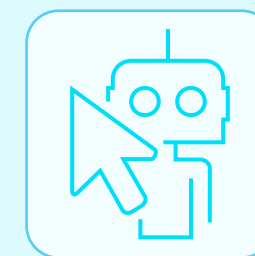
43%

Portion of consumers planning to use generative AI to answer financial questions

Background

Generative AI catalyzes the financial services shift to BaaS.

With the aid of generative AI, the financial industry has accelerated the adoption of banking as a service (BaaS) and embedded finance, marking a shift from planning to implementation. A recent report reveals a substantial increase in BaaS adoption across global financial institutions, rising to 48% from 35% in 2022. Similarly, embedded finance is witnessing significant growth, jumping by 8% in the past 12 months.

Generative AI is rapidly gaining traction in the financial sector, primarily as a tool to meet the rising demand for personalized customer services. However, its applications extend far beyond this usage to encompass critical areas like environmental, social and governance (ESG) and anti-money laundering (AML) initiatives. The global rise in implementation this year has rendered generative AI an instrumental technology in advancing key focus areas within financial services.
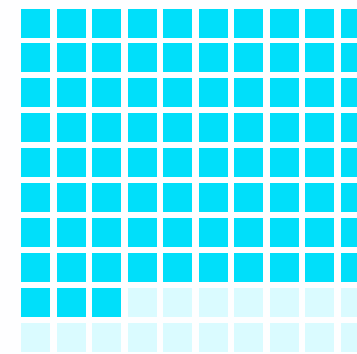
83%
Share of financial professionals who believe their institution is interested in generative AI
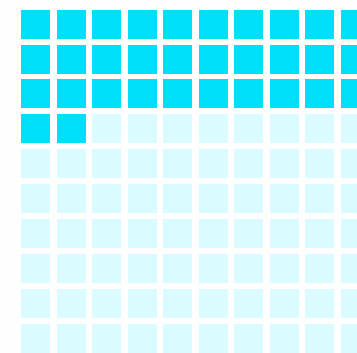
32%
Portion of financial professions who anticipate using AI to provide more personalized services to clients

Background

AI's expansion in the U.K. financial sector introduces challenges.

Generative AI's emergent role in financial services is significant, as approximately 90% of FIs in the United Kingdom were already employing predictive AI in back-office functions. Predictive AI in finance is largely used to forecast future events based on historical data, while generative AI creates new, synthetic data and insights with implications for financial modeling and analysis beyond existing patterns. More than 60% recognize the potential of generative AI to drive substantial cost reductions and operational improvements. Supporting this level of optimism will require a thorough reassessment of business models, workforce capabilities and the considerable resource demands of AI technologies, particularly in the context of supply chain sustainability.

In the highly regulated financial sector, caution prevails, with more than 70% of generative AI applications still in experimental stages. Achieving a return on investment depends on the quality of data and the technology's seamless integration into existing frameworks, a process anticipated to take the average solution three to five years. At the confluence of predictive and generative AI is where transformative potential lies, yet it introduces new challenges like the now-infamous hallucinations and complexities that plague external model sourcing. Despite these hurdles, 60% of U.K. institutions feel equipped within their current risk management strategies to accommodate generative AI.

91%
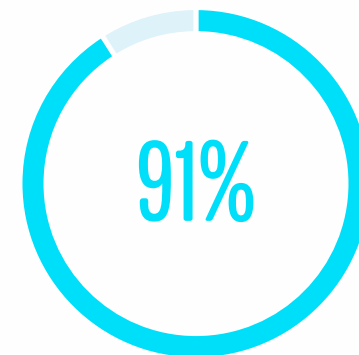
Share of FIs that have used predictive AI in <u>fraud detection</u> or back-office functions

75%
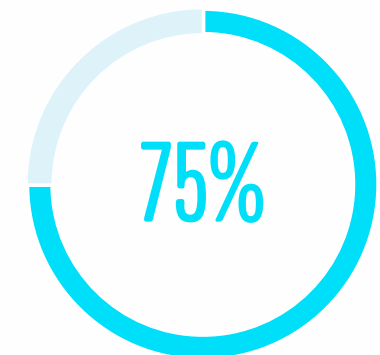
Portion of FIs that anticipate similar or greater benefit from generative AI compared to predictive AI

Companies of Note

Generative AI Innovators in Finance

Incumbents across the banking sector have begun aggressively employing artificial intelligence to enhance their financial services. For example, Barclays employs an AI tool capable of predicting potential fraud instances through real-time monitoring of payment transactions. Meanwhile, Banco Santander deploys AI in risk management to offer predictive insights into how economic events might impact corporate clients, thereby improving the decision-making process.

Established iterations of traditional AI use still abound in financial services. For example, Bank of America integrates AI for advanced market analysis with its Glass platform, revealing hidden market patterns to anticipate client needs. Discover Financial Services collaborates with AI software providers to refine credit underwriting processes, aiming to reduce default rates. These cases exemplify how banks are harnessing AI to meet specific operational needs and drive innovation.
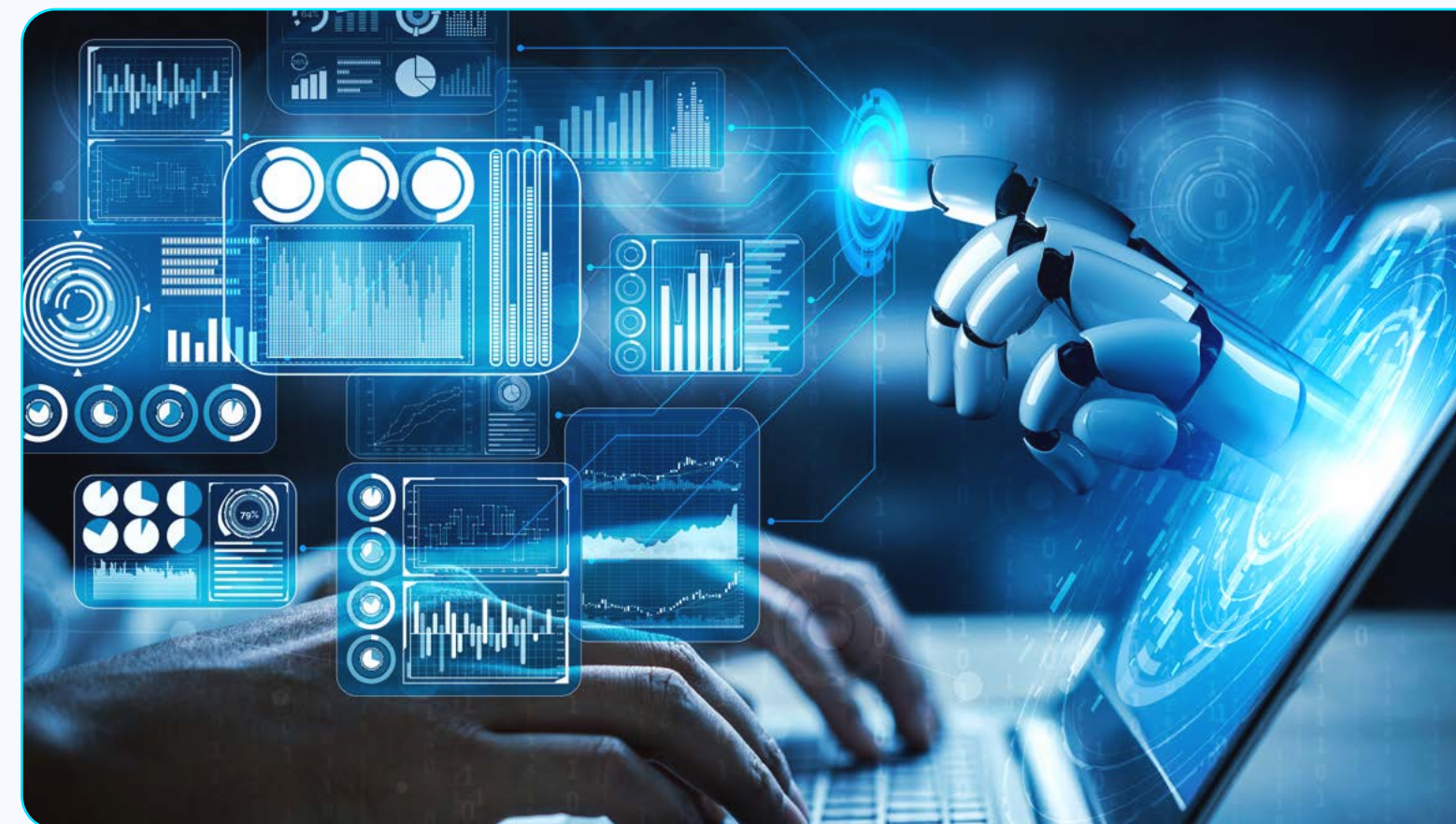
Companies of Note

The real action in AI lies outside legacy finance players.

Ally Financial, a financial holding company based in the United States, uses its digital-only platform to foster innovation, particularly in AI. The company's approach to AI begins with defining business use cases, prioritizing a business-driven process bolstered by comprehensive data collection. Ally's proprietary AI platform, Ally.ai, merges established AI and emerging generative AI functionalities while emphasizing data security.

The company's recent application in marketing has demonstrated a significant reduction in campaign and content creation time by 34%, showcasing productivity boosts and creative enhancement. In addition, Ally has successfully implemented generative AI for customer call summaries, resulting in significant productivity gains, with 90% of calls requiring no additional human intervention. This has allowed employees to concentrate on more complex customer interactions.
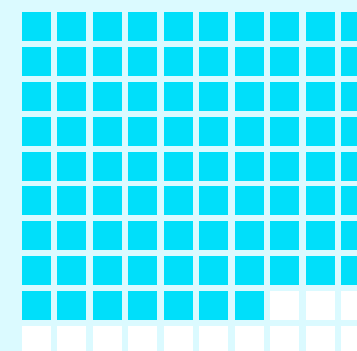
87%

Usefulness rate of more than 80 test prompts used in Ally's experimental generative AI system, Ally.ai
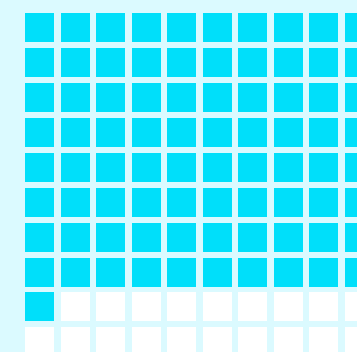
81%

Prompt accuracy rate of Ally.ai during user testing

Meanwhile, AI-powered call summarization has boosted productivity, allowing employees to focus on more meaningful interactions. AI-powered virtual assistants are providing intuitive and interactive customer experiences. Voice analytics tools are enhancing compliance and risk management. For example, Google and Symphony's joint venture is designed to assist banks in enhancing retention and identifying suspicious conversations. The partnership comes in response to increasing regulatory focus on financial firms' record-keeping practices.

Companies of Note

FIs and generative AI developers forge strategic alliances to enhance customer service.

With a focus on enhancing customer service and improving operational efficiency, financial services providers have linked up with AI developers. For example, NatWest's collaboration with IBM has led to the upgrade of its virtual assistant, Cora, using generative AI. This advancement is part of a broader strategy to provide more intuitive and personalized customer service through IBM's watsonx AI platform. Called Cora+, the enhanced chatbot offers natural, conversational responses to complex customer queries, accessing a broader range of information, thereby improving the overall customer experience. These developments across different FIs highlight the growing importance and transformative potential of generative AI in reshaping the finance industry, particularly in fostering customer engagement, operational efficiency and innovation.
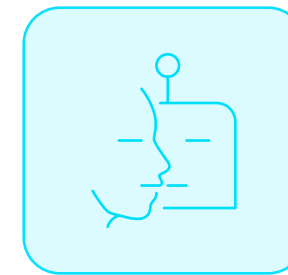
43%

Share of CEOs employing generative AI to inform corporate strategy
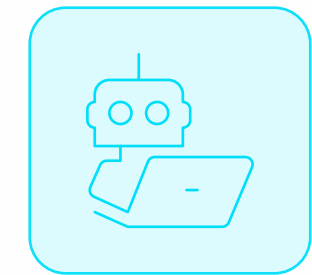
66%

Share of board members feeling pressured to accelerate adoption of generative AI

Innovation and Use Cases

Pioneering Applications and Real-World Scenarios for Generative AI in Finance

A revolution in payment methods is underway, driven by AI's transformative impact. This shift builds upon previous advancements such as credit cards and mobile payments. AI-enabled payments, now widespread across various markets, are improving the consumer payment experience by making processes more efficient and reducing fraud. As companies embrace AI in their payment systems, they are directly influencing customer experiences, meeting the growing consumer demand for convenience and advanced AI-enabled services.

Innovation and Use Cases

AI is widening its scope beyond security to encompass customer experiences.

AI is emerging as a key focus in the banking industry. In a recent banking survey, 92% of respondents said they either plan to use or are already using AI, primarily for security and fraud mitigation. Another significant application of AI is in enhancing customer experience (CX), with banks concentrating on creating a customer-centric culture and modifying operating models to improve CX. These areas indicate the growing importance of AI in shaping core banking functions and customer interactions.

Nevertheless, the adoption of generative AI in banking remains at an early stage. One quarter of banks have implemented and are scaling their generative AI initiatives, while some 70% remain in the evaluation and experimental phase. Banks acknowledge their limited ability to leverage AI effectively, ranking it low among their capabilities. Consequently, many are seeking assistance from third-party providers for AI implementation.

84%
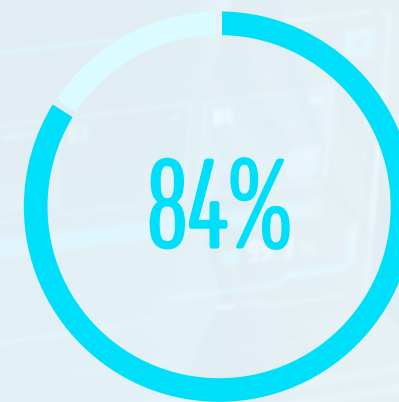
Share of consumers who report using some form of AI while searching online

37%

Portion of consumers who report high familiarity with or extreme understanding of the term AI

Innovation and Use Cases

# Firms are adopting AI security measures to tackle generative AI risks.

According to a recent Gartner survey, 34% of organizations are using or implementing AI-based security tools to address risks associated with generative AI. More than half of respondents are exploring such solutions, indicating a growing awareness of the importance and utility of AI security. The survey, fielding responses from 150 IT and information security leaders, also found that 26% are using or implementing privacy-enhancing technologies (PETs), 25% are pursuing ModelOps (aka AI model operationalization), and 24% are focusing on model monitoring.

The survey highlights the need for an enterprise-wide strategy for AI trust, risk and security management (TRiSM). While 93% of IT and security leaders are involved in generative AI security, the direct responsibility, typically allocated to IT departments, falls on only 24% of them. The associated risks of generative AI, such as leaked secrets in AI-generated code and biased outputs, pose significant threats, including security failures, financial and reputational losses and harmful outcomes.

63%
Share of organizations exploring the use of tools to address generative AI risks to their "model explainability"
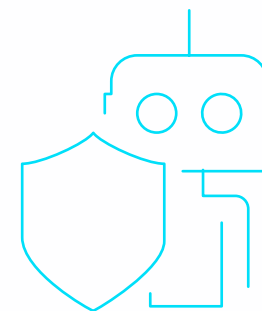
56%
Share of organizations exploring the use of AI-based security tools to mitigate risks associated with generative AI

Issues and Challenges

Addressing the Complexities and Risks of AI in Finance

A recent EY survey of 1,200 global CEOs reveals that while executives are investing in AI strategies, they face significant challenges in both formulating and operationalizing these plans. More than two-thirds of CEOs recognize the urgent need to act on generative AI, but many feel hindered by uncertainties in this area — partly due to the rise in firms claiming AI expertise — complicating their ability to make bold moves toward deploying the technology.

This dynamic has stymied strategic decisions concerning capital allocation, investment and transformation in an economic landscape marked by higher interest rates, increased inflation and complex geopolitical challenges. As a result, the survey reflects the lowest acquisition appetite since 2014. Only 35% of CEOs plan mergers and acquisitions in the next 12 months, a trend also influenced by geopolitical tensions.
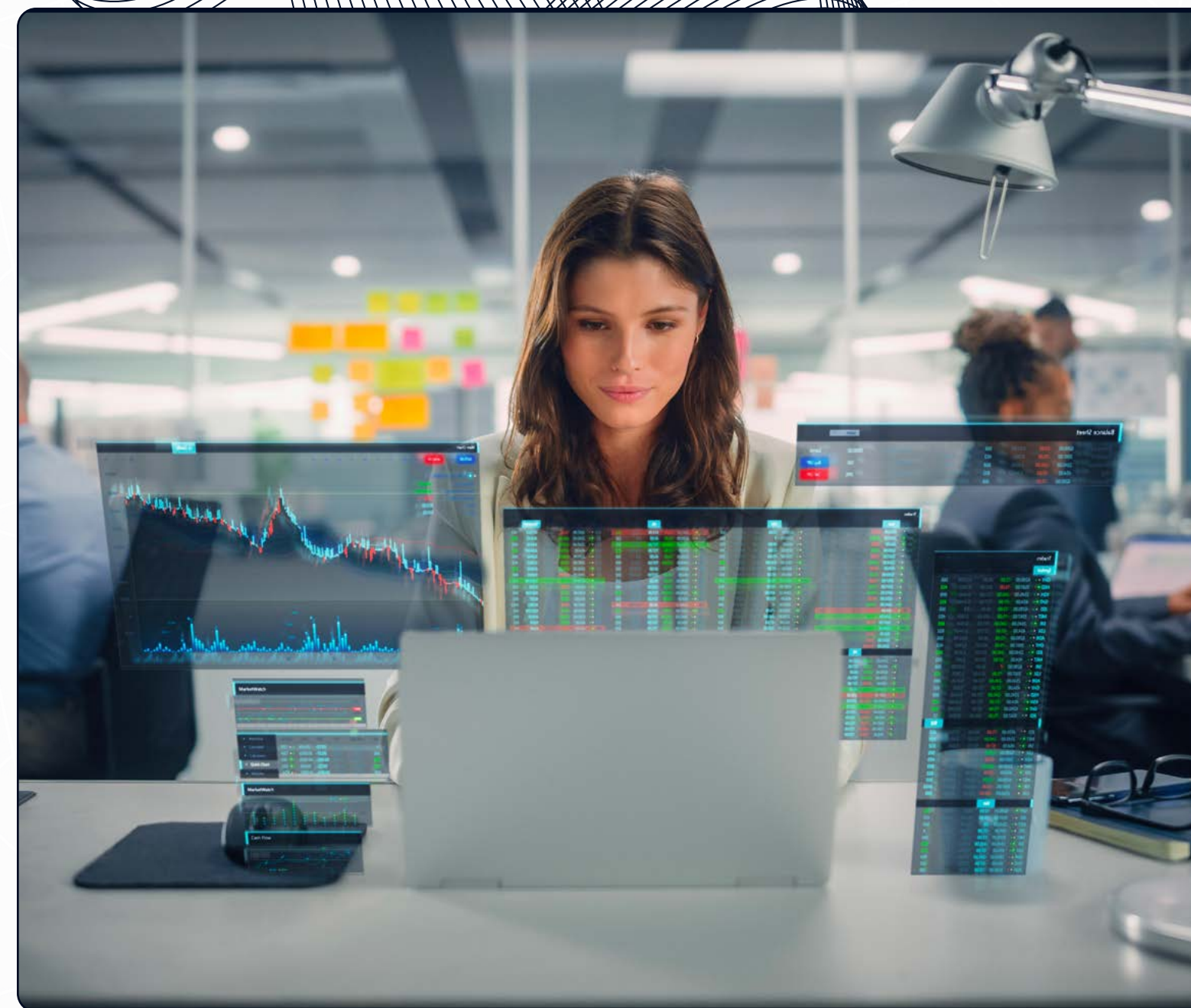
Issues and Challenges

AI-enhanced synthetic identity fraud is a growing problem in the financial sector.

A survey of 500 American fraud and risk professionals finds that half of companies believe their synthetic fraud prevention measures are only somewhat effective. The financial impact of this deficiency is considerable, with nearly nine in 10 companies extending credit to synthetic identities and one in five valuing average losses per incident between $50,000 and $100,000.

With the aid of AI, fraudsters are ginning up increasingly sophisticated strategies, nurturing accounts over extended periods of time for greater financial gain, for example. Consequently, FIs are struggling with legacy technologies and techniques, which are proving inadequate against these sophisticated synthetic identities. This inadequacy not only leads to financial losses but also risks reputational harm and competitive disadvantage, underscoring the need for a multilayered approach to combat AI-generated synthetic identity fraud.
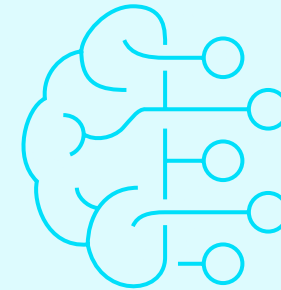
70%
Share of CEOs who believe AI will force changes to their current business models
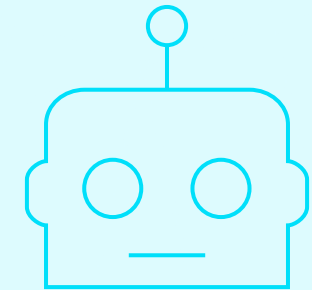
2x
Mentions of AI and generative AI have more than doubled in company transcripts since the beginning of 2023

KPMG International's recent CEO Outlook reveals that only 56% of Canadian executives feel prepared for a cyberattack, with 93% expressing concern about generative AI's ability to amplify breach vulnerabilities. This sentiment is echoed by KPMG Canada's Private Enterprise Business Survey, where 81% of small to mid-sized business (SMB) leaders recognize generative AI as both a tool for enhanced cyber threat detection and a potential catalyst for increased attacks due to novel criminal methodologies.

Issues and Challenges

Perceptions of AI in financial planning vary among investors by generation.

A recent survey found that 62% of investors ages 45 and over were very satisfied with financial planning advice from a generative AI tool, while, somewhat paradoxically, just 38% of investors under 45 felt the same. Only 8% of younger investors and 15% of older ones felt very comfortable implementing AI advice alone. However, comfort levels nearly doubled to 21% when AI recommendations were verified by financial planners, with the proportion of those feeling very or somewhat comfortable rising to 52%.

A CNBC survey indicates that most Americans have not used ChatGPT and are not keen on using generative AI for financial advice, with only 37% of respondents expressing interest in using AI for money management. While 11% are very interested, only 4% currently use such tools. Likewise, the CFP Board survey cited above found 51% have little trust in AI financial advice, and only 31% are comfortable using AI advice without additional verification.
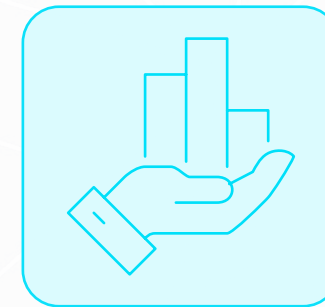
57%

Share of men who are at least somewhat comfortable acting on financial advice from generative AI, compared to 47% of women
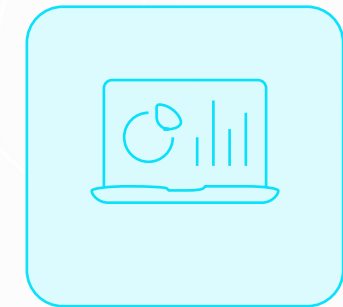
26%

Share of investors comfortable using unverified financial advice from social media

Policy and Regulation

Shaping the Future: Regulatory Frameworks for Generative AI in Finance

Generative AI applications like ChatGPT have put financial regulators on notice as the technology makes inroads with advisers and wealth managers. These industry professionals broadly recognize AI's staying power, with many expressing greater excitement than trepidation about its future role. However, regulators appear less sanguine, with challenges such as poor data quality and limited access to AI tools representing major concerns. Some stakeholders have also called for increased financial adviser input in AI integrations within firms.

The wealth management industry is adapting to the full potential of AI, underscored by the mainstream emergence of large language models (LLMs). While AI's rise has driven up stock prices and showcased its potential across multiple sectors, it also raises concerns about workforce displacement. Young financial advisers, often pressed to maximize efficiency, generally view AI positively, with 64% seeing it as beneficial to their practice and 57% to the industry overall. However, 31% perceive AI as a potential threat to the industry.

Policy and Regulation

In wealth management, AI meets an uncertain future.

The consensus among wealth management professionals and the industry's global regulatory agencies is that AI's role is here to stay, yet its future application remains unclear. Almost seven in 10 advisers view AI as a largely unexplored area, and just about three in 10 express confidence in the adequacy of current regulations governing AI use in wealth management. However, as wealth managers ponder the opportunities presented by AI, prominent industry leaders and government regulators, including the U.S. Securities and Exchange Commission, are moving to enact new regulations and policies that will shape its future in wealth management.
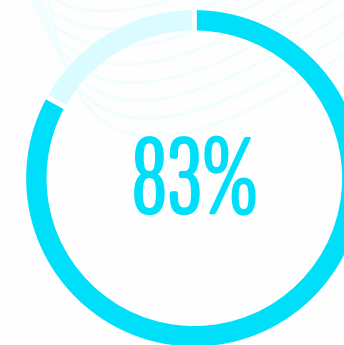
83% — **Share of advisers equipped with natural language generation (NLG) tools to communicate with clients**
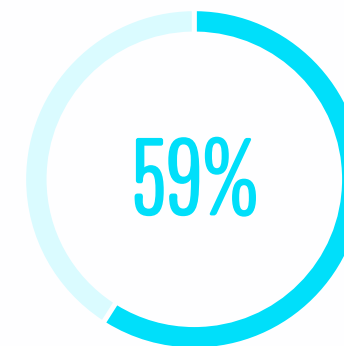
59% — **Portion of advisers citing a deficiency of AI-enabled capabilities as a challenge to their current technology stacks**

In the European Union and the U.S., regulators are formulating frameworks to address AI's ethical use, data privacy and systemic risks. Specific policies targeting generative AI are sparse, with a focus on principles like transparency and fairness. The challenge lies in balancing innovation with risk management and consumer protection, necessitating collaborative efforts among regulators, financial institutions and technology experts to develop effective, adaptive regulations in this rapidly evolving sector.

Policy and Regulation

# A key watchdog is wary of AI's financial applications.

Over the past year, SEC Chair Gary Gensler has emphasized the dual facets of AI in finance. While AI technologies like ChatGPT could revolutionize investing with unprecedented predictive capabilities, Gensler warns of significant risks. His concerns mirror those of other regulators worried about a "monoculture" forming in financial modeling, where reliance on a few dominant AI models could lead to marketwide risks and herding behaviors.

This situation could trigger volatile market fluctuations, especially during periods of market dislocation. Gensler's regulatory focus extends to the fragmented U.S. financial oversight system, stressing the need for cross-entity collaboration in addressing these AI challenges. Meanwhile, AI's contribution to the S&P 500's gains underscores its market impact. Consequently, the SEC is considering new regulations for AI, including a proposed rule addressing conflicts of interest for brokers using algorithms.
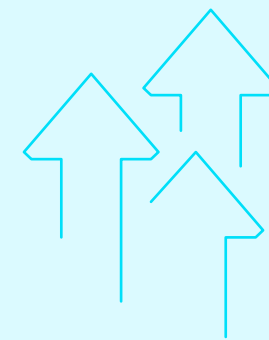
19%

S&P's year-to-date value increase (as of November 2023), attributable in part to investor enthusiasm for AI stocks
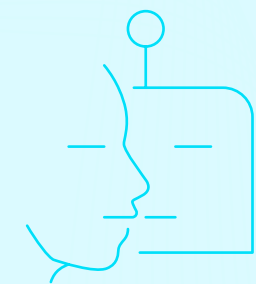
53%

Share of Gen Z interested in AI-enabled banking services

About

PYMNTS
INTELLIGENCE

PYMNTS Intelligence is a leading global data and analytics platform that uses proprietary data and methods to provide actionable insights on what's now and what's next in payments, commerce and the digital economy. Its team of data scientists include leading economists, econometricians, survey experts, financial analysts and marketing scientists with deep experience in the application of data to the issues that define the future of the digital transformation of the global economy. This multilingual team has conducted original data collection and analysis in more than three dozen global markets for some of the world's leading publicly traded and privately held firms.

The PYMNTS Intelligence team that produced this Tracker:

Aitor Ortiz
Managing Director

Adam Putz
Senior Writer

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