Chartis

HAWK

AI in Financial Crime and Compliance

Charting the Path from Pilot to Maturity

Payment and FinTech Edition

Contents

Executive summary

This study examines how payment and FinTech firms are adopting artificial intelligence (AI) across their financial crime, fraud and compliance functions, based on insights from 125 organizations globally.[1] A companion piece, the Banking Edition, analyzes corresponding insights in the banking sector. The findings reveal an ecosystem that is moving from experimentation toward scaled operational use, with strong optimism about AI's potential and a growing focus on governance and integration.

Survey findings

- Respondents are advancing through exploration and piloting, with 22% of firms already using AI at scale or operationally within their anti-financial crime and compliance programs. Adoption is broad: 100% of firms use AI in some form, with particularly high uptake in fraud prevention, sanctions screening and AML transaction monitoring.
- Machine learning and natural language processing (NLP) lead the way as the most adopted AI technologies. Agentic and generative AI are emerging as key enablers of efficiency and investigative automation.
- Technical challenges in AI are shifting as adoption grows: concerns around model maintenance and governance are increasing or persisting, while challenges around infrastructure have diminished.
- Lack of internal expertise and regulatory uncertainty remain the most cited business challenges (mentioned by 61% and 55% of respondents, respectively), underscoring the need for investment in skills and explainability.
- AI's benefits are growing. Payment and FinTech firms report significant efficiency and cost-based gains, with nearly a third achieving $1m-$4.9m in annual savings, and a further 27% citing strong non-monetary improvements in accuracy and effectiveness. Over the next year, 30% expect to reach savings of $5m-$9.9m.
- Looking ahead, payment and FinTech firms anticipate continued expansion in their AI use, with 74% planning to increase their investment, particularly in GenAI (88%) and agentic AI (84%). Firms expect these technologies to transform investigations, document processing and suspicious activity report (SAR) drafting, with a renewed focus on governance, data privacy and workforce adaptation.

Given that payment and FinTech firms have traditionally had more modern technology stacks, they are well-positioned to take advantage of the AI revolution.

[1] *Note that not all percentages may add to exactly 100%, due to rounding.*

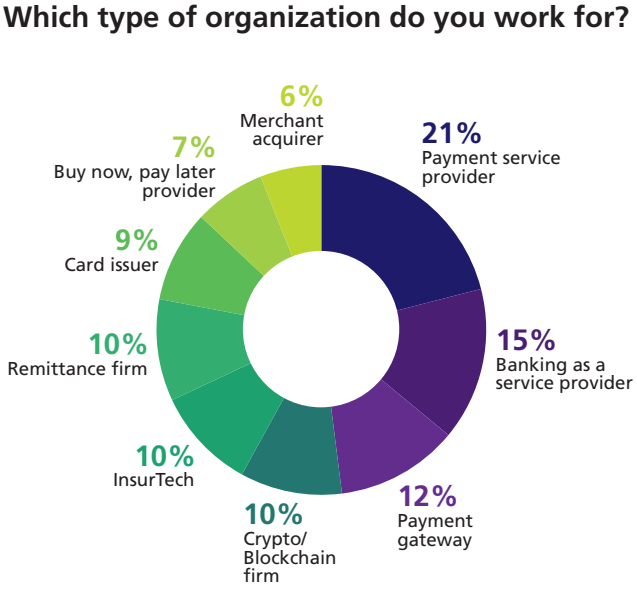
Introduction and methodology

This report focuses on insights from payment and FinTech firms, based on responses from 125 organizations spanning a broad cross-section of the ecosystem (see Figure 1). Respondents represent a diverse mix of business models, including payment service providers (21%), banking-as-a-service (BaaS) providers (15%) and payment gateways (12%).

Participants were senior professionals in risk (32%), technology/IT (28%), compliance (23%), fraud (13%) and anti-money laundering (AML) (4%) roles, each directly involved in the oversight or implementation of financial crime prevention, compliance and risk management processes.

Chartis used an online survey to gather data on AI adoption, benefits, challenges and future investment priorities across payment and FinTech firms. Chartis also conducted qualitative interviews to enrich the findings and capture emerging themes around innovation, regulation and operational maturity.

Figure 1: Respondent's organization type



Source: Chartis Research

Current attitudes toward AI

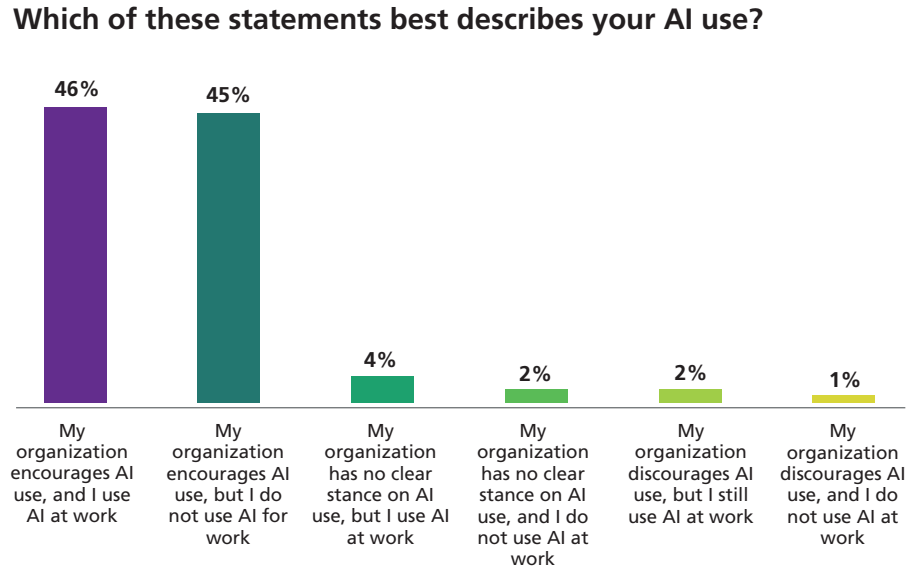
To shed light on the industry's overall AI mindset, the survey explores how payment and FinTech firms perceive and position AI within their financial crime and compliance functions. Key questions include attitudes toward AI, use of AI, which types of AI are used most and the degree to which AI is embedded in their organizations.

> *'We're already using generative AI internally. We can type a customer query, and the system generates the correct answer and even a compliant script to read out – reducing errors and handling time.'*
>
> **Head of Risk, Lending FinTech**

Payment and FinTech firms are highly positive toward AI

The majority of the respondents report that their organization takes a positive stance toward AI (see Figure 2), with 91% saying that their company encourages AI use. Of those individuals, 46% actively use AI at work, while 45% say their organization supports AI but they do not currently use it themselves. Only 9% work in environments that are neutral to AI or discourage its use.

Figure 2: Attitudes to and use of AI



Source: Chartis Research

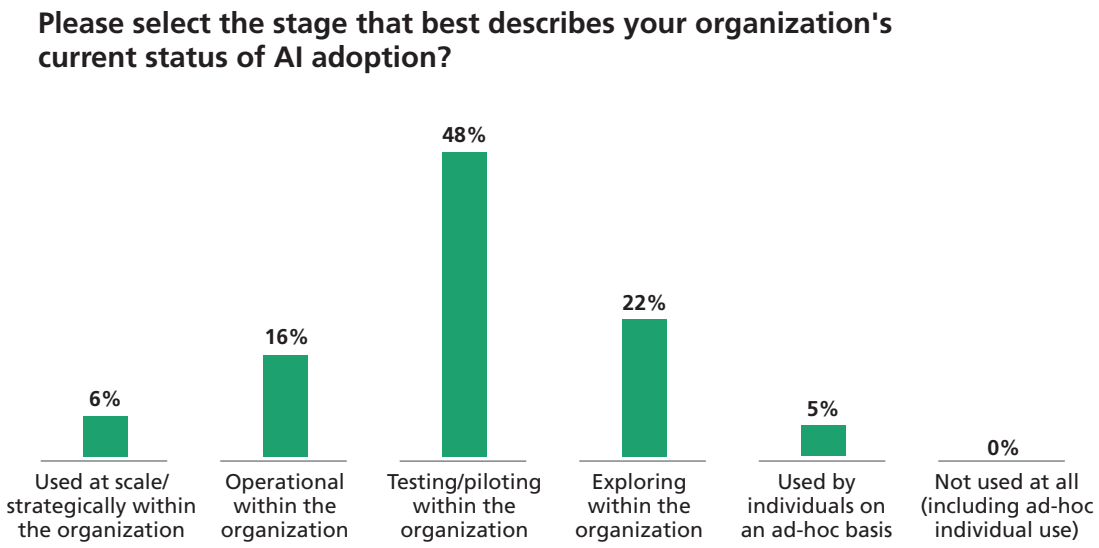
Nearly all organizations are using AI, but almost half are in the pilot stage of adoption

All the respondents confirm that their organization is using AI to some degree for financial crime and compliance. Nearly a quarter (22%) report that their organization is using AI at scale or operationally (see Figure 3). However, the majority (70%) are still testing/piloting or exploring AI, showing that most payment and FinTech firms remain in early to mid-adoption phases.

'FinTechs are more tech-friendly and are already adopting AI solutions to mitigate financial crime, particularly in AML and fraud.'

Chief Risk and Compliance Officer, Banking Platform FinTech

Figure 3: Stage of AI adoption



Source: Chartis Research

Fraud leads the way for AI adoption

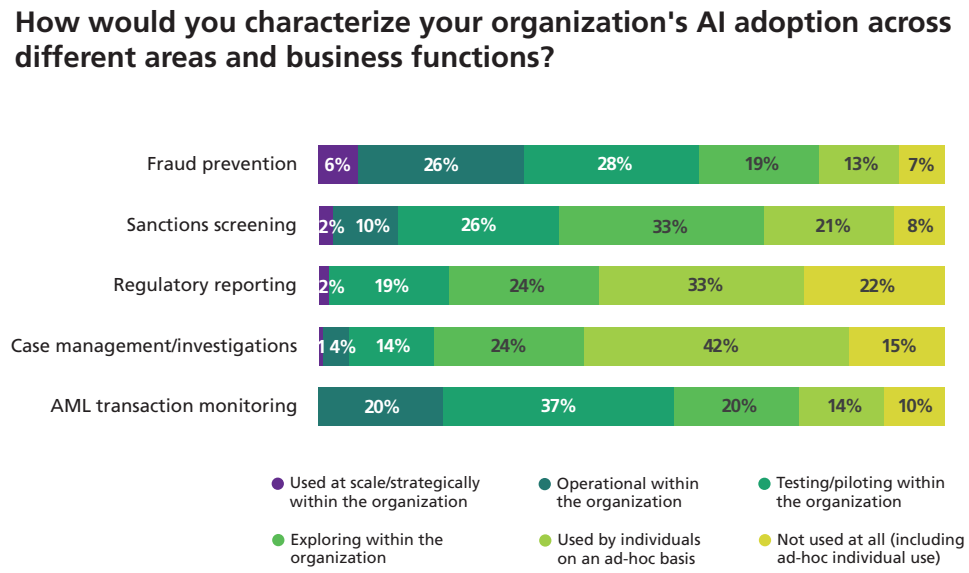
Fraud prevention leads the way for AI implementation at the strategic and operational levels (see Figure 4 on page 5), with 32% of firms being at the more advanced stages of adoption, while AML and sanctions screening follow, with 20% and 12% respectively.

At the other end of the scale, more than half of respondents reported that their firm is either not using AI at all for regulatory reporting and case management or they are doing so on an ad-hoc basis.

'Right now, AI is helping us identify potential issues. The next phase is automating investigations: pulling data across systems, writing reports, even drafting SARs. That's where the real value will be.'

Chief Risk and Compliance Officer, FinTech

Figure 4: Adoption of AI in different business areas

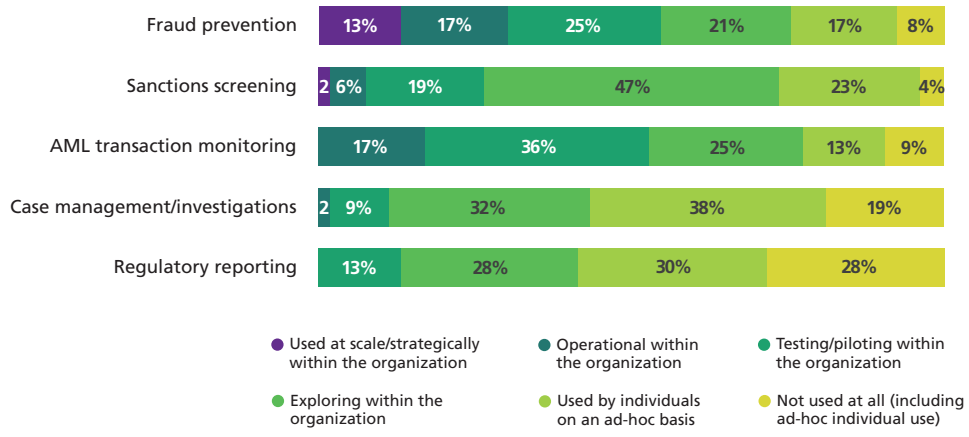


Source: Chartis Research

Regional analysis

Europe reflects the global view, with fraud prevention, sanctions screening and AML transaction monitoring leading the way in AI use (see Figure 5). AI in fraud prevention is more advanced than in other regions, with 13% using it at scale. Regulatory reporting has no operational or scaled deployments, which may be due to lower risk appetites regarding potential violations in Europe, a notably regulation-heavy region.

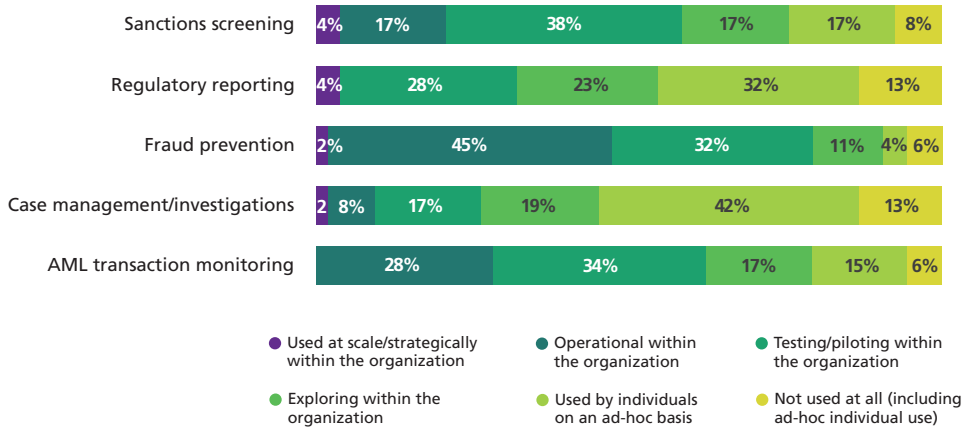
Figure 5: Adoption of AI in different business areas (Europe)



Source: Chartis Research

North America displays a broader approach to AI deployment (see Figure 6), with fraud, sanctions, regulatory reporting and case management all seeing strategic deployments. However, AI has fewer strategic deployments in fraud, indicating that it may be less embedded/mature in this area than in Europe. This may be because Europe's fast payment infrastructure is further along and has prompted the design and development of more advanced analytics for fraud. While Europe has mandated real-time payments and harmonized digital payment standards, the US has not, which may limit both incentives and opportunities to build analytics-driven fraud systems at scale.

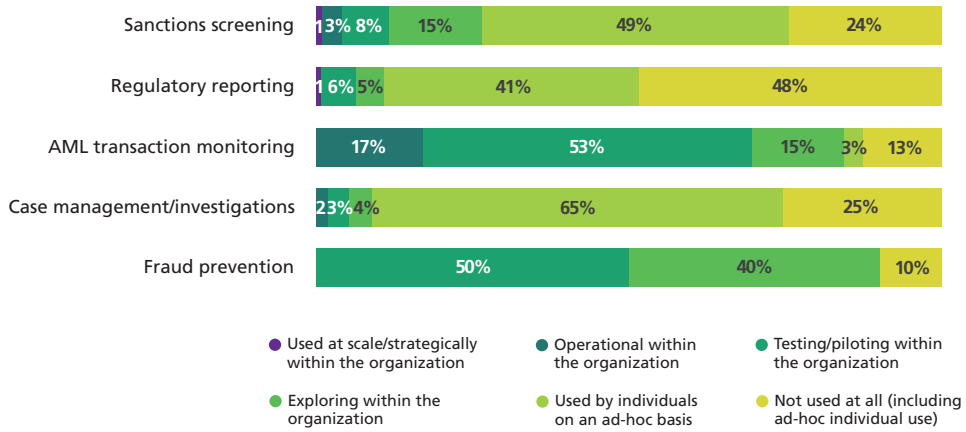
Figure 6: Adoption of AI in different business areas (North America)



Source: Chartis Research

In Asia-Pacific, the greatest level of operational deployments is in AML transaction monitoring (see Figure 7), with 17% of respondents having an operational deployment in their organization. In addition, the level of testing/piloting in AML and fraud is higher than in other regions, indicating solid interest in AI.

Figure 7: Adoption of AI in different business areas (Asia-Pacific)

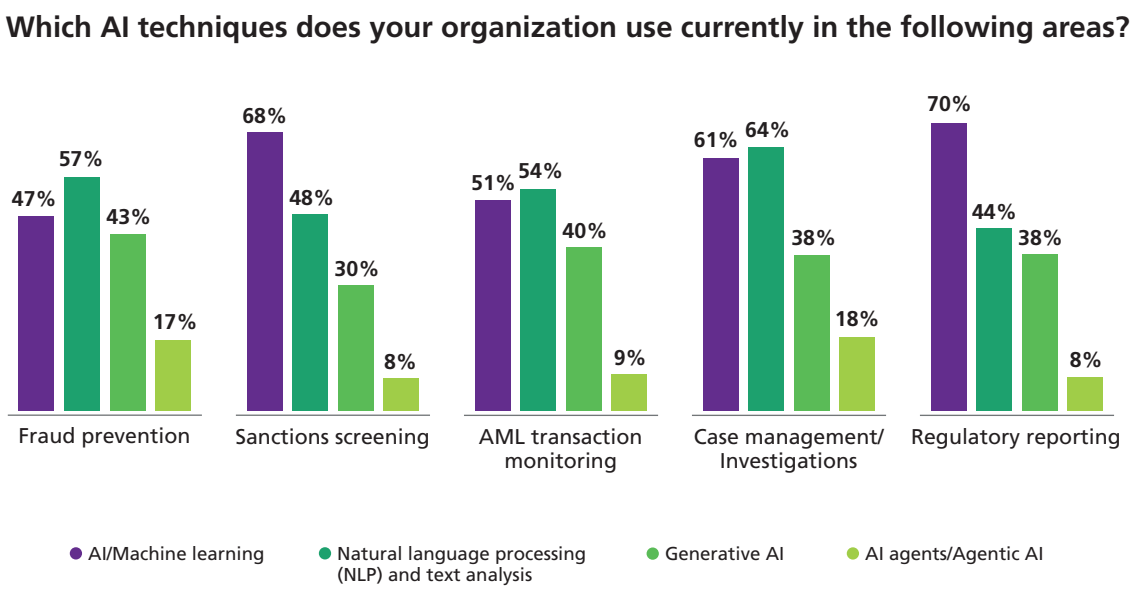


Source: Chartis Research

Machine learning and natural language processing lead the way in AI technique adoption

Machine learning (ML) dominates in sanctions screening and regulatory reporting (see Figure 8). Natural language processing (NLP) is also widely adopted, particularly in case management and investigations (64%) and fraud prevention (57%). Generative AI (GenAI) is gaining traction, and is now used by around 40% of firms across most functions. Agentic tools remain at an early stage, with uptake of between 8% and 18%, depending on the area, but are mostly seen in case management (18%). Task-level automation, guided decisioning, workflow automation or generalized copilots can provide uplift in this area, where workflows and tasks tend to be notably complex.

Figure 8: AI techniques used in the business



Source: Chartis Research

AI risks and challenges

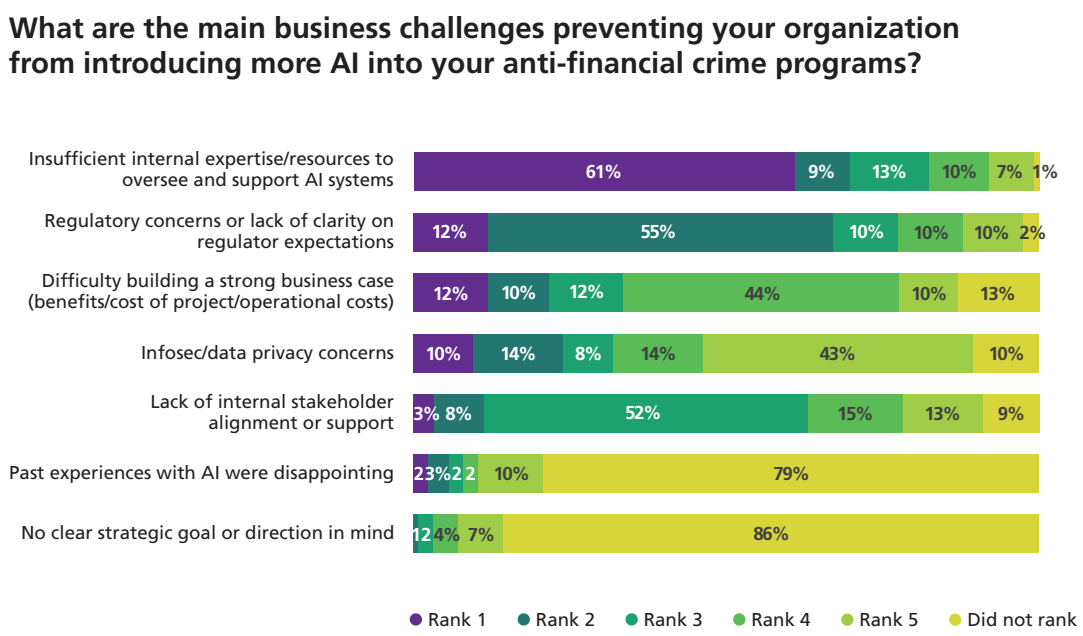
The survey also explores the challenges and barriers that continue to influence how organizations adopt and govern AI in their financial crime and compliance functions. By analyzing where firms encounter friction, the current practical and structural limits of AI maturity can be defined. Key questions consider organizational hurdles (such as skills gaps, resourcing constraints and stakeholder alignment) and technical and regulatory challenges.

Internal expertise, regulation and data are key challenges

The most frequently cited business challenge is a lack of internal expertise and resources (see Figure 9 on page 8), highlighted by 61% of respondents as their top issue. Regulatory uncertainty is not far behind, with 67% ranking it as their number one or two issue.

Other key challenges include stakeholder alignment (63% ranking it first, second or third) and difficulty building a business case (78% ranking it as one of their top four concerns), revealing that while payment firms are open to innovation, they may be hampered by budget constraints and a lack of internal support. At the other end of the spectrum, past disappointments with AI (79%) and a lack of strategic direction (86%) were largely unranked as major issues.

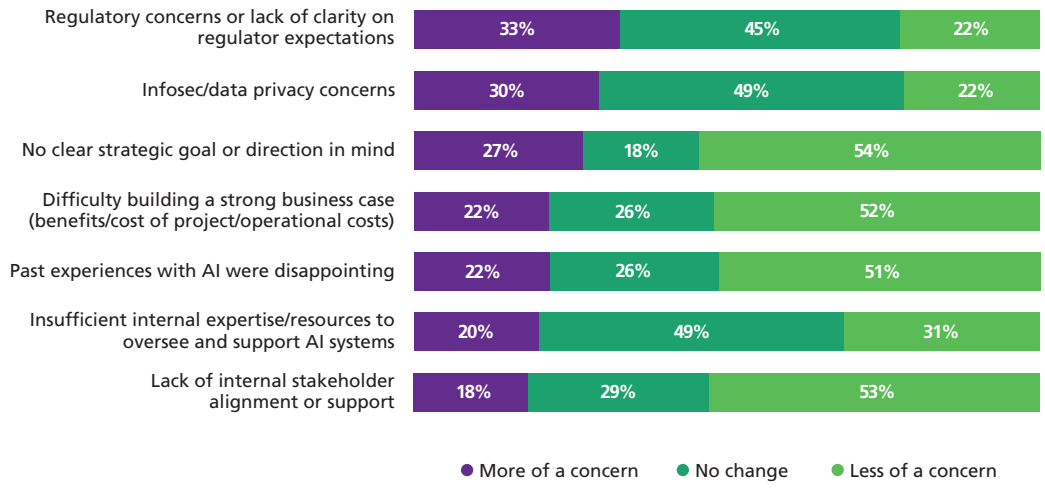
Figure 9: Main business barriers to AI adoption



Source: Chartis Research

Respondents were also asked how the business challenges of implementing AI have evolved during adoption. Regulatory and information security/data privacy concerns had increased or stayed the same (for 78% and 79% of respondents, respectively) (see Figure 10).

Figure 10: Evolution of business challenges as AI matures



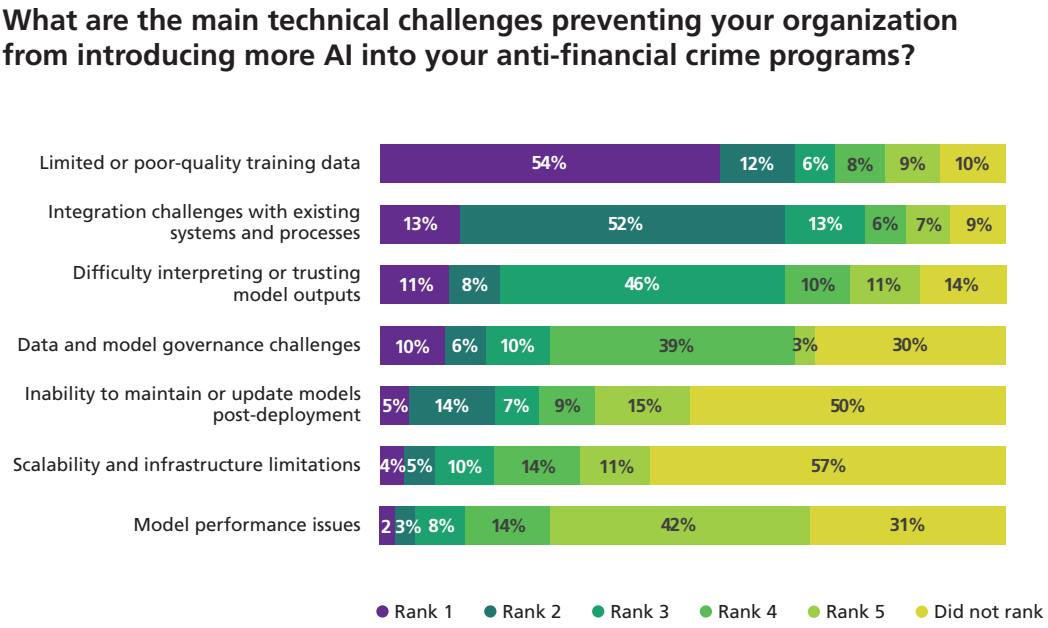
Source: Chartis Research

Integration and data are the key technical challenges

The main technical barriers to wider AI adoption in anti-financial crime programs (see Figure 11) are integration challenges and data limitations. 78% of respondents cite difficulties embedding AI into existing systems and workflows as a top three challenge and 72% point to poor-quality or insufficient training data.

A further 65% put difficulty interpreting or trusting model outputs into their top three challenges, reflecting the ongoing struggle to balance explainability with performance.

Figure 11: Main technical barriers to AI adoption

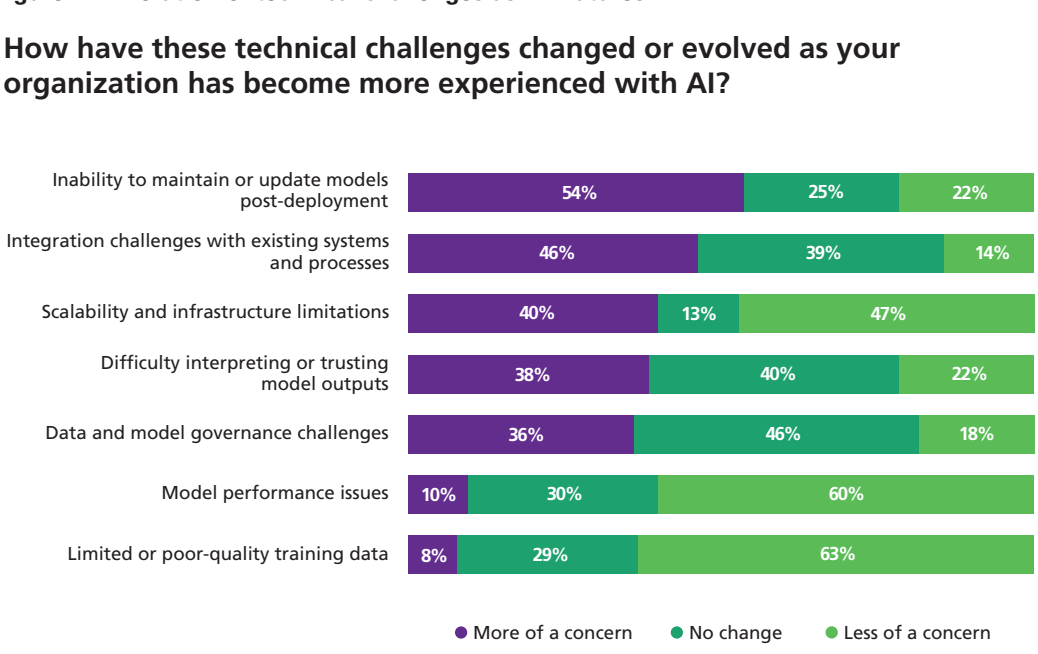


Source: Chartis Research

Models and integrations are key

Maintaining and updating models has become more of a challenge for 54% of firms as they have become more experienced with AI. Nearly half of respondents report that integration has also grown as a challenge, with another 39% saying it has remained an issue.

Figure 12: Evolution of technical challenges as AI matures



Source: Chartis Research

Despite growing AI maturity, core governance challenges remain stubbornly persistent, with 46% of respondents reporting no change in data and model governance concerns, and a further 36% saying they have become more of a concern. This suggests that while performance and data quality issues are becoming more manageable, governance, control and lifecycle management are not keeping pace with model deployment.

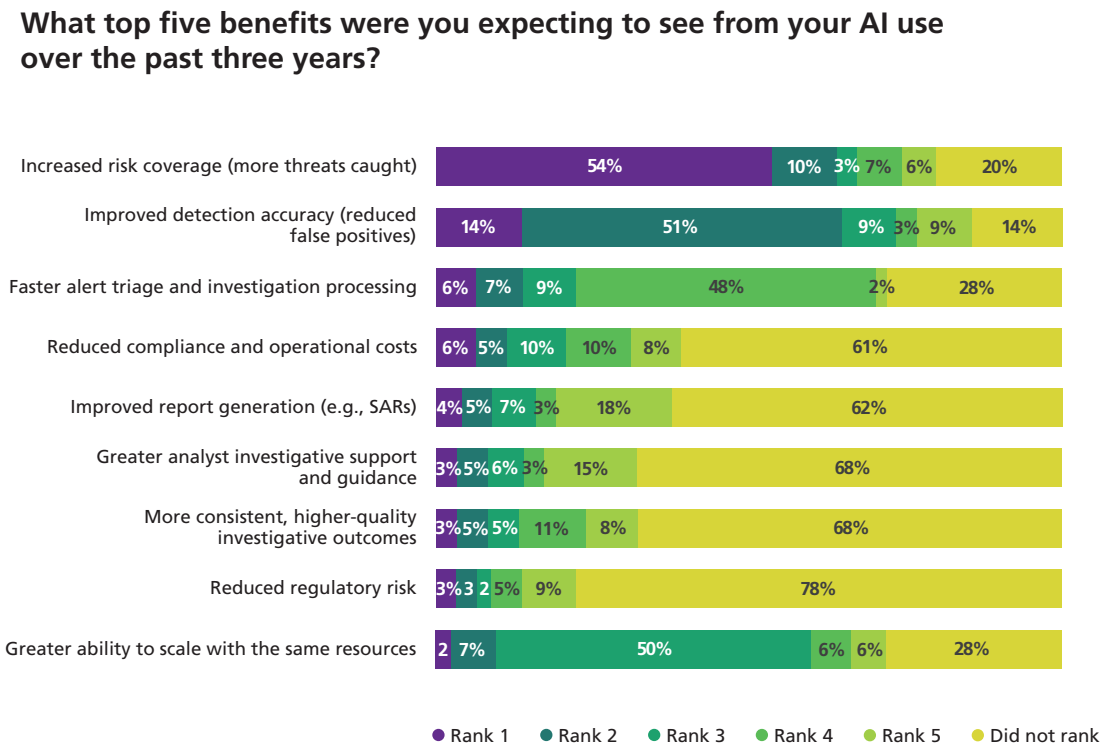
AI benefits and savings

The survey also explores the value that AI is delivering for the financial crime and compliance functions in payment and FinTech firms, and how those benefits are evolving as adoption deepens. It examines where firms are seeing the greatest impact, from enhanced detection accuracy and faster investigations to stronger efficiency and cost control, and considers how these results compare with early expectations.

Expectations of enhanced performance have largely materialized as improvements in efficiency

Payment and FinTech firms entered their AI adoption journey with high expectations for performance and efficiency. The top anticipated benefits over the past three years (see Figure 13) center on improved detection accuracy (ranked in the top three by 74% of respondents), increased risk coverage (67%), and a greater ability to scale with the same resources (59%).

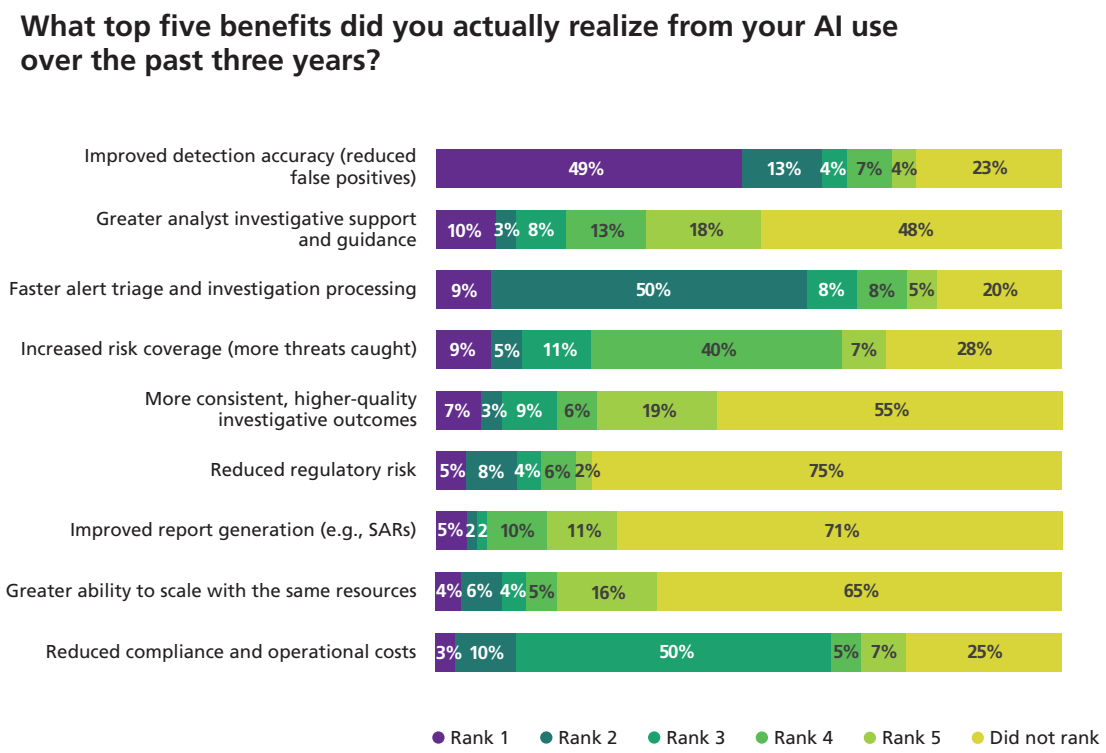
Figure 13: Top five expected benefits of AI



Source: Chartis Research

When it comes to benefits realized (see Figure 14 on page 11), improved detection accuracy was reported as the biggest win with 62% of respondents ranking it first or second. This was closely followed by faster alert triage and investigative processing (59%).

Figure 14: Top five realized benefits of AI

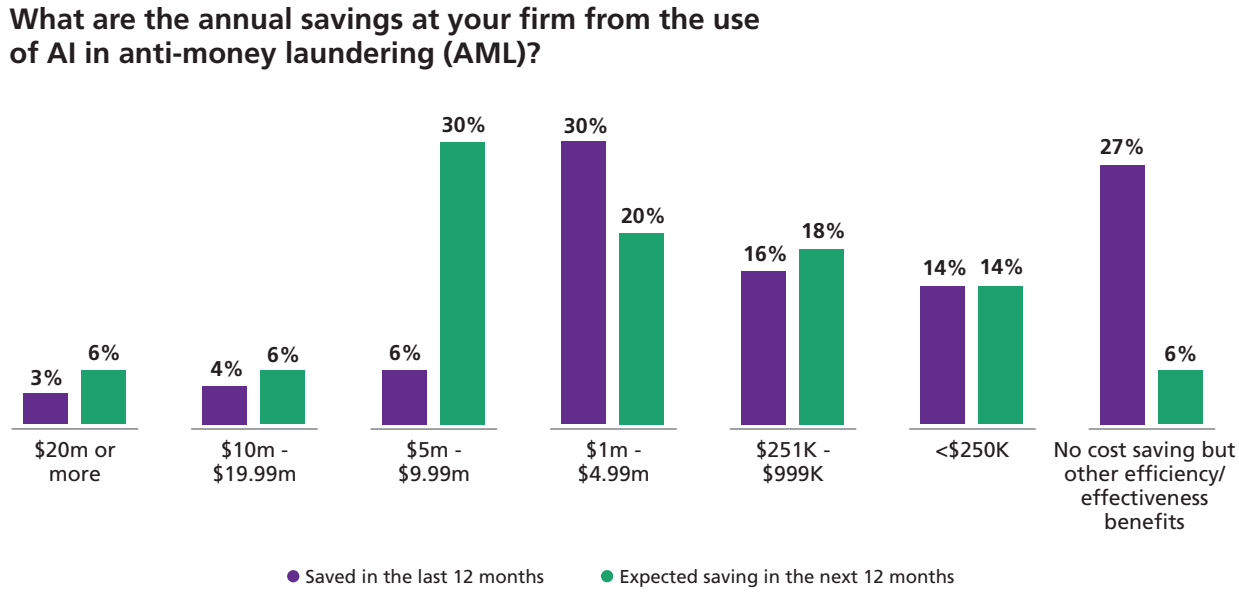


Source: Chartis Research

Payment and FinTech firms are seeing quantifiable returns

Payment and FinTech firms are already seeing quantifiable returns from AI in AML, with results pointing to both cost and efficiency gains (see Figure 15). 73% of respondents reported that they had already achieved savings from using AI in their AML operations. Nearly a third had saved $1m-$4.9m, and another 16% reported savings of $250k-$999k.

Figure 15: Annual savings from using AI for AML



Source: Chartis Research

The biggest savings are still to come, with 42% of respondents reporting that they expect to see savings from AI of more than $5m over the next 12 months. Only 6% said that they didn't expect to see any cost savings.

The future of AI in anti-financial crime, anti-fraud and compliance

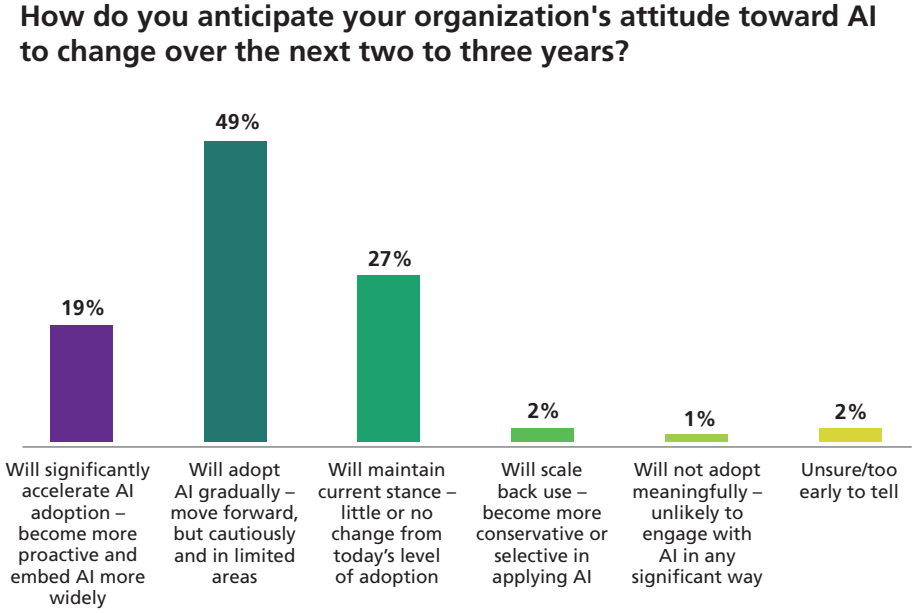
The survey also explores how payment firms and FinTechs expect their use of AI to evolve over the next two to three years, focusing on technology investment, regulatory engagement and organizational readiness. It examines emerging trends such as the rapid rise of agentic AI and GenAI, the anticipated shift toward more supportive regulatory frameworks, and evolving views on AI governance, accountability and workforce transformation.

By capturing these forward-looking perspectives, the research highlights how these firms are looking toward a new era of AI maturity.

Payment and FinTech firms are optimistic about organizational and regulatory attitudes toward AI

Further adoption of AI is expected (see Figure 16), with 68% of respondents saying that their organization will either significantly or gradually accelerate its AI uptake. Just over a quarter expect to maintain their current adoption levels, and only small proportions foresee scaling back (2%) or avoiding AI entirely (1%).

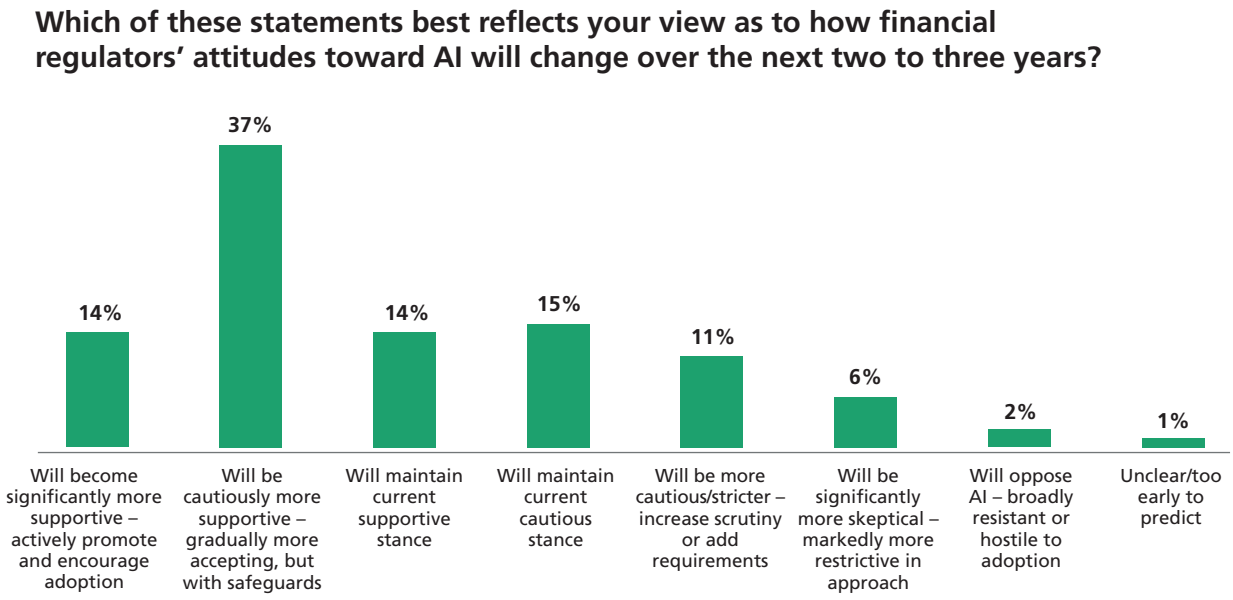
Figure 16: Anticipated change in AI adoption



Source: Chartis Research

Payment and FinTech firms are also optimistic about regulators' attitudes to AI (see Figure 17). More than a third expect regulators to become more supportive but remain cautious by introducing safeguards. Another 14% believe that regulators will be much more supportive.

Figure 17: Perceived change in regulators' attitudes to AI

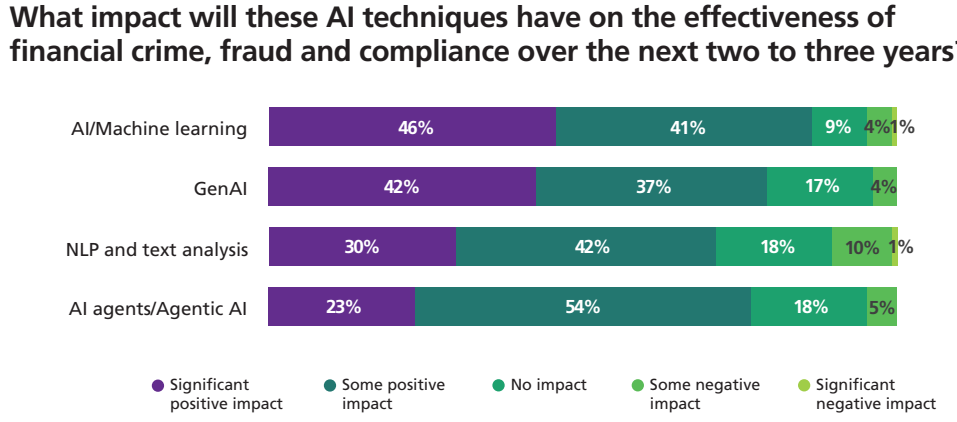


Source: Chartis Research

Firms are bullish in their expectations of impact

Payment and FinTech firms anticipate major impacts from AI across financial crime, fraud and compliance over the next two to three years (see Figure 18). They regard traditional AI and ML as the strongest drivers of improvement: 46% of respondents expect a significant positive impact and another 41% predict some benefit. GenAI is close behind, with 42% expecting major gains. Agentic AI and NLP/text analysis are also viewed positively (77% and 72% of respondents, respectively, expect positive impacts).

Figure 18: Impact of AI in the next two to three years



Source: Chartis Research

Planned investment is set to grow strongly

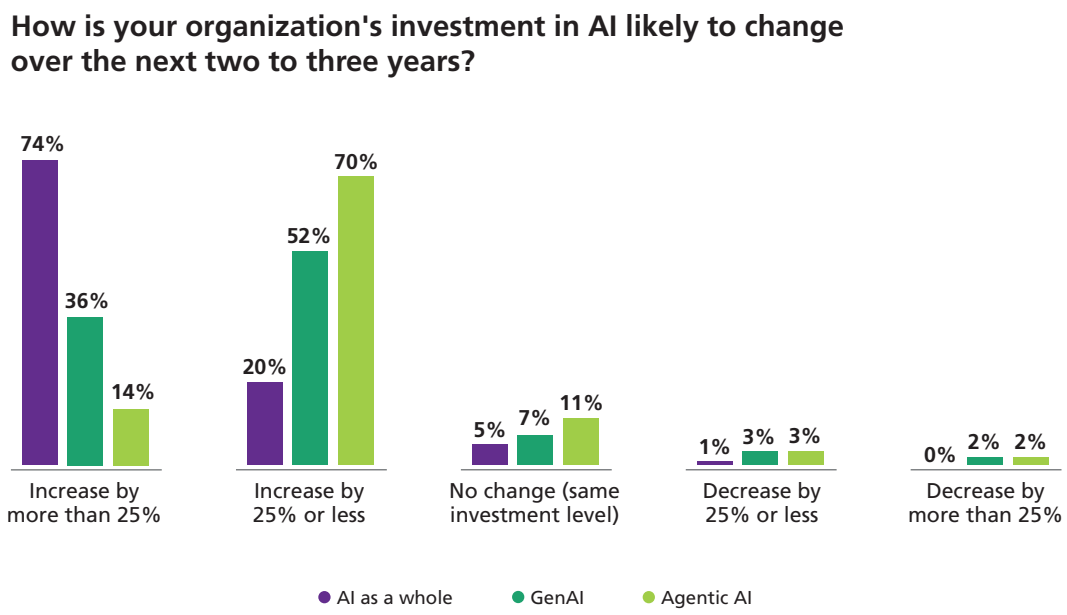
Payment and FinTech firms plan strong increases in AI investment over the next two to three years (see Figure 19), signaling confidence in its long-term value. Nearly three-quarters of respondents (74%) expect overall AI spending to rise by more than 25%.

Investment in GenAI and agentic AI is also set to accelerate: 52% and 70% of respondents, respectively, expect increases of up to 25%, while 36% plan larger-scale expansion in GenAI specifically. Only a small minority (between 0% and 11%) expect investment levels to remain flat or decline. Overall, the results signify confidence in AI as a growing area for financial crime and compliance investment.

'We've built a lot internally, but the question now is whether to keep investing or move to off-the-shelf solutions. Internal IT doesn't have the same prominence anymore – we need tools that can scale quickly.'

Head of Risk and Detection, Finance House

Figure 19: Expected change in AI investment



Source: Chartis Research

Generative AI's potential

The term 'GenAI' refers to systems that can create original content, from text and code to synthetic data and reports, by learning patterns from existing information.

Unlike traditional AI, which focuses on detection, prediction and classification, GenAI enables contextual understanding, summarization and creative problem-solving. These capabilities are directly relevant to compliance and fraud.

This section examines how payment and FinTech firms are beginning to deploy GenAI for financial crime and compliance, its early benefits (such as faster analysis and enhanced decision support), and the emerging governance and risk considerations tied to its use. It also highlights how the shift from predictive AI to generative and agentic intelligence will affect firms' financial crime operations.

The impact of GenAI is still at an early stage

For most payment and FinTech firms, GenAI has yet to deliver meaningful real-world impact, though signs of change are emerging (see Figure 20 on page 15). While 38% of respondents say its effect so far has been minimal, 21% describe a significant change in how teams work, with another 15% noting moderate process enhancements.

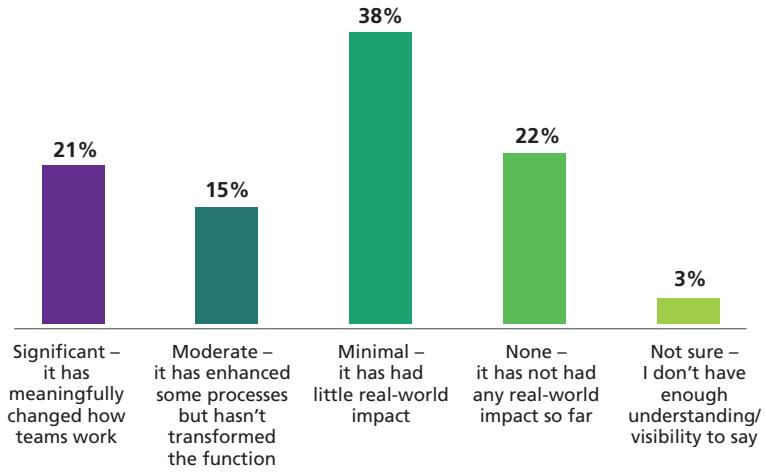
Overall sentiments are positive, with 75% of respondents expecting it to make some level of impact on organizations.

Payment and FinTech firms expect data and investigations to improve with GenAI

When combining the top three ranked benefits, firms clearly see GenAI's greatest value in boosting efficiency across compliance and fraud functions.

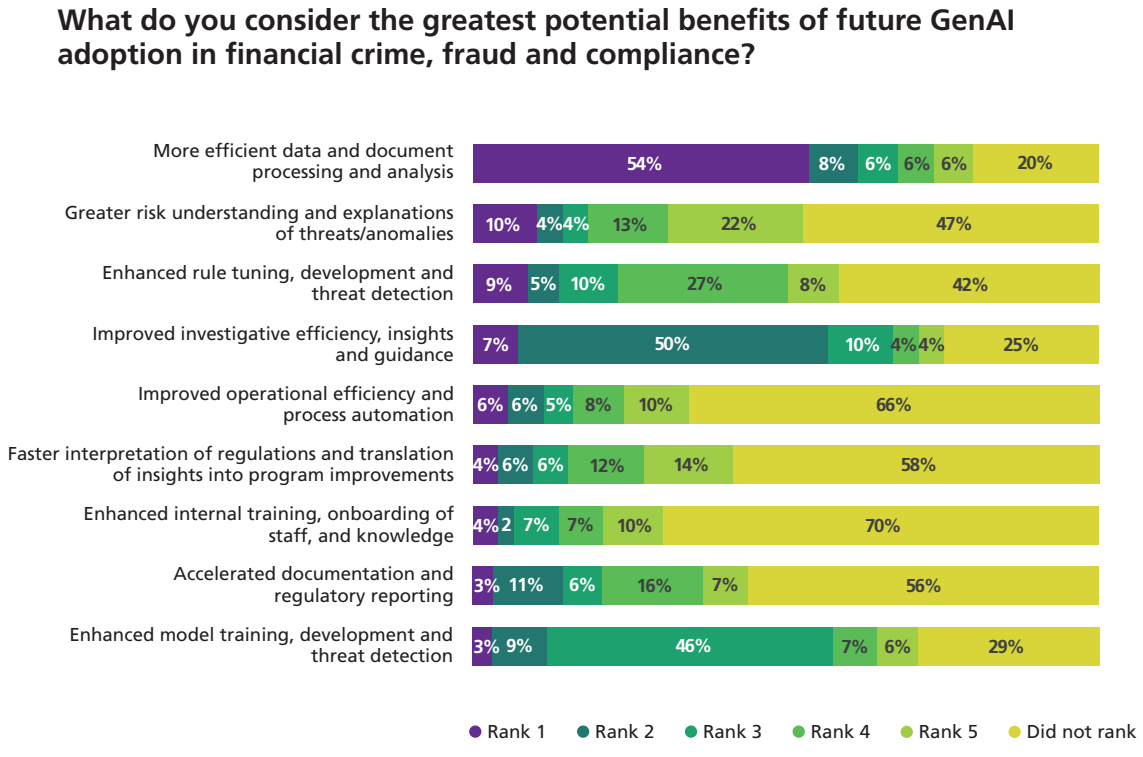
The leading area is data and document processing and analysis (see Figure 21), ranked in the top three by 68% of respondents, underlining GenAI's role in automating manual reviews and accelerating insight generation. Improved investigative efficiency, insights and guidance was cited in the top three by 67% of respondents, reflecting firms' expectations that GenAI will enhance decision support and streamline casework. Enhanced model training, development and threat detection followed, with 58% of respondents putting it in the top three.

Figure 20: The impact of GenAI



Source: Chartis Research

Figure 21: Biggest potential benefits of GenAI adoption

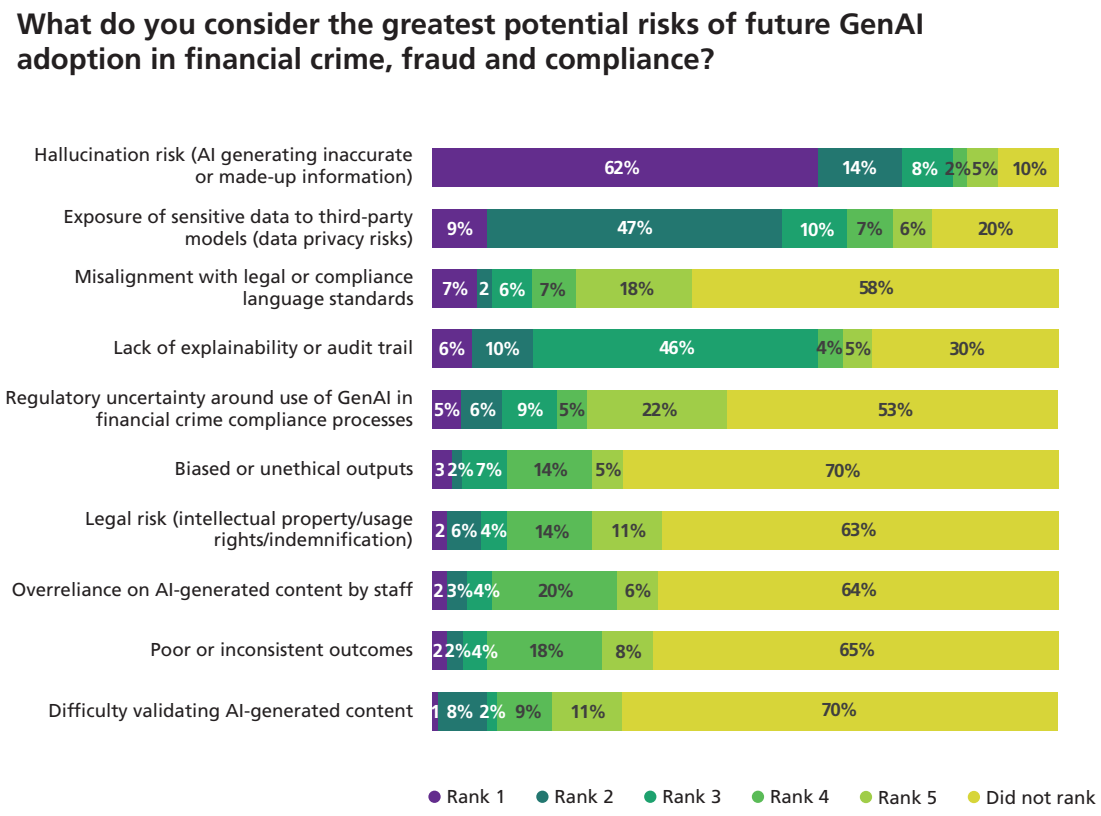


Source: Chartis Research

When we combine the top three ranked risks (see Figure 22), firms overwhelmingly view hallucination (84% of respondents put in their top three), data exposure (66%) and explainability gaps (62%) as the most significant threats to responsible GenAI adoption.

Collectively, these findings demonstrate that the biggest fears are accuracy, confidentiality and accountability, three issues that directly impact compliance credibility.

Figure 22: Biggest risks of adopting GenAI



Source: Chartis Research

Agentic AI's potential

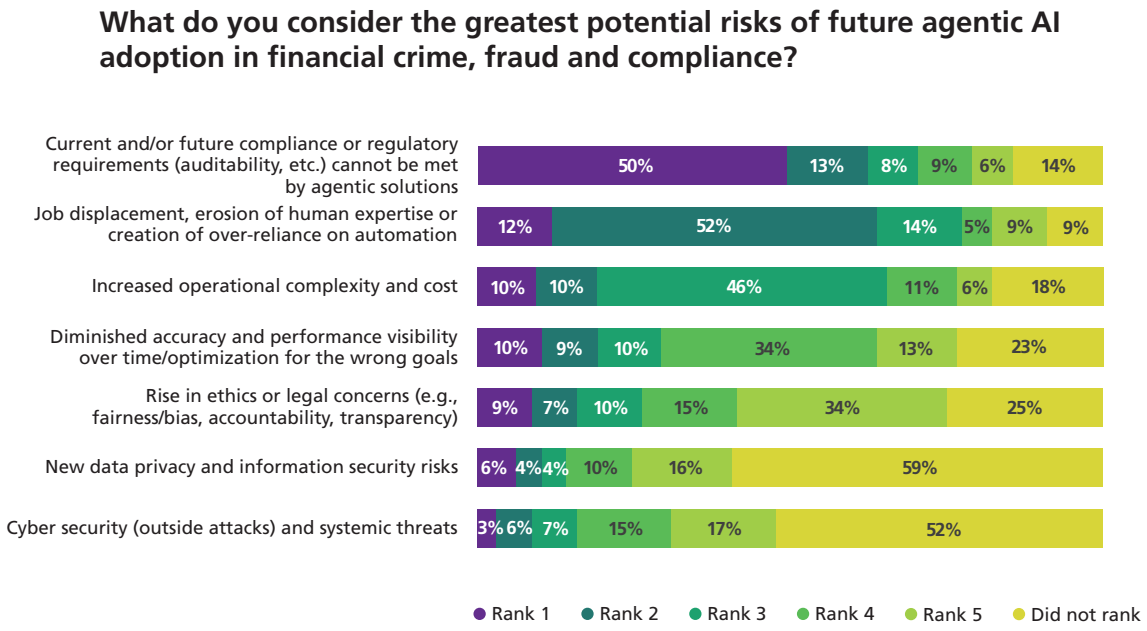
'Agentic AI' refers to systems that can act autonomously toward defined objectives: not just responding to prompts (like traditional AI or GenAI), but planning, executing and adapting actions based on context and feedback.

This section explores how payment and FinTech firms view the potential of agentic AI to transform their financial crime and compliance operations: where it could unlock the greatest efficiency gains, how governance and control frameworks will need to evolve as autonomy grows, and how firms can adopt this technology.

Lack of control and job displacement are key risks

Job displacement and the erosion of human expertise was highlighted as the biggest risk (78% of respondents ranked it in their top three concerns) (see Figure 23).

Figure 23: Biggest risks of adopting agentic AI

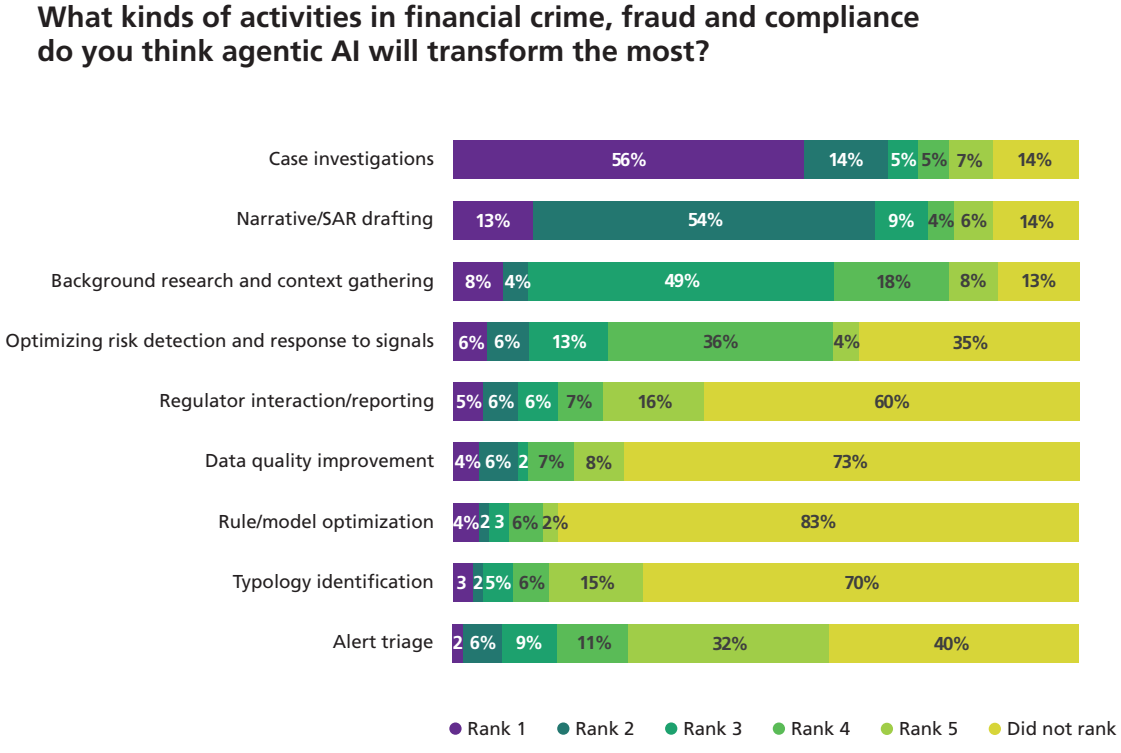


Source: Chartis Research

Regulatory uncertainty was also a significant concern (71% of respondents put it in their top three), followed by operational complexity and costs (66% put it in the top three). Lack of control is a common theme: human input, compliance assurance and system manageability are the concerns that firms are prioritizing.

Combining the top three ranked responses (see Figure 24) shows that respondents view agentic AI as a significant tool for automating optimization and investigation tasks within their financial crime and compliance functions.

Figure 24: Compliance activities that will be transformed by agentic AI



Source: Chartis Research

Respondents identified narrative/SAR drafting as the area most likely to be transformed by agentic AI (76% putting it in the top three), underscoring the strong potential for automation in documentation-heavy and narrative-driven processes. This is reinforced and closely followed by case investigations (75% of respondents) and background research (61%).

Agentic AI will cause a rebalancing in staff, rather than a reduction

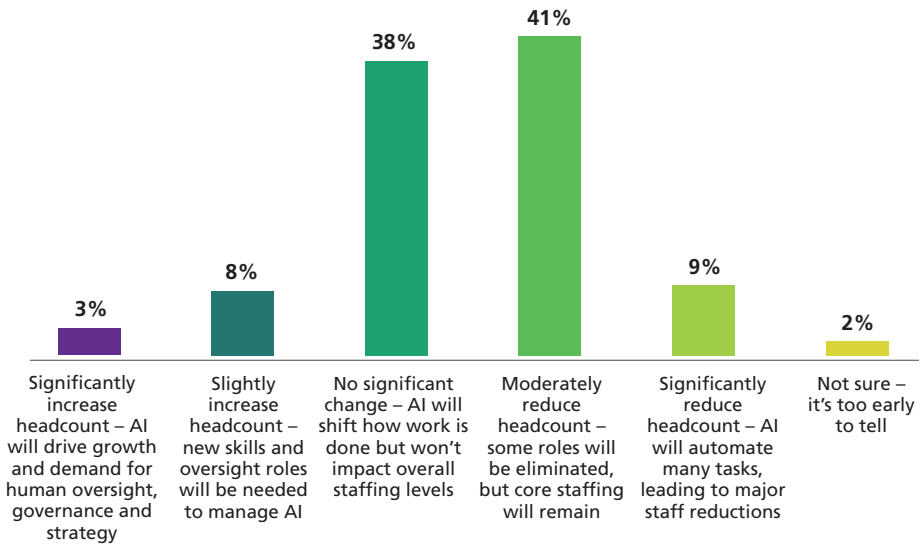
Payment and FinTech firms expect agentic AI to reshape, rather than reduce, their financial crime and compliance teams (see Figure 25). This aligns with the fears of displacement and loss of expertise previously mentioned: firms do not want to lose valuable institutional knowledge or expertise during the AI transition. Thus, while 41% of respondents anticipate a moderate reduction in headcount, another 38% foresee no significant change overall, suggesting that AI will transform how work is done rather than who does it. Only 9% expect major staff reductions, while 11% predict headcount growth tied to new oversight and governance roles.

'Volume was the main driver. As the business grows, you either hire a hundred more people, or you use AI to make the same team more efficient.'

Head of Risk, Lending FinTech

The results point to a rebalancing of human and machine effort, whereby agentic AI takes on repetitive or analytical tasks, enabling teams to focus on higher-value activities.

Figure 25: Will agentic AI have an impact on compliance headcount?



Source: Chartis Research

Conclusion

Payment and FinTech firms are moving from experimentation to operationalization of AI. Deployment is shifting from proofs of concept toward embedded analytical and investigative workflows, with an emphasis on system integration, governance and measurable controls. Rather than augmenting detection models, firms are embedding AI into case investigation, SAR narrative generation, data quality remediation, alert routing and regulatory reporting.

A second key shift is toward more agentic AI and GenAI enablement. Firms view GenAI as the near-term catalyst for accelerating investigative efficiency, documentation and analyst decision support, while agentic AI is emerging as a strategic priority in areas such as investigation support. Adoption still lags behind traditional ML, but momentum is strong: agentic AI capabilities are already present in 8-18% of firms, primarily in guided investigation copilots and workflow assistants. These systems remain supervised and constrained, reflecting the need for auditability and model explainability. 'Human in the loop' remains a priority.

Interviewees noted a perceived 'arms race', with threat actors increasingly enabled by AI, especially in fraud and social engineering. The risk of falling behind defensively is now a motivating factor in firms' deployment decisions.

> *'We now see AI being used to* create *fraud — fake passports, liveness videos, deepfake KYC. The question is, how can we use AI to fight AI?'*
>
> **Chief Risk and Compliance Officer, FinTech**

Overall, the momentum is relatively clear: payment and FinTech firms are moving toward more operationalized AI. The emerging trajectory suggests that, at least in the near term, traditional ML will anchor risk controls, GenAI will accelerate investigative productivity, and agentic systems will automate orchestrated compliance workflows. The technological mix may shift over time as trust grows in advanced GenAI and agentic capabilities, but the foundation of AI in compliance has been laid, and the next generation is poised to make a transformative impact on institutions around the world.

Next steps for payment and FinTech firms

Payment and FinTech firms can potentially move fast in implementing AI, but must combine speed with structure. Key actions include:

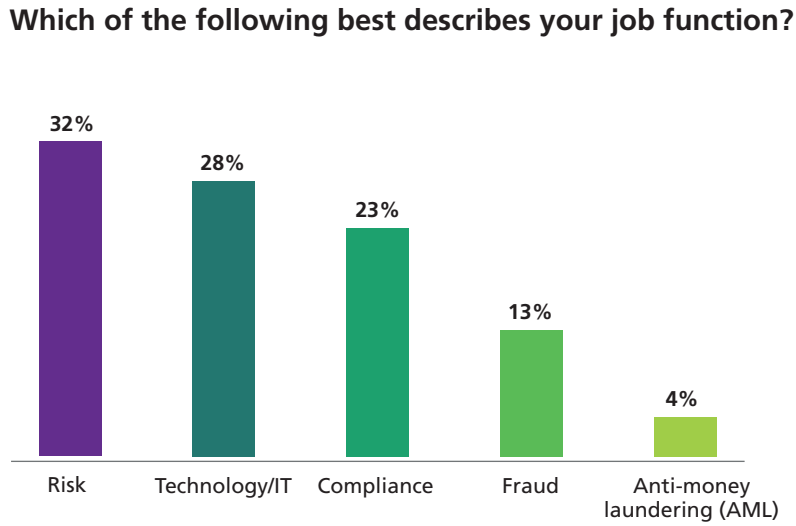
- **Lead in emerging AI**. Test generative and agentic AI early in investigations and reporting to define best practice.
- **Scale proven use cases**. Detect where use cases are the most effective (i.e., document management, investigations, reporting and other automation-friendly use cases) and move to implement them quickly.
- **Adopt a holistic AI strategy**. Align data, technology and compliance to ensure consistent, explainable outcomes.
- **Use data advantage**. Leverage real-time data from varied sources to improve model accuracy and risk coverage.
- **Apply strong governance**. Provide a framework for the model governance and iterative development of AI tools.

With more modern, modular technology stacks and less legacy bloat, payment and FinTech firms should be more effective in capitalizing on the AI revolution, automating repetitive tasks and delivering efficiency gains across financial crime risk management.

Demographics

Most respondents are in risk and technology/IT roles (see Figure 26).

Figure 26: Respondents' job function



Source: Chartis Research

Respondents are distributed across the globe (see Figure 27), with most in the US and Europe.

Figure 27: Location of respondent organizations' HQ

Source: Chartis Research

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