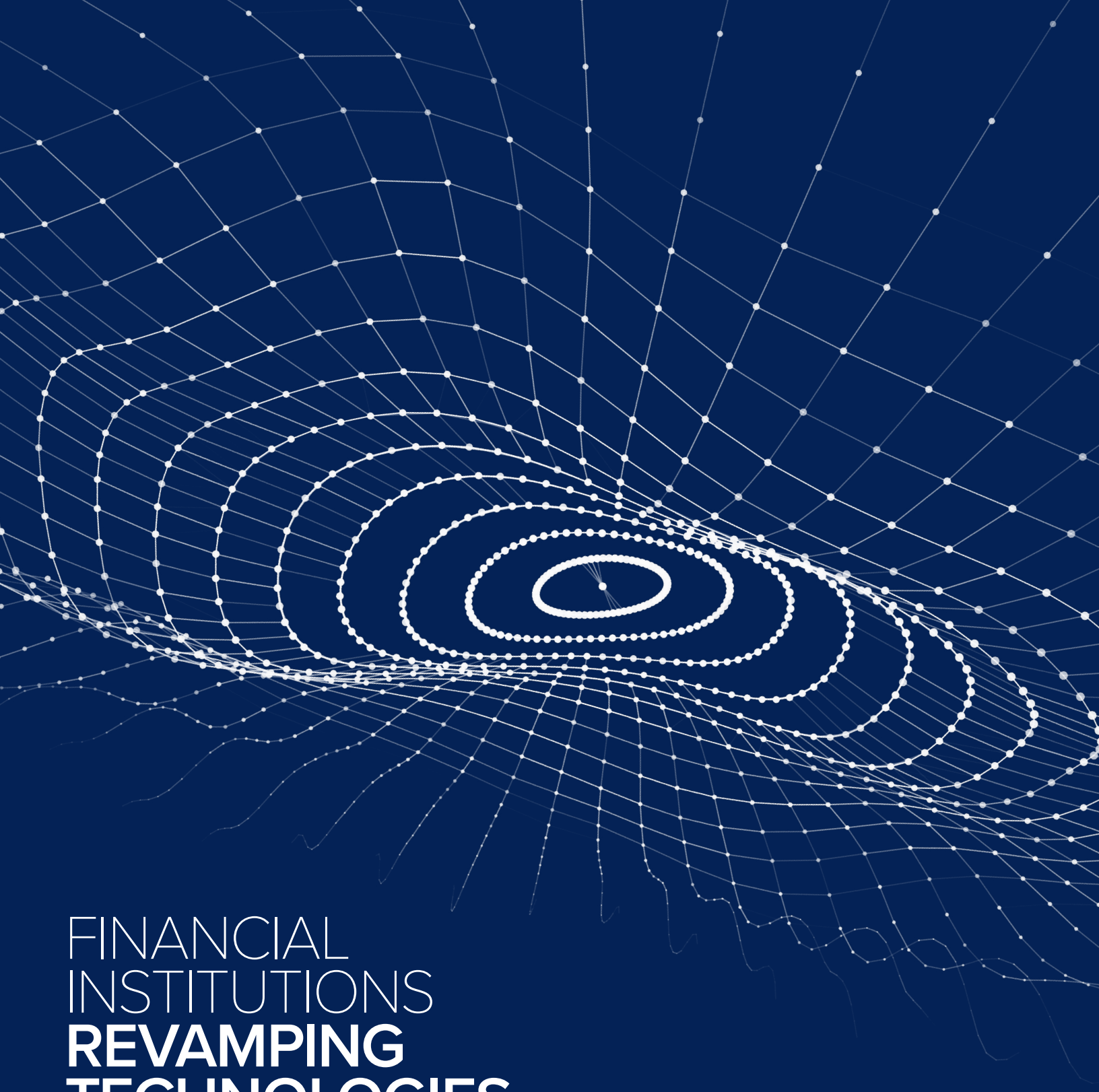

FINANCIAL INSTITUTIONS **REVAMPING TECHNOLOGIES** TO FIGHT **FINANCIAL CRIMES**

December 2023 Report

PYMNTS INTELLIGENCE | HAWK:AI

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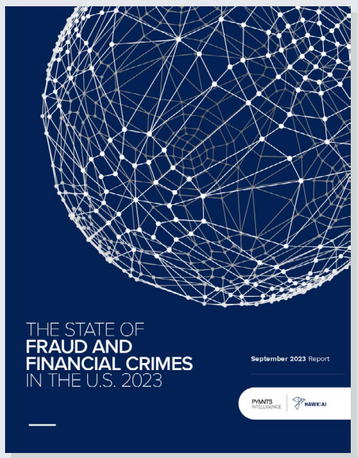

■ September 2023

The State of Fraud and Financial Crime in the U.S. 2023

PYMNTS INTELLIGENCE | HAWK:AI

Financial Institutions Revamping Technologies to Fight Financial Crimes was produced in collaboration with Hawk AI, and PYMNTS Intelligence is grateful for the company's support and insight. PYMNTS Intelligence retains full editorial control over the following findings, methodology and data analysis.

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INTRODUCTION

More than 40% of financial institutions (FIs) are seeing increasing volumes of fraud and financial crime, according to a recent PYMNTS Intelligence report, and this advancing wave likely poses a significant threat to the financial services industry.[1] Security is a top concern, particularly for financial services firms, as one of the industry's selling points is the security its firms provide customers on digital platforms. Consumers reported losing approximately $8.8 billion to fraud in 2022; bank fraud cases grew 25% from 2021 to 2022.[2,3] In this landscape, FIs need cutting-edge tools to fight the rising tide of fraud and financial crime.

1. The State of Fraud and Financial Crime in the U.S. 2023. PYMNTS Intelligence. 2023. **https://www.pymnts.com/study/increasing-fraud-heightens-need-for-newer-better-technologies/**. Accessed December 2023.

2. Author unknown. New FTC Data Show Consumers Reported Losing Nearly $8.8 Billion to Scams in 2022. Federal Trade Commission. 2023. **https://www.ftc.gov/news-events/news/press-releases/2023/02/new-ftc-data-show-consumers-reported-losing-nearly-88-billion-scams-2022**. Accessed December 2023.

3. Caporal, J. Identity Theft and Credit Card Fraud Statistics for 2023. The Ascent. 2023. **https://www.fool.com/the-ascent/research/identity-theft-credit-card-fraud-statistics/**. Accessed December 2023.

40%

Share of FIs that are seeing **increasing volumes** of fraud and financial crime

Survey data shows that FIs typically use a combination of current technology solutions to address the myriad security issues in the industry. For example, FIs use internal artificial intelligence (AI) and machine learning (ML) and cloud-based, third-party solutions for fraud-fighting, and each approach poses specific challenges for innovation and integration. Third-party providers are an essential piece in the puzzle.

Financial Institutions Revamping Technologies to Fight Financial Crimes, a PYMNTS Intelligence and Hawk AI collaboration, explores the technological solutions FIs currently use to detect and combat financial crimes, as well as the technology they plan to use in the future. We surveyed 10 FIs in North America between Oct. 10 and Oct. 13 to examine their choices and behavior pertaining to technological solutions to improve their fraud and financial crime prevention operations.

This is what we learned.

While many FIs develop tools to combat fraud in-house, just 14% rely exclusively on in-house AI and ML fraud-fighting tools.

Much of the financial industry still utilizes in-house teams to develop fraud prevention tools, but the next wave of technologies has pushed many to consider external providers. FIs develop 48% of the technologies and 57% of the processes they use to combat fraud in-house, on average. For example, all FI respondents in our survey use customer transaction alerts.

Most FIs use a mix of in-house and third-party solutions, but the exact mix varies. While half of the FIs surveyed said they developed 50% or less of this customer transaction alert technology in-house, 30% developed more than 50% in-house and 20% developed these tools solely in-house. This pattern is relatively common across different fraud-fighting technologies, with most being a fairly fluid mix of in-house and third-party development. (Exceptions include call center-based multi-factor authentication, which FIs mostly outsource.)

FIGURE 1:

Fraud-fighting tool development

Share of FIs that use select technologies to detect and address fraud and financial crimes, by who developed the technology

	Use only third-party solutions	Use mostly third-party solutions	Use a roughly equal mix	Use mostly in-house solutions	Use only in-house solutions
• Consumer transaction alerts/SMS alerts	0.0%	40.0%	10.0%	30.0%	20.0%
• Fraud prevention APIs	22.2%	22.2%	22.2%	22.2%	11.1%
• Web-based multi-factor authentication	12.5%	37.5%	0.0%	25.0%	25.0%
• Adaptive authentication	12.5%	25.0%	12.5%	25.0%	25.0%
• AI/ML	28.6%	0.0%	0.0%	57.1%	14.3%
• Biometric authentication	28.6%	14.3%	0.0%	42.9%	14.3%
• Call center-based multi-factor authentication	71.4%	28.6%	0.0%	0.0%	0.0%
• Dynamic passcodes	14.3%	14.3%	14.3%	57.1%	0.0%
• Fraud scores provided by payments processor	33.3%	0.0%	50.0%	16.7%	0.0%
• Real-time data enrichment tools	0.0%	50.0%	0.0%	33.3%	16.7%
• Account takeover tools	20.0%	60.0%	0.0%	20.0%	0.0%
• Geolocation	0.0%	0.0%	50.0%	50.0%	0.0%
• Enhanced knowledge-based authentication	0.0%	33.3%	0.0%	0.0%	66.7%
• Data encryption	50.0%	0.0%	0.0%	50.0%	0.0%
• Address verification service	0.0%	100.0%	0.0%	0.0%	0.0%

Source: PYMNTS Intelligence

Financial Institutions Revamping Technologies to Fight Financial Crimes, December 2023

N varies by the technology FIs used, fielded Oct. 10, 2023 – Oct. 13, 2023

FIs have widely adopted some of these tools. Data shows that 71% of FIs use both AI and ML to combat fraud. Another tool FIs commonly rely on to combat fraud is an application programming interface (API). Survey data shows that 90% of FIs use fraud prevention APIs. Adaptive authentication and web-based multi-factor authentication are also fairly ubiquitous, with 80% of FIs having adopted each.

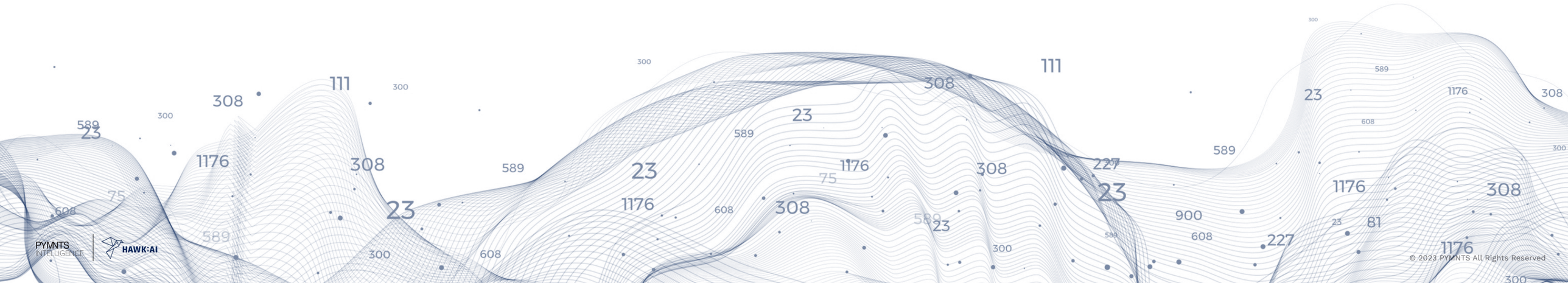
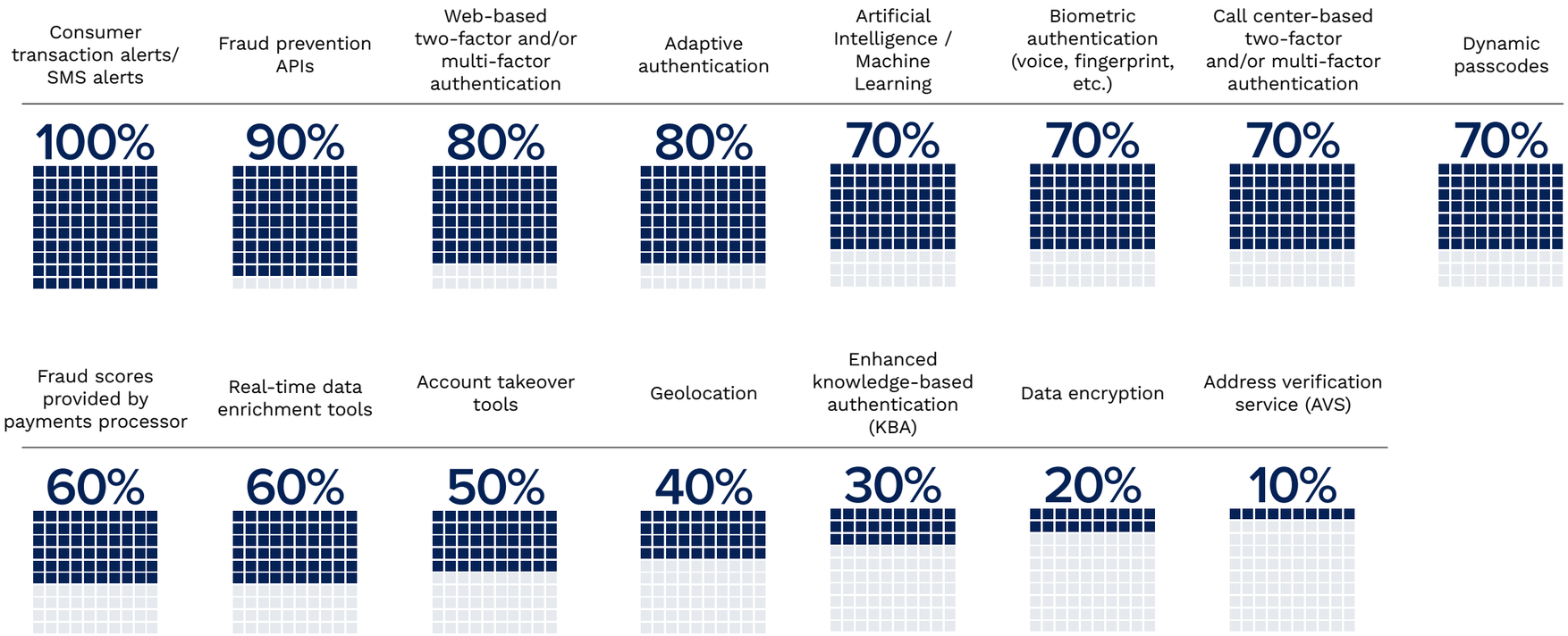


FIGURE 2:

Technologies FIs use to combat financial crimes

Share of FIs that currently use select technologies to detect and address fraud and financial crimes



Source: PYMNTS Intelligence

Financial Institutions Revamping Technologies to Fight Financial Crimes, December 2023

N varies by the technology FIs used, fielded Oct. 10, 2023 - Oct. 13, 2023

Returning to the issue of development, just 14% of FIs developed all fraud-fighting AI and ML technology in-house, and 29% rely entirely on third parties to provide these tools. In-house development of AI and ML tools requires substantial costs, which can help explain why this share is low. Just 11% of FIs use APIs developed entirely in-house, while 22% rely entirely on third-party API solutions. These figures highlight a key aspect of modern-day fraud-fighting for FIs: that third-party technologies are paramount.

FIs seek to leverage third-party providers to revamp their financial crime technology.

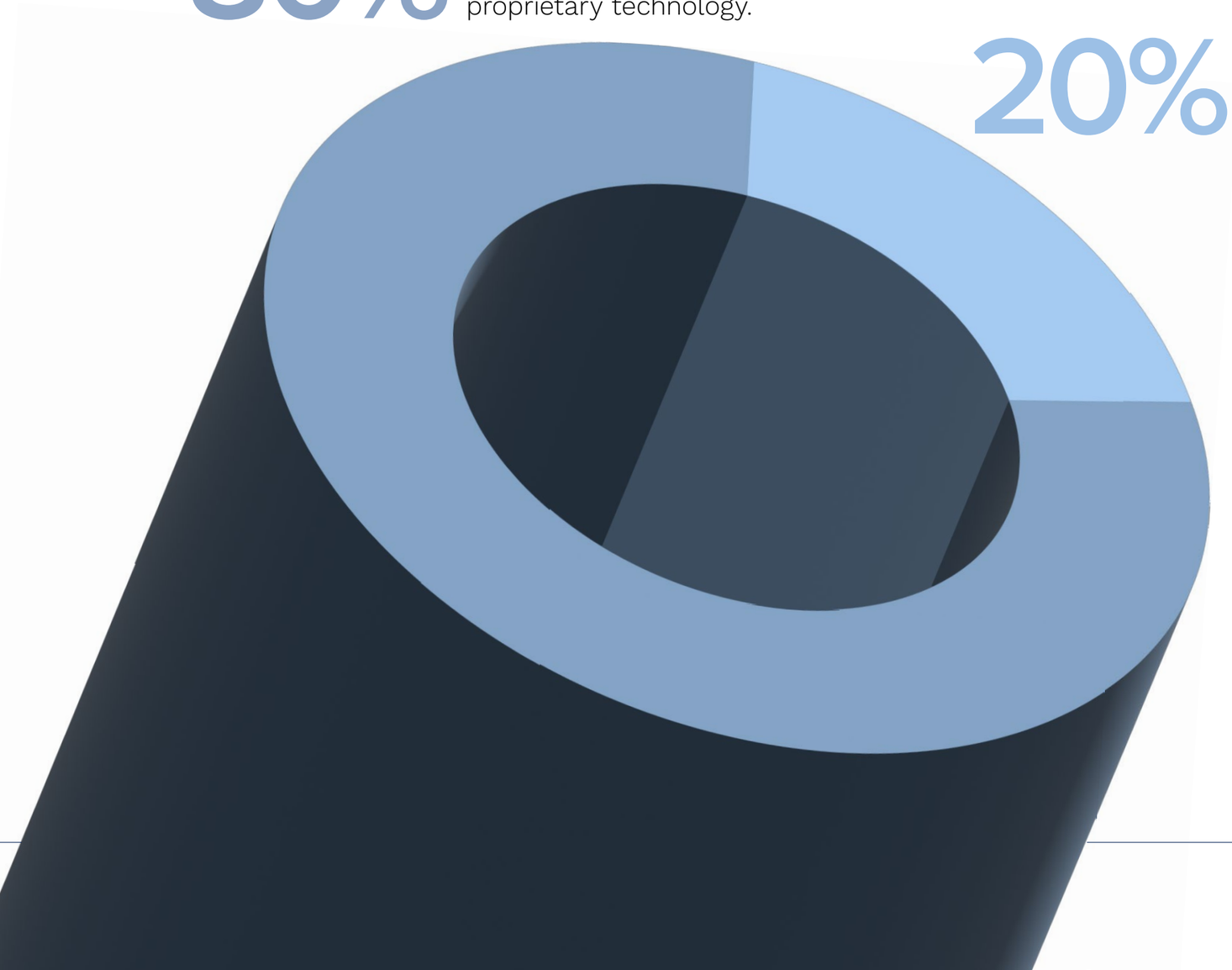
Financial crimes' constant evolution may cause FIs to revamp their efforts over the next three years. While 80% of FIs will rely on a mix of third-party providers and their own technology, the remaining 20% say that instead of developing their own technologies, they will integrate third-party technologies into their existing systems, which could suggest that costs are driving this decision. Ultimately, 70% of FIs will rely on third-party solutions to use ML, AI and fraud scores provided by payment processors.

Sixty percent of FIs say they want to rely on third parties to incorporate a cloud-based fraud platform and fraud prevention APIs — cloud-based solutions not only offer the theoretical advantages of distributed computing but also remove the heavy structural and financial burden of developing systems in-house. As for behavioral analysis, 30% of FIs use it to detect fraud — and of these FIs, 66% use procedures developed by third parties.

FIGURE 3:

FIs' fraud-fighting strategies

Share of FIs citing select plans for adopting technologies to detect and address fraud and other financial crimes



80% We will rely on both third-party technology and our own proprietary technology.

20% We will integrate more third-party technology into our fraud and financial crimes technology stack instead of developing such solutions in-house.

Source: PYMNTS Intelligence
Financial Institutions Revamping Technologies to Fight Financial Crimes, December 2023
N = 10: Whole sample, fielded Oct. 10, 2023 - Oct. 13, 2023

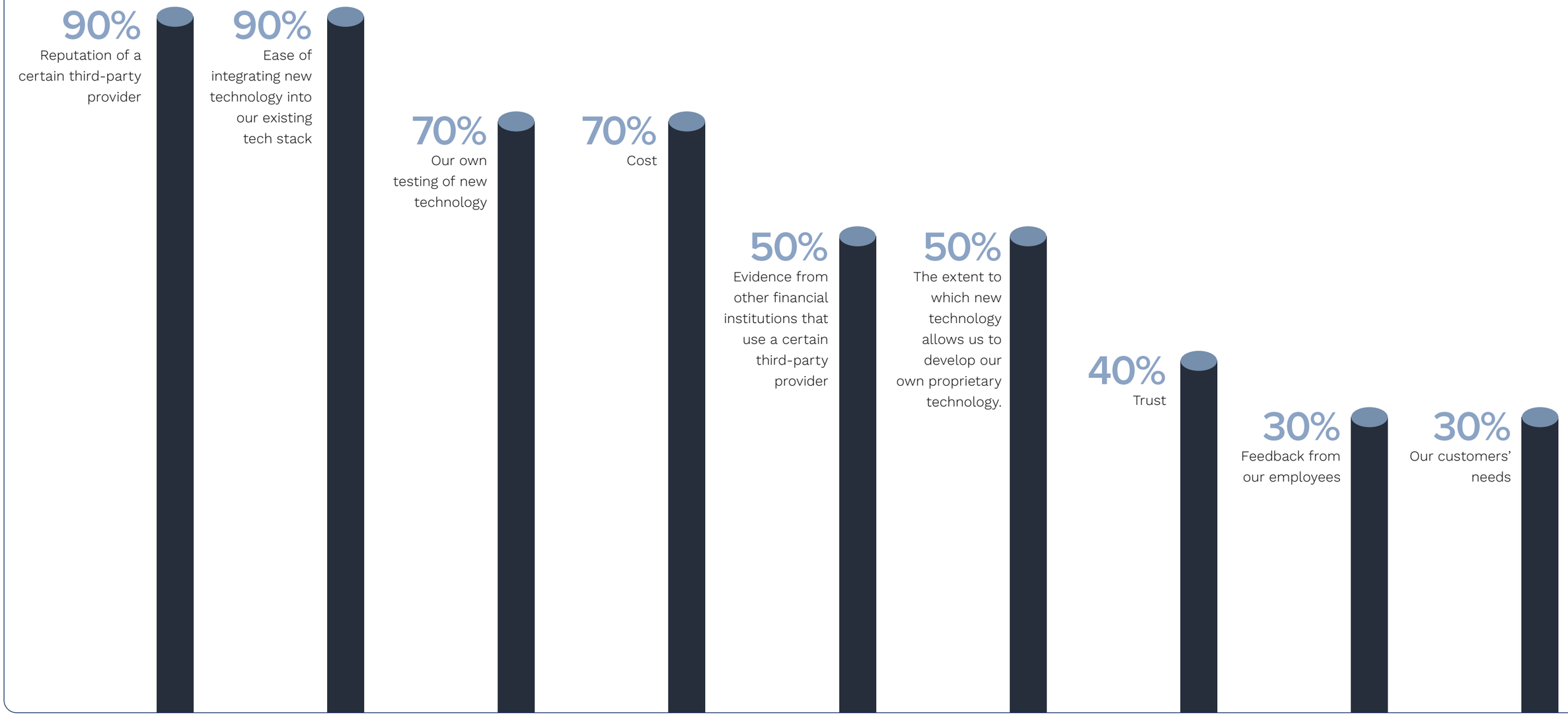
The reputation of a prospective provider and ease of integrating its third-party solution are crucial for FIs' decision-making, with 90% mentioning these as top reasons for choosing a particular third-party provider.

Just as FIs aim to build a reputation to win over prospective account holders, public confidence is key when selecting a provider for this crucial technology. Nearly all FIs say they will choose a third-party provider based on its reputation in developing technologies to combat fraud, even exceeding the 90% of FIs that cited the ease and expertise with which they can integrate new technologies with existing ones as their reason for using a specific third-party provider. Seventy percent of FIs will choose providers based on their own testing of new technologies. Similarly, another 70% point to cost as a deciding factor when considering external providers. One surprising note: FIs seem disinterested in external viewpoints when making these decisions, as the least important factors considered by FIs are customer needs and employee feedback, with just 30% of FIs mentioning each as an influential factor.

FIGURE 4:

FIs' considerations when selecting third-party solutions

Share of FIs citing select factors as influential in their choice of third-party solution providers in the next three years



Source: PYMNTS Intelligence
Financial Institutions Revamping Technologies to Fight Financial Crimes, December 2023
N = 10: Whole sample, fielded Oct. 10, 2023 - Oct. 13, 2023

CONCLUSION

Fraud fighting in today's economy is a technological arms race, and FIs continue to adopt new technologies such as AI and ML to adapt to the evolving challenges of financial crime. While some FIs use systems and technologies developed in-house, most also leverage third-party solutions. This trend is slated to continue, as all respondents in our sample plan to use third-party technology in the future, with most planning to use outsourced AI and ML technology. Reputation and ease of integration will be critical decision-making criteria for banks as they evaluate third-party technology providers.

METHODOLOGY

Financial Institutions Revamping Technologies to Fight Financial Crimes, a PYMNTS Intelligence and Hawk:AI collaboration, explores the type of technological solution FIs use to detect and combat financial crimes. We surveyed 10 financial institutions in North America between Oct. 10 and Oct. 13 to examine their choices and behavior pertaining to technological solutions they choose to improve their security systems.

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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 multi-lingual 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.

HAWK:AI

Hawk AI helps banks, payment companies and FinTechs fight financial crime with AML and fraud surveillance. Powered by explainable AI (patent-pending) and cloud technology with a core focus on information sharing, Hawk AI improves the efficiency and effectiveness of anti-financial crime teams. Fully modular, cloud-native and enhanced with ML, Hawk AI makes customer and transaction surveillance more efficient and ensures regulatory compliance. Using traditional rules combined with AI to detect suspicious behavior in real-time, financial crime specialists can investigate true instances of suspicious activity. The solution drastically reduces false positive rates by over 70% compared to legacy AML/CFT solutions.

Founded in 2018 by experienced FinTech veterans, the company has scaled globally, processing billions of transactions across 60 countries. Hawk AI works with leading financial institutions and partners such as North American Bancard, Moss, Banco do Brasil Americas, Mambu, Visa and LexisNexis. For more information, please visit Hawk AI's website at www.hawk.ai.

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