aws

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Banking on the Cloud

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Foreword

At Amazon Web Services (AWS), we help our banking customers use cloud capabilities to modernize their operations and provide more engaging and personalized experiences for their customers.

In this report, we share our perspectives on how cloud capabilities are helping banks transform confidently and adapt to changing market conditions. We focus on seven trends that banks are actioning today. From driving a hyper-personalized experience with data and machine learning to extending banking capabilities with ecosystem-based banking to provide contextualized offerings to customers.

As always, your feedback is very important to us, we look forward to hearing from you.

Charith Mendis
Head of Worldwide Banking Market Development, Amazon Web Services

Introduction

In the last few years, the banking industry has seen significant change, from the onset of the pandemic—which transformed the way customers interact with banks—to the global acceleration of digital banking licenses to the unbundling of banking services embedded into other value chains.

As we look forward in 2023 and beyond, ongoing change continues to be the status quo. Many of our customers are undertaking digital transformation to modernize their banking capabilities and others are reinventing themselves into platform businesses.

In looking at the trends published by analyst firms and global consultancies, and reflecting on our interactions with customers throughout 2022, we identified seven trends, outlined on the next page. These trends can be both transversal (i.e., cross-cutting, not specific to a product or line of business) and business-unit related (i.e., those focused on a set of products or business line).

When writing this report, we kept in mind both trends that the industry has identified as transformation focus areas and how the cloud can advance your journey.

Banking trends

AWS explores the global trends shaping how banks will use the cloud this year and beyond.

1. Customer experience

Drive a hyper-personalized experience with data and machine learning

2. Lending

Modernize lending capabilities to improve margins and further engage with customers

3. Treasury servicing

Improve small and medium business (SMB) customer experience with digitally enabled processes and build personalized treasury servicing options

4. Collections

Optimize collections with digital technologies to better predict the likelihood of default and engage with customers

5. Financial crimes

Prevent financial crimes and reduce false positives across customer touch points and transactions

6. Ecosystem-based banking

Extend banking capabilities with banking-as-a-service (BaaS) and ecosystem-based banking to provide contextualized offerings to consumers

7. Cyber event recovery

Reduce surface and radius of attack plane and help banks mitigate risk and recover quickly

Trend 1

Customer experience

Over the past year, the banking industry continued to see accelerated changes in customer expectations, with customers moving to digital channels faster than they have in the past. A recent study from ABA[1] reported that 72 percent of bank customers use digital channels for banking, with 45 percent citing mobile banking as their top choice, followed by 23 percent choosing online banking.

Recent research by McKinsey[2] suggests that successful customer experience (CX) transformations can generate a 20-to-30 percent increase in customer satisfaction, a 10-to-20 percent improvement in employee satisfaction, and economic gains ranging from 20-to-50 percent of the cost base addressed in customer journeys. Banks we work with are focused on getting their CX transformation right by developing capabilities that provide their customers with a high quality omnichannel experience, including digital self-service and personalized recommendations.

How banks are transforming customer experience

There are many use cases that enhance CX in banking across customer onboarding, lending, transactions, and payments. We see our banking customers focusing on three areas:

Predicting customer needs

Innovation in customer service

Integrated financial solutions

CX transformations can lead to:

20-30%
increase in customer satisfaction[2]

10-20%
improvement in employee satisfaction[2]

20-50%
economic gains of cost base of customer journey[2]

1. ABA, "ABA survey: Mobile remains top consumer choice for banking."
2. McKinsey & Company, "What matters in customer-experience transformations."

Predicting customer needs

Customers continue to expect their banks to understand their specific situation and provide them with personalized offers at their point of need. A recent survey by Salesforce[3] found that two-thirds of today's customers expect their financial institution to understand their unique needs and expectations, and over half (52 percent) always expect offers to be personalized.

Banks often rely on brand or relationship surveys and close-the-loop customer feedback through post-transaction surveys to track CX. They base strategic decisions on survey feedback. However, these measures have limitations. They are lagging indicators and represent a fraction of the customers and information available to banks.

To better predict customer needs, banks are combining their internal customer datasets gathered through multiple channels with external datasets procured directly from third-party providers or data exchanges. Banks further analyze the combined data to develop a deeper understanding of customer signals, track customer behaviors, and map customer journeys. These customer insights are helping banks optimize product offerings, increase revenue, lower their cost to serve, and reduce customer churn. By obtaining customer consent to generate personalized offers and targeting those offers to them, banks are building more trusted relationships with their customers. In doing so, they are making these relationships stronger and longer-lasting.

Innovation in customer service

Banks are continuously innovating to enhance the customer service experience across multiple channels. These include voice recognition to seamlessly authenticate customers, smart chatbots for agentless inquiry resolution, real-time sentiment analysis of calls, a callback option to avoid long wait times, and automated self-service solutions for routine calls.

Regardless of the channels their customers choose, banks are focused on retaining the context of their customers' needs by unlocking data and insights across channels and delivering a complete view of all interactions to customer service agents. This enables banks to create a more complete picture of the customer and better train their service center staff to meet and understand customer needs. For example, National Australia Bank (NAB), one of the largest financial institutions in Australia, illustrates the powerful impact of this approach. NAB used a cloud contact center and artificial intelligence (AI) and machine learning (ML) capabilities to create an omnichannel experience platform. This includes a customer service-oriented brand voice and smart interactive voice response (IVR) that resulted in an improved customer net promoter score (NPS), a 30-to-50 percent cost savings, 95 percent customer use of self-service for telephone banking, and an 80-to-90 percent reduction in time to resolve incidents.

3. Salesforce "What Are Customer Expectations, and How Have They Changed?"

Integrated financial solutions

Instead of accessing standalone services from traditional banking institutions, customers increasingly prefer the convenience of using payments, lending, insurance, and other financial services embedded in their day-to-day journeys. Major brands like Starbucks, Uber, and Grab are all using different types of embedded financial services to drive innovation and customer retention. Banking customers view this as an opportunity to attract additional customers through brand outreach. Through that outreach, banking customers can grow channel partnerships, reinvent their core business, build new growth engines, and offer more interoperable products and services.

Similarly, banks are partnering with fintech firms to provide a platform with customizable embedded financial products to ecosystem partners (i.e., retailers, telecommunications companies, marketplaces, and platforms). Banks are also building their own technology layer and providing embedded finance to ecosystem partners by themselves (i.e., with solutions such as installment financing at point of sale). These solutions enable banks to gain visibility into customer spending patterns, which they can use to innovate the way they develop customer insights and design CX.

Banks are externalizing their processes and workflows to allow ecosystem partners that deliver embedded finance products to seamlessly integrate into their journeys or platforms and provide third-party developers with self-service access and well-documented APIs. APIs connect banks with these ecosystem partners and their customers, enabling ecosystem partners to offer products such as deposits, money market accounts, and lending.

How AWS helps transform customer experience

Banks are using the cloud and digital capabilities to gain a more holistic understanding of their customers and transform CX. These capabilities enable banks to:

Generate a 360-degree view of the customer

The cloud enables large, disparate datasets sourced from different technology platforms or partners to be processed and analyzed quickly and efficiently. To create a 360-degree view of their customers, banks are building enterprise data platforms in the cloud to ingest, consolidate, analyze, and retain all their data.

Gain better insights

Banks are using AI/ML technologies to run advanced analytics, develop predictive insights, and deliver real-time opportunities to critical stakeholders. By running in the cloud, they can run large data sets across multiple scenarios in a scalable, more affordable, and secure manner.

Redefine customer relationships

Banks can use cloud technology's capacity and data-processing power to understand customers' needs, wants, and preferences. Using cloud-enabled AI/ML, including pre-trained ML models, they can extract information and insights from documents, files, images, and videos, generate real-time sentiment analysis, and build applications that can deliver personalization experiences, including product recommendations and customized direct marketing.

Innovate faster

Cloud technology helps compress time to innovation and, ultimately, time to value by facilitating rapid development, testing, and deployment to produce new ideas and customer propositions. A bank can load customer data into a cloud-based solution and quickly test how a new product, service, or tool performs. Using cloud, banks can now achieve this in days instead of months.

Provide 'better together' embedded financial services

Banks are leveraging cloud capabilities for their embedded finance solutions to allow them to dynamically scale APIs up and down so that banks do not become bottlenecks for embedded finance ecosystem partners. This also helps banks to align costs to business demand.

As banks continue to modernize customer experience, using the cloud and digital capabilities enables them to experiment in a cost-efficient, agile, and flexible manner. This, in turn, helps them to quickly adapt and respond to the evolving industry landscape and their customers' changing needs.

Trend 2
Lending

Buy-now-pay-later (BNPL) lending innovation has driven new business models and asset growth in banking over the last three years. It is small and medium-size enterprises (SMEs) and secured lending markets, however, that will account for most investment spending in lending for the rest of the decade. The global digital lending platform market was valued at $5.9 billion in 2021.[4] As lenders look for ways to complete the digitization of lending processes to meet customers' increasing expectations, driven in part by digital native lenders, analysis suggests this spending to grow at a compound annual growth rate (CAGR) of over 25 percent from 2022 to 2030.

Customers' expectations about the range of services they can use have changed rapidly in the last few years. As a result, many banks have partially switched to digital technologies to help customers track their loan applications, access account information, and make and receive payments.

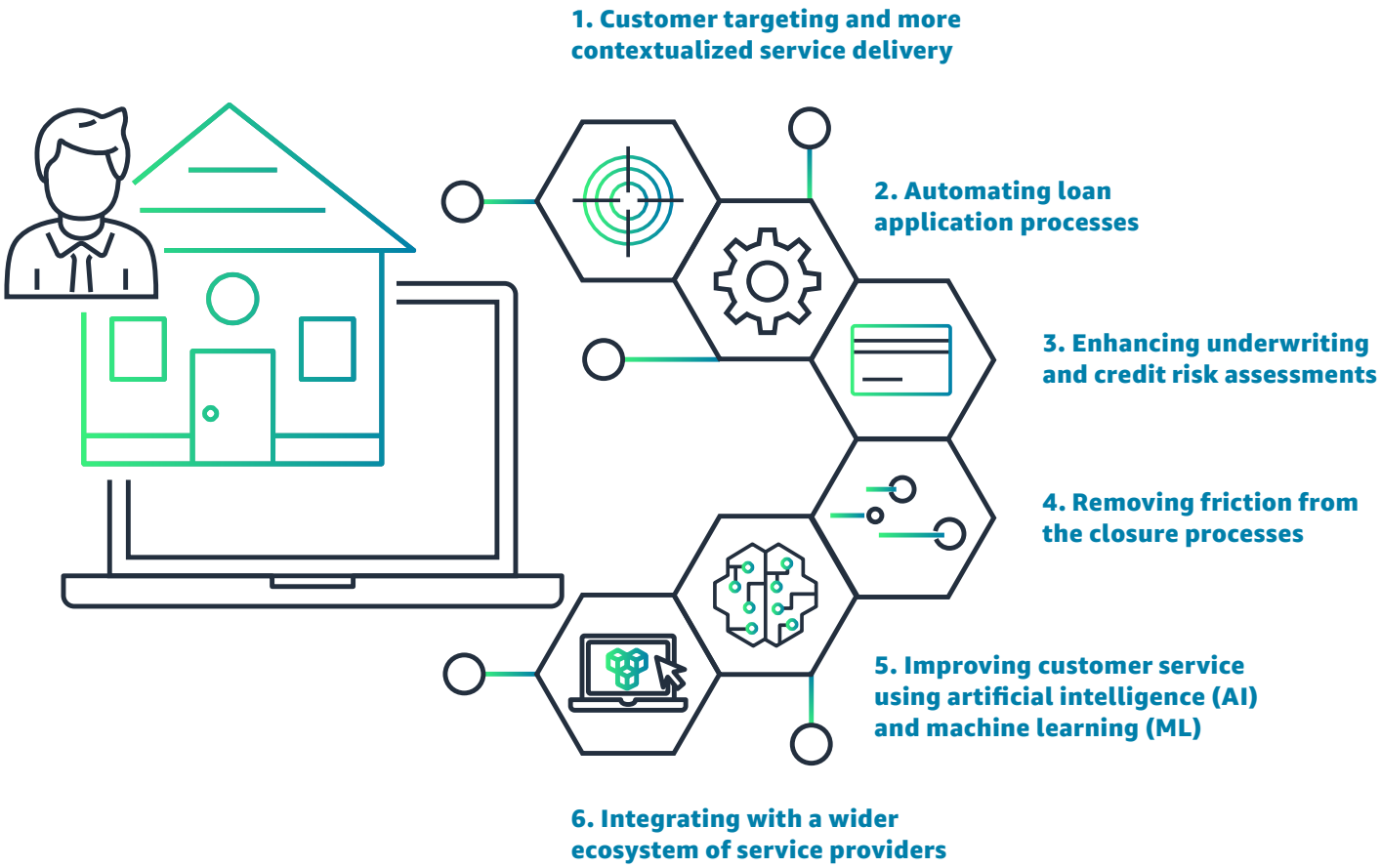
However, certain parts of the lending process are still done manually, such as underwriting and closing. To address this, banks are investing in modernizing these processes using data, including from open banking sources, to help identify and better understand customer needs and assess credit risk. As mentioned earlier, the 20-to-50 percent economic gains to the cost base of customer journeys identified by McKinsey[5] is equally applicable to the lending journey. This is leading to increased innovation and shifts in market share to those lenders who better meet customer needs.

Whereas, previously borrowers had to actively engage with lenders to start the loan application process, many lenders can now use machine learning to proactively identify and target borrowers and personalizing the borrowing experience. They can also more accurately manage credit risk through second-generation credit scorecards and automated decision-making engines, enabling lenders to more consistently identify sources of fraud.

4. Grand View Research, "Digital Lending Platform Market Size Report, 2023 - 2030."
5. McKinsey & Company, "What matters in customer-experience transformations."

How banks are transforming lending

Although organizations can focus on many aspects of the customer journey, in our experience customers are currently concentrating on six specific areas:



1. Customer targeting and more contextualized service delivery

Lenders are innovating on behalf of their customers, becoming more agile and data-driven. With mortgages, they can identify when customers are searching for a new home using third-party datasets and engage them to help facilitate the dream of owning a home. Proactive engagement this early in the process—with pre-approval offers and an omnichannel customer experience that integrates digital, call-center, branch, and third-party (broker) channels—means that service and convenience become factors in decision-making, not just the interest rate.

2. Automating loan application processes

Digital loan application processes are simpler for the customer, and because they are scalable, they can reduce operational costs for lenders. By deploying identity verification solutions, including Know Your Customer (KYC), customer onboarding and compliance processes become automated as integrated guardrails to the process, thereby reducing costs, risk, and fraud. Applications can be digitally processed using cloud-based ML tools that extract data from documents (both structured and unstructured) and route it to underwriters based on indicative risk assessments and automated decision-making algorithms.

3. Enhancing underwriting and credit risk assessments

Banks are using AI/ML to augment underwriting decision-making and reduce or remove repetitive administrative tasks performed by underwriters. Lenders are enhancing decision-making with alternative datasets, including those available through open banking standards. This enables them to make more informed decisions, both at the point of approval and, increasingly, to assess credit risk through the life of the loan, as the borrower's situation changes.

4. Removing friction from the closure processes

Lenders use natural language processing (NLP) and optical character recognition (OCR) services to perform quality assurance during closing to remove errors in document packaging, enable electronic signing methods, and, where necessary, capture "wet ink" signatures. Through APIs, lenders are integrating with third parties to improve customer experience and reduce costs.

5. Improving customer service

AI/ML is used in loan servicing to streamline operational processes and increase automation through online customer portals and chatbots in call centers. AI/ML is also used to understand customer behavior patterns across different servicing channels to improve experience and reduce costs.

6. Integrating with a wider ecosystem of service providers

Digital technology makes it easier for lenders to remain connected with customers throughout the lifecycle of the loan and integrate mortgages into the broader customer relationship, such that deposit builder products can be linked to loan applications. Additionally, home search, insurance, and legal/notary or real estate services can be seamlessly offered through trusted third-party ecosystems.

How AWS helps transform lending

Banks are using the cloud and digital capabilities to change the way that they do business. The cloud makes it easier to build solutions that use data to develop a more holistic understanding of customers and use this insight to transform those customers' experience.

For example, banks are using advanced analytics and AI/ML tools to automate repetitive manual tasks, reducing costs and removing errors in origination and servicing. PennyMac, a leading US mortgage lender and servicer, used AWS to process a 3,000-page mortgage application in less than 5 minutes. Previously, PennyMac's mortgage document processing required several hours of reviewing and preparing for loan package approval. Cloud enables lenders to develop AI/ML capabilities and gain economies of scope applying common models across their organization for similar processes and tasks. Cloud also makes it easier for lenders to match costs to the cyclical nature of new business volumes so that they are not left with unused capacity at the bottom of the cycle or constrained by capacity at the top.

Banks are using AWS data lake house architectures to develop 360-degree views of their customers by integrating third-party datasets. This holistic approach to customer data, alongside AI/ML, is helping underwriters make better credit risk decisions by using more data and advanced modeling techniques. Cloud technology makes it easier to create data lakes and simplifies many aspects of data wrangling from a variety of different sources, bringing analytical data tools and governance to business users. For example, OakNorth Bank, a UK-based fintech lender, uses AI/ML to modernize SME lending in the UK through its banking operations. OakNorth has created a product from this capability and offers its ONI platform for third-party banks and lenders to consume and modernize SME lending operations.

Banks are using APIs to build flexible microservice-based architectures on AWS that integrate with partners to create richer customer-orientated service ecosystems. This helps banks to build trust, so that lending relationships are expanded to provide customers with a full suite of capabilities to help increase loyalty and support business growth. Cloud-based APIs are also better integrated with services such as security and authentication, helping developers to be more productive. For example, Snapdocs, a US-based real estate technology company, has shortened the mortgage closing process from 1-to-2 hours to 15 minutes. AWS is a key enabler of digital change. Feature-rich, flexible, and adaptable, it helps organizations become more innovative, agile, and data-driven.

Trend 3

Treasury servicing

Small and medium-sized businesses (SMBs) are a growth segment for banks today, with the US SMB lending market valued at $700 billion[6], while the International Finance Corporation (IFC) estimates 40 percent of SMBs in developing countries have unmet financing needs of $5.2 trillion annually[7]. SMBs expect a high quality digital customer experience when engaging with their banks, including streamlined automated processes, a real-time view of cash positions, and efficient payment solutions. In response, as banks increasingly focus on SMB customers, digitization is high on the agenda. In a recent study, 67 percent of SMBs surveyed indicate they are likely to switch providers if their bank cannot provide better digital capabilities[8].

However, without more modern technology, it is difficult for banks to deliver on customer expectations. Customer onboarding and paper-based processes that require automation and duplicate documentation (e.g., invoicing, "wet ink" signatures) become tedious. And a lack of integration between treasury management and enterprise resource planning (ERP) systems offers minimal real-time insights for relationship managers dealing with prospective clients. According to Citi[9], 72 percent of treasury respondents have digitization and automation among their goals, and nearly one in two respondents expect digitization to be the main catalyst for change in treasury management over the coming years.

Banks now have an opportunity to transform treasury management and use data to report and better predict cash flows, offer better pricing, and build innovative products—all while revamping their digital channels and improving their customers' experience. Research from BCG[10] suggests that digitization can reduce treasury operating costs by an average of 20-to-30 percent and increase average net interest income (NII) contributions by 10-to-15 percent. Even though this transformation can be a complex multi-year journey, many banks are defining quick wins and setting up a clear roadmap for longer term success.

SMB financing needs:

40%

of SMBs in developing countries have unmet financing needs of $5.2 trillion annually[7]

67%

are likely to move from providers who cannot provide digital capabilities[8]

6. The Financial Brand, "Small Business, Big Opportunity."
7. The World Bank, "Small and Medium Enterprises (SMEs) Finance."
8. Marqueta, "SME Banking: Business banking done differently."
9. Citi, "Treasury Digitization - Market Perspectives."
10. BCG, "Creating a Digital Treasury in Banking."

How banks are transforming treasury servicing

Our banking customers are focusing on the following four priority areas as they transform their treasury services.

Digital onboarding

Key pain points that treasury clients face during onboarding include long onboarding times, lack of process transparency, paper-based and duplicate documentation, and manual processes. According to McKinsey[11] the average onboarding process for a corporate customer can be three months or more depending on location and the number and complexity of the products involved. A major drawback to long onboarding is delayed revenue generation from these clients. In response, our banking customers have started digitizing their onboarding process. For example, BBVA is using Fenergo to streamline onboarding time and build a single customer view with a centralized entity data store, develop a global customer due diligence rules engine, implement sophisticated onboarding workflows, and integrate these with existing solutions, such as Swift.

Customer servicing

Banks we work with are modernizing SMB customer service. That means moving away from traditional service centers and human interaction and toward offering communication channels similar to retail customer capabilities. This includes digital messaging, 24/7 access to relationship managers, and self-service portals with mobile apps and digital file exchanges. For complex issues, customers have the option to access assisted or in-person channels.

Treasury API ecosystem and partnerships

SMBs want fast and simple interactions between the solutions they use to run their businesses, such as their ERP platforms, and their banking services. To do this, banks are using APIs to integrate treasury management, payments, and customer service. One example is the American Express (AmEx) virtual card, a joint effort between Goldman Sachs Transaction Banking and AmEx. Used for non-card payments (e.g., ACH, wire, check, foreign exchange) between buyers and suppliers, it provides an integrated payment solution that acts as a one-stop shop.

Cash management

Cash visibility and forecasting play important roles in SMB management, but many SMBs still rely on manual, repetitive workflows to forecast their cash needs. The banks we work with are developing solutions using artificial intelligence (AI) and machine learning (ML) to provide customers with tools that more accurately predict future cash flows. Some banks are developing these tools in-house while others rely on fintechs like Kyriba and Modern Treasury to provide those capabilities. For example, a Canadian bank is modernizing cash management with fintech that allows treasury customers to view their cash flow and request cash transactions via digital portals. These modern tools use both internal and external data sources to run advanced analytics for comprehensive cash flow insights, enabling customers to better forecast cash flow outlook, conduct scenario analysis, and make strategic data-based decisions.

11. McKinsey & Company "Winning corporate clients with great onboarding."

How AWS helps transform treasury servicing

Banks are implementing cloud-based technology to scale and meet the growing demands of treasury customers while keeping up with innovation and speed to market. Some ways they are doing this include the following:

Engaging customers digitally

Banks are investing in secure digital communication channels, such as chatbots, portals, and mobile apps as a means for SMBs to interact with them. Many banks build these digital channels on AWS and use our pre-built ML models to assess sentiment or caller intent. High availability and scalability enables them to address the seasonality in customer behavior. For example, AU Small Finance Bank built a video banking plug-in in its mobile app to engage bankers 24/7. Banks are also utilizing the cloud to create customer analytics by storing customer data, channel interactions, and industry information in data hubs. This allows for real-time personalization offerings that are readily available to customers when and where they are needed.

Dynamic scalability

Due to the episodic nature of business operations (e.g., bi-weekly/monthly payroll, 30-day accounts payable), banks are using cloud technology to build scalable APIs that integrate with their customers' ERP systems and ensure customer demands are met, even during peak times. This enables them to dynamically scale up and down to match customer demand rather than purchasing technology to meet the maximum throughput requirements or throttle access.

Fintech partnerships

Most fintech firms use cloud development, scalability, and advanced analytics solutions to build their offerings. Banks partner with many of those companies to offer a broad array of value-added services. By using the cloud, banks can integrate with these partners through private connections, removing the need for dedicated lines or public channels. Japan's SBI Sumishin Net Bank offers these API functions, along with a private connection (AWS Private Link) to avoid data flow through public channels. This helped reduce the bank's total cost of ownership (TCO) by more than 80% over 5 years.

Data products

Many banks have built customer data lakes in the cloud to get a consolidated view of their customer transactions. Banks can innovate on behalf of their SMB customers to access insights easily without the need to build a big data analytics team. Using cloud-based data analytics tools, banks can quickly access and analyze cash transactions for SMB customers. Some are now building value-added offerings on their data lakes—such as self-service portals and on-demand, pre-built analytics—so that SMBs receive insights for cash planning. One AWS customer is building an insight-as-a-service offering so that customers can access and run data analytics and draw insights for their cash forecasting.

Digitized document processing

Banks are employing optical character recognition and natural language processing to quickly process large quantities of documents. This expedites processes such as onboarding, credit decision-making, and analysis of invoicing for accounts receivable and accounts payable. With this technology, banks can gain actionable insights, like offering early payment discounts. By using these capabilities on the cloud, banks are not only getting dynamic scalability, but they are also using purpose-built AI/ML capabilities. Tools such as Amazon Textract enable them to use AWS AI/ML capabilities, eliminating the need to build solutions themselves.

Banks are transforming how they manage their treasury services. They view digitized customer experience, developing the API ecosystem, and enhanced cash forecasting as key capabilities. Banks understand that these shifts enable their SMB customers to provide better experiences and insights to their corporate treasury services.

Trend 4
Collections

Digital technology is bringing greater access to data, advanced analysis techniques, automation tools, and omnichannel customer service that can deliver value to customers and lenders alike. The banks and lenders innovating in the collections and recoveries space are generating a competitive advantage in terms of reducing costs and credit losses and building customer loyalty. In fact, McKinsey[12] estimates that digital collections can lead to a 20-to-26 percent reduction in non-performing loans (NPLs), reduce collections costs by 15 percent, and increase customer engagement up to five times.

How banks are transforming collections

Banks are using digital technologies to address a wide range of business use cases in their customers' lending journeys—from proactive customer targeting and hyper-personalization to process automation and compliance management. The better use of data, from both inside and outside their organizations, is enabling innovation and more accurate decision-making. Digital technology is increasing operational agility and improving levels of customer service across all channels. These same trends can be seen in collections and recoveries, specifically:

Customer-centric collections

Lenders are using investments in omnichannel customer service infrastructure from elsewhere in their business to develop personalized collections communication strategies based on customers' historic behaviors and preferences. This ensures that compliance is built into the processes they enable. Better understanding of customer behavior preferences helps lenders develop tailored payment options and repayment plans. It also allows lenders to recommend to agents preferred communication strategies for building customer trust and loyalty.

Digital collections can lead to:

20–50%
reduction in nonperforming loans[12]

15%
reduction in collections costs[12]

5X
increase in customer engagement[12]

12. McKinsey & Company, "Holistic customer assistance through digital-first collections."

Data and analytics

Traditional collection and recovery processes have relied on the heuristic skills and instincts of collections agents that build over time. The increased availability of data and access to analytics and machine learning means that lenders can supplement these capabilities with technology to identify potential defaulters. These alerts help agents proactively contact borrowers to offer credit counseling and restructuring plans.

Automation of repetitive processes

Like elsewhere in the lending lifecycle, banks are deploying optical character recognition and natural language processing technology to automate repetitive and low-value tasks that are frequently manual and error-prone. This has the potential not only to reduce costs but also provide highly skilled employees with the capacity to work on higher-value activities and with customers who require more personal support and care.

Credit risk portfolio management

Lenders are using artificial intelligence (AI) and machine learning (ML) and alternative datasets to better understand risk and high-performance computing (HPC) to run and analyze more scenarios for regulatory reporting and internal planning. More granular data, more complex scenario modeling, and faster, more adaptive infrastructure can reduce the cost of experimentation and lead to more optimized use of regulatory capital.

How AWS helps transform collections

Banks are using the cloud and digital capabilities to build data-driven solutions that are agile and adaptive. This allows them to manage customer relationships more effectively so that customers are better served and reduce the overall cost of service through a loan's lifetime.

Omnichannel customer engagement frameworks that link digital call centers with branch and online sales and servicing can be used for deploying collections and recovery strategies. Cloud-based data lakehouse architectures can not only be utilized to create a comprehensive 360-degree view of customers enriched with external data sources, but they can also provide insights into delinquency patterns and behaviors.

Building solutions in the cloud enables organizations to quickly build adaptive solutions that meet the needs of business use cases. Cloud-based solutions give lenders the ability to scale up and down to meet customer servicing demand without carrying the costs associated with unused capacity. Lenders can develop contact strategies that minimize the need for outbound call center calls. They can also adopt tailored communication methods that better engage customers, providing them with relevant data and resources to enhance their credit status and cut down account management expenses.

Integrating collections data sets extends these capabilities. Additionally, the development of predictive customer behavior algorithms extends both risk and customer service workloads already being managed in the cloud.

By building on the cloud, lenders can leverage managed ML services that make it easier to build, train, and deploy models quickly and decrease the cost of experimentation and innovation. Data scientists can focus their attention on building solutions rather than on provisioning infrastructure to support it. For example, Fannie Mae is using ML to predict which loans might run into repayment trouble within two years of acquisition. By using ML, Fannie Mae saw its "catch rate" (advance identification) increase from 3.5 percent to 48 percent, leading to improved risk management and early mitigation on higher-risk loans.

Risk functions in many banks are already using advanced data and analytical tools to more accurately assess and price for credit risk with an expanding range of alternative data sources. These data sources are ingested directly into scalable data lakes and powered by cost-effective, scalable, and high-performance computing grids that speed up scenario testing and regulatory reporting capabilities.

For episodic and periodic analytical workloads, the cloud can provide scalable solutions that do not leave lenders with the cost of technology when it is not used. Scalability can also mean running workloads in parallel rather than waiting for restricted capacity to become available. This can lead to faster development times and/or running more scenarios to optimize models. For example, Société Générale is transforming its credit risk analysis by building credit risk calculators that it can access via APIs so that it can use several different development languages and big data solutions. This has reduced new model development times by 20 percent and significantly reduced operating costs.

Improved performance in collections and recoveries helps lenders make better credit underwriting decisions and more effectively manage portfolio credit risk through behavioral insights about borrowers. AWS supports innovation and process improvements so that business stakeholders can make better decisions and continuously build operational capabilities that are adaptive to change, whether they are internal or responses to market factors. Building with agile technology reduces implementation risks and leads to clearer paths for achieving the business value organizations set out to deliver more reliably.

Trend 5

Financial crimes

Digital transformation of banking and payments is accelerating, and combined with the sustained growth in digital interactions by customers, has led to an increase of digital payment methods. Statista[13] reports that the total transaction value of digital payments is projected to reach $9.47 trillion in 2023. With an annual growth rate of 11.79 percent, this is predicted to reach $14.79 trillion in 2027.

Unfortunately, such growth comes with its own challenges—specifically, an increase in malicious and fraudulent attacks. A 2022 Federal Trade Commission report[14] indicates that consumers lost more than $5.8 billion to fraud in 2021, an increase of 70 percent over the previous year. According to McKinsey[15], online banking accounted for 33 percent of fraud costs in 2022 (up 26 percent year over year), and mobile transactions accounted for 29 percent (up 20 percent year over year). The same McKinsey study found that fraud attacks, including digital ID and Know Your Customer (KYC) fraud, are overloading banks—with many unable to meet online origination targets.

While banks have embraced sophisticated digitization and fraud-prevention methods, the fraud trajectories adopted by malicious players have also evolved. Fraud attempts today can be more frequent and rapid, and may use complex evasion methods. To counter the fraud landscape, banks we work with are continuing to invest in building robust methods for digital customer onboarding and authentication. They are also performing KYC checks, monitoring customer transactions in real time, and enhancing their regulatory compliance.

Fraudulent attacks on the rise:

70%

increase in consumer fraud loss in 2021 from previous year[14]

26%

increase in fraud cost from online banking[15]

20%

increase in fraud cost from mobile banking[15]

40%

increase in digital ID and KYC fraud[15]

13. Statista, "Digital Payments - Worldwide."
14. Federal Trade Commission, "Consumer Sentinel Network Data Book 2021."
15. McKinsey & Company, "New Approach to Fighting Fraud."

How banks are transforming their approach to preventing financial crimes

Although organizations can focus on many ways to prevent financial crimes, our banking customers are currently concentrating on three specific areas:

Account onboarding and takeover fraud prevention

Digital onboarding has become a fundamental expectation today as banks focus on allowing consumers to onboard and transact digitally, regardless of product or line of business, such as retail or small and medium business (SMB). For this reason, banks are investing in fraud detection solutions using artificial intelligence (AI) and machine learning (ML) to validate customers in real time while allowing them to digitally submit documents and signatures. Banks are building real-time data capabilities to analyze biometric information, such as typing speed and fingerprints, as well as other authentication methods, such as geolocation and credentials, to detect and prevent account takeover fraud, going beyond challenge questions and one-time passwords (OTP). Biometric data analysis helps prevent fraud while improving customer experience (CX) by using the customer's intrinsic patterns to identify them, much like how Voice ID ("my voice is my password") is used as authentication in call centers.

For instance, Banco de Bogota, the second largest bank in Colombia, uses cloud technology to build a suite of validators using biometrics and ML to detect fraud at various onboarding checkpoints. As a result, it has seen a 97 percent reduction in spoofing attempts on its digital channels, which increased its customer conversion rate by 10%.

Customer transaction fraud prevention and false positives

Real-time payments and transfers doubled in 2022[16], and banks are enhancing their transaction fraud-detection mechanisms to monitor fraud without impacting CX. However, banks have historically used rules-based alerts, which are based on predetermined patterns, such as rapid fund movements and multiple transaction attempts at a new location or retailer. While rules-based alerts can help banks identify possible fraud, this approach is also creating some challenges, such as higher rate of false positives, greater customer friction, and possible revenue loss for a denied genuine transaction. A recent study in Merchant Fraud Journal[17] found that two-thirds of declined customer transactions are false positives.

To address this, banks are using AI/ML and data analytics services at scale to achieve higher fraud detection while reducing false positives. An MIT study[18] shows a 54 percent reduction in false positives when using ML models compared with traditional models for credit card transactions. For example, when Capital One built ML-based fraud models, it realized significant improvements in false positive reduction while becoming nimble in transaction fraud monitoring by accessing and analyzing large internal and external datasets of various formats in real-time decision-making. Capital One also uses ML on post-transaction analysis to educate and inform customers on potential fraud, such as generating alerts for unusual transactions, such as big tips, new retailers, or duplicates.

Anti-money laundering and transaction monitoring

In our interconnected financial system, where cross-border transactions and payments are expected to grow to $250 trillion by 2027[19], many banks still rely on manual processes and legacy models for rating customer risk, KYC, and transaction monitoring. The banks we are working with are modernizing their systems by building scalable and dynamic customer data repositories in the cloud, giving insights on attributes like ownership, product, channel, geography, and transactions. For instance, BBVA bank uses Fenergo to build a centralized party store of client data and documentation, including a regulatory rules engine covering its global customer due diligence policies.

Additionally, banks are exploring the use of ML techniques, such as neural networks, to enhance the effectiveness of their anti-money laundering (AML) models and capture network effects, such as hidden entity relations and interconnected transactions that typically get ignored by siloed AML models. For example, Mid-Size Bank Coalition of America (MBCA) used AWS and End-to-End by Accenture to develop a shared data analytics platform, processing terabytes of account, transaction, government risk data, and using advanced analytics to collect information and enforce AML regulations.

16. PYMNTS, "Real-Time Payments Expected to Double in 2022."
17. Merchant Fraud Journal, "E-commerce False Declines: How to Stop Turning Away Good Customers."
18. MIT News, "Reducing false positives in credit card fraud detection."
19. Global Banking & Finance Review, "Cross-Border Payments Trends in 2023."

How AWS transforms the fight against financial crimes

Monitoring financial crimes requires access to large and diverse sets of data and the ability to run on-demand or real-time analytics. Financial crimes and compliance departments at banks are using cloud-based technology to meet these demands and manage emerging fraud patterns.

Some of these cloud-based solutions include:

Real-time data analytics

Most banks are enabling end-to-end digital onboarding of customers, thus helping them achieve higher customer conversion rates as they deploy real-time analytics in the cloud, giving them the ability to use unstructured data such as biometrics, facial images, and documents and structured data, and making authentication and customer identification seamless. With AWS, banks can take advantage of pre-built AI/ML models, such as those for facial recognition or optical character recognition rather than having to invest in data scientists to build these base-level capabilities on premises. Additionally, using the AWS pay-as-you-go model allows banks to adjust for seasonal customer acquisition or transaction spikes without worrying about scalability and availability.

Seamless access to industry data

Banks rely on industry data sources for customer due diligence, such as entity ownerships, Office of Foreign Assets Control (OFAC), Politically Exposed Persons (PEP), and sanction checks. Traditionally, access to these sources has been through FTP file transfers or similar processes. However, through cloud-based data exchanges, such as AWS Data Exchange (ADX), banks can streamline the ingestion of these datasets. Using this service, they can subscribe to these data sources, seamlessly pull and access this data on demand, and better manage a continuously evolving dataset.

ML deployment at scale

Banks are relying on rules-based transaction monitoring patterns, but with modern fraudsters relying on sophisticated technology, rules rapidly become stale and might not successfully prevent fraud. To counter this, banks are using cloud-based ML that can scale to accommodate and detect unknown spikes or trends in financial transactions and generate alerts for review. As these models are compute intensive, banks are using the cloud to deploy ML features such as Deep Graph Library (DGL) to train neural network models to detect malicious transaction patterns. For instance, Transaction Monitoring Netherlands (TMNL)—a joint venture among five large banks in the Netherlands—is building a scalable transaction analytics platform to analyze a significantly large number of business payments for seemingly unusual transactions.

The fight against financial crime requires a sustained effort to stay ahead of fraudsters and enhance regulatory compliance. Cloud-based technology has been a critical enabler in transforming this fight, allowing banks to take advantage of enhanced intelligence and automation to more efficiently and rapidly detect, prevent, and respond to fraud and money laundering. Not only have these efforts improved security and compliance, but they have also resulted in increased customer satisfaction and trust. As cloud-based technology continues to evolve and provide greater insights and use cases, the ability to detect and prevent fraud and money laundering will only become more sophisticated, creating a safer and more secure financial environment for everyone.

Trend 6

Ecosystem-based banking

Banks are accelerating the development of their strategies and solutions to deliver banking-as-a-service (BaaS) and ecosystem banking capabilities to their customers and partners. This focus aligns with industry analysts' expectations of a $2 trillion market by 2028, an increase of 26.3 percent for BaaS according to Verified Market Research[20], and a $7 trillion market[21] for embedded finance in the next 10 years. Therefore, it is no surprise that 23 percent of the executives surveyed by Celent[22] cited pursuing an ecosystem approach to growth as their most urgent priority in 2023.

How banks are transforming ecosystem-based banking

We identified two models that banks are employing to enable ecosystem-based banking:

- A marketplace, or ecosystem, approach for their customers
- A BaaS capability that is enabling banks to embed banking into third-party value chains

Marketplace

Banks are working with partners to adopt an ecosystem approach to providing value-added and contextualized services to their customers, such as enterprise resource planning (ERP) integrations or personal financial management (PFM) solutions. In doing so, they are making the banking relationship far stronger than if they offered just a cash management account— embedding themselves into their customers' life or business operations.

As expected, the approaches banks take differ between individual and small and medium business (SMB) customers. For example, they may provide integrated PFM solutions for retail customers, offer small business industry solutions to small businesses, and provide restaurant merchants with software to support online orders and card acceptance. For example, TNEX, a digital-only bank based in Vietnam, used AWS to reduce its time to market and establish a merchant marketplace in six months. It also launched its SMB and consumer bank in 10 months.

Banking-as-a-Service acceleration:

$2 trillion

dollar estimated BaaS market by 2028[20]

23%

of executives say an ecosystem approach to growth is an urgent priority[22]

20. Verified Market Research, "Banking-as-a-Service (BaaS) Market Size And Forecast."
21. PYMNTS, "Next-Gen Commercial Banking."
22. Celent, "TECHNOLOGY TRENDS PREVISORY: RETAIL BANKING, 2023 EDITION."

We also see this model being adopted by banks such as Starling and DBS, which use fintech to build capabilities that use the bank's APIs. Alternatively, other banks have created direct partnerships where they provide a curated marketplace of SaaS offerings to their customers. McKinsey[23] states that those starting a small business today might not even interact with a bank directly. Rather, they may work through their ERP or ecommerce solution to open an account, manage payroll, obtain credit, and pay suppliers.

BaaS

Gartner[24] predicts that BaaS will become mainstream within two years, with 30 percent of banks accumulating over $1 billion in assets and launching BaaS capabilities by 2024. However, BaaS is a broad model, and in our experience, banks are taking the following approaches to capture market share.

- **Providing a single service**, such as Know Your Customer's Customer (KYCC), where banks are exposing their Office of Foreign Assets Control (OFAC) or other regulator or statutory checks to simplify partner onboarding.
- **Providing banking capabilities**, with or without a banking license, that can be consumed through APIs, allowing them to create bank accounts and provide lending. One example is the model adopted by Solaris and Standard Charter Bank's nexus BaaS offering.
- **Extending the banking capability model** to a fully managed services offering that lets any organization set up a banking service to support their brand or customer franchise, complete with a call center and risk and compliance solutions.

As banks adopt these approaches, we have observed them shift from a project approach to a product approach for development, as their partners—the organizations consuming BaaS capabilities—expect increased responsiveness and adaptability in the offerings they use. Many banks are also assessing the establishment of multi-tenant capabilities to meet data separation requirements because they service multiple partners.

How AWS helps transform ecosystem-based banking

Regardless of business strategy, banks are establishing solutions that provide their banking services securely via microservices and a common platform. Additionally, open finance standards have driven banks to expand access to their platform and provide their APIs through a developer portal rather than individual partner integrations.

This open approach requires banks to build these platforms with high scalability and resilience because they encourage fintech firms and partners to build engaging customer experiences. As these new capabilities are built to address evolving needs, most banks we are working with are taking advantage of the cloud to drive speed to market, scalability, and adaptability into their offerings.

23. McKinsey & Company, "Embedded finance: Who will lead the next payments revolution?"
24. Gartner, "Gartner Says Banking-as-a-Service Will Hit Mainstream Adoption Within Two Years."

As banks develop these capabilities, the following considerations are important in providing successful offerings.

Developing a partner ecosystem

It is essential to use an ecosystem of partners to provide value-added services to customers and ensure that more than a bank account or credit line is provided. Cloud capabilities make this easier by enabling banks to integrate with fintech partners and build on the cloud through private connections. In this way, data does not need to go over the public internet, reducing integration costs, accelerating time to market, and securing data in transit.

For example, Japan's SBI Sumishin Net Bank uses AWS PrivateLink to securely connect fintech firms with financial institutions. By using this service, the bank saw cost savings of 80 percent compared with using dedicated lines, and it built the solution in one day versus three months.

Embedding AI/ML into decision processes

Banks are not stopping at the API layer. Those that have effectively scaled these capabilities, such as the case with embedded finance, have incorporated AI/ML into their decision processes to provide instantaneous responses to partners and customers. Using the cloud, banks can quickly deploy models, test and learn, facilitate real-time processing, offer new solutions to their partners, and dynamically scale to meet demand.

For example, fintech company Affirm uses artificial intelligence (AI) and machine learning (ML) capabilities to simplify the process of providing credit to its customers, and it uses the cloud's scalability to ensure that it can meet peak demand on major shopping days, such as Prime Day, while scaling down when demand is lower.

This approach is similar to how banks enabled the ATM when it was a new technology. Banks considered it more than just a channel. Rather, they modernized their systems to make the automated channel a reality.

Adopting cloud-native core banking solutions

Rather than trying to integrate offerings into legacy core banking solutions, adopting cloud-native solutions allows banks to be more responsive to their partners. This approach helps banks dynamically scale core operations, ensuring that costs match utilization and reducing time to market for new product offerings. Additionally, the composable architectures provided by our core banking partners simplify integration with banks' channel partners and the process of unlocking transactional data in real time to drive personalization and broader AI/ML efforts.

Modernizing API architecture

APIs for BaaS and ecosystems are essential because they allow banking products to be distributed to customers, businesses, and partners. The cloud helps customers quickly develop and test APIs and scale with business growth. APIs in the cloud are also better integrated with various services, including authentication, security, and continuous integration/continuous delivery (CI/CD) services, offering better out-of-the-box functionality.

There are multiple models for how banks are embracing an ecosystem-based approach to banking, driven by their business strategies and market dynamics. Although it is too early to know which model will be the most successful, building in a way that lets banks be adaptable and scale up or down quickly is critical to allowing them to experiment with these models and be responsive to their partner's needs. In contrast, locking up capital to purchase physical servers or integrating with legacy applications does not provide the flexibility required to meet the evolving market and consumer demands.

Trend 7

Cyber event recovery

Cyber threats are a growing risk to financial services organizations worldwide, and the trend is increasing. A cyber or cybersecurity threat, such as malware or ransomware, is a malicious act that seeks to damage or destroy data and aims to disrupt an organization's digital and operational capabilities. A Sophos[25] survey of 450 financial services executives from mid-sized companies around the world found that about 55 percent of those organizations were hit by ransomware in 2021, up from 34 percent in 2020. In a separate report on cyber threats in banks by VMmare[26], 74 percent of the surveyed executives said they had experienced one or more ransomware attacks, and 63 percent of them reported paying the ransom. The same survey reported that 63 percent of respondents acknowledged experiencing an increase in "destructive attacks" in which cybercriminals destroy the data they hold for ransom as well as evidence of their intrusion.

Many financial services organizations are in the midst of their digital transformation journeys. These shifts are mainly driven by the pandemic and expectations from their customers for a better personalized digital experience. These initiatives, along with increased sophistication from cybercriminals, are causing security teams in these organizations to increase expenditure on cybersecurity measures to better manage security risks. We are also seeing regulators take notice of the change in the cyber threat landscape. Consequently, they often require financial institutions to report cyber attacks as soon as they occur.

Digital transformation

The pandemic has accelerated the digital transformation of many financial services organizations, with digitalization efforts and cloud adoption combining to revolutionize operations and meet rising customer expectations. Many of these organizations rely on third-party vendors or SaaS providers to support them in their digitization journey. However, cybercriminals are becoming more sophisticated and finding new ways to target these third-party integrations for their own benefit. For example, an island-hopping attack entails undermining an organization's cyber defenses by attacking its vulnerable partner network rather than the organization itself. According to the VMware report, 60 percent of the financial institutions surveyed experienced a growth in island-hopping attacks, a 58 percent increase from 2022.

Risks from cyber threats are growing:

55%

of financial services organizations reported a ransomware incident in 2021[25]

63%

of financial services organizations surveyed experienced an increase in "destructive attacks"[26]

25. Sophos, "The State of Ransomware in Financial Services 2022."
26. VMware, "Modern Bank Heists 5.0: The Escalation from Dwell to Destruction."

Remote work

Flexible work options have forced many financial institutions to rapidly adopt new technologies to enable remote access, communication, and collaboration. However, hybrid workplace environments, which support employees working both remotely and onsite, necessitate more complex IT systems. This, in turn, has broadened the which has broadened the attack surface that cybercriminals can target in an organization. In addition to an increase in the use of devices to access production networks, we are also seeing increased "insider-threat" scenarios, where employees unexpectedly leak data or credentials due to negligence. According to a report by security risk management firm Kroll[27], insider threats peaked to its highest quarterly level in Q3 of 2022, accounting for nearly 35 percent of all unauthorized access threat incidents.

Increasingly sophisticated attacks

Similar to how financial organizations are using artificial intelligence (AI) and machine learning (ML) to provide faster and more seamless experiences to their customers, cybercriminals are also using advanced AI/ML techniques to increase the effectiveness of their attacks. For instance, AI-generated phishing emails have a higher chance of being opened than manually crafted ones. Another example involves sophisticated AI-powered malware that has a relatively low risk of detection as it collects and sends user data to a malicious actor.

Regulatory landscape

Regulators and industry organizations are responding to these threats by releasing more prescriptive and restrictive guidance to the financial services industry around data protection. In the US, a presidential executive order[28] added significant new cybersecurity regulatory requirements. In Hong Kong, the Hong Kong Monetary Authority (HKMA) and the Hong Kong Association of Banks (HKAB) now stipulate that organizations must have a Secure Tertiary Data Backup (STDB) to operate in the region. We are seeing similar trends across various countries and believe this will continue in the future. Consequently, organizations should plan approaches to meet these evolving regulatory requirements.

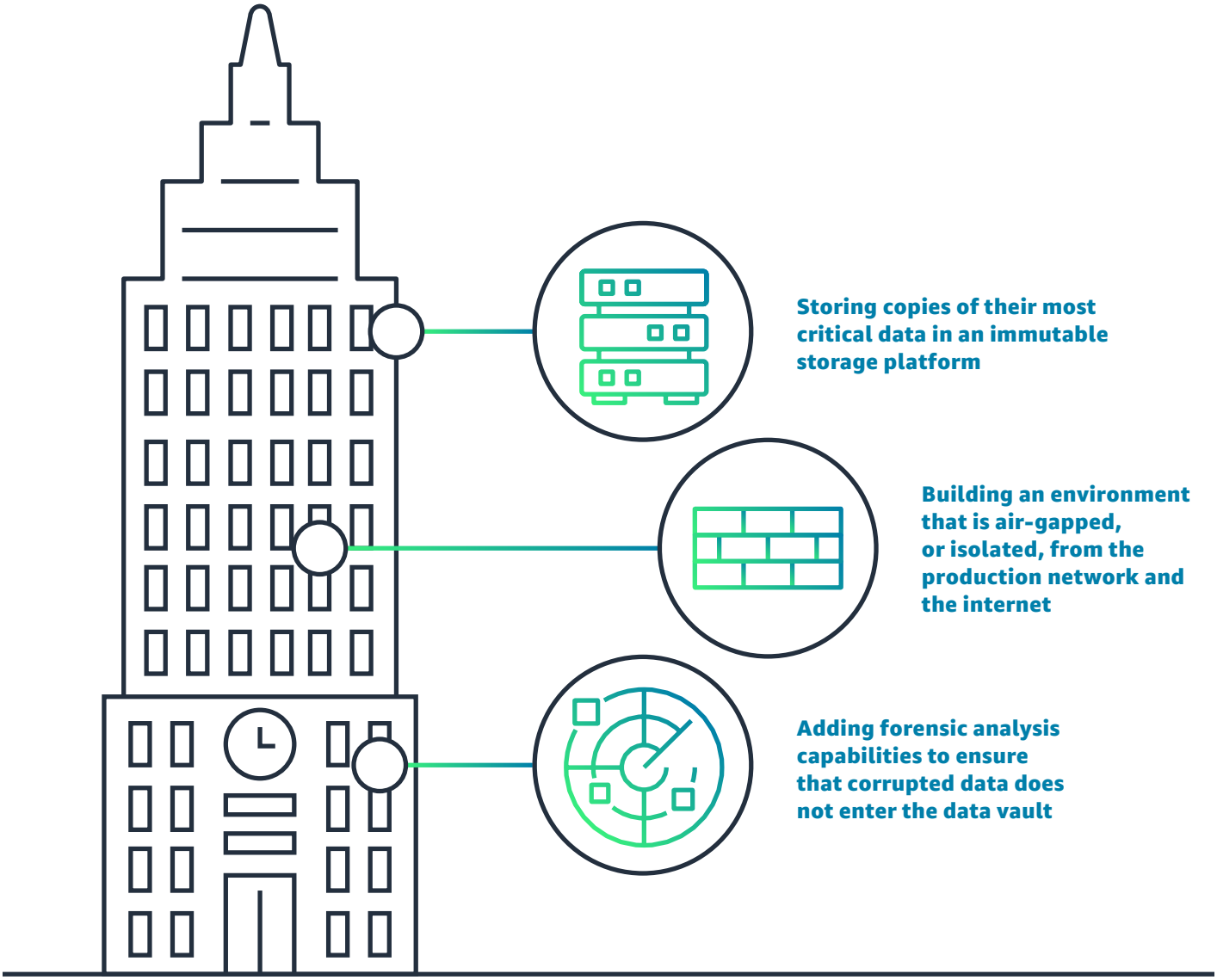
How banks are transforming cyber event recovery

Financial services organizations are increasingly investing in cybersecurity measures to manage their risk posture. They are hiring more cybersecurity professionals and training their employees on better security practices. They are also implementing a zero-trust model, which requires all users and devices to be authenticated and authorized before accessing systems or data. Finally, some organizations we work with are building modern cyber-event recovery platforms using cloud technologies. This enables them to safely store their most critical data, which they can restore in the event of a successful cyber attack.

27. Kroll, "Q3 2022 Threat Landscape: Insider Threat, The Trojan Horse of 2022."
28. Wall Street Journal, "Companies Face Stricter Cyber Rules in 2022."

Cyber-event recovery platform

Banks are building modern cyber-event recovery solutions through three actions:



Immutable storage

Immutable backups play an important role in helping companies protect themselves from the impact of ransomware. Once the data to be backed up is identified, the data is copied, encrypted, and backed up at regular intervals into an immutable storage solution. This prevents malware from altering or deleting the data and keeps it safe from cyber attacks.

Air-gapping

An air gap is a cybersecurity countermeasure that isolates digital assets, such as data, and moves them out of the reach of malicious actors. It protects assets by placing them behind an impenetrable barrier to prevent unauthorized access and modification.

The two most common techniques to protect the assets are:

- **Physical separation**, where the asset is placed in a separate room or building without any network connectivity to the primary source of data
- **Logical air gap**, where assets are placed in a separate impenetrable virtual environment, and the connectivity from the primary data source is maintained using encryption and role-based control

Physical separation is costly to implement and cumbersome to manage. It has slow recovery time objectives (RTOs) and recovery point objectives (RPOs) because data is manually transported across the air gap. Most banks that we work with prefer logical air gapping as it provides a better security posture than a physical air gap in the following ways:

- Protecting data by making it immutable and encrypting it at rest
- Separating data from the primary source using zero-trust architecture and software-defined networking
- Providing better access management through role-based access control and multifactor authentication
- Enabling better RTO and RPO for customers, as recovering from a virtually isolated environment is much faster than from a physically isolated one

Forensic analysis

Data is analyzed en route or in a separate ingress zone to ensure that corrupt data is not transmitted to the data vault. Financial services organization use various techniques, including checking the integrity of files and objects, tracking file size over time to ensure there are no discrepancies, and scanning for malware or ransomware embedded in files before writing the data to the data vault.

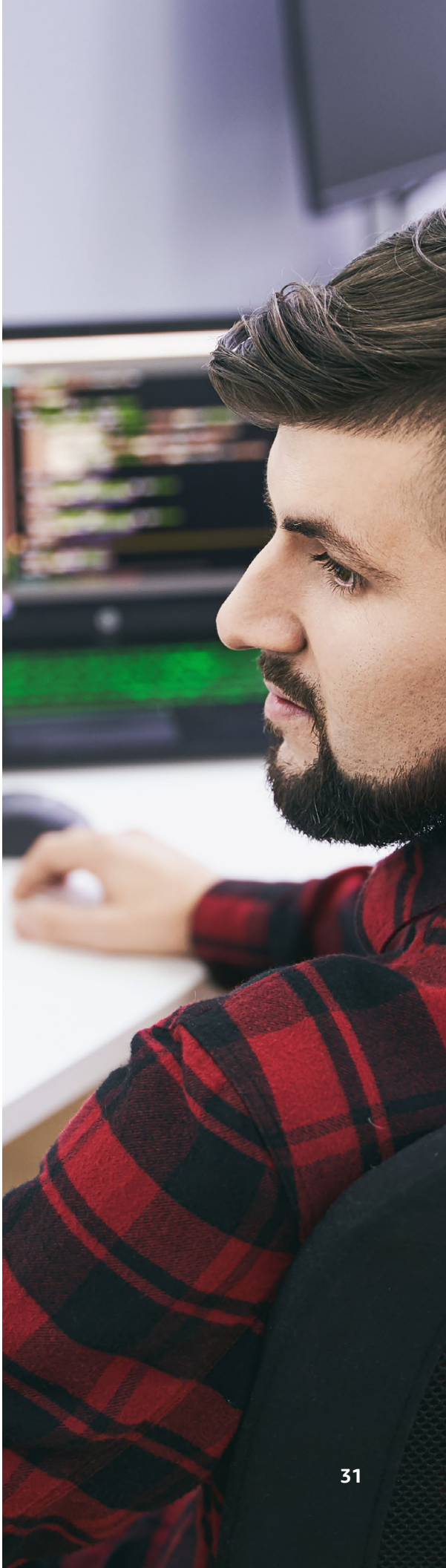
How AWS helps build cyber event recovery

Financial services organizations are increasingly building their cyber-event recovery platforms on AWS because of how easy it is to get started and build a cyber data vault in minutes rather waiting for months to build it on premises. They can start small and pay only for what they use and then scale with the growth of data. They can also use multiple security services to build a modern cyber-event recovery platform.

From an operational perspective, we are seeing our banking customers taking the following measures to ensure their data is secure from cyberattacks:

- Use storage services like Amazon Simple Storage Service (Amazon S3) with its object lock feature to ensure data is immutable and cannot be deleted or modified once written
- Take advantage of key management services to encrypt the data at rest to ensure there is no data leakage
- Implement network isolation using software-defined firewalls
- Maintain separate access credentials for the roles writing to the vault, and ensure that the data can only be pulled into the vault rather than pushed out
- Keep a separate account for the data vault in a different geographic region to ensure separation of duties and geographic isolation from the production environment

We are also seeing customers build automated recovery platforms using services such as AWS CloudFormation to recover from a cyber attack in minutes or hours instead of days, compared with the need to recover from a physically isolated backup solution.



Conclusion

As we look across these seven trends, it's clear to see that innovation is happening across the banking value chain, from personalized approaches to retail banking to the methods adopted by technology teams in response to an evolving attack plane.

We also see a common theme in the adoption of AWS capabilities, specifically:

Unlocking data from core systems

- Shifting from data bound by system footprints to a model where data is delivered across an organization in real time
- Ensuring that a common view of events can be established and responded to, driving an improved customer experience and an ability to better tackle fraud

Using APIs to decouple internal systems

- Exposing banking services for programmatic integration to drive new partnerships and enable fintech firms to build niche capabilities to meet customer needs

Deploying AI/ML capabilities at scale

- Embedding AI/ML capabilities across the value chain, including onboarding, fraud prevention, treasury cash analytics, and cyber resiliency

Modernizing core banking systems

- Shifting from batch modes of operations and monolithic systems to sets of composable functions and microservices, driving speed to market and agility in banking operations

We believe AWS cloud-based infrastructure and our Amazon Partner Network provide many of the tools needed to help banks deliver the business use cases highlighted in the trends we've covered and realize the benefits of digital transformation. Cloud-based infrastructure enables these transformations to be managed and controlled in defined increments, reducing the risks associated with technology-led change and bringing business and technology functions closer together. This leads to solutions that can be scaled and adapted easily to meet changing customer needs. Cloud services can more readily deliver data strategies, enabling banks to become more data-driven and take advantage of the latest developments in analytics and AI/ML to benefit their customers.

There is no single approach for transformation. Yet, from our experience and the lessons we've gathered from customers, we found that leaders can make substantial progress by taking the following actions:

1) Defining the company's growth agenda
2) Capitalizing on the cloud as an enabler
3) Aligning technical and business leaders on digital transformation

Many banks are choosing to act quickly and respond to market dynamics, experiment with new ideas, and fail fast as they respond to customer needs. You no longer need to develop a 5-to-10 year business case and a $500M capital investment to try new ideas. Rather, by leveraging the cloud, you can experiment in days to months and scale up once you prove initial capabilities and customer needs.

AWS for Financial Services

Amazon Web Services (AWS) is a pioneer at the intersection of financial services and cloud technology, enabling our customers to optimize operations and accelerate growth through the broadest set of services and partner solutions—all while adapting to ever-changing regulations. Thousands of financial services firms—from the fastest-growing fintechs to systemically important financial institutions—are redefining their future on AWS.

For more information about AWS for Banking, visit aws.amazon.com/financial-services/banking