

Banking is changing fast. Evolving market demands have spurred new innovations in artificial intelligence (AI), data analytics, customer experience, and digital infrastructure. The rapid clip of this transformation is changing the ways banks interact with their customers, orchestrate and optimize backend operations, and make decisions about where and how to invest in new technologies.

In this report, we'll explore the technologies that are reshaping financial services and how they impact the future of banking:



Artificial Intelligence: The transformative power of Al—and particularly generative Al—is influencing all facets of the industry, from customer interfaces to fraud detection. Industry leaders, in turn, are turning up the dial on investment. According to IDC, the global Al market will hit \$631 billion by 2028—and the banking industry is in second place in terms of overall Al spend, directly behind software and IT, but ranking above retail.



Advanced Analytics: Data is now one of the most valuable assets in financial services, leveraged to gain a competitive edge, improve operations, and improve customer and employee experience. Predictive analytics, meanwhile, help banks stay ahead of market trends while anticipating and mitigating risk.



Personalization and Blended Experiences: Banks are investing in retail-like customer journey orchestration, blending physical and digital services, and leveraging Al and data to provide personalized, seamless experiences for customers across digital and inperson environments.



Cybersecurity: Amid an evolving threat landscape, robust cybersecurity is critical to help protect sensitive data. Banking leaders are prioritizing comprehensive security strategies that include network monitoring, incident response, and breach prevention. Meanwhile, a new raft of Al-driven solutions is helping IT teams optimize and extend their capabilities to detect and respond to threats in real time



Upgrading Digital Infrastructure: Modernizing legacy systems is crucial for banks to meet the demands of a digital-first world, requiring scalable and secure infrastructures supported by robust connectivity.



Al Everywhere: Where Investment is Happening and How it's Measured

Across industries, the growing presence of Al can't be ignored. But with financial services ranking second in Al investment levels, the extent of its impact is profound. Al is reshaping core operations, from fraud prevention to customer engagement, enabling institutions to make faster, smarter, and more accurate decisions. A full 31% of financial services organizations are already committing significant resources to generative Al projects within the next 18 months. In fact, 54% plan to fund their Al initiatives by cutting spending in other areas, demonstrating a clear shift in priorities as they pursue the long-term advantages of Al. This surge in Al investment outpaces general IT spending, underscoring its strategic importance across key operational areas.



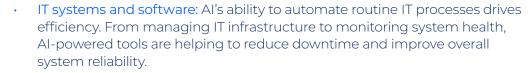
of banking leaders say they'll cut in other areas to fund Al initiatives.

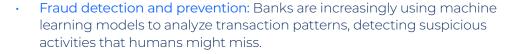
Source: IDC, November 2023 Future Enterprise Resiliency and Spending Survey, Wave 10

Key Al Use Cases in Financial Services

While AI is being integrated across various functions, several prominent use cases stand out within financial services. Cybersecurity is chief among them, with 67% of banking technology leaders reporting active or in-production pilot programs to leverage generative AI for cybersecurity. Top use cases include:













of banking leaders have active or inproduction programs to use generative Al for cybersecurity.

Source: KPMG, 2024 US Banking Industry Outlook Survey

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Personalization and the Integration of Physical and Digital Banking Experiences

As competition for wallet share grows, banks have taken a page directly out of the retail playbook by investing heavily in personalization. Creating rich 360-degree customer profiles and leveraging analytics and AI can provide contextually relevant experiences at the exact right moment. This holistic understanding—combined with a network that supports seamless interoperability—allows for the delivery of highly personalized services, tailored to individual financial health, transaction history, and anticipated needs. To achieve this level of customization, financial institutions rely on seamless interoperability between their systems and robust Internet connectivity.

Banking leaders pegged data-driven insights and personalization as their highest-level investment priority for 2024, with 54% placing it in the top spot. It's so critical, in fact, that it even outranked cybersecurity and fraud prevention in terms of investment priority. And that urgency is warranted: a recent survey showed that 61% of Gen Z banking customers and 54% of millennials would leave their bank in favor of one that provided better digital experiences. The drive to personalization in financial services plays out across several use cases, including:

61%

of Gen Z banking customers and

54%

of millenial banking customers will leave their bank for another that provides better digital experience.

Source: BAI, 2024 Bankina Outlook

- Tailored product recommendations: Al analyzes customer data to recommend financial products—like loans, savings plans, or investment portfolios—based on their specific financial goals, as well as intent signals.
- Customized financial advice: Leveraging Al and data analytics, institutions are delivering personalized financial advice that adapts to real-time changes in a customer's life or financial situation.
- Behavior-based communication: Financial institutions are using customer behavior patterns to personalize communications, offering relevant content and services through the right channels at the right time.



Merging Physical and Digital Banking Experiences

As banking customers skew younger and customer expectations evolve, the once-separate realms of in-person and digital banking are increasingly blending. Digital channels have become the preferred method of interaction for most customers, and banks have catered to that through online banking platforms, feature-rich mobile apps, and advanced ATMs that offer much more than simple withdrawal or deposit options.

As the walls separating channels continue to dissolve, financial services organizations are taking the integration of the physical and the digital to its next evolutionary step, implementing technology like:

- Al-driven personalization: From predictive analytics to real-time personalized offers, Al ensures that the customer's needs are met across all platforms, including alongside inperson interactions.
- Chatbots and voice banking: These Al-powered solutions allow customers to interact with their bank in a conversational way, either through mobile apps or directly in-branch, enhancing service across channels.
- Accessibility solutions: Ensuring that services are accessible to all users is becoming a key market differentiator. Financial institutions are prioritizing accessibility across all platforms, driven by both customer expectations and legal requirements like the EU Accessibility Act.

WiFi networks play a particularly crucial role in elevating in-branch interactions through digital means. By offering a connected, data-driven experience within the branch—through technology like mobile app integration or interactive kiosks—banks can ensure that customers enjoy the same level of personalization and seamless service they would get through digital-only channels.

By merging digital innovations with the human touch, financial institutions are poised to meet the challenges of a rapidly evolving market while delivering personalized, secure, and accessible banking experiences.



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Cybersecurity, Fraud, and Risk Prevention

If there's one thing that keeps bank executives up at night, it's the looming specter of a data breach. Aside from the potential millions in losses and penalties, the reputational damage of a breach can be devastating for institutions customers trust to keep their savings safe.

Forty-five percent of banking executives said cybersecurity poses the greatest threat to their bank's growth over the next three years, a concern they ranked even higher than interest rate risk. This growing concern reflects the increasingly complex and aggressive threat landscape financial institutions are navigating.

An Evolving Threat Landscape

Banks represent a valuable target to attackers because of the sensitivity and value of the data they store. They face an expanding attack surface, and a continuous and increasing onslaught of cyber threats, from sophisticated phishing attacks to nation-state-sponsored hacking attempts. Financial institutions are also grappling with advanced tactics like ransomware, supply chain vulnerabilities, and the exploitation of legacy systems. Thirty-nine percent of banking executives reported an increase in cyber risks to their organization over the last year.

Adoption of Cybersecurity Solutions

In response to these escalating risks, financial institutions are adopting holistic cybersecurity strategies that offer security across network layers to help protect their assets and customers. Endpoint Detection and Response (EDR) and Managed Detection and Response (MDR) systems have become important to modern cybersecurity strategies. These tools help to detect threats in realtime, allowing institutions to respond swiftly—and automatically—to potential breaches. EDR systems focus on monitoring endpoint devices (computers, mobile phones, etc.), while MDR solutions provide continuous, managed threat detection and response capabilities.

By integrating these technologies into their cybersecurity frameworks, financial institutions can enhance their security posture, reduce response times, and help increase their ability to contain breaches before they cause widespread damage.



of banking executives say cybersecurity is the biggest threat to growth.

Source: KPMG, 2024 US Banking Industry Outlook Survey

How AI Fits into the Cybersecurity Question

Al is playing an expanding role in both combating and introducing new risks. Six in ten banks now have GenAl-enabled cybersecurity tools in pilot or production phases, using Al to detect fraud and monitor for suspicious activity. Additionally, 26% of banks have already deployed or are planning to deploy GenAl platforms to fight financial crimes.

Al-driven cyber risks are also evolving, with threat actors using Al to create more sophisticated malware, automate phishing attacks, and exploit vulnerabilities faster than ever before. This makes it critical for institutions to stay ahead of these emerging threats by continuously enhancing and optimizing defense approaches.



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of banks have already deployed or are planning to deploy generative Al to fight financial crimes.

Source: IDC, November 2023 North America Banking Technology Survey





Advanced Data Analytics: Driving Insights, Competitive Advantage, and Operational Efficiency

Data As a Strategic Asset

The ability to harness big data and transform it into actionable insights is critical for improving customer experiences, managing risk management, and helping with regulatory compliance. To do so effectively, institutions need robust data management platforms and reliable, high-speed connectivity and WiFi to support seamless data access and processing across global networks.

In speaking with actual banking executives, however, it seems as though there is a widening technology gap that needs to be closed before they can fully utilize those data insights. In a recent IDC survey, only 12% of institutions in North America reported that enterprise intelligence is "pervasive across the whole organization."

Predictive Analytics and Risk Management

Finance firms were early adopters of predictive analytics, with rudimentary machine learning algorithms already in place by the 1980s and 1990s to anticipate and get ahead of risk. But the amount of data—and the tools used to glean predictions from it—look little like their predecessors.

Modern predictive analytics allows financial institutions to identify patterns in vast amounts of historical and real-time data, providing a forward-looking view of potential risks. In credit decisioning, predictive models can assess a customer's financial history and current behavior to forecast their ability to repay loans. In fraud detection, these models can flag unusual transaction patterns in real time. Additionally, predictive analytics helps institutions assess market trends and customer behaviors, which can allow for more informed decisions about product offerings, investments, and resource allocation.

Operational Efficiency and Competitive Advantage:

Institutions are also leveraging advanced data analytics to digitize and streamline their operations. Al-powered tools are enhancing efficiency in key areas such as lending practices, collateral management, and self-service options. By unifying processes like document management and customer communications, financial institutions are managing operational costs while maintaining high service standards, allowing them to operate more efficiently and effectively in a fast-evolving market.

Navigating a Complex Regulatory Environment

Banking is a particularly regulated sector, and regulations—as well as the stringency and means with which they are enforced—are in near-constant flux. Bankers must account for a number of evolving regulations, from data protection laws like the General Data Protection Regulation (GDPR) and California Consumer Privacy Act (CCPA) to financial-specific mandates such as the Second Payment Services Directive (PSD2). Compliance is crucial for maintaining trust and operational stability, requiring institutions to adapt swiftly to new and evolving requirements.



The Growth of RegTech

To manage the growing burden of compliance, banks are turning to regulatory technology (RegTech) solutions: tools that automate compliance tasks, enabling institutions to efficiently manage vast amounts of data, monitor adherence, and generate accurate reports. By streamlining these processes, RegTech can help reduce the risk of noncompliance, may help institutions avoid costly penalties, and ensures they can keep pace with ever-changing regulatory demands.



Preparing for Future Regulations

As regulations continue to evolve, financial institutions must be proactive in anticipating future requirements. This means investing in flexible, scalable technology solutions that can adapt as regulatory landscapes shift. By doing so, institutions can stay ahead of compliance challenges, ensuring ongoing operational stability and reducing the risk of disruptions caused by new or updated regulations.



Data Collection and Reporting

Compliance continues to require extensive data collection and accurate reporting, and the integrity of this data is paramount. Financial institutions need reliable, high-speed Internet connectivity to facilitate the seamless transmission of data across departments and locations, ensuring that all compliance-related information is both timely and accurate. As real-time reporting becomes a regulatory expectation, institutions must invest in systems that can quickly process and report data, enhancing transparency and maintaining positive relationships with regulators and customers alike.



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Upgrading Digital Infrastructure

As digitally transformed as modern banking may be, many of even the most outwardly advanced banking institutions sit atop legacy infrastructures that weren't designed to handle the demands of scalable, digital, agile operations. These legacy systems can be costly to maintain, difficult to integrate with new technologies, and pose significant risks to operational continuity. In fact, IDC expects that total IT spending in financial services will approach \$620 billion in 2024.

\$620 billion

projected IT spending in financial services at the end of 2024.

Source: IDC, Top 10 Trends Driving Technology Investments in Financial Services Worldwide

Legacy System Modernization

The integration of cutting-edge technologies in banking—like AI, advanced analytics, and blended experiences—require modern infrastructures capable of scaling securely and efficiently. Advanced enterprise networking, encompassing solutions like SD-WAN, IoT, robust WiFi, and modern networking architectures, provide the necessary bandwidth and reliability to handle larger data flows, support cloud-based services, and integrate novel technologies with existing infrastructure. This level of end-to-end modernization allows banking technology leaders to meet evolving market demands and deliver consistent, high-quality customer experiences.

