

Shaping Banking's Next with Data and AI



Data and AI are no longer a novelty in the banking industry. Over the past few years, banks have increasingly turned to AI technologies, such as machine learning, deep learning, and natural language processing, to enhance their operations. Recently, the focus has shifted towards generative AI and predictive analytics, which is reshaping AI strategy and pushing the envelope from tech circles to executive boardrooms. This increasing importance of AI is evidenced by the growing investment in AI, with the [IMF predicting that AI spending in financial institutions will double between 2023 and 2027](#). Despite the excitement, banks have faced challenges in translating AI investments into measurable outcomes.

Generative AI, while offering immense potential, has led to underwhelming results in some cases, with banks finding it difficult to scale pilot projects into impactful, long-term solutions. On the other hand, agentic AI has shown promise in areas like decision-making, risk management, and customer personalization. Predictive analytics is also gaining limelight with its potential in enhancing personalization and risk management capabilities. Looking ahead, banks are set to prioritize robust data foundations by investing in advanced data platforms to process structured and unstructured data, and ensure data is streamlined, accurate, and aligned with AI objectives. These efforts will position banks to unlock the full potential of AI in 2025 and beyond, driving sustainable growth and innovation in an increasingly competitive industry.

Industry Trendline

While billions were invested in AI infrastructure and generative AI in 2023, only 20% of businesses reported earnings improvements in 2024
Forrester

In 2025, 25% of companies that use gen AI will launch agentic AI pilots or proofs of concept, and this figure will grow to 50% in 2027
Deloitte

41% of banks believe their architecture is insufficient to support data management, analytics, and AI.
Innovation in Retail Banking 2024

Data and AI: New learnings, opportunities, and strategies to gain traction in 2025

Generative AI: Banks to reset expectations and adopt practical strategies

Agentic AI: Breakthrough technology with huge promise for banking

Predictive Analytics: Putting data to work like never before

- Data Platforms to take center stage

Innovation in Retail Banking Report 2024

Channels and CX: Success rate with AI Applications across Customer Lifecycle

Onboard	Converse	Service	Sell
64.8% Document verification and authentication	76.1% Advanced chat bot for natural, context-aware conversations	75.6% Virtual assistants to handle routine enquiries, FAQs and resolve issues	75.6% Next-best offers for customers or relationship managers (RMs)
50.9% Predictive analytics for risk assessment	39.4% Real-time sentiment analysis	38.4% Predictive customer support for potential issues or service needs	57.3% Personalized marketing
49.1% Chatbot to support onboarding process		24.4% Creation of customer support summaries	20.7% Dynamic pricing

% banking executives indicating these AI applications have been successfully deployed

Indicates top 3 areas where AI applications have been successfully deployed

Indicates areas AI applications have been least successfully deployed

Source - Infosys Finacle and Qorus Innovation in Retail Banking Research 2024

Generative AI: Banks To Reset Expectations and Adopt Practical Strategies

Generative AI is at the center of attention in banking as they explore its potential to boost productivity, enhance efficiencies, and unlock new value. In recent years, most banks have announced generative AI initiatives and many even went a step further and implemented RAG models to increase chances of success. However, the journey so far has been a mix of failed pilots and underwhelming outcomes. Generative AI was placed at the “peak of inflated expectations” in [Gartner’s 2023 Hype Cycle](#) for Emerging Technologies whereas in 2024, it is placed in “trough of disillusionment”.

The high expectations surrounding generative AI often exceed its current maturity and readiness. Many banks overestimate the immediate returns from generative AI projects, resulting in frustration and premature scaling back of initiatives. According to Forrester, while billions were invested in AI infrastructure and generative AI in 2023, only [20% of businesses reported earnings improvements in 2024](#). Clearly, banks are facing challenges in translating generative AI pilots into scalable, impactful solutions, leading

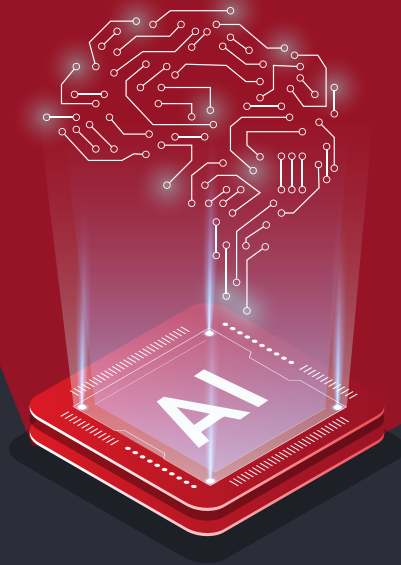
to unmet expectations. This trend risks stifling long-term innovation, as organizations underestimate the extended timelines required to realize meaningful ROI.

Moving ahead, banks will recognize that realizing real benefits of generative AI is not an overnight transformation. To fully leverage generative AI, banks need a comprehensive, strategic approach that goes beyond isolated implementations. Banks are expected to explore generative AI in conjunction with complementary technologies. Adoption of small language models will help banks quickly adopt and scale AI. Domain-specific models, multimodal retrieval-augmented generation (RAG), and synthetic data generation also hold significant promise.

While building their generative AI strategies, banks will also have to take into consideration the possibilities of adversarial attacks that can deceive AI into producing unintended or harmful outputs. Continued experimentation and research, well-defined plans for pilot-to-scale transitions, staff training, and long-term commitment will help banks unlock the true value of generative AI.

Case-in-Point

Citigroup employs generative AI to analyze extensive regulatory documents efficiently, ensuring compliance with new capital regulations across different jurisdictions



Morgan Stanley has launched an AI assistant based on OpenAI's GPT-4 that allows its 16,000 financial advisors instant access to a database of about 100,000 research reports and documents. The AI model aims to help financial advisors quickly find and synthesize answers to investing and finance queries and offer highly personalized instant insights.

Agentic AI: Breakthrough Technology with Huge Promise for Banking

Artificial Intelligence is evolving rapidly, bringing us closer to a future where machines can autonomously execute complex tasks, make decisions, and take actions with minimal human intervention. This is made possible by agentic AI, a new frontier in AI technology. Agentic AI refers to autonomous systems capable of planning, executing, and adapting to achieve specific goals set by users. In banking, agentic AI acts as a virtual workforce, assisting, offloading, and augmenting human efforts or traditional applications to deliver enhanced efficiency, personalization, and innovation.

Agentic AI can drive smarter, faster decision-making in areas like investment management and lending, while improving risk management to enable more aggressive growth with minimized losses. For example, agentic AI could revolutionize portfolio management by continuously analyzing market trends, making real-time trading decisions, and adapting investment strategies based

on dynamic economic data and breaking news. This capability will empower banks to provide highly tailored products and services, unlocking new revenue streams through targeted cross-selling and upselling, ultimately boosting customer loyalty.

Agentic AI is set to gain popularity in banking as we step into 2025 and beyond. Deloitte predicts that in 2025, 25% of companies that use gen AI will launch agentic AI pilots or proofs of concept, and this figure will grow to 50% in 2027. Banks are expected to establish multi-agent AI system where multiple independent agents can make decisions and collaborate to achieve a common goal. Review agents will help augment their impact by enhancing overall accuracy and compliance of the system.

As intelligent agents gain more capabilities, they will enhance decision-making processes and improve situational awareness by analyzing data faster and predicting outcomes with higher accuracy. While initial ROI may be uncertain, banks should view agentic AI as a long-term investment. By measuring success in phases and adjusting strategies based on real-world data, banks can better gauge the impact and refine their approach for sustainable growth.

Case-in-Point

PayPal utilizes agentic AI to monitor transactions in real-time, employing machine learning algorithms to detect and prevent fraudulent activities effectively.

Goldman Sachs utilizes agentic AI in its trading platforms to analyze market trends and execute trades autonomously based on predefined algorithms.



Predictive Analytics: Putting Data to Work Like Never Before

Thriving in banking today requires timely and deep insights into risks, customer relationships, costs, revenues, and other key parameters. Moving beyond traditional reporting and business intelligence tools, predictive analytics leverages historical and real-time data to forecast future outcomes with greater accuracy. By applying machine learning, data modeling, and AI techniques, banks can shift from reactive decision-making to proactive strategies, enhancing their ability to anticipate market shifts, manage risks, and seize new opportunities. As customer expectations grow and market dynamics become more volatile, predictive analytics is emerging as a cornerstone of modern banking transformation.

Predictive analytics offers wide-ranging applications across banking functions, from core banking operations and cash flow management to trade and supply chain finance and more. Banks can significantly raise the bar in personalization by analyzing customer data to deliver hyper-targeted services and offerings, improving both satisfaction and loyalty. In risk management, predictive models help banks anticipate credit defaults and optimize lending decisions, reducing financial exposure. Similarly, banks can detect fraud patterns in real time, enhancing their ability to protect customer assets and ensure compliance. By harnessing predictive analytics, banks can also improve operational efficiency, reduce costs, and stay ahead of evolving market demands.

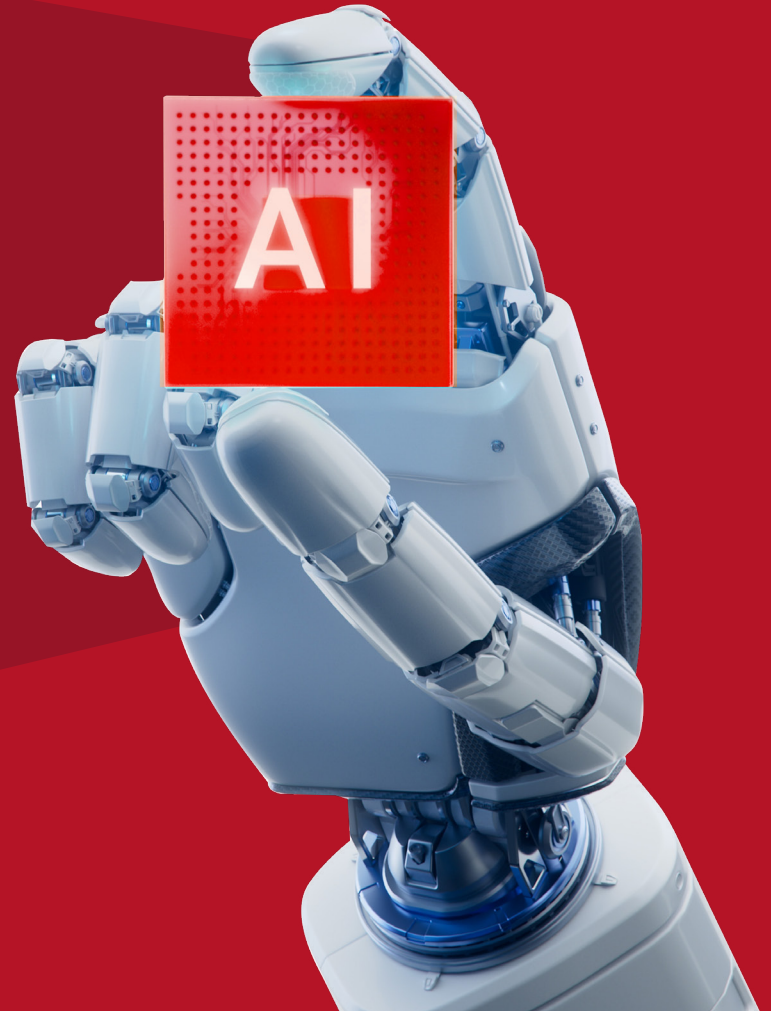
As banks continue their digital transformation journeys, predictive analytics is expected to see exponential adoption. The market for predictive analytics in banking is projected to grow from USD 3.6 billion in 2024 to USD 19.6 billion by 2033 – a staggering 5x growth. Moving forward, banks will need to continuously refine their predictive models, integrating diverse data sources—from structured datasets to real-time feeds from IoT devices—to improve accuracy and reliability. Additionally, banks will focus on reducing algorithmic bias to ensure fair and ethical decision-making. The ability to deliver real-time insights and offer tailored solutions will be a key differentiator for banks that aim to stay competitive in an ever-evolving market.

For banks, the real value of predictive analytics lies in its strategic implementation. While technology provides the tools to make accurate predictions, human intervention remains critical in translating these insights into actionable decisions. To fully realize the potential of predictive analytics, banks must invest in data-driven culture, upskill their workforce, and collaborate with technology partners who can help drive innovation. Moreover, embedding predictive analytics into core processes will enable banks to anticipate market changes, improve customer experiences, and strengthen risk resilience. Those that approach predictive analytics with a long-term vision and commitment will gain a sustainable competitive advantage in the future of banking.

Case-in-Point

Transcepta launched trade and supply chain financing options aided by strategic partnership with InFin. InFin and Transcepta are leveraging analytics-based approach for financial decisions underpinned by predictive analytics and data integration capabilities.

Bank of America leveraged big data analytics to ascertain the reason for many of its commercial customers defecting to smaller banks. This helped the bank to launch a more flexible online product (Cash Pro Online) and a mobile version (Cash Pro Mobile) in lieu of the earlier product providing all-in-one offering.



Data Platforms to Take Center Stage

As AI continues to reshape banking, its success is increasingly dependent on the foundation of reliable and well-structured data. Banks must first achieve data-readiness before they can implement strategic AI initiatives. However, many banks are still grappling with this challenge. According to Innovation in Retail Banking 2024 survey by Infosys Finacle and Qorus, [41% of banks believe their architecture is insufficient to support data management, analytics, and AI.](#)

To become data-ready, banks need to ensure the data needed to train AI models is consistently available, of high quality, structured, and aligned with project objectives. In light of these AI pre-requisites and learnings, banks are expected to invest heavily in modern data platforms. These platforms allow for data integration processes to bridge the gap between diverse data sources, eliminating anomalies, duplication, information gaps, and biases. This is crucial for creating reliable data pipelines, managing large datasets, and supporting the data models required for AI and machine learning.

As AI becomes central to banking operations, the focus will shift towards data platforms that can manage complex data systems and scale efficiently. While investing in data platforms is the right move, banks must be mindful of certain considerations to ensure the success of these platforms. The data platform should be AI-friendly, meaning it must be able to integrate smoothly with AI tools and support machine learning workflows. This ensures that data can flow seamlessly from storage to model development and analysis.

Finally, banks should choose platforms that align with industry standards like BIAN. These standards offer a structured framework for data modeling and ensure that platforms are built with long-term scalability and interoperability in mind.

Case-in-Point

A Leading Indian Private Bank streamlined its pricing and billing by leveraging Finacle Data Platform. The platform created a BIAN-inspired pricing and billing data model to capture relevant data for analysis and to deliver insights to create flexible pricing capabilities.





Accelerating with Caution

The future of AI lies in human-AI partnerships facilitated by collaboration between banks and technology providers. While accelerating innovation on all these fronts, banks will also have to equally focus on ethical implications of AI. AI governance platforms will be essential for managing the legal, ethical, and operational performance of AI systems. Integrating data observability practices into AI development lifecycle can also help build more robust and trustworthy AI systems. By focusing on ethical AI frameworks, building transparent systems, adopting data privacy measures, and ensuring regulatory compliance, banks can enhance trust and mitigate the risks associated with AI adoption while realizing the true value of AI.

Why we exist

To inspire better banking so that billions of people and businesses can save, pay, borrow, and invest better.

How we do it

Our solutions and people help banks to engage, innovate, operate and transform better, so that they can improve their customers' financial lives, better.

What we offer

A comprehensive suite of industry-leading digital banking solutions and SaaS services that help banks engage, innovate, operate and transform better.

Finacle is an industry leader in digital banking solutions. We are a unit of EdgeVerve Systems, a wholly-owned product subsidiary of Infosys (NYSE: INFY). We partner with emerging and established financial institutions to help inspire better banking. Our cloud-native solution suite and SaaS services help banks engage, innovate, operate, and transform better to scale digital transformation with confidence. Finacle solutions address the core banking, lending, digital engagement, payments, cash management, wealth management, treasury, analytics, AI, and blockchain requirements of financial institutions. Today, banks in over 100 countries rely on Finacle to help more than a billion people and millions of businesses to save, pay, borrow, and invest better.



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