VIEW POINT

THE FUTURE OF AI IN PERSONALISED BANKING

Abstract

AI is transforming the banking sector, reshaping customer experiences, operational efficiency, and security frameworks. Here, we have developed a research-backed exploration of the pivotal role of AI in hyper-personalisation, automation, and fraud detection, delving into emerging technologies such as blockchain, quantum computing, and IoT. It is essential for banks and financial institutions to recognise the potential of these technologies to redefine financial services. As AI-driven strategies become a business imperative, banking institutions must proactively invest in these innovations to stay competitive. The article concludes with a call to action for decision-makers to harness AI's potential and lead the future of personalised digital banking.

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Banking has undergone a profound transformation, evolving from traditional, branch-based interactions to highly digital and personalised experiences. Today, AI is at the heart of this shift, redefining how financial institutions operate, engage customers, and maintain a competitive edge.

AI allows banks to analyse massive datasets, extract meaningful insights, and tailor services to customer needs — driving smarter, more responsive banking experiences. A staggering 80% of financial institutions now recognise AI as a critical driver of innovation, with estimates suggesting AI could contribute up to $4.4 trillion annually to the global banking industry.

This article explores how artificial intelligence in banking is transforming the industry, with AI-powered personalised banking experiences, automation, and predictive analytics creating more intuitive interactions, shaping the future of banking in ways previously unimaginable.

Personalised banking experiences: How AI is redefining customer service

AI is enabling banks to move beyond one-size-fits-all services, delivering hyper-personalised financial solutions tailored to individual needs in real time. Here's how AI is advancing — and how today's technologies will only get smarter.

Hyper-personalisation as the new standard

AI is enabling banks to deliver hyper-personalised services that cater to individual customer needs in real time. This level of personalisation is no longer a luxury but an expectation as customers increasingly demand tailored financial solutions.

Dynamic financial recommendations

AI analyses vast amounts of customer data, such as spending habits, income patterns, and life events, to offer personalised advice. For instance, it can recommend investment portfolios aligned with a customer's risk tolerance or suggest savings plans for specific milestones like purchasing a home.

Autonomous financial advice

Virtual financial advisors powered by generative AI provide real-time guidance on budgeting, investing, and debt management. These advisors democratise access to financial planning by offering personalised insights at scale.

Context-aware interactions

Generative AI enhances customer engagement by delivering dynamic, contextually relevant interactions across channels. For example, an AI assistant can provide tailored loan options based on a customer's current financial situation during a chat session.

Hyper-personalisation not only improves customer satisfaction but also builds loyalty by making banking more intuitive and relevant.

Frictionless omni-channel banking

The rise of digital banking has heightened customer expectations for seamless experiences across multiple platforms. AI is central to creating frictionless omni-channel interactions.

Unified customer data

AI integrates data from various touchpoints — mobile apps, websites, social media, and in-branch visits — to provide a consistent experience. Customers no longer need to repeat information when switching between channels.

Emerging technologies

Banks are exploring innovations like Augmented Reality (AR) for virtual branch experiences and voice-enabled banking through smart devices. These technologies enhance accessibility and convenience while maintaining high service quality.

Customer retention through consistency

A consistent omni-channel experience fosters trust and loyalty. Studies show that 70% of consumers prioritise consistency across channels when choosing their primary bank.

This shift toward omni-channel strategies reflects the industry's commitment to meeting customers wherever they are while ensuring a cohesive experience.

Operational efficiency through automation

AI is revolutionising back-end operations in banking by automating repetitive tasks and streamlining workflows.

Robotic Process Automation (RPA)

AI-driven RPA handles tasks like data entry, compliance checks, and report generation with speed and accuracy. This reduces costs and frees up human employees for higher-value activities.

Generative AI for decision-making

By analysing customer interactions and operational data, generative AI identifies inefficiencies and suggests improvements. For example, it can optimise loan approval processes or enhance fraud detection protocols.

Scalability during peak demand

During high-demand periods like tax season or economic downturns, AI systems can scale effortlessly to handle increased workloads without compromising service quality.

These advancements enable banks to operate more efficiently while maintaining agility in a competitive market.

Enhanced security and fraud prevention

As digital transactions grow, so do cybersecurity risks. AI plays a critical role in safeguarding financial systems.

Real-time anomaly detection

AI monitors transaction patterns to identify unusual activities such as multiple failed login attempts or large, unexpected transfers. Suspicious actions are flagged instantly for further investigation.

Biometric authentication

Advanced AI systems use facial recognition, voice verification, and other biometric methods to strengthen security measures while enhancing user convenience.

Proactive fraud response

Generative AI automates fraud resolution processes by notifying customers of suspicious activity and initiating dispute protocols immediately.

These capabilities not only protect customers but also build trust in digital banking transformation.

The democratisation of financial services

AI is breaking down barriers to financial inclusion by offering services that were previously inaccessible to underserved populations.

Alternative credit scoring

By analysing non-traditional data sources like social behaviour or digital footprints, AI enables fairer credit assessments. This allows banks to extend loans to individuals with limited credit histories.

Accessible financial advice

Virtual advisors provide low-cost financial planning services to customers who might not engage with traditional advisors due to cost or complexity barriers.

Microfinance solutions

AI-powered platforms offer tailored micro-loans and savings plans for small businesses and low-income individuals, fostering economic growth at the grassroots level.

This democratisation aligns with the broader goal of making banking more inclusive and equitable.

The rise of autonomous finance

Autonomous finance represents the next frontier in digital banking, where AI takes over routine financial tasks on behalf of customers. Agentic AI-powered systems can proactively learn user preferences and adapt financial strategies, offering a new level of personalised and automated financial management that goes beyond traditional AI-driven automation.

Automated budgeting tools

AI systems track spending patterns and automatically allocate funds toward savings or debt repayment goals.

Self-managing investments

Autonomous investment platforms adjust portfolios in real time based on market conditions and individual risk profiles.

Proactive alerts

Customers receive not only notifications but also personalised recommendations and actionable advice generated by Agentic AI, guiding them toward favourable financial opportunities.

This trend underscores the shift toward proactive financial management powered by intelligent systems.

Open banking ecosystems

Open banking is transforming how banks interact with third-party providers to deliver enhanced services.

API integration

Banks are leveraging open APIs to connect with fintech companies, enabling seamless access to a broader range of services such as payment gateways or personal finance tools.

Collaborative innovation

Partnerships with fintechs accelerate the development of innovative solutions that enhance customer experiences while driving revenue growth.

Customer empowerment

Open banking gives customers greater control over their financial data, allowing them to choose services that best meet their needs without being tied to a single institution.

This collaborative approach fosters innovation while ensuring that customers benefit from a competitive marketplace.

Ethical AI implementation

As banks increasingly rely on AI, ethical considerations are taking centre stage.

Bias mitigation

Banks are developing frameworks to ensure fairness in algorithmic decision-making processes like credit scoring or loan approvals.

Transparency initiatives

Institutions are prioritising clear communication about how customer data is used in AI applications.

Regulatory compliance

Advanced compliance monitoring tools powered by AI help banks navigate complex regulatory landscapes efficiently while minimising risks.

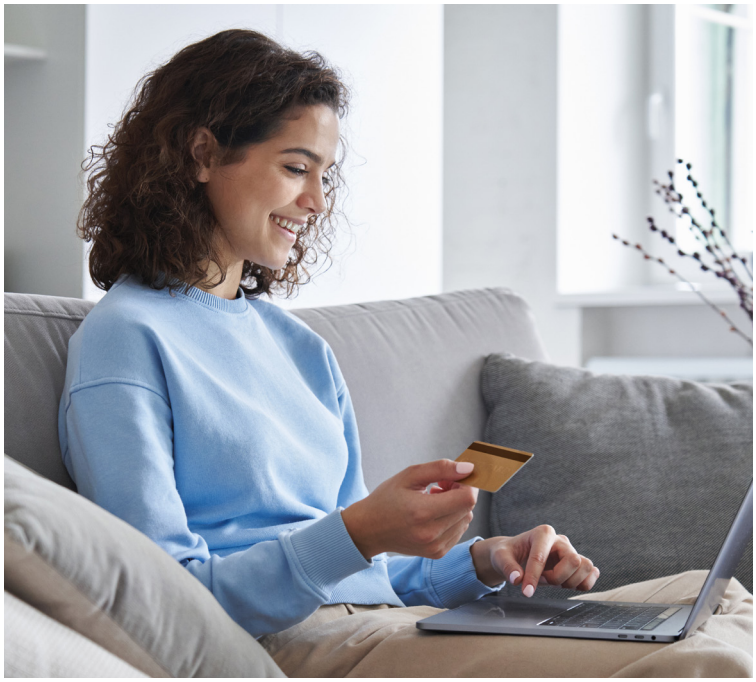
Ethical AI practices will be critical for maintaining consumer trust and integrity as the industry evolves.

AI in banking: The next frontier gets even better

While AI is already transforming banking operations, the next frontier involves the integration of emerging technologies. These innovations promise to further enhance security, streamline financial transactions, and unlock new data-driven capabilities for banks and customers alike.

Blockchain for secure transactions

Blockchain technology has made significant advancements in the banking sector, particularly in settlement systems, fraud prevention, smart contracts, and KYC processes. This technology will give customers more control over their financial data, reducing reliance on intermediaries and lowering transaction costs, which will ultimately create a more customer-centric banking experience.



▲ Advantages

Transparency: Blockchain's distributed ledger system provides an immutable record of transactions that enhances accountability and reduces fraud risk, fostering trust among stakeholders.

Efficiency: By eliminating intermediaries, blockchain significantly speeds up transaction times and reduces operational costs, allowing for near-instantaneous cross-border payments.

▼ Disadvantage

Blockchain technology can face scalability issues, particularly during periods of high network congestion, leading to slower transaction processing times compared to traditional systems.

Quantum computing for advanced analytics

Quantum computing has made significant strides in the banking sector, particularly following the unveiling of quantum chips by tech giants.The lightning-fast processing power of quantum computing will enable banks to deliver deeply personalised banking experiences. Customers could receive real-time financial advice tailored to their spending habits and savings goals.

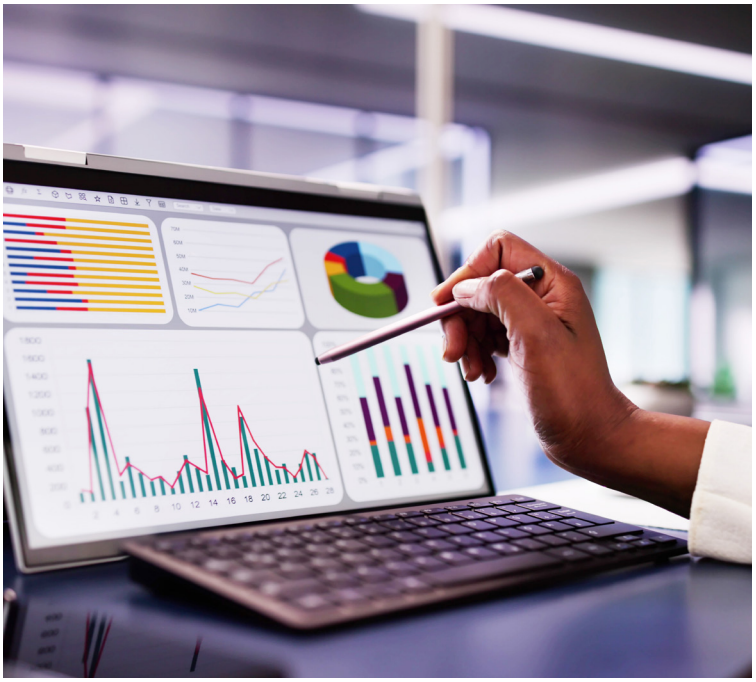
▲ Advantages

Enhanced computational power: Quantum computing can process complex datasets at unprecedented speeds, enabling banks to perform advanced analytics for risk assessment and fraud detection more efficiently than classical computers.

Optimised financial modelling: It allows for the simulation of intricate financial models that can improve investment strategies and portfolio management by considering a vast array of variables simultaneously.

▼ Disadvantage

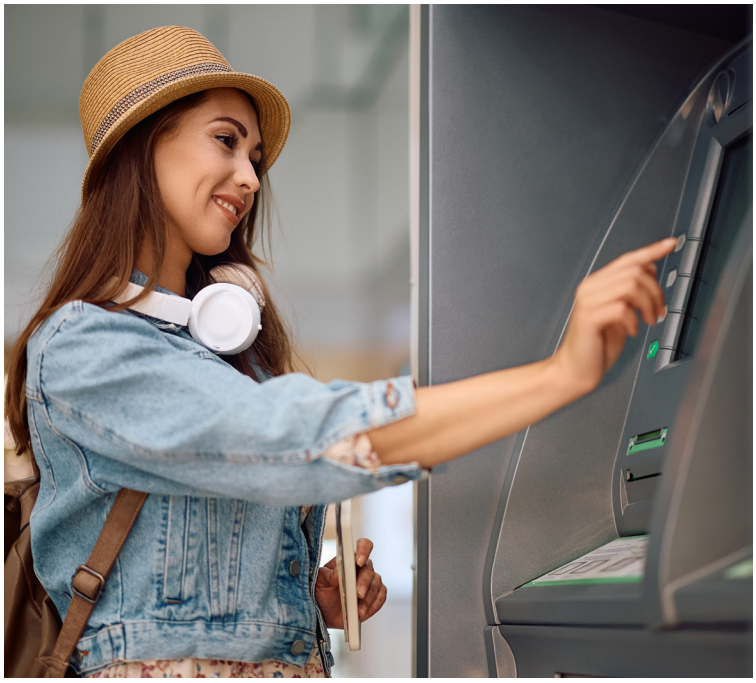
Quantum computing could breach the widely used cryptographic algorithms, such as Rivest-Shamir-Adleman (RSA) and Elliptic Curve Cryptography (ECC), which currently secure sensitive financial data and communications.



Major banks are already testing various quantum models to improve portfolio optimisation and financial simulations. A bank in Europe is utilising quantum systems for cash and securities movements, recognising the technology's potential to revolutionise finance through enhanced computational capabilities.

IoT for real-time financial insights

IoT in banking has progressed to the point where it has the potential to transform how banks interact with their customers and manage physical assets. For example, smart devices will enable real-time spending insights and context-aware banking services — such as ATMs recognising users instantly or smart home devices assisting with bill payments.



▲ Advantages

Data-driven decision-making: IoT devices provide banks with real-time data on customer behaviour and market trends, enabling more informed decision-making and personalised service offerings.

Enhanced customer engagement: By leveraging IoT technology, banks can deliver timely notifications and tailored financial advice based on customers' real-time activities and needs, improving overall customer experience.

▼ Disadvantage

The increased connectivity of IoT devices raises significant security concerns, as vulnerabilities could expose sensitive financial information to cyber threats if not effectively managed.

End note

For decision-makers in the technology space for banking, the imperative is clear: embrace these innovations strategically to stay ahead in an ever-evolving landscape. The future belongs to those who can leverage artificial intelligence in banking not just as a tool but as a cornerstone of their transformation strategy — delivering personalised experiences at scale while ensuring security, efficiency, and inclusivity.

For more information, contact infosysbpm@infosys.com

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