

eBook

Turning AI into ROI for Banking and Financial Services





The Emergence of AI in Banking and Financial Services

Seemingly overnight, artificial intelligence-based technology like OpenAI and ChatGPT have transformed business as we know it – but, how and when does it actually drive ROI?

The answer to leveraging AI effectively is in sharpening the focus on specific business outcomes. Without doing so – expect to journey down a long and winding road toward any kind of ROI and business value.

The challenge for banking and financial services industries is that individual challenges arise that require individual solutions across the front office, middle office and back office. Whether generating revenue via retail banking and trading, complying with financial performance reporting or maintaining a bank or financial institution's technological infrastructure each of these offices plays a crucial role in the overall functioning of an organization.

With only 6% of financial enterprises having committed significant technology spend on GenAI and successfully deployed GenAI solutions across multiple parts of their business¹, taking decisive action on AI use cases will singlehandedly create unique business growth and opportunity for banking and financial services industries.

¹ Source: [BFSI's fast track to GenAI value hinges on resolving five crucial debts](#) July 11, 2024. HFS Research

Front Office Use Cases for AI in Banking and Financial Services

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Elevating Customer Success

AI can analyze customer behavior patterns (i.e, behavioral analysis), transaction histories and preferences to offer personalized financial products like credit cards or checking accounts, and services such as tailored recommendations for loans, investments and savings plans.

Additionally, AI can help design and manage loyalty programs to encourage repeat business, create custom marketing campaigns based on customer segments, and recommend personalized products to customers to increase customer retention.

AI can also enhance customer service through chatbots and virtual assistants, providing instant responses to queries, personalized recommendations and by handling complex transactions, thereby improving customer satisfaction and operational efficiency.

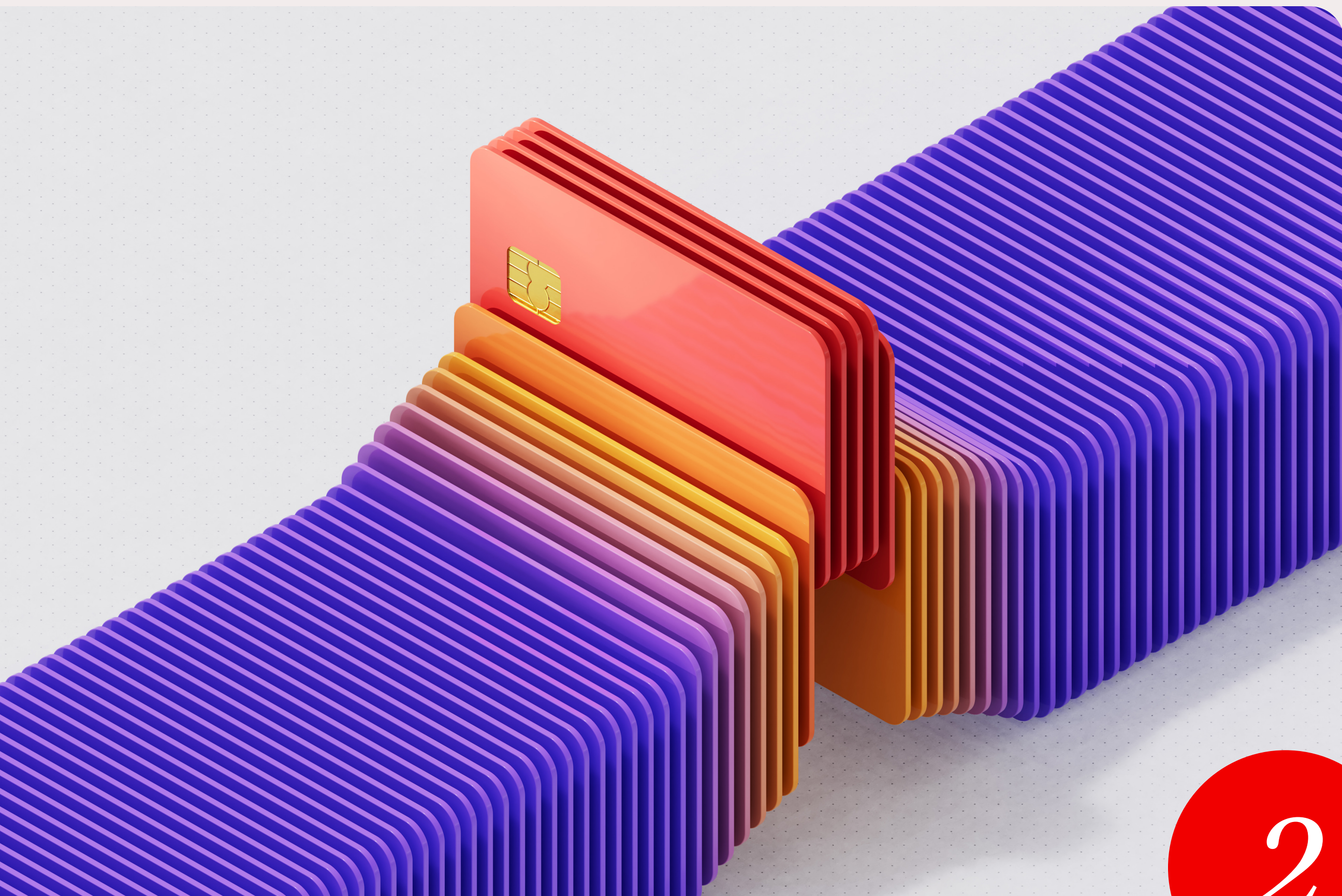


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Approximately 70% of discretionary IT spend will be on GenAI this year.”

Mark Katz

CTO, Financial Services
Hitachi Vantara



Expediting Risk Assessment

Predictive modeling using AI and machine learning (ML) can **analyze structured and unstructured data**, including credit history, employment status, income levels and even social media activity, allowing for more accurate predictions of creditworthiness and the probability of default in credit risk assessments. AI can **automate decision-making** for credit approvals, reducing the time and effort required for manual reviews, leading to faster loan disbursements and improved customer satisfaction.

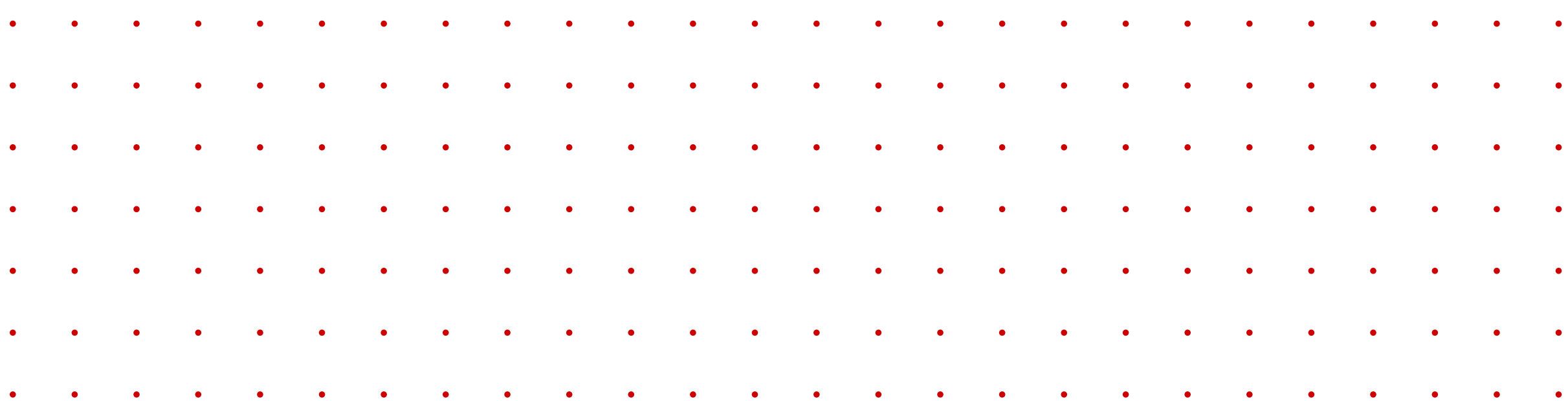
For insurance carriers, managing general agents (MGAs), reinsurers and self-insured organizations, predictive and generative AI techniques can unlock insights from claims data, adjusters' notes, legal demand packages, bills and other documents surrounding a claim, reducing losses and expenses for carriers, customers and claimants.



Enabling Automated Generation

AI algorithms can execute trades at high speeds (i.e, algorithmic trading) with precision, and can provide insights and adjustments for portfolio performance based on market conditions and individual investor goals. Highly variable areas like fixed-income trading (where interest rates and the risk profile of investments make trading more complex than in equities) are especially suitable for automated generation. Foreign exchange trading can also be assisted by AI analysis of geopolitical effects, which can be overwhelming for humans to synthesize.

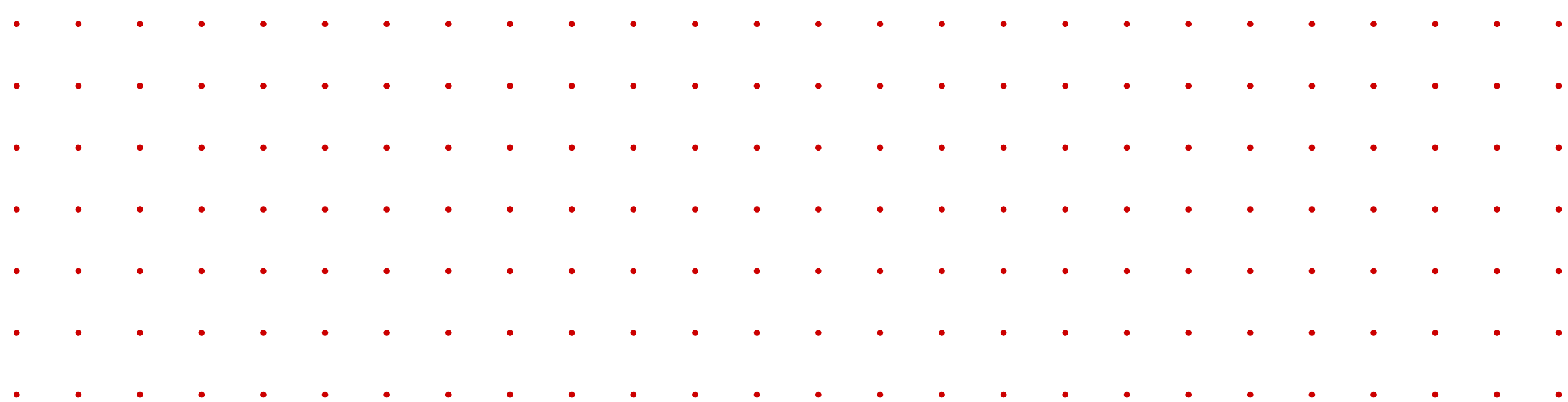
Data entry, account reconciliation, compliance reporting and other repetitive tasks can be handled by AI-driven robotic process automation (RPA). This reduces errors and frees up employee resources for more complex tasks. AI can also automate document processing, such as loan applications and invoices, speeding up approval processes.





Increasing Customer Insights

AI can segment customers based on their risk profiles, allowing financial institutions to tailor their products and services accordingly, helping in targeting high-risk customers with appropriate risk mitigation strategies. AI can also identify customers who are at risk of leaving the bank by analyzing their transaction patterns and engagement levels, allowing banks to take preventive measures to retain customers.



Middle Office Use Cases for AI in Banking and Financial Services



Mitigating Risk with Modeling and Management

AI can help in determining risk-based pricing for loans, ensuring that interest rates reflect the actual risk associated with each borrower. AI can simulate various economic scenarios to assess the impact on credit risk, helping financial institutions stress test for adverse conditions and develop contingency plans.

Read White Paper →

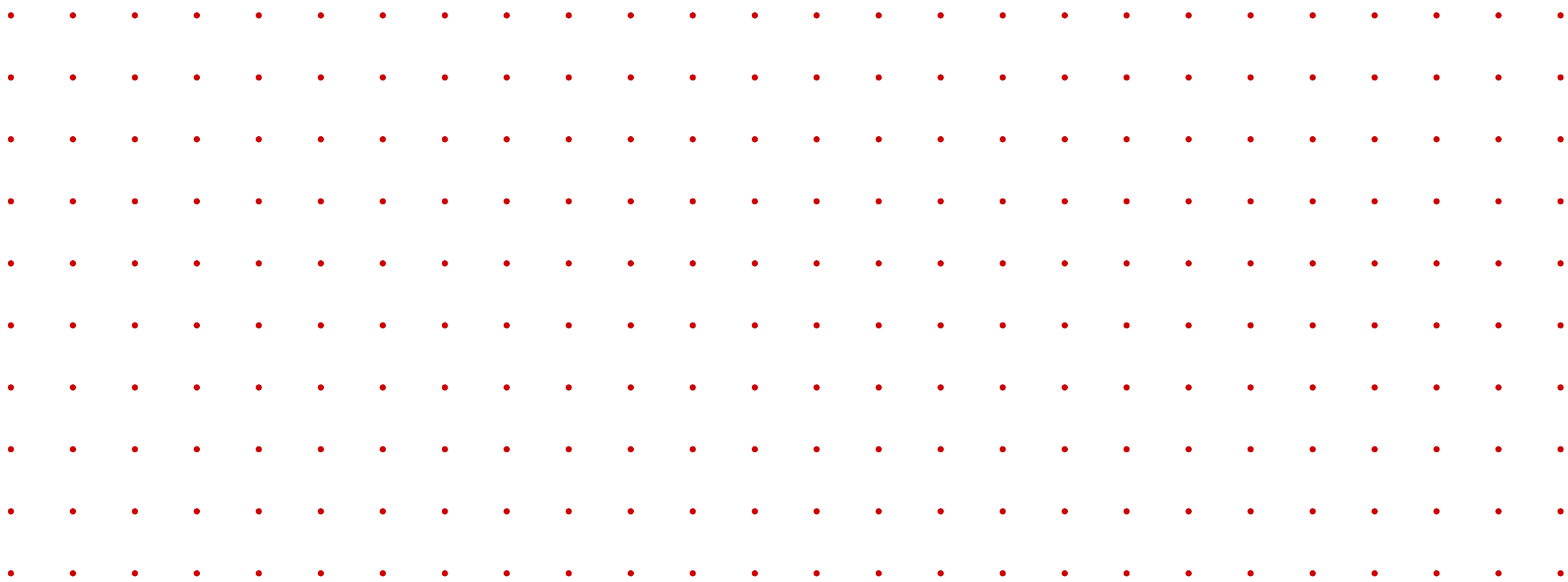
Managing Financial Services Risk & Compliance





Simplifying Compliance and Regulatory Reviews

AI can automate compliance checks, ensuring that all credit risk assessments adhere to regulatory requirements, reducing the risk of non-compliance and associated penalties. AI systems can maintain detailed audit trails of all credit risk assessments, providing transparency and accountability.



Back Office Use Cases for AI in Banking and Financial Services

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Enhancing Security, Cyber Resilience and Data Protection

GenAI can enhance fraud detection of bad actors by identifying unusual patterns and predicting potential tactics like insider fraud, money laundering and phishing scams. As fraudsters develop new tactics, AI systems can adapt to these changes, staying one step ahead. By accurately identifying high-risk transactions, AI helps allocate resources more efficiently, focusing human efforts on the most critical cases.

AI-driven systems can automatically respond to certain types of cybersecurity incidents, reducing response times and minimizing damage. For example, AI can isolate affected systems and block malicious IP addresses. It can also analyze historical data and identify trends using predictive analytics, enabling proactive risk management and ensuring compliance with regulatory frameworks like DORA.

AI can significantly enhance the integration of third-party tools into existing banking systems and assist the rapid deployment of AI-driven applications using APIs. Many vendors offer a combination of pre-built AI models with cloud infrastructure, allowing enterprises to benefit from emerging technology in addition to the security, scalability and compliance features of cloud infrastructure.

Read Analyst Report →

**Enterprise Infrastructure for Generative AI:
A Foundation for Success**





Assessing Sentiment

Advanced algorithms allow banks and financial institutions to understand how certain subjects are referenced within disclosures, using sentiment analysis to **understand positive or negative sentiments** customers or clients associate with those disclosures. Sentiment analysis can then be applied to identifying the location of disclosures within documents and where certain sentiments are expressed by specific language within documents.

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Leveraging AWS AI and machine learning tools, the team fed in thousands of financial disclosure documents to train the solution to identify key data with a high rate of accuracy. As a result, the MSRB was able to develop an advanced search algorithm enabling users to find relevant information more quickly and efficiently using natural language processing.”

 **Hitachi Vantara**

 **MSRB**

Read Case Study →

MSRB Brings Greater Insights to the Municipal Securities Market with Cloud Data Lake

Managing Structured and Unstructured Data

Banks take in both structured and unstructured data. Structured data can include trades and underwriting transactions, while unstructured data covers a range of items such as new bond offerings coming into the market, issuer annual financials, material event notices and more.

Unstructured data is where the real challenge lies, but deploying technologies like ML and natural language processing (NLP) can derive structure from it and make it searchable, providing data that is as actionable as possible.

Using natural language processing to identify and contextualize topics or themes such as climate risk or cyber security in that data helps to provide value. Another method is to take specific attributes of the data, extract them, structure them and present them back to Electronic Municipal Market Access (EMMA) for dissemination throughout the industry.

Cloud platforms such as Microsoft Azure, AWS and Google Cloud offer AI services that can be quickly integrated into banking applications. These platforms provide scalable infrastructure and pre-built AI models, reducing the time and cost associated with deployment.

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Banking on IT for Innovation and Leadership in Financial Services

Transforming the Potential of AI into Reality

As the technology evolves, the use cases for AI will expand. In the future, responsible and explainable AI will be compulsory, AI libraries and language models will be more robust with out-of-the-box offerings, and hyperscalers will offer more polished products like pay-as-you-go.

From front office to back office, AI has transformative potential in the banking and financial sector – but only if a tailored approach focused on specific business outcomes is the main strategy.

Learn more →

To prepare for the future of AI, learn more about Hitachi Vantara's solutions for financial services.



About Hitachi Vantara

Hitachi Vantara is transforming the way data fuels innovation. A wholly owned subsidiary of Hitachi Ltd., we're the data foundation the world's leading innovators rely on. Through data storage, infrastructure systems, cloud management and digital expertise, we build the foundation for sustainable business growth.

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