



AI IN CREDIT: A GAME- CHANGER IN BANKING





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AI/ML - Transforming Banking Services



The adoption of AI/ML in banking is not just a technological advancement; it is a strategic imperative that is reshaping the industry. From personalized consumer banking experiences to efficient commercial operations, AI/ML technologies are driving significant improvements in customer satisfaction, operational efficiency, and financial performance.

As investment in these technologies continues to grow, the banking sector will undoubtedly experience even more profound transformations, paving the way for a more innovative and customer-centric future.



84% faster growth of deposits for banks with the highest customer satisfaction ratings

2.4X revenue generated, by satisfied customer over a neutral one

The banking industry's investment in AI/ML technologies has been substantial and is expected to grow significantly. According to IDC, global spending on AI systems in the financial sector is projected to grow to \$22.6 billion by 2025.

Bank	Initiative
Commonwealth Bank of Australia	Used AI to process documents quickly and improve invoice handling and compliance
Banca Mediolanum	Employed AI to adapt to new credit regulations, improve credit scoring accuracy, and enable the development of new products.
Federal Bank Limited	Implemented a virtual assistant to handle customer queries with high accuracy and scale up virtual banking operations.
NatWest Group	Developed an AI-powered platform to assist mortgage employees in improving customer support and operational efficiency.
Valley Bank	Applied AI to enhance anti-money laundering efforts, thereby reducing false positives and speeding up model development.

From reducing wait times, to avoiding unsatisfactory call center experiences, faster transaction processing and the ever-present threat of fraud, there are several challenges that today's banks and their customers face, which can be alleviated by AI, to deliver **personalized experiences, streamlined operational processes and secure banking.**

With the advent of sophisticated algorithms and data analytics, AI/ML technologies are enabling banks to enhance customer experiences, optimize operations, and maintain competitive edges in an increasingly digital marketplace.

The wide and varied AI/ML driven interventions in banking can be classified under five key themes or pillars that constitute the strategic initiatives deployed by banks, which provide a profound impact on operations, enhancing efficiency, security, and customer satisfaction.



Customer Experience: Consisting of building a highly personalized and customer-centric environment, backed by self-service platforms to empower and enable customers to manage their finances conveniently.



Credit Decisioning: Providing advisory and early warning signals to predict credit risk and enable precise assessments of borrower creditworthiness, leading to better decision-making and reduced default rates.



Campaign & Channel Management: Automating marketing efforts and optimizing channel strategies ensuring that customer receive targeted and relevant offers, boosting engagement and conversion rates.



Operational Efficiency: Streamline workflows and reduce manual intervention, allowing banks to optimize and automate services, reducing operational overheads.



Risk & Regulatory Evolution: Comply with evolving requirements and mitigating risks, by automating risk assessments and regulatory reporting



Banks that deploy AI at scale can achieve a 10% to 15% reduction in operating costs and a 20% to 25% increase in revenue.
- McKinsey



Continuous monitoring and optimization are crucial for the success of AI/ML deployments. Banks should regularly evaluate the performance of their AI models, gather feedback, and make necessary adjustments to improve accuracy and efficiency.

Deploying AI/ML requires expertise in data science, machine learning, and AI engineering. Banks should invest in building skilled teams or partnering with technology firms to access the necessary talent.



JPMorgan Chase implemented COiN, an AI program using natural language processing to analyze legal documents in seconds—a task that previously took 360,000 hours. This AI expansion into credit decisioning has enabled faster, more accurate risk assessments, streamlining the loan approval process and enhancing customer service through rapid responses.

Leveraging AI for Enhanced Credit Risk Assessment



Credit decisioning is the financial compass that guides institutions through the stormy seas of risk and reward. Advanced credit scoring models and risk assessment algorithms are the tools that help banks calibrate this compass for optimal accuracy..

Generative AI has the potential to add \$200 billion to \$340 billion annually to the global banking industry. This could account for 2.8% to 4.7% of the industry's total revenue.

The Vital Role of Credit Decisioning in Banking

Credit decisioning is a critical component in the banking sector as it directly influences a bank's ability to manage risk, maintain profitability, and expand its customer base. By accurately assessing the creditworthiness of borrowers, banks can make informed lending decisions that minimize the risk of default while maximizing returns. Effective credit decisioning not only protects the bank's assets but also enables the institution to extend credit to a broader range of customers, including those in underbanked markets. In a landscape increasingly driven by data and AI, precise credit decisioning becomes even more crucial, allowing banks to adapt to market changes, support economic growth, and foster financial inclusion.



50% reduction in credit losses by identifying risks earlier and more accurately by driven analytics.
- McKinsey

20% reduction in default rates to provide a more reliable basis for lending decisions through AI based credit scoring models.
- PwC

35% reduction in time spent on reporting while improving accuracy through AI
- Gartner

The necessity of digital adoption

The rapid adoption of digital technologies in banking has made traditional credit decisioning methods increasingly obsolete. As the financial landscape evolves, relying on manual or outdated processes hinders a bank's ability to compete. Digital credit decisioning enables banks to leverage vast amounts of data, automate risk assessments, and personalize lending offers, which leads to faster, more accurate decisions. By adopting digital tools, banks can stay agile, respond swiftly to market changes, and better support economic growth in a digitally driven world.



According to the Federal Reserve Board, 6% of Americans are unbanked, and another 13% are underbanked. This means that outdated credit models may prevent banks from lending to nearly 19% of the U.S. population.

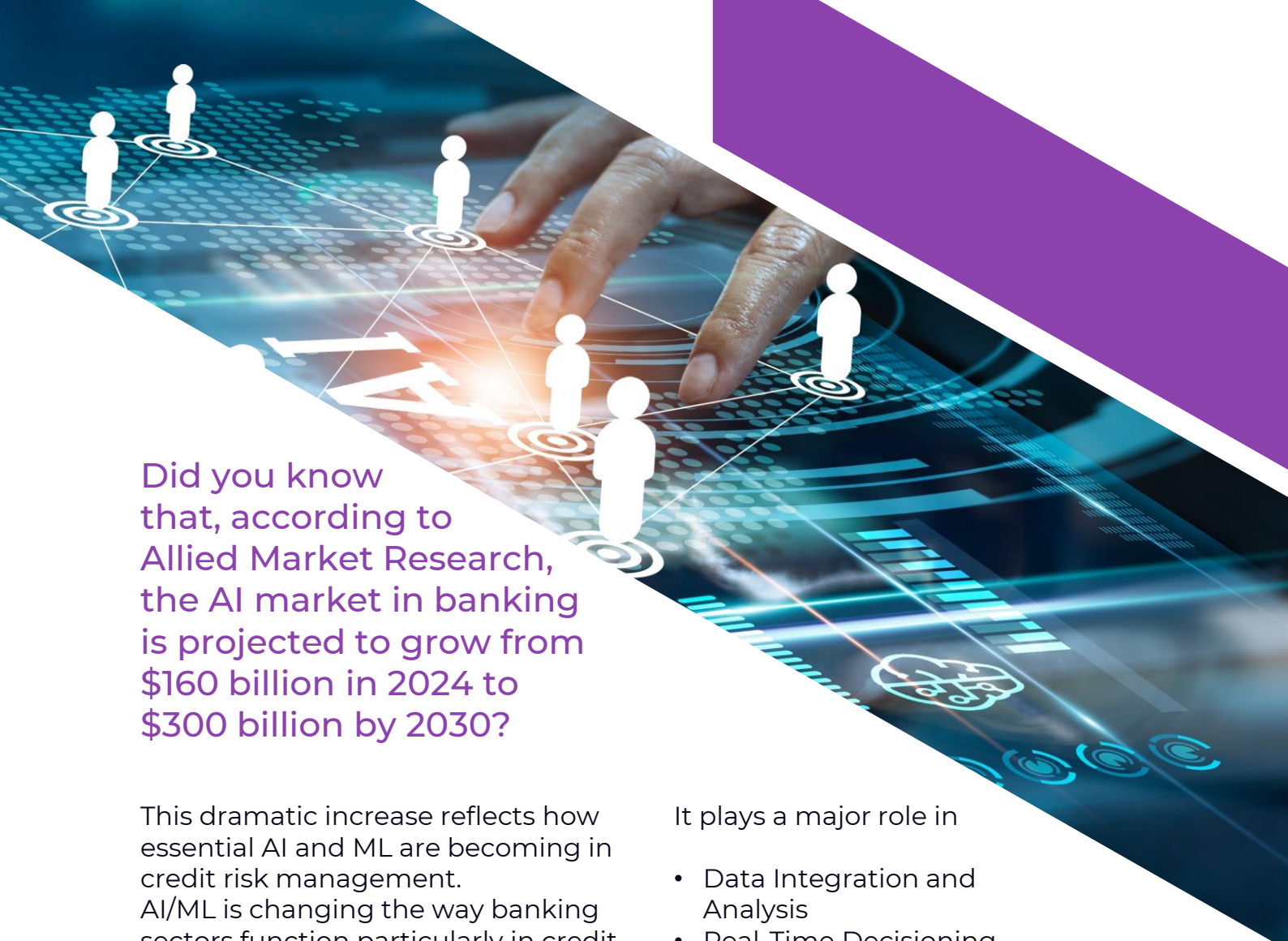
Integrating Analytics into Credit Risk Management

As banks navigate the demands of the digital age, the integration of analytics into credit decisioning processes emerges as a critical strategy. Analytics-driven credit decisioning not only refines the assessment of creditworthiness but also enhances the efficiency and accuracy of loan approvals. By transforming vast amounts of data into actionable insights, banks can better serve their customers, particularly in underserved markets, while also ensuring profitability.

The following table highlights key business analytics applications that are driving this transformation in credit risk management, showcasing how these tools contribute to smarter, more agile credit decisioning.

Key Business Analytics Applications in Credit Risk Management

Factors	Traditional Segmentation
Application Scorecard	Derived through statistical analysis using data from loan applications and credit bureaus, this scorecard helps assess creditworthiness effectively.
Behavior Scorecard	Used to establish pre-delinquency strategies, this scorecard proactively reduces delinquency by analyzing customer behavior patterns.
Fraud Scorecard	By analyzing customer data and identifying key fraud indicators, this scorecard assigns fraud scores and enables targeted fraud prevention strategies.
Risk Reports and Dashboards	Automates reporting and integrates custom dashboards, helping to analyze and validate policy parameters, ensuring accurate risk assessments.
Portfolio Review	Evaluates portfolio performance against key KPIs such as profitability, delinquency rates, and lending process efficiency to ensure optimal portfolio management.
Risk-Based Pricing	Analyzes pricing policies and average pricing trends to develop relationship-based pricing strategies that enhance profitability and ensure fair pricing.



Did you know that, according to Allied Market Research, the AI market in banking is projected to grow from \$160 billion in 2024 to \$300 billion by 2030?

This dramatic increase reflects how essential AI and ML are becoming in credit risk management. AI/ML is changing the way banking sectors function particularly in credit decisioning. These advanced technologies automate complex processes and provide deeper data insights. This enables banks to make more accurate, efficient, and equitable credit decisions.

It plays a major role in

- Data Integration and Analysis
- Real-Time Decisioning
- Predictive Analytics
- Enhanced Fraud Detection



Early intervention strategies in credit decisioning not only reduce Non-Performing Loans (NPLs) but also reinforce customer trust. By proactively managing debt, banks demonstrate a commitment to their clients' financial well-being, fostering stronger and more resilient relationships.

AI-Powered Credit: Shaping the Future of Decisioning



Decisions are becoming less about reaction and more about prediction, with every customer interaction and loan approval driven by a precise blend of data intelligence and machine learning. This transformation, powered by AI, is turning traditional credit decisioning on its head, where each strategic move is finely tuned to not only reduce risk but also unlock new opportunities. Here, the ordinary becomes extraordinary, as banking operations evolve into a sophisticated dance of insights and outcomes, reshaping the very nature of financial decision-making.



"According to the McKinsey Global Institute (MGI), generative AI has the potential to add \$200 billion to \$340 billion annually to the global banking industry. This could account for 2.8% to 4.7% of the industry's total revenue."

By detecting small changes in spending or payment habits, AI helps banks step in before a customer falls behind on payments. This proactive approach reduces the number of bad loans and builds stronger relationships with customers by offering help before issues escalate.

Pre-delinquency Behavioral Strategy by Customer Category

By employing **predictive analytics** and **behavioral data analysis**, banks can categorize customers based on their spending and repayment behaviors, proactively managing potential delinquencies. This approach allows financial institutions to segment customers into "good," "bad," or "indeterminate" categories, enabling them to take timely actions that reduce loan defaults and optimize the credit portfolio for safer credit top-ups. AI-driven models ensure continuous improvement in predictive accuracy.

Reducing Non-Performing Loans in High-Risk Segments

Using **data segmentation** and **trend analysis** powered by AI, banks can pinpoint customer segments that contribute most to non-performing loans (NPL). By targeting these segments with specific delinquency reduction strategies, institutions can effectively lower NPL rates. This method, driven by in-depth data analysis and AI-enhanced insights, improves the creditworthiness of high-risk segments, leading to a significant return on investment (ROI) and better financial outcomes.

Advanced Fraud Modeling and Transactional Analysis

To improve fraud detection in credit decisioning, banks utilize **advanced analytics** and **AI-driven pattern recognition** to scrutinize vast amounts of transactional data. By comparing expected behaviors with actual activities, these models identify unusual patterns with high precision, reducing false positives and enhancing the effectiveness of fraud detection. This leads to significant productivity gains in compliance reporting and strengthens the bank's ability to combat financial crimes.

AI-Driven Branch Scorecards for Risk Management

The use of **performance scorecards** and **AI-enhanced risk-return profiling** enables banks to monitor and improve branch performance effectively. By segmenting branches based on their risk profiles and implementing tailored strategies, financial institutions can significantly reduce delinquency rates. This AI-driven approach not only enhances branch-level performance but also contributes to higher profitability and lower credit risk across the institution.

Hyper-Lend Automation and Predictive Analytics

Machine learning algorithms and **AI-driven automated underwriting** form the core of Hyper-lend, a technology that automates the entire loan processing cycle. By reducing the need for manual intervention, this system cuts loan processing times by up to 80% and increases data accuracy. The predictive capabilities of Hyper-lend, powered by AI, ensure that lenders can make informed decisions, reducing errors and improving overall loan management efficiency.

AI-Powered Credit Risk Assessment Framework

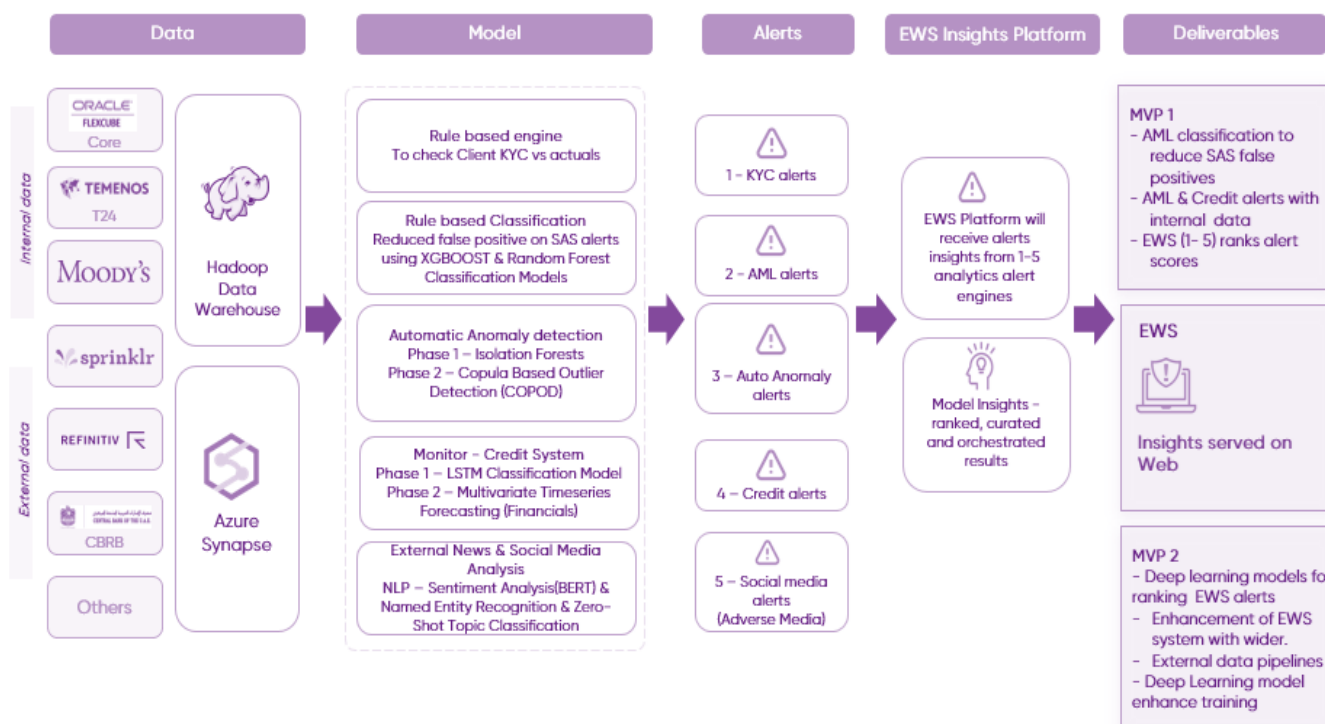
The **credit risk scorecard** integrates various data sources, including customer transactional and behavioral data, to continuously assess and refine credit scores, particularly for non-traditional credit customers. By leveraging **data integration**, **AI-driven analytics**, and **model retraining**, financial institutions can more accurately assess risk and make better-informed credit decisions, reducing delinquency rates and increasing profitability.



McKinsey highlights Ping An's innovative use of image analytics to detect subtle facial micro expressions during loan applications. This advanced technology assesses the authenticity of applicants, adding a critical layer of insight into their truthfulness. By capturing these minute expressions, Ping An enhances the accuracy and reliability of its loan approval process, setting a new standard in tech-driven client evaluations.

Early Warning Systems for Credit Risk Management

The Early Warning System (EWS) utilizes **machine learning** and **socio-economic data analysis** to monitor potential credit risks proactively. By analyzing a combination of macroeconomic factors and customer-specific data, the AI-driven EWS provides early alerts that help financial institutions mitigate significant risks before they escalate. This proactive system not only protects against large-scale credit losses but also enhances customer engagement through targeted marketing strategies.



Credit decisioning has evolved from gut instincts and spreadsheets to a dynamic, data-driven symphony where every note is played with precision and purpose. As these technologies continue to advance, they will set new benchmarks for accuracy, efficiency, and innovation, leading the way to a more resilient and forward-thinking financial industry.

Research by Accenture shows that AI-enabled portfolio monitoring can reduce credit losses by 15-20% for better portfolio health.

Unlocking New Frontiers: AI's Role in Expanding Credit Access



A recent McKinsey report highlights that AI-driven credit decisioning could unlock \$1 trillion in value for banks globally, particularly by tapping into unbanked and underbanked markets. By leveraging AI to assess creditworthiness more accurately, banks can expand into new customer segments that traditional models often miss. This not only diversifies portfolios but also drives inclusive growth in a competitive landscape.



Account Opening

AI-powered credit decisioning systems are reshaping how banks expand their customer base, particularly in unbanked, underbanked markets, and small/medium-sized businesses (SMBs). By leveraging AI, banks can not only enhance credit access but also optimize risk management, driving both growth and stability.

Transaction Processing

AI analyzes alternative data, such as utility payments and mobile usage, to assess creditworthiness, offering a lifeline to those overlooked by traditional systems. By incorporating non-traditional data sources, AI opens up new avenues for financial inclusion, empowering individuals and communities that previously had limited access to credit.

Loans & Credit Operations

AI can automate 70-90% of decision-making processes, leading to a 30-50% increase in automated approvals. This not only reduces operational costs and speeds up the credit approval process but also enables banks to handle higher volumes of applications with consistent accuracy and fairness, ensuring that more deserving applicants are given the opportunity to access credit.

Treasury Operations

AI enhances approval rates by 15-40% while simultaneously reducing loss rates by 10-25%. Through continuous learning and real-time adjustments, AI allows banks to confidently approve more loans with minimized risk, ensuring that growth is sustainable while protecting the institution's financial health.

Trade Finance

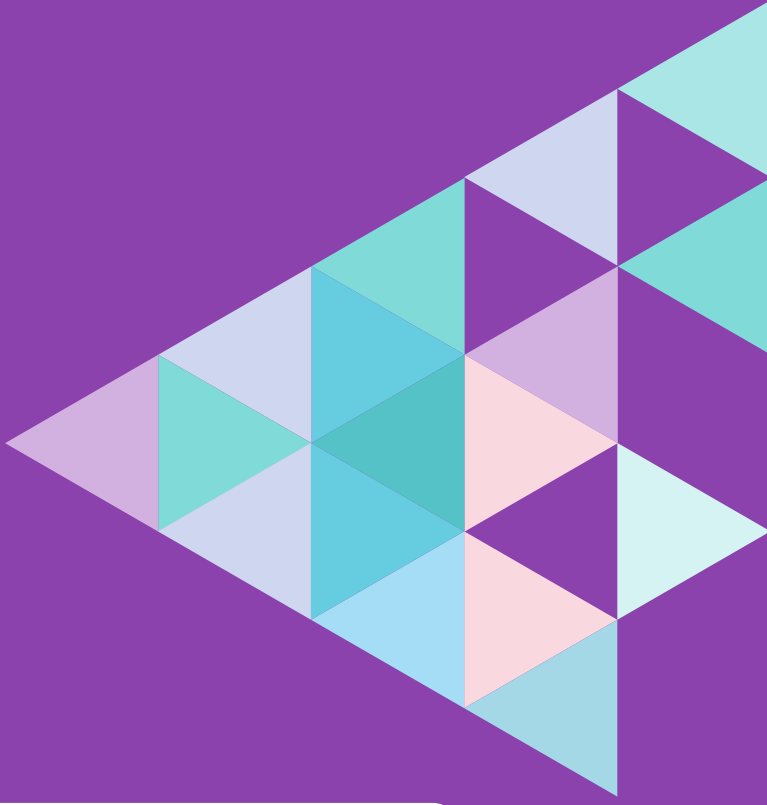
AI continuously learns and adjusts to market dynamics, making it particularly effective in supporting Small and Medium-sized Businesses (SMBs) affected by events like COVID-19. This adaptive capability ensures that credit policies remain relevant and responsive, enabling banks to support their customers through economic fluctuations and unforeseen challenges, thereby fostering long-term relationships.



AI's transformative power in credit risk management is not just about expanding access; it's about redefining possibilities. With AI-driven decisioning, banks have seen a 30-50% increase in automated approvals and a 10-25% reduction in loss rates, paving the way for responsible growth. As AI continues to evolve, its ability to adapt to market changes will ensure a more inclusive, efficient, and resilient financial ecosystem. This is where the future of banking truly begins.

Road Ahead

As AI continues to mature, the road ahead for credit decisioning is one of enhanced precision, deeper market penetration, and continuous innovation. The focus will shift toward refining AI algorithms to handle even more complex data sets, enabling banks to anticipate trends and respond with agility. This evolution will not only bolster financial stability but also ensure that the benefits of AI-driven credit systems are accessible to a broader range of consumers and businesses, shaping a more inclusive financial future.



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