



AI-POWERED CREDIT DECISIONING SYSTEMS

Reduce risk and expand your customer base

AI AND CREDIT: MORE CUSTOMERS, LESS RISK

The ability to reach more credit-worthy customers with targeted credit offerings is key to growth in the financial services industry, but many companies struggle to achieve this goal.

A tremendous opportunity certainly exists. Consumers in the U.S. alone are relatively well off, with approximately \$18 trillion in deposit accounts,¹ and delinquency rates hover at an all-time low of 1.2%.² There are large customer segments that remain untapped because of thin credit files and little or no track record with banks. These include underserved communities such as immigrants and the critical young-consumer demographic — the future of the industry's customer base. Overall, financially underserved Americans spend an estimated \$189 billion a year in fees and interest on payday loans, prepaid cards, and check cashing services.³ A significant portion of this money could be directed to other credit products.

The financial services industry recognizes the importance of reaching more credit customers, and it works hard to bring them on board. But there is more to be done. In 2022, about 20% of credit card applications and 33% of credit limit increase requests were rejected.⁴ Furthermore, 6.6% of consumers who needed credit said they were too discouraged to even apply.⁵ For financial services companies, all of this adds up to lost opportunities to drive increased revenue — and at the same time, strengthen their fair-lending efforts, and support their environmental, social, and governance (ESG) goals.

To reach more customers of all types from the underbanked to individuals who already have solid relationships with banks, financial services companies need to meet the rising expectations for rapid decisions on credit applications. That means being able to assess risk quickly and accurately for a growing variety of individuals. Too often, the industry's credit decision process cannot keep up with the demand, thus limiting the ability to extend credit to a broader range of customers.

This problem stems largely from outdated lending technology, particularly at smaller banks and credit unions. While artificial intelligence (AI) has made inroads across industries and even in other financial services processes, its use in credit decisioning is still limited. The reason: Lenders view the implementation of AI within their core loan origination systems as too complicated and too risky.

Advancements in cloud-based AI credit decisioning systems is now making it easier for companies to take advantage of a range of new data sources in the credit decisioning process. This can bring greater speed and efficiency to the overall process, enabling financial institutions to quickly approve or deny credit applicants with greater precision. Overall, credit decisioning agility has the potential to deliver a better customer experience while improving the risk profile of a firm's consumer and small business credit portfolios.



¹ ["Understanding Bank Deposit Growth during the COVID-19 Pandemic," Federal Reserve, June 3, 2022.](#)

² ["Charge-Off and Delinquency Rates on Loans and Leases at Commercial Banks," Federal Reserve, 3rd Quarter, 2022](#)

³ ["The Costs of Being Unbanked or Underbanked," December 2, 2022, Forbes Advisor](#)

⁴ ["New Credit Card Applications: Thanksgiving for the Household Budget," November 23, 2022, Payments Journal](#)

⁵ ["Credit Demand Recovers, Returning to Pre-Pandemic Levels," November](#)

STREAMLINING AI FOR CREDIT DECISIONING



Financial services institutions have known for some time that AI, with its ability to handle larger volumes and more types of data, can be an important tool for addressing their credit decisioning shortcomings. But they have also faced barriers to using AI in their existing credit decisioning systems. For example, using AI has often meant implementing a custom AI solution and integrating it with their existing core loan origination system, which can be a difficult and daunting task. It also requires financial services companies to acquire the right skills and devote time to develop AI algorithms for lending product underwriting. In addition, institutions often question how well AI complies with lending regulations.

Technology has now matured to the point where ready-made, cloud-based solutions are on the market and available on a software-as-a-service basis. This greatly simplifies the implementation of AI capabilities in the credit decisioning process.

While systems vary, they typically include sophisticated AI and machine learning (ML) models, a library of credit-risk predictors, and preconfigured features for making automated, real-time credit decisions across credit and lending products such as small business loans, personal loans, and car loans. They also offer a range of application programming interfaces (APIs) that allow them to be easily integrated with existing loan origination systems, making it possible to implement a decision system in just a few weeks, as opposed to several months. Since these AI platforms are delivered as a service, financial services companies can move forward without large upfront capital expenses and the need to provide ongoing maintenance, which is handled by the provider.

MISSED OPPORTUNITIES TO DRIVE A SUPERIOR CUSTOMER EXPERIENCE

Many financial services companies have incorporated automation into their credit decisioning processes, but these systems are often proving to be insufficient in the face of rising customer expectations and increasingly competitive markets. Although many of them have a digital front-end, such as a mobile banking app, the back-end technologies and processes are less sophisticated and rely on limited sets of data from traditional sources, such as credit bureaus and income statements, to support credit decisions.

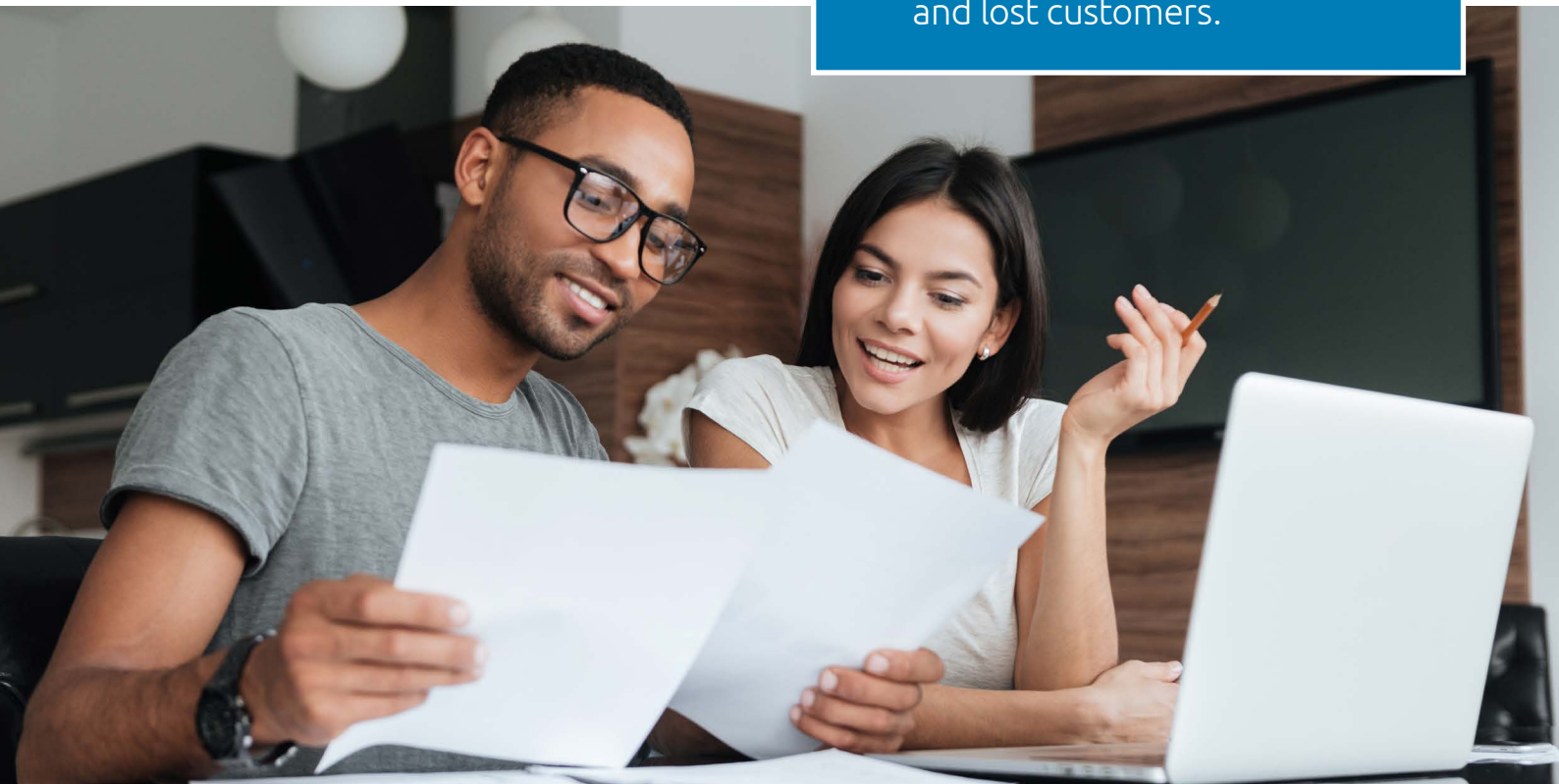
These systems use algorithms to automate and speed up the credit decisioning process. In many circumstances, they can deliver an immediate response. However, due to the basic nature of these algorithms and the limited datasets being considered, these systems are often unable to make a credit decision automatically in more complex situations. This is especially true when applicants have a thin credit file or a limited credit history. These exceptions are routed to a manual underwriting process.

This approach can drive up costs and create delays in getting credit decisions back to customers. It can also mean that financial services companies frequently fail to make appropriate, low-risk loans. This is especially true when it comes to working with the unbanked and underbanked. Today, more than 45 million American consumers fall into these categories in terms of their

access to credit.⁶ Many institutions have identified this large pool of potential customers as an important segment for growth but their credit decisioning systems often impair their efforts to reach this group.

Delays can also lead to a poor customer experience in an era when consumers expect immediate responses. So too can rejections, which could be especially damaging when delivered to existing customers. For example, when one bank sent an auto loan offer to its existing customers, it found that its process approved a small percentage of applications due to limited, traditional data being used in the automated system. This results in many applications from new and younger customers, who naturally have little credit history, being rejected. These customers are likely to seek loans elsewhere and potentially take all their business to the new institution. AI-enabled credit decisions can help financial services companies avoid those types of outcomes and deliver a better customer experience.

Traditional credit decisioning systems can drive up costs and create delays in getting credit decisions back to applicants, leading to a poor experience and lost customers.



⁶ ["More than 45 Million Americans are Either Credit Unserved or Underserved," TransUnion, April 7, 2022](#)

MORE DATA FOR DEEPER INSIGHTS

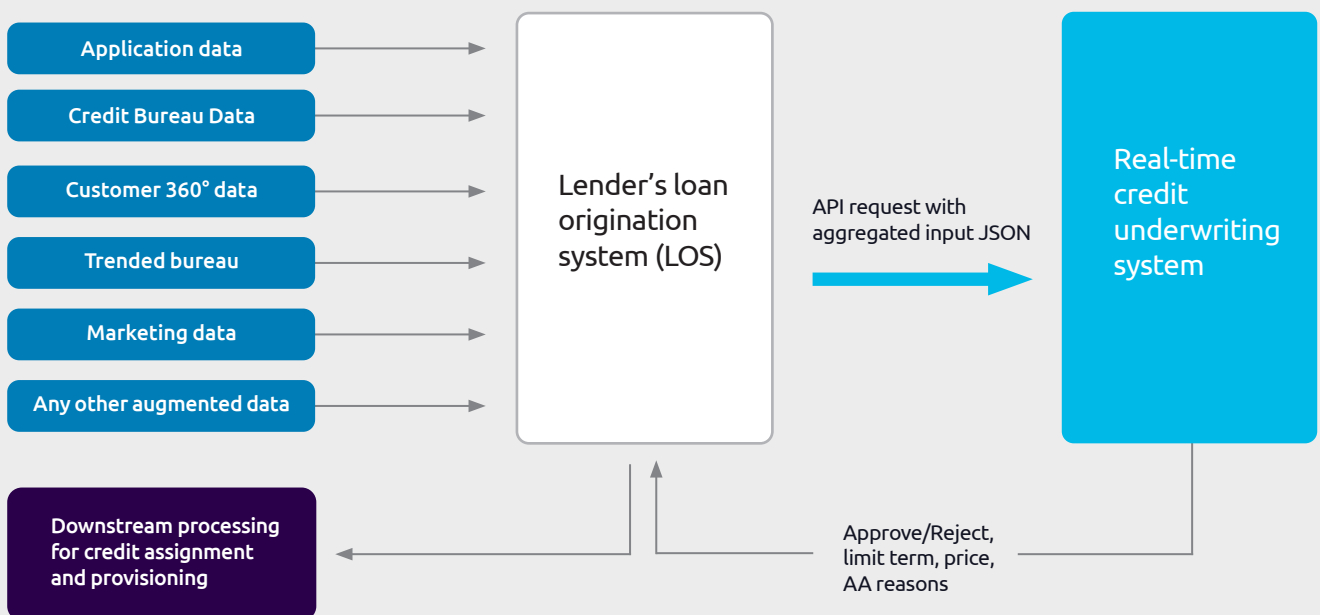
A key strength of these systems is the ability to take advantage of large volumes of data from a variety of sources. In addition to traditional sources such as credit bureaus and internal accounts, these solutions can incorporate data from utility bills, retail partners, and many other sources. This allows the financial services company to factor in more variables and develop a broader view of credit applicants while gaining a better understanding of those with thin files who have traditionally fallen below the radar.

Some solution providers also maintain relationships with a wide range of third-party data suppliers. This means that financial services companies do not need to go through the procurement process of forming relationships with individual data vendors or the technical process of integrating external data with their systems. That data is seamlessly available as part of the solution.

With this type of solution, data is fed into the AI-enabled, near-real-time credit decisioning system, which uses it to quickly assess applications and provide the lender's loan origination system with approve or reject decisions, relevant information about limits, terms, price, and adverse action reasons for declined applicants. (See Figure 1)

With previous generations of AI solutions, many financial services institutions worried that the system was a black box where they didn't really understand how decisions were made. That in turn created concerns about compliance and possible unfair lending practices. Modern platforms often provide high levels of explainability so that executives can fully understand and trust the automated decisions. As a result, the long cycle times needed to get approval for new AI models from a lender's Model Governance Council can be significantly reduced.

Figure 1: More data in real-time credit decisioning



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FASTER DECISIONS, BETTER DECISIONS

An AI-enabled platform can handle large amounts of data quickly, thereby reducing the time needed for underwriting. At the same time, the sophisticated AI models enable more accurate assessments of creditworthiness. This further accelerates the process by dramatically reducing the number of applications that need to be routed through manual processing channels. Financial services companies that have implemented such AI platforms have seen 70-90% increases in automated decisioning with gains of 30-50% in automated approvals.⁷

Overall, this means that lenders can act more quickly and approve more applications while reducing risk. Experience has shown that such solutions have the potential to increase approval rates by more than 15-40% while decreasing loss rates by 10-25%.⁸

This translates to increased revenue from more approvals, higher profits stemming from fewer defaults, and an improved customer experience due to speed and accuracy in the process. Performance will keep improving over time as ML capabilities constantly monitor results and finetune the system's decision-making models. The increased efficiency and accuracy of the AI-enabled decisioning process can also help financial institutions reduce their overall costs.

These platforms can help lenders successfully reach the unbanked and underbanked markets based on a more thorough, data-driven view of an applicant's financial life. For these consumers, this can provide a starting point for establishing and building a sound credit history. For the institution, it can create a vital opening for building long-term relationships that grow customers from deposit accounts to credit cards and loans. Similarly, the platforms can help institutions better serve the numerous small and medium-size businesses that they may have missed using traditional decision systems. This group includes many businesses that were hit hard by the COVID pandemic and for whom loans were a critical factor in weathering its disruptions.



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⁷ <https://www.scienaptic.ai/featured-insights>

⁸ <https://www.scienaptic.ai/credit-underwriting>

CASE STUDY

GIVING CREDIT WHERE CREDIT IS DUE

Over its 80-year history, a U.S. credit union had grown to serve a community of more than 150,000 members. With this sizable membership, it wanted to change its credit application process to extend credit access to more members and improve the overall member experience.

The process involved a high level of manual effort, leading to delayed loan decisions for many members. Relatively simple algorithms had also been implemented in the credit decisioning automations, which resulted in many members, who did not have credit problems, being denied loans. Those who were approved and had good credit histories often did not receive the best, most appropriate credit offers.

The credit union implemented a cloud-based, AI-powered credit decisioning platform that automated the lending process. This platform

employed smarter decision algorithms and drew on a larger range of traditional and non-traditional data to understand its members more fully. As a cloud-based solution, the platform was implemented quickly, without disruption to the business.

With the new platform in place, the credit union was soon seeing 77% of its credit decisions being made automatically, leading to a 27% increase in approval rates and a 20% reduction in risk.⁹ The new approach also enhanced the member experience with credit decisions being made in minutes rather than the several days it previously required. The credit union can now provide personalized credit offers to members even before they apply based on a clear understanding of their creditworthiness. This new level of efficiency has enabled staff to spend more time providing advice to members and assisting them in bettering their financial lives.



⁹ <https://www.scienaptic.ai/featured-insights>

NOT ALL DECISIONING PLATFORMS ARE CREATED EQUAL

Financial services companies must consider several key questions when looking at AI credit decisioning platforms:

- What features do they offer and how do they align to their needs?
- What types of data can they handle or provide?
- How do they comply with regulations such as the Equal Credit Opportunity Act and Fair Credit Reporting Act in the United States?
- Can the AI models be easily understood by regulators and executives?
- How frequently are the models updated?
- What does the vendor define as real-time?
- What experimentation capabilities are available in the system?

Some of these platforms can be implemented as an add-on to an institution's on-premise loan origination system. However, most financial services companies could consider implementing them as part of a broader infrastructure modernization effort. As an integral part of an institution's cloud infrastructure, these AI-based systems can more easily provide access to a wider range of data available from the solution provider — including new data sources that may emerge. Vendors work constantly to bring new sources on board, and as they do

so, they work with lenders to get their consent for the type and granularity of data being included in the credit decisioning process.

Financial services companies continue to be in a frenetic race to keep pace with the constantly evolving expectations of existing customers, while finding innovative ways to reach new customers. The latest generation of cloud-based, AI-driven credit decisioning platforms can be a powerful tool for succeeding at both.



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