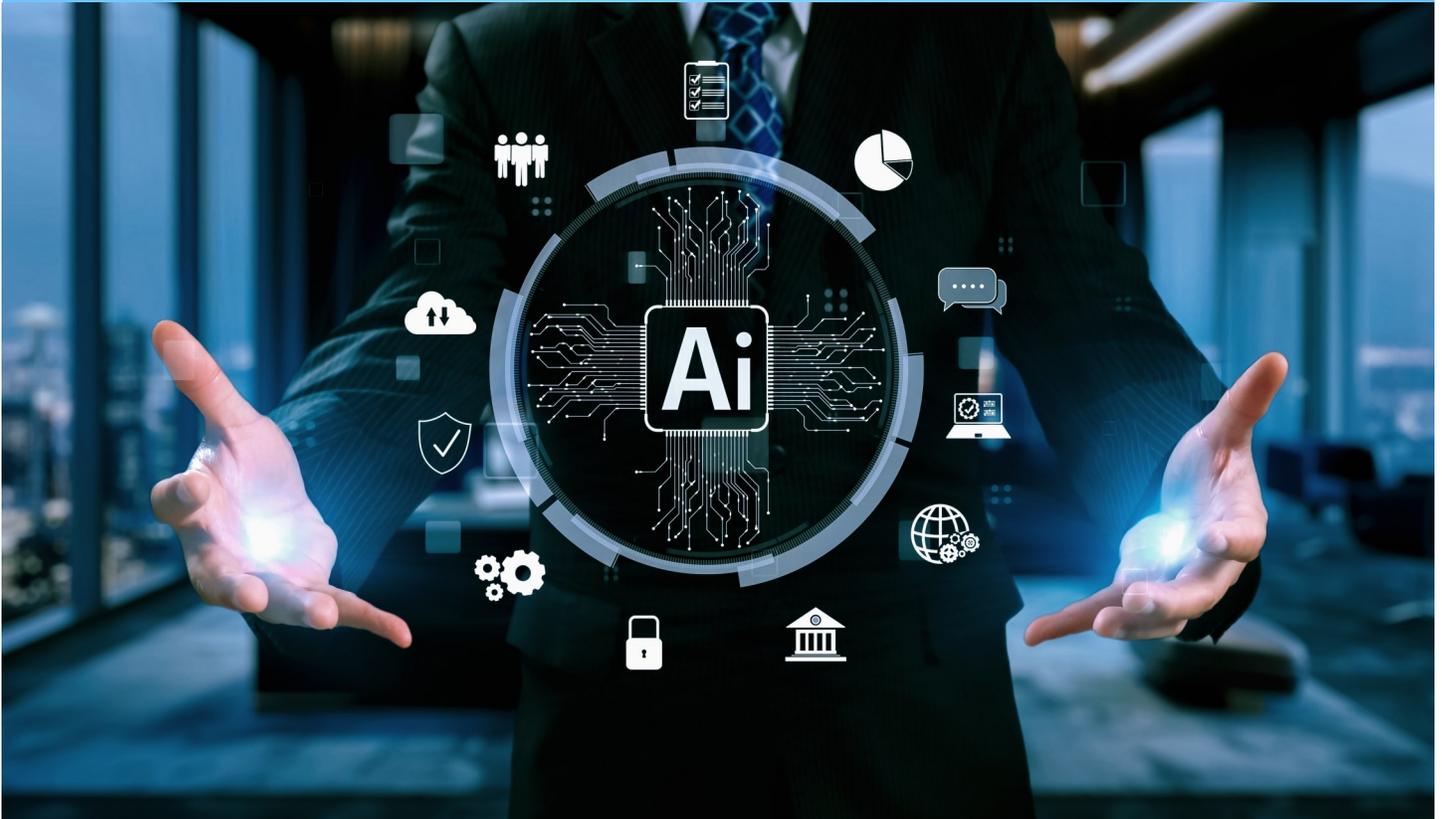# SAMAHA
& ASSOCIATES®

GET TO KNOW BETTER CONSULTANCY

The Future of AI and Credit Unions: Determining Applications, Objectives and Benefits

A White Paper

Presented by Samaha & Associates Contributors Team:

Sabeh Samaha, Adam Denbo, Steven Uhrman and James Huaman

Executive Summary

Undeniably an evolving technological advancement with far-reaching merits, artificial intelligence (AI) is significantly changing back office and member-facing user experiences as well as C-Level decision-making processes. AI, however, is not a new concept as machine learning (ML) and AI applications date to the 1950s, when computer scientists demonstrated that AI and ML could automate decision-making—this caught the attention of the banking community. Over the years, these technologies morphed into neural networks allowing financial institutions (FIs) to quickly and accurately analyze large datasets that were collected but otherwise siloed. As a result, AI/ML gave rise to predictive analytics and its many applications.

Today, big data and cloud computing have forever changed the way FIs develop banking services for consumers. The antiquated chatbots of yesteryear have been replaced by AI/ML and AI-powered robotic process automation (RPA) driven virtual assistants that are advancing with each user experience, while offering fraud detection, and other critical safeguards, in real-time. The AI/ML platform is literally changing minute to minute—a moving target requiring skilled markspersons.

Determining when an organization is ready to deploy these next-generation AI/ML strategies depends on a host of factors, which especially ring true for credit unions of varying asset classes that may or may not have internal IT departments equipped for such an undertaking. Watching from the sidelines with hopes of being an AI/ML fast follower, however, is not a winning strategy.

"Falling behind this technology curve, when this curve is an exponential curve, is dangerous. It becomes exponentially harder to catch up," said Karan Kashyap, CEO and co-founder of the Boston, Mass.-based Posh AI, which has over 100 FI clients. "AI/ML is poised to become integral to the credit union industry, driving innovation in member services, operational efficiency, and risk management."

Info-Tech Research Group's recently published *AI Trends 2025: Four Key AI Trends Affecting CIOs*. Undertaken in May and June of 2024, approximately 1,000 IT leaders participated—from industries including government/public sector, financial services, healthcare, and telecom. Among the report takeaways was that 41 percent of respondents said that an AI strategy is being developed or will be developed soon, whereas only 26 percent said that there is no specific AI strategy, but that AI will be part of its IT and business strategies moving forward. Among the reasons for the latter finding is that business and technical challenges present barriers to successfully deploying and adopting AI initiatives. "Lack of skills and AI governance are the most difficult challenges," the report stated. "Having the proper data platform and selecting the right AI use case to pursue were also noted as significant challenges."

> **"AI/ML is poised to become integral to the credit union industry, driving innovation in member services, operational efficiency, and risk management." - Karan Kashyap, CEO Posh AI**

How do these variables translate to adoption rates in the credit union industry? The multi-tiered answer to this all-important question is the thesis of this white paper, which will investigate credit union AI/ML/RPA use cases as well as insights shared from fintechs and consultants driving the next iteration of this technological movement. To this end, the white paper will address the following five leading segments facing the credit union industry in 2025 and beyond:

1. Enhanced Member Service

2. Fraud Detection and Risk Management

3. Loan Underwriting and Processing

4. Personalized Member Experience

5. Operational Efficiency

For the purposes of this white paper, AI/ML are defined as technologies that enable systems to learn from data, identify patterns, and make decisions with minimal human intervention. In the credit union industry, specifically, AI/ML applications include predictive analytics for risk management, automated customer service chatbots, personalized marketing, and fraud detection, among other critical tasks.

Enhanced Member Service

The credit union ethos of "people helping people" was founded on trust and personal service. For many executives operating in the credit union space, AI, ML and RPA were initially perceived as threats to the noted credit union foundational cornerstones, but today these next generation technologies are revolutionizing member services in credit unions in several important ways. By analyzing data, AI/ML tailors services to individual members, offering personalized product recommendations and financial advice, which makes members feel valued and understood.

"Integrating AI/ML can enhance this by automating routine tasks, allowing staff to focus on personalized member interactions. For instance, AI-driven assistants can manage common member inquiries, providing immediate responses and freeing up human agents for more complex issues," said Posh AI Co-Founder and Chief Technology Officer Matt McEachern. "This synergy ensures members receive efficient service without sacrificing the personal touch where it matters."

AI-driven chatbots also provide around-the-clock support, handling routine inquiries and issues quickly, ensuring that members receive assistance anytime they need it. Automation of routine tasks, such as loan application processing, significantly reduces wait times and improves the overall speed and efficiency of service delivery.

"We emphasize that conversational AI is designed to make humans more human, enhancing rather than replacing human interactions," McEachern added. "One way we are leaning into this is via Posh's 'Knowledge Assistant,' which gives credit union employees, especially frontline staff members, quick access to information—from standard operating procedure and policies—as they are helping members."

Additionally, AI/ML algorithms monitor transactions in real-time, identifying unusual patterns and potential fraud much faster than traditional methods, providing members with heightened security. Predictive analytics enable credit unions to anticipate member needs, offering timely services and products, leading to higher satisfaction and engagement. To this end, AI/ML helps in automating administrative tasks, reducing the burden on staff, and allowing them to focus on more complex, member-facing activities.

By providing personalized experiences, efficient service delivery, improved security, and proactive engagement in credit unions, AI/ML boosts member satisfaction and loyalty. These tools can provide 24/7 support for common questions regarding account balances, loan applications, and service offerings. By automating these interactions, credit unions can significantly reduce waiting times, while allowing staff to focus on more involved member needs.

Fraud Detection and Management

According to the noted Info-Tech Research Group report, 65 percent of security leaders from the US and UK anticipate AI will be used in the majority of cyberattacks in the coming year and 93 percent predict that AI-based cyberattacks will be a daily occurrence by 2025. These are fact-based fears. The Federal Trade Commission's CSN Annual Data Book, for example, found that in 2023 there was $10 billion in bank fraud. While disconcerting, threat and fraud attacks in the FI space have been an ongoing battle time immemorial, but AI/ML solutions offer hope.

When expertly executed, AI/ML technologies excel at analyzing transaction patterns and identifying anomalies. Credit unions can use these algorithms to detect potentially fraudulent activities in real time that would be difficult for human analysts to spot, such as sudden spikes in transaction amounts or changes in spending habits. This capability not only protects members' finances but also enhances trust in the institution. AI/ML systems can also adapt and learn from new fraud patterns, continually improving accuracy over time.

This proactive approach allows credit unions to respond swiftly to potential threats, minimize financial losses and protect member accounts. Additionally, AI/ML can assist in verifying member identities through advanced biometric analysis, reducing the risk of identity theft and ensuring that only authorized individuals can access sensitive information.

Alkami's report, *Artificial Intelligence in Banking: Top Use Cases Revealed* (August 2024), found that 44 percent of the 150 regional and community banks polled ranked fraud protection as one of the top two leading AI use cases. "Security and fraud protection was defined as being alerted that an account holder may be the target of a suspected cyberattack or fraud scheme and, at their request, freezing the account (s) should a suspected fraud scheme or cyberattack be underway," the report stated. "Baby boomers cited the highest comfortability [with card controls] at 50 percent, followed by Gen Xers at 38 percent, younger millennials at 35 percent and Gen Z and older millennials at 34 percent."

By implementing AI/ML, credit unions can enhance their security measures, provide a safer banking environment for their members, and stay ahead of increasingly sophisticated fraud tactics and attacks.

Loan Underwriting and Processing

While the loan application process can be cumbersome and time-consuming, AI and ML can streamline this all-important task by automating document verification and risk assessment, which leads to faster approvals, improving the member experience and potentially increasing loan volume. AI/ML is revolutionizing loan underwriting and processing by streamlining and enhancing the entire process. Through advanced data analysis, AI/ML can assess a borrower's creditworthiness more accurately by examining a broader range of data points, such as transaction history, social media activity, and other non-traditional credit indicators. This rigorous approach leads to more precise risk assessments and fairer lending decisions.

AI/ML can also automate repetitive tasks in the loan approval process, reducing the time and effort required to process applications, thereby speeding up decision-making and improving efficiency. Furthermore, these technologies can continuously learn and adapt to emerging trends and patterns in borrower behavior, ensuring that the underwriting models remain up-to-date and effective. The Fishers, Ind.-based FORUM Credit Union, which supports more than 162,000 members, is a leading example of how AI automates decisions and leverages data to transform traditional underwriting roles, while fostering innovation. In April 2024, the credit union's Chief Operating Officer Andy Mattingly was a guest on Multimodal's *Pioneers* podcast, hosted by CEO Ankur Patel, who explained the New York City-based company focuses primarily on automating complex workflows in insurance, banking, and healthcare. The takeaway for FORUM Credit Union was that with the assistance of AI, the credit union now securely automates 60 percent of consumer loans by focusing on simple, automatable decisions.

"It is a win-win. We make a great decision, it is a great member experience, and on the back end, we know the loan is going to be repaid," Mattingly noted. "One of the big pieces right now is detecting fraud and we're using some tools that are generative AI to help us detect fraud… just looking at things that we may not be able to see running in the background."

By leveraging AI/ML, credit unions can not only enhance the accuracy and efficiency of their loan underwriting and processing but also provide a better experience for their members by delivering quicker and more reliable loan approvals.

"These technologies can continuously learn and adapt to emerging trends and patterns in borrower behavior, ensuring that the underwriting models remain up-to-date and effective."

Personalized Member Experience

With positive use cases mounting, AI/ML has the power to transform the member experience by delivering highly personalized services. By analyzing vast amounts of member data, these technologies can identify individual preferences, behaviors, and needs. This enables credit unions to tailor product recommendations, financial advice, and communicate specifically to each member.

Imagine, if you will, receiving timely, relevant financial tips or loan offers that match a member's spending patterns and financial goals—AI/ML makes this possible. Moreover, AI-driven chatbots and virtual assistants provide personalized interactions by recalling past conversations and preferences, making each interaction more meaningful and efficient. The result is a more engaging and satisfying intuitive member experience that feels custom-made for everyone, fostering stronger member loyalty and satisfaction. Instead of placing members on hold to check with a manager or call the internal support line, employees can query the virtual agent in real-time and have access to consistent, accurate information at their fingertips.

"We are using large language models (LLMs) to tailor responses to the user's tone, address specific questions without unnecessary information, and incorporate details we know about the user like their name," said Posh AI's McEachern. "We are also integrating with customer data platforms (CDP) systems, like core banking to authenticate the individual, perform actual transactions, and offer personalized cross-sell/upsell and next best actions, and interacting in the member's preferred language (i.e. multilingual)."

With the goal of providing customer support staff with a user-friendly interface for finding answers to support-related questions, MSU Federal Credit Union, the largest university-based credit union in the world with over 345,000 members, supporting 21 branches and more than 1,100 employees, developed and launched a virtual agent in 2020. The platform was developed in partnership with the Norway-based boost.ai. Today, the member-facing virtual agent, "Fran," has a 98 percent resolution rate and manages the equivalent chat load of nearly 60 full-time employees, equating to almost 45,000 conversations per month.

"Unlike AI bots of the past, Fran can assist in simple and somewhat complex situations, sometimes fully assisting a member without needing an employee's help at all," noted MSU Federal Credit Union eServices Specialist Sam Kirkley. "Fran takes a good chunk of the live chat workload, which also helps us have more in-depth conversations with members."

Operational Efficiency

To Kirley's point, AI/ML is greatly enhancing operational efficiencies at scores of credit unions by automating repetitive and time-consuming tasks, thus freeing up staff to focus on more strategic and member-facing activities. These technologies streamline workflows by processing large volumes of data quickly and accurately, reducing the potential for human error.

For Posh AI clients, after implementation of its voice, digital and knowledge products, credit unions look to respective key performance indicators (KPIs) to determine success rates. "It decreases the speed of answering by 92 percent, as AI handles routine and self-service questions, freeing agents to collaborate with customers with complex inquiries," said Kashyap. "This solves up to 94 percent of customer requests without a live agent, cuts employee search time for answers by 93 percent. The onboarding of new employees is up to 65 percent faster and eliminates the cost of third-party call centers for 24/7 customer support."

AI/ML tools also analyze operational data to identify bottlenecks and inefficiencies, providing insights that lead to better resource allocation and process improvements. By leveraging AI/ML, credit unions can significantly cut costs, enhance productivity, and deliver faster, more reliable services to their members.

While a FI juggernaut, JP Morgan Chase is a worthwhile AI case study. The bank increased its share of new industry AI research from 30 percent in 2018 to 45 percent in 2023. The company noted that at the start of 2024, there were approximately 400 AI/ML banking use cases, that number is expected to double by 2025.

"Roughly the value that we assign to our artificial intelligence use cases is around between $1 billion to $1.5 billion and is in the fields of customer personalization, trading, operational efficiencies, fraud manager, and credit decisioning," stated Daniel Pinto, JPMorgan Chase president and chief operating officer. Chairman and CEO Jamie Dimon added, "Over time, we anticipate that our use of AI has the potential to augment virtually every job, as well as impact our workforce composition. It may reduce certain job categories or roles, but it may create others as well. As we have in the past, we will aggressively retrain and redeploy our talent to make sure we are taking care of our employees if they are affected by this trend."

While Diamond's viewpoint can be viewed as supporting the notion that AI/ML could supplant more workers than the new jobs that could be created, industry insiders believe that credit unions will not reduce their workforce like larger banks. However, it is important for credit union C-Level executives to study how big banks are contemplating AI/ML/RPA use cases to maximize operational efficiency. To be certain, AI can optimize back-office operations by automating routine tasks like data entry and compliance checks, leading to cost savings and reduced error rates. These advancements not only improve operational efficiency but also enhance member experience, making credit unions more competitive in the financial services landscape.

"AI/ML is greatly enhancing operational efficiencies at scores of credit unions by automating repetitive and time-consuming tasks, thus freeing up staff to focus on more strategic and member-facing activities."

The Takeaway for Senior Leadership

In all foreseeable banking services and applications, AI/ML/RPA technologies are scalable to credit unions of varying asset classes. And while the case has been made as to why credit unions should be adopting an AI/ML forward leaning strategy, industry insiders suggest a calculated, ethical approach, paying close attention to data privacy and ensuring zero data retention.

"Do not fall for misleading vendors or overselling. Do not get locked into super long-term contracts when this tech changes so fast. Make sure to back-channel reference checks thoroughly and study the vendors' products in the wild deployed at other FIs," McEachern noted. "Ensure the vendor has a good reputation amongst their broader client base and try to validate that their internal culture is strong too (e.g. Glassdoor) with capable talent."

Kashyap added that while AI/ML is the new "shiny object," credit unions should only use these technologies to solve real business challenges, while achieving "real" ROI. This approach, he added, is often best vetted and executed with experienced third parties like technology consultants and fintechs.

"Most FIs should not try to build, they should partner with a trusted vendor. Building once may seem easy, but maintaining something over a long time is not trivial. Most FIs do not build their own digital banking applications, for example, even though you can hire app developers, this is a similar analogy," Kashyap offered. "For many credit unions, partnering with specialized AI providers or consultants is advantageous. These partnerships offer expertise, reduce implementation risks, and ensure solutions are tailored to the institution's specific needs."

The reason for credit unions to adopt AI/ML/RPA strategies is far-reaching, including offering personalized services, faster response times, and 24/7 support through chatbots, which when combined, enhances overall member satisfaction. Automating repetitive tasks also reduces human errors and streamline transactions. Predictive analytics greatly assists in making data-driven decisions, improving loan approval processes, and managing risks effectively.

From an operational standpoint, AI/ML can cut operational costs by automating tasks and reducing the need for manual intervention. Implementation can help credit unions stay competitive by offering innovative services and maintaining agility, but an over-reliance on AI/ML can lead to reduced human oversight and potential errors (if the technology fails or is not properly implemented).

When adopting these next generation technologies there could be a lack of skilled personnel to manage and maintain AI/ML systems, necessitating training and hiring. As such, navigating the regulatory landscape for AI/ML applications can be complex and time-consuming. To this end, third party consultants can help credit unions navigate the complexities of AI/ML adoption by providing expert guidance, while offering insights into best practices, including training staff and ongoing support to ensure successful implementation of a tailored AI strategy.

"Early adoption allows credit unions to stay ahead of the curve, offering enhanced services and maintaining a competitive edge," said Kashyap. "As AI technologies evolve, they will enable credit unions to deliver more personalized, efficient, and secure services, reinforcing their commitment to member-centric values."

As credit union executives look to 2025 and beyond, they should expect that AI/ML/RPA will continue to transform the industry. Personalized and efficient services will become the norm, improving member loyalty and satisfaction. Automation will further reduce operational costs and further efficiency. Predictive analytics will become increasingly sophisticated, aiding in better decision-making and risk management.

To succeed in this ever-expanding space, credit unions must continue to innovate by offering new products and services powered by AI/ML/RPA. While there are certain challenges to adopting these technologies, the benefits far outweigh the drawbacks, making it a worthwhile investment for credit unions of all sizes and the members they proudly serve.

Celebrating its 26th anniversary, the Miami, Fla.–based Samaha & Associates, Inc. is a nationally recognized technology-driven consulting group. Our team of seasoned professionals work collaboratively with financial institutions to develop, manage, and execute technology related optimization strategies. We specialize in vendor searches, negotiations, and comprehensive end-to-end implementations for core systems, cards and payment systems, digital banking, lending systems and much more. Our services extend to mergers and acquisitions, process improvement and implementations, revenue optimization, comprehensive technology planning, business resumption planning and special projects. Samaha & Associates exceeds expectations by creating a tailored approach to technology solutions that ensure seamless and successful outcomes for our clients. For more information, visit: www.ssamaha.com