2023

RETAIL BANKING IN A RISING RATE ENVIRONMENT:

New Strategies to Improve Deposit Stability and Protect Net Interest Margins

INTRODUCTION

After nearly four decades of low interest rates and stable profits, the tide is changing quickly in the banking industry.

Banks now face
rising interest rates in a world of new technologies, evolving economic models, increasing consumer expectations, and fintech competition they could have never imagined a decade ago.

The current environment reveals weaknesses in the banking sector that were less apparent when rates were at zero percent. Many banks have high efficiency ratios and contracting net interest margins, which are driving down earnings. And as rising yields increase competition for deposits, economic headwinds drive an uptick in delinquencies and defaults.

Banks now need new lending strategies that can reduce risk and uncover additional opportunities and sources of profitability.

By cross-selling and increasing credit product penetration, they can increase the “stickiness” of deposits and expand relationships with current customers.

Leveraging well-governed AI, banks can dig deeper into consumers’ income and spending patterns to enable them to expand the lending pool and make more profitable and competitive loan offers. Finally, by taking cues from leading retailers, they can use omnichannel experiences to enhance personalization and improve conversion rates.

With an AI-powered platform to analyze transaction data, banks can not only implement these strategies but also enhance profitability, increase efficiencies, and minimize risk. These are the exact capabilities that will enable banks to outpace their competitors.

THE END OF THE LOW-RATE RUN

For most of the past four decades, **banks have operated in an environment of relatively low interest rates.**

Between 1984 and 2009, the Federal Funds Rate gradually sloped from a high of 12% to 0%, where it has mostly stayed for the past 15 years.[1]

However, the zero percent party ended in March 2022 when the Fed began raising rates to counteract some of the highest inflation rates in nearly 40 years. By June 2023, the Federal Funds rate had risen more than 500 basis points in only 15 months, the fastest rate hike since the 1970s.[2]

This unexpected and game-changing development for the financial services industry has led banks to question their long-established strategies.

Many bank directors may be tempted to focus primarily on rate cycles, viewing this as another traditional upward move in interest rates. However, it's important to consider the global events and changes in the macroeconomic landscape over the past four decades.

IN THE 1980s,
Free-market doctrines led to privatization and deregulation, which shifted GDP share from labor to corporations and reduced labor's pricing power.

BY 1989,
The fall of the Iron Curtain reduced global risk premiums and eliminated the excessive cost structures associated with central planning. Growing globalization in the 1990s lowered trade and investment barriers, exposing economies to increasing competition.

BY THE EARLY-2000s,
Technological advancements like the internet and smartphones became key drivers of economic value creation, leading to disinflationary pressures. While rates started to rise again in 2004, the Great Recession in 2008 prompted the Fed to quickly slash rates to 0%, where it has mostly stayed due to bursting asset bubbles and the pandemic.

However, significant changes have altered the status quo in the past few years.

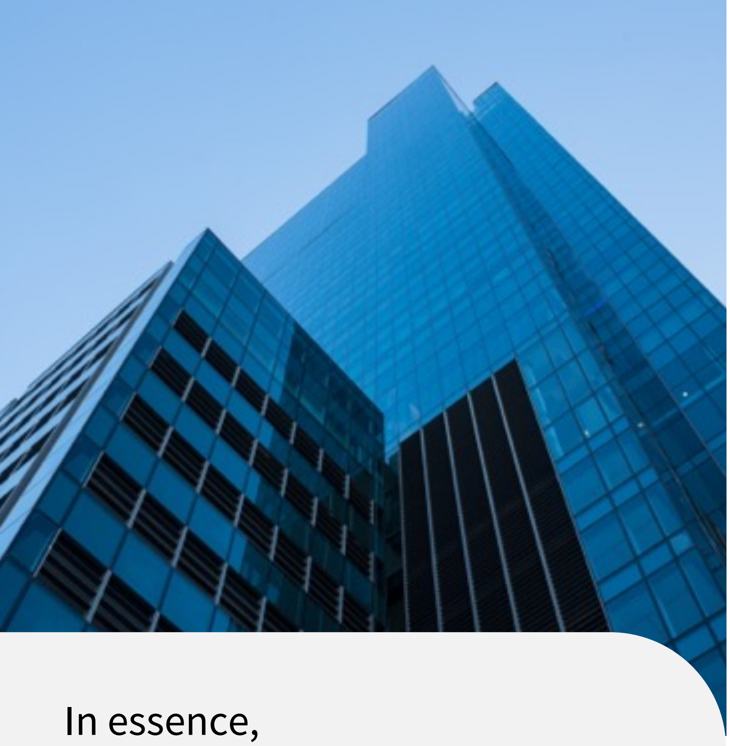
Growing U.S.-China rivalry,[3] and Russia's confrontation with the West has increased risk premiums, splintered the global economy, and altered the disinflationary construct.

Additionally, the resurgence of unions and labor shortages means that labor costs will likely rise until technology replaces more human labor. Recent supply chain shocks and the use of supply chain as a weapon also lead consumer-centric nations like the U.S. to manage supply chain risks better.

[1] Federal Funds Effective Rate, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/FEDFUNDS

[2] Memories of the 1970s haunt the Fed, pushing its aggressive rate moves, NPR, September 29, 2033, https://www.npr.org/2022/09/29/1125462240/inflation-1970s-volcker-nixon-carter-interest-rates-fed

[3] U.S.-China rivalry risks splintering the global economy, IMF chief warns, The Washington Post, November 12, 2022, https://www.washingtonpost.com/business/2022/11/12/us-china-rivalry-risks-splintering-global-economy-imf-chief-warns/



In essence,
the forces that engendered disinflation and the ensuing trend in rates over the past four decades have largely been overturned.

As the core drivers of stability and growth have diminished in many sectors, businesses are now trying to adapt to a new economic world order. Corporations need to focus more on things they can better control, such as productivity and expenses, versus revenue growth.

As they can no longer afford to throw money around as they did in the era of zero percent interest rates. Instead, they need to make more accurate decisions in capital allocation to generate positive net present value outcomes.

Rising Rates Reveal **Underlying Challenges for Banks**

The current environment reveals many weaknesses in the banking sector.

Over the past few decades, banks have typically generated profits with minimal risk, relying on owning long dated U.S. treasuries and mortgage-backed securities funded with low-cost deposits. Until 2008, banking was a very profitable industry, with many of the largest U.S. and European banks delivering an after-tax return on equity of 15%.[4] Post 2008, some of the large U.S. banks, saw their profits double during the zero-interest rate environment. While the solid profits and stock buybacks have been great share prices, it has come at the expense of bloated cost structure and limited incentives to invest in new technologies.

- **Rising rates are also coming on the heels of a decade of rapid digitization, changing consumer expectations, and growing competition in the financial services industry.**

  As a result, many banks are now facing more than just the upward curve on another interest rate cycle—the entire status quo of bank operations is under pressure.

- **First, rising rates are shining a brighter light on *inefficiencies* in the banking industry.**

  Over the past years, strong profits have enabled banks to get by with average efficiency ratios of 60% to 65%. While investors weren't as bothered when there was an upward bias towards growth, efficiency ratios typically worsen when revenues come under pressure without cost adjustments. The rising rate environment is now starting to amplify the negative effect of bloated cost structures on bank earnings. By 2022, some banks reported their highest efficiency ratios in eight years.[5]

[4] Why Rising Interest Rates Aren't a Cure-All for Banks, BCG, https://www.bcg.com/publications/2023/why-rising-interest-rates-are-not-a-cure-all-for-the-banking-industry
[5] U.S. banks' key performance metric set to turn around in second half, Reuters, September 14, 2022, https://www.reuters.com/business/finance/us-banks-key-performance-metric-set-turn-around-second-half-2022-09-13/

Additionally,

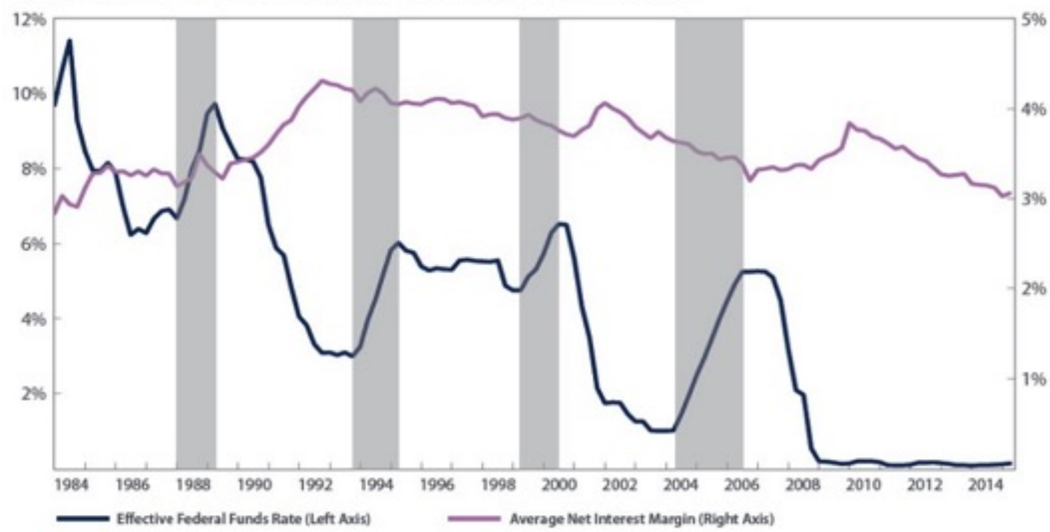
History has shown that rising rates do not automatically improve bank profits

(Figure 1)[6]

Lending out cash at higher short-term rates does generate more income. However, historical data shows that when rates rise, banks often lack the cash to lend, as their existing loans have long durations and do not mature quickly enough for re-lending. Between Q4 2021 and Q4 2022, more than 85% of surveyed banks saw their loan-to-deposit ratios rise.[7]

This limited lendable capital affects a bank's ability to capitalize on rising rates and reprice its assets. Another reason rising rates are not a cure-all in this environment is that rising operating costs and a negative risk outlook may offset or even exceed Net Interest Income (NII) growth.[8]

Figure 1: Movements of the Fed Funds Rate and Average Net Interest Margin



Sources: Federal Deposit Insurance Corp. and Haver Analytics
Notes: Average net interest margin is for all FDIC-insured institutions. Shaded areas highlight periods when the federal funds rate was increasing.

As consumers seek higher yields, competition for deposits is increasing, making it imperative for banks to protect deposits.

In March 2023, roughly 30% of U.S. bank consumers moved money from their primary account to another bank, up from 27% the previous year.[9] The growth in digital banking has also made it much easier to switch banks, with younger consumers, in particular, demonstrating a greater willingness to leave banks.[10]

[6] Do Net Interest Margins and Interest Rates Move Together? Federal Reserve Bank of Richmond, May 2016, https://www.richmondfed.org/publications/research/economic_brief/2016/eb_16-05
[7] The Number of Banks Facing a Liquidity Crunch is Growing, American Banker, February 24, 2023, https://www.americanbanker.com/news/the-number-of-banks-facing-a-liquidity-crunch-is-growing
[8] Why Rising Interest Rates Aren't a Cure-All for Banks, BCG, March 2, 2023, https://www.bcg.com/publications/2023/why-rising-interest-rates-are-not-a-cure-all-for-the-banking-industry
[9] U.S. savers get savvy ditching and switching banks, BBC, April 16, 2023, https://www.bbc.com/news/business-65180130
[10] Fighting the current — Why more and more young Americans are breaking up with their parents' banks, Yahoo.com, January 17, 2023, https://www.yahoo.com/now/big-banks-boomers-why-more-140000313.html

Net interest margins are contracting at many banks.

Maturity mismatch has historically been a significant factor affecting banks' profitability.

In the '70s and '80s, the savings and loan (S&L) industry struggled due to a mismatch between fixed-rate mortgage loans and interest-sensitive liabilities.

As rates rose, the rates paid to depositors quickly increased while returns on mortgage portfolios remained relatively unchanged. Instead of widening, net interest margins collapsed.

This highlights how rising interest rates can reduce NIM for the traditional banking business that relies on book maturity transformation. Over the coming year, liquidity pressures, falling NIMs, and rising credit costs are expected to drive U.S. community bank earnings down by more than 22%.[11] It is fair to say that all banks will be vulnerable.

Finally, economic headwinds can directly impact the profitability of the banking industry. Inflation, rising interest rates, and the potential for a recession put more financial pressure on consumers and businesses. Even a mild recession can hamper some borrowers' repayment ability and show up on the bank's balance sheets. As of June 2023, auto loan and credit card delinquencies had already returned to or surpassed their pre-pandemic levels, and many banking executives and economists expected conditions to worsen.[12]

New Strategies for a Rising Rate Environment

As financial institutions enter the first rising rate environment in decades, many are striving to protect their deposits and improve net interest margins.

Long-held strategies that worked during the 0% years will only drive subpar performance in today's environment.

Banks must now focus on optimizing loans and securing their balance sheets with better management of non-interest margins and efficiency ratios.

[11] S&P Global Market Intelligence expects U.S. community bank earnings to fall more than 22 percent this year, S&P Global Market Intelligence, May 24, 2023, https://www.spglobal.com/marketintelligence/en/media-center/press-release/sp-global-market-intelligence-expects-us-community-bank-earnings-to-fall-more-than-22-percent-this-year
[12] Rise in consumer loan delinquencies signals end of pandemic trend, American Banker, May 11, 2023, https://www.americanbanker.com/news/rise-in-consumer-loan-delinquencies-signals-end-of-pandemic-trend

While there are challenges ahead, **higher rates make product penetration key to protecting NIM and improving deposit stickiness.** Several strategies can help banks find **new opportunities and sources of profitability:**

Figure 2

Improve Balance Sheet Stability with Well-Defined Cross-selling

Instead of solely raising deposit rates (which will negatively impact NIMs), banks should engage in cross-selling and improving product penetration to drive deposit stickiness. At a time when it takes a consumer only a few minutes to move their deposits elsewhere, banks can significantly improve the longevity and stability of those accounts by offering more products.[13]

While a customer with one product at a bank will stay for an average of 18 months, that stickiness extends to four years with two products and nearly seven years with three products[14].

Improve NIMs with Better Risk Decisioning, Optimizing Loan Pricing and Amounts

By tapping data and artificial intelligence to attain a more accurate probability of default (P.D.) prediction, banks can optimize their lending capabilities and more precisely price and determine the size of loans. As bank account transaction data is a more accurate measure of affordability and ability to repay, it ensures borrowers are offered the greatest loan amounts and terms at the best rates.

This benefits the borrower and maximizes revenues while reducing losses. It also increases product penetration which improves customer “stickiness” for the bank.

Increase Product Penetration and Lending Pool with Better Analytics and Smart Infrastructure

More than 26 million Americans are "credit invisible”[15] and several studies have indicated that traditional credit scores are biased against underserved groups because they have less data in their credit histories.[16]

Internal Direct Deposit Account (DDA), other transaction data and well-governed AI-powered analytics enable banks to better understand cash flow and expand the lending pool to otherwise credit-worthy consumers ruled out by traditional credit scoring systems.

In addition to increasing the addressable market, a granular understanding of affordability from the DDA data offers more accurate loan amount optimization, allowing greater control of exposure at default.

One place to start is focusing on primary DDA customers, leveraging transaction data to create virtual P&L statements to better understand income volatility and spending behavior, to pitch relevant and competitive solutions with a clear call to action.

[13] In the Battle for Direct-Deposit Relationships, New Technology Is a Game Changer, The Financial Brand, April 5, 2023, https://thefinancialbrand.com/news/bank-onboarding/banks-battle-for-direct-deposits-new-technology-is-game-changer-160814/

[14] Cross-Selling: It’s Important, But Often Neglected, Fiworks, October 23, 2013, https://www.fiworks.com/banking/cross-sell/cross-selling-its-important-but-often-neglected

[15] Who are the Credit Invisible? Consumer Financial Protection Bureau, December 12, 2016, https://www.consumerfinance.gov/about-us/blog/who-are-credit-invisible/

[16] How Costly is Noise? Data and Disparities in Consumer Credit, Cornell University, May 17, 2021, https://arxiv.org/abs/2105.07554

Post-origination Risk Management & Personalized Cross-Sell

Leveraging A.I. and transaction data also enables banks to attain a 360-degree holistic view of customers. While this benefits cross-selling opportunities, it also allows banks to reduce risk with a real-time "virtual P&L" analysis for trends and inflection points to pre-empt delinquencies.

There will be a time when retail bankers become *financial architects*: AI-powered insights helping bankers understand customers' financial goals and by using such tools, save time and focus on building relationships with customers.

Reduce Costs with Improved Conversion Rates using E-commerce Strategies

By taking cues from leading retailers, banks can use new technologies and customer experience strategies to improve conversion rates.

A point-of-sale style experience with an Amazon-style checkout (Figure 2) offers a simple, easy-to-use, and intuitive design that can be used in branches, call-centers and online. The process should be as easy as scanning a Q.R. code on a mobile phone, logging into online banking, and having a loan approved and closed in only a few minutes.

AI-powered smart infrastructure allows banks to use e-commerce strategies to provide greater personalization and deliver more relevant offers.

The Technology Implementation Myth

While banks seek to update their lending strategies, a lack of investment over the past couple of decades has left many constrained by legacy technologies. Big institutions have recently started investing billions in technology upgrades, but many mid-market banks need to catch up.[17]

A common perception is that the only path forward is a radical rip and replacement of legacy systems, which can be time-consuming, expensive, and uncertain.[18] With the evolution of the cloud and encryption, bypassing legacy technology to implement new solutions is a reality.

New technologies, platforms, encryption and SaaS solutions

have eliminated implementation challenges, enabling financial institutions to implement rapidly with minimal disruption to their current infrastructure and processes.

Some banks are already using A.I. internally to empower their relationship managers with better information for pricing. [19]

For example, some megabanks now leverage AI to extract basic insights from bank account and card transaction data to understand consumers better and develop better targeting of product offers.

In the near future, we will witness the development of an AI-powered "Liability Management Platform" as a fee-based service, similar to an Asset Manager. The platform would use AI to help customers manage their liabilities and optimize their debt service.

In their current form, AI-powered platforms like Aliya's allow banks to broaden their lending pool, enhance product adoption, encourage deposit retention, and reduce costs—all with implementation times ranging from 30 to 60 days.

[17] Where U.S. bank tech spending is headed as economic uncertainty looms, Business Insider, May 31, 2022, https://www.businessinsider.com/us-bank-investment-in-tech-to-increase-faster-than-ever-2022-5
[18] Should U.S. banks be moving to next-generation core banking platforms?, McKinsey & Company, July 26, 2022, https://www.mckinsey.com/industries/financial-services/our-insights/should-us-banks-be-moving-to-next-generation-core-banking-platforms
[19] Using A.I. to augment pricing intelligence for banks, EY, https://www.ey.com/en_us/banking-capital-markets/using-ai-to-augment-pricing-intelligence-for-banks

REQUISITE CAPABILITIES TO CHANGE THE STATUS QUO

01 Deploy a Connected Data Ecosystem without Integrating with Bank

A connected ecosystem of both internal and external data, integrated with AI-powered analytics can sift through raw data to find what is most valuable. The most predictive consumer and business behavior data is found in bank transaction data, integrated with credit bureau and public records data is all one needs to generate unparalleled intelligence to support risk-controlled growth. It is worth noting that *all three data sources of data can be sourced without connecting to legacy bank systems.*

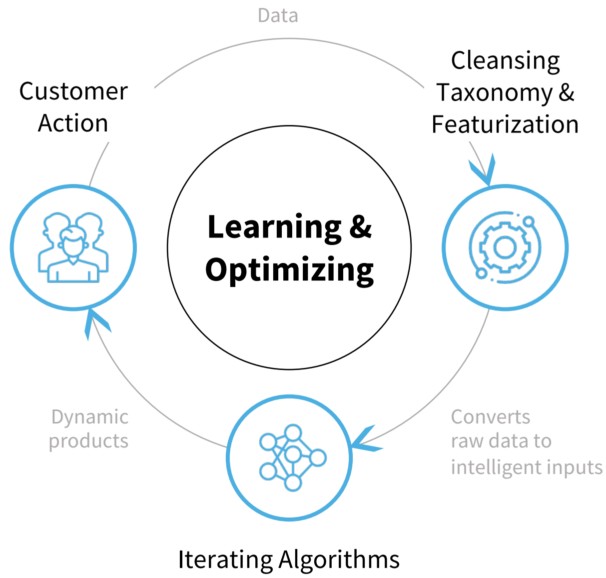
02 AI-Powered Capabilities to Convert Data into Actionable Intelligence

An AI-powered platform uses AI to convert messy DDA data into a usable taxonomy. It then feeds this data into iterating algorithms to develop dynamic products, generating more data and a virtuous loop. The first phase leverages three data sets (transaction, credit bureau, and public records) to create a *360-degree customer view* for improved lending, focusing on online and mobile channels. In the second phase, an "augmented human intelligence" component enables bankers, branch, and call center staff to extract intelligence utilizing generative AI. Within regulatory-compliant control systems, it can also increase targeting accuracy and relevance to drive greater engagement and product penetration.

03 Bypass Legacy Infrastructure and Revolutionize U/X

Because legacy infrastructure remains the biggest constraint for most banks, the ability to bypass that infrastructure is essential for rapid deployment. While many banks will engage in deep infrastructure upgrades over the coming years, those leveraging *plug-and-play technologies can leapfrog ahead of the competition* without long delays and radical surgery. An important feature of such platforms is the symbiotic relationship between the analytics and the infrastructure, where there is no separation. The two key components of loan production feed off each other to not only generate the "best" offer, but to also ensure that the bank has the best chance to close the loan with the customer.

Village Banker
Deep-rooted relationships within peer-based communities



Data Driven Intelligence
Data driven insights and cognitive analysis of customer's aspirations in order to better serve them

Solution

AI-powered platform empowering financial institutions to transform their lending

Proven technology. Proven business results. Proven regulatory governance and compliance. Rapid deployment.

Aliya delivers well-governed AI-powered lending analytics and smart infrastructure capabilities to power more profitable, flexible, and inclusive lending. Our proprietary technology transforms internal bank transaction and other external data into actionable intelligence. The **platform not only** expands the lending pool, enhance loan offers, streamline onboarding and cross-selling, but also manages the post-origination lifecycle**.** All done through a single platform, which significantly increases operational efficiency.

Transforms information into valuable insights and opportunity.

01 **Accurately determine affordability** - Aliya standardizes and categorizes demand deposit account (DDA) data and card transactions to generate "virtual P/L" statement and insights into income patterns, spending behaviors and cash flow. Aliya then analyzes the strength and stability of cashflow.

02 **Accurately determine probability of default (PD)** – Aliya assigns a proprietary aSCORE (Aliya's credit default model) which is an input to construction of loan offer.

03 **Improves positive selection bias** – Instant loan offer with pricing, term and loan amount, adjusted for risk based on PD, cashflow strength and stability, wrapped in an eCommerce style check-out experience to close loans in 4-5 screens.

04 **Lower cost to serve** - Instant loan offer, straight through processing with zero manual intervention in loan onboarding and closing.

CONCLUSION

In this new challenging macro environment, banks must return to the basics of deposit stability while protecting net interest margins with controlled lending. To execute this new modus operandi, banks need to adopt better analytics for more accurate lending decisions, as well as smarter, faster, and more efficient operating systems that can be quickly deployed without dismantling and rebuilding existing bank infrastructure. Given the urgency dictated by the new interest environment, immediate solutions are imperative for banks to remain competitive.

A pertinent parallel can be drawn with Apple's inaugural iPhone release in 2007. Consider the remarkable progression of capabilities of the device to date, where the current generation of iPhone's computational speed is a thousand times faster than a mainframe computer from 10 years ago. Reflecting upon the advancement of analytics and technological frameworks within banking during the same period, a stark disparity emerges.

With the presumption that industry leaders acknowledge the need to enhance lending capabilities, a very simple way to bridge the analytical and infrastructure gap emerges. Banks already possess the most invaluable dataset globally: their own transaction data. This data is the source of truth and contains the most predictive data on human and business behavior – providing insights that exceed the value of search queries (Google) and social (Facebook) by orders of magnitude. This is the bank advantage that can now be harnessed.

Higher interest rates make product penetration of the existing customers key to controlled growth, deposit stability and overall profitability. Banks have the best data on the planet to deliver on this strategy. AI companies such as Aliya have well-governed and proven IP with over a decade of training in real life situations to convert such data into intelligence and generate revenue at a fraction of current unit costs. Moreover, it is not just about improving bank efficiency ratios. These entities offer an end-to-end lending capability, bypassing the constraints of legacy infrastructure which means entire loan programs can be spun up as quickly as 30-60 days, complete with mega bank grade model risk governance documentation, credit policy, loan agreements, regulatory compliance policies and procedures covering ID, fraud, BSA, OFAC, KYC/KYB, etc.

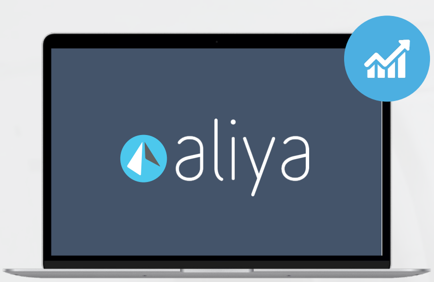
In conclusion, banks need to adopt better analytics and smarter, faster, and more efficient operating systems to improve their lending capabilities. They can do this by leveraging their own transaction data and partnering with AI companies like Aliya. This will allow them to remain competitive in the new interest environment and deliver on their strategy of controlled growth, deposit stability, and overall profitability.

ABOUT

aliya

TECHNOLOGY POWERED. HUMAN INSPIRED.

Aliya was founded in 2016 and collaborated with one of the five biggest banks in the U.S. to build well-governed and compliant A.I. powered risk and intelligence models. Aliya's AI has been subject to rigorous model risk governance processes and has supported more than $10 billion in consumer and SMB credit decisions.



Schedule a demo to learn more on how Aliya can help you ***maximize profits, lower losses while creating value for your customers and financial institution***.
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