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BANK ON AI AND MACHINE LEARNING ANALYTICS

A guidebook for a progressive financial analysis launchpad

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Bank on AI and Machine Learning Analytics

A GUIDEBOOK FOR A PROGRESSIVE FINANCIAL ANALYSIS LAUNCHPAD

What's slowing banking's adoption of artificial intelligence (AI) and machine learning (ML)?

It's more important than ever for financial institutions to have strong business foundations for analytics, decisioning, and risk management. Provable, cost-effective technologies that give you an edge are more than worth their weight in gold—they can provide a measurable competitive edge.

Take artificial intelligence (AI) and machine learning (ML), for example. A 2022 McKinsey study found that companies successfully employing an AI model have generated 5 to 15 percent higher revenues from AI-enhanced campaigns and have halved or quartered their time to market.[1] To reap those rewards, your bank must first master AI and ML. Currently, that's proving to be a bit of a challenge with banks finding that AI can be:

Complex for the analyst
Analysts must deal with sporadic and inconsistent customer data. Only about 28% of banks today can rapidly integrate internal structured customer data into their AI models.

Less customized for the customer
The narrow scope of machine-learning models limits personalization. Only 9% have a full suite of ML models to drive personalized engagement at every customer touchpoint.

Unsuitable at scale
Subscale analytics development mean only 16% of marketing teams follow a standard procedure to build and deliver AI tools, such as analytics, at scale.

Difficult for decision-makers
Because of poor campaign integration and tracking, just 8% of businesses use insights from models in campaign execution and decision making.

Risky for the institutions
Inadequate AI risk management is a challenge for most banks, with 14% having a framework for AI governance that manages AI-related risks without compromising speed and flexibility.[2]

These are the challenges we'll be overcoming with the approaches described in this ebook. By the last page, you'll have a roadmap to AI- and ML-enhanced banking analytics in the cloud proven not only to improve competitive advantage, but also to drive bottom line and ROI.

Let's get started.

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1. "Getting personal: How banks can win with consumers," Jorge Ferreira, Lars Fiedler, Carlo Giovine, Louise Herring, Megha Kansal; McKinsey & Company report, July 19, 2022
2. "Getting personal," Ferreira et. al.

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Companies successfully employing an AI model have generated **5 to 15% higher revenues...** and have halved or quartered their time to market.[3]

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3. "Getting personal," Ferreira et. al.

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The cloud opportunity: Supercharge your bank's data for better decisions

You don't have to be born in the cloud to benefit from the agility, scalability, and computing power of cloud-native computing. Without paying for additional physical infrastructure, facilities maintenance, or equipment purchases, you can achieve previously unthinkable levels of AI-driven analytics capabilities by operating in the cloud. In fact, it's becoming a competitive necessity.

Currently, **75% of large banks and 46% of smaller and mid-market banks operate in the cloud.**[4] Some banks are taking advantage of cloud scale for AI and ML to improve their higher-level analysis for behavioral patterns and decision making as well as the big data pattern-recognition use cases you're probably familiar with.

For instance, running SAS Viya on the Microsoft Azure cloud, you can:

Adapt cloud to your needs
- Tap into the power of a cloud-native architecture that can deliver the full promise of AI and analytics.
- Provision resources, workloads, and users on a cost-effective cloud infrastructure.
- Overcome barriers to analytics at scale by simplifying data access and eliminating data movement.
- Protect data at rest, in transit, and in use while it's being processed through Azure confidential computing.

Boost productivity
- Extend analytics to all types of users and empower them to innovate without obstacles.
- Take advantage of varied skills and talent and integrate with open-source technologies.
- Automate the entire analytics life cycle and confidently move models into production.

Accelerate outcomes
- Use proven AI that unlocks the best possibilities.
- Embed responsible AI throughout the analytics life cycle.
- Confidently govern your data, models and decisions.

4. "The impact of artificial intelligence in the banking sector & how AI is being used in 2022, " Eleni Digalaki, BusinessInsider, February 2, 2022
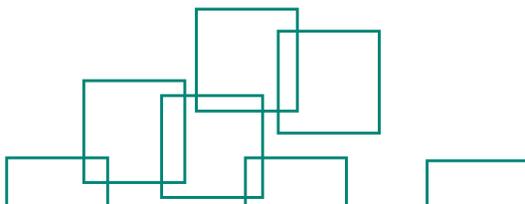
> **You can achieve previously unthinkable levels of AI-driven analytics capabilities by operating in the cloud.**

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A quick first step:
Evaluate your priority needs

Cloud banking assessment tool

As you plan your transformation, use this checklist to identify the priority features you'll be looking for in a cloud-native banking solution. Assign a numerical ranking to each capability by section. Then use this as a guide to evaluating solutions.

Banking Risk Management

- [ ] **Ensure efficient credit risk analysis** with timely, accurate Risk Weighted Asset (RWA) reporting and regulatory capital optimization.
- [ ] **Create a consolidated infrastructure** for data, modeling, and reporting.
- [ ] **Accelerate stress-testing cycles** for a better response to the unexpected.
- [ ] **Uncover otherwise unseen opportunities** and risks to expedite capital planning.
- [ ] **Improve transparency and auditability** while making workflows more efficient and automated.
- [ ] **Make better lending decisions** through improved scoring methodologies to assess risk exposures.
- [ ] **Offer an enterprise-wide view** of your risk profile and internal control status.

Fraud and Crime Prevention

- [ ] **Detect suspicious transactions** such as anti-money laundering (AML), combating financial terrorism (CFT), and sanctions screening.
- [ ] **Use hybrid analytics** to manage alerts, test scenarios, and respond faster.
- [ ] **Get a 360-degree customer view** for improved security and convenience.
- [ ] **Detect and adapt in real time** to new identity fraud trends and proliferating identity theft and synthetic identities.
- [ ] **Centrally access** and manage third-party identity data.
- [ ] **Easily scale detection** with custom-built or plug-and-play strategies.
- [ ] **Find fraud early** and reduce false positives through AI and ML capabilities.

Customer Experience

- [ ] **Anticipate customer needs** and create contextual, real-time digital engagements that customers value.
- [ ] **Use advanced analytic techniques and AI** to gain a deeper understanding of customer needs.
- [ ] **Deliver more relevant, personalized communications** using machine learning to guide analytical processes.
- [ ] **Collect and analyze customer interaction data** from all touch points for better decisions.
- [ ] **Automate real-time decisions** at scale across all channels for better customer experiences.
- [ ] **Protect data in use** with SAS Viya running on Azure confidential computing featuring 3rd Gen AMD EPYC™ processors with AMD Secure Encrypted Virtualization-Secure Nested Paging (SEV-SNP) technology in select regions.

With your priorities in place, let's talk about how to make them realities.

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The best of both worlds: Viya on Azure

SAS Viya on Azure gives you the advantages of cloud and a world-leading AI, analytic, and data management platform built on cloud-native architecture. This collaboration between SAS and Microsoft allows data, analytics, and machine learning workloads to fit in natively with cloud services, which FSI organizations use to generate insights from their mission-critical analytics capabilities. As a cloud-native AI, analytics, and data management platform, SAS Viya on Azure enables you to scale cost-effectively, increase productivity, and innovate faster while backed by trust and transparency.

Together, SAS Viya and Azure erase traditional friction points between data, insights, and action, giving you:

Seamless, scalable analytics
Faster deployment means faster analytic insights. We remove organizational barriers so you can act quickly to seize opportunities and mitigate risks.

Deep enterprise integration
Put analytics in the hands of everyone in your organization so they have the tools to achieve remarkable outcomes.

Powerful, secure, and flexible platform
Inspire greater trust and confidence in every decision with built-in controls, automation, and transparency.

Premier expertise and true partnership
Together, SAS and Microsoft are uniquely qualified to partner with your organization—on any scale, in any industry—to drive innovation.

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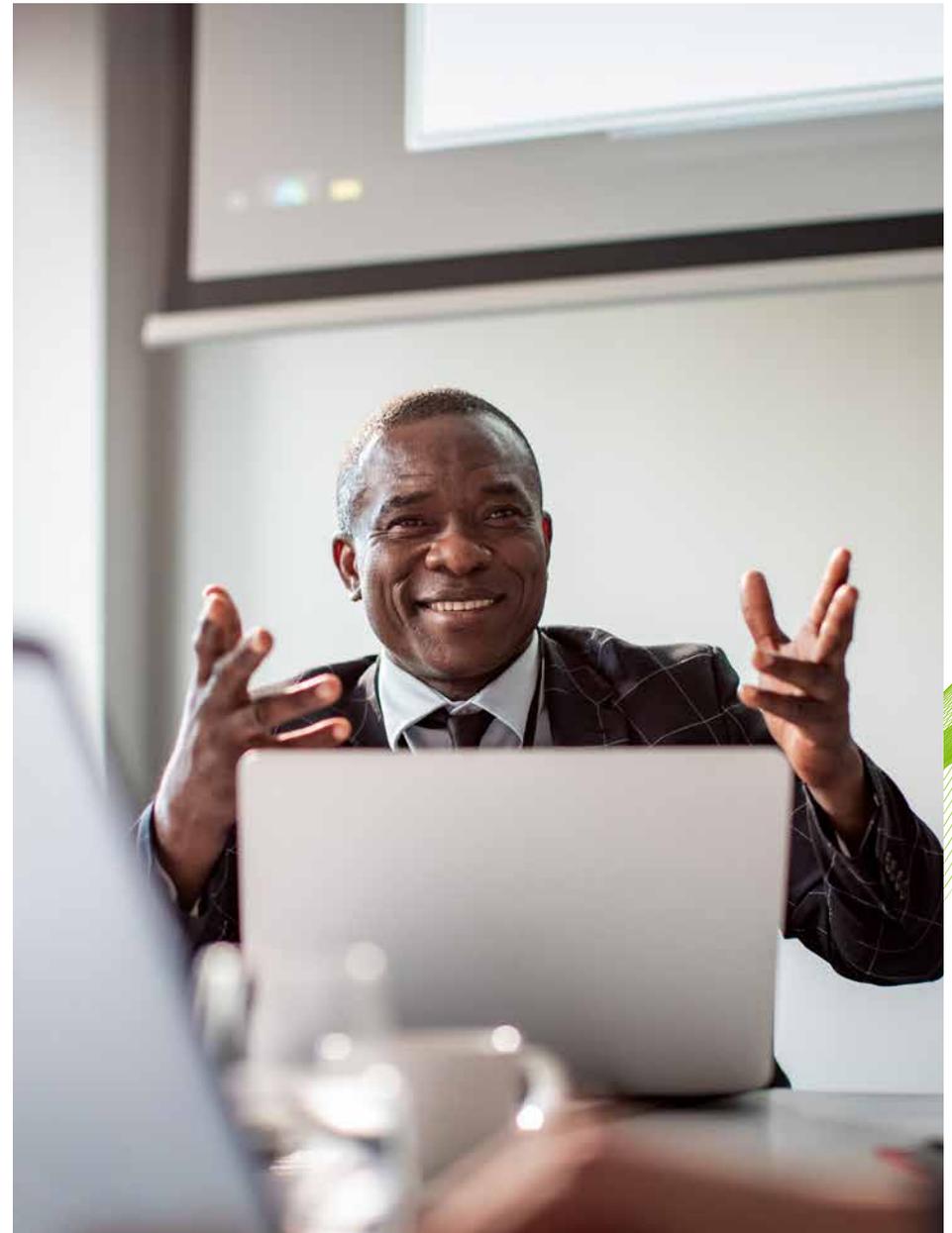
More ways to protect, govern, and manage SAS Viya workloads with Azure security services:

- **Seamless authentication and single sign-on** with Azure Active Directory.
- **Access and encryption of cloud resources** with Azure Key Vault certificate management.
- **End-to-end monitoring and logging** through Azure Monitor.
- **Total governance** and dynamic rules enforcement using Azure Policy.
- **Security for data in use in** RAM and during computation using Azure confidential computing on 3rd Gen AMD EPYC™ processors with AMD SEV-SNP technology in select regions.

The numbers on SAS Viya in the Microsoft Azure cloud

Forrester Research conducted a [Total Economic Impact Study](#) on running SAS Viya in the Microsoft Azure environment. The numbers they came up with are very positive:

204% ROI
with payback in 14 months.

50% - 80%
increased productivity
for business analysts due to faster analytics process.

50% - 80%
time savings
to support model building and management.

100%
infrastructure cost savings
by fully retiring on-premises environment.

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The payoffs of AI- and ML-enhanced banking in the cloud

Using SAS Viya, S-Bank was able to:

1. Free up time without needing to manually move data from tool to tool.

2. Automate the monitoring of models to allow for faster and more reliable decision making while also enabling time to investigate the data for new information.

3. Drastically reduce the waiting time for our customers—improving relationships, loyalty, and revenue.

4. Make more targeted offers to customers, improving the customer experience.

Case Study: How can a bank be more popular than IKEA—in Finland?

A bank that outdoes retail with customers

With 3.1 million account holders and 1,000 locations in Finland, S-Bank ranks number 1 in customer loyalty—even ahead of well-loved Finnish retailer IKEA. Their goal is to make life a little better for their customers with every interaction. To keep that promise, S-Bank is committed to excelling in a constantly changing and hyper-competitive landscape.

The key: Commitment to constant improvement

In the hyper-competitive banking market for loan products with historically low interest rates, S-Bank needed to continually improve its analytical capabilities. Success meant—and means—excelling at predicting externalities that could harm their bottom line and their customer experiences. They had to stay ahead of the effects of the pandemic, climate change, the unpredictable political situation on their borders, and more. It also meant providing superior protection of personal identifiable information (PII) data to avoid harsh penalties for breaches of GDPR rules.

Staying ahead means constant improvement.

An intelligent partnership—with big perks

One way S-Bank has maintained their remarkable track record was by modernizing with SAS Viya on Azure. Through this partnership, S-Bank has access to improved visual tools and faster performance by running its analytics closer to its data. This has helped strengthen the alignment between the analytics team and the business development team, resulting in faster service for customers.

Part of this improvement has been the incorporation of automation and real-time decisioning to lower process silos and improve management across the analytics life cycle.

Possibly the most innovative part of the SAS technology is its automated machine learning capability. Johanna Makkonen, a Senior Analyst at S-Bank, puts it best:
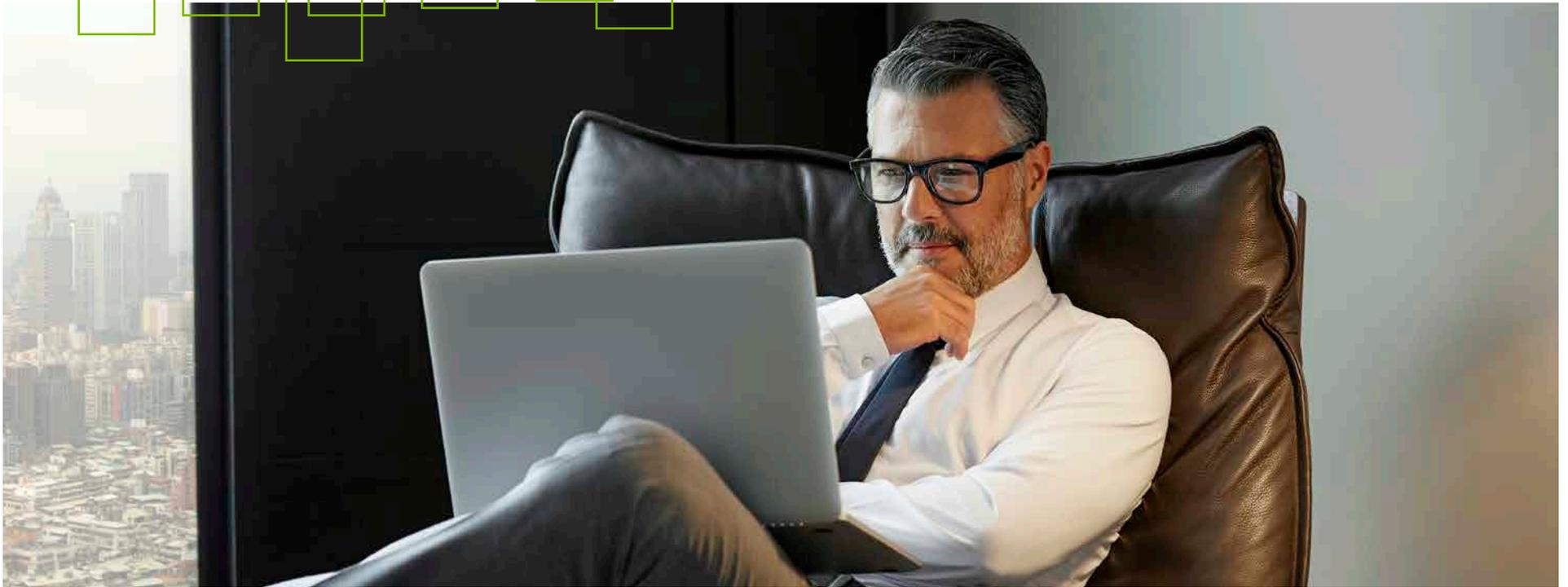
"No other tool has provided us with this capability; we simply turn it on and let the analytical models do the work, which allows us to focus on business improvement rather than just statistics. I have never seen that anywhere before."

Say hello to a more assured and progressive banking technology

Risk mitigation and customer satisfaction are the two faces of the banking world. To ensure your bank's success on both fronts in the shifting digital landscape, turn to SAS. Together, we can make the most of analytics, AI, cloud, open banking APIs, and fintech and regtech technologies to move your institution forward and:

- Manage increasing regulatory demands.
- Stop fraud and money laundering in their tracks.
- Maximize return on capital.
- Achieve operational excellence.
- Create amazing, personalized customer experiences.

Get started with a free trial!

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