PARTNER WHITE PAPER

Outrunning risk with cloud

Supercharged risks are running circles around banking risk models. Here's how the cloud can keep you one step ahead.

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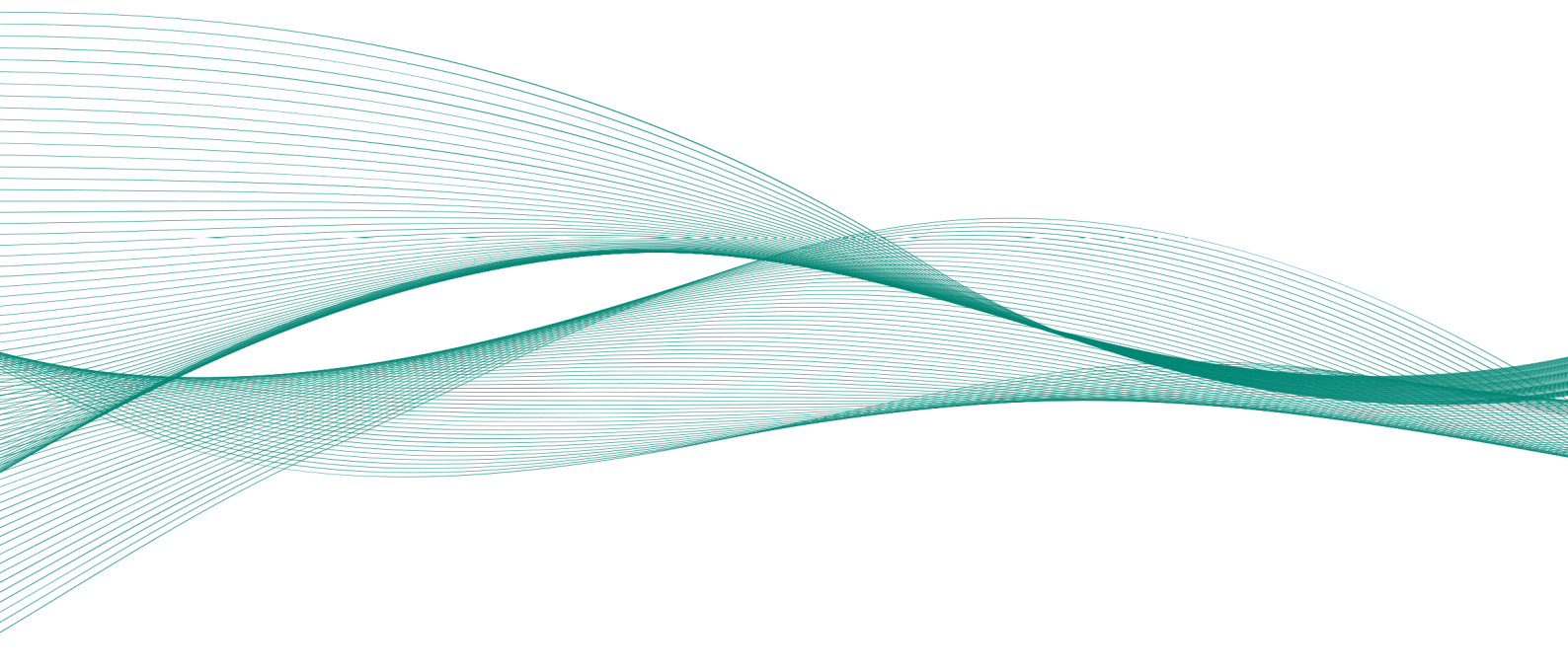

Facing sluggish loan demand and extremely low interest rates in its home country, a bank aggressively expands into international markets to tap new growth opportunities. A few months into this strategy, it sees the highest nonperforming loan ratios and loan loss provisions of all its peers – and no clear solution as unforeseen market pressures exacerbate its challenges. If the bank took a nimbler approach to monitoring risk exposure, it could have minimized the damage or avoided it entirely.

This is only one version of the same problem banks face every day. Despite making big investments in risk-focused analytics over the years, leaders have found that rampant digitization of the business and industry as a whole has made it more challenging to identify, prevent and respond to risks. And not just fraud risk, but regulatory, credit, operational, climate and other risks.

Put simply, risks are running circles around banking risk models. In most cases, the models themselves aren't the problem. The real challenge is finding ways to quickly build new models – including AI and machine learning models – and adjust existing models to respond swiftly to evolving threats.

That's why many banks are introducing cloud-based risk modeling and decisioning capabilities. With these modern tools, banks can quickly develop and deploy models to address existing and emerging threats while also benefiting from centralized control, integrated workflow management and ready-built IP. The result is faster and more sophisticated risk calculations.

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For banks looking to integrate cloud capabilities into their risk management strategies, several principles should guide their approach.

Speed

Step up to real-time risk assessment

History suggests that when risk management tools are underused, financial trouble is likely. Meanwhile, risk management processes tend to be lengthy and time-consuming for a reason. It takes time to gather risk data, analyze it and take the appropriate action. And given the fundamental importance of risk management in banking, this tempered approach has largely worked for years.

Still, today's customers expect a streamlined user experience, starting with instant fulfillment. High consumer expectations are often at odds with the reality of risk management processes in banking. As a result, banks are under tremendous pressure to adapt to changing realities and offer more risk-adjusted, personalized products. To further complicate matters, real-time risk assessments will soon be commonplace throughout the customer journey – not just during onboarding.

Cloud technology can help banks instantly bring together all relevant data sources and quickly analyze the data using AI and machine learning. For example, SAS® Viya® includes standard risk assessment model templates for banking and allows users to tweak these models, build their own or import models from elsewhere. When these models are deployed in the Azure cloud, they can automatically draw directly from

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critical data sources and begin delivering insights on the spot. In practical terms, that means approving more customers for credit in a matter of moments, thanks to faster and more accurate lending processes delivered at scale.

Standardized approaches and prebuilt content can significantly accelerate risk management processes and should be used whenever possible. The predefined data attributes in SAS Viya for developing a 360-degree view of the customer and benchmark models are examples of the types of accelerators that banks can use to jump-start efforts.

Shift

Transition from back-office risk management to front-line risk insights

Imagine having to bring data scientists into every risk decision meeting to explain their conclusions, recommendations and model parameters. It's not so difficult to envision because it happens every day – not just in risk decisions but in countless business decisions. That's one reason why the democratization of analytics, in which analytics is available to nontechnical users, has been so eagerly anticipated.

It has also been elusive. While getting data-driven insights to more decision makers sounds good in theory, in practice it has required significant infrastructure upgrades, data processing capabilities and establishing a culture of analytics – all of which have remained out of reach for many banks.

But each of these barriers is crumbling thanks to cloud computing. For example, while banking book analytics has played an important role in risk management for years, the analytical models often lag behind the banking books themselves. In many cases, models are too rigid to respond to new risks.

Banks must be able to understand exactly how these models work and where they fall short, examine new models and methodologies, and consistently acquire fresh insight from the business to inform the deployment of current and future intelligence. Cloud-based analytics can help banks accomplish these goals by expanding access and visibility and by providing more avenues for information sharing.

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Open

Make risk models more transparent, accessible and explainable

What does openness mean in the context of risk management analytics? It's not solely a technical designation, although open-source capabilities certainly translate into more firepower in decision making.

Openness takes on a broader meaning in risk management. Banking risk models work best when they are transparent, accessible and explainable. Stakeholders such as boards, regulators and business users must understand how models work and why they produce certain outputs so they can assess their impact on business outcomes. Alas, models today tend to be reused and reconfigured over time. When they go wrong, there's little visibility into how or why. And underperforming models can only be assessed long after the window for adjusting and improving them has closed.

In a cloud environment, stakeholders have immediate access to models and the documentation that shows how, when and why they were modified. In turn, answers to questions about how models work, why they produce certain outputs and how they perform are readily accessible.

Open and accessible models are also needed in regulatory settings. After all, questions will eventually arise, such as: "For models that are dynamically updating, how frequently are they being reviewed?" and "What percentage of models are failing today?"

In a cloud environment – where stakeholders have immediate access to models and the documentation that shows how, when and why they were modified – these answers are readily accessible. And as newer technologies are adopted, it becomes even easier for banks to continuously monitor a wider range of models.

Finally, openness has equally important customer-facing implications. For example, when a customer's loan application is denied, how quickly can the bank explain the reasons behind the denial? In an opaque, algorithm-driven environment, the answers can take valuable time and effort, and may not comply with fair lending laws. In a more open, cloud-based environment, loan officers can quickly determine the specific reasons for the denial and respond quickly to customer inquiries.

Follow

Go where the data lives

Many bank processes remain manual, and model development is typically undertaken on a reactive, ad hoc basis. For example, IT may test and launch a prototype that employs AI and machine learning capabilities – and it may work well on a limited basis. But how will the model work using real-world data, and how will IT maintain it over its lifetime? This is where a more strategic, top-down approach can make all the difference.

Risk models are used to inform a growing range of risk decisions. Given this proliferation of models, banks must standardize model life cycles so they can repeat as many processes as possible. A manual approach is insufficient for the scale of this effort. Instead, for example, ModelOps technology can reduce the model risk introduced when manually recoding the model logic of decision architecture.

Consider how SAS integrates the model life cycle with decision engines in the cloud. Using SAS to provide modeling-as-a-service in a lightweight container offers banks more deployment options, thus extending access to other applications to use the model as needed. Then, when models retire, the organization can simply free up the resources that were used by that container.

Following this more strategic approach to delivering a standardized modeling life cycle in the cloud, banks can build new models with new data and put them into production in the cloud. Not only is this approach faster, but it's also more accurate since it's up to date with the market environment.

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Align

Optimize integration points between your analytics solutions and cloud environment

Getting alignment between IT and business has always been one of the biggest challenges in risk management. Without it, analysts and IT leaders can spend countless hours creating models that end up having little impact on the business. Meanwhile, the business may be forced to grapple with complex models that muddle rather than simplify risk decisions.

Alignment is equally important for managing analytical models long-term. What happens when conditions change … or when user feedback requires adjustments to the models … or when new capabilities are needed … or when successful models need to be repurposed elsewhere?

The cloud makes it easier to manage models, add capabilities, edit existing models and share feedback – all while adding transparency and visibility. For example, in a cloud environment, users can instantly access up-to-date, role-specific information on the performance of specific models to make better decisions about whether and how to use the model.

Cloud-based models can also evolve as the risk environment changes. In the case of compliance risk management, updated models can quickly be sent for review and approval – a process made more efficient when stakeholders have the appropriate level of access to cloud-based analytics on Azure.

Ultimately, the cloud brings risk-based decision making from the back office to the front. As a broader range of users is enlisted to share insights and expertise in developing and refining models – and as the models themselves become more dynamic and accessible because of these inputs – analytical models become more understandable, practical, relevant and valuable to more users.

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Organize

Focus on governance and regulation

Within all organizations, there's typically a tradeoff between complexity and accuracy when it comes to business applications and analytical models. Many regulatory models, for example, have been around for decades. As such, organizations should be conscious of how new cloud-enabled analytical methodology would affect regulatory matters.

With GDPR in the EU, for instance, automated decision making requires transparency and meaningful information to explain the data subjects. It should be logical in terms of how these are applied, and the context of these automated systems should be clear and well defined. Additional regulatory changes will come into play over the next few years, so the governance of automated processes must be flexible enough to accommodate these changes.

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In confronting the tradeoff between simplicity and complexity, organizations must find the right balance when explaining decisions. In turn, both the organization and those affected by the decision will have a clear and concise view of what will happen.

Consider a credit risk decline where the bank must explain exactly why it has declined a customer. If it's not possible to do this, it's hard for the bank to manage that risk. In addition, there are specific regulatory and compliance regulations that require banks to provide customers with details about why they were declined.

Banks are already advanced users of the cloud. It's time for risk management to catch up.

Cloud capabilities are transforming banking – from how customers interact with the bank to how banks make decisions. But when it comes to risk management, banks have been slower to modernize. According to a **2021 survey** of 300 senior financial services professionals, only 10% of banks have completely automated most of their risk management activities, and only 6% have fully automated large portions of their risk modeling process.

How long can risk management operations afford to underuse cloud technology? The same survey revealed that modernizing risk management can deliver profound business benefits. In fact, 55% of leaders with a more mature approach to risk management report increased speed as a benefit of automated risk modeling compared to their peers. From improved compliance to increased accuracy of projected balance sheets to better integration between risk management and business planning, these leaders consistently report stronger results.

There are many critical aspects of modernization, including automation. But the cloud is perhaps the single biggest enabler of modernization today. It's time for banks to apply the insights and experience they've gained elsewhere in the organization to risk management operations. Because the evolving risks banks face today will not pause for them to catch up.

Learn more

SAS, Microsoft and Intel are leading the way together in helping banks stay a step ahead of constantly evolving risk through a combination of advanced, tightly integrated analytics, cloud and processing capabilities. To find out more about the integrated, cloud-enabled risk modeling and decisioning capabilities available through the combination of SAS Viya, Microsoft Azure and Intel processors, **start here**.