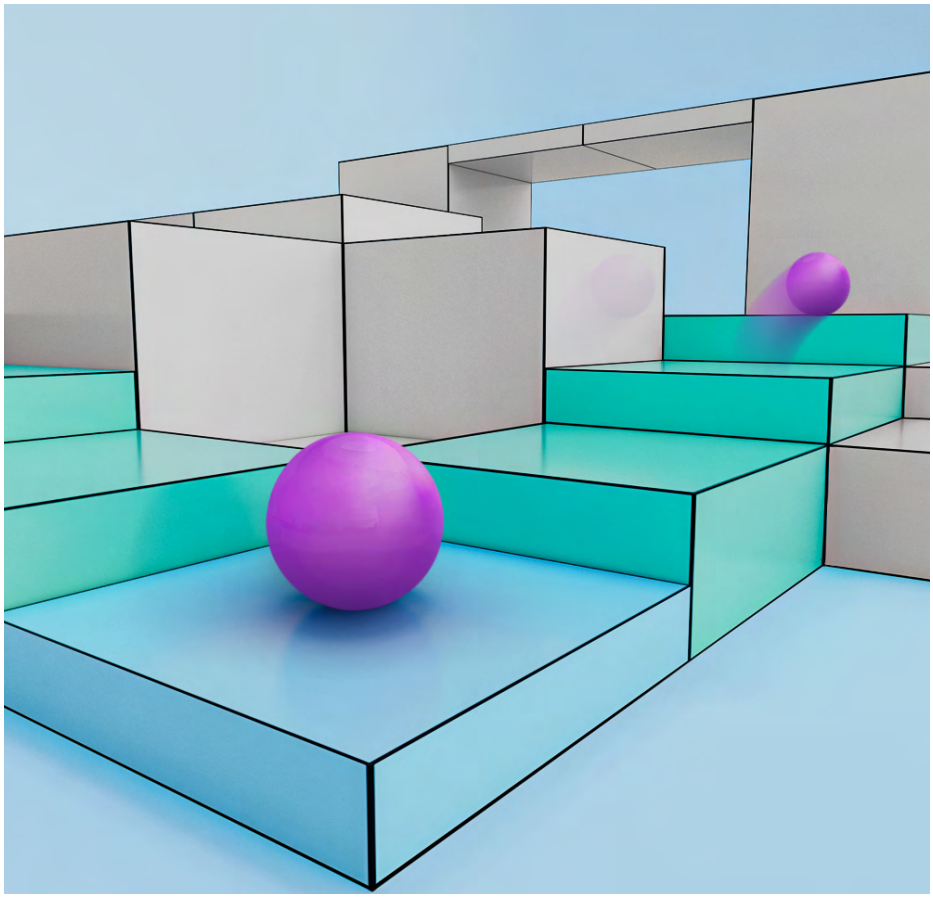


2025 The Voice of the Makers

Core banking modernization and AI enterprise-wide

IBM

BIAN
Banking Industry Architecture Network

How we can help

IBM

Modern financial institutions demand modularity, security, openness, AI-driven capabilities, and collaboration on a hybrid cloud. At IBM, we empower you to elevate customer experiences, modernize core banking infrastructures, pioneer innovative payment solutions, and transform enterprise risk management. Learn more at ibm.com/industries/banking-financial-markets

BIAN

Financial institutions use BIAN as a starting point to help define and organize their IT software and services needs in a standard, rationalized way around the BIAN service landscape. This in turn increases an organization’s agility to deliver the needs of its customers. BIAN provides an industry model for creating an architectural framework that makes integration of software and services capabilities easier and faster through a standard set of definitions. The model is supported by 250 predefined APIs. Learn more at bian.org

Introduction

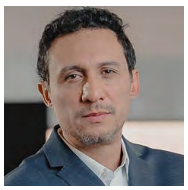
Over the past decade, banks have poured resources into cloud-native core banking modernization to achieve digital excellence. Yet, research shows ongoing issues. They include cost overruns, delays, and poor ROI, with fewer than half of CIOs reporting substantial improvements in efficiency, customer experiences, or innovation agility. These challenges highlight the urgency for a strategic shift amid rapid tech cycles and AI's widespread adoption.

Forward-thinking CIOs are leveraging generative AI to speed up software development, advancing from basic code generation to advanced frameworks that analyze legacy systems, extract business rules, and automate processes end-to-end. This requires rethinking operating models with AI-integrated workflows, embracing industry standards to resolve application disarray, and crafting hybrid cloud strategies for modularity, scalability, and real-time capabilities—while addressing risk aversion and silos.

As AI surges forward, mastering this blend of AI acceleration, strategic alignment, and resilient governance will distinguish thriving institutions, unlocking asymmetrical competitive advantages, exponential growth, and future-fit platforms in an intensely competitive landscape.

The IBM Institute of Business Value (IBM IBV) invited executives from 10 financial institutions and service providers to discuss their strategic perspectives on how banks succeed in core banking modernization, and scaling AI enterprise-wide with advanced risk management:

Akbank
Gökhan Gökçay
Executive Vice President, Technology



Bancolombia
Alvaro Ernesto Carmona Ruiz
Chief Technology Officer

Bancolombia
Camilo Piedrahita Macias
Senior IT Director Developer Platforms

Bancolombia
Daniel Umberto Ayala Marin
Leader of IT Excellence Center

Bancolombia
Emanuel Medina Gomez
Leader of IT Engineering Platform

DNB
Nicolai Rygh
Chief Technology Officer, Retail Bank

FirstRand
Gordon Little
Executive payments and platforms

Getnet by Santander
Alexandre Oliveira
VP of Risks, Collections, AML, Fraud, and Compliance

Intesa Sanpaolo
Rita Gnutti
Executive Director, Internal Validation and Controls

Nubank
Caio Banti
Chief Risk Officer Brazil

Nubank
Felipe Lamounier
Head of AI Products Strategy

Nubank
Juliana Barby Simão
Global Head of Model Risk Management

TD Bank Group
Vipul Lalka
Vice President, Executive Product Owner, Digital Servicing, Canadian Personal Banking

UOB
Stuart Smith
Head of Innovation, Group Retail TMRW

ZAFIN
Charbel Safadi
Chief Executive Officer

Build competitive advantage by modernizing your banking core with AI

Innovation in banking presents formidable challenges for established institutions, constrained by client responsibilities, regulatory demands, and the complexity of justifying long-term initiatives amid persistent technical debt. To build asymmetrical competitive advantages, banks must transition from tactical to strategic approaches, reimagining operating models where AI simplifies complexities, reorchestrates workflows, and embeds business logic into technological progress.

Central to this strategy is AI's integration in software development, evolving from generating test cases and code snippets to creating scalable frameworks that derive new code from business rules and mine legacy systems for code translation and validation. By extracting and structuring these rules, banks can automate code generation and achieve end-to-end efficiency.

Here are some of the insights from our panel of executives:

"We believe that technology and leadership must closely align with strategic priorities such as customer satisfaction, operational excellence, and responsible growth—making tech an integral part of business strategy, not a separate entity."

Daniel Umberto Ayala Marin
Leader of IT Excellence Center
Bancolombia

"Today's CIOs must be strategic partners to the business, forging strong relationships across units and leveraging technology as a catalyst for sustainable growth."

Gökhan Gökçay
Executive Vice President, Technology
Akbank

"With agentic AI, the real challenge will be operating models themselves. Organizations are no longer simply deploying software but redesigning how they operate."

Stuart Smith
Head of Innovation, Group Retail TMRW
UOB

"We operate on the belief that what worked yesterday might not work tomorrow .... With the energy of a startup, we are always ready to try new things, whip up prototypes, and explore what's possible."

Felipe Lamounier
Head of AI Products Strategy
Nubank

"We're not just adopting AI—we're leveraging it to create an asymmetric competitive advantage"

Alvaro Ernesto Carmona Ruiz
Chief Technology Officer
Bancolombia

Change core banking tires at full business speed

Core banking modernization is essential amid accelerating technology cycles, demanding resilient foundations that align IT with evolving business strategies. Proactive CIO leadership makes deliberate decisions about hybrid infrastructure, API standards, and AI to boost developers' experiences and efficiency, while overcoming risk aversion and siloed mindsets. Banks adopt phased approaches, prioritizing value creation over one-and-done overhauls—decoupling data from legacy cores, phasing out monolithic code and shifting to modular, real-time core systems. Cloud enables scalability, though it requires cost management; generative AI automates tasks but introduces "black box" risks, necessitating talent reevaluation.

Drawing from fintech inspirations, banks can change the wheel while driving, balancing stability with innovation through internal culture shifts and external partnerships. Ultimately, reimagining customer journeys via innovative ecosystems differentiates winners, fostering scalable, future-fit platforms for growth and loyalty.

Here are some of the insights from our panel of executives:

"If you focus solely on efficiency, you risk missing out on new product opportunities. But if you swing too far the other way — prioritizing product innovation without operational discipline — you create long-term inefficiencies that are hard to unwind."

Gordon Little
Executive payments and platforms
FirstRand Group

"The ultimate goal is to simplify complexity and foster a cohesive ecosystem where AI, platform engineering, and governance integrate seamlessly to drive transformation at scale."

Emanuel Medina Gomez
Leader of IT Engineering Platform
Bancolombia

"Banks need to move past the idea that they are tech-first companies. Instead, they should refocus on being exceptional financial service providers, enabled by technology but not defined by it."

Charbel Safadi
CEO
ZAFIN

"At TD, generative AI is creating a more integrated environment where business and technology teams speak a common language and can collaborate more seamlessly. In that sense, it's not just a tool—it's a shift in how we operate and innovate."

Vipul Lalka
Vice President, Executive Product Owner,
Digital Servicing, Canadian Personal Banking
TD Bank Group

"Instead of a high-risk 'big bang' migration, we are replacing mainframe capabilities step by step, incorporating modern architectures and application layers. Our core strategy extends beyond mere modernization; it aims to deliver seamless, real-time, and comprehensive digital experiences that align with changing customer behaviors."

Nicolai Rygh
Chief Technology Officer, Retail Bank
DNB

Create a new profession: The AI risk manager

In the AI era, robust risk management is vital for banks to harness generative and agentic AI's potential while protecting institutional integrity and ensuring regulatory compliance. By cultivating a culture where all bankers serve as AI risk managers, institutions can transition from reactive to proactive strategies. The shift relies on transparent collaboration among business units, IT, and risk teams to detect and address threats like model biases, data privacy breaches, and operational vulnerabilities. Tailored approaches, such as tiered validation by model criticality, enable rigorous oversight for high-impact systems and automate tasks like test orchestration and report generation under human supervision.

Risk management acts as a catalyst when implementing proprietary or third-party foundational models, converting challenges into advantages via adaptive, data-driven methods. At the same time, AI tools enhance risk management expertise—for instance, through generative AI for code translation, anomaly detection, and improved oversight—allowing risk and compliance to uphold strong controls while speeding innovation.

Here are some of the insights from our panel of executives:

"A key lesson we've learned is the escalating challenge of vulnerabilities in the industry—a genuine and urgent problem. To tackle this, we're employing AI to close vulnerabilities more effectively."

Camilo Piedrahita Macias
Senior IT Director Developer Platforms
Bancolombia

"'Risk management by design' makes our approach proactive rather than reactive by embedding risk management alongside business development."

Juliana Barby Simão
Global Head of Model Risk Management
Nubank

"Before AI can add value, we must ensure the quality, consistency, and reliability of the data we feed it."

Alexandre Oliveira
VP of Risks, Collections, AML, Fraud, and Compliance
Getnet by Santander

"This AI-driven evolution about the way we work and use data spans across the entire enterprise, introducing specific AI risk management requirements calling for a cultural shift. A change in which every employee, from leadership to frontline staff, acts as an AI risk manager."

Caio Banti
Chief Risk Officer, Brazil
Nubank

"Overall, we must embrace the opportunities AI offers—not just for innovation, but as a powerful form of internal validation. However, with rapid changes come real risks. The key is not to shy away from these risks, but to approach them with intention."

Rita Gnutti
Executive Director, Validation and Controls
Banca Intesa Sanpaolo

Akbank

Gökhan Gökçay

Executive Vice President, Technology

The pace of technology innovation and its life cycle accelerate constantly, challenging the relevance of business strategy and demanding technology to reshape its own foundations while staying resilient.

In this interview with IBM's Paolo Sironi, Gökhan Gökçay—Technology Executive Vice President and CIO at Akbank in Türkiye —discusses aligning IT initiatives with business strategy, and doing so amid rapid evolution where proactive CIO leadership means staying ahead of business needs. The conversation emphasizes anticipation and early investment, focusing on cloud, APIs, and AI to enhance customer experience and operational efficiency. Key challenges include risk aversion and siloed mentality, while success metrics highlight reduced time-to-market and shared ROI.

How can technology initiatives align with business strategy amid rapid changes, ensuring both evolve together to support transformation?

At Akbank, one of Türkiye's leading and most innovative financial institutions, we see ourselves as a catalyst for shaping the future of finance. Our vision is to combine the strength of a trusted legacy with the agility of digital transformation, ensuring we remain at the forefront of global banking trends.

Technology is at the heart of this ambition, serving as both the backbone of our operations and the driver of new opportunities. Building on this vision, our technology team is always proactively anticipating the bank's strategic direction to enable agile adaptation and invest ahead of the curve. While certain elements of business strategy are quite clear and are common goals across most banks; they come with obvious technology needs such as agility, digitalization, AI capabilities, and customer experience.

But successful execution depends heavily on technology foundation and how each bank's business and technology teams work together. For us, the architecture plays a pivotal role in ensuring a seamless and intuitive customer experience, built on modular front-end layers and dynamic orchestration frameworks. Resilience, scalability, and technological excellence remain among our highest priorities.

Clearly, there are more specific or niche requirements that emerge from time to time. For instance, we recognized the strategic opportunity to onboard clients digitally and made early investments to anticipate regulatory changes. By anticipating the shift, we were ready with a robust onboarding solution at the time new regulations went live, gaining a competitive advantage supporting customer acquisition and cross-sell strategies.

Do business and technology move at the same pace?

It's a race where both parties win as a team. Technological innovation evolves quicker than ever and informs and shapes evolving business strategy—because as the world changes, strategy must adapt. Of course, the pace of adoption varies across geographies and organizations, and some gap between technological maturity and operational implementation is expected. The key is how wide that gap becomes.

Take big data: when it emerged, we strategically transitioned to leveraging unstructured data for enhanced decision-making. Then mobile technologies completely changed how users interacted with applications. APIs followed, unlocking a new era of collaboration with corporate partners through scalable, real-time integrations. This led to the rise of API banking and expansive digital ecosystems. Later, chatbots introduced conversational banking, changing how customers engaged with us. Now, AI agents are here—and they won't just reshape digital touchpoints but could also drive a whole new wave of transformation in our operating models.

Which major IT initiatives underpin success in deploying business strategy?

It's about architecture, APIs, and AI.

The first key pillar is cloud-based architectures. Regardless of the setup, most large banks are modernizing their application portfolios, and that trend will continue.

The second is APIs. We currently offer over 500 APIs that business partners can use to build their own applications and services. The demand for API-based services grows, as well as the volume of API transactions which is already our second-largest digital channel after mobile.

The third area is AI. We leverage both conventional and generative AI capabilities to drive transformation across key functions, but I believe its role will evolve dramatically not only to enhance touchpoints but also to reshape fundamentally how we operate.

What does it really mean to modernize core banking?

Banks have built their systems over decades, and many core applications date back 20 to 30 years. Over time, these systems were patched and updated, but today they've become hard to understand and maintain. In some cases, banking teams no longer fully know the business rules embedded in them. Some were built with outdated technologies or by people who are no longer with the organization—making them a risk, creating inefficiencies, and holding back needed transformation.

That's where core banking modernization comes in. It's about updating both the banking capabilities and the technology platforms that support them. The goal is to build a more sustainable foundation for the future and to significantly improve time to market. When the business needs a new feature or product, delivering it on a modern, consolidated platform is much faster and more efficient than on legacy systems.

How do banks define value in cloud investments?

When we talk about cloud, we refer to a set of technologies that enable modular, cloud-based architectures, typically built around a domain-driven approach. In this setup, each component is independent, loosely coupled, and easier to scale and maintain. This structure is much better suited to the demands of the digital world, where scalability, resilience, and speed are essential.

Today, businesses expect multiple features and solutions to be built in parallel, and monolithic systems limit how many initiatives can be developed simultaneously. But with a modular, cloud-based approach, banks can work on different components simultaneously and more safely, making parallel delivery at scale not just possible, but sustainable. That's the core value of moving to the cloud.

Conversely, what factors can limit cloud's value generation?

Every organization faces its own set of risks. I think a key issue is risk aversion. When teams are too risk-averse, decision-making slows down, and processes become over-engineered and less efficient. At the same time, excessive consensus-seeking can dilute outcomes and create inefficiencies, as too many voices can water down decisions. Another common issue is organizational silos. Each silo may operate well individually but often misses the bigger picture. As a result, the solutions delivered to customers don't always feel seamless or fully integrated.

How does top management track technology success in a multiyear transformation journey?

We evaluate success through two complementary lenses: technical performance indicators and shared business outcomes. On the technical side, one key metric is time to market—how quickly we can deliver a meaningful solution to customers.

Eight years back, it took us around 9 months on average. Three years ago, we brought it down to 5.6 months. Today, our average is 3.7 months, which reflects real progress in how efficiently we operate. Delivery volume is another key metric. With 2,500 technology employees, last year we delivered over 630 projects and nearly 10,000 small work items, each clearly defined and categorized. Over the past two years, our project delivery volume increased by 60%, which is a strong indicator of improved efficiency.

Then there's quality—we closely track incident trends, response times, and service levels. Last year, our customer-facing service availability was over 99.97%, which is well above industry average. On the business side, each project or program is tied to shared ROI metrics—such as the number of new customers, product sales, or engagement targets. These business KPIs are agreed on up front and measured post-delivery, ensuring shared accountability for success.

What does it take to scale AI across the organization?

Every bank will take its own path, and our approach to AI adoption evolved as we gained more clarity on how we wanted to use AI. With conventional AI—such as machine learning and earlier deep learning models—it was easier to understand the value and track progress.

But generative AI brought a different kind of challenge. A couple of years ago, we started with a discovery phase: understanding what it is, its strengths, and its limitations. Since we already had Natural Language Processing (NLP)-based solutions, we felt we had a good foundation. We ran workshops with business units, identified and prioritized use cases, and implemented several.

That initial phase took around 9 to 12 months and taught us a lot. However, to create business value, we shifted to a more strategic approach and identified three core areas where generative AI could deliver significant impact: operations, to streamline our extensive back-office processes; technology, to support the software development lifecycle; and customer interaction centers, especially our call center where generative AI can enhance both agent support and customer experience.

Today's CIOs must be strategic partners to the business, forging strong relationships across units and leveraging technology as a catalyst for sustainable growth.

To meet the increasing scale and complexity of organizational demand, we also restructured our operations. The initially centralized AI center couldn't scale fast enough. Therefore, we adopted an extended hub-and-spoke model embedding AI capabilities across multiple technology units while keeping elements of coordination—each accountable for identifying high-impact AI use cases within their respective domains.

We did the same on the business side. Dedicated AI teams have been established within each of the three strategic business areas to drive domain-specific innovation, and we work closely with them to drive use cases forward. The next stage is scaling beyond the three strategic business units to the entire bank. We're now asking all business units and EVPs to embrace AI within their domains and form multidisciplinary AI squads. These teams will be supported by our central AI technology hubs. This decentralized model is critical—not just to scale AI effectively, but to ensure it becomes truly embedded in day-to-day business operations. A solely centralized structure no longer provides the scalability or responsiveness required for enterprise-level AI transformation.

What is the role of risk and control functions in governing AI across the organization?

Traditional models—such as statistical and machine learning models to manage credit risks—are already supported by well-established governance frameworks. Dedicated teams work on specific aspects such as model development, performance monitoring, validation, and calibration. While they operate independently, they work under a broader umbrella of credit risk management policies to ensure objectivity and control.

There is also another stream of activities for enterprise models used in areas such as customer experience, sales, and product recommendations. These fall under our Data Governance Office, which oversees both data quality and high-level model governance, while risk-specific models remain under the risk function's control. With the advent of generative AI, new governance challenges have emerged, prompting us to introduce our "AI Manifesto" in which we outline principles such as explainability, accountability, and respect for human values that apply to any activity across the entire bank. This sets the foundation for how AI should be used enterprise-wide. Based on this work, we're now refreshing the governance structures to ensure those principles are applied consistently across all units.

Is Software-as-a-Service (SaaS) overrated in the era of agentic AI and open source?

The real shift isn't just about who builds the solutions—it starts with how customers interact with banks and service providers. For years, we talked about conversational banking, where users would speak to their bank instead of using an app. But it never truly took off—possibly because customers weren't comfortable discussing finances out loud, preferring privacy on their screens.

Generative AI is now redefining this dynamic. Whether through typing, writing, or speaking, AI agents are making interaction more intuitive, fluid, and human-like. Accordingly, the primary inflection point lies in evolving customer behavior and expectations.

The second is on the technology side. Agentic AI is evolving rapidly, and I believe it will fundamentally transform how software is developed and consumed. This may be why IT commentators started emphasizing that "SaaS is dead"—because instead of static interfaces, users will interact dynamically with AI agents that act on their behalf.

In this model, APIs become the backbone, as agentic AI will rely on APIs to trigger services. Over time, even that may evolve—but in the near term, APIs will be critical for enabling AI-driven interactions in banking and beyond. With agentic AI, it feels like we're entering a new phase where business logic is being embedded directly into the software itself. It's no longer just about building tools for business—AI is transitioning from an enabling tool to a core operational component of the business.

Is AI redefining the balance between insourcing and outsourcing IT competences?

We outsource some standard infrastructure services such as device management and end user support, but beyond that, most of our technology is insourced. Compared to other European banks, we have a strong internal tech team handling the full software development life cycle. We do manage our own technology stack, including databases, middleware, and application servers.

When it comes to business applications, we prefer to build them in-house. About 35% of our developers are external partners who work closely with us. They possess in-depth expertise in platforms and frameworks, which helps maintain a consistent and homogeneous technology environment across the bank. For standard, non-differentiating systems such as ERP or HR, we typically adopt off-the-shelf solutions. But for strategic areas—such as credit products or digital onboarding—we build the solutions ourselves to retain control and differentiate our offerings. In the AI world, things are different—some platforms and solutions are highly advanced, making it difficult to build everything in-house. That's why we may rely more on ready-made, commoditized, or niche tools and platforms.

What characterizes forward-looking CIOs?

Banking and technology are now inseparable. That makes strong tech capabilities—and the people behind them—critical. Today's CIOs must be strategic partners to the business, forging strong relationships across units and leveraging technology as a catalyst for sustainable growth. The most effective leaders are those who embrace innovation, anticipate change, and take deliberate, forward-looking steps to ensure their organizations are ready for what's next.

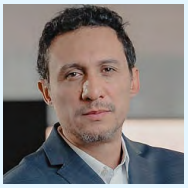
What I've learned is the importance of staying slightly ahead of business needs. CIOs must act as enablers—collaborating closely with business stakeholders to anticipate future demands and proactively build the foundational technology required to support them. It's a bit like doing your homework before the exam—maybe not everything but at least laying the foundation in advance. That's what I focus on, beyond the day-to-day.

Another critical dimension of CIO leadership is how we build, lead, and scale our technology organizations. Successful CIOs create a culture of empowerment, alignment, and accountability—ensuring teams are motivated, purpose-driven, and focused on outcomes. Personally, I aim to lead with authenticity, pragmatism, and a collaborative spirit—bringing together diverse perspectives and fostering a shared sense of mission.

Bancolombia

Alvaro Ernesto Carmona Ruiz

Chief Technology Officer



Camilo Piedrahita Macias
Senior IT Director
Developer Platforms

Daniel Umberto Ayala Marin
Senior IT Director
Developer Platforms

Emanuel Medina Gomez
Leader of IT
Engineering Platform

In an era where AI permeates every facet of operations, savvy CIOs are transcending mere adoption, seeking bold opportunities to forge asymmetrical advantages that redefine competitive edges.

In this conversation with IBM's Paolo Sironi, Bancolombia's Alvaro Ernesto Carmona Ruiz (Chief Technology Officer) is joined by Camilo Piedrahita Macias (Senior IT Director Development Platform), Daniel Umberto Ayala Marin (Leader of IT Excellence Center), and Emanuel Medina Gomez (Leader of IT Engineering Platform) to discuss their approach to "strangling the core," deploying new capabilities with generative AI, and automating core processes end to end. They envision how to master technology creation while reshaping their operating model with AI, gaining efficiencies, and building a competitive advantage.

What's the key principle driving your technology strategy?

Alvaro: With a 150-year legacy of serving over 30 million customers across Colombia, Panama, El Salvador, and Guatemala, our history demands continuous evolution. We are committed to adapting to a changing world while remaining anchored in the solidity, confidence, and integrity that have always defined us.

Our transformation began a decade ago with our foundational "Journey to Cloud," where we took our first steps in cloud computing to assimilate these new capabilities and put them to work for the organization. Today, we are accelerating into a new phase: a deep technological modernization designed to evolve how we operate and build our products. Our focus is absolute: enhancing our customers' experience and generating a positive impact on their financial lives.

Our responsibility is immense: 70% of all financial transactions in Colombia pass through our infrastructure. This reality is precisely why excellence in software development, mastery of DevOps practices, and the strategic implementation and use of AI are not just priorities—they are a key part of our strategy and the core pillars of our future.

We're not just adopting AI—we're leveraging it to create an asymmetric competitive advantage. Today, nearly every company uses AI. Simply incorporating AI no longer sets us apart. A key part of our core modernization involved what we internally call "translation": converting COBOL and mainframe code to modern languages. We started this two years ago and found that the translation itself is straightforward. The true hurdle is testing, driven by the intricate data and business logic involved. With our vast array of applications, testing requires validating millions of use cases, which can be more demanding than the translation or even the full project. This led us to pivot to a hybrid strategy to "strangle the monolith:" constructing a new-generation core system while gradually phasing out the old ones via a "strangler pattern." The new core is compact, dedicated to transactional operations, and supported by independent satellite modules for domains like accounting, pricing, taxes, and fraud. AI is central here, accelerating the development of these modules. Our asymmetric edge comes from seamlessly linking business rules, technical architecture, design, code, and artifacts like test cases into an end-to-end process.

We're also adopting industry standards that outline banking system operations, aligning them with our processes to connect development stages—from rules to design, code, and testing—for a substantial competitive boost. To achieve this, we've integrated AI into development for two to three years, beginning with tasks like generating test cases, user stories, and code snippets. Now, we're building a scalable framework to generate new code from defined business and technical rules, and mine rules from legacy systems for translation and testing. The lingering challenge is testing: beyond extracting rules, we need automated generation of comprehensive use cases to verify the new system's accuracy and close the validation loop.

What's a good example of this AI-driven approach?

Alvaro: AI leverages existing data to enhance areas like fraud detection—a key challenge, as fraud rules are intertwined with business rules in our legacy mainframe systems. In a single COBOL code snippet, front-end logic, back-end processes, business rules, and fraud detection are all bundled, obscuring developer intent and creating deep entanglements. Our forward focus is to extract each rule and assign it to the appropriate component in the new architecture, separating fraud from business logic for logical placement. By employing rule mining to clearly extract and structure these rules, then generating code, configurations,

or logic in optimal spots, we gain a true asymmetric competitive edge. We're building this framework incrementally. For example, our platform engineering strategy ensures consistent architecture and microservices adoption, requiring all business component teams to use a shared platform. This enables generation from clear designs or ideas. We're making strong progress, led by an excellent team. The other aspect is extracting business rules and knowledge from existing components to create a solid foundation for future development.

How would AI change the way you create teams and operate?

Alvaro: I'd like to highlight an initiative in our AI program, extending beyond code generation to broader capability building. When launching our AI strategy, we identified about 100 potential use cases organization-wide where AI could deliver value. From there, we distilled a set of core capabilities powered by generative AI. A dedicated team then developed these and made them universally accessible through a central gateway. Building on this foundation, we established a secondary logic layer composed of eight reusable, AI-supported product components. Teams can leverage these as services via simple API-like calls, without grasping the underlying tech. Consequently, over 100 teams are adopting them, fostering an asymmetric competitive edge. By integrating AI directly into our platform, we deliver accessible, reusable, and scalable capabilities—driving faster, smarter development for both technology and business teams.

What is the primary challenge in testing modifications to the core system during a modernization effort?

Camilo: The bank's transformation faces a major hurdle: limited availability of nonproductive environments. This stems from complex dependencies mirroring production, making synchronization for testing highly difficult. Quality assurance testing is a key bottleneck, with cycles lasting almost one month, severely delaying development. To mitigate this, we're harnessing generative AI: we boosted by 400% the speed of test script creation for applications. We're also using mocking to simulate API responses in non-prod setups, overcoming unavailable components. Further, we're building an agentic AI strategy: a single agent generates scripts, executes tests, and handles mocking. This will slash testing cycles and enhance efficiency.

From a technology standpoint, which are your key initiatives?

Camilo: We work around three pillars. The first is about applying generative AI to reduce inefficiencies in the current technology landscape. The second is about upgrading our core banking system using a next-generation platform to enhance performance and scalability. Initially, we attempted to modernize refactoring by swapping of legacy code, but that failed. We then shifted to implementing a new core system. Initially used as a contingency for key transactions, over the next two to three years we'll fully transition to this event-driven, API-based, cloud-native platform. The third is about implementing end-to-end automation, bringing together capabilities from various partners to streamline processes across the organization.

How do you balance buy versus build, and customization versus standardization in your core modernization approach?

Emanuel: That's a key architectural question. Overall, we pursue three streams: buy strategically, build for advantages, and leverage open source where it fits. We certainly grow with partners as we bought a core banking platform to speed value delivery in some specific cases. But we also build in-house—for instance, developing customer channels over two years for faster progress, given our unique bank context, regulations, and financial ecosystem. We adopt market-standard tools when suitable and engage the open-source community to source components and contribute back for a stronger ecosystem. Building on that, we emphasize two strategies. First, strangling the monolith where cross-functional teams of business and tech experts identify high-impact use cases to prioritize legacy breakdowns. Second, we expand analytics by extracting core data to the cloud for deeper insights and opportunities, fueling our cloud migration as a transformation cornerstone.

What is the role of cloud in expanding data analytics?

Daniel: We employ a hybrid strategy, storing data both in the cloud and on-premises. For instance, we run one of the the largest data centers in Latin America on-site for local analytics, while also utilizing the cloud. This setup optimizes benefits from both worlds. Our analytics work began ten years ago, with cloud adoption starting five years ago, marking our strategic evolution. We've built advanced risk models—like those for customer risk in loan approvals—traditionally on-premises. Now, to align AI, machine learning, and data strategies with cloud goals, we operate in both environments. Looking ahead, we'll consolidate under a unified cloud approach, migrating workloads gradually and "strangling" legacy components like analytics into the cloud.

What's the interaction like between business and technology?

Daniel: We believe that technology and leadership must closely align with strategic priorities such as customer satisfaction, operational excellence, and responsible growth—making tech an integral part of business strategy, not a separate entity. It powers measurable KPIs that we track, share with stakeholders, and leverage for collaborative advancement in our technical roadmap. Clearly, our decisions—past and present— also hinge on the accelerating pace of technological evolution. Thinking AI innovation, we designed an "AI for everyone" vision, partnering with business teams to demystify AI usage via our existing capabilities and products, emphasizing it's straightforward and central to boosting overall business efficiency beyond just tech. By empowering stakeholders, we anticipate sharper collaboration—they'll better articulate nonfunctional and functional requirements, yielding superior software. This shifts our dynamic from mere change management to a holistic transformation in solution-building, benefiting both business and technology.

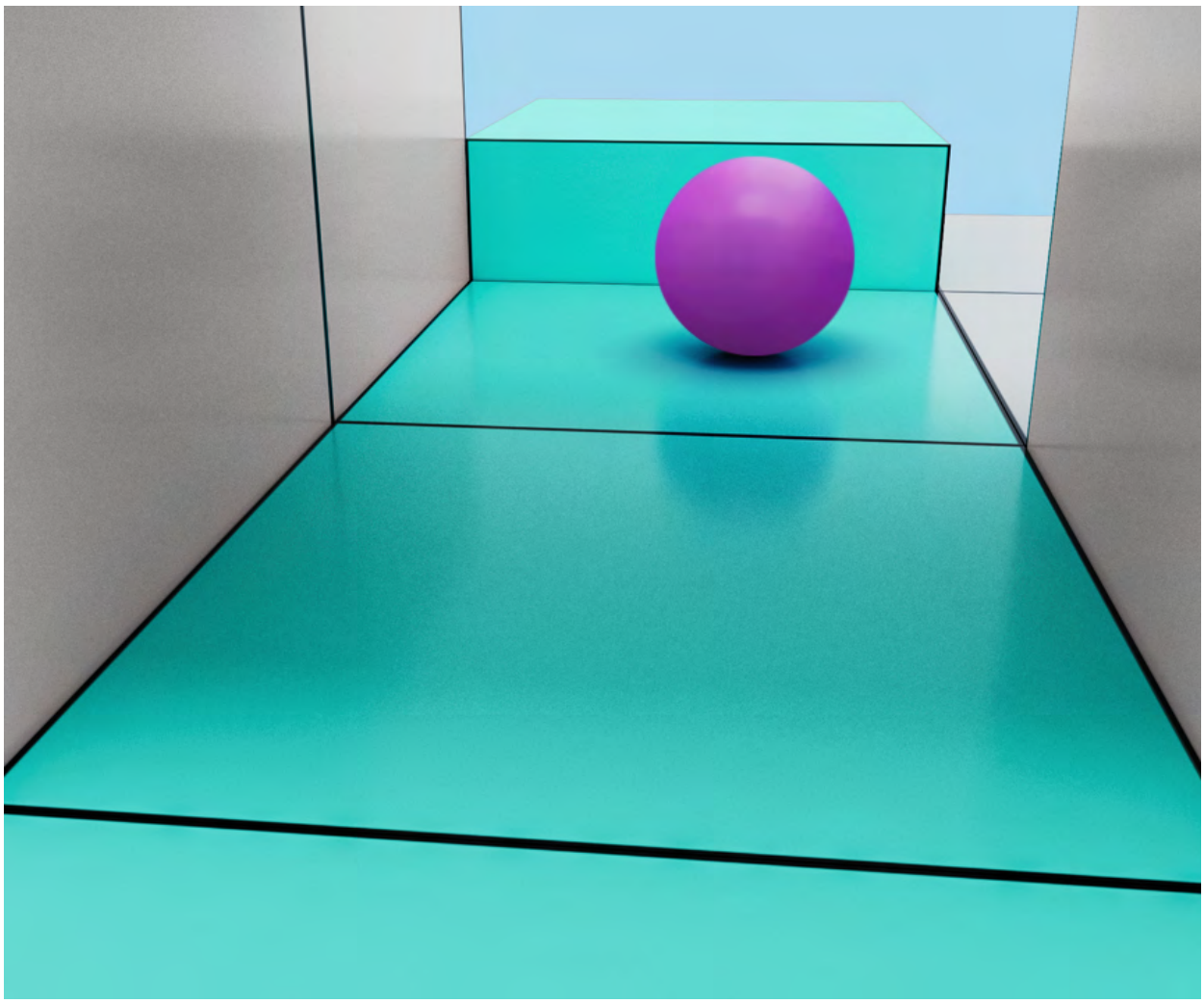
What's a key lesson learned stemming from your experience?

Camilo: A key lesson we've learned is the escalating challenge of vulnerabilities in the industry—a genuine and urgent problem. To tackle this, we're employing AI to close vulnerabilities more effectively. AI detects and mitigates them while recommending precise patches, often eliminating the need for developers to write new code. Consequently, we've delivered 30% of the bank's new features without incurring technical debt, marking substantial gains in security and productivity powered by AI. In summary, this approach accelerates transformation, minimizes risks, enhances delivery, and handles the increasing complexity of modern systems.

Daniel: My key point is that everything we release—be it for customers, software development teams, or internal practices—must be measurable. We establish specific metrics to monitor usage by business teams, developers, and customers alike, fostering a feedback loop that drives ongoing improvements. For instance, we track the suggestion acceptance rate from our AI code assistant, currently at about 26%. This reveals the tool's usefulness, relevance, and value, enabling us to achieve more with existing resources. It also sparks productive discussions with development and business teams: "Here's the data—let's collaborate to boost these figures." This approach continually refines our processes over time.

Emanuel: Our platform engineering serves as the convergence point, strategically aligning all of these initiatives with our AI capabilities and the bank's overall strategy. This alignment is essential not only for accelerating time to market but also for addressing vulnerabilities more efficiently and adopting new organizational standards quickly. The ultimate goal is to simplify complexity and foster a cohesive ecosystem where AI, platform engineering, and governance integrate seamlessly to drive transformation at scale.

Alvaro: In the future, mastering technology creation will be paramount. Though our bank commands a strong market position today, the financial landscape is transforming at a relentless pace, shadowed by unpredictable upheavals and escalating competition. AI's explosive advancement offers a dual potential: a formidable edge if harnessed wisely, or a perilous downfall if mishandled. Our four-decade-old systems form intricate webs of complexity; unlike launching from a clean slate, we must revitalize these legacies while innovating with startup-like velocity to rival digital natives. Success hinges on supreme agility. This drives our substantial investments in bolstering teams that forge cutting-edge tools, refine engineering practices, and spearhead adoption—all empowered by AI. Through this, we relentlessly cultivate asymmetric advantages, ensuring we not only compete but flourish in tomorrow's arena.



DNB

Nicolai Rygh

Chief Technology Officer, Retail Bank

Financial institutions thrive through deliberate strategies and proactive iterations with digital innovation, while client behavior shifts and technology improves.

In this dialogue between IBM's Paolo Sironi and Nicolai Rygh, Chief Technology Officer at DNB retail bank, Rygh highlights DNB's strengths in adopting new technologies early while adhering to a strict consolidation strategy: maintaining one core capability per business function and integrating the best solutions after mergers. The bank's digital transformation centers on modernizing customer channels and core systems, evolving from pioneers in internet banking to a mobile-first approach that delivers seamless services in response to smartphone-driven customer expectations.

Key challenges include shifting to API-driven, real-time architectures with enhanced security and modularity, as well as gradually phasing out mainframes to mitigate legacy risks, such as the retirement of experienced talent. Within this framework, generative AI is portrayed as an industrial revolution—automating routine tasks but introducing "black box" complexities that obscure understanding and control. This evolution calls for a reevaluation of talent development and education to prepare for exponential technological change.

In a few words, describe the essence of your digital transformation?

DNB is a 200-year-old bank with a long history of adopting new technologies early. This approach could result in a diverse technology landscape across the organization. Instead, we maintain a strict consolidation strategy: one core capability per business function, even following mergers and acquisitions by choosing not the prevailing but the best solution from a technical and functional perspective. Our digital transformation efforts centered on two key areas: modernizing customer channels and updating core systems.

Our customers initially reported very high satisfaction with our digital channels—until the release of the iPhone. This marked a turning point, as expectations began to shift rapidly. As pioneers in internet banking, we found ourselves with channels that were becoming outdated and no longer met evolving customer needs. In response, we adopted a mobile-first strategy and launched a successful mobile banking app focused primarily on service features. As smartphones improved and became more embedded in daily life, customer expectations rose sharply. They began demanding broader functionality and more services directly within the app.

This realization drove us to accelerate modernization efforts, minimize friction, and streamline user journeys—and we were successful. Sales capabilities, however, relied on advisor-driven interactions. Today, with customer interactions moving entirely to digital channels, we are investing in more intelligent and proactive engagement tools—such as next-best-offer recommendations—while upholding rigorous compliance requirements, including Know Your Customer (KYC) and Anti-Money Laundering (AML) standards. At the same time, we are modernizing our core systems as a precondition to achieve even greater long-term agility and scalability.

What's your current approach to future-proof your digital banking capabilities?

Today, our efforts are centered on enhancing both service and sales capabilities within the mobile app. This is supported by two main enablers: a modular core banking system to improve agility, and AI to enable smarter notifications and interactions. To date, our modernization initiatives have prioritized delivering comprehensive and seamless digital features over incorporating advanced intelligence.

One of our biggest core banking challenges has been transitioning from a traditional, trusted internal infrastructure to a modern, API-driven, real-time architecture that prioritizes both security and customer experience. Originally, internet banking operated entirely within our data center—inside the bank's trusted zone. However, as mobile banking evolved, we intentionally positioned it outside that zone, treating it as a "nontrusted" third party. As a result, every interaction from the mobile app must pass through strict authentication and authorization layers, effectively handling even our own app like an external client. This approach demanded a fundamental shift in our operations. Previously, our API model assumed full trust, granting broad access and relying on batch processing through mainframe-driven MQ systems. Now, every API call undergoes rigorous checks: Is the user authorized? Are they the rightful account owner? Does this action require additional approval?

By merging business logic into security logic, we have significantly raised the bar for reliability and protection. The result has been a major transformation—from batch-based overnight updates to real-time, high-frequency, security-aware interactions—pushing both our core systems and architecture to evolve dramatically.

What was your main approach or strategy for core banking transformation?

Our core banking strategy emphasizes modularization and a gradual transition from a customized framework toward more sustainable, standardized platforms that remain up to date over time. The mainframe currently contains millions of lines of bank-specific code and depends on a diminishing pool of legacy experts, many of whom are nearing retirement. This situation poses significant risks to operations and business continuity.

However, instead of a high-risk "big bang" migration, we are replacing mainframe capabilities step by step, incorporating modern architectures and application layers. For systems that remain connected to the mainframe, we have implemented protective measures, such as API gateways, to handle traffic, enhance security, and improve performance through features like caching and intelligent routing of traffic patterns. And the rise in mobile banking adoption has further influenced our core system requirements. Early on, usage was minimal—primarily for checking balances—but it has since expanded dramatically.

Today, more than 50% of bill payments occur via mobile, and overall usage keeps growing, particularly among younger customers who depend almost entirely on the app. This evolution has heightened customer expectations, with demands for complete feature equivalence across all channels, including mobile. Consequently, our core strategy extends beyond mere modernization; it aims to deliver seamless, real-time, and comprehensive digital experiences that align with changing customer behaviors.

What challenges did you experience in this modernization process?

When we launched our mobile bank, we were early adopters of serverless architecture, pushing the technological boundaries of the era. Although we may not have fully anticipated the challenges of implementing serverless for one of the country's largest apps, it offered exceptional scalability and aligned costs directly with actual usage—automatically expanding capacity during demand spikes. Front-end scalability proved reliable, but it revealed a disconnect with our back-end systems, which were designed for more stable and conventional traffic patterns. Mobile banking adoption changed customer behaviors: retail users began handling transactions during work hours, resulting in sharper traffic surges that our legacy systems were not built to manage.

This challenge drove the need for enhanced data management strategies, particularly in caching and load distribution—not only to boost performance but also to contain costs and lessen environmental impact. Just as the energy grid faces peaks when many people charge their cars or cook at the same time, we experienced similar surges in our infrastructure, necessitating a more intelligent and resilient back-end architecture.

What's the role of AI in your digital banking strategy?

We were fortunate to begin our chat services early, starting with human agents to gain insights into customer needs. Building on that, we integrated Boost AI, which effectively managed routine daily banking inquiries. It excelled at handling familiar questions, enabling us to develop and continually expand a decision tree of responses. In the past, this involved a manual process of spotting gaps and adding new answers.

Today, we leverage AI to suggest additions to the knowledge base and have deployed AI agents. We have begun testing large language models (LLMs), though adoption presents hurdles. Operating in a heavily regulated sector, we must proceed carefully before automating responses fully. Language support is another obstacle, as models adapt more slowly to less common languages like Norwegian. Infrastructure poses a further limitation: even if an AI agent grasps a user's intent, it cannot execute actions without the appropriate APIs being available. Many customers resort to chat specifically because those features are absent from the mobile app. Until we establish complete API and feature equivalence across all channels, AI agents will stay constrained.

The challenge is that many manual service tasks we want AI to handle aren't yet API-ready. So, we're trying to apply AI to areas that haven't been prioritized for digital self-service—creating a catch-22. While language models can identify what needs to be done, they can't act without the necessary APIs. Much of this functionality still resides on the mainframe, and until we either modernize those systems or invest in exposing new APIs, AI's potential in these areas remains limited. And interestingly, as we redirected more traffic to these agents, we noticed a decline in customer satisfaction—not because the responses were inferior, but because users still preferred interacting with humans, even when the bot provided equivalent answers. This preference persists.

Regarding mainframe data, is the gap about availability or modularity in the way APIs are exposed to data?

It's both. Certain APIs have not been prioritized due to a weak business case—these involve low-volume products that do not warrant significant investment. Consequently, service requests for them are managed manually via cost centers. That said, these products can still produce substantial service traffic, which negatively affects key performance indicators (KPIs).

To address this temporarily, we occasionally employ robotics or screen scraping to mimic API access, enabling AI to process the request. Although this meets short-term needs, it does not resolve the underlying problem: genuine modernization demands a comprehensive API catalog and a solid data strategy to maximize AI's potential. Currently, our chatbots focus mainly on service functions. They can assist with sales only if the customer takes the initiative—for instance, by inquiring about purchasing a product—but they are not yet capable of proactive engagement. We are addressing this proactively. A specialized team is combining our chat with more advanced features to incorporate next-best-offer capabilities into conversations. This initiative is ongoing and it's a key strategic focus.

In daily banking operations, the most significant shift has been the move to real-time transactions, fueled primarily by the expansion of instant payments.

What's your approach to justify investments in digital initiatives?

These investments do not necessarily produce immediate revenue. While sales functions can contribute to revenue growth, every operational element involves costs. Our digital-first and mobile-first initiatives are not driven by business cases tied to individual products.

Instead, we take a holistic view, prioritizing overall segment profitability and market competitiveness. These investments are positioned as vital for staying relevant, rather than being validated by ROI analyses for particular features. The critical element is developing an economic model that incorporates adaptability as a core variable, enabling us to align with evolving technology consumption patterns that reflect how clients are changing their use of banking services.

In daily banking operations, the most significant shift has been the move to real-time transactions, fueled primarily by the expansion of instant payments. This change fundamentally transforms system logic: what was once batch-processed and geared toward a small number of high-value transactions must now accommodate a growing flood of low-value, real-time ones.

In card infrastructure, a distinct trend is evident: credit cards, once mainly used for substantial purchases like televisions or vacations, are now commonly employed for minor, routine items such as coffee or soft drinks. Consequently, the average transaction value is falling, even as the total number of transactions skyrockets.

However, a large portion of our costs—both internal and vendor-related—are linked to transaction volume, not value. Fees for licensing, computing, and infrastructure are assessed per transaction, regardless of the diminishing business value per unit. This consumer-led transformation requires us to reevaluate our infrastructure. Real-time, high-frequency, low-value payments place demands on legacy systems that they were never designed to meet, necessitating modernization for enhanced scalability and cost efficiency.

Real-time, high-frequency, low-value payments place demands on legacy systems that they were never designed to meet, necessitating modernization for enhanced scalability and cost efficiency.

Has this shift also required new conversations with vendors?

Adopting a new business model with vendors is crucial to facilitate the underlying business transformation. Traditional approaches—such as upfront payments and annual software licenses, or long-term hardware depreciation—do not align with the cloud-era emphasis on pay-per-use pricing.

Today, costs are directly linked to actual usage, often measured by the minute or second, which creates a tension between operating expenses (OPEX) and capital expenses (CAPEX). We are optimizing costs for contemporary infrastructure while simultaneously winding down legacy systems. This situation is akin to settling into a new home while continuing to pay off the mortgage on the previous one. This double load increases operational complexity.

Certain legacy vendors cling to outdated models, whereas emerging providers deliver more adaptable, on-demand options. Each has its advantages and drawbacks but effectively navigating them demands strong financial and operational expertise. It is essential to build the capabilities to identify cost drivers early on—because the new model not only offers potential savings but also enhances agility: if an initiative proves ineffective, it can be discontinued swiftly.

What's the secret of DNB's appealing efficiency ratio?

Norway, together with Iceland, is considered one of the most digitally advanced societies in the world—especially in banking. As a small country, our client base is naturally limited, so cost efficiency has always been a core part of our DNA—not just a recent focus. Every acquisition we've made has been driven by a consolidation mindset, with a clear evaluation of fit. If the acquired technology is better than ours, we adopt it.

The goal is always to run with one system per function—whether for payments, debit, or other core areas. This disciplined approach contrasts with competitors that operate as a collection of brands, maintaining multiple overlapping systems. Our consolidation culture has enabled us to keep costs under control and maintain a lean, scalable technology stack. We're also fortunate to operate in a highly digital society, where customers readily adopt digital banking. This allows us to deliver a mass-market, digital-first value proposition well ahead of many peers in Europe. Additionally, strong industry collaboration—such as shared BankID, joint payment apps, and co-owned infrastructure—further reduces cost and complexity across the banking ecosystem.

This collaborative effort plays a pivotal role in our continued success. Security provides a prime example. As the largest bank, we are a major target and thus invest heavily to remain at the forefront. Smaller banks generally invest less, so we often lead as the first mover, with others following by implementing similar vendor solutions. In specific areas, such as international payments, other banks directly leverage our infrastructure through partnership agreements. This not only strengthens security—especially in fraud prevention—but also generates cost efficiencies across the entire ecosystem.

What do you think about hybrid cloud architectures?

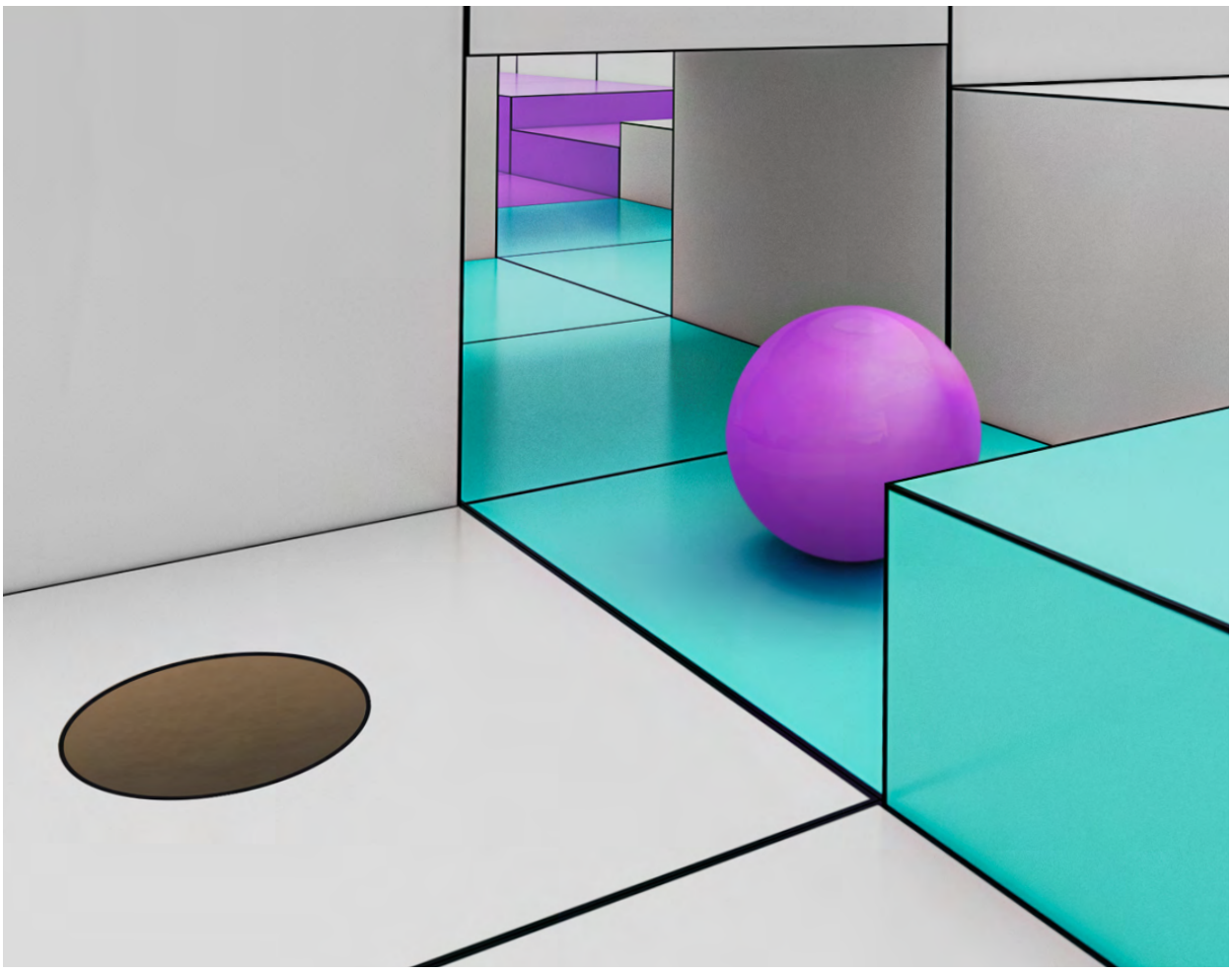
For daily banking—particularly with the emergence of real-time capabilities—cloud-based, on-demand infrastructure is highly suitable. The migration to cloud is motivated more by access to talent and cost efficiency than by technological factors alone. Running your own data center seldom competes with the massive economies of scale provided by cloud providers. Cloud also delivers benefits such as infrastructure-as-code, especially in customer-facing channels. That said, I do not envision a unified platform that could serve all banks across Europe.

Many core products, such as mortgages, are heavily shaped by local regulations and market variations. For instance, a mortgage in one country may differ fundamentally from one in another, both in terms of structure and compliance obligations. Although standardizing core systems is feasible, the go-to-market layer needs to stay highly tailored to local contexts. This reality complicates vendors' ability to provide a universal solution without extensive customization layered on top. Regarding our journey, I anticipate that we will eventually exit our data centers entirely, as hyperscalers can operate infrastructure far more efficiently. The transition is delayed for two main reasons: limited capacity to speed up the process and software vendors' incomplete adaptation of their business models to cloud environments.

At present, it can be more economical to stick with traditional software licenses than to migrate to cloud services, since paying for both simultaneously increases costs. In the long run, however, banking operations will fully embrace cloud-based systems with infrastructure as code. Though the shift is progressing more slowly than anticipated, it is still an unavoidable and prudent strategy.

What's the impact of generative AI on talent?

I would not invest in low-code platforms at this point, as AI empowers skilled professionals to simply articulate desired outcomes to AI agents. The AI then selects the most suitable programming language, database, and infrastructure as code. While a strong technical foundation is still essential, much less code will need to be written manually. This signals a profound shift toward higher-level development, where machines handle the majority of the workload. Consequently, today's students may need to be in the top 5% of their field to secure jobs in five years, as routine coding tasks become increasingly automated.



To illustrate, during the pandemic, I devoted hundreds of hours to configuring and optimizing a Minecraft server at home using Ubuntu and custom scripts—a demanding, hands-on endeavor that taught me valuable lessons. Later, when my daughter requested a similar setup, I turned to generative AI to generate a containerized Minecraft installation for Ubuntu. In mere seconds, it produced a ready-to-run script, and the server was operational almost immediately, effectively replacing all those hours of manual effort.

The downside, however, is that AI often creates a "black box." For instance, with Minecraft's straightforward Java file, I lacked visibility into what the AI had done—such as which folder it was operating from or which version was deployed. When issues arose, my only recourse was to restart or rebuild from scratch. This underscores a critical challenge: relying on AI to construct complex systems can erode our understanding and control. If a failure occurs, diagnosing or repairing it becomes difficult because the inner workings remain opaque. As AI integration deepens, this problem demands extensive research and thoughtful deliberation.

In essence, this transformation mirrors an Industrial Revolution—we can progress at an unprecedented pace, but failures may leave us clueless about fixes. Unlike the early automotive era, when people still knew how to build cars, machines are now generating intricate virtual systems that we may not fully comprehend. It's vital not only to retain oversight of these technologies but also to overhaul education, fostering a new cadre of tech leaders prepared for these realities.

Do we need to rethink our approach to technology in light of these developments?

Yes, absolutely. We must prioritize this reflection. People frequently underestimate AI's long-term ramifications while overhyping short-term gains—such as anticipating "AI miracles before Christmas," which often leads to disappointment. In reality, AI will profoundly and radically reshape our operations over the extended horizon.

What should businesspeople do in this shifting landscape?

Businesses often fixated on short-term quarterly targets require leaders who embrace a long-term perspective—those prepared to invest in anticipating the market's direction five years ahead. Concentrating solely on the immediate future, like the next week or month, invites the danger of becoming outdated. While the pace of change may seem gradual at present, its growth is exponential; once it surges forward, it will become irreversible. I'm uncertain whether all business leaders truly comprehend the depth to which AI will revolutionize their operational models.

FirstRand

Gordon Little

Executive payments and platforms

While cloud-native fintechs inspire the future of banking, many banks are tasked to “change the wheel while the car is in motion.” No two banks have the same approach, but many share relevant lessons learned that can now inspire the future of banking transformation.

In this dialogue with IBM’s Paolo Sironi, Gordon Little—Executive payments and platforms at FirstRand—outlines his strategy perspective for modernizing core banking and payments systems. Banks can adopt a phased approach, prioritizing value creation and product gap fulfillment over a full system overhaul, balancing innovation with operational stability.

Cloud technology is pivotal, providing scalability and flexibility, though it demands careful cost and integration management. The strategy includes decoupling customer data and capabilities from the core system for greater options, while AI enhances customer interactions and efficiency. The goal is a scalable, future-fit platform that supports growth and operational excellence, avoiding the pitfalls of overly ambitious, risky overhauls seen in some global banks.

What characterizes your strategy for modernization of the core?

Our payments strategy has been in place for some time now, and my appointment at the beginning of the year was about giving that strategy dedicated leadership and even greater focus. It signaled a clear commitment to accelerating our investments in the payments space across the group. There is a similar narrative when it comes to modernizing our core banking platform. This is not a new conversation for us—as a group, we have long recognized the need for continuous investment in off-host solutions and infrastructure modernization. It has always been part of our broader technology vision.

What is exciting now is how these two streams—payments and core banking—are starting to converge more strategically. At their heart, both are about modernizing the tech stack that underpins our operations, ensuring we are building scalable, future-fit platforms that support not just today’s needs, but also the future growth we anticipate from our portfolio.

Who leads the definitions of the scope of the goals initiatives, and what KPIs measure the business value in terms of these types of initiatives?

History has shown us that when banks pursue overly ambitious efforts to replace large portions of their systems in one go, the risk is high and the payoff uncertain. Embarking on massive, multiyear projects often delays the realization of value.

A good example of this value trap is what we have seen with some banks globally: they invest heavily in new platforms but end up running two parallel cores—one old, one new—indefinitely. Banks must invest in areas that unlock revenue potential, while keeping sights firmly on long-term efficiency gains. If you focus solely on efficiency, you risk missing out on new product opportunities. But if you swing too far the other way—prioritizing product innovation without operational discipline—you create long-term inefficiencies that are hard to unwind.

So, while we are focused on addressing near-term product gaps, we are equally committed to ensuring those solutions align with our long-term ambition: a clean and deliberate migration of core banking capabilities to a modern, scalable platform. It is about designing with the end state in mind—not just solving for today but setting the foundation for where we want to be.

Our view is therefore inherently pragmatic—we are taking a phased approach, gradually migrating specific products and payment streams onto new technology. We are fully aware of the scale of our operations. FirstRand is a large, complex organization, and while modernization is critical, we must balance that with the expectation from our customers for near-flawless system availability. We have already defined a migration strategy in our banking environment that allows us to build and integrate new solutions alongside our existing systems, with minimal disruption. The approach is about moving forward thoughtfully—introducing innovation in a way that does not compromise the resilience our customers rely on.

How does your strategy intersect cloud consumption models?

We are giving preference to initiatives that focus on value creation and fulfill product gaps rather than looking at how to move the largest portion of our business onto cloud. It is a trade-off choice that must be made. These workflows that we are putting on cloud often incur an annual subscription-centric fee, and a click count fee. So, if you pick correctly in terms of what you choose to migrate, you can get a cost offset of your investment a little quicker than if you just simply looked at where you thought you might get the largest element of efficiency and certainty.

However, the risk is that the tail of migration takes much longer than anyone anticipated. When you start with the easiest, it is the last thing you do has the most complexity to be resolved and we are mindful of this too.

In this complex process, what is the primary source of delays?

People often underestimate just how deeply integrated systems are. It is not as simple as pulling on a single thread—it is more like unraveling a tightly wound ball of string, where everything is interconnected and interdependent. Every change has the potential for unintended consequences, which naturally makes you cautious.

Many core channels—like online banking and our mobile app—have been around for 20 years or more. And while documentation standards today are far more rigorous, that was not always the case when some of the original components were built. That historical gap adds complexity and slows down progress.

Another reality we have seen across multiple institutions is that transformation efforts often uncover complexities in places you did not expect. For example, processes that have evolved organically over time might need more rework than anticipated, especially when it comes to data enrichment and supporting capabilities. In my own experience, running a large, integrated business with multiple partners between us and the customer brings its own challenges.

Sometimes, you find yourself fixing an issue on behalf of a partner—not because it is your problem, but because the customer experience demands it. These are the kinds of things that continue to surface during execution and require a pragmatic, adaptive approach.

Which approach could expedite transformation?

What I have seen is banks moving poor processes to a new environment and consequently ending up designing around what they did previously. A good approach here is buying solutions from vendors to use their native functionality as designed and avoid any form of customization at all costs. Sometimes, you cannot refine the process before you move it, but you can certainly make sure that you refine the process in your new environment to ensure that it works to best effect. Integration patterns can be better resolved in more modern platforms because the API sets that accompany new systems tend to have better design and documentation than the technology that you are departing from.

In our current setup, multiple third-party solutions are already integrated, especially in areas like credit, where best-of-breed tools for limit monitoring and approvals are essential. Replicating those integrations in a new platform is not the hardest part; it is time-consuming, but the patterns already exist. The real challenge lies in untangling legacy, tightly coupled internal components built for very specific purposes. That is where the complexity comes in.

When deciding where to start the transformation, it makes sense to focus on pain points—areas where the old stack could not deliver, leading to inefficiencies or even revenue leakage. Here is the ask: Where can you create real relief for clients, operations, and tech teams? That helps prioritize early wins. Ultimately, migration alone will not inspire people—it is the opportunity to fix what has not been working and build something better with proven tools that creates real momentum.

How do you build CEO-level understanding and sponsorship for a multiyear transformation—especially when KPIs evolve over time and success can't be measured in traditional short-term metrics?

Ultimately the risk you run is like the frog in the hot water. If the heat just gently changes, no one recognizes that there is any danger, because everyone gets used to it. One of my predecessors did a great job of pointing out that even the most reliable technology ages. And despite reliability and everything else, because we built so many of the components ourselves, there is a point that you get to when you realize that to be well placed for a 10-year journey, what you have isn't necessarily going to endure for those 10 years forward.

The top-down vision came from understanding where we needed to be multiple years forward. The bottom-up excitement came once there was a decision to commit and to purchase. We had several use cases that we took into pilot phases as request for proposals and proof of value to demonstrate that the technology we purchased would indeed solve some of those problems.

My approach is to make sure that whatever we do in the initial phase of these projects creates excitement and demonstrates delivery. New platform delivery and confidence is the key to our success.

So, you end up with the strategic intent—how we should look at and solve for core banking and payments. Populate your insights from the bottom-up view with the use cases and test cases that you run in a proof of value kind of approach. For me, it's a very nice way to connect. The strategic imperative is driven by revenue growth, customer entrenchment, growth in vertical sales integration. Link that back into what the new system is going to give you, that is really what you are trying to get the business enthused about.

My job is to get people excited about the change, not intimidated by the change. What you really want to do is leverage your best people who buy into the transformational outcomes for the group versus people seeing it as "it's too hard" or just another project. My approach is to make sure that whatever we do in the initial phase of these projects creates excitement and demonstrates delivery. New platform delivery and confidence is the key to our success.

Our view is therefore inherently pragmatic—we are taking a phased approach, gradually migrating specific products and payment streams onto new technology. We are fully aware of the scale of our operations. FirstRand is a large, complex organization, and while modernization is critical, we must balance that with the expectation from our customers for near-flawless system availability. We have already defined a migration strategy in our banking environment that allows us to build and integrate new solutions alongside our existing systems, with minimal disruption. The approach is about moving forward thoughtfully—introducing innovation in a way that does not compromise the resilience our customers rely on.

What is the best way to build a strategy to modernize the core?

Strategy is best when it is the co-creation between top-of-house ownership and execution at a business level. Certainly, banks starting the process of core banking modernization can now access a better portfolio of cloud-based third-party solutions compared to early movers some years ago. Here, clarity about what you want to achieve helps in the selection process.

In our case, we took a deliberate approach to start by decoupling our customer capability from the core. The reasoning was that customer data and capabilities are universal and should be accessible across multiple systems and not locked into a single platform. We also focused on decoupling accounting and event-driven services from the core. This is closely aligned with our broader data strategy. The goal was to reduce our dependency on the core system—to strip things back, in a sense, like breaking down a vehicle into its basic components. Some services are not unique to a single core platform, and if they can be shared or reused across multiple cores, that gives us more flexibility.

Strategy is best when it is the co-creation between top-of-house ownership and execution at a business level.

It has been a challenging journey, but that deliberate decoupling effort has paid off. The progress we have made means that today we have far more optionality than we did five years ago. Importantly, we did not just decide to replace our core banking system outright. Instead, we chose to separate out the common services and capabilities, giving ourselves more room to maneuver. This thinking has also shaped our approach to payments transformation. In the past, many payment capabilities were deeply embedded within the core banking system.

Today, those services are cloud-native and can be accessed by multiple platforms. That is a big shift—and it has been foundational to how we are modernizing. Looking back, I think any organization would ask themselves: "Did we create enough optionality for the future?" If, five years ago, we had simply swapped out our old core system for a newer but still rigid one—one without cognitive capabilities—we might now be regretting that decision. Because by the time you realize that kind of system will not support advanced client interactions, you are already years into the deployment and heavily invested. Core replacements are not short-term projects, and it is important to avoid locking into a single path. What is strategic is to move forward while building flexibility into the architecture.

Have cloud and core banking providers changed their propositions over the last years?

When we look at changes in the partnership space with new suppliers, much of the shift is driven by the benefits of cloud-based solutions. These come with underlying infrastructure costs—both on the provider's side and the supplier's investment in the platform. There is also a shared interest model at play: the more usage, the better the provider performs. The key is finding the right balance between fixed subscriptions and usage-based pricing. If that is done well, everyone benefits.

A simple KPI to gauge success is whether your cost per transaction drops with the new solution versus the old. That is a clear signal your tech investment is paying off—not just in cost savings, but potentially in revenue growth too. Of course, while this all sounds straightforward on a PowerPoint slide, the reality—especially when running and phasing out old systems—is more complex.

Yet, having spent 30 years in banking, what is striking to me is how much has changed. In the past, solutions were either heavily customized or rigid off-the-shelf products where you could only tweak parameters. Today, with cloud-based platforms, it is similar in some ways—but more empowering. The control is shifting from tech to product teams. If the solution is well designed, with strong data structures and IP, it becomes a matter of smart configuration. That opens exciting possibilities tailored to your market and clients.

As AI is entering the core banking space, how does it impact strategies and initiatives in flight?

Since partnering with our core banking provider, we have seen clear evolution in their AI capabilities. What used to take banks years to implement can now be done in a few months, and that timeline is still shrinking. This pace is driving AI deeper into the solutions.

That is not dissimilar to how we see AI take root inside the bank—especially, the thinking around how an agent can perform a role previously executed in the channels. If you have a voice-controlled agent, what the agent needs to know is where to find the needed API. That flexibility builds efficiency. Certainly, this is not a full solution to integration challenges, but it shows that if you can guide an agent on where to look and what to do, it helps shape your design approach—even for building new channels. It is about understanding how to navigate existing microservices and core capabilities.

What is in the future of payments, and which are the key choices today?

Thirty years ago, payment options were limited—mostly RTGS and SWIFT, with ACH systems handling credits and debits. Today, real-time payments are the norm. Platforms like PIX in Brazil and UPI in India have made instant, low-value transactions an expectation. It is no longer enough to just support card payments—you need to support both real-time push and pull models.

The challenge is that every country has its own payment rails, especially across the African continent where we operate in multiple markets. Success means having flexible, scalable solutions—and a partner who can integrate many systems with many endpoints. The pace of change in payments was slow for years, but now it is accelerating rapidly, and we are adapting to stay ahead. Not all payment flows are a significant revenue element for banks, but they are a competitive equalizer at its very best. It is a competitive differentiator just to make sure that you can play where you need to play.

Regulators are increasingly demanding high interoperability, which is very exciting because closed wallet systems—like telco wallets—can safely connect to bank accounts and vice versa. Since remittances are a major focus across the African continent, there is a clear opportunity for revenue generation while better serving clients. But more than that, digital payments present an opportunity to drive financial inclusion. Especially in regions where traditional banking faces barriers like Know Your Customer (KYC) integrated wallet solutions can help banks reach underserved populations in new and meaningful ways.

Do you foresee more outshoring or a re-shoring of tech competencies?

Over a decade ago, we established a business in India to tap into specialized skills unavailable in South Africa, specifically DBAs [database administrators] and developers. This approach allowed us to streamline operations across time zones while maintaining South African oversight. This unique Indian entity housed FirstRand employees, ensuring internal management rather than outsourcing responsibility. Although operational tasks were managed in India, strategic design remained under South African control.

This model has proven effective and is likely to expand in the future. Recognizing the importance of intellectual property, we understand that certain capabilities must be retained in-house. For instance, in the competitive payments sector, maintaining a robust core capability is nonnegotiable for a large incumbent like us. Too much outsourcing risks ceding critical ground for long-term success.

How do business functions define value?

When businesses define value, they often start by standing in the client's shoes—letting customer needs drive requirements. That is a strong foundation, but it is not the whole picture. As I often say, "You cannot put all your eggs in the 'client need' basket." Sometimes, like with Apple and the iPod, value emerges from what clients did not yet know they needed. That is why it is important to ring-fence space for experimentation—to test ideas that may uncover unmet needs or new opportunities.

In our environment, we are seeing clear potential where products or business units have traditionally operated in silos. Opportunities that cut across rails or products often require a more strategic lens—one that looks beyond individual offerings to deliver integrated value the client might not have asked for but will absolutely benefit from.

Embedded finance is a clear example and an opportunity. It shifts the focus from offering products to solving real client problems—like invoice discounting or access to lending—directly within their workflows. We are seeing this already with accounting platforms integrating tightly with banks. These solutions work well because banking and accounting data offer some of the best insights into a business's financial health.

While banks once held a unique view of client activity, today's multi-banked customers require a more composite, aggregated approach. Embedded finance not only enhances the client experience but also opens new revenue opportunities for those who can effectively bridge that data and service gap.

Where can institutions find inspiration for the future of banking?

If competition scares you, you should have packed your bags long ago. Fintechs have been pushing the boundaries for years, and banks are now meeting them head-on. To succeed, banks must embrace a different level of change than we have seen before. One major shift is from tech-driven to product-driven thinking, which changes the skill sets required. As someone from the business side, I am excited by how empowered product and business teams have become. With today's toolsets—APIs, cloud-based platforms, and even AI—business users can now design and build in ways that once required deep technical engagement. This does not sideline tech teams but rather brings balance. We are seeing a more equal partnership between business and technology, where both sides contribute meaningfully to innovation and decision-making.

I genuinely believe change is possible, but it requires clarity. Someone recently shared a great analogy with me—the 40-20-12-8 rule, based on font sizes. Strategy is often written in 40-point font: high-level, inspirational. But real impact happens at 8-point font—where problems are solved, and execution lives. I have come to realize that inspiring people is not just about vision, it is about showing you can work at that detailed level too. I am keen to demonstrate change rather than just talk about it.

Strategy is often written in 40-point font: high-level, inspirational. But real impact happens at 8-point font—where problems are solved, and execution lives.

How does the responsibility for outcome generation shift in a bank where business and tech teams become more intertwined?

When you build a new solution on modern, cloud-based tech, the value becomes much more visible. You can clearly show what has been migrated, measure costs at a granular level, and get insights that are hard to extract from legacy environments. Cloud also forces a new level of collaboration—your tech partners own the platform, but business users are now empowered to drive configuration. For example, CIOs need to understand system architecture well enough to enable cloud environments, while ensuring it is the business, not IT, handling parameterization. What excites me most is the transparency. On cloud platforms, you get detailed billing down to processing and API calls—the kind of cost clarity individuals have in their personal accounts.

I want our teams to have that same level of awareness. That insight and precision will be a powerful lever for us going forward. When it comes to efficiency, cloud gives you instant feedback. If you make one change and your bill jumps 40% in a month, it is a clear signal something is off. In traditional environments with excess capacity, those inefficiencies often go unnoticed. That visibility forces smarter design and sharper execution—and that is what excites me most about what is now possible.

On my side, the opportunity to take on strategic modernization—with a near “white sheet of paper”—is both a privilege and a responsibility. The stakes are high, because getting it wrong leaves a legacy someone else will have to fix. What makes it meaningful is the chance to shape something from the ground up in a way that is commercially sound and aligned with our executive team’s vision. A big part of the Group Executive role, focused on these two critical journeys, is ensuring the understanding of complexity is captured in a shared language. But at the same time, having spent time running a banking business end-to-end, a fair amount of common sense is also required to solve tomorrow’s problems. And as you get older, you gain the freedom to ask “why” more often. What once seemed like a naive question now sounds wise—and that has been one of the most enjoyable parts of this journey.

Getnet by Santander

Alexandre Oliveira

VP of Risks, Collections, AML, Fraud, and Compliance

The payments landscape is rapidly shifting toward digital, integrated, and instant transactions. This is particularly evident in Brazil after the Central Bank launched Pix in 2020. Pix allows for 24x7, real-time payments and transfers and has become the most popular payment method, surpassing even cash and debit cards.

In this interview with IBM's Paolo Sironi, Alexandre Oliveira, VP of Risks, Collections, AML, Fraud, and Compliance for Santander's Getnet Brazil—explores the future of payment services, emphasizing shifting consumer behaviors requiring education against sophisticated fraud and regulatory changes. As Pix disrupts ecosystems by compressing margins, it has spurred innovation as market players are adapting not to compete but to build around it. They're doing so with fintech partnerships, hybrid solutions, and even integration to reclaim part of the value chain. AI is also a relevant opportunity to transform transactional data into strategic assets for client value, despite challenges like data fragmentation.

What's in the future of payment services?

The payments landscape is evolving rapidly, with new customer demands and ways to serve them better. Essentially, payments are becoming more digital, more integrated, and more instant—all while staying centered on the customer experience. Customers today want it all: speed, simplicity, and security. To meet these expectations, we can break the future of payments into three areas.

First is technological innovation. We're seeing rapid adoption of AI, open finance, and advanced security features like biometrics, tokenization, and blockchain. These enable "invisible journeys" that mean experiences where security measures like fraud prevention are deeply embedded—but seamless for the user.

Second is the changing consumer behavior. Users expect personalization and speed, but education is essential because fraudsters are sophisticated and fast-moving. That's why customer awareness must evolve alongside technology.

Getnet prioritizes customer education, helping users and merchants understand how to safely use new tools. For example, merchants used to focus on protecting the cash register, but now it's the card terminal that needs attention. We've seen real cases where fraudsters simply swap the machine on a counter—and business owners only realize when their revenue disappears. Without changes in user behavior, even the best technology can't fully protect them.

And last, regulatory and competitive evolution. The Brazilian Pix has already transformed the payment landscape with instant payments for all. And we're already preparing for Drex (Brazil's digital currency) and further expansion of open finance. These innovations are driving new business models and forcing acquirers and sub-acquirers to rethink control, compliance, and risk as complexity increases. Regulators demand more convenience, while fraudsters search for vulnerabilities. That's where AI becomes critical, enabling fraud detection, the prevention of money laundering, and the strengthening of cybersecurity in real-time.

What are the implications of the phenomenal evolution of Pix payment providers, banks, and their customers?

The whole ecosystem has been affected. The pressure to innovate has changed market dynamics, with Pix quickly becoming a strong competitor to traditional payment rails facing margin compression and disintermediation.

In response, we're pushed to innovate rapidly, launching new products like allowing users to pay for Pix transactions in installments, or enabling merchants to use future Pix payments as collateral for credit operations. But it's a balancing act: constant innovation is necessary, but so is profitability.

On the regulatory side, while Pix has brought financial inclusion to millions—a huge positive—it has also introduced new types of fraud at unprecedented speed. Many users entered the digital ecosystem unprepared, and fraudsters took advantage. This has called for more regulatory change—new rules almost weekly—requiring fast implementation to ensure user safety.

The stakes are high. Fraud has evolved from digital scams to real-world crimes like cell phone theft for account access—and often, Pix has been the fraudster tool of choice. Acquirers need real-time intelligence to detect and block suspicious transactions—while also navigating complex situations, like intervening when a customer is being coerced in real time. That's where AI becomes essential to promote real-time behavioral analysis and faster decision-making to protect both customers and the integrity of the system.

Pix has driven true financial inclusion—but inclusion without digital education is risky. It's not just about end users—we also need to educate merchants and their staff. And with solutions allowing smartphones to function as POS devices, we face a new challenge: device-level security. Business owners might use personal phones for payments or hand them to employees creating new vulnerabilities. Digital tools are secure if used properly—but trust depends on awareness and training.

What's the major challenge for credit card operators?

Everyone has realized what many underestimated early on—Pix isn't just a trend; it's a permanent shift in Brazilian payments, and credit card operators have felt the impact like everyone else. They are adapting not to compete with Pix, but to build around it—investing in fintech partnerships, hybrid solutions, and even integrating Pix into their offerings to reclaim part of the value chain. They are repositioning themselves as platforms focused on data, tokenization, security, and value-added services. Acquirers like Getnet are doing the same, integrating Pix into POS terminals, allowing QR code payments, Pix installments, and making it available across our full suite—while doubling down on anti-fraud measures. Banks, too, are embracing this new reality, tying Pix to card limits, leveraging Pix as guarantees, and even offering early loyalty programs and cashback models. Some are even exploring Pix-centered credit-as-a-service via APIs.

Are you becoming a payment platform beyond Santander's captive market?

We are fully equipped to serve a wide range of clients—from individual entrepreneurs and small businesses to large corporations. We are not only the official acquirer for Santander, which is our primary channel. We also compete in the open market to serve clients who are not Santander customers, including partnerships with other banks for whom we also act as acquirer.

This is particularly relevant to expanding our market share among small and medium enterprises, where we built a dedicated innovation team. For example, restaurant owners can use one of our POS devices to take orders, send them to the kitchen, process payments, issue invoices, and manage accounting—all in a single, integrated solution. Our POS is just the entry point. Around it, we offer a comprehensive ecosystem that includes digital accounts, working capital solutions, cash flow reconciliation tools, and transaction data analytics for better business decisions.

Which are the opportunities and challenges posed by AI adoption?

From a risk perspective, AI allows analyzing alerts more accurately, intervening in transactions with greater precision while reducing friction for the customer. This is a major opportunity to improve security without deteriorating the user experience. AI-driven processes also improve scoring models and recommendations by leveraging one of our greatest assets: transactional data. We know how our clients move, pay, and operate—AI helps turn that data into insights for better business outcomes. We also see that clients increasingly prefer AI-powered self-service over human interaction within customer services, and AI enables smarter, more intuitive experiences.

How can acquirers transform data into strategic assets to generate new value?

There's a phrase that might sound cliché, but I believe it: data is the new oil—and our real challenge is learning how to extract and refine it effectively. As acquirers, we see our clients' transactional data in real time—what's being sold, who's buying, when activity drops off, and more.

This insight is powerful, but only if we can turn it into actionable value for our clients. The first hurdle, though, is data fragmentation. Before AI can add value, we must ensure the quality, consistency, and reliability of the data we feed it. Large companies often rely on multiple legacy systems, which makes it hard to get a unified view. Changing core systems isn't always realistic—so AI must help us connect, extract, and integrate data across platforms, then process it in a top layer that supports real-time decision-making.

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When we do this well, we can offer clients more than just payment processing—we become a business partner. Imagine showing a gas station chain which locations are performing best, what types of customers are visiting, average ticket size, or which loyal customers stopped coming. That's valuable insight clients will gladly pay for. We also have an edge: our data is faster than the banks. Transactions happen on our network in real time, giving us the ability to deliver insights and act quickly—faster than most traditional financial institutions. For us, this isn't a future strategy—it's already happening. Data is the present, and it's quickly becoming one of the most valuable services we offer. And as we continue building this out, AI is accelerating our ability to deliver these insights at scale—turning raw data into real, actionable value for our clients.

Intesa Sanpaolo

Rita Gnutti

Executive Director, Internal Validation and Controls

The integration of AI in banking is transforming validation functions by enhancing efficiency and requiring tailored methodologies for AI model risk management. These tiered approaches categorize models based on criticality, with top-tier models undergoing rigorous validation while lower-tier models receive less extensive oversight.

At the same time, banks are leveraging AI to automate validation activities, with tools orchestrating tests and generative AI aiding in code translation and report drafting, all under strict human oversight to mitigate risks. Globally, perspectives differ. Some international players (including US banks) align model risk management (MRM) with business goals, as well as focus attention on end-user computing tools. European banks adhere to structured, regulation-driven model risk and validation processes.

In this conversation with IBM's Paolo Sironi, Rita Gnutti, Executive Director responsible for internal validation and controls at Intesa Sanpaolo, emphasizes the need for cohesive, multifunctional teams to help ensure agile, data-driven risk management amid AI's rapid evolution. This evolving landscape demands a proactive, adaptive approach to validation, balancing AI's transformative potential with robust risk management.

Is model validation changing in the era of AI?

The rise of AI has brought significant changes to our validation function. First, we're using AI to improve efficiency, allowing our team to focus more on high-value tasks, aligning our processes more closely with broader business goals while maintaining rigor. Second, we're developing tailored methodologies for model risk management and validation specifically for AI models. This includes designing targeted tests and assessments to ensure AI models perform as intended.

The starting point to effectively integrate AI across the organization is a clear understanding of what qualifies as an AI model and when validation is required, guiding broader AI adoption within the bank. In this regard, we follow the definition from the Federal Reserve's SR 11-7 guidance, which describes a model as a system that includes theoretical assumptions, is nondeterministic, uses data inputs (raw, structured, or metadata), applies mathematical or theoretical transformations, and generates outputs that are useful for business decisions. Once a model fits this definition and has a high rank (tier), validation becomes mandatory.

For models that are less critical to our banking operations, we apply a risk-based approach—adjusting the depth and frequency of validation depending on the model's impact and relevance. The integration of AI into our model inventory hasn't altered the fundamental structure of our validation processes. However, we refined the approach by incorporating specific tests tailored to the unique characteristics and challenges posed by AI, ensuring the robustness and reliability of these models. Currently, our group model inventory consists of a wide number of models with less than 10% of these applying ML/AI models in production. We also account for AI solutions that haven't been implemented yet or are still in the conceptual phase.

What's a model definition and how can AI models be categorized?

We utilize a tiering approach to categorize models based on their significance to the bank. This system comprises four tiers.

Models falling in the top two tiers are deemed critical; their data and processes must undergo independent assessment by internal validation. Tier 1 models are typically regulatory models with significant implications for capital requirements, specifically in areas such as credit risk and market under Basel III guidelines. For example, consider an AI model designed to estimate the probability of default for a retail customer. Given its significant impact on regulatory capital calculations under Pillar 1 as defined by Basel III guidelines, we perform rigorous internal validation before submitting relevant model changes for approval to the European Central Bank (ECB).

Tier 2 models are crucial for our operations but might not directly affect Pillar 1 capital requirements. Nevertheless, they can carry significant weight in terms of potential consequences, such as sanctions or reputational risks. An illustrative example is a model used for compliance purposes or economic capital calculations. However, we've since refined our approach by introducing a more quantitative, less judgmental methodology that helps to reassign tiering based on potential risk materiality for a more proportionate approach.

Conversely, for the lower tiers we enforce a self-assessment scorecard completed by the model owners according to a methodology established centrally by the model management team to ensure consistency. Our tiering approach allows allocating resources more effectively, focusing on models (and AI models) that pose higher risk or more substantially impact our operations, while maintaining appropriate oversight for less critical models. In essence, our validation process is tailored to the model's tier and relevance, ensuring that the most critical models undergo thorough validation before entering the production environment.

Has AI created a skill gap in your organization?

Our validation function has a strong foundation in quantitative methods, with many of our team members being quants. Consequently, we've been well-positioned to adapt to the rise of AI-driven models. Younger team members, fresh from university, come already equipped with skills like Python programming and foundational data science concepts, making the transition smoother. However, we faced the need for a continuous reskilling to new methods, particularly for those joining us from more traditional banking backgrounds. It's essential for everyone—users, developers, and controllers of AI—to grasp the nuances and implications of these new techniques.

How do you leverage AI to perform risk management validation?

We recently embarked on a transformative project aimed at automating our internal validation activities, given growing requests for our oversight. And we've achieved material efficiency for models with well-structured methodologies and testing procedures.

Historically, we've structured our validation activities into various handbooks, each tailored to specific types of risk and models. These handbooks outline predefined sets of tests to ensure a model's performance. To streamline this process, we developed a tool capable of orchestrating and automating tests. The tool ingests our methodological handbooks and testing scripts, effectively replacing much of the manual work previously done by our quantitative analysts.

One of our latest initiatives involves exploring the use of generative AI to translate code into Python, explain the code, execute our tests, and draft validation reports. To mitigate potential issues like hallucinations in the AI-generated outputs, we maintain a stringent knowledge base and "human in the loop" oversight.

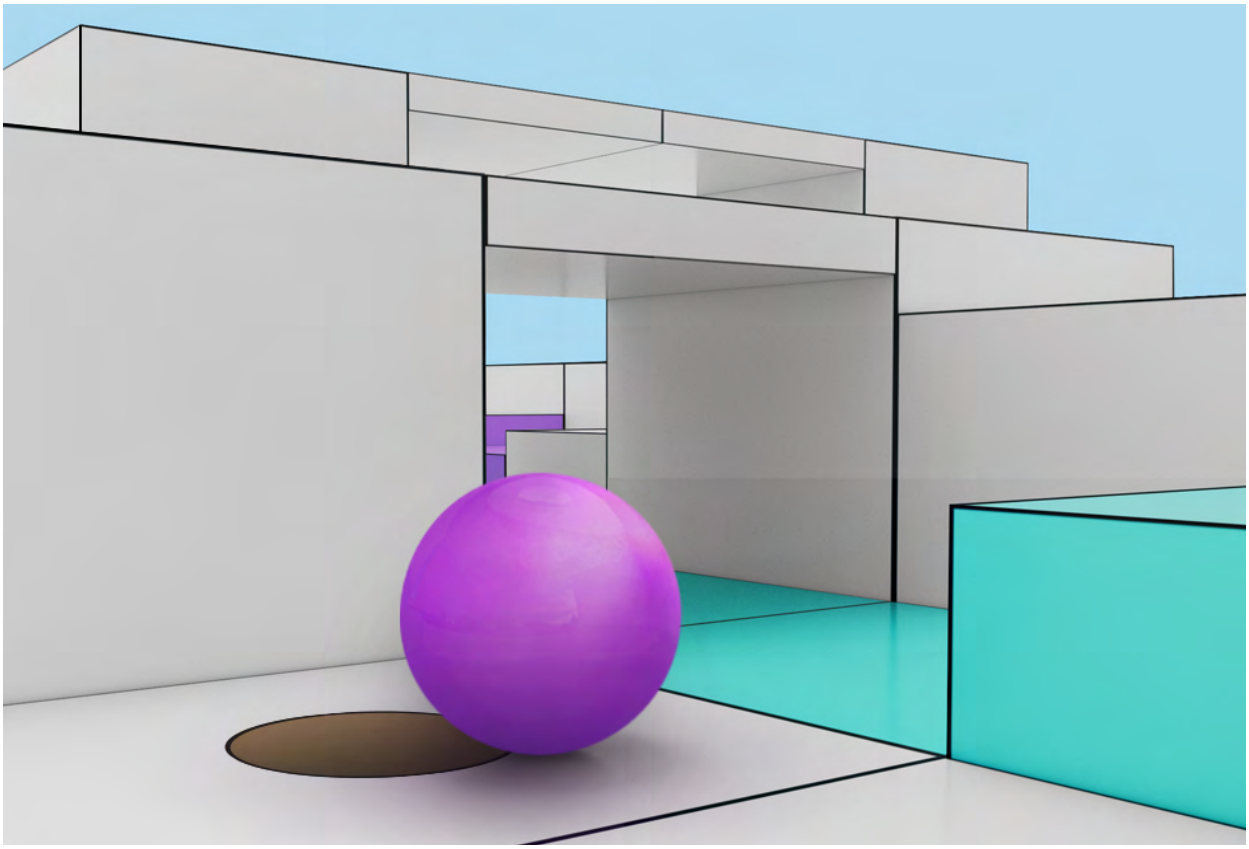
One of our latest initiatives involves exploring the use of generative AI to translate code into Python, explain the code, execute our tests, and draft validation reports. To mitigate potential issues like hallucinations in the AI-generated outputs, we maintain a stringent knowledge base and "human in the loop" oversight.

What's a best practice in the transforming relationship between AI development, model risk management, and validation?

In my view, the cornerstone is the development of cohesive, multifunctional teams that bring together diverse skill sets necessary for navigating our digital journey, ensuring collaboration rather than operating in isolated silos.

Traditional development cycles, which can span up to 10 months, are increasingly obsolete. In today's fast-paced environment, solutions can become outdated during their development period. Consequently, we must streamline our processes and adopt more agile methodologies to ensure that our AI-driven risk management tools remain relevant and effective in the ever-changing financial ecosystem.

Traditionally, risk and validation functions have been structured within rigid frameworks, often driven by regulatory processes. However, with the advent of AI, these functions must reinterpret their roles to keep pace with the evolving business landscape. AI's transformative potential necessitates a shift from a reactive, rules-based approach to a more proactive, data-driven one. Model development and validation functions should adapt by embracing agility, leveraging advanced analytics, and fostering a culture of continuous learning and improvement.



This reinterpretation involves breaking free from traditional structures and integrating AI-driven insights throughout the model risk management lifecycle. By doing so, these functions can better support the business's digital transformation, ensuring that AI is not just an add-on but a seamless, integral component of our risk management strategy while we execute on it.

It might seem contradictory to be involved in the process and then also act as an independent assurance function. However, I believe it's important to distinguish between two separate phases: the creation of the solution and the subsequent assurance. In fact, I think that involving the assurance function during the design phase can strengthen the overall outcome by challenging the first line of defense starting from the model design phase.

Independence does not necessarily require building a separate environment or duplicating costs. For example, in the space of credit risk management, we are involved from the very beginning of the design phase, applying a “stage gate approach and not only at the end of the development phase as per the traditional “waterfall approach.” This strategy allows us to raise issues that can be solved by the development team before the submission of application for approval and/or the presentation of models to the competent managerial committee.

Are model architectures designed to support validation?

I believe they must be. You can absolutely perform your role as a second line of defense by using outcomes and insights generated by the first line. For example, if detailed logs are available, that’s a good starting point. That said, we are still gaining experience in this area. It’s not yet standard practice to define exactly what those logs should include—what kind of information is needed to detect issues like model drift, increasing bias, or other risks.

Do you notice any differences in perspectives or practices between banks internationally?

While the challenges we face are largely shared across regions, the approaches can be quite different. In the US, model risk management tends to be more closely aligned with the business side. It’s less constrained by regulation compared to Europe, and there’s a stronger focus on enabling business growth. The US also has a more developed view of what’s referred to as end-user computing tools—which, in their context, often includes AI tools that are not formally considered models.

This is quite different from how we define and manage models. In our environment, we follow more structured processes and regulatory requirements, and we haven’t yet extended that same level of model risk and internal validation oversight to AI-driven productivity tools or end-user computing interfaces.

Expanding the culture of model risk management to include AI-based productivity solutions—not just formal models—could be a natural next step.

Personally, I believe there's an opportunity here. Given the experience and expertise of model risk management and internal validation teams, we could add a lot of value by applying model risk governance principles to these nontraditional tools. In other words, expanding the culture of model risk management to include AI-based productivity solutions—not just formal models—could be a natural next step.

However, that's not yet part of our reality. Our governance still applies strictly to models, not to end-user computing tools or interfaces. In some organizations, control over end-user computing tools tends to fall under the responsibility of a Center of Excellence that acts as a first line of defense. In our case, we often use tools or solutions—non-models—that support business functions but don't fall under traditional model governance.

Yet, I believe a second line of defense is always necessary—especially in a banking environment. While the bank develops very smart tools designed to run within productivity systems and detect errors in real time, this isn't validation in the traditional sense. I believe the presence of a second line of defense remains essential.

Overall, we must embrace the opportunities AI offers—not just for innovation, but as a powerful form of internal validation. However, with rapid changes come real risks. The key is not to shy away from these risks, but to approach them with intention. By navigating AI within a thoughtfully risk-controlled technological and business environment, we can move forward proactively and responsibly.

Nubank

Caio Banti

Chief Risk Officer Brazil

Felipe Lamounier
Head of AI Products Strategy

Juliana Barby Simão
Global Head of Model Risk Management

For institutions to unlock enterprise-wide opportunities provided by generative and agentic AI, every banker must be a risk manager. This requires a proactive risk management approach that preserves independence and requires a cultural shift based on transparent collaboration with business units and IT departments.

In this conversation with IBM's Paolo Sironi, Nubank's Caio Banti (Chief Risk Officer Nubank Brazil) is joined by Juliana Barby Simao (Global Head of Model Risk) and Felipe Lamounier (Head of AI Product Strategy) to discuss how risk management can become an accelerating enabler when deploying proprietary and third-party foundational models, as well as how risk managers can use AI to enhance human oversight and expertise.

What's the Chief Risk Officer's role in the era of AI?

Caio: At Nubank, we distinguish ourselves as a technology company providing financial services to fight complexity and empower people. This demanded a reshaping of the risk management approach as an integral component of business and technological transformations. Over the years, we have already leveraged machine learning to enhance fraud detection and anti-money laundering efforts. Yet, the recent emergence of generative AI advances our capabilities, moving past automation to empower our risk team to tackle complex business challenges with enhanced accuracy.

This AI-driven evolution about the way we work and use data spans across the entire enterprise, introducing specific AI risk management requirements calling for a cultural shift—a change in which every employee, from leadership to frontline staff, acts as an AI risk manager. As the entire organization is united in this pursuit, the CRO transitions from a quantitative overseer to a pivotal figure in operational and strategic decision-making to forge an unprecedented bridge between business and technology.

This ensures risk considerations are embedded in daily activities and decision making, fostering agility and competitiveness in a dynamic tech landscape, engaging early, particularly for the most strategic initiatives. Doing so, we are steadfastly committed to combating business and IT complexity while empowering staff to fulfill their mission to serve clients and strengthen Nubank's leadership in digital financial services platforms.

How do you ensure a comprehensive approach to risk management in the context of AI?

Caio: Our organization has established a cross-functional collaborative strategy driven by what we call a dedicated "AI Governance Working Group"—colleagues focused on mitigating AI risks inherent to deploying the technology throughout the enterprise. This effort goes beyond risk, where staff is more focused on model validation and risk control. Through this initiative, we have cultivated a partnership that extends beyond traditional risk management boundaries, heightening our collaboration across the organization, including but not limited to model risk, data privacy, third-party risk, IT engineering, and information security. This initiative differs from the "Risk AI team," which instead drives how we leverage AI for risk management. And this is equally important to build modern risk management operations. We are pursuing the opportunities while keeping eyes wide open on its resulting risks.

How can risk management promote innovation while remaining independent?

Caio: Historically, traditional risk management used to ensure control while unintentionally delaying innovation. In recent years, focusing on materiality has become critical. Once materiality is assessed, we seek to integrate safeguards from the inception of each project. We establish protective boundaries about collaborating with model stewards early and review precise performance metrics to preempt risks while nurturing creativity—a concept we call "risk management by design." Yet, this early engagement poses a challenge: maintaining impartiality in subsequent evaluations.

To counter this, we foster a culture of ownership, where every team member is instilled with accountability and discernment. Deeply embedded in our operations, this balance of foresight and responsibility steers the course between progress and prudence with unwavering diligence. For example, traditional banking risk management follows established protocols, yet organizations sometimes test the limits of risk tolerance despite clear indicators of potential harm.

In our case, we adopt a different approach: ownership and accountability form the foundation of our operations. Teams are empowered and expected to address risks directly, operating within well-defined parameters that they understand and respect. For instance, in managing credit risk, our business units do not wait for risk management to intervene; they proactively identify and resolve emerging issues, applying the expertise and judgment of experienced stewards in line with risk appetite metrics and associated Key Risk Indicators (KRIs).

This forward-looking practice builds trust and transforms routine risk reviews into transparent strategic dialogues that strengthen the organization. Our long-term-oriented compensation structure further reinforces this mindset, embedding an ownership perspective throughout the workforce. We strive to move beyond a purely transactional relationship, uniting our efforts around sustainable success for shareholders, clients, and the wider community.

What's the secret sauce to continuously nurture a fruitful balance between innovation and risk?

Caio: Nurturing a fruitful balance between innovation and risk requires embedding transparency in decision-making to make risk considerations visible and understood, and risk-taking a more intentional and conscious process. Day-to-day openness builds trust, and trust enables collaboration. Without transparency, trust cannot develop, and without trust, collaboration is impossible. Our risk management approach aims to fulfill 4 Es: to be Efficient and Effective, but also Enablers and Engaging. Efficiency and Effectiveness are common goals; Enabling and Engaging require us to help the business achieve its objectives.

In this regard, we act as navigators or orchestrators, working with partners to determine the best route for innovation, mapping a path that is both timely and secure. Being "engaging partners" means becoming an integral part of the business development process, providing pragmatic guidance. It involves building tools and capabilities so that, when the business encounters a challenge, it naturally turns to us for guidance on managing risks.

When these capabilities deliver clear metrics and timely insights, teams are motivated to address challenges proactively. Joint reviews and feedback loops ensure policies evolve based on experience, reinforcing accountability. Aligning incentives with long-term objectives and securing senior leadership endorsement further underscores the importance of this partnership. By consistently treating risk management as an enabler, we can guide business growth while maintaining resilience. As a result, new initiatives naturally involve us for risk assessment and guidance from the outset. This proactive involvement is more effective than reactive risk tracking, since it enables prompt and thorough identification and management of risks wherever they arise in the organization.

How does AI transform the way risk managers operate?

Caio: Digital transformation often begins with automating routine tasks, but its true impact emerges when AI augments human expertise rather than merely replacing existing systems. Achieving this requires interdisciplinary collaboration, with professionals from risk management and other departments exchanging insights to drive meaningful change. Our dedicated "Risk AI team" approaches AI as a platform, integrating it into broader processes instead of treating it as an isolated technology. This enables us to capitalize on AI's full potential for transformative risk management strategies while preserving the centrality of human judgment and cross-functional cooperation.

How do you execute on your AI-driven risk management platform?

Caio: Merely digitizing existing templates does not constitute true digital transformation. In my view, AI transformation goes beyond automating legacy processes; it requires fundamentally rethinking and redesigning multiple workflows before automation can be effective, a shift that naturally takes time.

In this regard, our risk function diverges from the traditional vertical banking model by embracing a horizontal structure. Engineering and data teams collaborate closely to leverage AI comprehensively within risk management. This means applying AI not only to external data capture but also to internal data management to bring insights it would be difficult to obtain otherwise.

We prioritize becoming "data-ready," building proprietary tools and establishing a robust AI platform that underpins our risk strategies. This approach ensures that AI integration is foundational rather than superficial, enabling more effective and resilient risk management. For example, we are currently working on a "copilot" model in which each business or product developer is paired with a risk manager from the outset of product development. This arrangement enhances our ability to identify potential issues proactively. By using historical data on operational losses and insights from postmortem analysis, risk managers train AI agents to recognize and flag similar concerns at an early stage. Consequently, by the time a product reaches the formal approval phase, much of the risk assessment is already complete, improving efficiency and reducing delays.

This initiative reflects our dedication to transparency, trust, and collaboration. It empowers business units to move forward with confidence while preserving the independent judgment of risk professionals. By enhancing human expertise with AI-driven insights rather than replacing it, we streamline processes and reinforce the integrity of our risk management practices.

When do you build AI models in-house versus using external solutions?

Juliana: In general, we give preference to developing AI models in house, especially for handling our core activities. This keeps our unique edge and data under control. We've been using third-party LLMs as a component of our customer management models, but the final application is customized based on our internal data and business and customer needs.

Our "AI Risk" approach is tuned to the three categories of AI models we deploy—proprietary models and third-party solutions, which have been our initial focus, and tools for internal productivity—each demanding tailored risk strategies. In the need of proportionality, we were initially less deliberate in our risk approach to productivity tools. We stepped up oversight as they rose to play a critical role in our operations.

How can you ensure a comprehensive approach?

Juliana: We have formed an interdisciplinary "AI Governance Working Group," which I lead together with the Data Protection Officer (DPO), composed primarily of representatives of areas working with model risk, privacy and data protection, IT risk, and information security. The group acts as an interaction channel between defense and business teams to ensure a comprehensive and consistent coverage of risks and responsible AI practices.

The working group faces distinct challenges due to the rapid evolution of AI and the still nascent field of AI governance. And an agile and forward-thinking governance is needed to address the swift evolution of AI technologies. This is the reason why we are establishing a dedicated "AI Risk Team" tasked to keep the pace of the working group and coordinate all the activities that make AI risk management a proactive business partner and enabler within a risk-controlled environment.

What makes your "AI risk" engagement proactive and tailored?

Juliana: Our closer involvement with first-line teams at the outset of development sets us apart. This "risk management by design" makes our approach proactive rather than reactive by embedding risk management alongside business development. From the model governance perspective, we apply a proportionate approach based on a tiering system that considers use, materiality to the business, and the potential impact on customers: revenue-generating, customer-facing models are top priority due to their materiality and impact on customers, while productivity tools were initially lower priority for the model risk team, but within the scope of Information Security and the DPO.

As we in Model Risk see growing utilization of internal productivity tools, which become more complex and risk-laden, we are expanding our oversight to confirm these tools function as intended—especially as AI agents may assume roles currently held by humans. The multi-stakeholder governance adapts as the AI challenges arise. Maintaining stringent standards appropriate to the materiality of the risk is essential.

What makes interactions frictionless between business, technology, and risk?

Juliana: While technology teams must understand business nuances to excel, the current environment also requires business teams to grasp technology and risk management. All departments need familiarity with AI, technology, and risk management to optimize AI's potential and address challenges effectively.

This mutual understanding fosters a cohesive, informed approach to leveraging AI and managing associated risks. Change is occurring rapidly and we are all learning. We must all embrace AI and new technologies while adopting a culture of controlled experimentation, trying new approaches in a managed way to capitalize on emerging opportunities.

How do foundational models empower your business strategy?

Felipe: Our foundational models are a cornerstone of our business strategy, driving innovation and delivering significant value. These models leverage our extensive proprietary data, providing unparalleled insights into customer behavior, optimizing risk assessment, bolstering fraud detection, and enhancing our ability to offer tailored financial solutions. By building and continuously refining these models on our unique data, we foster a dynamic feedback loop. Enhanced user experiences lead to increased engagement, which, in turn, generates richer data.

This continuous cycle not only sharpens our insights but also establishes a significant competitive advantage, as the depth and specificity of our data cannot be easily replicated. This commitment to an AI-first approach, coupled with our robust data infrastructure, enables us to provide smarter, fairer, and more personalized experiences for millions.

What inspires your strategic approach?

Felipe: Over the past decade, a remarkable evolution has unfolded as technology giants like Google wield artificial intelligence to unravel the intricacies of user behavior and enhance their offerings.

Google gathers data from myriad sources—search histories, app interactions, location trails via Google Maps, and YouTube preferences—blending them into a sophisticated intelligence framework like Google Brain. This symphony of insights serves dual purposes: crafting products that echo user desires and delivering them with precision, epitomized by their artful orchestration of advertisements.

I view big tech companies as luminaries; their pioneering machine learning is a blueprint for our ambitions in financial services. But we have one huge differentiator: we were born in a heavily regulated market, where security, risk management, and consumer protection are paramount.

Imagine a financial services provider attuned to life's subtleties—expenses, income, and financial strains. Within Nubank lies a trove of data, poised to illuminate our clients' financial paths with clarity. We aspire to mirror the seamless experiences of big tech, transitioning from being mobile financial services innovators to becoming architects of an AI-driven financial revolution.

Yet we remain anchored in responsibility and transparency. Every AI innovation, particularly those involving advanced data processing or profiling, undergoes rigorous risk assessments. For any new insights we seek to derive from client data, we ensure there is a clear lawful basis for processing, and for every new feature or product, we ensure that our customers can exercise their privacy rights. Guided by rigorous risk frameworks, we ensure our innovations blend groundbreaking potential with unwavering integrity, redefining finance for a discerning future.

What makes you stand out in the AI-driven banking and financial services world?

Felipe: What makes us stand out in the banking world is our deep-rooted culture of always pushing the envelope—a tradition that's been baked into our identity from the very beginning. Unlike others who might rest on their laurels, we operate on the belief that what worked yesterday might not work tomorrow.

This isn't just a catchy slogan; it's a hands-on approach you can see in how we build our tech and how our teams tackle challenges. With the energy of a startup, we are always ready to try new things, whip up prototypes, and explore what's possible.

While some institutions are still scratching their heads about AI and risk management, I believe we are already writing the playbook, much like we did with digital financial services years ago. It's not about jumping on trends; it's about setting them by figuring out how to use AI responsibly to rethink risk management, and we are doing it with a mix of flexibility, a hunger to learn, and a willingness to switch things up when needed. As the financial world gears up for an AI-driven future, banks and financial institutions need a clear vision and a strong sense of purpose to build for what's next.

To conclude, how do you see the future of banking in the AI era?

Caio: The initiatives we undertake in the next 18 to 24 months will shape the industry for the next 10 to 15 years, just as digital transformation defined the past decade. Stephen Hawking's observation—that the creation of AI could be the greatest milestone in human history yet also its last unless we manage the associated risks[1] —captures both the promise and the responsibility before us. I find this insight particularly compelling, as it underscores the urgency of guiding innovation with diligent oversight to ensure that our advances in AI serve long-term progress rather than unintended peril.

TD Bank Group

Vipul Lalka

Vice President, Executive Product Owner, Digital Servicing, Canadian Personal Banking

While most banks have adopted a tactical approach to generative AI, a strategic mindset is essential to achieving the full potential of scaling AI enterprise-wide.

In this interview with IBM's Paolo Sironi, Vipul Lalka—Vice President, Executive Product Owner, Digital Servicing, Canadian Personal Banking at TD Bank Group—emphasizes starting with customer-centric problem statements and adopting a dual top-down and bottom-up approach to build AI roadmaps through personalization and process streamlining. As generative AI's democratization has made tools accessible, empowering colleagues necessitated robust risk management to address hallucinations and compliance. Organizations need to continue exploring AI, such as agentic AI, in a trustworthy, transparent, and responsible manner to maintain the trust of their customers and colleagues.

The discussion highlights evolving business/technology interactions, insourcing trends for ownership, and strategic execution via education, change management, leadership, and flexible planning. Looking to 2035, banking increasingly envisions hyper-personalized, contextual experiences integrated into customers' lives across hybrid channels and interconnected industries.

What's the most effective approach to AI transformation in banking?

Having a clear problem statement is an essential starting point to help drive customer success. For TD, that means empowering customers with financial insights and better decision-making, while also equipping our colleagues with AI tools to enhance their capabilities. We take a dual approach—top-down, by assessing industry trends and AI potential; and bottom-up, by identifying opportunities in our business as well as pain points in existing processes, like cost inefficiencies. By bringing both perspectives together, a roadmap emerges that aligns with business goals and can deliver real value to both customers and the organization.

Do banks find value in using AI for cost efficiency or revenue generation?

For TD, it's really a combination of cost optimization and revenue generation. It starts with identifying the opportunity and what we are trying to solve for, then assessing the risk and evaluating the model. Whether the focus is on cost or revenue often depends on who's doing the analysis, but for us, it's about the bigger picture: driving customer success.

We prioritize use cases that deliver meaningful customer outcomes, especially around personalization—helping customers access the right information for them, at the right time for them, so they can make better financial decisions and complete banking transactions easily. At the same time, we look for ways to streamline processes to help increase speed of delivery of products and solutions for our customers.

What's the major impact of AI in your organization?

Technology is evolving rapidly and has shifted substantially because of generative AI. While AI has been around for decades, generative AI is accessible to the general public. The reason tools like ChatGPT gained traction so quickly is simple—people can now use natural language to get coherent responses without necessarily needing technical expertise. It's like the leap from flip phones and BlackBerrys to the iPhone—suddenly, the interface is intuitive enough that even a child can use it. That level of accessibility is what's driving real impact across the Bank.

In the past, if someone had an AI use case, they had to go through a specific, specialized team. Now, we're building/buying tools with safeguards and putting them directly into the hands of our employees. That means anyone can start experimenting and innovating—quickly and effectively—using just text, or even voice, to interact with AI tools. Yet AI, like any other new technology capability, can introduce new risks—particularly around hallucinations—which highlights the need for guardrails to be in place. Now that anyone across the bank can use AI, we need to continue to ensure our risk management frameworks are updated and robust.

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How can banks accelerate the adoption of AI?

At TD, when we think about accelerating AI adoption, the first thing that comes to mind is education. That ties into the broader topic of talent—educating the existing workforce and bringing in the right expertise to support this transformation. Essentially, it's about educating and empowering more people with AI tools, building scalable AI frameworks, and approaching problem-solving with a fresh, forward-looking mindset.

First, the point about giving employees access to tools and helping them use those tools effectively. For example, knowing how to craft the most efficient prompts can make a huge difference in the quality of the output.

Second, we must build scalable architectures that allow deploying, testing, and reusing different models efficiently. Here, we're focused on developing foundation models that can be applied to multiple use cases. This kind of reusability is key to scaling AI effectively and avoiding duplication of effort.

The third area is mindset—rethinking how our colleagues approach problems across the organization. Instead of trying to optimize parts of an existing process, we may need to completely reimagine it from the ground up. The world is changing rapidly, especially with the rise of generative and agentic AI. That means our approach to problem-solving must evolve too.

Where is a good starting point to deploy generative AI across the organization?

The AI implementations we've started with are both practical and impactful, largely because of the horizon-based approach we've taken—and the guardrails we've put in place. Our focus has been on trying to ensure that AI output is understandable, explainable, and trustworthy, within our risk tolerance. We began by rolling out colleague-facing solutions, starting with a knowledge management system in our contact center.

Here's how it works: when a customer calls in—say they've lost their card while traveling abroad—the contact center colleague, especially if they're new or unsure of the process, can quickly query the system and get the possible answer on the spot. In this scenario, there would be no need to place the customer on hold or escalate the issue. This improves both colleague efficiency and the customer experience. And because a human is still in the loop, it stays within our risk tolerance. The colleague can also see and verify the source of the information before sharing it, which adds an extra layer of governance before we respond to the customer's query.

It might not be the flashiest use case, but it's highly practical—and it's already delivering real value for both our teams and our customers.

Are you considering agentic AI?

It's hard to ignore the growing buzz around agentic AI—especially within our research teams who are focused on the future. Our ongoing goal is to drive AI-powered outcomes that deliver results for our colleagues, customers, and the communities we serve, with timely, transparent, and relevant insights. We will continue to explore AI in a trustworthy, transparent, and responsible manner to maintain the trust of our customers and colleagues.

Layer 6, our in-house AI research and development center, is constantly researching AI industry trends and models used outside of banking to determine how to best incorporate the technology internally. Agentic AI presents an opportunity for TD to further enhance digital customer banking experiences and improve financial wellness for our customers too.

For example, a customer could delegate monthly bill pay to an AI agent–starting with known amounts within a range and requiring the customer's formal approval before eventually moving to automated payments within the specified range. But for us, who work in a regulated industry, the very first consideration must be compliance. Right after that—and even more critical—is maintaining customer trust. That's why we will take a measured approach to rolling out these agentic AI use cases.

What is the role of risk management?

AI creates opportunities but also introduces new challenges that require our risk management team to rethink their risk assessment processes and operating model. In fact, AI risk is transversal and impacts multiple risk categories from model risk to cybersecurity. A holistic approach is required to manage AI risk effectively. In addition, given the need to deploy these solutions rapidly without increasing risks, robust levers (for example, process reengineering, tools, and training) are needed across our risk management teams.

Our risk management teams have undergone specific AI education to understand foundational models and how they impact risk. We are also strengthening our risk management practices to increase controls where needed and support business needs. It's a completely different mindset and process compared to traditional risk management.

What characterizes your strategic approach about AI?

At TD, AI is becoming a core driver of how we serve customers, personalize experiences, and bring new innovations to market faster. AI is not just about automation or analytics; it's become foundational to how we anticipate needs and help deliver meaningful value. AI is a part of TD's strategy to empower customers with deeper insights into their financial decisions as they make everyday purchases or prepare for big life moments. It's also an opportunity to augment colleague intelligence so we can deliver better and faster for our customers.

Our foundational model, TD AI Prism, announced in June 2025, integrates a large-scale AI architecture with TD's customer-centric datasets to help deliver more accurate, scalable predictions of customer needs, enabling more personalized banking experiences. This personalization isn't just about enhancing the customer experience—it also includes important risk considerations.

One of the first ways we're using TD AI Prism is to improve how we personalize our marketing campaigns, but our plan is to scale it broadly for personalization opportunities. This applies both to customers and to our internal colleagues. We've already identified specific internal use cases, but the goal is to personalize the experience for our customers as well—whether that's in managing credit risk or improving overall customer engagement within our organization.

Will banks insource more of their capabilities to gain more ownership of AI-driven transformation?

That's a tough question, but at TD, I'd say outsourcing still has a place for us—it's just evolving. A lot of what we traditionally outsourced, especially more commodity-level tasks, is now being handled more efficiently by AI tools. So, that layer of outsourcing may gradually diminish with other support moving further up the value chain. Since vendors are also adopting AI tools, they could bring more advanced capabilities, better applications, and greater value-adds beyond the basics.

At the same time, there's a growing trend—especially this year. We're hearing more conversations around owning intellectual property and end-to-end processes, especially when it comes to automation. If you don't fully own or understand a process, it becomes much harder to automate or innovate on top of it.

When we started implementing AI, we were very deliberate about putting guardrails in place to ensure the AI didn't deliver incorrect or misleading information. That's why having the right talent—technical professionals who also understand risk—is critical.

How can banks be successful in implementing AI?

For TD, success in this space isn't about building one great use case: it's about scaling value across the organization. That's where the real impact lies. The first thing we focused on is getting the right talent in place. You need people who truly understand the AI landscape—both the technology itself and how it connects to your specific business needs. Without that, you risk making the wrong decisions or repeating mistakes others have already made.

When I say, "understand the space," I mean everything from how the technology works to how it should be applied and risk-controlled in your environment. For example, if someone wants to build a knowledge management system, they might find a quick answer online or from a chatbot saying, "You can do this over the weekend—just download an AI model, feed it some data, and you're good to go." But that's not how we operate. When we started implementing AI, we were very deliberate about putting guardrails in place to ensure the AI didn't deliver incorrect or misleading information. That's why having the right talent—technical professionals who also understand risk—is critical.

TD acquired Layer 6, our in-house AI research and development center, in 2018. They help us see both the opportunities and the limitations, and guide how to apply safeguards effectively. Then comes the investment and scaling. This must be approached case by case.

First, identify the core problem you're trying to solve. We operate across many businesses, so it's important to focus. We ask ourselves: What issue, if solved, would deliver the most value? Maybe it's improving risk assessment, streamlining a manual process, or delivering a more personalized customer experience to stand out in a competitive market.

Once we've identified the key problems, we explore a wide range of use cases. We look at the full spectrum, then narrow it down to what's most relevant for us.

And finally, we strive to avoid the trap of imitation. Your customer base, market, and operating model are likely very different. Your strategy needs to reflect that.

How does AI change the interaction between business and technology?

AI is increasing access to powerful tools for businesses. It represents a major shift—because now, business leaders and executives are directly empowered. It's similar to when PowerPoint made it possible for anyone to create presentations, instead of relying solely on designers.

Today, instead of just choosing from predefined templates or handing off requirements to technical teams, business professionals can actively participate in the solution creation process themselves in collaboration with their technology team members. The tools are becoming more intuitive and business friendly, with more eligible employees having access.

If someone has domain knowledge and a bit of digital fluency, they can now take the lead—querying data, generating insights, and driving decisions in real time. There's less dependence on waiting for someone else to build reports or dashboards. You can ask questions in plain language and get immediate answers, which can help speed up decision-making.

At TD, generative AI is creating a more integrated environment where business and technology teams speak a common language and can collaborate more seamlessly. In that sense, it's not just a tool—it's a shift in how we operate and innovate.

Which are the strategic factors driving successful execution?

I believe we can identify four levers: education, change management, leadership, and flexible roadmaps.

First, it always starts by investing in people education—not just on how to use AI tools, but also on how to interpret the outputs and apply them in a meaningful way. That includes giving people access to the tools, training to use them effectively, and helping to build confidence in making data-driven decisions. The goal is to make education tangible and accessible, encouraging collaboration and contribution.

The second key area is change-management. You need a clear, well-defined playbook for how change will be introduced across the organization. This means having a structured approach to rolling out new tools, supporting adoption, and embedding new ways of working in daily operations.

A third critical factor is consistent leadership. Large-scale transformation efforts benefit immensely from having a steady hand at the wheel—someone who understands the vision and can drive it forward over time. A dedicated change leader can make all the difference in sustaining momentum.

Finally, while it's important to have a roadmap, you also need to stay flexible. One of the key lessons from agile practices is to build regular checkpoints—every six months or so—to reassess, adapt, and refine your plan. The landscape is evolving fast, and staying responsive is essential.

What do you think banking will look like in 2035?

At TD, we see true personalization becoming a reality. When a customer walks in, we want to know exactly who they are and what they need. In the past, some challenges like data held us back. We used to think all data needed to be in one place and now, we know it's more about having real-time access to data, wherever it lives. What's exciting is that today we have the technology not only to gather that data but also to make sense of it quickly and take meaningful action. This ability—to treat each customer as an individual and deliver a personalized experience using data and powerful processing tools—is what I believe will define the Bank in 10 years.

However, personalization only makes sense when it's delivered in context—because customers aren't just living to bank or shop. The more we align with our customers' everyday lives, the more meaningful our services can become. What excites me is seeing how we can deliver more personalized, holistic experiences to our customers—especially in the digital space across banking, retail, and beyond. Finally, I believe we'll continue to operate in a hybrid model across all the different channels, where the customers wish to interact with us. The newer technology and tools will enable us to truly offer a connected and personalized experience across all these channels.

UOB

Stuart Smith

Head of Innovation, Group Retail TMRW

Innovation is never a straight path and can often appear challenging for established financial institutions, given the multiple constraints they face. However, there are many things that established institutions are good at, and the ongoing investment in innovation in financial institutions shows a willingness to adapt and prepare for the future.

Innovation arises at the intersection of customer needs, business needs, regulatory shifts, and technological advancements. Justifying it economically remains complex, particularly for novel initiatives, as the revenue generation potential is harder to estimate and attribute.

In this conversation with IBM's Paolo Sironi, Stuart Smith—Head of Innovation at Group Retail TMRW, UOB—examines the dynamic landscape of innovation in digital banking, revealing its emergent nature and the opportunities for fostering change within traditional institutions.

The discussion traces major technological waves impacting digital banking—mobile interfaces, AI and generative AI—highlighting how each demands new skills, structures, and a continuing focus on customer-centric approaches to unlock value.

More than ever, success in this rapidly changing landscape depends on deep customer understanding, cross-functional collaboration, and adaptive operating models. To thrive, institutions that invest in human capabilities—critical thinking, empathy, and creativity— alongside their technical capabilities will be best positioned to navigate this evolution effectively.

How does innovation start in a bank?

Innovation rarely starts in a structured way—it's an emergent process. To describe a precise starting point of innovation would be to give it more structure than it really has. Innovation typically occurs at the intersection of customer needs, business needs, regulatory shifts, and enabling technologies.

To move forward, organizations will need a rationale and use cases to justify the innovation—and ironically, building that model often requires innovation itself. Developing business cases for new concepts and technologies can be challenging. Efficiency-based models often promise to be more straightforward, as IT investment in the past has often been linked to cost reduction efforts. However, for something truly novel such as gen AI, it is much harder to forecast its top-line growth as there is rarely a reliable proxy. It's possible to reference past or similar projects in other organizations, but that only gets you so far.

In discussions with colleagues across the industry, it's apparent that many are still developing their ability to effectively forecast the benefits of a specific innovation or concept. It's an area of work that many continue to develop as the need for change becomes more pressing and technology advances more rapidly.

In summary, innovation in a bank doesn't just "start," it's already in flight due to the ever-changing environment. What we are describing is the effective harnessing of people, process, and technology to deliver new value.

What's your key lesson learned from promoting digital change?

First, never make assumptions. We always try to understand what happened in the past and should not deceive ourselves that being innovative means what you are doing hasn't been tried before. In fact, understanding history is an overlooked task in many transformation initiatives.

Building upon this, digital innovation requires deep contextual understanding. Innovators should get into the details—understanding the business, operations, risk and regulations, technology, design, and working culture. This should also be done with a genuine air of curiosity and nonjudgment to understand the problems we are trying to solve or maximize opportunities we are trying to reach. Without this, there is a risk for organizations that change may not be meaningful, and investments may not fully achieve the returns that were expected.

Another lesson was not to over-index on technology without looking at the processes and what problem the technology is supposed to solve. Sometimes it's easy to see the technology as "magic," especially in this latest wave of technological advancements. Combined with the constant content that we receive through different channels such as social media, it can be tempting to believe that everyone is further ahead than you.

This is not how real change happens.

Sometimes the path forward just isn't clear. No one really knows what needs to be done or that certain resources exist or don't exist. That's why at UOB, we've structured our digital innovation team to work as a catalyst, an enabler, as well as a build team for the bank. Our core role isn't just to develop new concepts, it's to guide, unlock clarity, and help different business teams progress their innovations with the right support.

In this sense, we are scouting the path with the business teams to help them navigate complexity, identify risks, and connect the dots through innovation. Often, that clarity or support is all that's required to achieve a breakthrough.

Despite the tech differences, has anything fundamental changed through the major innovation waves—AI, blockchain, and now generative AI?

The main change that we see is the need to reeducate ourselves constantly and to develop new operational models and methods.

When we started to develop the UOB TMRW Digital Bank in Thailand, it was clear that we needed to add new skill sets and operating models to succeed at scale. An example was how, in our initial launch phase, we developed specialist teams (known as eLabs) whose job was to operationalize some of the more advanced AI and digital tech that the bank was deploying.

These teams were trained specifically on the new machine learning and data technologies we were introducing for our UOB TMRW app. Once the operations were well established, we were then able to make this part of business as usual.

With the rapid rise of generative AI, we're seeing a similar cycle of upskilling and development—but perhaps happening faster. There's a misconception that gen AI is a silver bullet, a fix-all with near-mythical capabilities, which it doesn't have. The technology itself is more advanced and provides great opportunities, but to truly harness it requires a whole new set of skills and operating models, alongside strong governance.

What is the greatest challenge with the next generation of AI models and methods?

In addition, to discern the real value from the hype of the next generation of AI technology, it is critical to ensure that risks are managed and customers are protected.

Next generation technologies such as agentic AI could provide great opportunities for organizations, but the implications of an agentic organization need to be considered. At this point, the definition of "agentic AI" is still fuzzy, with earlier generations of workflow tools such as robotic process automation (RPA) mixed together. However, assuming this technology becomes reality, its deployment should focus on strong software governance and security practices.

True agentic AI, when it arrives, will require rigorous testing, guardrails, governance, and hand-off coordination—especially across organizational boundaries, which could raise governance questions that have yet to be addressed.

With agentic AI, the real challenge will be operating models themselves. Organizations are no longer simply deploying software but redesigning how they operate. The AI software may begin to shape workflows, decisions, and even structure. So, while earlier phases were about managing algorithms, ecosystems, or interactions, agentic AI is about transforming the organization through autonomous software.

So, organizations should always return to the fundamentals: human-centered education, training, and restructuring. We'll need innovators, change agents, and people who can chart the path forward. That's the nature of tech cycles—it's always evolving, and so must organizations in order to keep up.

How has the focus of innovation in digital banking changed over the past decade?

Looking back at the past decade, several drivers have shaped the direction of innovation in banking: ubiquitous smartphone access, the post Global Financial Crisis (GFC) regulatory landscape, and more recently the global pandemic.

The availability of smartphones for the majority of the population, coupled with 3G (and above) mobile phone connectivity provided a foundation on which digital banking could become a mass market proposition for customers and the convenience that it brings.

Post the 2008 GFC, regulatory environments changed across the world and regulators encouraged the launch of digital banks through specific licensing regimes. This introduced competition and also broadened access to digital banking propositions further.

The pandemic was another major driver, as customers who perhaps had not engaged with digital banking began to do so. A huge amount of innovation capacity has gone into areas like anti-fraud, where the industry has made significant strides to counter threats. Of course, there is more to do and it's a nonstop challenge.

What is the ROI challenge about investing in customer engagement?

When we launched UOB TMRW in 2019, we had a major focus on customer engagement and successfully implemented solutions to provide customers with AI-driven insights, personalized experiences, and services—all of which was well-received.

Building on this momentum, we also looked deeper into the types of personalization or interactions that our retail banking customers want and further enhanced our capabilities as a bank. We constantly re-evaluate investments and ROI on marketing technology and customer engagement platforms, especially with the advent of gen AI. As customer engagement often requires acting on data in real time, this means integrating many systems, aligning teams, and delivering the right message or experience to the customer at the right time. We continue to develop in these areas and can't stand still.

How do you make sure value is generated though innovation?

It's sometimes difficult to quantify value internally—especially in environments where everyone is under pressure to meet quarterly KPIs. Innovation work can be hard to measure as you can't always point to a clear output and say, "Here's the result." Often, it relies on PR, storytelling, or acknowledgment that it's important.

The kind of work that connects people, ideas, and departments doesn't always look efficient, but it's vital. The most valuable innovation work is often the least visible. It's in the connections in bridging gaps, in bringing ideas to life across silos. That's where the real impact happens.

What's the main friction that prevents business owners or technology leaders from embracing innovation?

I think most leaders are trying to embrace innovation in some form. It's often a loosely defined term and so what constitutes innovation in one context looks very different in another context. Generally, most people probably associate it with newness, change, and progress. How that manifests in their specific context will be different.

If there is a friction between innovating and the way organizations operate, it's maybe that lack of mutual understanding of what innovation means. Once we align on what the actual problem or opportunity is, then things can move quickly. Leaders who can bridge these gaps and encourage the cross-functional and cross-organizational collaborations are essential in this era of rapid change.

What characterizes banks that thrive with innovation?

From the early internet to ERP systems, and now into blockchain, AI, generative AI, and quantum computing, technology keeps evolving—but one constant remains: humans are always at the center, be it customers or employees.

In a world increasingly shaped by tech, the most future-proof skills aren't technical—they're human. Soft skills such as critical thinking, creativity, empathy, learning, and the ability to connect with others are what enable individuals and teams to adapt, compete, and lead transformation.

For example, at UOB, we take a digital-first approach. Customers can conduct straightforward transactions—such as opening accounts and using our digital banking platforms for daily transactions and investments anytime, anywhere—via our UOB TMRW app. This is then complemented by our comprehensive physical network where customers can transition to offline engagement with relationship managers. This ensures that digital interactions evolve into deeper, trust-based relationships.

Organizations that thrive will be those that not only embrace technology but also deeply invest in the human-focused capabilities that make innovation meaningful. As noise grows, our curiosity will help us filter the signals.

ZAFIN

Charbel Safadi

Chief Executive Officer

Banks define and pursue innovation by questioning its core drivers: internal factors like culture, leadership, and strategy, versus external collaborations with fintechs, startups, and tech providers. This debate underscores the tension between maintaining control and embracing partnership-driven transformation.

In this discussion with IBM's Paolo Sironi, Charbel Safadi–Zafin CEO–discusses AI-driven innovation in banking, urging institutions to shift from tech aspirations to orchestrating high-value financial services via external ecosystems. Banks should prioritize customer journeys, product design, and loyalty over foundational AI development, dominated by tech giants. Strategic investments beyond digitization—reimagining bundling and value creation—are key. Ultimately, culture and execution speed differentiate winners.

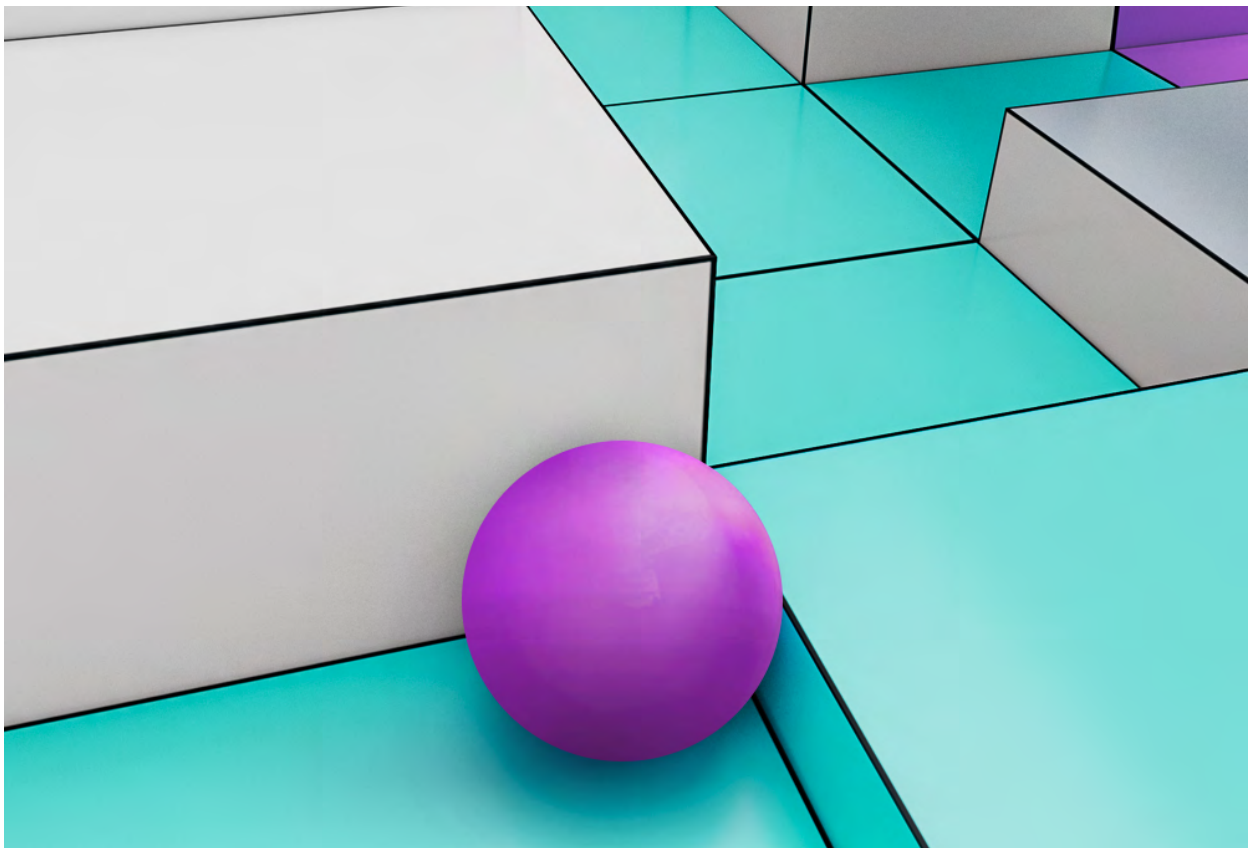
How do banks innovate in the era of AI?

This is a timely and pertinent question, particularly in light of recent discussions I have held with senior leaders at some of the largest global banks regarding AI and innovation. Over the past 10 to 15 years, many banks have positioned themselves as technology companies operating under a banking license. However, in the AI era, this paradigm no longer applies. Banks must realign their focus toward their core identity as financial institutions dedicated to delivering differentiated, high-impact financial services achieved through intelligent orchestration rather than foundational innovation.

Banks excel at identifying and adopting technological capabilities that drive business transformation, including enhancing customer experiences, optimizing internal processes, and increasingly, empowering employees. Most banks are not equipped to lead AI innovation at a foundational level. With the exception of a few global institutions, they are not engaged in developing foundational models or advancing the frontiers of AI research; such endeavors are the domain of technology giants that invest billions in AI development. The more relevant inquiry is whether AI innovation arises internally within banks or extends across an ecosystem of technology partners.

In the AI-driven landscape, banking innovation will prioritize a deep understanding of core business operations, anticipation of market trends and competitive dynamics, and the use of AI, often delivered as a service, to orchestrate transformative experiences spanning customer and employee interactions, product design, delivery, marketing, and servicing. This shift requires cultivating an organizational culture that readily adopts and integrates orchestration tools, such as API-driven platforms or agentic AI capabilities, while accommodating frequent model updates and continuous improvement.

Selected Tier 1 institutions, with multibillion-dollar technology budgets, are industry exceptions rather than the standard, and should not serve as a universal benchmark. For Tier 2 and regional banks, success hinges on establishing leadership within their specific domains through ongoing collaboration with ecosystem providers who offer continuous advancements. Banks need to move past the idea that they are tech-first companies. Instead, they should refocus on being exceptional financial service providers, enabled by technology but not defined by it. The future of innovation in banking lies in mastering the orchestration of external capabilities to create distinctive, high-value experiences that customers want. Tapping into the power of the ecosystem, especially now in the SaaS world, enables them to do so faster than the competition.



What barriers hinder banks to innovate?

This innovation shift is a significant leap for most financial institutions. Not because they lack the capability, but because their legacy structures make it incredibly hard to move. The traditional banking model is vertically aligned, with product, servicing, and operations all sitting in silos. That vertical construct was built for a different era, and it limits the kind of cross-functional orchestration required for true innovation today. To enable composable, business-led innovation, banks must fundamentally rethink how they budget, how they organize around products and services, and how they design for flexibility rather than control.

In today's world, copying a product or a strategy can happen almost instantly. Speed is no longer the barrier. The real barrier is culture. The organizations that will succeed are those that build a culture centered around identity, purpose, and adaptability—knowing what they're great at, where they need help, and creating the structure to partner and execute with agility. That means redefining what the organization looks like and identifying the "minimal viable foundation" needed to operate in this new paradigm.

Ten years ago, the innovation bar was launching a slick mobile app with Face ID. Today, banks are back to competing on the fundamentals: delivering real value, helping customers build wealth, earning long-term loyalty, not just simplifying digital access. Yet, the reality is we now have tens of thousands of banks globally, all with massive tech budgets, all building the same widgets. That's not innovation. That's duplication. And it's time to break the cycle.

Banks must stop looking inward and assuming they can build everything themselves. That approach has consistently destroyed shareholder value across the industry. Instead, they must embrace the broader ecosystem, technology and business partners alike, to accelerate outcomes. Importantly, regulatory constraints, both real and perceived, also play a role. The highly regulated environment in which banks operate can slow the pace of change, create uncertainty around compliance, and sometimes reinforce risk-averse cultures. Leading organizations are those that work collaboratively with regulators and ecosystem partners to find compliant paths to innovation, rather than letting regulation be a default excuse for inertia.

What prevents bankers from embracing this shift?

At the heart of resistance to innovation in banking is the challenge of translating ambition into action at the enterprise level. Consider the rise of neobanks and the disruptive force of stablecoins, which are fundamentally redefining concepts such as deposits, interchange fees, and overall value creation. While traditional banks may grasp their current models, the critical challenge lies in cultivating a mindset attuned to impending transformations. This demands a paradigm shift from vertical, siloed approaches, which are centered on individual profit-and-loss statements and isolated products, to horizontal, integrated business models that span the entirety of a customer's financial journey, delivering seamless, end-to-end value.

Such a transition, however, is impeded by entrenched structures: incentive models and organizational frameworks that perpetuate silos. For example, customer loyalty often remains fragmented. Banks may reward a premium credit card customer more than a client with a $2 million mortgage, simply because incentives and decision-making remain stuck at the product level, not at the enterprise or relationship level.

This is precisely where fintech disruptors have excelled, dismantling silos to offer orchestrated, bundled solutions that address customers' needs comprehensively.

The inability to access real-time data across the enterprise further compounds the challenge. Many banks still rely on fragmented, batch-based data and manual processes, making it hard to sense and respond to customer or market needs quickly. By contrast, fintechs and digital-native firms are built on integrated data platforms and can deliver bundled, orchestrated solutions that address the full customer journey.

Ultimately, what prevents bankers from embracing the shift is not just culture or incentives, but the inability to rewire business models, processes, and data flows at the enterprise level. Overcoming this requires bold leadership, investment in enterprise architecture, and a willingness to measure success by holistic outcomes, not just product performance.

How should banks invest to create new value?

This is an excellent question, and my viewpoint is straightforward: at its core, what defines a bank? It is not merely an assemblage of financial products, but rather the manner in which those products are thoughtfully packaged, seamlessly delivered, and ultimately leveraged to generate genuine value for customers.

Over the past decade of fintech evolution, banks have invested substantially in digitizing access and enhancing simplicity. To their credit, they have executed this admirably. Features such as five-minute onboarding, instantaneous account setup, and effortless switching have become standard. However, this very success has led to commoditization. With every institution offering similar digital experiences, customers now face minimal barriers to migration. While these extensive technological commitments have effectively minimized friction and optimized cost structures, they have fallen short in fostering substantive product innovation or holistic value creation throughout the customer lifecycle. This challenge extends beyond retail banking to encompass corporate and commercial segments as well.

Envision, then, a strategic pivot: redirecting that same ingenuity and capital toward reimagining product design, sophisticated packaging, robust loyalty programs, and tiered offerings. This approach strikes at the essence of banking, which is crafting and servicing financial solutions that deliver tangible, enduring value.

Critically, investing in transparency and supporting customers' long-term financial well-being should become central pillars of this transformation. When complemented by strategic alliances within the technology and AI ecosystem, such efforts can catalyze profound transformations, benefiting customers and employees alike.

My counsel to bankers is clear: return to the fundamentals of banking and reinvigorate the spirit of innovation and creativity that once defined the industry, when collective ambition drove pioneering product advancements. The moment has arrived to prioritize true innovation in banking, transcending mere digitization to embrace its transformative potential.

How far are banks from achieving adequate technical capability?

Banks have indeed established a solid foundation by expanding their horizons beyond internal operations, increasingly embracing external ecosystems through cloud computing and Software-as-a-Service (SaaS) solutions. Many financial institutions now actively consume these services, cultivating the essential competencies to integrate and leverage external capabilities effectively. However, this proficiency remains underdeveloped in key respects.

Consider customer relationship management (CRM) systems as a prime illustration: banks allocate billions to adopt standardized CRM tools, presuming that such implementations will resolve entrenched challenge in their sales processes. Yet, they often overlook the imperative to fundamentally reimagine how products are marketed, sold, and consumed. Instead, institutions frequently commit to a single tool for extended periods, spanning five, ten, or even twenty years, and erroneously equate this longevity with genuine innovation.

In the contemporary landscape, particularly with the advent of AI and agentic technologies, true innovation demands agility, adaptability, and perpetual evolution. Technological tools advance at an extraordinary pace; what represents the vanguard today may become obsolete within a mere year. While leading technology companies have surged ahead, transcending conventional development paradigms through these breakthroughs, many banks lag significantly behind, still deliberating over the adoption of rudimentary AI applications or contemplating the construction of proprietary models. Meanwhile, tech titans invest billions in foundational advancements. That's not being AI-first; it's missing the point.

Are we entering a phase where technology is no longer a separate function, but native to business execution?

To fully capitalize on the transformative potential of generative and agentic AI, business professionals require a foundational grasp of technological principles, a development that is already underway. On the consumer front, individuals are engaging with generative AI tools in their daily routines, often unwittingly acquiring proficiency, much as society did during the internet's emergence in the 1990s. In that era, enterprises relied on intricate layers of technology merely to analyze data, generate insights, and implement actions.

Today, generative and agentic AI abstract away much of that complexity, removing the need for vast internal engineering resources or costly computational infrastructure to drive innovation. AI is now seamlessly embedded into the core of business operations, empowering business and product owners to act independently with the tools and capabilities they need, always readily available, without dependence on IT departments.

Ultimately, AI is our “superpower to become superhuman,” fully embedded through universal training and cultural integration. Those resistant to adaptation will struggle to thrive.

How do you use AI within your company?

Artificial intelligence is not an experimental pursuit for us; it underpins our core operations. Less than two years ago, we built a top-tier team and integrated AI faster than peers in our regulated sector, prioritizing compliance, explainability, and traceability. In engineering, adoption is total: all developers use generative AI tools, with products AI-assisted from development to deployment. We've maintained R&D spending yet increased productivity by 40%, delivering direct profitability gains unmatched by any other technology used to date.

Beyond engineering, generative AI infuses the organization. 95% of staff use generative AI daily across finance, HR, marketing, and cybersecurity. Finance's month-end close dropped from 14 to two days, aiming for one; marketing has consolidated its technology stack and reallocated resources, enabling us to significantly boost both output and brand impact. Ultimately, AI is our "superpower to become superhuman," fully embedded through universal training and cultural integration. Those resistant to adaptation will struggle to thrive.

And how has AI adoption changed the way your clients experience or consume your offerings?

The more effectively we perform, the greater the value we provide to our clients. I frequently emphasize to CIOs and CEOs that we have transitioned from a traditional product-centric company to becoming the "company of yes"–within the domains where we operate. This signifies our ability to respond affirmatively and with speed and assurance to customer requirements where we have platform flexibility and capability. In the past, product companies adhered to protracted development cycles: hypothesizing, designing, building, testing, selling, and implementing, which often spanned months or years. AI has revolutionized this for us. Today, we are able to accelerate development and deployment cycles significantly. What once took months or years can now be accomplished in weeks, with ideation, coding, and deployment supported by AI-enhanced site reliability engineers (SREs). This fosters a perpetual cycle of innovation, enabling us to transform client needs into tangible solutions more swiftly than ever before.

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How is the SaaS paradigm changing in the AI era?

In the realm of SaaS product development, the longstanding assumption that a sufficiently compelling offering will endure indefinitely no longer applies. Today, every employee emerges as a potent generator of intellectual property through artificial intelligence, while each customer interaction and sales engagement presents an avenue to cultivate and refine value. When industry observers suggest that "SaaS is dead," what they truly underscore is the imperative for a perpetual cycle of product innovation.

The paradigm has evolved beyond mere "software-as-a-service" to encompass dynamic, agentic, and orchestrated experiences, where intelligent agents fluidly traverse platforms, ecosystems, and organizational boundaries. At Zafin, we witness this transformation directly: the antiquated SaaS model, where companies construct a solution once, deploy it, and anticipate unchanged usage for decades, is obsolete. In its stead, adaptability and relentless evolution define the new benchmark for success.

How do you see the role of customization evolving in this new model of empowered, tech-enabled business teams?

Today, empowered, tech-enabled business teams expect to shape solutions as they go, tailoring products, workflows, and experiences in real time, often without heavy IT involvement.

The rise of low-code/no-code tools, modular SaaS architectures, and AI-powered platforms now allows teams to rapidly adjust and personalize offerings for different customers, business lines, or use cases. As a result, customization has become continuous, iterative, and much more embedded in the way modern organizations operate.

At our organization, for example, we are pioneering "agent teams:" groups of AI that ingest user stories or business challenges and dynamically assemble virtual teams spanning design, architecture, compliance, and security to iterate and construct solutions without interruption. This is far from conceptual; it lets business leaders focus on outcomes, rather than technical details, and accelerates the ability to adapt to new opportunities or requirements.

In a recent engagement with a bank's C-suite, comprised of business executives rather than technologists, we intentionally focused the conversation away from technical details. Instead, we probed the core: “What is the business challenge? What is the desired outcome?” With clarity established, AI emerges as the catalyst, enabling the orchestration of thousands or even millions of agents in pursuit of enterprise-wide objectives.

The winners in this environment will not be those with the most sophisticated underlying AI, but those who can rapidly deploy and integrate new capabilities and foster a culture where teams are encouraged to adapt, experiment, and personalize without friction.

Ultimately, the next era of customization is about speed, integration, and alignment with business goals, making it possible for teams to continuously refine and evolve what they deliver, in partnership with technology.

It is here that the platform assumes pivotal importance, furnishing the essential insights and tools for effective governance. Incremental enhancements are not enough if systems remain disconnected; without robust integration, holistic enterprise management becomes unattainable.

What do you think banks should do with their core banking?

Banks must diminish the dominance of their legacy core systems by fostering a fundamental shift in perspective. When business leaders demand greater agility, such as accelerated product launches, dynamic pricing, or innovative bundling, CIOs frequently cite the constraints of the outdated core and respond with, "We can't.” This entrenched resistance is the crux of the issue.

Rather than wholesale replacement, the core requires recalibration: preserve its stability for essential functions while relocating critical capabilities, such as product management, pricing strategies, and personalization to the periphery through strategic partnerships and platforms. This empowers business teams to achieve market victories in the present, rather than deferring them for years.

Prioritizing core modernization before pursuing business transformation risks squandering valuable time and eroding market position. While outright failure may be averted, the consequences include diminished return on investment, compressed margins, and waning shareholder value.

Instead, banks should prioritize collaboration with business stakeholders: discern their precise needs, affirm possibilities more readily, and cultivate an ecosystem of supportive technologies. By strategically contracting the core's influence, both technically and operationally, banks can advance with speed, ensuring sustained competitiveness.

What is the key differentiator in banking and tech today?

I initiated this dialogue by highlighting the pivotal role of a bank's culture as its true differentiator, and it is here that the conversation comes full circle.

In the present landscape, access to state-of-the-art computational resources and artificial intelligence is no longer constrained by organizational scale. Whether comprising a nimble team office or a vast enterprise of 50,000 engineers, all entities now enjoy parity in capabilities. The decisive factor distinguishing victors from the rest lies in organizational culture and the speed with which it enables execution.

This insight constitutes the paramount lesson I have gleaned, particularly from my 21 years at a prominent technology firm, a tenure rich in invaluable experiences, illuminating both exemplary practices and pitfalls to avoid. The stark reality in large institutions is that entrenched silos and vertical structures invariably impede progress and thwart transformative initiatives. Again and again, a robust culture paired with swift execution triumphs over mere scale.

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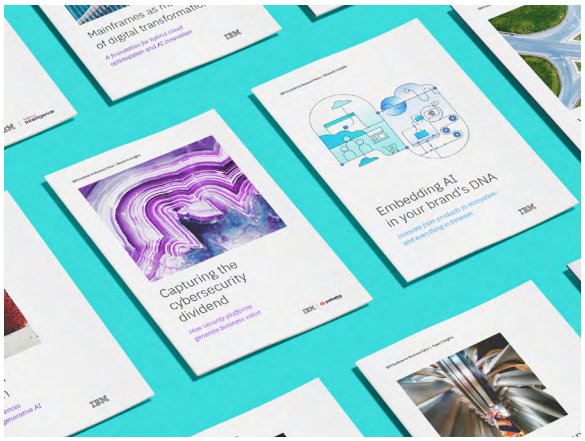

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Notes and sources

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