CORNERSTONE ADVISORS

Leveraging the Cloud to Accelerate Digital Transformation

Insights for Banking Technology Future Investments

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OVERVIEW

While cloud technology has been on the minds of bank executives for more than a decade, the COVID-19 crisis brought forth a new insight to leadership teams: cloud will be the key to successfully executing on digital transformation. This major technological innovation has offered banks many advantages and opportunities for effectively reshaping their business.

Cloud-based applications enable banks of all sizes to use enormous computing capacities and state-of-the-art software—and to leverage economies of scope and scale in the process. For small and regional banks in particular, cloud usage can increase participation in new technologies. Market research firm IDC forecasts that spending on cloud computing services in the global banking industry will grow more than 16% through 2024, to $77 billion.[1] This contrasts the overall predicted increase in IT budgets at just 4.5%.

Needless to say, today's financial institutions face more challenges than ever before. From growing regulatory requirements and deteriorating profitability to external factors such as the COVID-19 pandemic and increasing pressure from fintech firms, most banks today see the cloud as a key building block for competitiveness and innovation. All of the challenges wrapped together empower the unprecedented opportunity to accelerate digital transformation.

But most banks' capabilities to navigate through digital and cloud technology lack maturity for the future. Not all banks have adequately prioritized digital transformation or they've done so on a limited scale while they remain tied down by legacy systems and hampered by siloed data across multiple systems.

The benefits of digital transformation are clear, but many organizations are held back not so much by the cost of such migrations, but by the complexity. Finding tools, talent and partner resources to break through this complexity and truly transform is a high priority for bank executives.

This report, based on research and executive interviews with banks conducted by Cornerstone Advisors, outlines the chief struggles financial institutions face relative to cloud technology and illustrates how FIs can act against and respond to those challenges to enable a successful cloud transformation.

[1] www.idc.com/getdoc.jsp?containerId=US46526221

THE STRUGGLES OF DIGITAL TRANSFORMATION

Financial institutions face struggles as they work to transform their organizations into true digital enterprises.

1. Fragmented and Complex IT Application Environment
2. Silos of Data
3. Significant Legacy Integration Efforts
4. Lack of Specialized Expertise
5. Managing Multiple Partners to Execute

A well-designed, faster and safer digital transformation is the prerequisite for winning business as competition grows. However, financial institutions face greater challenges than ever before as they work to transform their organizations into truly digital enterprises. While cloud technology acts as a key enabler, this move alone is not synonymous with digitization. The transformation is not just a matter of replacing the existing on-premise data centers with cloud capabilities, but rather establishing a change throughout the entire company—technology, people, process, partners and governance.

And this opportunity is more than just a technological decision. It was clear from the executive interviews that financial institutions face escalating obstacles across several fronts: fragmented and complex IT application environments, siloed data, lack of specialized expertise within their organization, significant legacy integration efforts, and the challenge of managing multiple stakeholders to execute.

FRAGMENTED AND COMPLEX IT APPLICATION ENVIRONMENTS

Many modern user interfaces are a facade. Financial institutions try to hide their outdated technology on the back end by using contemporary applications on the front end. The result is an intertwined system lacking a unified data source and fragile integration—causing major challenges in truly delivering digital-first, omnichannel banking.

Without effective data and systems integration, delivering today's desired customer experience is a constant struggle. This includes data about customers, such as demographics and the types of services and products they use. Using data isn't just about using the information to implement digital solutions, it's also about understanding which solutions best meet customers' needs so customer-facing staff and a customer's digital interactions with the institutions are tailored and relevant. "It's very hard to think about matching the customer experience of an innovative fintech with our current technology stack," noted one regional bank CIO. "We need an infrastructure for the future that connects to new platforms and capabilities faster."

Data and behavioral analytics can help organizations understand potential friction points in the customer experience—but this is near impossible with a fragmented application environment and causes internal friction between departments that are interacting differently and independently with customers. Bottom line: a fragmented IT environment is synonymous with a fragmented customer experience. Over time, cloud migration can be an important strategy in addressing this painful fragmentation.

For years now, banks have tried to execute with a "two-speed architecture"—attempting to improve and refine the front-end customer experience quickly while supporting it with a slow-moving back-end of legacy systems. Executives we interviewed emphasized that banks are looking to move past the two-speed world and truly begin to rewire the entire enterprise tech stack. This migration is a classic example of "Rome wasn't built in a day" with a heavily complex and interwoven system landscape. Leading executives know detailed analysis, planning, and rigorous execution is the only path to shed the constraints of legacy technology over time.

> **It's very hard to think about matching the customer experience of an innovative fintech with our current technology stack. We need an infrastructure for the future that connects to new platforms and capabilities faster.**
>
> —CIO of $25 billion western regional bank

SILOED DATA

Financial institution executives we spoke with are experiencing both the pressure to digitally transform their organizations and an increasingly complex data management landscape. Most bankers' data is stored across hundreds of separate fragments, or siloes, making data management difficult and inefficient and thus compromising the business insights central to growth.

Additionally, data silos are often reinforced by organizational silos, within which teams utilize incongruent tools that rarely—or never—interact with one another. The absence of communication between internal teams is reflected in the data, which creates a dilemma when it comes to meeting consumer demands and recognizing critical market trends.

And without a singular data universe, financial institutions will continue to struggle to properly leverage tools that rely on compiled data to predict fraud and consumer behavior and provide their customers with the experiences and data safety they demand. This translates into a huge competitive disadvantage if financial institutions do not unite their data in a single point of truth.

As of 2021, 45% of survey respondents still utilize manual processes at some point in their compliance data management efforts, often across dozens of tools and non-integrated systems without data shared among them.

Unfortunately, this trend is one that many financial institutions are not adequately prepared for. For instance, the "Annual 2021 Wolters Kluwer Regulatory & Risk Management Indicator Survey" revealed that despite strides toward automation in the past few years, there is still a reliance on manual processes—as of 2021, 45% of survey respondents still utilize manual processes at some point in their compliance data management efforts, often across dozens of tools and non-integrated systems without data shared among them.[2] This is often due to concerns of regulators and the effort of financial institutions to address these concerns by demonstrating end-to-end security of sensitive customer data and strategy to address the potential impact on the FI if the cloud provider suffers a significant adverse event.

LEGACY INTEGRATION EFFORTS

At the heart of a financial institution lies its core. This software pulls the strings behind the scenes and is ultimately responsible for the customer experience. In most cases, cores are decades old, one-stop-shop solutions running on proprietary or closed platforms (often a mainframe). Integrating legacy systems with open banking platforms seems like the easy solution—but it is not. More often than not, financial institutions face issues integrating newer platforms with legacy software systems and tools.

[2] assets.contenthub.wolterskluwer.com/api/public/content/07bc486f9ea64ebfb2d35a058b9274ae?v=49070479

For cloud programs to run successfully, they require access to the full breadth of a firm's data kept within multiple systems, especially their core system. With that in mind, it seems obvious that much of the digital transformation effort should be spent on modernizing core banking systems. To make the core fit for the digital age, openness, flexibility, and configurability must reach a new level.

If legacy systems are no longer future-proof due to a lack of adaptability, sticking with them involves incalculable risks. In this case, comprehensive modernization is inevitable. Driven by tight budgets and the attempt to keep operational risk as low as possible, some banks prefer a two-speed approach to starting anew. But as mentioned before, in a highly interwoven system landscape, a two-speed architecture, with an outdated core on one end and a new front end, cannot last and serves as a point of weakness in a financial institution's data security.

IN-HOUSE CAPACITY AND AVAILABILITY OF SPECIALIZED EXPERTISE

Financial institutions are challenged by changing customer demands and disruption. There is talk of new digital services, new competitors, and new business models based on digital technologies. Now and even more so in the future, it will be increasingly important for companies to have a strong internal IT department. Experts with knowledge in the area of technology and in dealing with data (big data, unstructured data, data analysis and much more) will be needed in-house.

Building and deploying an open application programming interface (API) ecosystem relies on specific expertise often scarce or altogether absent from smaller financial institutions. This is most often due to two factors:

1. The in-house capacity of existing IT teams lacks the skills and knowledge of cloud-based or embedded technologies. While old, in-house applications required extensive installation and operational support, these "next gen" cloud-based systems have reduced dependence on internal IT teams. Smaller FIs typically lack the internal resources to master the new applications and enable them for scale. And fundamentally, they do not trust what they do not understand, creating an additional barrier to transformation.

2. Rural markets lack the qualified talent. FIs in larger markets have a larger pool to pick from, which gives them an advantage over more rural markets. Not only is there more talent, but there is more qualified talent. No matter where an FI is located, inventorying existing skillsets across the organization will be critical, as well as providing education and training to employees to help the organization grow.

If legacy systems are no longer future-proof due to a lack of adaptability, sticking with them involves incalculable risks.

Conducting digital transformation as a solely internal project can be an expensive—and risky—undertaking if done without the right technical skills in place, something well known by the executives we interviewed. While modernizing attracts younger workers who don't want to work with legacy systems, talent burden can be lightened with help from external IT vendors with adequate experience and resources to help FIs succeed.[3]

MANAGING MULTIPLE PARTNERS FOR EXECUTION

Behind every digital transformation is a team that makes it happen, and not just internally. Vendors are a critical part of the journey and vendor management becomes more important than ever. The advent of APIs and middleware have become more prolific in bringing more vendors into the digital market. These next-generation technology vendors can be embedded quickly and often at reduced cost and provide an opportunity to innovate on top of their legacy integration layer.

Digital transformation doesn't happen without vendor involvement, especially as organizations slowly move the fragmented pieces of their IT application environments to the cloud. But as banks integrate more and more systems into their core in order to modernize, it means more partners to manage.

For instance, if an organization already has a legacy mobile and online banking suite but then wants to do online account opening or online lending origination, two new applications have been introduced that are not part of the core digital suite of products. And they run differently, or don't fully communicate, which means the FI must now wear the hat of a system integrator.

Having a dedicated vendor manager within the organization is now mission critical to manage all of the new relationships as well as designating someone within the FI to sit in the captain's chair to drive the initiative for a successful execution.

As banks integrate more and more systems into their core in order to modernize, it means more partners to manage.

[3] www.npr.org/2020/04/22/841682627/cobol-cowboys-aim-to-rescue-sluggish-state-unemployment-systems

HOW A LONG-TERM CLOUD STRATEGY IS CRITICAL TO A SUCCESSFUL DIGITAL TRANSFORMATION

The cloud offers the real-time delivery of computing services—software applications, data storage, and processing power—on demand, without the need for physical expenditures.

1. Intelligent Enterprise
2. Persistent Solution Availability
3. Burstable Cost and Capacity
4. Innovation and Speed-to-Market
5. Reduced Risk—Data, Continuity, and Regulatory Compliance

For more than a decade, bank technology executives have been warming up to the concept of a cloud-based enterprise while delving into the planning considerations and risks associated with such a future environment. From a business standpoint, it is clear that cloud offers the scale to deliver real-time services across multiple platforms and devices that allow access to advanced business capabilities. Whether a new customer experience, advanced data analytics, or a pre-packaged automated work flow, these capabilities would be hard for a single financial institution to replicate.

Cloud adoption has generally lagged in banking due to the sheer amount of sensitive data and monetary transactions that drive the business. The vulnerability felt by financial executives has been significant. However, momentum and widespread acceptance around cloud has clearly accelerated in a post-COVID world. Many research firms predict that the majority of business enterprises will be primarily cloud-based over the next five to seven years.

In many respects, banks are seeking to shed their history of closed, legacy systems to better benefit from the flexibility and scalable capabilities of cloud. Most CIOs view cloud as the linchpin that provides a chance at executing the sweeping transformation required in today's financial services market, and most large banks have announced some degree of public cloud adoption. CIOs are hastening their cloud efforts with an eye toward five key benefits where cloud enables digital transformation.

THE INTELLIGENT ENTERPRISE

The use of cloud technology in banks not only has an impact in the form of changes to a financial institution's information technology environment, but it also affects the entire organization, its operations, and processes. Increased agility and scalability improve the time-to-market of apps and banking products. In addition, the cloud serves as the technological basis for data analyses or the use of artificial intelligence. This makes more efficient use of resources possible, as additional computing capacities for peak loads usually no longer need to be kept locally.

Digital transformation not only changes an institution's IT infrastructure, but also the structures, culture, and working methods of the FI. It leads to new organizational forms, new communication possibilities, and promotes creativity, transparency, and exchange. The entire company becomes more agile and is better prepared for necessary adjustments and can (re)act quickly.

This intelligent enterprise is further enabled by real-time data analysis thorough monitoring, reporting, and detection of abnormal patterns to reduce risk. A cloud architecture provides a real-time pulse of the enterprise with data focused on monitoring, reporting and detection of threats. By hosting workloads in various public cloud infrastructures, banks can remain nimble in creating new business solutions while still having the capability to view the tech stack in a more holistic and advanced fashion.

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PERSISTENT SOLUTION AVAILABILITY

Cloud architectures provide a disciplining force that was difficult for banks to uphold in a legacy systems environment. In the legacy world of periodically recurring software installs, customizations and updates, CIOs found themselves boxed in with growing complexity and fragility in their application environments. Deploying and integrating new business solutions became arduous efforts, and upholding application code quality and reliability were also persistent challenges. By accessing the steady flow of new code from the cloud, banks are seeing an opportunity to reduce complexity and avoid the technical debt that grew in their organizations and hindered transformation.

Indeed, the rise of fintechs so quickly could not have occurred without the cloud native platforms and open APIs that these startups so deftly utilized in designing and deploying solutions. The rapid scaling of payments players like Stripe or Square Cash could only happen in the new, cloud-native world. Now, as banks look to fintech not only as competitors but more as partners, the world of cloud becomes vital: cloud becomes the platform to connect banks and fintechs effectively in the future.

BURSTABLE CAPACITY AND COSTS

The pay-as-you-go model of cloud has always had appeal to CIOs who regularly struggle to obtain budget commitments for new IT solutions. With minimal hardware investments and more predictable software expenses, executives see cloud structures as helpful in facilitating cost transparency around specific business solutions. By avoiding the need to spin up servers, provision software, and maintain a staff to run the operation, CIOs have long eyed the ability to tap into economies of scale around hardware, software, and data storage infrastructure. In this new type of computing reality, bank executives hope to shift a large portion of their "legacy spend" to more of an "innovation spend" that addresses new competitive realities and mandates.

INNOVATION AND SPEED-TO-MARKET

IT leaders have a more significant role in banking today in setting and executing strategy. As tech-driven competition emerges, CIOs are looking to the horizon to solve both their short-term and long-term business challenges and provide greater exposure to new avenues of growth, efficiency, and customer experience.

In this respect, the cloud is much more than pay-as-you-go infrastructure. Rather, the cloud represents a vast ecosystem of products, capabilities, and integrations that can be accessed and combined to improve current operation and even to create new businesses.

In this new type of computing reality, bank executives hope to shift a large portion of their "legacy spend" to more of an "innovation spend" that addresses new competitive realities and mandates.

Cloud ultimately reshapes the bank technology stack, but it also will serve to reshape the business model, as institutions seek to access and build platforms that create value. CIOs can now see a future world where "brokering" business capabilities via cloud ecosystems becomes their primary leadership function.

No number of internal developers and operators can keep pace with the breakneck pace of emerging cloud markets fueled by open APIs and huge amounts of computing and data analytic capacity. Importantly, the ongoing discipline that cloud ecosystems provide should not be underestimated. By avoiding the temptation to customize and de-leverage business solutions and install diverse generations of technology platforms, life in the cloud mitigates the threat of technical debt and keeps the business more agile.

For banks driving digital transformation, it's important to eliminate bottlenecks that slow the ability to deliver new customer experiences and business capabilities.

The DevOps culture present around cloud computing brings development and operations teams into one, paving the way for faster build, testing, and release cycles. Banks are optimistically looking to a cloud future as a means of moving from "legacy speed" to "innovation speed."

The cloud with vast redundancies virtually eliminates the traditional risk of hardware failure, and business recovery can occur near-instantly with minimal disruption to the bank's operations.

REDUCED RISK

The financial services industry is especially vulnerable due to financial institutions' access to sensitive customer data, which is why financial institutions face cybersecurity attacks more than any other industry—300 times more, to be precise, according to the New York Fed.[4]

Even more worrying is that in the first half of 2021, the banking industry was disproportionately affected by ransomware, experiencing a 1,318% year-on-year increase in attacks. According to IBM's "Cost of a Data Breach Report 2021,"[5] the average total cost of a data breach in the financial industry is $5.72 million.

Organizations with fully deployed security AI and automation are able to detect and contain data breaches faster than organizations with no security AI/automation deployed. Employees are using applications, websites, endpoints, and networks more than ever before. This makes it increasingly difficult to protect sensitive data. Although managing cloud environments requires a strong enterprise risk management rigor, the cloud does, in fact, provide banks an opportunity to demonstrate greater resilience in continuous operations, information security, and meeting demanding regulatory requirements.

The cloud with vast redundancies virtually eliminates the traditional risk of hardware failure, and business recovery can occur near-instantly with minimal disruption to the bank's operations. Performance issues due to a system's capacity are significantly reduced as banks can quickly scale up or down their demands. Cloud service providers can help to arm banks more strongly with best practices against some forms of cybercrime due to consistent security and maintenance reviews, security analytics and cross-enterprise visibility, as well as delivering compliance certifications important to the financial services industry.

[4] www.newyorkfed.org/medialibrary/media/research/staff_reports/sr909.pdf

[5] www.ibm.com/security/data-breach

KEYS TO A SUCCESSFUL CLOUD-BASED DIGITAL TRANSFORMATION STRATEGY

As transitioning to a cloud environment moves to the top of financial institution executives' list of strategic priorities, five key mandates will assist in an effective migration.

1. Embrace a Multi-Cloud Reality
2. Build the Tools to Manage a Hybrid IT Environment
3. Sharpen the Focus on Governance, Risk and Compliance
4. Transform the IT Talent Stack
5. Partner for Speed and Precision

With this new technology landscape now rapidly emerging, bank executives have made cloud migration one of their highest strategic priorities. Yet, these executives see many challenges and planning considerations to make this migration successful. In talking to technology and digital executives of larger financial institutions, five key mandates have emerged to effectively make the transition to cloud.

EMBRACE A MULTI-CLOUD AND A HYBRID-CLOUD REALITY

As the cloud economy emerges, it is clear that such a monumental transition will not occur overnight. While contemplating dreams of a future of all cloud-vendor-agnostic solutions, bank technology executives have no choice but to straddle the worlds of old and new technologies.

The next five years will reveal a tech stack bustling with public cloud, private cloud, and on-premise solutions, all needing to be coordinated effectively into a coherent IT strategy and operation. In addition, bank executives see some benefit in mixing and matching providers for business, cost and security reasons, and importantly to avoid lock-in risks within a single ecosystem (a la the Apple consumer ecosystem).

> **We hope someday every tool and application will begin to integrate to the major cloud providers, but for today, that's just not the reality and we have to support our businesses with a faster speed-to-market.**
>
> — Regional Midwest US Bank CISO

"We effectively had to rebuild the whole interface and integration stack to prepare for this world," one CIO observed. "We want to disintermediate our dependence on core over time and be able to better integrate cloud services into the tech stack on an ongoing basis."

Bank CIOs have the challenging task of building a technology road map that prioritizes and optimizes changes to the tech stack in a manner that strives toward a cloud future while addressing the realities of today's pressing technology operations. The technology road map must encompass a detailed long-term tech vision coupled with various stages of designed deployment during the migration. This road map and plan will likely be a prioritized combination of public and private cloud deployments with specific technical controls and capacity targets identified. The size and sensitivity of data and processing scale will often inform the tradeoffs of benefits and risk between public and private cloud.

With this plan in mind, banks must conduct rigorous due diligence around potential partners in function and capability in a cloud-leaning tech stack. Finally, the plan must pay special attention to how data will be safeguarded and securely locked down during each phase of the technology road map.

"We hope someday every tool and application will begin to integrate to the major cloud providers," one bank chief information security officer shared. "But for today, that's just not the reality and we have to support our businesses with a faster speed-to-market."

> **We want to disintermediate our dependence on core over time and be able to better integrate cloud services into the tech stack on an ongoing basis.**
>
> — Regional Northwest US Bank CIO

BUILD THE TOOLS TO MANAGE A HYBRID IT ENVIRONMENT

Realistically, standards for both security and regulatory compliance postures are still emerging in the cloud world. Banks have ultimate responsibility to make sure their overall IT environment can be managed effectively to control the business, costs, and risks.

As bank IT groups play a more primary role as a "cloud broker," tools to monitor multi-cloud and hybrid-cloud environments must be leveraged effectively. "We are not going to be in the business of building a lot of our apps," a CIO concluded. "It's really about integration and managing integration and then finding ways to deliver differentiated value with a model of how you bring all this together."

Most cloud data breaches have come from the misconfiguration of systems; therefore, the expertise and the methodologies to manage this environment become critical, either via sophisticated staff support or the continuous usage of specialized outside partners. "With different cloud platforms, each has their own unique management requirements and technical requirements," another CIO concluded. "And we can't let anything slip past us because we hold the keys to the kingdom when it comes to customer and financial information."

> **We are not going to be in the business of building a lot of our apps. It's really about integration and managing integration and then finding ways to deliver differentiated value with a model of how you bring all this together.**
>
> — CIO of $50 billion US credit union

SHARPEN THE FOCUS ON GOVERNANCE RISK AND COMPLIANCE

Of course, moving to the cloud alone is not enough to eliminate risk in the IT environment. An orderly change process in the FI toward more standardization and digitization must also be initiated.

The highest level of IT and information security requires a 360-degree security concept that covers data, access, and systems. Real-time governance based on real-time measurement and control systems is necessary to quickly remedy any security gaps, and through digital transformation and cloud services, banks can centralize data, gain greater control of IT resources, use analytics to detect anomalies, and automatically install updates with the latest security features. As a result, information risk is significantly reduced. Managing cloud is not merely about managing security risk, but rather a wide set of critical enterprise risks.

TRANSFORM THE IT TALENT STACK

According to the World Economic Forum's "The Future of Jobs Report," [6] cloud computing is seen as one of the key "jobs of tomorrow" and many institutions are likely to adopt cloud computing by 2025. However, there is one fundamental problem that companies are facing: the lack of skills in the jobs market.

[6] www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf

According to the WEF 2020 survey, most respondents (86%) believe that a talent shortage will continue to slow down cloud implementation across organizations.

This has forced bank executives to look for talent more aggressively in key areas including specific cloud platform configuration (AWS, Azure, Google), server virtualization and app containerization, API integration, DevOps, cloud security and orchestration, and disciplined change management.

"It seems every time I recruit people in these areas of expertise, big tech hires them away from me," a bank technology executive lamented. In order to address these growing talent demands, most banks are looking outside their primary geographic markets. In a hybrid work framework, employers are not constrained by local resources or talent, and even talent outside the United States should be considered. Importantly, CIOs are viewing training and upskilling as significant priorities to meet the realities of the cloud labor market, especially since the major cloud providers have all developed robust upskilling and certification programs.

> **Finding a combination of skills in both operations and cybersecurity is difficult, and we need partners to help us analyze and design through the complexity.**
>
> —CIO of $17 billion Midwest regional bank

Executives need to carefully execute upskilling programs with professionals more likely to be committed to and retained in the organization, as this development investment only makes the IT department more marketable in the talent pool. However, as new demands are met, managing organizational and culture change within IT must become a high priority for bank executives. With digitization, every company is now essentially a technology company and the organization must be more intentionally aligned with this new reality.

PARTNER FOR SPEED AND PRECISION

When discussing partnerships, bank executives cited a lack of coordination and transparency of third party vendors as a concern. An integrated program must come to fruition through the use of a strong program management office and often a a strategic, third-party partner who can oversee the build of the new environment and the roles of each vendor in the transformation. Importantly, CIOs were seeking partners outside of the major cloud developers with deep knowledge who could assist in the evaluation of different vendors and solutions across different domains.

> **I really need help understanding what players and tools are out there that I should be integrating into my cloud road map.**
>
> —CSO of $5 billion Bay Area credit union

In addition, executives seek specialized expertise in how to manage a hybrid environment where public cloud, private cloud, and on-prem technologies exist. Being intentional about governance, security and integration during these years of transition was vitally important to leadership.

Interviews with bank technology and digital executives reveal a strong desire to leverage partners to accelerate the cloud journey. "It's always important to leverage the talent of partners," a regional bank executive concluded. "Finding a combination of skills in both operations and cybersecurity is difficult, and we need partners to help us analyze and design through the complexity."

Many executives mentioned looking for partners that have strong capabilities in the overall design and build requirements of a hybrid cloud environment, especially concerning monitoring, data governance, and security requirements. "I really need help understanding what players and tools are out there that I should be integrating into my cloud road map," one CIO surmised. "I just don't have the time to sort through it all."

Executives also realize partners can help with the transformation to not only a DevOps shop, but a DevSecOps environment where development, security, and operations are tightly integrated into a continuous, adaptive process.

Importantly, bank executives stressed the need for partners that understand the complexity of their industry from a business requirements and compliance standpoint and that hybrid cloud is a reality that needs to be effectively managed for the indefinite future. "I am looking for partners with the practical knowledge of maintaining complex cloud environments and integrating them with the private cloud and on-premise world," one CIO observed. "We have to bring multiple providers together and integrate them into value-add solutions."

In addition, executives noted the global aspects deploying cloud technology while ensuring proper risk management. "There is a lot of internal talent to tap into, but there is also a lot to overcome in terms of contracting, legal review and cybersecurity," an executive shared. "Getting help to manage the complexity of protecting intellectual property and security is huge."

Finally, executives want strategic partners to play the role of "scout," looking ahead to new technologies and solutions and helping banks understand the potential and impact.

I am looking for partners with the practical knowledge of maintaining complex cloud environments and integrating them with the private cloud and on-premise world.

— CIO of $10 billion commercial bank

Getting help to manage the complexity of protecting intellectual property and security is huge.

— CIO of US subsidiary of $600 billion global bank

THROUGH TODAY'S COMPLEXITY TO A NEW ERA

Bank technology and digital executives face an overwhelming amount of disruptive change while dealing with the unavoidable task of managing the complexity of their IT environments today. The quest for agility and speed-to-market improvements will prove elusive to banks unless leadership more intentionally maps out a future technology vision and plans for how cloud technology can accelerate the pace. This technology road map must effectively integrate the demands for business capability, integration, security, compliance and resiliency—a challenging task that will only be mastered by the banks that can attract the right talent and partner effectively to drive outcomes.

Digital transformation will only be achieved by banks that have the discipline and leadership commitment to soldier through a complex and challenging time of technology and business model migrations.

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As a co-founder of Cornerstone Advisors, Steve Williams has assisted hundreds of banks and credit unions in their efforts to become highly efficient, top performing financial institutions. An experienced private banker with a commercial and consumer credit background, Steve's more than 30 years of experience in the financial services and consulting industries have provided him a deep working knowledge of bank operations and delivery systems, particularly in lending processes.

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ABOUT
CORNERSTONE ADVISORS

After 20 years in this business, Cornerstone Advisors knows the financial services industry inside and out. We know that when banks and credit unions improve their strategies, technologies and operations, improved financial performance naturally follows. Because we live by the philosophy that you can't improve what you don't measure, we help financial institutions apply laser-focused measurement to develop more meaningful business strategies, make smarter technology decisions, and strategically reengineer critical processes.

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