

Thriving in the cloud

Achieving digital transformation in financial services in an age of increased regulatory oversight

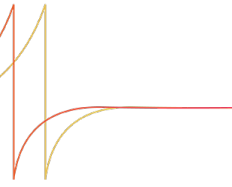
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The global state of the sector

Financial services firms of all kinds are under immense pressure to transform their operations and to build toward the operating model of the future, where scalability, resilience and latency become challenges of the past. One of the biggest trends to this end across the sector over the last decade has been the move from on-premises technology to cloud-hosted technology and services, including both hybrid cloud and multi-cloud environments. However, the pace of change has been relatively slow due to the myriad challenges that firms have faced as they transition functional areas from one environment to another.

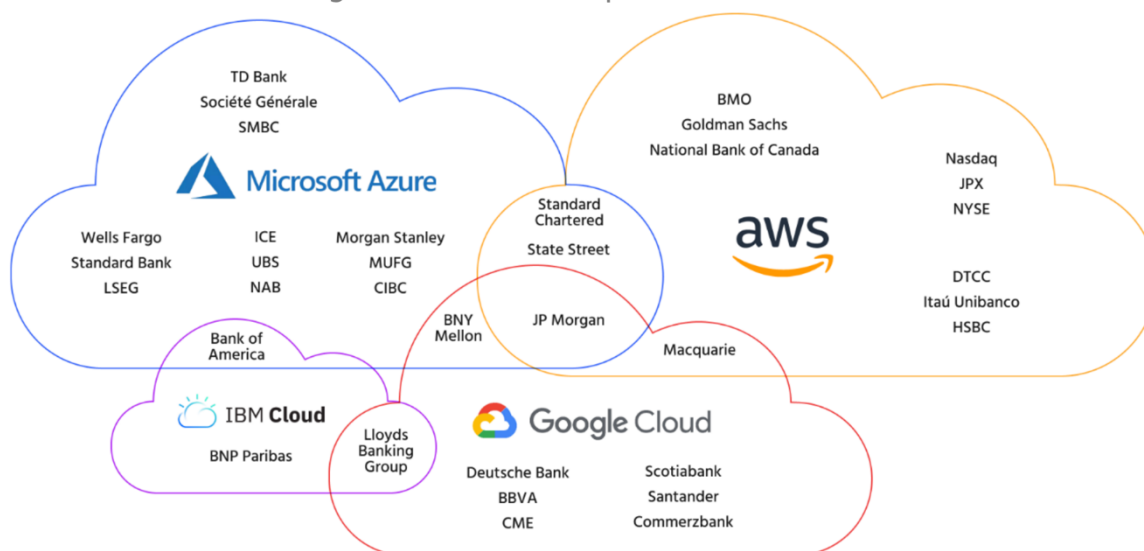
North America

The adoption of cloud services has been so prevalent across the financial services sector over recent years that governments and regulators have begun to examine the impact of reliance on cloud services providers (CSPs) within the industry. To this end, the US Federal Trade Commission (FTC) launched an industry consultation on the business practices of CSPs in March 2023¹. In its feedback to the FTC, the American Bankers Association (ABA) noted that “CSPs are central to the functioning and security of the banking system.”². The graphic below highlights the numerous strategic partnerships that have developed between financial institutions and market infrastructures with major CSPs, which indicates that though multi-cloud is an emerging trend, many banks are currently partnering with a single CSP.

¹ [Solicitation for Public Comments on the Business Practices of Cloud Computing Providers](#), FTC, March 2023.

² [Comment from ABA to Solicitation for Public Comments on the Business Practices of Cloud Computing Providers](#), ABA, June 2023.

Strategic Cloud Partnerships in Financial Services



Europe

Similar to the regulatory focus in the US, the European Securities and Markets Authority (ESMA) introduced guidelines for the industry's adoption of cloud in 2020 and has since been monitoring adoption across the European markets³. ESMA's guidelines place emphasis on enhanced monitoring of CSPs and the ability to switch from one CSP to another within a reasonable (but unspecified) timeframe. The majority of banks in the European Union (EU) have at least begun discussions about moving functions to the cloud and 88% are already operating in a cloud environment, according to the results of the 2023 European Banking Authority (EBA) risk assessment questionnaire⁴,

Asia Pacific

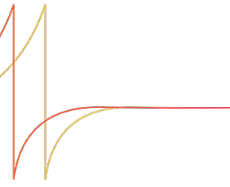
In the Asia-Pacific region, regulators such as the Monetary Authority of Singapore (MAS) have also increased their oversight of CSPs. In April 2023⁵, MAS established the Financial

³ [Guidelines on outsourcing to cloud service providers compliance table](#), ESMA, May 2023.

⁴ [Risk Assessment Report of the European Banking Authority](#), EBA, December 2023.

⁵ [MAS Establishes Financial Sector Cloud Resilience Forum](#), MAS, April 2023.





Sector Cloud Resilience Forum to encourage the industry to exchange views on appropriate public cloud risk management practices for the financial sector. The Hong Kong Monetary Authority (HKMA) issued its own guidelines for managing cloud computing risk in August 2022⁶ and has since been examining CSP risk related to operational resilience and cybersecurity as part of its crackdown in that area.

The challenges of digital transformation

In its 2023 review of the industry adoption of cloud⁷, the US Department of the Treasury noted that financial institutions are using cloud environments to accelerate the development and scaling of new applications and services, particularly for artificial intelligence (AI) and consumer-facing applications, such as mobile banking and trading. There has been a significant uptick in financial services experimentation with AI technologies over recent years, and 2023 witnessed a boom in generative AI proof of concepts (POCs) in areas ranging from sales email writing to the production of terms and conditions documentation.

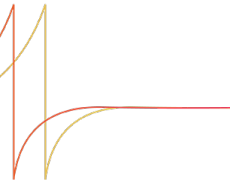
Numerous large financial institutions have publicly announced that they are working with their CSP partners to develop new services or capabilities using AI and other data analytics tools. In February 2024, BNY Mellon announced that it is expanding its existing collaboration with Microsoft to build extra capabilities into its data management solution for its buy-side and sell-side clients⁸. HSBC has partnered with Google Cloud to introduce new anti-money laundering tools based on AI that help the bank with customer risk scoring and investigations.

Experimentation with next generation technology can be resource-intensive when it comes to both compute power and data, which is why elastic cloud-hosted

⁶ [Guidance on Cloud Computing](#), HKMA, August 2022.

⁷ [The Financial Services Sector's Adoption of Cloud Services](#), US Department of the Treasury, February 2023.


⁸ [BNY Mellon and Microsoft Forge Strategic Alliance to Expand Leading Capital Markets Data & Analytics Platform](#), BNY Mellon, February 2024.



environments are ideal for POCs and pilot programmes. The move of mission-critical systems such as core banking or securities processing systems into the cloud, however, is a much more challenging proposition. These projects tend to take a lot longer to implement and deliver benefits back to the business. The latter has been so challenging for some banks that they have been forced to abandon their cloud migration plans and bring functions back on premises, which is a suboptimal outcome from a transformation point of view.

Some of the current challenges in digital transformation and legacy system retirement, especially when they include a move to a cloud-hosted environment, comprise of:

- 🔥 **Transforming while maintaining business as usual:** The pressure on IT and operations to maintain business as usual is significant in the current environment, given the amount of market structure and regulatory change they must also support. Throwing a significant cloud transformation project into the mix, while firms are trying to focus on preparing for the shortening of the settlement cycle in the North American markets or working on compliance projects related to the European Digital Operational Resilience Act (DORA), is extremely challenging.
- 🔥 **The struggle to retain technology talent and expertise:** Financial institutions have been struggling with IT staff churn for some time and competition for talent remains fierce across the market. This level of staff churn can cause issues during multi-year projects where institutional knowledge leaves the firm and is not easily replaced in terms of direct costs and training or handover time. Firms are also struggling to attract the necessary talent to deliver on their cloud transformation journeys overall.
- 🔥 **Pressure around operational resilience:** There is a huge amount of global regulatory focus on improving the industry's cybersecurity and operational risk management practices, which has added pressure on firms to get a better handle on their various environments across the enterprise. Keeping a close handle on transitional environments is challenging and financial institutions cannot afford to



fall foul of the regulator or risk a high-profile outage. A key part of operational resilience regulation is monitoring and reporting on external services providers

- 🔥 **Regulatory scrutiny around AI governance:** Regulators generally purport to be “technology neutral” in their rule-making, however, this doesn’t always neatly match reality and with regard to AI. The ethical and governance considerations of AI are front of mind for most regulators and several, including the US Securities and Exchange Commission (SEC), are examining industry usage of these tools in areas of concern related to investor protection. The US regulator introduced a new proposal in July 2023⁹ targeted at addressing risks to investors arising from the use of predictive data analytics and AI by broker-dealers and investment advisers. The rules will oblige these firms to assess any conflicts of interest with regard to their use of technologies designed to optimise, predict, guide, forecast or direct investments, which would be codified in written policies and procedures provided to the regulator.
- 🔥 **Inability to prove return on investment (ROI) and get value out of cloud:** Many firms initially struggled to predict the true costs of cloud from a consumption perspective and assumed that cost savings would be immediate. The sometimes lengthy rollouts and higher than expected running costs therefore have caused some firms to press pause on their investments and to re-evaluate their target model. Failing to prove ROI back to the business means a drop in funding at the least and a potential reversal of cloud usage.
- 🔥 **Increased pressure to deliver sustainable operations:** The increased industry and regulatory focus on environmental concerns is placing firms under pressure to deliver on their sustainability commitments under net zero pledges.

⁹ [SEC Proposes New Requirements to Address Risks to Investors From Conflicts of Interest Associated With the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers](#), SEC, July 2023.

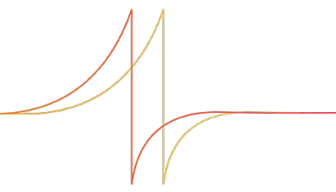


Getting the most out of an investment in cloud

Given the multitude of pressures firms face in the challenge to modernise their operating environments, firms could benefit from working closely with an expert partner that can bring to the table a greater understanding of how to get the best out of a cloud investment. Internal teams struggling to support BAU and a busy change agenda can therefore rely on a partner to support their innovation and cost optimisation agenda, proving ROI back to the business and advising on sustainability concerns. Expertise on cybersecurity and operational resilience can also help firms to build to a more secure and reliable environment.

Firms need to look for a partner that has the requisite expertise and experience in delivering:

- 🔥 **A unified operating model across various environments:** The digital transformation journey for most firms is a multi-year endeavour featuring multiple environments, both permanent and transitional. Furthermore, system rationalisation may be a priority for most financial institutions but mergers and acquisitions are simply a fact of life, which means data silos and multiple technology platforms will continue to exist. Firms therefore need to work with a partner that can provide and support a unified operating model across all these environments, whether cloud, hybrid or on premises, in a seamless manner.
- 🔥 **The ability to maintain data sovereignty and governance:** There are numerous regulatory requirements across the globe related to data privacy and maintaining data sovereignty that mean how and where data is stored matters. An understanding of how to manage data in keeping with these requirements, while maintaining the ability to prioritise workloads and provide governance over multiple data environments is of crucial importance.
- 🔥 **Keeping off the regulatory radar with predictable and fault tolerant architectures:** The key to establishing a resilient operational model is to learn from the big tech providers and match their engineering-led operational focus. A



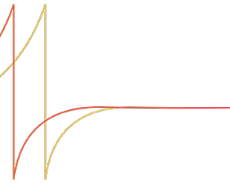
partner that can bring expertise around site reliability engineering, which automates IT tasks such as application monitoring and ensures the reliability and availability of systems, is important in light of operational resilience concerns.

- **Getting the most out of existing investments while managing costs:** Firms are struggling to deliver on their cloud ambitions and a partner needs to provide them with the ability to view, control and manage their costs, while optimising their usage of the cloud.
- **Mitigating risk with a simplified approach to cloud transformation:** The focus should be on reducing complexity and working with a model that allows the firm to migrate their desired workloads to cloud as necessary, modernise their technologies and processes to benefit from next generation capabilities, and manage these environments on an ongoing basis.

A Differentiated Approach to Cloud Transformation

Hitachi Digital Services offers an engineering-led approach to its financial services clients with a view to providing a unified operating model for managing complex IT environments across the enterprise. Clients such as Raiffeisen Bank International ([RBI](#)) have benefitted from the expertise of Hitachi's consulting and engineering teams in supporting the bank's move to a new cloud-native technology environment. RBI's goals were to build all of its new applications in the cloud, to migrate half of its legacy applications to the new environment, and to train at least 300 employees per year on cloud-native capabilities. Hitachi and RBI established an "RBI migration factory" to support this work on an ongoing basis and delivered cost savings and a more digitally enabled environment, via staff upskilling as well as technology transformation.

[Portfolio+](#), a core banking software provider in Canada, partnered with Hitachi Digital Services to meet its cloud ambitions by designing a cloud-agnostic solution that's currently supported on AWS. In addition, Hitachi helped develop a business plan with multiple implementation phases to shorten the time to monetize on the platform and



recognize revenue. As well as establishing a cloud landing zone, the project included implementing a continuous integration and continuous delivery pipeline, with safeguards for security and compliance.

The Municipal Securities Rulemaking Board ([MSRB](#)) partnered with Hitachi Digital Services to build a composable data lake and analytics platform in the cloud to provide a centralized repository for both structured and unstructured files, including raw financial disclosure documents. This solution performs analytics directly on the data to provide insights in real time and is helping MSRB meet its goals of eliminating the constraints of its existing data centers and extracting greater value from its market data.

Vineeta Kumar, Vice President, Financial Services at Hitachi Digital Services, notes: “The focus of the model that we have created is about supporting how firms plan their journey to the cloud and then how they execute upon that plan. And then once a firm has executed such a plan and they have made the transition to the cloud, how they continue to optimize that environment through site reliability engineering and better managing their cloud estate.”



Key Takeaways

- 🔥 **Firms are struggling to get the best out of their cloud investments:** The financial industry has been on a relatively slow digital transformation journey over the last decade or so toward a cloud-enabled environment and many firms have struggled to prove ROI back to their business sponsors. Underestimation of the ongoing cost of support and maintenance, plus IT bottlenecks, have caused some firms to scale back on their transformation targets.
- 🔥 **Delivering digital transformation is akin to changing an engine mid-flight:** One of the greatest challenges faced by firms is maintaining BAU while core systems are modernised and moved from one environment to another. Firms simply can't press pause on their operations while they digitally transform, which places great pressure on IT and operations teams to deliver on their existing responsibilities at the same time as delivering a transformation project.
- 🔥 **Operational resilience and data security is front of mind:** The adoption of cloud services has been so prevalent across the financial services sector over recent years that governments and regulators have begun to examine the potential systemic importance of CSPs to industry resilience. Regulators want to see that firms have a good handle on their service providers, whether in a cloud environment or delivered on premises, as well as adequate governance and control over how and where their data is stored.
- 🔥 **Working with a specialist partner can help firms deliver on their ambitions:** Firms don't need to go it alone. Working with a partner to share some of the workload can help to de-risk a transformation project and ensure that firms get the best out of their existing and ongoing investments.



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