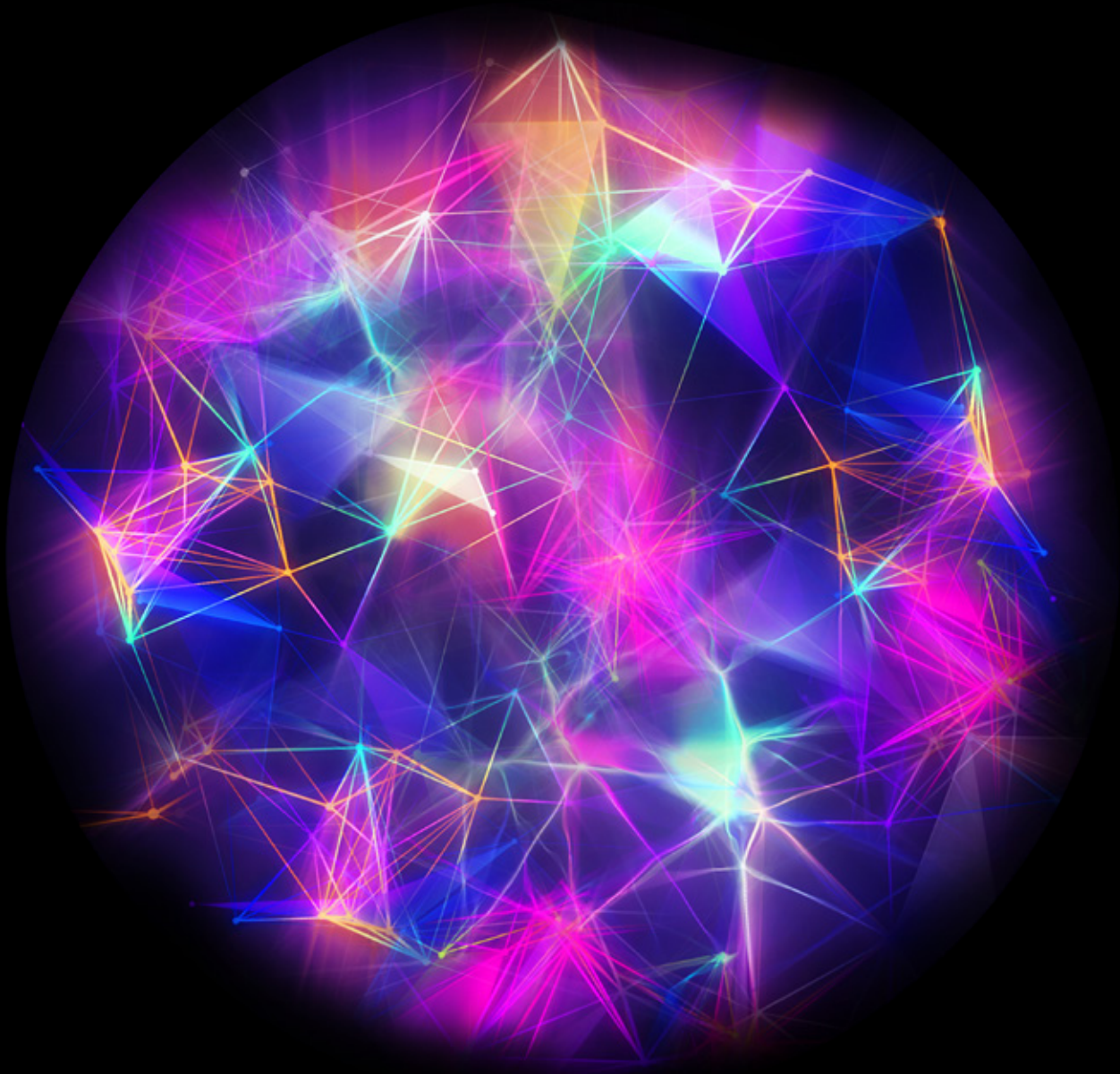


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The cloud imperative

How banks can improve business agility through cloud-powered transformation



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Introduction

An imperative vision for financial services is emerging as the industry readies itself for a world of brash new competitors, demanding customers, open data, constant innovation, increasing regulatory demands, and growing margin pressures. It's a vision grounded in real-time decision-making, reduced friction, innovative products, and tailored customer experiences across platforms—and the race is on to deliver on it. Banks and other financial services organizations face an urgent need to evolve and transform into nimbler, faster-moving organizations. The future demands far greater business agility to win—and cloud technology is essential to achieving it.

Cloud isn't simply something technology teams worry about when they want to access on-demand storage and computing power. It's a platform that acts as a foundation for greater business agility and continuous evolution. It enables organizations to respond quickly to changing business conditions, use data more effectively, and achieve exponential productivity gains. Embracing cloud today will be key to remaining competitive tomorrow.



Cloud is growing fast

The public cloud computing market has grown continuously for the past decade. In 2013, the cloud market was US\$58 billion. By 2018 it had grown to US\$130 billion and by 2022, it's expected to reach US\$317 billion.^{1&2} By 2019, over 30 percent of technology providers' new software investments will shift from cloud-first to cloud-only.²

¹ Ani Miteva, "8 cloud adoption statistics that reveal the future of the cloud," Cloud News, March 20, 2018, <https://www.gartner.com/en/documents/3888273/market-insight-cloud-growth-market-direction-and-seizing>, accessed on August 8, 2019

² Sid Nag, Colleen Graham, Mike Dorosh, "Market Insight: Cloud Growth, Market Direction and Seizing the Opportunities," Gartner Research, August 27, 2018, <https://www.gartner.com/en/documents/3888273/market-insight-cloud-growth-market-direction-and-seizing>, accessed on August 8, 2019

The business agility imperative

Business agility—which we define as an organization’s ability to respond to and capitalize on its changing operating environment—will be a critical source of competitive advantage in the future. We look at business agility across a number of aspects:



Customer agility

An organization’s ability to deliver customer-facing features and experiences faster and more responsively, significantly improving time to market.



Partnership agility

An organization’s capacity to team up with new business partners and third parties, integrating systems and operations rapidly to capitalize on the power of the ecosystem to get results.



Data agility

An organization’s ability to access internal, third-party, and publicly available data, understand it, and use it to gain insights that can guide strategic and tactical business decisions as well as foster innovation, taking into account the increasing importance of data privacy, data protection, transparency in data usage, and data security.



Asset agility

An organization’s ability to make optimum use of internal and external hardware and software assets, using a modular approach to rapidly recombine assets as required to help support business development needs.

The business agility of financial institutions across these aspects has traditionally been shaped by technology constraints: large monolithic systems, limited software release cycles, waterfall development scheduling, and infrastructure procurement lead times. Cloud enables organizations to transcend these constraints, achieving a far greater level of agility that can be used to reimagine and transform how the business operates.

The foundational platform for achieving business agility

Cloud is more than technology infrastructure. It's a vital part of a set of capabilities that work in concert to increase business agility across all four aspects. It provides a dramatically simplified technology environment designed to support and realize the value of developments and advances such as:



Customer-centric design

This enables organizations to use design thinking and a customer-centric perspective to develop and deliver new products and services.



Interoperability and open application programming interfaces (APIs)

These allow large, cumbersome systems to be broken down into smaller, simpler micro-services that can be quickly rearranged and reassembled into new configurations to meet needs as they arise.



Continuous delivery

This is an approach to project execution that combines agile and software development-IT operations (DevOps) methodologies to accelerate progress and delivery, in which multidisciplinary teams use automated tools to analyze data or develop new functionalities iteratively over a series of short, focused sprints. Product owners serve as a bridge between the customer and the development teams, so that customer feedback and behaviour is an integral part of the continuous development process.



Consistent funding and persistent teams

This enables financial organizations to approve consistent budgets for "change-the-bank" execution and deploy goal-oriented teams rather than project-oriented ones. This is a tremendous improvement over the status quo, with financial organizations overrun by projects that have their own business case, team, and management overhead.



Cloud changes how you change

Financial institutions can use cloud to change both how they operate and how they respond to change. Where and how to invest in cloud will be different for each organization, shaped by which agility aspects are most relevant to its business strategy.

Customer agility with cloud

Cloud better enables organizations to move fast to respond to changes in customer demands before the competition does. Using cloud to power smaller, more iterative, and more rapid releases significantly improves speed to market. This helps banks get new products and services into market quickly, deliver exceptional customer experiences, and unlock new revenue streams driven by emerging customer needs.

Case study

Atom Bank: delivering an exceptional customer experience

Customer engagement and personalization are key to Atom Bank's brand strategy: the organization focuses on providing customers with a best-in-class, highly customizable user experience. The mobile-only bank allows its clients to tailor their mobile experience and interactions to suit their needs and preferences—even to the point of choosing a colour palette and preferred logo. The bank is highly responsive to customer feedback, and every product and app feature is beta-tested with real Atom Bank customers. In case of any issues, customers can connect to the contact centre directly through the app, reducing the need for additional authentication and cutting wait times. Real-time machine learning and AI are also used; their self-help chatbot learns from the contact centre's assistance how to resolve customer concerns more quickly to deliver an exceptional user experience.

Partnership agility with cloud

Cloud will play a pivotal role in ensuring banks and other financial institutions are ready for open banking, as global financial regulators move to allow—if not mandate—financial institutions to share data. This data exchange is made easier by using cloud, as banks use open APIs to quickly establish new partnerships and grant data access to trusted third parties. These new, cloud-based ecosystems will enable connected organizations to build on each other's innovations in new ways, rapidly iterating within the partnership and drastically accelerating the pace of industry change.

Case study

BBVA's Open Marketplace: maximizing the power of partnerships

Open Marketplace by BBVA is a matchmaking platform that enables fintech startups to connect and collaborate with BBVA's business units to develop smarter, more innovative, and more timely solutions for business needs. When there's a match, Open Marketplace provides a platform for the parties to interact, formalize their relationship, and use the virtual co-working space to support real-time development and foster speed and transparency. Open Marketplace is a great way for BBVA's business units to capitalize on a pool of highly talented entrepreneurs to validate and develop multiple proofs of concept and solutions outside of the constraints of conventional banking. The platform already has 150 members and is expanding rapidly.

Data agility with cloud

Cloud is essential for turning data into a true business asset. The massive data sets banks and other financial institutions use are only truly manageable over the cloud—private data centres aren't up to the task. Cloud providers are investing in AI and machine-learning capabilities at a huge scale, and their platforms' built-in advanced capabilities allow organizations to quickly develop applications and significantly accelerate the generation of insights that deliver profitable growth, detect potential fraud, and more. With cloud, data becomes more portable, accessible, and usable than ever before.

Case study

HSBC: increasing data agility and improving AML risk management

Ensuring a consistent approach to managing customer anti-money-laundering (AML) risk across borders is a challenge for many multinational financial institutions. HSBC also has struggled to ensure a consistent approach to managing its customer AML risks, and this has resulted in significant fines. AML is data-intensive, drawing on disparate customer and transaction systems across the bank to assess and understand risk. To address the challenge, HSBC turned to cloud.

The bank takes advantage of machine-learning capabilities to analyze the banking behaviour of more than 38 million customers for AML purposes and to identify customers who require closer scrutiny. This automates a process traditionally done by the bank's financial crime staff. The cloud-based analysis is more comprehensive, since it cross-references customer actions from multiple data sources, transactions, and networks to identify suspicious activities. HSBC now envisions a future in which it shares information about potential AML risks with other banks to improve the efficiency and effectiveness of AML efforts across the industry.

Asset agility with cloud

Over the years, financial institutions have spent enormous sums on technology infrastructure that's difficult, costly, and time-consuming to change. Cloud enables banks to scale up or down as needed to deal with fluctuating demands rather than invest in their own costly equipment, thus offering greater agility and significant savings. Cloud also saves banks the cost and trouble of system upgrades, because the cloud providers themselves deal with this in the background. Cloud applications strive to be plug-and-play: they're flexible, expandable, and can easily connect to general ledgers and other foundational assets. Moreover, cloud provides a way for organizations to break down complex processes into smaller, more modular components that can be used in new ways to achieve results faster. This assembly model helps banks turn what used to be fixed costs into variable expenses and free up underutilized capital for new, more productive, and more profitable purposes.

Case study

Cloud helps National Australia Bank (NAB) improve asset agility and speed to market





NAB has set aggressive plans to move to cloud-based systems and refocus its workforce around digital capabilities. It's already dramatically changing how it functions as it seeks to set itself up for the artificial-intelligence era of automated processes. Two years ago, NAB announced a three-to-five-year plan to boost technology spending by \$1.5 billion while slashing its workforce by 12 percent (6,000 employees). It was a controversial plan, designed to help NAB face down emerging competition from fintech startups and global technology giants. NAB's QuickBiz QuickBiz, an unsecured small-business lending product, was developed and launched in about 14 weeks, an example of how it used cloud-native services to deploy new products much more quickly than previously possible.³

3. James Eyers, "NAB's brave new world to boost technology spending while axing thousands of jobs," Financial Review, November 2, 2017, <https://www.afr.com/companies/financial-services/nabs-brave-new-world-to-boost-technology-spending-while-axing-thousands-of-jobs-20171102-gzdg5y> accessed on August 8, 2019



Agility assessment framework

In determining how your organization should focus its cloud investments, it's important to base your decisions on your business strategy and priorities. For example: If delivering a highly flexible customer experience is critical for your bank—like it is for Atom Bank—you'll want to concentrate investment on initiatives that drive customer agility. If lowering your operational and tech delivery costs are important—it is at NAB—then you need to prioritize your investments in asset agility.

Metrics		Traditional thinking	Testing in pockets
Description		<i>Legacy approaches, processes, and systems to continue business as usual</i>	<i>Adopting techniques that enable business agility at speeds comparable to most large organizations</i>
 Customer agility	<ul style="list-style-type: none"> • Time to market • Degree of personalization 	<ul style="list-style-type: none"> • Limited ability to introduce new products and features based on customer needs • Rudimentary capability to offer personalized offers or customer experience 	<ul style="list-style-type: none"> • Ability to introduce new products and features every year based on perceived customer needs • Reactive ability to provide personalized offers, financial advice, and customer experience
 Partnership agility	<ul style="list-style-type: none"> • Marketplace reach (internal or external) • Time to onboard new partnership relationship 	<ul style="list-style-type: none"> • No external marketplace activity 	<ul style="list-style-type: none"> • Some products and services sold through a third-party channel (through someone else's marketplace) • Significant time to onboard a new partner, typically requiring a bespoke solution
 Data agility	<ul style="list-style-type: none"> • Comprehensiveness of usable data set • Monetization of data assets • Level of automated decision-making 	<ul style="list-style-type: none"> • Limited and siloed data connectivity across the organization, limited business intelligence and operational decision-making 	<ul style="list-style-type: none"> • Ability to augment internal data with external data for specific niche areas; limited/experimental use of automated decision-making
 Asset agility	<ul style="list-style-type: none"> • Ease of re-use of IT assets • Speed of integration with technology vendors • Operational efficiency 	<ul style="list-style-type: none"> • Use of traditional technology, line-of-business-focused solutions with limited ability to customize economically 	<ul style="list-style-type: none"> • Some common/integrated solutions across multiple business lines; use of SaaS in corporate functions • Customization of solutions is done at a high cost

Scaling new techniques	Regional industry leader	Absence of traditional techniques
<p><i>Invested in testing and exploring techniques that enable business agility</i></p>	<p><i>Organization focused on business agility, seen as the regional leader in a particular agility domain</i></p>	<p><i>Market leader in driving business agility and setting the pace of change for the industry</i></p>
<ul style="list-style-type: none"> • Ability to introduce new products and features every quarter based on direct customer feedback • Strong pattern recognition and predictive analytics capabilities to provide proactive financial advice, personalized offers, and customer experience 	<ul style="list-style-type: none"> • Ability to introduce new products and features monthly, with some customers acting as beta-testers • Ability to use predictive analysis, real-time customer spend and location, and other data to provide real-time financial advice, personalized offerings, and customer experience 	<ul style="list-style-type: none"> • Customer-focused organization with an ability to customize user experience, provide personalized products, offers, and features as well as financial advice proactively, seamlessly, and in real time, based on customer needs
<ul style="list-style-type: none"> • Establishing a proprietary marketplace exclusive to own customers; strategic partnerships in place (for selling other products) • Significant time to onboard a new partner; some common capabilities built to accelerate new partnerships 	<ul style="list-style-type: none"> • Curating an exclusive marketplace for own customers; actively participating in multiple marketplaces • Partnership interoperability solutions are mature; limited lag from agreement to implementation 	<ul style="list-style-type: none"> • Organization owns and operates the dominant marketplace in the region • Partnership interoperability solutions are a strategic asset for the business; partners can onboard themselves
<ul style="list-style-type: none"> • Clearly defined data monetization strategy and active use of third-party data sources to enrich organizational data • Active programs to roll out business automation 	<ul style="list-style-type: none"> • Using data as a clear competitive advantage • Active programs to roll out intelligent automation models 	<ul style="list-style-type: none"> • Organization's real-time decision-making and data-monetization abilities are world-class • Highly automated organization employing a combination of intelligent automation and business automation to enable straight-through processing
<ul style="list-style-type: none"> • Success with techniques employed to integrate new solutions/vendors at a relatively increased pace • Annual investment funding to reduce burden of legacy technology 	<ul style="list-style-type: none"> • Significant amount of technology assets are built using latest-generation technologies • Solutions developed drive significant competitive advantage 	<ul style="list-style-type: none"> • Advanced use of techniques to allow extreme flexibility with technology assets; typically with no legacy footprint • Solutions developed may be monetized in other markets or sectors

How to begin your business's transformation to cloud

Cloud offers banks and other financial services organizations a dynamic, powerful foundation on which to rebuild their business and attain the agility they need to compete. If you're eager to use cloud to improve your own organization, here are some key considerations:

Understand your organization's existing cloud maturity.

Our agility assessment framework (see pages 8 and 9) can help you understand where you stand in comparison to other organizations in the financial services industry and what that means in terms of each of the four aspects of business agility.



Invest big in cloud.

Too many banks are taking a tentative approach with cloud, using it for discrete implementations and modest programs. Forward-thinking ones such as National Australia Bank are already making sizable investments. But cloud isn't optional—it will be critical to remaining competitive. And it will involve additional costs. Partnerships and alternative investment approaches, including co-investments with partners or using managed-service deals to amortize investments, can help you accelerate the effort and catapult your organization ahead. Think like digital natives, who spend big money on cloud and invest heavily in top-class cloud engineers.



Change the way your organization changes.

Realizing cloud's potential requires organizations to embrace a host of changes—starting with how they approach change itself. You'll need to move from project management to product management, provide sustained funding, form integrated teams to bring together talent from technology and across the business, and embrace a smaller, more focused, more iterative way of working.





Take the lead in cloud.

To unlock cloud's value beyond infrastructure savings, investment in it must be closely aligned with business priorities. Which market segments are most critical to your business? Where is more agility required in order to execute the business strategy? What takes precedence: speed to market? Cutting operational costs? Gaining more flexibility to work with partners? Use the answers to guide your cloud investment.

Don't build solutions, assemble them.

The days of building your own custom solutions from scratch are over. Instead, accelerate your bank's transformation by using cloud and APIs to partner with third parties or use industry-developed solutions.



Re-think your talent model.

A new war for talent is brewing as cloud accelerates changes already underway in the modern workforce. New roles and expertise are required as jobs become more data-driven and "machine-powered" than ever before, and engineering, data, and analytics talent is in high demand. You'll need to plan your business and technology talent models and strategies around these changes, as well as reconfigure organizational structures and incentives to encourage, support, and reward collaboration and a faster pace of working.

Don't take no for an answer

Financial services leaders eager to launch their organization's cloud transformation can quickly encounter concerns, objections, skepticism, and apprehension, especially when it involves sensitive customer and financial data. Executives must be prepared to not take *no* for an answer and to persevere in their efforts to move forward with cloud. The typical concerns—and the answers to them—are:



Security

Putting the workload into cloud doesn't require security trade-offs. In fact, enterprises benefit from the security that's built into cloud itself. According to Gartner, public cloud infrastructure-as-a-service (IaaS) workloads will encounter 60 percent fewer security incidents than those in traditional data centres. Automating infrastructure processes and controls tends to remove the potential for human error, which is typically a key factor in successful cybersecurity attacks.



Data privacy

Adopting cloud does raise challenges in terms of new, evolving, and often competing privacy regulations in multiple jurisdictions, in addition to changing cybersecurity threats. To successfully use cloud, banks will need to understand the roles they and their cloud providers play in protecting data, the applicable jurisdictional privacy laws related to data storage and processing, and the key encryption technologies and tools available.



Governance

Adopting cloud requires a delicate balance between managing risk, identity, and access control, and managing the delegation of rights and access to services while optimizing costs for these services. Banks must decide how decisions specific to cloud solutions will be made—who is able to request cloud services, who is able to access cloud services, what approvals are required, how to keep users accountable for usage costs, and so on. Implementing the right controls and ensuring structured governance with continuous monitoring and improvement is important for aligning cloud investments with business objectives. Governance needs to be on corporate level, just under the board, to fully enable scaling.



Talent

Cloud also involves transforming human capital. It requires a skilled, business technology-proficient workforce able to function in flat, nimble teams and equipped with an understanding of cloud's underlying technologies and their benefits and risks. Organizations in many industries are now investing in the skilled talent they need to successfully execute cloud transformations.



Business case

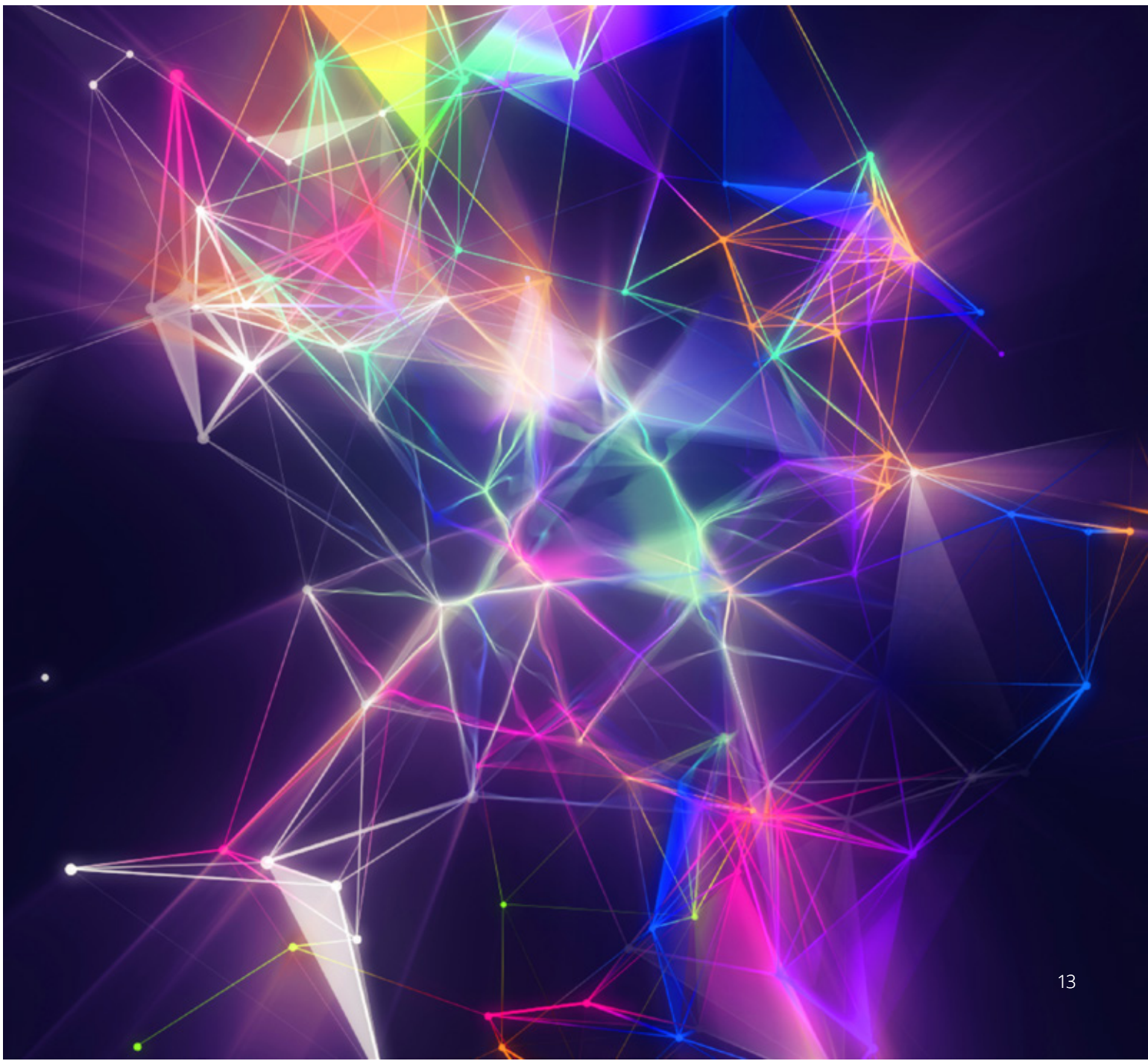
Cloud represents a large-scale business transformation and as such requires significant investment. Banks and other financial services organizations can use a variety of strategies, from partnerships and joint ventures to managed service arrangements and other deal structures. Some organizations can even self-fund their cloud transformation by monetizing their existing data, infrastructure, operational, or other assets.

Cloud: The future of banking, the driver of business agility

It's clear that banking's future is in cloud. Financial institutions have spent far too much time and money running ever-larger data centres and maintaining large, unwieldy legacy systems—technology that has constrained banks'

ability to change and adapt. Cloud provides a way forward, a way for banks to break free from the constraints of old technology, increase their business agility, and get back to the business of banking. The investments required to

harness cloud's potential are significant, as are the implications for talent strategies and ways of working. But investing in cloud is fundamental to ensuring your organization can compete in the years to come.



Cloud business agility lab agenda

Deloitte offers a lab for business leaders who want to launch their company into cloud. The content covers a variety of aspects, such as:

Industry point of view

- Art of the possible: industry trends and the impact of emerging technologies
- Business agility and cloud transformation
- Agility in action: examples of business agility delivered by best-in-class organizations

Current business challenges and imperatives

- Business strategy and market landscape
- Agility aspirations and impediments
- Current capabilities/technical architecture/areas of technical debt

Areas of opportunity

- Areas of potential cost “takeout”
- Potential use cases aligned with agility drivers and grounded in current challenges

Key considerations

- Cloud value impact analysis
- Cloud suitability assessment
- Plan/business case justification
- Approach to cloud transformation
- Security, resilience, recovery

Plan of action

- 30-60-90 day plan to deliver on the cloud transformation journey

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