



## **Realizing the digital promise**

Top nine challenges to digital transformation for financial institutions

A paper from the Institute of International Finance and Deloitte

# Summary

- Digital transformation is challenging and at times difficult to measure
- The definition can vary across organizations, and often within organizations, thus it is difficult to compare and determine what success looks like
- True transformation is typically about future-proofing a business. It entails a degree of change of business processes and operating models, and, at times, fundamental changes in how the business model generates revenue and manages costs
- In this first report, we attempt to establish a taxonomy of internal and external factors that are commonly impacting the journey of digital transformation
- This document frames nine factors that can shape the success of digital transformation

# Introduction

The emergence, evolution, and convergence of disruptive forces are continuing to shape the future of financial services—from the disintermediation of the value chain and an evolving competitive landscape to emerging technology, open data, ecosystem partnerships and alliances, and accelerating regulatory change. Add to this the pressure from retail and institutional customers, who increasingly expect tailored products and experiences dictated by their interactions in other sectors such as retail and technology.

In response to these shifting market dynamics, many financial institutions (FIs) are turning to business transformation enabled by digital innovation. They seem to see the need to accelerate customer acquisition by offering more than a simple product but rather a differentiated experience. And fueled by the use of responsible, data-driven insights, many FIs are starting to evolve their value propositions to realize the benefits of digital transformation.

But what does digital transformation success look like in financial services? It can be challenging to assess given that approaches and definitions in terms of scope, leadership, scale, and timing vary widely across organizations. **The Institute of International Finance** and **Deloitte** have joined together to explore FIs' approaches to digital transformation, identifying three key areas for organizations to consider. The focus of a three-part series to be released over the coming months, these areas are: challenges to digital transformation; enablers to capture more value; and the impact of risk on internal and external stakeholders.

# Challenges to digital transformation

The first report in this series delves into the issue of implementation, exploring what keeps FIs from reaping the full benefits of digital transformation. This report has been developed from research, facilitated discussion workshops, and interviews under Chatham House Rule with over 60 executives and transformation leaders across FIs, regulators, supervisors and policy makers globally. It is complemented by selected comments from events in the public domain. This paper highlights nine challenges of digital transformation from both external and internal perspectives.

We have found that these nine major challenges tend to consistently resonate across the globe. However, there are some occasional local variances that might intensify the impact of an individual factor, depending on different regional starting points and/or other local conditions. For instance, a Japanese executive noted that their major banks have traditionally had much smaller I.T. departments than their U.S. counterparts, further exacerbating the challenge of building up new in-house tech capabilities. It has further spurred a new effort to recruit newcomers (tech engineers) to the bank, running contrary to traditional Japanese careers patterns.

Concurrently, the impact of a low interest rate environment on bank profitability (and therefore the capacity to make new large investments) perhaps presents a greater challenge in Europe than in other developed markets. Meanwhile, the CRO of an African bank noted the trend across that continent for banks to adopt western technology while telcos and others adopt Chinese infrastructure, with potential interoperability issues for new partnerships. These can each further aggravate some of the common challenges observed across the globe.

## External challenges

### Investor expectations for financial institutions constraining digital transformation efforts



Investors of mature FIs tend to have a lower risk tolerance compared to investors of start-ups and FinTechs. This often leads to a different level of expectation for mature FIs when it comes to making investment decisions for digital transformation initiatives. According to the Chief Innovation and Technology Officer at a major European bank, investors are still looking for predictable, consistent, and stable returns from banks. This can run counter to the attributes commonly associated with business model transformation and innovation—that is, taking risks, experimentation, and learning through iterations. As such, when FIs make a public announcement about investing in large digital transformation efforts, investors may not respond as positively as they would to a digital technology giant making the same announcement.

It is also important to note that even within subsectors of financial services, investors may have different levels of expectations for different organizations. For example, when JPMorgan Chase announced that they were going to spend US\$11 billion each year on technology, they set investor expectations for that investment and share price went up.<sup>1</sup> However, investors of other U.S. banks may respond differently if management has not aligned their expectations with the proposed spending on digital transformation. It is important for FIs to keep this in mind as they embark on their transformation journey.

Participants in our study reinforced this by noting the impact “Wall Street” has on short- versus long-term decision making for North American-centric banks. They point out that family and state majority- owned banks have more flexibility in taking longer term investment decisions and in deciding how they execute these. These institutions have developed processes and frameworks that typically enable analysts to value the business with a longer-term horizon. Investor-owned banks on the other hand are generally more pressed to focus on short-term results.

“Investors don’t tend to give a three- to five-year pass to financial institutions for investing massively on digital transformation.”

Chief Digital Officer at a U.S. bank

“Shareholder expectations really put a strain on how much money you can put into digital transformation. Everyone knows the customers’ demands, but it is about us creating the financial capacity to invest in it. We know what to improve, just how do we do it? You have to hit ROE numbers or your share price won’t perform.”

– Chief Innovation and Technology Officer at a UK bank

“Investors want to see returns in two to three years. It took us eight years to change the core banking system. Investors would not support this if they knew it was going to take that long.”

– Innovation Leader at a European bank

#### A new puzzle: customer onboarding in the digital era

Several people we interviewed highlighted both the new opportunities and challenges in onboarding customers. On the one hand, technological innovation in digital identity can assist in the development and deployment of new methods of Know Your Customer (KYC) validation. On the other hand, there are constraints on FIs’ ability to implement such initiatives, especially where firms are restricted from sharing customers’ personal information either with each other or with public sector agencies. Such restrictions can impede FIs from keeping pace with customers’ increasing expectations for immediacy and for streamlining the amount of personal information they have to manually provide.

Some solutions (in place in some countries and under development in others) include centralized government databases that FIs can interface with for KYC purposes and bilateral inter-bank KYC arrangements for sharing information. But these approaches are not universal, and a number of Chief Innovation Officers of internationally-active firms called out the need for interoperability across borders.

This issue was also highlighted in the context of the “economics” of KYC. That is, even when there is both a social and economic desire to reduce remittance costs, these efforts are impeded in markets where highly manual or duplicative processes are mandated.

## 2 Inconsistent data regimes restricting financial institutions' ability and appetite to generate value

Fis have access to a great amount of customer and transaction data. But we heard from participants that most still have much to fix and learn from internal data before expanding insights from external data. Despite the amount of data, many organizations find that they have not been capturing the right data attributes for developing insightful analysis. Many participants stated that further work is required on improving the quality of data collected and integrating the mapping of data requirements earlier in the process.

In addition, inconsistent approaches to balancing consumer protection and innovation, as well as asymmetrical requirements on data sharing frameworks in an open banking regime, can create constraints on the use of data for FIs. Regulations around data security, customer privacy, and ethical use of data, such as the E.U.'s GDPR, are making it increasingly challenging for FIs to share data among entities and across borders, to design target state data flows, and develop meaningful analysis for the purpose of transformation.

These are particularly sensitive times on the use of data. When FIs are perceived to be using data in the wrong way, albeit legally, social norms often add further constraints as they tend to focus on the ethicality of data usage. This is particularly true when any form of artificial intelligence is involved.

**"You cannot only have open banking, it has to be across sectors because we are all competing. Beyond the data, we need digital rules that are common around the world, otherwise things are going to be fragmented..."**

– Chairman of a large international bank

**"For a social media company you'd be thinking about data in the use case upfront: 'I don't know what I'll be using 'it' for, but I'll capture that upfront and figure out its use later.' That's not our culture."**

– Chief Digital Officer at a U.S. bank

## 3 Lack of enterprise readiness and capability by FinTechs limiting the ability for partnerships with mature financial institutions

The emergence of FinTechs has had a profound impact on the financial services sector, introducing innovative capabilities and business models such as seamless digital customer onboarding, instant loan approvals, and free peer-to-peer payments.<sup>2</sup> Many FIs reports that collaboration and building an ecosystem of alliances and partnerships with FinTechs is important to the organization's success. And though these new and innovative partnerships often introduce new sets of risks, organizations interviewed consider the risk stemming from not engaging even greater. As we heard from a Chief Risk Officer of a major Asia-Pacific bank, the bank offered Apple Pay to their customers because they really wanted it—and despite the bank's initial worries about loss of control.<sup>3</sup>

But partnerships with FinTechs often present another challenge beyond the risks associated with new digital services. That is FinTechs' more agile operating procedures and their leverage of different I.T. systems as compared to larger, mature FIs. FinTechs can also lack the experience and expertise to integrate legacy technology at an enterprise level and work within the complex operating processes of more established FIs. In trying to take a proactive approach to onboarding their potential FinTech partners, Barclays Ventures CEO Ben Daley observed that "the starting point is actually helping these companies navigate a big organization."<sup>4</sup>

To ease the way, FIs should find FinTech partners that share the same values and vision. Several executives interviewed recounted cases where partnerships failed due to a misalignment of business expectations. At the RiskMinds International conference Groupe BPCE Secretary General Jacques Beyssade highlighted that incumbent FIs “are typically focused on the long term, holistic customer relationship, and it is important to find partners that can support this philosophy—whereas some FinTechs are focused on extracting short-term value from a single point in the value chain.”<sup>59</sup> Aligning on the corporate goal and purpose can be fundamental for a successful enterprise-FinTech partnership.

“When we work with a third party, we expect to hold them to every standard we have, even when it’s onerous to us.”  
– Chief Digital Officer at a U.S. bank

**4 Prescriptive and/or outdated regulations constraining large-scale digital transformation initiatives**



The rapid pace of technology driven change is testing the ability for regulation to keep pace, especially given what are typically multi-year gestation cycles for public policy, legislation, and rulemaking in most major markets. For example, Executive Chairman of Grupo Santander Ana Botín has noted that, “PSD2 (European Commission Payment Services Directive 2) is coming into force now and it was designed seven, eight years ago—so you can imagine the changes [in the marketplace] ... We need to think about activity-based regulation.”<sup>6</sup>

There is a risk today that regulations can become outdated or obsolete, especially if it is prescriptive or technology-specific. Our interviewees consistently stressed a desire for regulation to be more agile and dynamic, supporting the notion of a pivot from regulation to supervision. That is, regulations that are principle-based and technology-neutral in a manner that can be stable and stand the test of time while also being complemented by an increased focus on supervision and guidelines.

The impact of regulatory requirements that become outdated can also be exacerbated by the fact that FIs face a different set of regulation and supervision compared to start-ups and FinTechs. FIs are regulated on an entity-based approach, rather than (or sometimes as well as) an activity-based set of rules, whereas the financial services value chain is being disaggregated and repackaged rapidly.

In addition, the lack of a “solutioning” approach between large FIs and regulators in some cases has resulted in regulatory silence or even misinterpretation of regulations in some circumstances. This can drive the organization’s internal risk, legal, and compliance functions to be more conservative, hence preventing them from making longer term, strategic transformational decisions.

Collaboration between FIs and regulators can be important to overcoming this, including expanded access for incumbent firms to initiatives such as sandboxes. An example is the Monetary Authority of Singapore (MAS) joining with the ASEAN Bankers Association and the ASEAN Financial Innovation Network to launch the API Exchange Platform. This open-architecture cloud platform and APIs allows market players to connect, design experiments collaboratively, and deploy new digital solutions—and enabled one group to build a new digital bank in just five days.<sup>7</sup>

“It’s not that regulators should leave us alone, but that they need to keep pace and adapt.”

Chief Data Officer at a major international bank

“PSD2 is coming into force now and it was designed 7, 8 years ago, so you can imagine the changes [in the marketplace] ... We need to think about activity based regulation.”

Ana Botín, Executive Chairman, Grupo Santander<sup>6</sup>

## Internal challenges

A recurring theme throughout our roundtables and interviews was that while banks and insurers are able to attract and recruit the talent they need, retaining that talent was a much bigger challenge.

**Evolving talent models forcing many financial institutions to rethink the workforce of the future and the environment needed to retain talent**



The ability to recruit, develop, and retain workers with the right technical skills is vital to a firm's ability to digitally transform. While effective strategies to entice top talent need to keep pace, retention emerged as the much bigger challenge for the FIs we spoke to. According to a Chief Digital Officer at a major U.S. bank, many people are intellectually motivated to make financial services easier, so it is possible to recruit tech-savvy talent—but it is hard to integrate them into the business. To address this, a Chief Digital Officer at a large insurance firm said FIs need to provide an impactful company purpose to motivate employees as well as provide variety and stimulating challenges by rotating people through various areas of the firm. It's also important to remember that skilled digital and data employees demand not only high salaries but also creative freedom, purpose, flexibility, and rewarding and meaningful projects that they feel will have an impact on the future.

The composition of talent continues to change as FIs become more digitally enabled. As organizations transform, the need for talent that is versed in digital is becoming ever more important. Having a centralized digital team is often not enough. Digital talent needs to be embedded across the organization, from the board to junior staff and from product development to customer service functions. The approach to talent should evolve in line with the digital transformation of the operating model in order to successfully transition to the workforce of the future.

As a result of this journey, there is an increased demand for talent with data, design, and technology knowledge combined with a business savvy and a hands-on mindset. And seeing as many FinTechs and technology firms are competing for the same talent pool, FIs should create and foster an environment with purpose and continued challenging work to retain this high demand workforce. With the retention challenge amidst this competitive environment, one Chief Digital Officer observed that "We give great apprenticeships: you get to work on great data sets; you learn about an ethical view on data," adding to the sense of talent as hot property.

Another Chief Digital Officer observed, "We can retain, but [we] need to do better in nurturing and investing in people... in developing them and giving them good things to work on."

To address talent needs, some organizations have hired change agents from the retail or technology sector as digital transformation executives. But in many cases, they have struggled to integrate with the organization's culture. FIs should think about how they can support these leaders in making the transition to financial services and enable them to transfer their experience with serving customers in other sectors.

## 2

## Lack of enterprise agility, understanding and coordination for activating innovation partnerships



Just as FinTech's are often not ready to partner with mature banks (see External Challenge #3), incumbent FIs often lack the capabilities required for an efficient partnership with FinTechs. Our participants acknowledged that forming innovation partnerships can help the FI accelerate digital transformation through impact on culture, mindset, and technology. However, onboarding FinTech partners often presents a major challenge as it typically comes with a long lead time. This is partially due to FinTechs often not being subject to the same level or degree of regulatory and risk management. Also, the FI's risk, compliance, and legal functions building awareness within the FinTech ecosystem can cause delays to internal approval processes. As noted by Mark Smith, Chief Risk Officer at Standard Chartered, an added complexity of banks building joint ventures with FinTechs where the bank is a minority shareholder can be tension between internal risk appetite and potential partners' views. This can constrain the financial institution's ability to form effective partnerships.<sup>8</sup>

**"There is an additional issue when doing JVs where the bank is a minority shareholder. Potential tension between internal risk appetite and external expectations presents another layer to the challenge."**

– Mark Smith, CRO, Standard Chartered<sup>11</sup>

Another reason activating FinTech partnerships are often delayed is the lack of a governance structure and enterprise capability to run pilots with third parties. According to a study by the MAS,<sup>9</sup> it takes six to eight months for a bank to research, vet, and develop a prototype with a FinTech. More than 80% of banks in ASEAN region do not yet have in-house innovation capabilities to drive digital transformation, leading to lower success rate in experimentation by 30% to 40%.

In addition, we have heard from some participants that there is often a gap in the financial institution's interpretation of certain regulations compared to the actual meaning of the regulation when it comes to partnering with FinTechs. According to the Chief Innovation and Technology Officer at a major European bank, a bank's regulatory department reviews a regulation, passes it onto the policy department to write internal policies, and then gives it to the lawyer to translate the policy.

The organization's risk averse nature prevails in this process. This may cause the bank's internal risk and legal functions to interpret the regulation in a more conservative way that puts constraints on pursuing FinTech partnerships. To Mr. Beyssade's point on the potential philosophical differences between banks that focus on the holistic customer relationship and FinTechs that might have shorter-term aspirations (referenced in External Challenge #3), one Chief Digital Officer noted that, conversely, there's a risk that a big firm can sometimes lose sight of the true customer need.<sup>10</sup>

### 3

## Traditional risk-conscious culture clashing with a higher risk appetite for pursuing innovation



Digital transformation can be as much a human capital and mindset transformation as it is a technology transformation. As one of our participants noted, “Digital transformation is emotional.” FIs often experience resistance to change because an executive decision is made to pursue transformation before key stakeholders (both internal and external) are fully onboard. It is important to align with key stakeholders on the “why” behind transformation and to get their buy-in from day one.

Another potential hindrance is the risk-conscious culture in most FIs. The organization’s processes and operating model were engineered and designed in the wake of the financial crisis to protect against a diversity of risks. This reinforces the focus on discipline, predictability, consistency with all the controls, governance, and regulations. However, true digital transformation requires a certain degree of uncertainty, experimentation, and a “fail fast” mindset. For example, Julia Dunn, Chief Risk Officer at Nationwide Building Society, noted that even though the new digital building society, Nationwide for Business, that they have been building wholly on a Cloud-based platform has gained support from regulators and will bring great opportunities to trial new technologies which can then be brought back into the main Society, the real challenge was agreeing what should be the right risk appetite to allow an fledgling business to remain agile whilst ensuring it is well controlled.<sup>13</sup>

According to the [Global Digital Risk Survey](#) by Deloitte UK, a risk manager in the digital era should not only understand the digital product lifecycle but also take an integrated view of risks from both business and technology perspectives. FIs should think about how to manage risks that may fall outside their day-to-day risk frameworks while pursuing transformative initiatives.<sup>14</sup>

“It’s not regulation that forms a barrier, it’s banks’ interpretation of regulation.”

- Neal Cross, former Chief Innovation Officer, DBS<sup>12</sup>

The head of digital transformation for a multi-national bank shared that the speed of transformation at legacy banks can be two times slower than at tech firms because of governance process with legal, compliance, and risk.

“Some banks are using a gradual rejuvenation: building on strengths of the brand and client base. This approach has the lowest risk but the downside is inertia, the entropy that’s built up. This approach is the lowest risk one, the one we feel most comfortable with.” Some banks build a new bank from the outside with the hope of migrating existing customers later. The hard thing with this is getting clients on board with it—and it gets even harder with mortgages and fee-generating business.”

– Chief Innovation Officer at a major European bank

“Experiment with organizational cultural design. Reorganize into small hubs of 300 people, who are then charged with reinventing their part of the business. The tricky part is the cohesion across that group of hubs.”

– Chief Innovation and Technology Officer at a major European bank

“Most financial institutions have interpreted regulations as preventing the use of data, but I don’t think that is what regulation aims to achieve. Regulation can be an asset for us, but we need to get risk teams and compliance partners to align on ways to solve it.”

– Chief Digital Officer at a U.S. bank

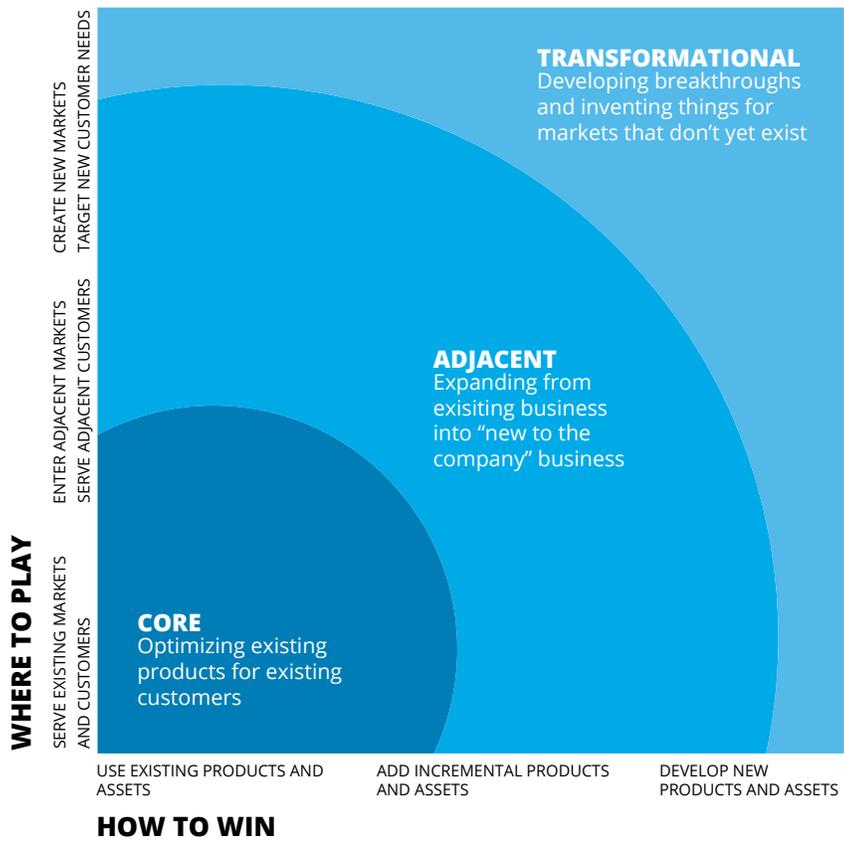
**4 Management ambition to meet short-term business targets misaligning with organizational needs for longer term transformation**

Financial institutions have tried different approaches to managing digital transformation. Often transformation initiatives are led by executives that are responsible for the current and immediate business model. Thus, there's a potential conflict in their current measurement of (personal) success. In other words, manager's performance scorecards are often based on short term deliverables—but true digital transformation typically takes a longer timeframe to complete. According to one Chief Digital Officer with experience in the banking and insurance sectors, this is particularly true in banking where business decisions have a more immediate impact on current year outcomes than in insurance.

According to an article from Deloitte United States in [Harvard Business Review](#), an organization's innovation portfolio should allocate 70% to enhancing existing core business, 20% to expanding into adjacent businesses or markets, and 10% to developing breakthrough innovations for markets that don't yet exist. Core business improvements are likely to show in business performance within a few months, but transformational breakthroughs may take 5 to 10 years to realize benefits.<sup>15</sup> If this sets the benchmark for digital transformation leaders, FIs should rethink performance metrics that incentivize the right behavior necessary for transformation.

**The innovation ambition matrix**

Firms that excel at total innovation management simultaneously invest at three levels of ambition, carefully managing the balance among them.



Source: Deloitte, "Managing Your Innovation Portfolio," Harvard Business Review, May 2012.

5

## High regulatory-driven change burden leaving insufficient budget, resources and management attention for digital transformation initiatives



The post-crisis regulatory and compliance agenda commands a significant and continuous resource commitment from FIs. According to the Baker Institute, compliance with the Dodd-Frank act in the United States alone increased the banking sectors annual compliance and regulatory cost by more than \$50 billion per year.<sup>16</sup> As the post-crisis regulatory agenda continues to evolve, banks are unlikely to be able to free up these resources anytime soon—meaning they should be very selective when prioritizing business-driven initiatives.

Resources in this context does not only mean money. Participants noted the draw on subject matter expertise and management attention to be just as impactful for the bank's digital agenda as the draw on the investment budget. There is a limit to internal expertise and the number of issues management can focus on at a given point in time. The severe repercussions of not meeting regulatory requirements generally mean regulatory issues take precedent at the cost of engaging with business initiatives. This means only the most important business initiatives are being progressed, creating a backlog of business change initiatives.

The high cost of meeting regulatory compliance requirements is compounded by a challenging macro environment, exacerbating the ability to achieve profitable growth. As with External Challenge #1, this impacts FIs' ability to invest in large scale transformation initiatives that take longer to show returns given constant pressures to meet quarterly "Wall Street" expectations. While revenue growth had historically been the primary goal for most banks, many organizations now acknowledge that achieving a lower cost-to-serve is just as important in order to grow profitably. These requirements can put constraints on the organization's R&D investment in longer term, strategic initiatives, as the return on investment is harder to forecast. This can also further emphasize the constant friction large financial organizations often face when making investment decisions.

"Resources [including subject matter expertise] and dollars are both hard to get."

- Chief Digital Officer at a major U.S. bank

"Investors now want to see that you are investing in regulation—and that you have an investment story on what you're going to be as a bank in five years' time."

- Chief Innovation & Technology Officer at a large European bank

"The strategy of developing market-leading client experiences creates an unprecedented level of technology change within the bank, while you're also trying to run business as usual. You concurrently need to 'run the bank' and 'change the bank'."

- Trevor Adams, CRO, Nedbank<sup>17</sup>

# Conclusion

FIs experience challenges with digital transformation from both external and internal environments—with some interlinked. As such, there is no single panacea or formal playbook for overcoming these challenges: one size does not fit all.

But participants are clear in their message that digital transformation is no longer a “nice to have” but generally considered a critical enabler of a financial institution’s strategy. The ultimate success of digital transformation is achieving both business and organizational transformation. Business transformation comes from revisiting business models, focusing on customer needs and preferences, rethinking the brand, and uncovering new opportunities through rapid innovation. Organizational transformation means evolving the corporate culture, introducing new ways of working, and building capabilities and alliances around ecosystems that are suited to this new reality.

The second paper in our series will discuss the enablers and shapers that can allow financial institutions to capture more value and impact from digital transformation. Some of the key success factors will be helpful in overcoming the nine key challenges to digital transformation outlined in this report.

# Contacts

## **Tim Adams**

President and CEO  
Institute of International Finance  
[tadams@iif.com](mailto:tadams@iif.com)

## **Brad Carr**

Managing Director for Digital Finance  
Institute of International Finance  
[bcarr@iif.com](mailto:bcarr@iif.com)

## **Conan French**

Senior Advisor for Digital Finance  
Institute of International Finance  
[cfrench@iif.com](mailto:cfrench@iif.com)

## **Bob Contri**

Financial Services Industry Leader  
Deloitte Global  
[bcontri@deloitte.com](mailto:bcontri@deloitte.com)

## **Michael Tang**

Partner and Head of Global Digital Transformation for  
Financial Services  
Deloitte Canada  
[mtang@deloitte.ca](mailto:mtang@deloitte.ca)

## **Puneet Kakar**

Principal, Financial Services Strategy Leader  
Deloitte Consulting LLP  
[pukakar@deloitte.com](mailto:pukakar@deloitte.com)

# Endnotes

1. Fortune, <https://fortune.com/2019/10/17/jpmorgan-chase-stock-goldman-sachs-earnings/>.
2. Deloitte Report, "Beyond FinTech: Eight forces that are shifting the competitive landscape." <https://www2.deloitte.com/global/en/pages/financial-services/articles/beyond-fintech-pragmatic-assessment-disruptive-potential-financial-services.html>.
3. Apple Pay is a trademark of Apple Inc., registered in the U.S. and other countries.
4. IIF Podcast, <https://www.iif.com/Publications/ID/3294/FRT-Episode-29-Partnering-with-Start-ups>.
5. Quote from "Going back to basics: returning the bank to profitability & customer-centricity" session at RiskMinds International conference on December 2-6 in Amsterdam. <https://informaconnect.com/riskminds-international/>.
6. Quote from "Views from the C-Suite" session at the IIF Annual Membership Meeting in Washington in October 2019. <https://www.youtube.com/watch?v=xrjISCPMtjk&list=PLJDiecAPqXi32WfDsCAULcjpAA4w8aAiX>.
7. Monetary Authority of Singapore, <https://www.mas.gov.sg/development/fintech/api-exchange>.
8. Paraphrasing comments made at "Going back to basics: returning the bank to profitability & customer-centricity" session at RiskMinds International conference on December 2-6 in Amsterdam. <https://informaconnect.com/riskminds-international/>.
9. Monetary Authority of Singapore, <https://www.mas.gov.sg/development/fintech/api-exchange>.
10. Quote from "Going back to basics: returning the bank to profitability & customer-centricity" session at RiskMinds International conference on December 2-6 in Amsterdam. <https://informaconnect.com/riskminds-international/>.
11. Quote from "Going back to basics: returning the bank to profitability & customer-centricity" session at RiskMinds International conference on December 2-6 in Amsterdam. <https://informaconnect.com/riskminds-international/>.
12. Quote from "In Conversation" session at the IIF Digital Finance Symposium, October 2018 in Brussels. <https://www.youtube.com/watch?v=NY-OZOQNZjg&list=PLJDiecAPqXi0BBpyjP8Ltcto63t3arCKd>.
13. Quote from "Going back to basics: returning the bank to profitability & customer-centricity" session at RiskMinds International conference on December 2-6 in Amsterdam. <https://informaconnect.com/riskminds-international/>.
14. Deloitte UK's "Beyond the hype: Global digital risk survey 2019" <https://www2.deloitte.com/content/campaigns/uk/global-digital-risk-survey/global-digital-risk-survey/global-digital-risk-survey.html>.
15. "Managing your innovation portfolio," Harvard Business Review, May 2012. <https://www2.deloitte.com/us/en/pages/strategy/articles/managing-your-innovation-portfolio.html>.
16. Baker Institute for Public Policy: <https://www.bakerinstitute.org/media/files/files/0feb883/bi-brief-090619-cpf-doddfrank.pdf>.
17. Quote from "Whose risk is it?" session at RiskMinds International conference on December 2-6 in Amsterdam. <https://informaconnect.com/riskminds-international/>.



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms, and their related entities (collectively, the “Deloitte organization”). DTTL (also referred to as “Deloitte Global”) and each of its member firms and related entities are legally separate and independent entities, which cannot obligate or bind each other in respect of third parties. DTTL and each DTTL member firm and related entity is liable only for its own acts and omissions, and not those of each other. DTTL does not provide services to clients. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more.

Deloitte is a leading global provider of audit and assurance, consulting, financial advisory, risk advisory, tax and related services. Our global network of member firms and related entities in more than 150 countries and territories (collectively, the “Deloitte organization”) serves four out of five Fortune Global 500® companies. Learn how Deloitte’s approximately 312,000 people make an impact that matters at [www.deloitte.com](http://www.deloitte.com).

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms or their related entities (collectively, the “Deloitte organization”) is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

No representations, warranties or undertakings (express or implied) are given as to the accuracy or completeness of the information in this communication, and none of DTTL, its member firms, related entities, employees or agents shall be liable or responsible for any loss or damage whatsoever arising directly or indirectly in connection with any person relying on this communication. DTTL and each of its member firms, and their related entities, are legally separate and independent entities.