



WHITE PAPER | BANKING & FINANCIAL SERVICES

How Banks Can Collaborate With Fintechs to Drive Innovation and Improve Customer Experience

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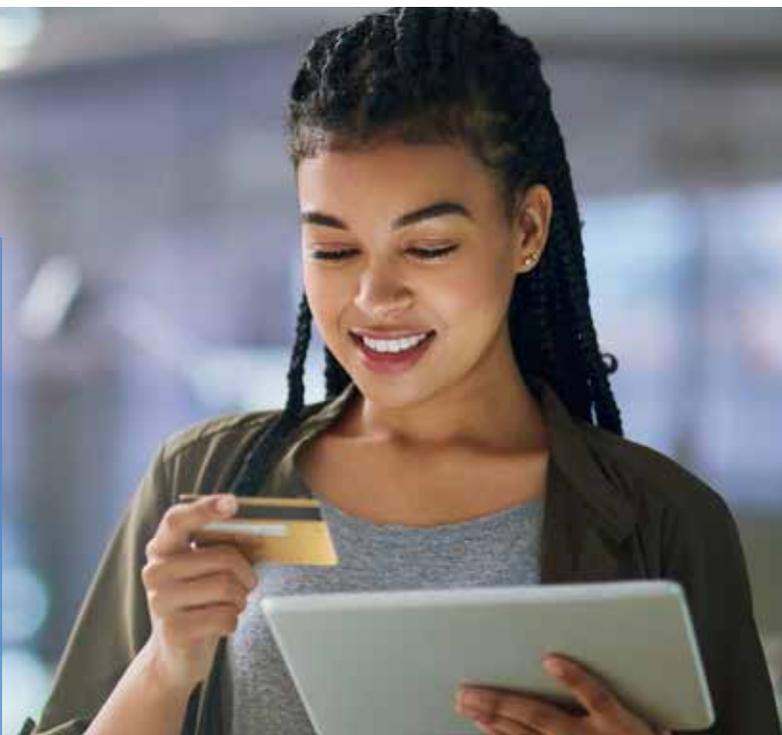
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The benefits of open banking:

- Ability to bring more products to customers, enhancing revenue streams
- Faster time to market, resulting in improved CX
- Flexible business models that let customers bank when, how and where they prefer
- Shared cost of product innovation
- Better ability to compete with technology firms, including fintechs



The changing landscape

Banks are facing emerging competitive threats from new market entrants, particularly in lending and payments. Much of this threat is driven by the need for financial services providers to innovate faster, be more customer-centric, reduce operating costs and meet changing customer experience (CX) expectations. In addition to new fintech market entrants, banks are seeing competition from both large and small technology firms.

As many financial institutions deal with decades-old core banking legacy platforms, smaller, more nimble technology providers have begun to offer new solutions for parts of the value chain that improve CX. Using application programming interfaces (APIs) and microservices as part of an open banking operating model can be the key to helping established institutions accelerate time to market and improve customer experiences to compete with these new entrants. This paper explores how open banking innovation is changing the banking landscape and highlights the steps financial institutions can take to better compete.

The move toward open banking

Open banking can be defined as the trend toward improving CX and reducing friction while seeking to address legacy core banking platforms that preclude

collaboration with third parties. At the heart of the open banking operating model are APIs and microservices, a variant of service-oriented architecture (SOA), that enable applications and data to be securely accessed and shared among different partners and organizations. Microservices and APIs have been around for a long time, but in an open banking model, the technologies offer banks a way to connect with third-party product providers and get new capabilities to market faster. While open banking is not as prevalent in the United States as in Europe due to the EU's regulatory requirements that mandate open banking, banks in the U.S. have begun to see the longer-term benefits of exposing APIs to improve CX.

A recent NTT DATA Services study that surveyed financial services leaders across six countries revealed that financial services and insurance companies (FS&Is) recognize the need for transformational digital change and are taking the steps necessary to embrace open banking operating models.¹ It found that:

- 61% of global FS&Is are shifting away from traditional business models in response to new digital technologies, new competition and new customer expectations
- 84% of FS&Is report that fintechs will become more relevant, allowing for the creation of many new partnerships

Open banking enables banks to more seamlessly integrate third-party solutions, which can often reinvent parts of the value chain. For example, if a vendor offered a compelling digital loan servicing platform, a loan originator might provide real-time transaction processing that involves external servicing. Traditionally, banks have viewed proprietary products as a key to customer retention, profitability and competitive differentiation. This model shift toward an unbundled ecosystem can allow banks to better focus on customer acquisition and retention, provide greater transparency and leverage open-source applications. Commercial banks may choose to leverage traditional strengths in credit, underwriting, fraud, risk and know your customer (KYC) capabilities.

Compare open banking to auto manufacturers that design, assemble, sell and service the cars they bring to market. These companies don't manufacture most of the parts themselves but rather rely on partners for unique expertise and cost advantages.

Similarly, banks can deploy a platform approach as product orchestrators or curators, assuming their strategic imperative is CX and product differentiation and not gaining competitive advantage through proprietary technology or operations. In fact, NTT DATA research showed that the majority of surveyed FS&Is are planning to launch digital business platforms and that 23% already have in place a digital business platform that provides business benefits.¹

Due to regulatory drivers, particularly the Revised Payment Service Directive 2 (PSD2), banks in the U.K. and Europe have been leading the move toward open banking. As they've struggled to comply, many banks realized they could improve the digital customer experience, enhance innovation and cut costs. The U.K.'s Competition and Markets Authority, following the lead of PSD2, has mandated open banking for nine of the largest banks to drive customer transparency.²

The U.S. doesn't (yet) have these regulatory drivers, hence the slower adoption in this country. However, these benefits can still be achieved — often led by European banks doing business in the U.S.

In October 2018, Spanish bank BBVA announced the first open banking platform in the U.S.³ The bank allows its corporate clients access to several dozen products (proprietary and third party) in a banking-as-a-service model, with the ability to white-label custom solutions for their customers. Other up-and-comers include first direct by HSBC Bank, Capital One 360 (bought from ING) and Ally Bank. Generally, U.S.-based global banks can drive these benefits more readily than regional and second-tier domestic banks, which are more dependent on core banking and the payments platforms vendors offer.

In the U.S., because many of the new entrants have not historically had to operate in the same regulatory environment as traditional banks, regulators and industry utilities have made moves to level the playing field and to identify and mitigate systemic risks to the financial system. For example, the Office of the Comptroller of the Currency within the U.S. Department of the Treasury recently announced a fast-track approval program for regulated banks wishing to introduce new products by collaborating with fintechs.⁴ This is good news for banks; this kind of external innovation serves as a catalyst for banks to better compete in a more customer-centric environment.

What's driving the move to open banking?

- High cost and time to innovate
- The need to improve CX with a focus on customer retention and maintaining brand identity
- The changing role of banks from product sellers to curators
- Legacy "closed" core banking platforms that inhibit collaboration
- Regulatory compliance concerns and the need to reduce systemic risk across the banking industry



The evolving role of banks

Most banks no longer control all aspects of product innovation or the processing value chain, nor will they continue to be vertical integrators in all cases. As such, many are following a digital business platform strategy, wherein the bank becomes a curator rather than a developer of products.

By building digital business platforms and partner ecosystems, banks can retain control of the customer relationship while aggregating data across the interfacing applications, facilitating further data monetization. They leverage core competencies as registered banks with access to their customers' financial behaviors and provide products based on those market needs.

Banks today serve customers essentially in three capacities: as suppliers, producers and/or retailers. As suppliers, they offer services such as data aggregation, risk management controls, KYC procedures and asset liability management. Banks also produce products, such as mortgages, loans and demand deposit accounts (DDAs). And finally, they market these products and services via retail branches, as well as through online, interactive voice response and mobile channels.

As open banking evolves, banks should identify which of these roles will allow them to drive significant competitive advantage and take a corresponding strategic approach. They must also recognize their weaknesses and strive to improve (or outsource) non-strategic functions. Larger banks can monetize their economies of scale by acting as a supplier in selling (within the limits of good privacy practices) data to third parties or using their positioning to create partnerships with large corporates. Of course, many product-oriented banks may not fully embrace the digital business platform and ecosystem platform model, but they will still implement many open banking capabilities via APIs.

JPMorgan Chase is evaluating a potential partnership as a producer with Amazon to white-label checking accounts for Amazon to offer its customers.⁵ Although JPMorgan Chase already has significant national and global scale, it doesn't have the reach Amazon does, and this cooperation may fend off direct competition from the technology giant. Similarly, Marcus (the retail brand of Goldman Sachs) has launched a credit card with Apple Pay — Marcus as producer and Apple as retailer with better market access.⁶

It's often the bank that has the superior customer base and associated loyalty to serve as a retailer by integrating third-party products and services into a seamless digital customer journey.



Banks with a supplier advantage should maximize connectivity and facilitate access to their data from third parties. Those with a producer advantage should build channels to leverage suppliers' data. Banks with a retailer advantage should be investing heavily in their digital customer journeys to minimize CX friction. They should also focus on being the curator — bringing in as many third parties as possible and investing in a process to screen and compare offerings. Their aim should be to prioritize customer needs above all else.

Opening core banking platforms

Most global and domestic banks make use of core processing platforms, whether partially homegrown, licensed from a vendor or via a service bureau, application service provider or outsourced solutions provider. Vendors do recognize the need to enable APIs and open-source technologies. However, they're at varying stages of re-architecting their platforms to support open banking, as economics affect the slow adoption of open banking architectures in the vendor market.

Nevertheless, U.S. banks should accelerate opening their core platforms to fintechs and technology companies to better leverage external innovation and capabilities that improve CX without the cost and risk of replacement. Below are some areas where we're seeing cooperation and partnership.

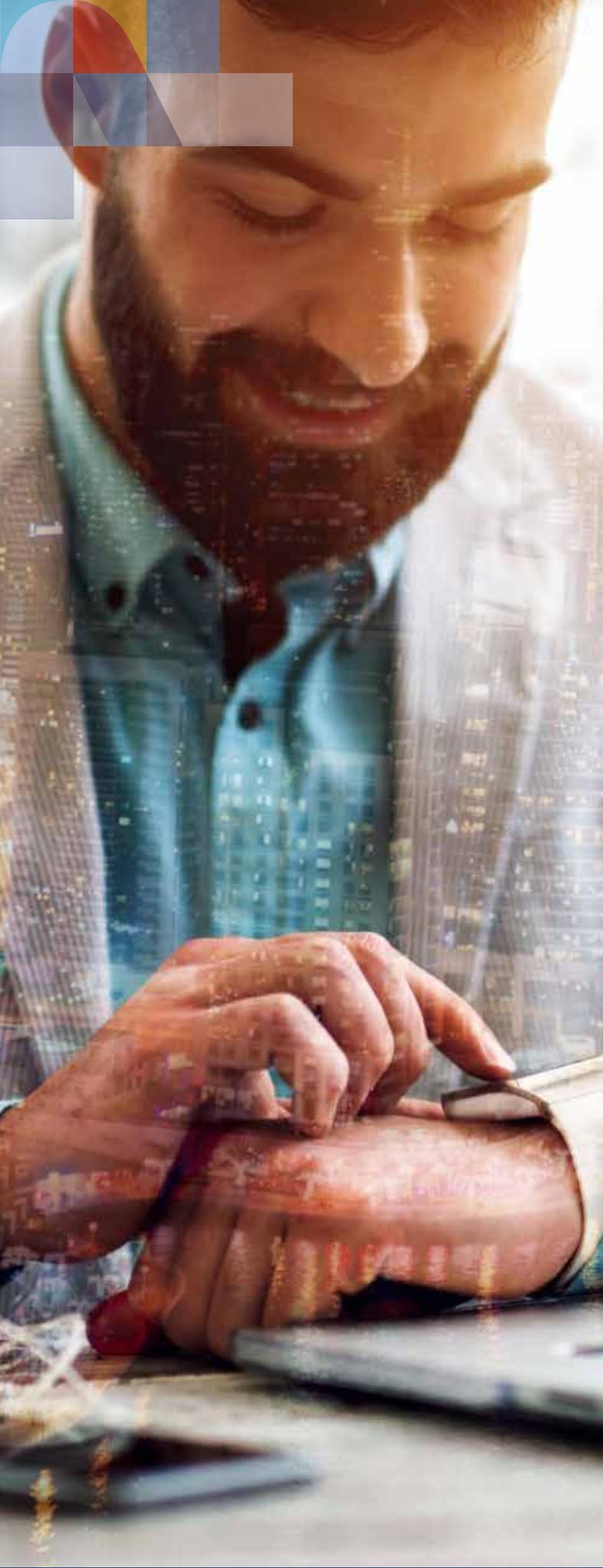
Many banks and card companies offer their own mobile payment applications. However, these institutions are often "just good enough" at customer-facing functions and, as a result, have lost market share in payments and retail lending. Although some fintechs prefer to compete directly with banks, others foster collaboration.

U.S. banks should accelerate opening their core banking platforms to external innovation.

As new entrants, technology companies and fintechs often have a natural edge over banks in speed to market as well as aggregating and monetizing data, without the need to consider impacts on an existing customer base. By partnering, banks can better leverage data to improve CX, introduce new products faster and retain their natural position, whether supplier, producer and/or curator.

Specifically, fintechs are exceptionally good at moving money (with peer-to-peer, business-to-business and business-to-consumer offerings). For example, PayPal's Venmo and Xoom mobile payments offerings are an alternative to payment networks. Early Warning offers Zelle, another popular payments product. Hundreds of new fintech offerings are coming to market each year, and many are reshaping industry value chains.

Moving beyond the primary focus of payments, lending fintechs have evolved either in direct competition with banks or as collaborators. These include Moven, Quicken Loans, Simple, Kabbage, Marcus by Goldman Sachs and others.



Commercial banking transactions (often less standardized and commoditized than retail products) are adopting fintech solutions as well. Some examples are corporate finance, syndicated lending, over-the-counter derivatives and other institutional offerings.

Many commercial banks have implemented payment hubs, which are conceptually similar to open banking platforms, albeit for payments. They route payment requests from multiple sources in the banks, such as loan funding and securities settlements, to multiple payment target systems, such as automated clearing house (ACH), Fedwire, Clearing House Interbank Payments System (CHIPS) and Society for Worldwide Interbank Financial Telecommunication (SWIFT).

Amazon, Google, Facebook, Apple, Samsung and other large technology players are either considering or actively developing banking offerings — including payments, DDAs, savings, lending and mortgages, and insurance products. Retailers, notably Walmart, have also made forays into financial services. These firms may become a threat to banks that don't innovate fast enough and/or fail to leverage client relationships effectively.

Leveraging external innovation

Banks have been partnering with fintechs and technology firms for several years to expand their products and services. Some examples of fintech-led innovation include the following:

- **JPMorgan Chase's 2016 partnership with OnDeck Capital** (a New York-headquartered fintech) offers a speedier online lending process to its small business customers. JPMorgan Chase uses OnDeck's origination and loan-servicing platform to supply same- or next-day funding. This digital business platform partnership ensures that JPMorgan Chase's small business customers don't need to waste hours fulfilling eligibility requirements and chasing loans. Small businesses use the online platform, called Chase Business Quick Capital, to access loans up to \$200,000 for up to 24 months. JPMorgan Chase owns the lending product, which leverages OnDeck's technology. The result of this collaboration is an application process that takes minutes, with decisions made in seconds and funds delivered as quickly as the next day.



- **Bank of America's multi-year contract with Visa** (formerly Earthport, a U.K.-headquartered fintech) integrates and expands its international payments processing capabilities. Bank of America customers, using its existing online banking platform, CashPro, will have more options for cross-border payments across diverse currencies with Earthport's integrated offering.
- **Europe's digital challenger bank, Fidor Bank**, is the world's first fintech bank. Founded in 2009, Fidor pioneered the collaboration between traditional financial services and technology businesses, offering a full range of customer-centric banking services. FidorOS, Fidor's open banking platform, provides a robust backbone that easily integrates with traditional financial services processes as well as fintechs to jump-start digital financial transformation.
- **German digital bank N26**, headquartered in Berlin, currently offers its services throughout most of the Eurozone and in the U.K., with plans to expand to the U.S. and Brazil in 2019. It initially started operations without holding a banking license, building an interface with German bank Wirecard, which did all the back-end processing. Having grown exponentially since its inception, N26 was granted a banking license in July 2016 and is a great example for digital business platform/ecosystem collaboration.

The collaborations and partnerships described in these examples are the key trend in getting capabilities to market faster. This applies more to "me, too" functionality, such as remote deposit capture, than areas where a bank feels it will drive competitive advantage through technology product innovation, which is uncommon in retail banking platforms. However, open banking is not a panacea for customer data protection or authentication. Core banking vendors have accommodated the platform concept in redesigns of their solutions. They are also embracing white-labeling solutions for banks that provide correspondent services.

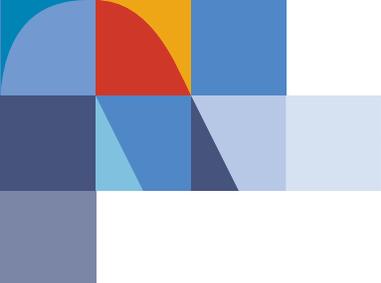
Experimenting with digital innovation

To keep up with fintechs, banks are establishing digital innovation initiatives. The Open Bank Project, for example, is an emerging open-source sandbox and platform for bank application developers and fintechs in 160 countries to collaborate on prebuilt APIs.⁷ Facilities are available for financial institutions to provide functionality to customers in a variety of areas, including:

- Account information
- PSD2 compliant payments
- Metadata and transaction history
- Entitlements
- Onboarding and KYC

Banks currently participating in the Open Bank Project collaboration forum are innovating front-end, customer-facing applications as well as back-office processing capabilities.

Some banks have started their own venture capitalist-style innovation centers to attract talent and better collaborate/ compete with fintechs. One example is JPMorgan Chase's commitment to a new Palo Alto, California, office set to open in 2020. It's likely that this and other such efforts will drive partnerships with fintechs and serve as incubators for banks' own "start-up" efforts.



One such partnership is WePay, a fintech designed to help commercial customers accept payments faster, which JPMorgan Chase acquired in 2017. As an example of embracing open APIs and microservices, JPMorgan Chase has already integrated Zelle's payments solution into its retail banking platform, while Zelle also markets itself as a person-to-person payments provider. Many other global, money-center and super-regional banks have similar tie-ups and innovation centers, either directly or through their venture capitalist arms.

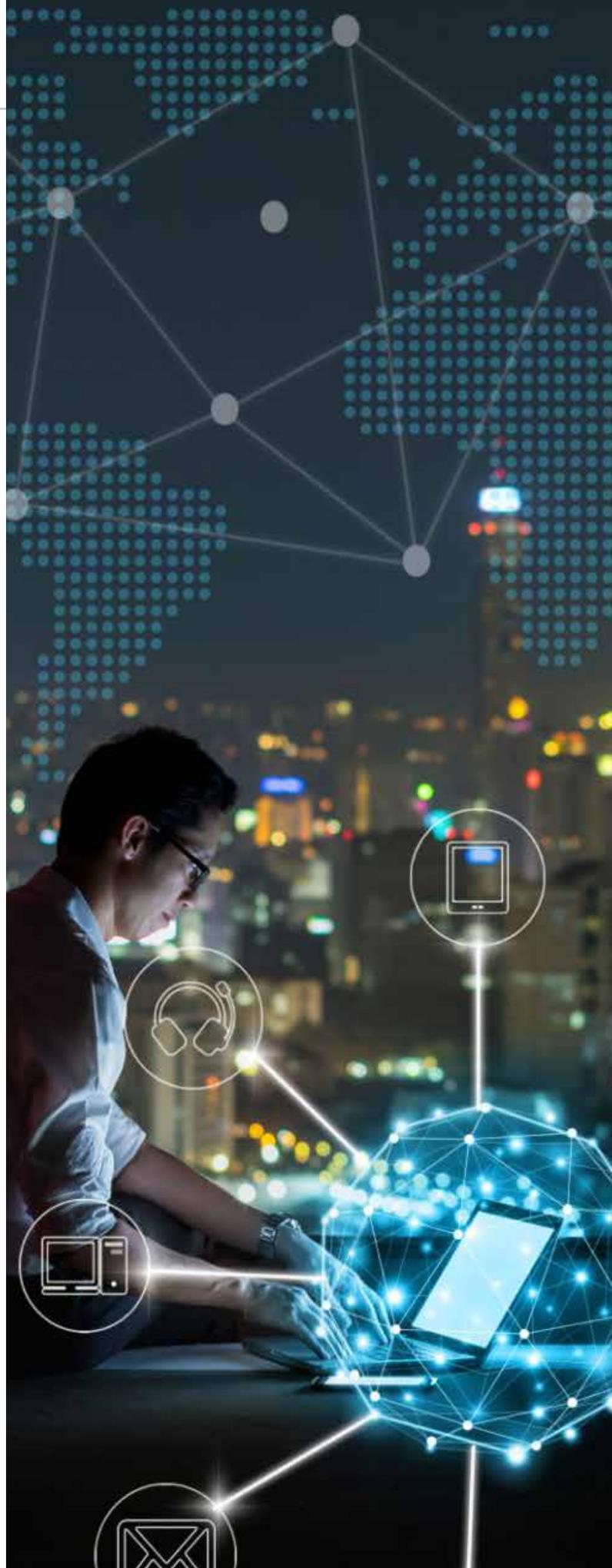
Improving CX, reducing friction and protecting data

As banks respond to changing customer expectations and demand for extreme personalization, prioritizing customer preferences and CX should be paramount to avoid erosion of loyalty and to maximize competitive advantage over new entrants. Along with that, managing customer privacy, preferences and permissions is a top priority for banks, according to NTT DATA research.¹

One example is account aggregation in wealth management, wherein the primary provider incorporates positions held in other financial institutions to provide each customer with a comprehensive view of asset mix and returns, as well as volatility and market risk. As customer data gets externalized in an open banking environment, banks will need to develop and implement strategies to protect this information in the new ecosystem. Concerns here aren't simply regulatory; banks must also consider customer preference directives.

Reducing compliance risk

Historically, technology companies have not been subject to the same set of regulations as banks. This is changing as bank charters are being awarded to selected fintechs. Although the trend is designed to level the playing field, it's also heightening industry risk due to the potential for increased fraudulent activity through API traffic and broader network services. In response, banks are shoring up KYC capabilities and controls to avoid fraud in new account opening and customer onboarding processes. For example, banks are adopting controls improvements in mortgage loan originations, because today new mortgages are being funded by non-bank lenders more than ever.





Governments outside the EU are encouraging open architectures even if they don't fully implement stringent PSD2-like customer authentication and customer protection rules. This includes the prevalence of two-factor authentication in reducing fraud risk from online payments and U.S. account verification.

Recommendations for the journey ahead

The journey toward open banking is not without challenges. U.S. banks need to overcome:

- Increased disintermediation as the value chain is reinvented
- Lack of standards and frameworks
- The need for new operating models (not just technology architectures) that facilitate enterprise-wide transformation and culture shifts
- The need to adopt advanced analytics and machine learning to leverage data
- Various compliance concerns (notably privacy) as customer data is increasingly externalized

Recommended actions for banks to consider along the journey toward open banking include:

1. Develop a strategy to define the desired future state, including target operating model and process flows at least two levels down.
2. Prioritize customer preferences and develop a roadmap accordingly, including partnerships (see #5).
3. Determine where data and technology can be leveraged for CX and monetized by the bank. This is possibly the best strategic alternative for banks to leverage their natural advantage over new entrants in customer acquisition and retention.
4. Apply agile methodologies to cater to experimentation and incremental rollout. Innovate quickly and often, while also testing customer satisfaction for results. The old adage “the big eat the small” has largely been replaced with “the fast eat the slow.” Derived benefits (including cost savings) can fund future sprints.
5. Embrace partnerships that allow both the bank and fintechs to focus on their core competencies. Because the fintech market is highly fragmented and constantly evolving, expect some mergers and acquisitions.
6. Ensure that the bank has implemented standards for SOA and agile development, which are imperative and foundational for open banking. APIs are the “product,” and it's important to have a product mindset for internally developed APIs.
7. Establish effective governance and architectural controls. Banks need to successfully manage the API ecosystem (gateway, publisher and store) to be effective curators.
8. Prepare for and anticipate changes in strategy, people, process and technology. Superior organizations are those that embrace change management and integrate these approaches into their plans.
9. Prepare for growing privacy and data protection challenges. Regulations are starting to emerge in this area and vary across regions. Flexibility will be critical for compliance.
10. Think beyond the low-hanging fruit of operational efficiency, straight-through processing, automation and cost reduction. Embracing open banking can lead to improved customer loyalty and product innovation to address changing digital customer needs.



Let's get started

Banks should take advantage of the opportunity to drive improved CX and leverage external innovation by opening their core platforms, with U.S. regulators acting as partners rather than overseers. NTT DATA sees an opportunity for banks to avoid the cost of core platform replacement by modernizing applications and infrastructure. Our experience assisting both large and small banks on a global basis gives us unique experience in an advisory capacity, as well as in implementing such modernized platforms and business models. We recommend that banks start with an analysis of what open banking can mean to the institution and design a target operating model that addresses its goals and objectives.

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Niraj leads International Banking & Insurance Consulting for NTT DATA Services. With a strong focus on building new financial ecosystems through fintech partnerships and collaboration, Niraj advises leading financial institutions on digital strategy. He works with industry analysts to advise on strategic imperatives for banks as they grapple with pressures of cost, compliance and customer retention. He is a regular speaker at various industry forums, including, SIBOS, EBA Day and the CEB Technology Conference.



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