This white paper addresses commercial banks, other financial service providers, fintech startups, investors, and more, regarding:

- Drivers and benefits of Open Banking initiatives
- Regulatory frameworks around the globe
- Financial functions targeted by open APIs
- Leading players and their initiatives
- Collaboration strategies
- Risks and challenges
- Defining the path to success
Open Banking kick starts the creation of highly innovative, digital financial services through open technology standards, or APIs. These enable commercial banks to share account information and support payments with all types of enterprises.

Driven initially by regulations in Europe and the UK, variations on Open Banking are gaining foothold in the US, Asia/Pacific, and beyond. In the future, the ‘open’ philosophy will impact lending, wealth management, and invoicing as well.

LendIt Fintech conducted this study to provide an update on how far the Open Banking trend has progressed and how great an impact it will have on the financial competitive landscape.

Through research into banks’ developer websites; the latest offerings from commercial banks, fintechs and internet brands; and industry interviews; LendIt affirms the likelihood that Open Banking will restructure the industry in terms of business models and services created through collaboration.

A fundamental question addressed is: what steps must a company take to play a leading role and stay competitive?

“Open Banking is driving a new dynamic whereby traditional banks are bifurcating into product providers or relationships owners.” - Max von Bismarck, Chief Business Officer at Deposit Solutions
Open Banking is a recent phenomenon, arising from European and UK directives in 2015 and 2016 to create a more integrated, innovative, and competitive banking and payments system. It has gained a foothold in the US, Asia/Pacific, and elsewhere as well.

Open Banking is an initiative that instructs banks to share access to account information and payment mechanisms with third-party providers (TPPs). These TPPs – who often are fintech startups, but also may be consumer-facing digital brands or financial transaction processors – access these systems through open technical standards (application programming interfaces, or APIs). They then incorporate this access into compelling financial applications. Examples of such services include voice and chat-controlled account queries; personal financial dashboard apps; budgetary analysis and semi-automated debt reduction counseling; instantaneous product financing, and product insurance offers; and comparison marketplaces for depository products.

While some of these services have been available earlier with limited scope, Open Banking’s industry-wide access democratizes the playing field and ignites innovation. Traditional banks now will not only be competing against other banks, but a range of enterprises offering financial services.

Key drivers of Open Banking

1. Regulations
   A crucial motivation for governments worldwide has been the transformation of the financial services market into a more competitive and innovative one. Federal and regional agencies are drafting regulations to facilitate a more open environment that is receptive to technology players and disruptive ideas, which in turn will empower consumers. Section 2 in this paper addresses relevant regulatory frameworks.

2. Customer expectations
   Consumer demands are evolving. Millennials bank differently than the previous generations. According to a 2016 survey conducted by Accenture, more than 50% of consumers will use a payment initiation service provider (PISP) product, and one-third of debit card payments and one-tenth of credit card payments are expected to move to PISPs by 2020.¹ The younger banking generation requires quickly accessible, personalized, and secure digital services that are also affordable.
APIs have evolved from being optional infrastructure to must-have tools as they allow banks to develop capabilities to succeed in a competitive ecosystem. Instead of reinforcing innovation from the ground-up, APIs afford the potential for rapid product development through the aggregation of existing software functionality. Layer on top of APIs parallel trends in human-language interfaces, big data, and machine learning, and one has the makings of dramatic improvements in customer-centric financial services in the coming years.

Banks have suffered a decline in average return on equity beginning with the 2008 crisis. Apart from battling with traditional competitors, banks are facing the rise of fintechs. Global investment in fintech has hit a record high of USD 58 Bn across 875 deals in first half of 2018, already exceeding the investment for all of 2017. Fintechs have managed to limit the purview of regulators to a degree through non-banking business models, threatening banks with competitor hyper-growth while limiting compliance costs. They say: if you can’t beat them, join them. Open Banking thus encourages banks to collaborate with fintechs and harness their best attributes. These include out-of-the-box ideas, customer-centrism and time to market. According to PwC’s Global Fintech Report 2017, 82% of incumbents expect to increase fintech partnerships in the next three to five years.

Benefits by audience

Not only will customers benefit greatly from new services being fashioned together using Open Banking, but commercial banks, fintech startups, and non-financial companies with broad consumer reach, all can find opportunities to update their strategies and achieve outsized returns.

Benefits to customers

- Open Banking will give consumers much more freedom to compare and seamlessly switch financial service providers, while simultaneously holding their funds at a trusted, well-established bank.
- Consumers will have a real-time view of all their finances on a single platform rather than juggling multiple accounts. This empowers them to make better decisions when dealing with financial products, investments, and expenditures.
- Individuals who may not qualify for traditional banking services or find them too costly, will realize financial inclusiveness benefits including: low-fee or no-fee accounts, alternative credit assessment methods, easy transfers to family and colleagues, account access anywhere via smartphone, and automated 24x7 support in the language of their choice.
- As Open Banking expands, it will also improve the efficiencies of business banking in areas such as accounts-receivable processing.

“If you’re a consumer unhappy with your bank’s service, you can now switch in an instant to a new financial services provider... on an app, without having to transfer your actual bank account.”

Jamie Campbell, Awareness Lead, Bud
Benefits to banks

- Banks have the opportunity to expand their offerings by opening up their core business functions to third-party integration via APIs. The most progressive of banks are building developer portals (websites) and sandboxes (platforms on which to experiment) to nurture innovation ecosystems.
- Enhanced service offerings that are customized to end-users’ needs will help banks drive customer satisfaction.
- Banks will be able to participate in larger profit pools by reaching out to the underserved population.
- Launch of digital-only services will improve banks’ revenues and profitability.
- Banks have a prominent “chair at the table” in terms of participation in regulatory conversations and technical consortia, where they can help define the priorities and details of Open Banking’s technical specifications.

Benefits to fintechs

- With the premise of Open Banking being the ability to seamlessly integrate multiple financial functions and data in a common user experience, fintechs have available numerous paths to innovation through the aggregation of services and data.
- Fintechs will have easy outreach to banks’ customer base. Whereas in other fintech sub-sectors, it has been the startups that drove early customer adoption, with Open Banking it appears to be banks’ existing customer base – paired with compelling applications – that will create the critical mass of adoption.
- Access to vast transactional data held by banks, combined with big data and artificial intelligence techniques, allow fintechs to construct a business strategy around leading-edge analytics and personalization.  
- Fintechs can build virtual services in which they act as the front-end, but refrain from actually holding deposits or offering financial advice. This allows them potentially to circumvent complex and expensive banking compliance requirements. However, there still may be other Open Banking licensing requirements for new enterprises: the UK is registering companies as authorized account information service providers (AISPs) or payment initiation service providers (PISPs). Fintechs may have choices to make as to the regulatory principles under which they will operate. 

Benefits to non-financial service providers, including digital consumer brands

- Involvement with financial transactions and related data is lucrative opportunity, even if one is not a financial company. That’s why digital consumer giants including Google and Facebook are promoting their own payment services. Open Banking benefits these companies by providing a standard interface with which to access consumers’ funds and financial data, instead of building interfaces ad hoc. In the UK, which mandates that banks provide account access APIs to all qualified third-parties, a company like Facebook no longer must negotiate access terms for its Messenger Payments service, with what might be a banking competitor.
- Meanwhile, professional services firms are filling a knowledge gap by sharing leading-edge practices in compliance, data security, forensics, and governance. PwC, for example, has its Financial Crimes unit working with banks on fraud and anti-money laundering, as well as security concerns, related to Open Banking.
2. **REGULATORY FRAMEWORKS AROUND THE GLOBE**

Regulations intended to increase financial innovation and competition kicked off the momentum towards Open Banking. Following the UK and Europe’s lead, other countries and regions have caught on, though with different oversight approaches ranging from issuing high-level guiding principles, to mandating banks to open access to their accounts, to building nationwide infrastructure.

Consortia, which include commercial, regulatory, and non-governmental policy participants, are taking up the baton where government directives leave off. While most attention has been paid to technical API definitions, there is a growing realization that governance issues such as data ownership, privacy, and responsibility in case of data breach will require a combination of compliance and consensual best practices.

The first, soft deadlines for support of Open Banking regulations occurred in the past year. Hard deadlines for full implementation are pending in 2019, even as regulations continue to evolve.

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**Regulatory development in different countries**

**United Kingdom**

The UK is the de facto leader in Open Banking driven by activist regulators providing detailed specifications and access requirements. The Open Banking Implementation Entity (OBIE) is responsible for creating relevant standards, under the governance of the Competition and Markets Authority (CMA) and in collaboration with banks, building societies, financial technology companies, third-party providers, and consumer groups. The standards cover the core components of technical specifications, security, customer experience, and conformance & certification.\(^7\)

**Europe**

The second Payment Services Directive (PSD2) requires banks to open up their data to third-parties, causing a revolution in the payments domain. EU member states were expected to incorporate this directive into their national laws by 2018. However, there exists uncertainty surrounding many aspects of PSD2, such as API implementation and technical dissimilarities. The European Banking Authority’s Regulatory Technical Standards (RTS) only specify technical framework conditions related to payments (cards and e-wallets). Its next specification on the critical issues of strong customer authentication and secure standards of communication is to be released on 14 September, 2019.\(^8\) This, coupled with the absence of a pan-European implementation entity, has caused a significant gap affecting PSD2.

The Swiss Open Finance API (SOFA), driven by the Swiss Fintech Innovation Association (SFTI), aims to implement standardized APIs for their Open Banking sector. The common standard will have huge implications and benefit the overall financial industry including customers.
Imagine if the banking sector was as open to universal standards as the telecom industry, where typing a dozen digits on a phone places a call anywhere in the world.

Nigel Verdon, CEO of Railsbank

United States of America
There are no specific regulations designated for Open Banking, however federal authorities have issued guidance. George Throckmorton, a Managing Director at NACHA, the Electronic Payments Association, believes “the CFPB and Treasury Department have done a good job providing high-level principles for the development of open standards. They are in learning mode. We’re encouraged, however, that market participants are leading the discussion about the biggest opportunities and practical priorities for standards implementation.”

Australia
Australia’s Competition and Consumer Commission is planning that the big four banks – ANZ, the Commonwealth Bank of Australia, NAB, and Westpac – will have to make banking data available to third-party providers by June 2019. The Open Banking initiative is a subset of the evolving Consumer Data Right (CDR) framework.

China
Mainland China is enjoying benefits similar to those of Open Banking through pervasive adoption of mobile banking and social apps, with government openness to well-regulated innovation. However, there are no truly open standards as yet. In July 2018, the Hong Kong Monetary Authority (HKMA) published the Open Application Programming Interface Framework for the banking sector and announced the launch of Open API on its website.

Singapore
Singapore is taking a different approach than Europe by not enforcing rules for banks to open access to data. The Monetary Authority of Singapore has endorsed guidelines for Open Banking without any regulatory supervision. It is working on building a public API architecture and developing common standards to permit new uses of data by financial institutions.

Regulatory differences hinder but don’t halt progress
There is a tension between the global nature of financial services and local approaches to Open Banking regulation. Since consumer payments have common characteristics, why not strive for globally-standard APIs? Long-time industry executives expressed skepticism to LendIt that this will occur. Different locations possess different philosophies about the roles of government and free-market forces in driving innovation. With a related standard, ISO-20022 for financial transactions, the industry has arrived at variations by region while still implementing it worldwide. Similar variances in Open Banking could give advantage to the largest banks that can invest across regions, bias fintechs to focus on just one market initially, and encourage enterprise technologists to offer cross-API integration hubs.
At the core of Open Banking are technical specifications, known as APIs (application programming interfaces), which allow financial systems to seamlessly yet securely share access to data and process transactions across parties. By promoting openly-published API specifications, Open Banking generates the types of innovation possible through collaboration across a variety of enterprises. Expect whole ecosystems of interoperable applications, and even online marketplaces, to emerge.

Account information access and payment initiation are the leading functions for which banks are developing APIs for consumers, prompted by the most well-known Open Banking regulation, the EU’s revised Payment Services Directive. In 2018, BBVA became the first major European bank to partially implement PSD2 by opening up eight of its core banking APIs in Spain.¹²

Other opportunities exist to apply the principles of open API standards to other financial services. Amir Nooriala, COO of OakNorth, a progressive commercial bank, notes that “In lending, APIs are already in use for credit checks. This easily can be expanded to cover larger loans on simple products, as well as automate repayments.” Investment management, trading, and FX are still-emerging segments, being a focus for major banks that target corporate customers.

Examples of API successes:

**Yolt**, owned by ING, is the first third-party provider to successfully complete API connections under the new Open Banking regulation, partnering with nine major high street banks in the UK.¹³

Hamburg-based **Deposit Solutions** has built a platform that allows banks to offer attractive third-party deposit products through their own customers’ existing accounts. Thus, banks can expand their offerings without building new retail distribution channels or setting up shop in new geographies. They have mediated over EUR 9 Bn in deposits to date.

**Spiir** is a Danish startup that received an investment of EUR 3.25 Mn from Danske Bank for their new Nordic API Gateway platform.¹⁴

**Major API Types**

<table>
<thead>
<tr>
<th>Financial Function</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td><strong>Account Information</strong></td>
<td>32.9%</td>
</tr>
<tr>
<td><strong>Payments/Transfers</strong></td>
<td>28.7%</td>
</tr>
<tr>
<td><strong>Transaction</strong></td>
<td>18.2%</td>
</tr>
<tr>
<td><strong>Lending/Financing</strong></td>
<td>7.0%</td>
</tr>
<tr>
<td><strong>Location/Branch</strong></td>
<td>7.0%</td>
</tr>
<tr>
<td><strong>Forex</strong></td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>Investment</strong></td>
<td>6.3%</td>
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</table>

**Note:** The infographic is based on LendIt’s review of 42 major banks’ Open Banking developer websites across Europe, the Americas, and RoW. The percentages represent the fraction of banks developing or supporting APIs in a particular financial function.
Financial services firms are waking up to the potential of Open Banking as a competitive game changer, rather than merely a regulatory pressure, as they face the threat of disintermediation from their customers. Leveraging open APIs as a democratizing force, a variety of companies and sectors now will be able to strive for market niche leadership. “The whole notion of who owns the customer will change. It’s no longer about who provides the current savings account, but rather which brand provides enough value enough to warrant the consumer’s full attention. That company can become one of the new banking leaders, whether you’re a traditional financial firm, a media giant, or a fintech startup.” Jamie Campbell, Awareness lead at the company Bud.

**Major initiatives by segment**

**Traditional/high street banks:**

By collaborating with fintech startups, TPPs, and payment gateways, high street banks are embracing the demands for API-based modular architectures. A number of leading banks are launching their own apps and services to compete in the race of Open Banking. HSBC became the first big bank in the UK to launch a standalone Open Banking app, called ‘Connected Money’, which allows customers to access other bank accounts, credit cards, and loans. Several banks are taking a coordinated approach by supporting an API development exchange, the Open Banking API Accelerator from Apigee (now part of Google). The UK’s big banks like Barclays and Royal Bank of Scotland have taken a more compliance-oriented approach, as opposed to competitors such as HSBC and ING who are advancing their own API-based apps as a strategic move. In addition, traditional banks are collaborating with individual fintech startups and TPPs, strengthening the aggregator model, such as Chase’s partnership with Intuit and Wells Fargo’s partnership with Xero and Finicity. The partnership will help aggregators’ clients assess bank customers’ data for potential business without compromising on its security.

Trust remains an entrenched asset of traditional banks. George Throckmorton, at NACHA, the Electronic Payments Association, believes that “Consumers and businesses likely will continue to rely on banks to store and protect consumer deposits.”

**Challenger banks:**

- **Specialist banks:** These banks provide alternative solutions that are presented to consumers through aggregators. They are making their way in the Open Banking space by partnering with other financial service providers and broadening their reach to underserved markets through account plug-in services. A well known example is Fidor Bank, which developed its in-house technology platform, while also licensing it to other financial institutions. Another example is Fiinu, a bank that is expected to start operating in early 2019. Its operations are mainly focused on lending. However, it aims to monetize card usage, cryptocurrency trading, FX trading, international transfer fees, and packaged accounts, particularly targeted at millennials, young adults and consumers with local credit scores.
• **Digital-only banks**: Digital-only players include branchless/mobile-only banks. These neo-banks can have an advantage over traditional banks when their systems and services are modularly-constructed and API-based natively. In addition, digital banks are serving as innovation partners or acquisition targets either for traditional banking groups or large players in other industries – telecom, technology, retail, and so on – which have an interest in financial services. Starling Bank has been the first UK lender to offer a developer API for its services, with complete documentation and a sandbox testing environment. Some digital-only banks are offering APIs to other banks and fintech companies to quickly build digital capabilities. E.g., Monzo offers current account services, debit cards, mobile money transfers, a spending analyzer, and integration with other apps for payments.

**Fintech companies:**

• Open banking has enabled fintech companies to offer banking customers a superior experience with access to wide range of financial products and services. TrueLayer is helping financial institutions open access to third-parties of a bank’s data. Companies like Bud are taking more of an aggregator strategy, enabling any of more than 80 open financial applications to plug into their best-of-breed, mobile/web financial dashboard, supporting transfers, budget monitoring, and more. In parallel, Bud operates a marketplace for learning about and acquiring those partner apps.

• Tech companies also are providing banks API implementation and integration support. For example, Railsbank is wrapping APIs in an environment that allows banks to deploy initial functionality within just 5 lines of code. ForgeRock launched a directory sandbox for financial institutions to test their APIs for authentication, security, and customer identity management.

**Non-bank players:**

These players generally supplement their core offerings by partnering with banks or fintechs to offer consumers a full-service experience including but not limited to banking. By developing capabilities such as data analytics and customer value proposition development, players like Sainsbury’s, Tesco, and others are offering unique value to customers. Leading digital consumer platforms, such as Apple, Google, Facebook, Alibaba and Tencent are leveraging their massive customer base and pervasive user interfaces (smartphones, social chat, chatbots) to tap into the banking system, enhance revenues, and gather more data about customer needs.
Identifying opportunities in Open Banking

Commercial banks are well positioned to leverage the opportunity in an Open Banking environment through new business models and data-driven services. Moreover, banks can harness customer insights to move from a “product-centric” culture to a “customer-centric” culture in the following ways:

- **Focusing on improved customer experience:**
  More and more consumer experience-based partnerships will help differentiate and build new revenue streams. The data that Open Banking players collect (with permission) open new avenues for serving customers and profiting from analysis of their needs. Jamie Campbell of Bud explains, “The goal is to create ‘flag moments’ to connect with customers. For example, spend GBP 500 on Virgin Atlantic Airlines and be offered travel insurance from an Open Banking partner’s API-integrated service.”

- **Extending value propositions through partnerships:**
  Starling Bank is pursuing an ecosystem strategy and has launched a “Marketplace” that allows third-parties to add products to the platform that can be accessed through its mobile app. It plans to bolster international expansion with multi-currency accounts while providing financial services that includes pensions, savings, travel insurance, and mortgage brokerage.

- **Optimizing distribution models and focus on digital channels of interaction:**
  This will meet the customer demands for availability and accessibility. ING’s app Yolt is a digital-only personal financial management dashboard that allows customers to link to all their existing accounts in one place. Yolt also features an online finance coach that reminds customers of the time left until payday as well as available balance predictions based on recurring direct debits.

- **Positioning ‘banking-as-a-service’ as a viable strategic option for financial institutions:**
  Germany-based Solaris Bank was the first to provide a fully licensed, turnkey banking platform aimed at fintechs. Fidor Bank's platform also offers payments, transaction, deposit, and credit services, as well as compliance solutions.
During the past year, banks, fintech startups, and TPPs have been collaborating to launch new apps and services. In addition, large incumbent banks are also creating APIs in-house, as well as collaborating with small fintech startups to integrate innovative technologies. For example, First Direct, a subsidiary of HSBC, entered into a partnership with London-based fintech Bud, which is providing the API integration layer to connect financial services from scores of providers into one app. Meanwhile, Barclays tied up with PayPal to offer customer services to manage their money and payments. In addition, Starling Bank partnered with Flux, an app that collects loyalty cards into a single online wallet.

Many other traditional banks are working on their in-house capabilities: HSBC has ‘Connected Money’ while BBVA has Denizen. These partnerships incorporate spending analyzer, money management, loyalty management, budget management, digital receipts, and debt tracking as their key services.

Open Banking players are learning from the collaborative strategies used in fintech lending. Whereas the early stages of online lending innovation were marked by debate over whether fintechs or banks would ‘win’ market leadership and how, banks and fintechs in Open Banking are starting early on combining their strengths. Indeed, collaboration is now an unavoidable strategy in this space. The collaborations are taking the form of partnerships as well as early M&A activity.

Recent M&A or partnerships of leading banks in the Open Banking space:

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- Many other traditional banks are working on their in-house capabilities: HSBC has ‘Connected Money’ while BBVA has Denizen. These partnerships incorporate spending analyzer, money management, loyalty management, budget management, digital receipts, and debt tracking as their key services.
This representative list of partnerships and merger activity in Open Banking is based on LendIt’s research of banks’ websites and public news.

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<th>Bank</th>
<th>Fintech/Third-Party Provider</th>
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<td>Atom</td>
<td>Deposit Solutions</td>
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<td>Barclays</td>
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<td>JPMorgan Chase</td>
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<td>Quantiguous Solutions</td>
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<td>RBS</td>
<td>FreeAgent</td>
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## Threat of disintermediation

Open APIs help modularize the functions of customer acquisition, user application development, sophisticated advisory services, and back-office processing. This raises existential questions for today’s financial services leaders about which activities to keep in-house, which will deliver long-term profitability, and how to retain customer loyalty in an environment where the end-users’ primary attachment may be to someone else’s application.

### Traditional banks:

- Third-party providers or fintech players may disintermediate banks’ interaction with customers by offering low cost, innovative financial products by accessing bank’s data. Big banks facing threat of disintermediation are partnering with third-party providers and fintech companies to offer a wide range of services to help their customers.
- Major banks have launched their own APIs through fintech ventures/apps. For example ING-owned Yolt allows users to optimize their money management by letting them see the balances of their bank accounts from multiple banks. CMA9 and challenger banks such as Monzo also are collaborating with Yolt.

To address disintermediation head-on, Nigel Verdon, CEO of Railsbank, proposes that traditional banks consider incorporating a ‘utility bank’ strategy, where they are paid by the customer-facing company to provide core deposit services as well as reinforce consumer trust. “Traditionally with consumer bank accounts, the cost of customer acquisition could be USD 350 while the lifetime value was only USD 250; a losing proposition. With a utility banking model, the cost of acquiring a customer account could be USD 10 while the lifetime value of that account may be USD 40 - profitable, even though the bank no longer owns the customer relationship.” This approach of course can complement direct customer acquisition and retention, if the bank carefully distinguishes customer segments and matches them to the optimal channels.

### Payment service providers (PSPs):

- Open Banking is likely to impact payment service providers such as Visa, PayPal, and MasterCard due to disintermediation. Visa and Mastercard are responding by playing the role of facilitator, building trust in the ecosystem to drive Open Banking transformation. These players are forging partnerships across the value chain to be part of the next phase of innovation in payments, endorsing the Open Banking initiative and the new line of up-and-coming fintech players.
- Mastercard plans to facilitate the Open Banking transformation by offering solutions such as a directory of third-party providers, fraud monitoring services, dispute resolution mechanisms, and connectivity hubs that will help third-parties establish and maintain communication with banks.
- Visa is focusing on partnerships and investments (USD 100 Mn investment fund) in fintech startups to build APIs for third-party providers and banks for transaction processing, authorization, fraud prevention self-checkouts, and people-to-people payments.

Despite these steps, fintech companies such as Vibe Pay are likely to diminish the dominance of well-established payment gateways and traditional banking products (debit/credit cards). Because of open APIs, which allow for peer-to-peer transfers among application providers and funds repositories, no longer is a central “switch” essential to the clearance of transactions.

“If banks are willing to challenge their a priori beliefs, there are multiple ways to win in this new world.”

Frank Rotman, Partner, QED Investors
6. **RISKS AND CHALLENGES**

The exchange of sensitive data across multiple parties gives rise to challenges and risks ranging from consumer-related concerns to data-oriented threats, since opening up the marketplace increases the attack surface exposed to cyber criminals.

**Customer Adoption Challenges**

- “Customer inertia is an entrenched feature of the banking system.” Max von Bismarck, Chief Business Officer at Deposit Solutions, notes that in the UK, 85% of current accounts remain with the five largest banks, despite the regulatory efforts to diversify this.

- Trust in the robustness of data security is limited. Baby boomers, for example, have been found reluctant to share information via bank account aggregation apps, even though they have the most account providers on average to track. Any news-worthy system breach could set back adoption.

- The Global Data Protection Regulation (GDPR) has raised the bar for individuals to control which parties compile and make use of their data and for how long. Nuances in how third-parties gain data access can create uncertainty about implementing and explaining the expected controls.

**Mitigation**

- Providers should focus on novel applications with exceptional service delivery foremost, while reserving moderate investment in public relations to explain “Open Banking.”

- Customers must be educated about the security measures inherent in Open Banking ID authentication and understand their rights over use of data about themselves.

- Regulations and industry associations should direct industry players to commit to prompt and fully transparent reporting of breaches.

**Governance Risks**

- Third-party providers may store – or simply access – parties’ financial data. A data breach at their end at minimum exposes an individual account but worse, could provide clues to access weaknesses that lead to large-scale hacking. Legally or reputation wise, it is untested ground whether the TPP or account-holding bank generally will be regarded responsible.

- With so much focus on technical standards, the open banking world lags significantly in working through issues of inter-party responsibilities. "When it comes to devising governance rules for data sharing and protection, leading banks are largely working out the details on their own. It depends on their innovation & risk profile." Vikas Agarwal, Financial Crime & Analytics Technology Leader, PwC

**Mitigation**

- Banks should establish rigorous security and reporting certification procedures for potential partners, to protect their reputation and that of the entire industry.
Cyber-security Risks

- **Cyber-security**: With Open Banking, banks’ sensitive data perimeters are extended outside their corporate premises. Aggregated customer data such as transactions and balances held in third-party providers’ infrastructure and servers pose a significant risk to its security that could lead to system, protocol, or network vulnerabilities.

- **Fraud**: As banks aim to go more digital, operations will be further managed over the web using automated processes. This creates new opportunities for fraudulent activities and demands new techniques of monitoring for fraud, although overall, AI/machine learning techniques are improving real-time fraud detection.

- **Compromising mobile devices**: Scammers disguised as outside sources and third-party vendors can trick customers or their phone companies into sharing/resetting login information. By capturing control of large volumes of devices, cybercriminals can raise their profile and increase their ability to either attack devices directly or use them to launch distributed denial-of-service (DDoS) campaigns.

Risk Mitigation

**Strong security frameworks**

- Thorough risk assessment including the identification, classification, and evaluation of processes and assets.
- Monitoring of the integrity of data and systems, as well as employees and third party staff.
- Independent testing of security measures.
- Support for the evolution of more robust, open API security standards. Adhere to the “strong customer authentication” practices (mandated for continental banks as of late 2019) by the European Banking Authority.

**Use transaction risk analysis**

- Transaction risk analysis can be used to detect abnormal behavior in requests originating from third-party providers, identify suspicious transactions from those TPPs, and detect atypical sequences of API calls, all in real time.

**Request independent security audit reports from third-party providers**

- The European Commission has anticipated security risks under PSD2 and therefore requires PSPs and third-party providers to manage operational and security risks relating to the financial services they provide.
- Banks should request that third-party providers provide independent security testing reports in order to verify the maturity of their security practices.

**Choose the right authentication models**

- Authentication should combine at least two out of three from among: something the customers’ know (e.g., a password), something they have (a phone app or ID token), and something they embody in terms of biometrics.
- Using a model that places the authentication process with the bank itself instead of third-party providers will be beneficial for banks.

**Protect the communication channel with third-party providers**

- Banks must protect data exchange with their third-party providers, for example, through mutual authentication between a bank and TPP using SSL/TSL protocols and by separating the channels on which financial transaction and authentication information is transmitted.

“**In the event that any financial company or third-party provider suffers a data breach due to an Open Banking approach, the entire initiative could take three steps backward in terms of trust and consumer adoption.**”

Vikas Agarwal, Financial Crime & Analytics Technology Leader, PwC
7. DEFINING THE PATH TO SUCCESS

According to a report from PwC in association with the Open Data Institute, “Open Banking has the potential to create a revenue opportunity of at least GBP 7.2 Bn by 2022 across retail and SME markets.” Payments and account information services are the priority for banks and fintech companies over the short term. However, neither this forecast of direct revenues from Open Banking offerings, nor the current emphasis on consumer accounts and payments, give a true sense of the substantial impact this open paradigm will have on financial services.

The opportunities and benefits of Open Banking will accrue not only to those with financial means and technology sophistication. Railsbank’s CEO Nigel Verdon comments: “There are 92 million unbanked adults in Europe, including the UK, today. The solutions that derive from API-based banking functionality will open up new modes of account access, such as by mobile device and online chat, and will eliminate barriers to individuals being eligible for low-cost accounts and robust support.”

Success in Open Banking depends on number of factors, including customer adoption, regulatory standards, data sharing policies, and further API development.

**Customer adoption is the primary driver of success**

Open Banking facilitates access through a variety of channels, including smartphone apps, chatbot-fronted social media accounts, and voice-activated home controls. Would-be competitors must invest in user experience design skills, or partner with a firm that possesses these. Jamie Campbell of Bud highlights “the barrier to market entry is much lower when all you need is to download an app. For example, buy a new smart phone and access an app to be evaluated for product financing on the spot. Compelling apps will drive user adoption, overcoming hesitancies about sharing personal data.”

Still, regulators will strive to better protect their citizens’ rights with respect to data privacy and sharing with permission. “Individuals have become much more sophisticated in understanding how their data is used to target them. As such, consent and transparency are paramount,” according to Amir Nooriala of OakNorth. In Europe, 2018’s effective date for the Global Data Protection Regulation (GDPR) is a major step toward ameliorating these concerns. Company executives, marketers, lawyers and technologists must focus proactively on understanding data privacy trends in order to respect the rights of customers while effectively marketing and delivering their offerings.
Policies or initiatives that will help drive growth of Open Banking

• **Strong customer authentication and data security policies**: Customers need to feel they have complete control over personal or business data that is to be shared with other third-parties.

• **Increased connectivity, customer awareness, and best practices**: Banks and fintech players need to collaborate and even share best practices in order to create a trusted ecosystem. Banks and regulatory agencies need to expand customer awareness by explaining the benefits of Open Banking and what value it adds for customers. The connectivity to different platforms and services would be the key for customers to truly enjoy the unified experience.

• **Governance framework and trust**: Commonly-accepted governance policies need to be established in order for customers to select trusted TPPs. For example, a publically available directory of apps approved by the regulator should be maintained.

**API and solution areas to prioritize**

Nigel Verdon of Railsbank, points out that “the current Open Banking standards define a limited number of functions. In of themselves, API specifications like those in PSD2 will be insufficient to fulfill market demand [for revamped financial services]. We must look to customer-centric innovators – not just technical and regulatory committees – to hone in on the next generation of compelling applications and the APIs needed to support them.”

To play a leading role in Open Banking, organizations may choose to focus on one or more of the following areas of current open APIs or APIs that need standardization (in the cases of “Extensions to core functionality” and “Other financial services” below):

- **Core Open Banking functionality**: account information access; simple payment transfers from any chosen point-of-access to any selected, open access-based store of value.

- **Aggregation**: centralize monitoring of all one’s bank accounts; provide a marketplace of plug-in, add-on services like product financing or product insurance.

- **Financial management and advice**: spend analysis; budgeting; money management; reminders; debt management.

- **Transparency**: Comparison of financial products/services; location intelligence.

Continued next page...
Frank Rotman, Partner at QED Investors, offers a compelling analogy about the state of banking. Just as Copernicus revolutionized the world’s view of itself by asserting that the Earth isn’t the center of the universe, the Open Banking wave will revolutionize the financial services industry by asserting the customer (not the bank) as true center of its universe.27

Practically speaking, banks must carefully evaluate their long-term operational, distribution, and collaboration strategies. More targeted customer segment selection, plus concentration on core in-house expertise, and outsourcing of auxiliary front-end or back-end processes and software will allow them to act more nimbly.

Fintechs meanwhile must continually refine their strategies, targeting a value-chain niche and building a defensible moat. Available business models include user experience design, financial information aggregation, analytics & insights, application marketplaces, financial service/price comparison malls, and technology integration gateways.

Although 2018 remains early in terms of Open Banking implementation, the future is clearly a dynamic one and the time to prepare is now.

**Security & trust:** strong authentication & authorization; fraud management/alerts.

**Connect & control:** directory of regulated/registered third-party providers; connectivity among service providers.

**Other financial services ripe for open-access standards:** invoice presentation and accounts/receivable reconciliation; robo-advising/aggregation of securities-holding accounts.

**Extensions to core Open Banking functionality:** multi-destination payments; creation of IBANs/new bank account numbers; issuance of credit/debit cards; currency conversion.

**A time to revisit business strategy**

Frank Rotman, Partner at QED Investors, offers a compelling analogy about the state of banking. Just as Copernicus revolutionized the world’s view of itself by asserting that the Earth isn’t the center of the universe, the Open Banking wave will revolutionize the financial services industry by asserting the customer (not the bank) as true center of its universe.27

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Although 2018 remains early in terms of Open Banking implementation, the future is clearly a dynamic one and the time to prepare is now.
This addendum lists specific Open Banking API types being developed or currently supported by a selection of prominent banks, based on research into their online development portals. Color coding is used to depict the regional (Europe, Americas, Rest-of-World) orientation of each API type at a given bank, with respect to supporting the regulatory requirements or consortia-driven definitions of those APIs for that region.

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Color coding: Europe = Blue, Americas = Black, Rest-of-World = Grey
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### Developer portals and API support by banks

Below are the websites for banks’ developer portals and information hubs researched during production of this white paper.

- **ABN Amro Bank**: https://developer.abnamro.com/
- **Absa**: http://developer.modjadji.org/
- **Adam Bank**: http://openbankingapis.io/uk/adam-bank
- **Allied Irish Bank (GB)**: http://openbankingapis.io/ireland/allied-irish-bank
- **Australian Payments Council**: https://apc.openbankproject.com/
- **Banco Original**: https://developers.original.com.br/services
- **Bank of Ireland**: http://openbankingapis.io/ireland/bank-of-ireland
- **Barclays Bank PLC**: https://developer.barclays.com/open-banking
- **BBVA Bank**: https://www.bbvaapimarket.com/products
- **BNP Paribas**: https://bnpparribas-api.openbankproject.com/
- **Bunq Bank**: https://www.bunq.com/api
- **Capital One**: http://api.reimaginebanking.com/
- **Citibank**: https://sandbox.developerhub.citi.com/api-catalog-list?field_api_market_tid=42
- **Coutts Bank**: http://openbankingapis.io/uk/coutts-bank
- **Credit Agricole**: https://www.creditagricolestore.fr/catalogue-d-idees.html
- **Deutsche Bank**: https://developer.db.com/#/
- **Esme Bank**: http://openbankingapis.io/uk/esme-bank
- **Fidor**: https://www.fidor.com/solutions/developer
- **First Trust Bank**: http://openbankingapis.io/uk/first-trust-bank
- **Halifax Bank**: http://openbankingapis.io/uk/halifax-bank
- **Hellenic Bank**: https://openapis.hellenicbank.com/
Partnerships and M&As reference links

https://www.fundingcircle.com/blog/2014/06/funding-circle-santander-announce-partnership-support-thousands-uk-businesses/
https://techcrunch.com/2017/08/14/tail-at/
http://www.altfi.com/article/3973_debt_tracker_emma_integrates_with_monzo
http://www.altfi.com/article/4086_monzo_launches_api_with_moneybox
https://www.ing.com/Newsroom/All-news/Press-releases/INGs-money-management-platform-Yolt-expands-to-France-and-Italy-1.htm
Reference links

5. https://blog.truelayer.com/ais-to-register-or-not-to-register-51923af02d7
15. https://www.wired.co.uk/article/open-banking-cma-psd2-explained
17. https://apigee.com/about/blog/digital-business/do-you-really-want-be-next-big-banking-platform
About

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LendIt Fintech hosts three conferences annually: our flagship conference LendIt Fintech USA as well as LendIt Fintech Europe in London and LendIt Fintech China in Shanghai.

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