

2022 report

The next frontier
for open banking

From open banking to open data economies

Foreword

by Daniel Kjellén,
Tink CEO

It's easy to forget how much our lives have changed in the last couple of years. We've confronted a raging pandemic that forced digital transformation to take a huge leap forward. Many financial executives may feel as if the industry is moving too fast: with new regulations, technologies and challengers around every corner. On the other hand, some may feel as if it's not moving fast enough. With slow adoption rates, open banking is not living up to its full potential. Yet.

But open banking is not a goal or a destination – it's a means to an end. The end of meeting customer expectations while improving operations. Access to financial data unlocks countless opportunities to improve experiences and create more inclusive financial ecosystems. And there's still so much untapped potential that can be created from open banking technologies in order to enhance core banking services.

In fact, the most exciting opportunities are still ahead of us – we haven't come this far for the journey to end here. Open banking is evolving and expanding into open finance, which in turn will power the transition towards embedded financial services. In embedded finance, payments, loans, and even insurance become completely invisible to the customer.

This has the potential to change the role that financial institutions play in our lives, from a provider of financial services to an enabler of all industries. A change that has long been anticipated by both B2C and B2B customers.

That's why the next step in this evolution process is the creation of open data economies. Customers expect to be able to rely on their bank wherever they go – and open data economies are the way to meet those expectations.

Tink's mission is to power this new world of finance; to enable financial service providers to evolve and continue meeting customer expectations. We have been a prominent leader in open banking since 2012, serving some of the largest financial institutions in the world – including BNP Paribas, BBVA, and NatWest – as well as a long list of the industry's rising stars such as Snoop, Xero, and Anyfin. We're helping our customers and partners navigate where to go next as they recognise that beyond banking lies a world which will allow for unparalleled innovation and collaboration.

We hope you are as excited about this opportunity as we are.

As always, don't be shy to reach out.



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Executive summary

Since the introduction of open banking in 2018, banks have been longing to explore opportunities to take the available technologies a step further. To help transform how businesses operate and interact with financial institutions. Open banking has largely been defined by regulations that aim to increase transparency, security, and control around the access to information and services. **But open finance will allow us to unlock the next frontier of financial services.**

Around the world, open banking and open finance are being defined by a combination of push-and-pull factors. Regulations that support the exchange of data as well as market demand are driving innovation and competition in countries such as Sweden and the United Kingdom. As financial institutions embark on their open banking journeys, it's important that they continue to monitor how it's developing in their neighbouring jurisdictions.

The insights in this report make it clear that the opportunities for open finance will be unlocked sooner rather than later. **While Europe is trailblazing open banking developments, countries in South America and Asia are not far behind.** It's evident that where demand is strong, the industry is more likely to come together to launch frameworks for banking-as-a-service and embedded finance.

Embedded finance has been considered the ultimate application of open banking technologies, making financial services invisible to the naked eye. The efforts taken to build out banking-as-a-service capabilities will define banks' potential success in this space. Ultimately, these efforts will allow them to create programmes that are at the very foundation of an open data economy.

To get to this point, we believe that it is necessary to have a level playing field with the right to data access being equal to all market participants. Getting there will require further support from the regulators, but it is also important that the financial sector approaches use cases as if they are a technology company. Take small steps that deliver quick returns and partner up with experienced service providers with a compatible vision for the future.

Entering a new era of financial services

Last year, we released [a report](#) on how market uncertainty caused by the pandemic is propelling financial executives to focus on the creation of new digital services – to enable them to transition to a world of post-pandemic banking. We are now ready to leave the pandemic behind us and move towards a future where the industry can come together to create long-term value for customers.

The pandemic has put incredible pressure on financial institutions, as they seek to restore profitability, manage inflation, and support digital innovation to keep up with customer expectations.

For most European banks, open banking emerged as a threat or a burden of compliance. However, over the years it has been equally embraced as an opportunity to offset some of the challenges facing banks today – such as creating intuitive experiences, reducing risks of disintermediation, and increasing engagement through financial insights.

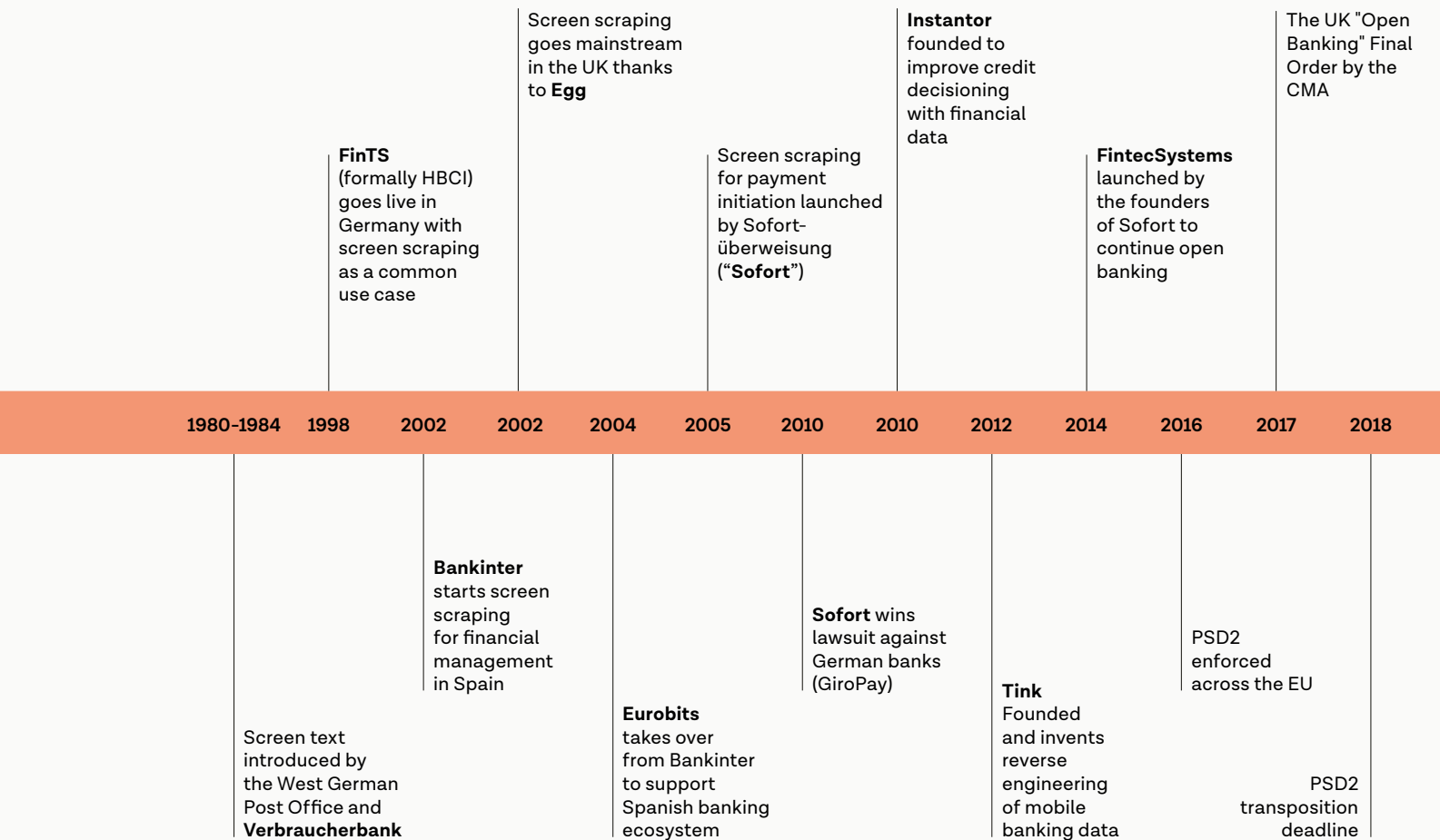
In fact, [our research shows](#) that the share of financial executives showing a positive sentiment towards open banking increased from 55% in 2019 to 71% in 2021. And when asked if they perceived open banking as a revolution or an evolution for the industry, a whopping 83% agreed. It's a revolution.

The open banking movement makes it easier for new competitors to enter the market and for customers to get access to more affordable and personalised services. But it also enables banks to benefit from higher degrees of automation. This, in turn, allows for innovations that increase conversion at onboarding. It improves customer relationships and provides tools to control risk.

As open banking is becoming more established in the market, regulators and industry participants are already starting to talk about open finance and open data as the next frontier of innovation. This report expands on these topics, providing a coherent introduction to open banking and presenting how it is taking shape around the world. In it, we will explore a new definition for open finance, and explain why all of this is driving the market towards a new frontier for open banking – open data economies.



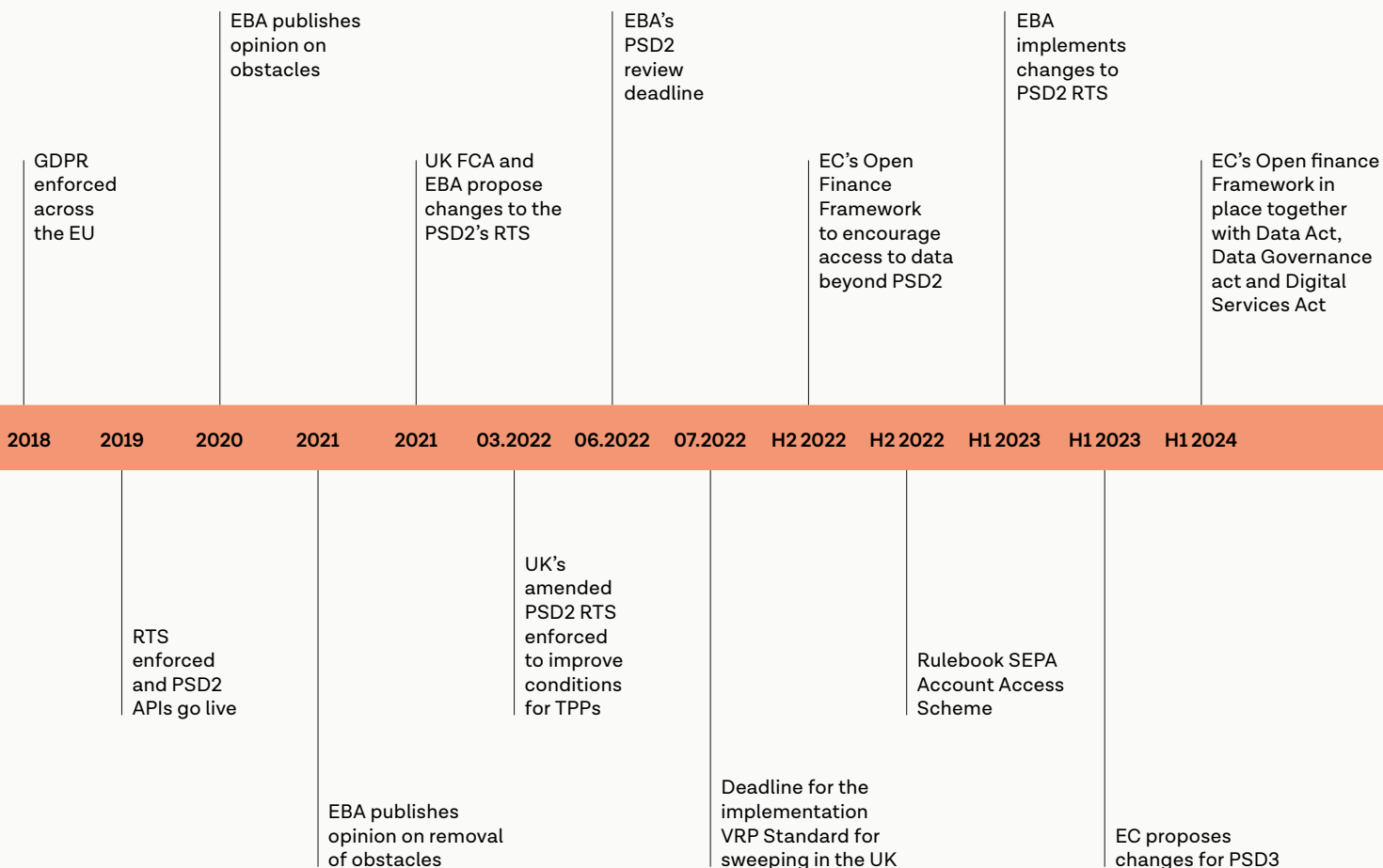
A brief history on open banking in Europe



Before we address where we are today and where we're going, let us explore the history of open banking.

To most people around the world, open banking describes an industry movement defined by the exchange of data and services between financial institutions and third-party providers (TPPs), to deliver enhanced capabilities and experiences to the market.

While the term open banking has been around for decades, it was made popular by the Competition and Markets Authority (CMA) in the United Kingdom (UK) after ordering the nine largest banks to publish application programming interfaces (APIs) with Open Data standards in 2017. The CMA called this remedy 'Open Banking' and it has since created much confusion, as it simultaneously describes an industry movement and an antitrust remedy.



Google Trends on 'open banking'

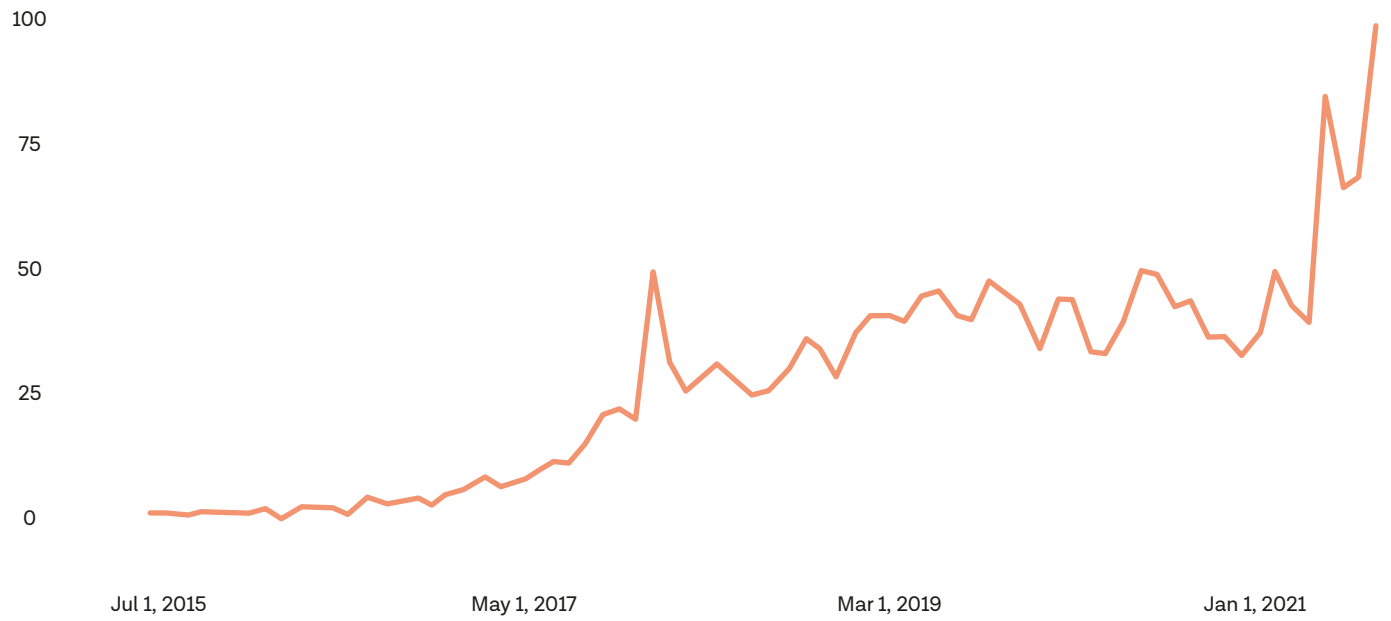


Figure 1
Source: Google Trends, Search term 'open banking',
Worldwide, Jul 1, 2015 - Jan 1, 2021



To find the first European examples of open banking, we need to go way back before the inception of the internet. In 1977, the Deutsche Bundespost (German federal post office) launched a screen text solution called BTX that offered customers of the West German bank Verbraucherbank (today known as Norisbank) the ability to access their bank account on the television. Users would give permission to Deutsche Bundespost to access their bank account in order to display their balance, transaction history, and savings on the TV and purchase products from various mail-order companies such as Otto, Neckermann, and even TUI travel. Making financial data available and accessible via TPPs was a revolutionary idea at the time and may have been one of the first attempts at building an open banking ecosystem.

(BTX) Bildschirmtext der Verbraucherbank AG



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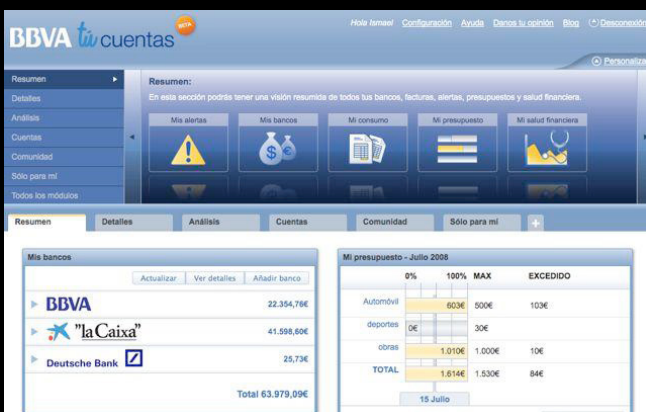
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Goldener Beterix
für vorbildliche Leistungen
als Bildschirmtext-Pionier

Advertisement by Verbraucherbank for the BTX service known as 'My bank in the living room' from the 1981

Source: Heise Online, 'Vor 30 Jahren: Online-Banking startet in Deutschland', November 2010



Screenshot of the multi-banking solution BBVA tú cuentas (2008)

Source: Forrester, 'Case Study: BBVA's Tú Cuentas Shows What Next-Generation Online Banking Will Look Like', July 2008

Since then, there have been countless applications of open banking. For example the first online bank in the UK, Egg Banking plc., introduced an aggregation service called Egg Money Manager in 2001, which enabled customers to view and manage their payment, savings, and credit card accounts from any British bank via a single web page. In some cases, customers would be able to view other products such as investments, their mortgage and any personal loans too. But Egg wasn't the only bank doing this in Europe. Similar solutions were being launched in countries such as Spain, Portugal, Belgium, and Sweden, where Tink pioneered the aggregation of financial data via the customer's mobile banking interface in 2012.

Regulating access to payment accounts

Seeing how new technologies that provided access to accounts had swept the industry, giving rise to a generation of payment service providers, the European Commission (EC) proposed the revised payments services directive (PSD2) in 2013.

Today, PSD2 has been fully enforced and transposed by the Member States of the European Union (EU). PSD2 regulates access to payment accounts for authorised account information services providers (AISPs) and payment initiation service providers (PISPs). These TPPs can only access payment accounts under strict conditions. The EC believed this would level the playing field for all payment service providers, making payments more secure, and increasing consumer protection.

PSD2 regulates access to payment accounts for authorised account information services providers (AISPs) and payment initiation service providers (PISPs).

SCA – strong customer authentication

PSD2 is complemented by a set of delegated regulations drafted by the European Banking Authority (EBA), known as the Regulatory Technical Standards (RTS). There's one delegated regulation for strong customer authentication (SCA) and common and secure open standards of communication (CSC), which was enforced on 14 September 2019. Despite the name, the RTS for SCA and CSC, is neither a standard nor technical. This regulation specifies when and where banks need to apply SCA and gives banks operating in the EU the option to provide a dedicated interface – typically an application programming interface (API) – to give TPPs secure access payment account information and initiative payments on behalf of a customer. These dedicated interfaces are typically referred to in the industry as PSD2 APIs.

A growing number of TPPs

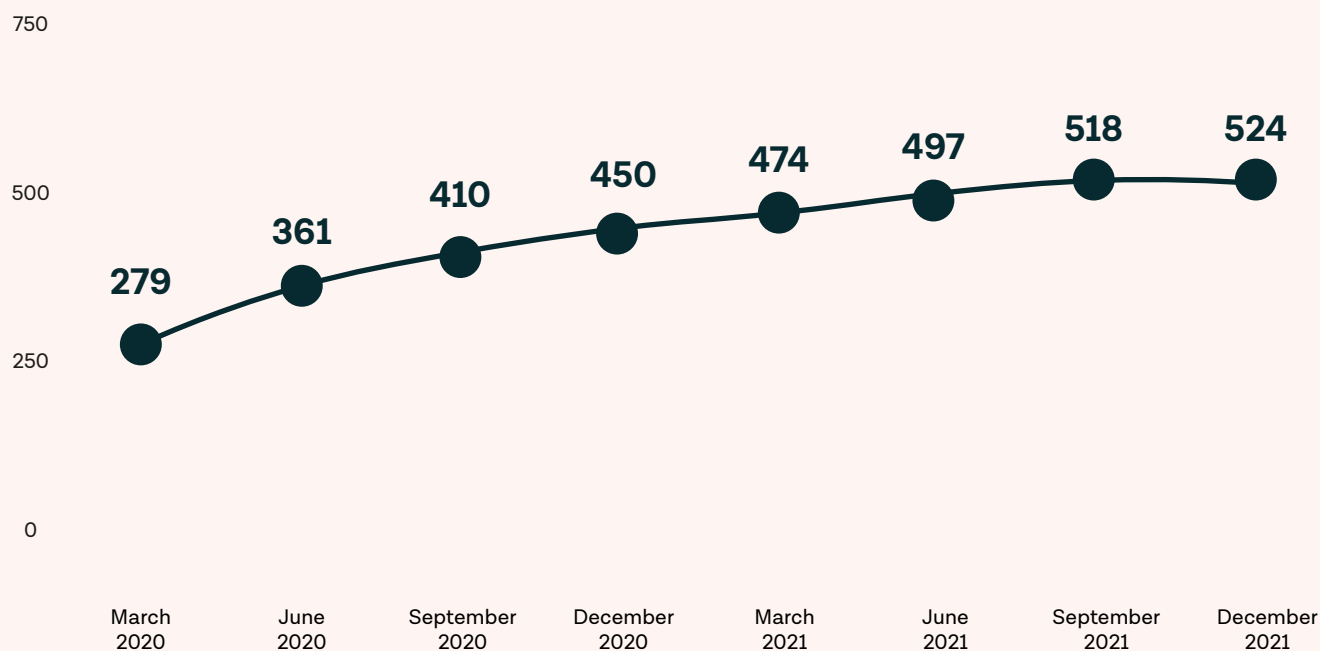


Figure 2
Source: Konsentus, Q4 2021 Third Party Provider
Open Banking Tracker, January 2022

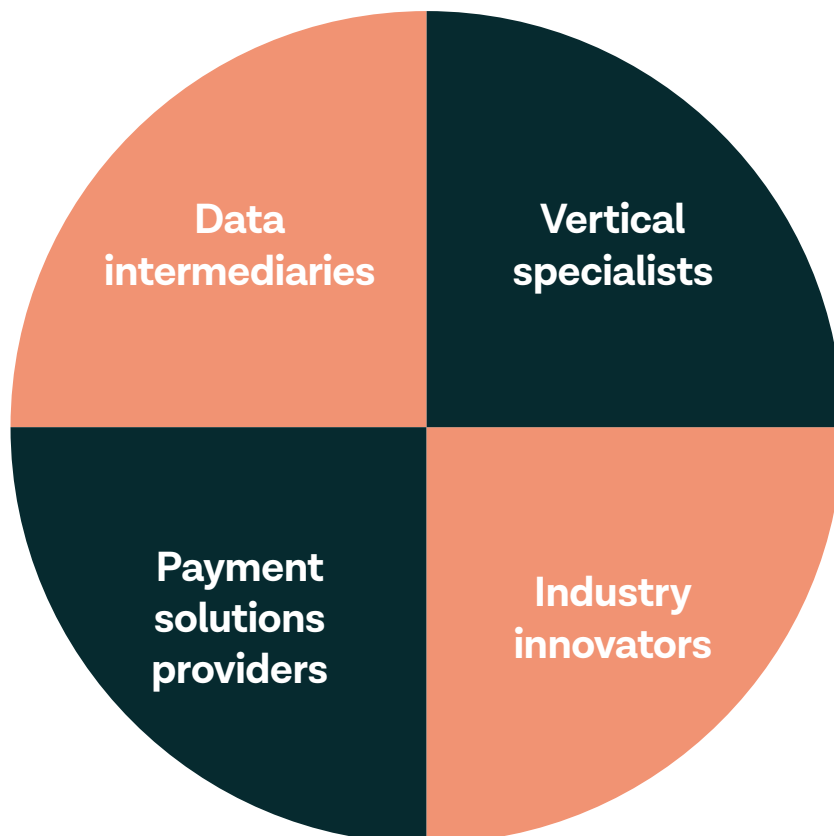


A growing open banking ecosystem

Since Europe's introduction to PSD2, the number of TPPs that are authorised to access payment accounts – which under PSD2 are either AISPs or PISPs – have increased significantly. By the end of 2021, the European Economic Area (EEA) and UK together counted 524 authorised AISPs and PISP, up 16% from the previous year.

Although the regulators generally only classify two different TPPs (AISPs and PISPs), third party providers can typically be assigned to four different categories: **data intermediaries, payment solutions providers, vertical specialists, and industry innovators.**

The four TPP types



Data intermediaries

These TPPs have built a business connecting to banks to access financial data and transfer this data to businesses so that it can be used for a requested service. Some data intermediaries hoard data in order to generate competitive market insights, others categorise and enrich the data so that its customers can use it to build services or improve their processes.

Payment solutions providers

A new generation of payment institutions is leveraging the technologies that have been unlocked by open banking. These TPPs are using open banking to build a framework for interbank account-to-account (A2A) payment services. Some rely solely on the functionality available through the PSD2 APIs for payment initiation. Others collaborate with banks to build joint solutions or propositions beyond the scope of PSD2. For instance, to enable users to initiate interbank payments that are exempted from SCA, or to enable instant payment where there are no such rails.

Vertical specialists

The financial industry is crowded with service providers who are each specialists in very specific disciplines. Over the last few years, there's been a strong uptake of open banking services by such service providers to enhance existing solutions used for customer due diligence (CDD). Such as creditworthiness assessment, fraud detection, digital identity verification, and much more. These vertical specialists typically provide solutions to allow financial institutions to enhance their existing services.

Industry innovators

Although all TPPs are innovating within their own respective fields, industry innovators are the businesses that are transforming how we look at data and financial services. Industry innovators use open banking to fundamentally change how we engage with those industries. For instance, through carbon footprint calculations, the role of a retail bank is suddenly being extended into that of a lifestyle coach. Through open banking-enabled loyalty schemes, manufacturers could build a community that transcends retailers. With personal finance management (PFM), utility providers can help households identify opportunities for cost savings.

From open banking to open finance

As the term open banking has finally established itself, the discussion is moving on towards the opportunities around open finance. Open finance goes beyond the scope of data and services available at your bank, covering the financial information and services that may exist across other areas of finance. It captures all of open banking and more.

Essentially, open finance describes the access of data and services between financial data holders and third-party providers in order to create value for the market. With the customer's consent, personal financial data related to pensions, tax, and insurance could all be accessed and retrieved by a trusted TPP. This opens opportunities for better-tailored consumer services and payments, as well as other financial products.

Just as with open banking, open finance — and by extension open data — is not defined by the sharing of data and services, but rather by the access to it.

Distinguishing the movement, regulations and industry initiatives

Just like open banking, open finance often means different things to different people. This is where it gets confusing, but we'll try to untangle it for you.

While regulators talk about open finance as a potential opportunity to unlock innovation and competition, industry participants talk about open finance as the next frontier for open banking — with untapped potential. Specifically, to some people open finance refers to an umbrella term that may capture all of the commercial opportunities outside the regulated scope.

However, to most people in Europe, open finance describes the access to financial data and services that fall outside the scope of PSD2 and the UK Open Banking initiative. It refers to the opportunities for banks to provide premium APIs which would allow them to commercialise access to savings information, credit card information, investment information, and so on. **Commercialising access to financial information beyond payments would give banks an opportunity to earn back their investments from their compliance efforts.**

Levels of data access in open banking, open finance, and open data

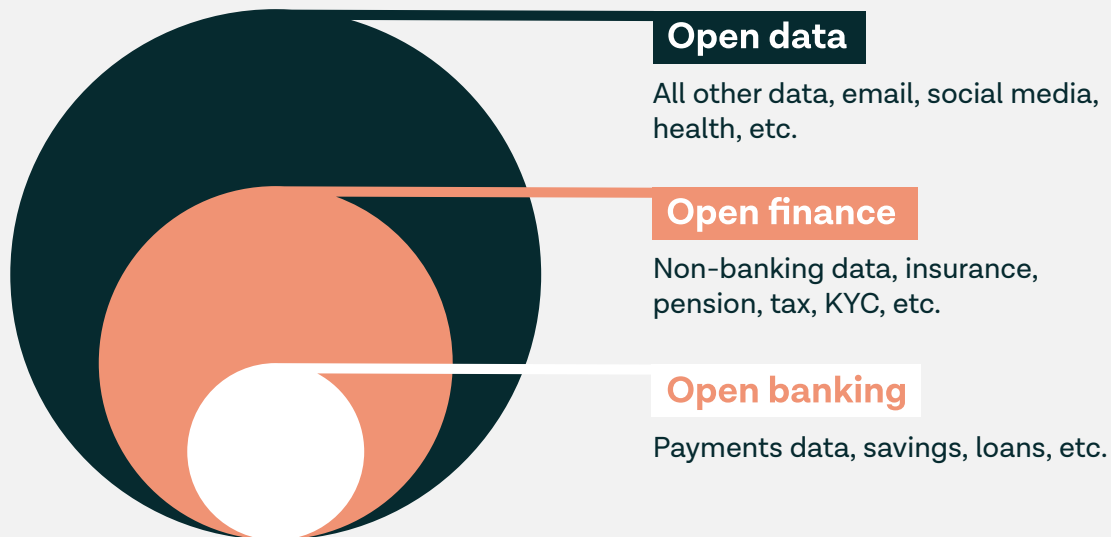


Figure 4
Source: Tink, 2022

While the access to such information is captured under the open banking regulations in some jurisdictions (see ‘Country insights’ on page 28), in Europe there are no financial regulations regarding open finance. This means that access to all financial information outside the scope of PSD2 continues to be governed horizontally by the [General Data Protection Regulation \(GDPR\)](#).

In 2020, the EC published its [Digital Finance Strategy](#) which states that ‘by 2024, the EU should have an open finance framework in place’. This framework would allow consumers to have better access and control over their personal data, enables TPPs to offer more personalised services, and lets customers compare products and find more cost-effective options.

Similarly, the UK’s Financial Conduct Authority (FCA) published its position on ‘[Open Finance](#)’ as an industry movement. The FCA believes access to more financial data allows for more cross-sector innovation and helps unlock the value of data across the economy.

In other words, authorities are currently evaluating whether access to financial data – beyond payments – should be regulated by the financial vertical or for all general businesses in every industry.

Initiatives that go beyond PSD2

Berlin Group's openFinance Framework

The Berlin Group is a payments interoperability standards initiative, focused on establishing open and common ground for technical and organisational requirements for the deployment of digital finance. Throughout 2022, their aim is to encourage banks to launch commercial APIs from their openFinance Framework, which will entail the extension of service capabilities that are not regulated by PSD2. These commercial APIs could include extensions to payments services, giving TPPs the ability to block funds, defer payments, offer pay-by-loan (with integrated consumer loans), set up SEPA Direct Debit Mandates, and more. They may also go beyond payment account information by unlocking access to savings, loan and securities information, enable electronic identity services, and even enable the TPPs to open current accounts or request a loan on behalf of the customer.

The SEPA Account Access Scheme (SPAA)

The European Payment Council's SEPA Account Access Scheme, or SPAA, covers the set of rules, practices and standards that will allow the exchange of payment accounts-related data. It builds on investments made in the context of PSD2 and is in line with EU legislation. SPAA considers the input from major European standardisation initiatives active in the field of PSD2 APIs, such as the Berlin Group. It is said to become a stepping-stone towards open finance beyond payments, and potentially provide a template for open data – beyond finance.



Variable recurring payments (VRPs)

Although VRPs do not strictly qualify as open finance, they are often treated that way, because they fall outside of PSD2 and the CMA's Open Banking initiative. VRPs were originally introduced by the Open Banking Implementation Entity (OBIE) in the UK, to allow payments to be initiated with an exempted or delegated SCA flow. This was introduced so the nine largest banks could allow customers to make automatic 'sweeps' between accounts in their name. However, the industry quickly realised that this technology would also allow PISPs to create competitive payment setups and would be willing to pay a premium for these capabilities.

This would allow the banks to earn back their potential losses on overdrafts due to sweeping, and TPPs to launch 'bank-on-file' payment solutions that are similar to recurring card, card-on-file, and Direct Debit. If proven successful, VRPs could even start to replace a significant portion of existing e-commerce payment volumes. While the first small scale pilots are starting to take shape, it is likely that the wider market will be opened up by a large retailer or platform.

Barclays: creating new revenue-generating propositions



Who he is:

Harcus Copper is Head of Integration and Information Services at Barclays Corporate and Investment Bank. He's building a new generation of services by building on the open banking efforts of the retail bank.

What he's known for:

With over 27 years' experience in corporate banking, Harcus has developed his career across multiple disciplines. During his 32 years with Barclays he has seen the industry change first hand.

Why we spoke to him:

Harcus has led the first forms of information exchange at Barclays by building and launching SWIFT Corporate Access, managing their Host-to-host solution and developing a direct to client API proposition. Now he's taking his wealth of experience into the open banking world.



The biggest opportunity for Barclays is to become more than a bank: to become a technology provider to all of our corporate customers – regardless of their respective industries.

How did Barclays start its journey towards Premium APIs?

Barclays' journey started in the Retail Bank with the CMA (Competition and Market Authority) Order for Open Banking in 2017. It was a fundamental imperative for why we started building APIs for the ecosystem. **As for every bank, regulatory change/development initiatives are always prioritised.** For me, it was also an opportunity to extend the work into the corporate banking space.

Traditionally, corporates that hold accounts with multiple banks have relied on the banks themselves to share balance and transaction reporting via SWIFT messages and present it through their online channels or become SWIFT members in their own right via the SWIFT for Corporate service. Open banking is changing this, as our corporate customers start to expect us to enable them to give Third Party Providers (TPPs) automated access to their information.

We find that as long as the goals are clear, building APIs for compliance and commercial purposes is very similar from a project management perspective to discretionary change projects.

However, where the CMA is very articulate in terms of what needs to be delivered, that is very much from a Retail perspective, and it is not always clear which API features and functionalities our corporate customers would need from us.

Typically, when launching new technologies, one of the key metrics for success is user adoption. There's a decent amount of usage of our Open Banking APIs in the retail and business banking space. However, in the corporate banking world there's nowhere near the same amount of usage – yet. Looking at the success of SWIFT, we anticipate that open banking will fundamentally transform how corporations engage with banks.

Today, we enable our corporate customers to give TPPs access to their balance and transaction reporting, and to initiate payments. The next frontier for Barclays is creating our own propositions with APIs that support real-time treasury, embedded trade financing, and more efficient account receivables through quicker settlement.

What do you consider the biggest opportunity?

The Barclays project team for commercial open banking was assembled during 2021, and so far, we've been primarily investigating how we can bring our compliant APIs for Account Information Services (AIS) and Payment Initiation Services (PIS) into the corporate banking world. **Let's not forget that it's still early days for the entire open banking industry movement.** We've now laid down the foundation from an infrastructure perspective – thanks to the efforts of the CMA – but we haven't even scratched the surface of the broader opportunity.

Open banking has two sides. On the one hand, it's about users consenting to the access of information. For example, as a financial controller at a utilities firm, I may want to aggregate my financial data across banks and geographies to improve reconciliation cycles, quarterly reporting, or financial planning.

On the other hand, it's about externalising APIs that may help our corporate customers gain better access to our financial services and interact with their own customers in automated ways. This can be in the form of payments, which is currently regulated as payment initiation under PSD2. **But it can also allow corporate customers to easily spin up a virtual IBAN account, exchange currencies, or request a loan.** I believe the biggest opportunity for Barclays is to become more than a bank: to become a technology provider to all of our corporate customers – regardless of their respective industries.

How do you build the business case for your open banking projects?

We have a reasonable idea of where we want to be with our API catalogue over the next couple of years. A good analogy is the launch of our current host-to-host for payment initiation nearly 10 years ago. This is where files of payments are automatically instructed from a Corporate's ERP or TMS application in a fully integrated way without having to repeat processes and authentication steps via the Bank's online channel. When we built this, our business case stated that it would be successful if we would onboard a small number of large multinational corporate clients – today we have far exceeded those expectations with clients of all sizes and complexities connected.

The point is, like any business, we may not have an immediate business case to realise value for all of the services on the roadmap. We have an estimate of how fast the market is moving, and we potentially risk falling behind if we don't keep moving the open banking proposition forward. **Our corporate customers will be expecting that their bank can connect to the services that they need to manage their business in an ever more integrated, automated and value adding way.**



State of open finance around the world

Many countries around the world are launching initiatives inspired by actions taken in the EU and UK. However, the fastest development of open finance occurs in markets where there is a mix of factors that push and pull.

The global open finance maturity index



Figure 5

Note: In order to illustrate open finance maturity at a generalised geographic level, we developed the global open finance index. This model shows how countries compare according to market demand, where 1 means no demand, no TPPs, no competition and 5 means high demand, many TPPs, highly competitive. Regulatory support shows the level of regulation, where 1 = unregulated, 2 = general data regulation, 3 = payment data regulations, 4 = financial data regulations, and 5 = open data regulations.

Factors driving open finance maturity

When studying how open finance is evolving, market demand is the most important predictor of open finance maturity in any given market. Regulations for data access and TPPs can be an enabler for market adoption (like in the UK and Sweden), but also an inhibitor for the industry (Australia).

The comparisons also show that banks are generally more willing to provide access to payment account information than they are to identity, loan, or savings information. This is primarily because banks see that the risk for disintermediation and attrition is greater for some data points than others. For example, with the low interest rates today, access to

mortgage information would allow competitors to inform customers that they can lower their monthly costs if they would move or refinance their mortgage. Similarly, access to savings information could reveal whether customers are getting the highest yield on their equity.

The analysis shows that innovation is slower in markets where open finance services are dominated by a small number of incumbent service providers. **In markets without clear open banking regulations it's harder for smaller TPPs to challenge the status quo and offer compelling alternatives to existing services.**

Finally, open finance adoption is also subject to the cultural appetite for electronic payments. Cash-heavy markets generally see lower adoption of financial management services than markets friendly towards e-payments.



How different regions are adopting open finance

Western Europe (WE) is leading by example but continues to face obstacles

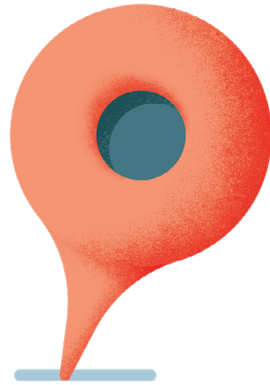
The WE region sees mixed levels of market adoption and regulatory support for open banking and open finance. By the end of 2021, the EBA had still not been able to uniformly enforce the RTS across the EU. The UK's FCA is making changes to the RTS in order to give TPPs more room to innovate, and the EBA has proposed similar changes.

The biggest challenge for open banking adoption remains the quality of PSD2 APIs across the region. This is mainly due to the obstacles in the user interface that continue to inhibit adoption of open banking by consumers and businesses. Sweden and the UK stand out for their ecosystem potential and regulatory support as they count the highest number of authorised TPPs. They are witnessing the first signs of scaled adoption with millions of citizens using the services every day.

Supporting the market adoption with regulations in North America (NA) and Latin America (LATAM)

The NA and LATAM regions are experiencing a strong pull from the market. With a large underbanked population, consumers and businesses are looking for opportunities to improve their financial situation through the services that TPPs are taking to market. Many TPPs have emerged that are accessing bank information through the customer interface.

Regulators in the United States and Canada are contemplating rules for open banking and open finance, and Mexico is expected to publish provisions for open finance this year. The regulators in Brazil have advanced the most and aim to support open finance.



Regulator is either the driver or the inhibitor in Asia, Pacific and Japan (APACJ)




The APACJ region is a mixed bag at different ends of the spectrum. So far, the Australian Consumer Data Right (CDR) has not accelerated open banking adoption and has even stalled progress for some TPPs. In contrast, open banking has been so successful in countries such as Hong Kong, India and Singapore that smaller TPPs are now struggling to challenge the dominant position of the incumbent TPPs.




The Middle East, North Africa and Turkey (MENAT) will wait to see which way the wind blows

The MENAT region has condemned businesses directly accessing the customer interface in order to retrieve information. This has slowed down innovation as TPPs become dependent on banks to make their customers' data available. Various data intermediaries have emerged to work with banks to expose APIs, but there are few use cases to show.

Turkey has issued regulations to align with the EU's PSD2 and will be looking to the establishment of both AISPs and PISPs. The United Arab Emirates also aims to align with PSD2, but is hoping the market will lead the development of APIs.

Open finance insights from key countries around the world





Country	Open finance developments	Market insights
Australia 	<p>On 26 November 2017, the Australian Government introduced the Consumer Data Right (CDR) act in Australia. The CDR gives consumers greater access to and control over their data and will improve consumers' ability to compare and switch between products and services. The CDR enables open banking with Open APIs. It takes the full scope of open banking, including payments, savings, loans and other banking information.</p> <p>The roadmap officially ran until February 2022, which is when overdrafts and business finance needed to be made accessible by the non-major banks. Although most data points should be available from the largest banks, the initiative has seen very little adoption. More information about the phasing rollout can be found here.</p>	<p>Under the Consumer Data Right (CDR), many TPPs are struggling to complete the regulator's due diligence processes. By February 2022, no more than 11 of the accredited data recipients are 'active'. Feedback from the market shows that TPPs find bank APIs do not live up to expectations.</p> <p>The Japanese PFM app MoneyTree has discontinued services in Australia due to the delays in the rollout of open banking and the strict CDR requirements.</p>
Bahrain 	<p>In September 2021, the Central Bank of Bahrain (CBB) kicked off the second phase of the Bahrain Open Banking Framework (OBF) to mandate retail banks and financial institutions to enable access to payment services (A2A payments / PIS) and open data (AIS) by 30 June 2022. Bahrain OBF launched the first phase of the Bahrain OBF in May 2020, which was centred around account information.</p>	<p>Although the approach towards open banking is similar to the UK, Bahrain OBF is overseen by the central bank, not the competition authorities.</p> <p>As of November 8th, Bahrain OBF counts 18 participating banks, but few have implemented the standards as the deadlines have been extended into 2022.</p> <p>The market lacks demand: only one TPP (Tarabut Gateway) has registered for Bahrain OBF, and the other (Batelco) has not enrolled yet.</p>
Brazil 	<p>The Central Bank of Brazil is currently rolling out open banking regulations. The largest banks will be required to publish APIs to allow access to account and transaction data (including credit cards), as well as the ability to initiate A2A payments and submission of credit transactions in August 2021.</p> <p>APIs for open finance (e.g., insurance, pensions, investments, exchange information) were planned to be available by the end of December 2021, but experts expect it won't be fully implemented until mid 2022. The aggressive deadlines have already been postponed twice, but the regulator is committed to enable open banking by the end of the year.</p>	<p>OB Brazil follows the principle of reciprocity. Banks that wish to participate or benefit from the APIs provided by the Tier 1 banks may only do so if they provide OB APIs as well.</p> <p>To encourage good APIs, competition authorities have ruled that the usage of the customer interface to access customer's financial data (via screen scraping) with customer's explicit consent will be tolerated as a fallback. As a result, there continues to be heavy reliance on alternative interfaces rather than APIs.</p>




Country	Open finance developments	Market insights
<p data-bbox="113 835 240 869">Canada</p> 	<p data-bbox="403 835 970 981">Canada's Advisory Committee on open banking has recommended an 'consumer-directed finance framework' which would aim to give consumers greater control of their information. The government is eager to give consumers the ability to share their financial data with TPPs but has its reservations when it comes to security and privacy.</p> <p data-bbox="403 1010 970 1111">For this reason, the regulator is currently split on how to enforce open banking regulations in Canada: either let the industry innovate and encourage API development or mandate compliance.</p>	<p data-bbox="1051 835 1484 981">Financial Data Exchange (FDX), a US-based industry consortium that promotes solutions to better protect customer data, supports an API-based technology protocol for data access, and was recently launched in Canada too.</p> <p data-bbox="1051 1010 1484 1111">Open Banking Initiative Canada (OBIC) has emerged to lead the way in the development of a market-driven open banking framework in Canada.</p>
<p data-bbox="113 1290 296 1328">Hong Kong</p> 	<p data-bbox="403 1290 983 1413">On the 18th of July 2018, the Hong Kong Monetary Authority (HKMA) published a report outlining an Open API Framework for the country's banking sector. It included a four-phase rollout plan. The implementation plan for Phase III and IV (i.e., AIS and PIS) was published May 2021.</p> <p data-bbox="403 1442 983 1541">The goal was to have the APIs ready by the end of 2021, but due to delays in the implementation it will likely take at least 12 more months to implement. This means that these phases will not be complete until late 2022 or later.</p>	<p data-bbox="1051 1290 1469 1386">There were over 900 registrations by TSPs wishing to access Phase I (product info) and II (provision services) as of Q3 2020, representing growth of 240% from Q1 2019.</p> <p data-bbox="1051 1415 1469 1487">Open APIs have voluntarily been made available by more than 50% of the incumbent banks.</p> <p data-bbox="1051 1516 1469 1592">BigTechs from the mainland are launching a full set of financial services, thus making it difficult for smaller TPPs.</p>
<p data-bbox="113 1744 213 1783">Egypt</p> 	<p data-bbox="403 1744 983 1890">To facilitate open banking and fintech development, Egypt's Central Bank has launched a regulatory sandbox as a live testing ground for start-ups. Here, these fintechs can develop new banking models, despite currently being hindered by authorisation requirements and regulatory uncertainty.</p> <p data-bbox="403 1919 983 2042">With regards to open banking and open finance, Egypt's Central Bank has indicated it condemns screen scraping and will monitor the success of regulations across the Middle East before issuing its own rules. It is rumoured that Egypt will formally assess its progress mid 2022.</p>	<p data-bbox="1051 1744 1484 1816">Egypt is very early on its open banking journey, and it only recently started to rise on the agenda of the fintech incubators.</p> <p data-bbox="1051 1845 1484 1917">First signs of industry-driven open banking initiatives coming from a few small start-ups, but investments fall short.</p> <p data-bbox="1051 1946 1484 2018">Personal finance management (PFM) apps are the best performing paid apps in the country.</p>

Country	Open finance developments	Market insights
<p data-bbox="113 376 225 409">France</p> 	<p data-bbox="403 376 978 499">The quality of open banking APIs varies significantly between banks, but started to show improvements during 2021. The regulator (ACPR) demanded that all banks need to support app-to-app redirection by the end of June 2021, but some still lack this capability.</p> <p data-bbox="403 528 978 651">French officials have repeatedly tried to extend the scope of PSD2 during 2018 and 2019, but with little success. Instead, they have decided to wait for PSD3, and the forthcoming Open Finance framework proposed in the European Commission's Digital Finance Strategy.</p>	<p data-bbox="1054 376 1461 499">Overall, the APIs work well but the quality differs per bank. While some banks show very poor UX flows (e.g. Societe Generale), others show some of the best in the EU (e.g. CIC).</p> <p data-bbox="1054 528 1461 629">End-to-end success rate for SCA is ~50%. In France, it's common to rely on 'trusted beneficiaries' for A2A payments, which are typically exempted from SCA.</p>
<p data-bbox="113 831 264 864">Germany</p> 	<p data-bbox="403 831 978 981">Germany can be considered ground zero in the battle for data rights in Europe. The lawsuit between Giropay and Sofort (Klarna) instigated the development of PSD2. This means that the regulator (BaFin) has been strict when it comes to reviewing the quality of open banking APIs and has granted few fallback exemptions so far.</p> <p data-bbox="403 1010 978 1084">The BaFin is hosting workshops with TPPs throughout 2021 to resolve the final obstacles from bank APIs to ensure broad adoption by TPPs, consumers, and businesses.</p>	<p data-bbox="1054 831 1461 931">The German market is very fragmented with thousands of bank branches. making it difficult for both banks and TPPs to provide a good service.</p> <p data-bbox="1054 960 1461 1032">APIs have seen improvements over the past 6 months as the BaFin critically reviews performance and quality of APIs.</p> <p data-bbox="1054 1061 1461 1133">Nearly 3 out of every 4 digital loans granted in Germany leverage account information for the credit assessment process.</p>
<p data-bbox="113 1285 220 1319">India</p> 	<p data-bbox="403 1285 978 1413">Over the past ten years, India has seen an ambitious overhaul of its digital infrastructure through the development of the so-called 'India Stack'. The India Stack corresponds to a set of APIs, open standards, and infrastructure components that allow Indian citizens to obtain a range of services digitally.</p> <p data-bbox="403 1442 978 1666">The Unified Payments Interface (UPI) has enabled instant interbank transfers similar to PIS in the EU. India also supports a low-cost digital ID (Aadhaar) that has facilitated a large expansion in the user base and usage of UPI, which has been crucial for the success of open banking in India. The current data regulations allow TPPs to operate as financial data aggregators, with the responsibility to manage the subject's data and rights and seek consent for data processing.</p>	<p data-bbox="1054 1285 1461 1413">UPI reports that the volume and value during 1Q21 has grown 173% YoY amid the pandemic. Today, the service counts nearly 200 million users. The goal is to reach 500 million over time.</p> <p data-bbox="1054 1442 1461 1588">The Ministry of Electronics and Information Technology closed a tender in March, inviting the industry to create a rival mechanism which will then be used by banks and fintech companies for retail transactions.</p>
<p data-bbox="113 1744 220 1778">Italy</p> 	<p data-bbox="403 1744 978 1968">Following PSD2, most Italian banks have outsourced the development of APIs to CBI Globe. During the first half of 2022, CBI Globe has implemented significant improvements thus increasing adoption of open banking use cases for Italian businesses. The Italian regulator has started bilateral meetings with passporting TPPs in order to get clarity on the adoption of open banking technologies. To spark the open banking ecosystem, the regulator is providing support to develop the market.</p>	<p data-bbox="1054 1744 1461 1845">In Italy, many of the cumbersome user journeys have been exposed to obstacles (e.g., multiple SCAs) but things are starting to change.</p> <p data-bbox="1054 1874 1461 2018">Banks' service providers are responding quicker to issues and support tickets than when the regulations were newly enforced. All Italian banks have received a fallback exemption, which means that direct access to current accounts is prohibited.</p>

Edit: Text has been updated to reflect recent improvements.

Country	Open finance developments	Market insights
<p data-bbox="113 376 217 409">Japan</p> 	<p data-bbox="403 376 979 450">Following the global trend of open banking, the central bank of Japan (BoJ) aims to leverage access to payment data to drive fintech innovation and move toward a cashless society.</p> <p data-bbox="403 477 979 629">While the BoJ hasn't enforced any mandatory interfaces, it has set specific timelines for banks and third-party providers to enable access to accounts. Established regulations covering AISPs and PISPs, requiring banks to disclose Open API policies, and encouraging them to work with third party providers.</p>	<p data-bbox="1051 376 1482 450">80% of all consumption in Japan is cash-based, placing Japan as a distinct outlier in the APAC region.</p> <p data-bbox="1051 477 1482 551">Roughly 20 Japanese companies are using open APIs to provide account information services.</p> <p data-bbox="1051 577 1482 651">Fintech development generally is occurring in partnership with the larger, more traditional providers.</p>
<p data-bbox="113 831 217 864">Mexico</p> 	<p data-bbox="403 831 979 931">In March 2018, 'FinTech Law' was approved, providing a regulatory framework around Open APIs. In March 2020, the Comisión Nacional Bancaria y de Valores (CNBV) published the first rules around open banking services.</p> <p data-bbox="403 958 979 1106">The next step is to expand this obligation to aggregated and transactional data. It was expected that during 2021, Mexico would publish new provisions related to transactional information from customers' accounts and credit. However, these deadlines weren't mandatory yet and the process has been delayed.</p>	<p data-bbox="1051 831 1482 904">The Mexican open banking regulations call for both banks and fintechs to make data accessible to TPPs.</p> <p data-bbox="1051 931 1482 1028">Banks indicate that they aim to provide voluntary access to accounts and credit data by mid 2022 — but it will likely take longer.</p> <p data-bbox="1051 1055 1482 1155">According to the latest updates, over 2200 financial entities in Mexico should have already implemented APIs to exchange data with TPPs.</p>
<p data-bbox="113 1285 316 1319">Netherlands</p> 	<p data-bbox="403 1285 979 1433">Transposing PSD2 faced a lot of resistance in the Netherlands. The introduction of 'access to account' resulted in parliamentary escalations and delays in the transposition. It was also in conflict with local case law that would consider the exchange of security credentials unlawful.</p> <p data-bbox="403 1460 979 1561">As a result, the Dutch Central Bank (DNB) has been relatively careful with the licensing of TPPs and generous in granting fallback exemptions which prohibit direct access of the customer interface when the APIs don't work.</p>	<p data-bbox="1051 1285 1482 1382">Despite conservative sentiment, open banking adoption is relatively high among businesses and consumers for financial management.</p> <p data-bbox="1051 1408 1482 1482">Banks have been trying to lead innovation in the local market by being first to market with PFM solutions and lending propositions.</p> <p data-bbox="1051 1509 1482 1588">PIS is considered a significant threat to the incumbent banks as they have a dominant A2A payment proposition called 'iDeal'.</p>
<p data-bbox="113 1740 217 1774">Poland</p> 	<p data-bbox="403 1740 979 1915">Poland is the biggest fintech market in Central and Eastern Europe. The central bank authority encourages banks to align to the PolishAPI standard, which would be the main reference for local PSD2 compliance. However, since the standard is not actively maintained it does not conform to some of the clarifications articulated by the EBA regarding obstacles.</p> <p data-bbox="403 1942 979 2042">Nevertheless, the Polish market is keeping up with the rest of Europe from a TPP perspective. The Polish Financial Supervision Authority has so far granted 6 PIS licences and 10 AIS licences.</p>	<p data-bbox="1051 1740 1482 1836">PolishAPI has fallen behind other standards as it has not been updated since June 2019 and includes relatively few possible endpoints.</p> <p data-bbox="1051 1863 1482 1937">Poland has a total of 618 banks, the largest of which include PKO BP Bank Polski and Bank Pekao SA.</p> <p data-bbox="1051 1964 1482 2067">General public access to the internet is relatively high (87%), and there's a high number of mobile phone subscriptions per capita (137%).</p>

Country	Open finance developments	Market insights
<p data-bbox="113 376 320 409">Saudi Arabia</p> 	<p data-bbox="403 376 978 524">Saudi Central Bank (SAMA) plans to go live with their open banking regulation during the first half of 2022. SAMA is currently assessing the potential impact Open banking may have on the Saudi Financial Sector and is working to identify the most suitable approach to encourage open banking and open finance in the Kingdom.</p> <p data-bbox="403 555 978 703">The country already has a modern payments system known as Saudi Payments, created by the central bank. The Saudi Payment's Electronic Bill Presentment and Payment system, known as Sadad, has facilitated the account-to-account transfers that can become a launchpad for the first open banking use cases.</p>	<p data-bbox="1054 376 1482 501">Like the EBA in the EU, SAMA has not prescribed APIs, but interfaces for TPPs. Nevertheless, it is safe to assume that it will be the preferred technology as direct access is frowned upon.</p> <p data-bbox="1054 533 1482 577">Since 2018, the number of Saudi fintech start-ups has gone from 10 to over 60.</p> <p data-bbox="1054 609 1482 678">40% of fintech investments are in payments, aiming to replace cash and enable cross-border transactions.</p>
<p data-bbox="113 831 280 864">Singapore</p> 	<p data-bbox="403 831 978 956">The Monetary Authority of Singapore (MAS) has taken an organic approach towards open banking. The movement is not regulated but encouraged. The MAS published an API Playbook and Exchange (APIX) to provide guidance to financial institutions surrounding the adoption of Open APIs.</p> <p data-bbox="403 987 978 1084">In December 2020, MAS also launched the Singapore Financial Data Exchange (SGFinDex), which involves the consolidation of financial data from banks and government agencies in a single place, instead of multiple locations.</p>	<p data-bbox="1054 831 1482 956">Data from SGFinDex will be accessible using the Singapore Personal Access (SingPass), which is a single sign-on service used by Singaporeans to transact with more than 60 government agencies online.</p> <p data-bbox="1054 987 1482 1055">Despite this voluntary commitment, Singaporean banks are taking initiatives on their own to provide APIs for TPPs.</p>
<p data-bbox="113 1285 209 1319">Spain</p> 	<p data-bbox="403 1285 978 1435">Open banking has a long history in the Spanish market, and has been offered to both businesses and consumers since 2001. With the arrival of PSD2, most banks have outsourced PSD2 API development to RedSys. This has led to inferior experiences, as RedSys charges for the number of API calls TPPs make.</p>	<p data-bbox="1054 1285 1482 1435">As RedSys charges for the number of API calls that TPPs make, banks are generally careful with new open banking innovation. >90% of all AIS sessions are still retrieved through direct access as the APIs are too poor to provide sustainable services.</p> <p data-bbox="1054 1467 1482 1563">Bank of Spain has started bilateral meetings with passporting TPPs in order to get a good sense of which obstacles need to be overcome for open banking to scale.</p>
<p data-bbox="113 1742 245 1776">Sweden</p> 	<p data-bbox="403 1742 978 1839">From a UX perspective, the quality of open banking APIs is good. Some banks enable payments to be initiated in only 2 steps, which takes the average user only 10 seconds to complete.</p> <p data-bbox="403 1870 978 1966">The regulator (SFSA) has not granted any fallback exemptions to incumbent banks, as TPPs continue to see challenges with API performance if they would solely depend on APIs.</p>	<p data-bbox="1054 1742 1482 1816">The digital identity service known as BankID has given the country an upper hand in terms of user experience.</p> <p data-bbox="1054 1848 1482 1944">Sweden is a near cashless society. Projections for 2021 estimated that less than 2% of all payments and 0.5% of value would be transferred in cash.</p> <p data-bbox="1054 1975 1482 2016">With 28 TPPs, Sweden counts the most authorised AISPs and PISPs in the EU.</p>

Country	Open finance developments	Market insights
<p data-bbox="113 376 220 409">Turkey</p> 	<p data-bbox="403 376 983 499">On November 22, 2019, the Turkish Grand National Assembly codified open banking by introducing the Amendments to the Law on Payment and Securities Settlement Systems. Payment Services and Electronic Money Institutions (the 'Law') made open banking a reality.</p> <p data-bbox="403 533 983 629">The Banking Regulatory and Supervisory Authority issued the first secondary regulation on open banking systems in March 2020, allowing both AISPs and PISP to develop open banking services in line with the EU's PSD2.</p>	<p data-bbox="1054 376 1482 477">The Central Bank (CBRT) enacted a regulation on the generation and use of QR codes for payment services, which was enforced by December 2021.</p> <p data-bbox="1054 510 1482 577">Since the new regulation, CBRT counted 54 applications licences. Major telecom operator Türk Telekom applied too.</p> <p data-bbox="1054 611 1482 680">Istanbul has become the epicentre for start-ups and fintechs as \$509 million had been invested in 62 start-ups during 1Q21.</p>
<p data-bbox="113 831 220 864">UK</p> 	<p data-bbox="403 831 983 1211">The UK's Competition and Market Authority's (CMA) 2017 Final Order for 'Open Banking' is nearing its completion. During 2022, the OBIE will start its transition towards a "future entity" which will be overseen by the Joint Regulatory Oversight Committee (JROC), chaired by the Financial Conduct Authority (FCA) and the Payment Systems Regulator (PSR) and supported by the CMA and Her Majesty's Treasury (HMT). The future entity will likely transition to a service organisation for the UK banks and TPP community, potentially becoming a scheme manager to support multilateral contracts for variable recurring payments (VRPs). The Financial Conduct Authority (FCA) has also enforced changes to the regulations to ensure the CMA's 'Open Banking' initiative can excel beyond the EU and become a driver for more fintechs.</p>	<p data-bbox="1054 831 1482 954">The UK Treasury (HMT) is expected to publish the framework for 'Open Finance' during 2022, and the FCA has already requested UK Finance to come up with a rollout strategy.</p> <p data-bbox="1054 987 1482 1055">The UK's BEIS Smart Data research suggests that the UK may pursue an approach akin to the CDR in Australia.</p> <p data-bbox="1054 1088 1482 1135">The UK counts the most authorised TPPs in Europe with more than 200 AISPs and PISPs.</p>
<p data-bbox="113 1285 309 1364">United Arab Emirates</p> 	<p data-bbox="403 1285 983 1386">The Central Bank of UAE and state regulators like DFSA and ADGM have made several announcements in support of open banking to drive financial services and ultimately provide a boost to the country's economy.</p> <p data-bbox="403 1420 983 1563">Banks in UAE, by subsidiaries of European banks, must be compatible with EU banking regulations. This means open banking is critical for these banks, too. The EU's PSD2 and UAE's PSP regulations ensure that financial institutions adhere to rules that may help foster the first signs of open finance.</p>	<p data-bbox="1054 1285 1482 1352">According to research by Finastra, 88% of banks in the UAE are expected to enable open banking services by the end of 2022.</p> <p data-bbox="1054 1386 1482 1487">The UAE is a market ripe for mobile payments, with 19.8 million subscriptions in the region in 2017, equal to a penetration rate of 228.3%.</p> <p data-bbox="1054 1520 1482 1615">According to digital bank Zand, demand for fintech among the young and mobile-enabled population is rising quickly due to the pandemic.</p>
<p data-bbox="113 1742 220 1776">US</p> 	<p data-bbox="403 1742 983 1865">In the latest Executive Order on 'Promoting Competition in the American Economy', the President encourages the Consumer Financial Protection Bureau (CFPB) to issue 'rules allowing customers to download their banking data and take it with them'.</p> <p data-bbox="403 1899 983 2069">Although the CFPB and the National Automated Clearing House Association (NACHA) introduced API standards for a US open banking environment in 2017, until recently there was no intent to make any of the proposed guidelines mandatory. Now, the CFPB has been instructed to continue its current rulemaking effort under the 2010 Dodd-Frank Act's Section 1033.</p>	<p data-bbox="1054 1742 1482 1843">Plaid, Finicity, Yodlee, Flink, and Akoya – which count 11 banks as investors – are considered some of the primary open banking intermediaries.</p> <p data-bbox="1054 1877 1482 1977">Some US and Canadian financial institutions have also banded together to form the Financial Data Exchange (FDX), which is seeking adoption of an industry-wide API technical standard.</p> <p data-bbox="1054 2022 1482 2119">NACHA has started a standards group called 'Afinis', which may become the standard banks will be encouraged to adopt by the CFPB.</p>

Nordea: leading towards the platformisation of financial services



Who he is:

Gunnar Berger is Nordea's Head of Open Banking. He's building a technical platform for handling open APIs in Nordea as well as for establishing processes for handling external developers and for driving co-creation activities with TPPs.

What he's known for:

Driving the transformation inside-out. Gunnar is delivering solutions that are changing the traditional way financial services are offered and consumed.

Why we spoke to him:

Gunnar has a vision that goes beyond PSD2, and ensured that Nordea was the first bank in the Nordics to launch an open banking strategy.



I am convinced that when you introduce new technologies, they will be used to replace old systems, processes and habits.

How has Nordea approached the open banking movement?

We started working on our open banking strategy already back in 2015 – before PSD2 was even published. We simply referred to ‘channels’ at the time, but it touched every part of the business. I was supporting a progressive payments strategy for this, and one of our early conclusions was that **if Nordea was to be profitable, it needed to go through significant changes to create an API platform where these channels could exist.**

Even back then we were in the midst of an ongoing digital transformation, with the goal to become a true technology company. I was appointed to start the API platform and sent out an email asking for volunteers. Immediately, I got 10 to 15 people who were eager to join the cause, and, like that, our open banking division was born.

The goal was to become profitable, to sell APIs. We were running with two similar budgets: one to meet compliance requirements, the other for commercial opportunities. When the EBA published its opinion on implementation of RTS in June 2018, the scope for compliance increased significantly and the budget grew by nearly 10X.

Our goal was to create compliant PSD2 APIs by 14 September 2019 – which is when the RTS was enforced – but we have since then become frustrated by the EBA, as every opinion published since has increased the scope even more.

In parallel, we continued to work on building out the commercial channels. **Even though the focus was largely on PSD2, we are confident that our customers will want to benefit from the open banking services that we take to market.** Evidence for this was found in 2017, when we asked for beta testers of our banking APIs. We got so many positive responses in the market that we had enough developers and beta testers joining the developer portal to start building a community of API users.

Is embedded finance and banking-as-a-service part of your open banking strategy?

Absolutely! The industry sometimes talks about open banking as if it's restricted to PSD2 or other regulations. It's not. At Nordea, we've always said that our open banking strategy encompasses many of the modular banking business models.

One of the smart things we did – working with both compliance budgets and commercial budgets – was that whatever we would build for PSD2, we could also commercialise for corporate customers. **I see a lot of banks have outsourced the heavy lifting for PSD2. But if they ever want to commercialise their APIs and benefit from the opportunities for open banking and open finance, they'd need to start all over again.**

The first commercial API we launched was with Finnair in 2018. A partnership, where Nordea Finance collaborated with the airline company to bring it to market on the Open Banking platform.

We launched a Consumer Finance API supporting the issuance of a Finnair-branded credit card, that gives Finnair customers the chance to earn extra loyalty points when making purchases with the card. As well as providing the consumer financing, Nordea's API enables Finnair customers to receive a response to their credit card applications within a couple of seconds. The previous manual and time-consuming application process has been fully automated and digitised.

Did you need to modernise your IT landscape?

Not really. We embrace the complexity. People forget that Nordea is the product of a series of mergers and acquisitions between Finnish, Swedish, Danish, and Norwegian banks. These mergers and acquisitions have created a complicated network of systems, and so we need to build on top of that. We have basically created a shell of APIs around the core. So now people don't have to care about the underlying systems and need only to focus on the service.

Looking into the future, what do you see?

My long-term vision is the platformisation of financial services. At Nordea, we have everything in place to go there today. I am convinced that when you introduce new technologies, they will be used to replace old systems, processes and habits. Even if we don't know how or by whom some of our innovations will be used, I believe developers will find a creative application for it.

The API platform we've built is a slick piece of technology compared to the old junk that banks have been working with. We don't yet know all the ways it will be used, but **it's the foundation for a new generation of financial services.**

Embedded finance and the future of banking

Just like open finance, many people are talking about how embedded finance is the future of banking. Embedded finance describes the integration of financial services with the services, products, or technologies offered by non-financial institutions. In essence, this means making the activation of financial services frictionless or even invisible to the user, as they interact with businesses and request services in other industries.

The concept of embedded finance grew in popularity when Uber showed the world that payments can be entirely removed from the taxi experience. Uber users simply need to enter a destination and agree with a price estimation. Once arrived, the payment happens in the background, and they can see the details of the payment when returning to the Uber app. By embedding the payment experience into the taxi experience, Uber has made taxi services more convenient for customers by removing the awkward paying stage.

The truth is that financial services provide a means to an end. Most people aren't out to get a credit card, mortgage, or insurance for the sake of it. These financial services are needed in order to be able to reach another goal: to buy something, to receive a service, or to gain security. Currently, requesting financial services creates interruptions in the customer experience. But embedded finance can change this by leveraging the information already available with your existing bank or service provider. For embedded finance to work, a bank may need to verify your identity, estimate your

income, or calculate your risk. Financial institutions have realised that if they opt to work closer with their corporate customers across industries, there's an opportunity to make financial services an integral element of their business processes. Such as enabling supply chain managers to automatically file for credit when capital reserves are running low. Or consumers to automatically authorise the access to their transaction statements when they request a lease.

This means embracing the banking-as-a-service archetype to expose APIs that can easily be used by TPPs in order to create embedded finance solutions.

From embedded finance to open data economies.

From a customer perspective, this implies that financial products are increasingly delivered contextualised, at the point of need. Embedded finance propositions often leverage open banking (and, in the future, open finance) API infrastructure to streamline specific parts of the product experience, like identity and affordability checks. But for embedded finance to truly work, banks may also need access to information held by the non-financial institutions. **This is where true open data economies are formed, as the exchange of data and services starts to transcend that of the financial services industry.**

BCG: building capabilities and infrastructure for the future



Who he is:

Kunal Jhanji is a core member of Boston Consulting Group's (BCG) Financial Institutions practice. He leads BCG's payments work in the UK and is a member of the firm's Transaction Banking and Payments management team.

What he's known for:

Kunal developed BCG's global open banking proposition and has helped several large European banks deploy innovative partnership strategies.

Why we spoke to him:

He understands the challenges and opportunities related to open banking. He's big on helping financial institutions leverage open banking APIs in order to optimise their core banking propositions.



Banks need to invest in today's market opportunities that will reap a value in 5-6 years.

What are some of the areas that still have untapped potential?

There's been a lot of focus on the small and medium businesses (SMB) segment with open banking. We're now seeing accounting software platforms that integrate open banking APIs, such as Xero and Sage, gaining significant traction from the market, but I actually think we're still at the early stages of adoption.

For SMBs, there is a huge opportunity to enhance bank operations across the customer journey – whether it's to improve onboarding, reduce risk, or increase engagement.

Banks should recognise that they can leverage open banking in order to identify opportunities for commercial card issuance, providing access to working capital to, for instance, respond to seasonalities, and ensuring that SMBs do not limit themselves in the financial options available to them.

Beyond this, there are plenty of new infrastructure opportunities. The challenge is integrating these new data insights into enterprise software solutions that are being used to run the business.

I'm talking about real-time communication in the customer relationship management and enterprise resource planning tools that will finally allow real-time decision making. **These insights will allow banks to continuously anticipate financial needs and empower them to respond in a relevant and timely manner.**

How do you see banking-as-a-service creating value?

At BCG, we would say banking-as-a-service, or BaaS, propositions can be defined across four dimensions:

Product, which describes the problem being solved, such as payments acceptance or lending. **Service**, which describes the key to delivering the solution. **Delivery**, which depends on the licence arrangement. And **segment**, which describes the target audience for the offering.

We believe BaaS is an immediate opportunity that financial institutions should pursue. According to our calculations the BaaS market represents close to \$6 billion in spending in Europe and approximately \$2.5 billion in the UK.

I think the true power of BaaS is only unveiled once banks and merchants come together – when banks enable non-banks to offer core banking solutions. **This is what we often call ‘embedded finance’, and it’s changing the industries around us.** For instance, buy-now-pay-later (BNPL) is a great example that’s merging the product and service – where the simple product (zero-interest credit) becomes invisible to the customer, and it’s all about the experience of buying a product.

So far, the BaaS opportunity has primarily been addressed by niche players. Traditional banks have capability to create compelling offerings but only if they are able to direct their value propositions in the right direction.

What do you see as some of the main challenges for open banking?

There are many challenges that cannot be overlooked if banks are pursuing a holistic open banking strategy. One thing is imperative, the bulk of investments need to help build capabilities and infrastructure for the future.

The investment that banks have made on the infrastructure side have been important, but many continue to lack the capabilities that allow for real-time decisioning. **They need to think about the go-to-market strategy as a combination of infrastructure, capabilities, and product.**

If you look at the fintechs in the card-issuing space – the challenger banks and neo banks of the world – many have leap-frogged banks in the way they enable real-time issuing of the cards. The onboarding, customer due diligence, and origination of services happen in a matter of seconds or minutes, instead of days or even weeks.

We believe there are many building blocks available in the market, but the challenge is bringing these components together in a way that is coherent and allows banks to keep up with the digital-native banks in the market. We are finally seeing some banks waking up to the challenge. They understand that infrastructure is patchy, the quality of their APIs is patchy, and their services are often patchy too.

There have been huge investments in the market, and some markets are moving faster than others. We believe we’ll see the strongest growth and pace of innovation in areas such as payments, lending, and FX-aaS*. **Banks need to invest in today’s market opportunities that will reap a value in 5-6 years.**

Unlocking open data economies

The promise of open finance is that it will allow TPPs to unlock value across every industry in the economy, making services more efficient and relevant. Some regulators are recognising that creating a level playing field around the access to data will allow for open data economies to emerge.

To protect the integrity of the service, the ecosystems emerging and drawing value from customer information should follow a set of standard data access principles:

1. Customers must give explicit consent

Going back to the original rules under data protection, the processing of personal information can only happen with explicit consent of the customer. This consent is not only needed for the processing of information, but also for the access and retrieval of information. Explicit consent is a fundamental principle to data privacy and stands at the core of the exchange of data and services to create value for a customer.

2. Third party providers must identify themselves

Regardless of the information that TPPs are accessing, when the business does not identify itself, the data holder may suspect the TPP is impersonating the customer. Identification is important as it would allow a data holder to verify that the party that is accessing information is a legitimate business that is providing a genuine service to a mutual customer.

3. All information and communication must be secured

Whether information is transferred to or from the data holder, it is important that any communication is encrypted and secured so that it can only be read by the authorised parties. This lowers the risk of a data breach and ensures it cannot be processed by unauthorised parties.

4. Liability is with the party where security was breached

In an open data economy, where information is moving between parties who may or may not have contractual relationships with one another, it needs to be clear who is liable when information is breached by an unauthorised party.

The basic principle for an open data economy should be that the party that fell short on its security responsibility is liable for any damages inflicted on the customer.

These basic principles are important to avoid limiting how and what kind of access technologies we use.

This means TPPs can innovate around the changing customer interface, whether it's virtual reality, voice, or connected devices. This allows market-driven demand for effective and secure ways of information exchange, without data holders being required to make investments in technologies that may never see traction.

Programmes and data elements unlocked through open data economies

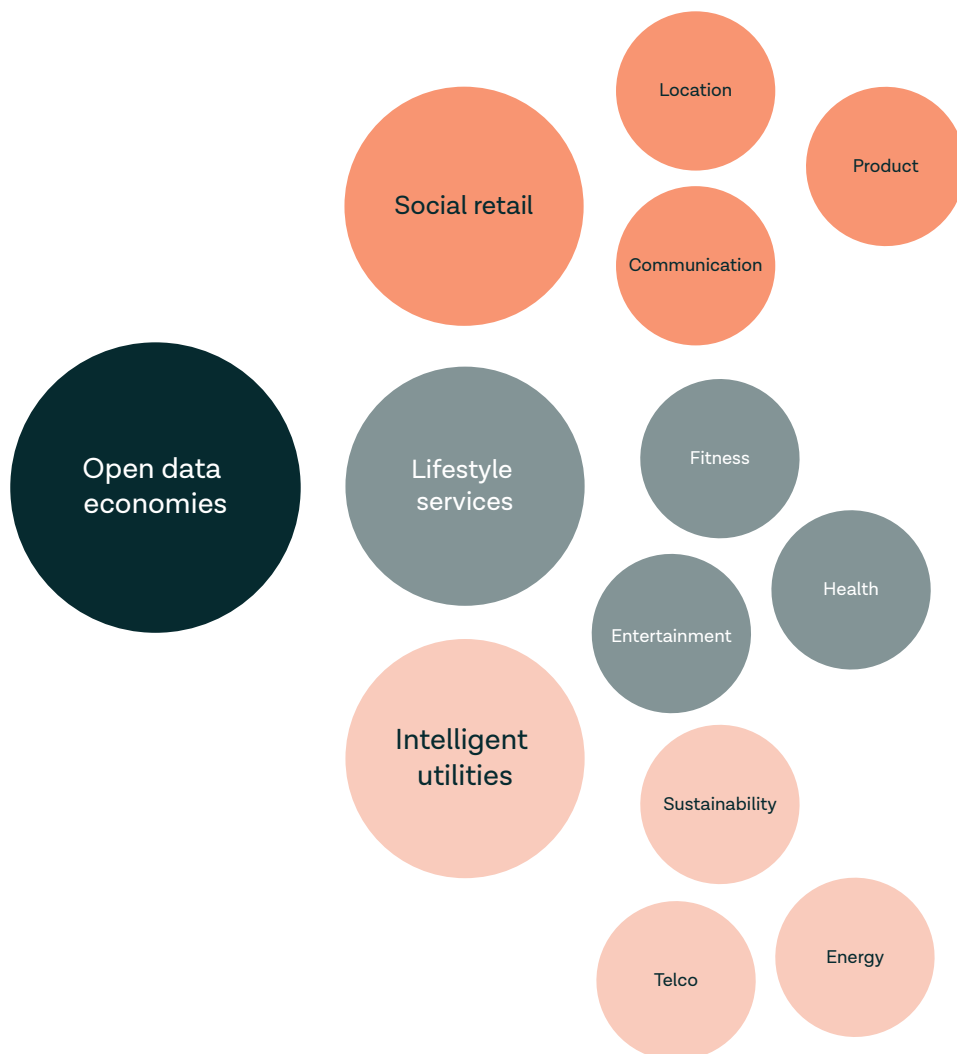


Figure 6
Note: List of information elements is not exhaustive or mutually exclusive
Source: Tink, 2022

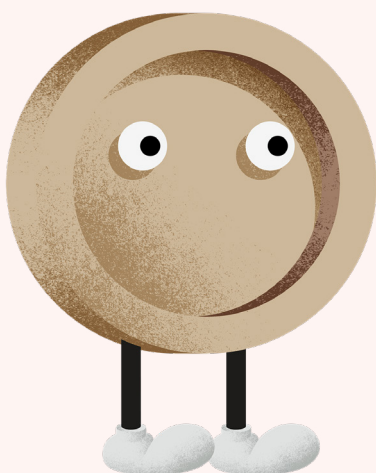
Concluding remarks

Open banking is setting a foundation for decades of innovation to come – whether it's through open finance, embedded finance or open data economies. Last year, we found that financial executives believe that open banking is a revolution that will take a decade to mature because of legacy infrastructure and the scale of technological change required within many financial institutions.

Open finance is being embraced as an opportunity to start commercialising access to information, but also to make finance invisible to other industry operations.

But the revolution won't just happen in finance – it will quickly pull in other industries that have a stake in better accessing their data.

Regulators see this as a way to increase competition, but at the same time it is putting banks in a powerful position. **Banks have a unique opportunity to work together with TPPs to create a digital ecosystem that transcends finance and allows for embedded solutions across every open data economy.**



Getting ready for open data economies

In the pursuit of open data economies, banks are faced with an enormous opportunity. **If banks effectively work towards the formation of digital ecosystems around their products and services, every part of the industry stands to gain from it.** But first, there are three important factors for all banks to consider:

1. Becoming a software company

Open banking isn't the compliance burden many thought: it's been an eye-opener, and is changing the world around us. Today's technologies allow financial institutions to take on a different role in the way they interface with customers and the ecosystem: the role of technology providers. The move towards banking-as-a-service and embedded finance requires financial institutions to deliver technology solutions that developers can easily integrate to create improved processes and services. Accepting this fact is the first step towards embracing open finance and open economies.

However, operating as a technology company goes beyond the way a bank organises its teams, or the channels through which it communicates with its customers. It's about identifying and building new relationships and revenue streams that diversify the business. It's about recognising that a bank's trust should not be taken for granted, and that it can play a key role in the access to data across industries.

2. Thinking big but starting small

It's easy to start daydreaming about all the value-added services that can be created through the access of industry data. However, the first challenge for financial institutions remains the same: compliance and realising the value of open banking.

Banks have a wide range of options when it comes to their open banking tactics. They can choose to operate as a platform, inviting other TPPs to position services for their existing retail or business banking costumes. Banks can also decide to focus on externalising services to corporate clients by launching finance solutions to streamline financial planning, reconciliation, and access to credit.

One area where open banking can generate real results is in enhancing existing banking operations. Using open banking technologies can help reduce risk and increase productivity, while improving the customer experience during the onboarding process.

The exciting thing is that these small opportunities exist with every stage of the customer journey and can easily be realised using the technologies available today. For example, banks can use open banking to access a user's full name to accelerate a simple due diligence flow, to access a user's IBAN to quickly set up a Direct Debit Mandate for billing purposes, or to access transaction history to do real-time risk assessments. These are all incremental improvements to existing processes which can each lower costs and reduce fraud, while increasing conversion and improving the customer experience.

3. Building with a partner with a compatible vision

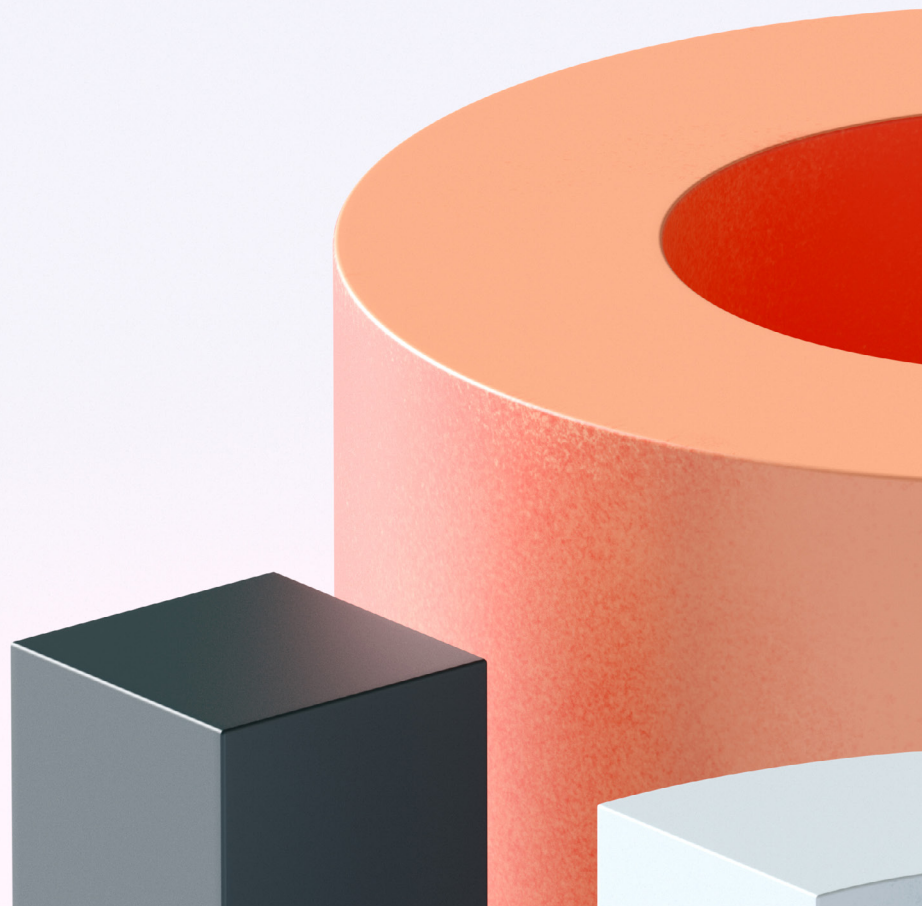
Rome wasn't built in a day. Some open banking, open finance, and open data economy use cases will require years of collaboration between banks, fintechs, and service providers who each play their part. Fintech partners can help provide proven open banking use cases and enable banks to quickly respond to the market. Ultimately, both banks and TPPs will need to recognise that they can only realise the next frontier of open banking by working together. Building with a partner with a compatible vision ensures that you are each working towards a similar goal.

About this research

Every year, Tink releases a series of reports highlighting how the open banking market is maturing, how executives are responding to the opportunity, and how financial institutions are deciding on investments.

In our first 2022 report, we decided to come out with some relevant insights into the long-term picture of open banking. Although no one truly knows where the market will be, the infrastructure that the industry is putting in place through open banking will unleash a wave of new opportunities that span across industries.

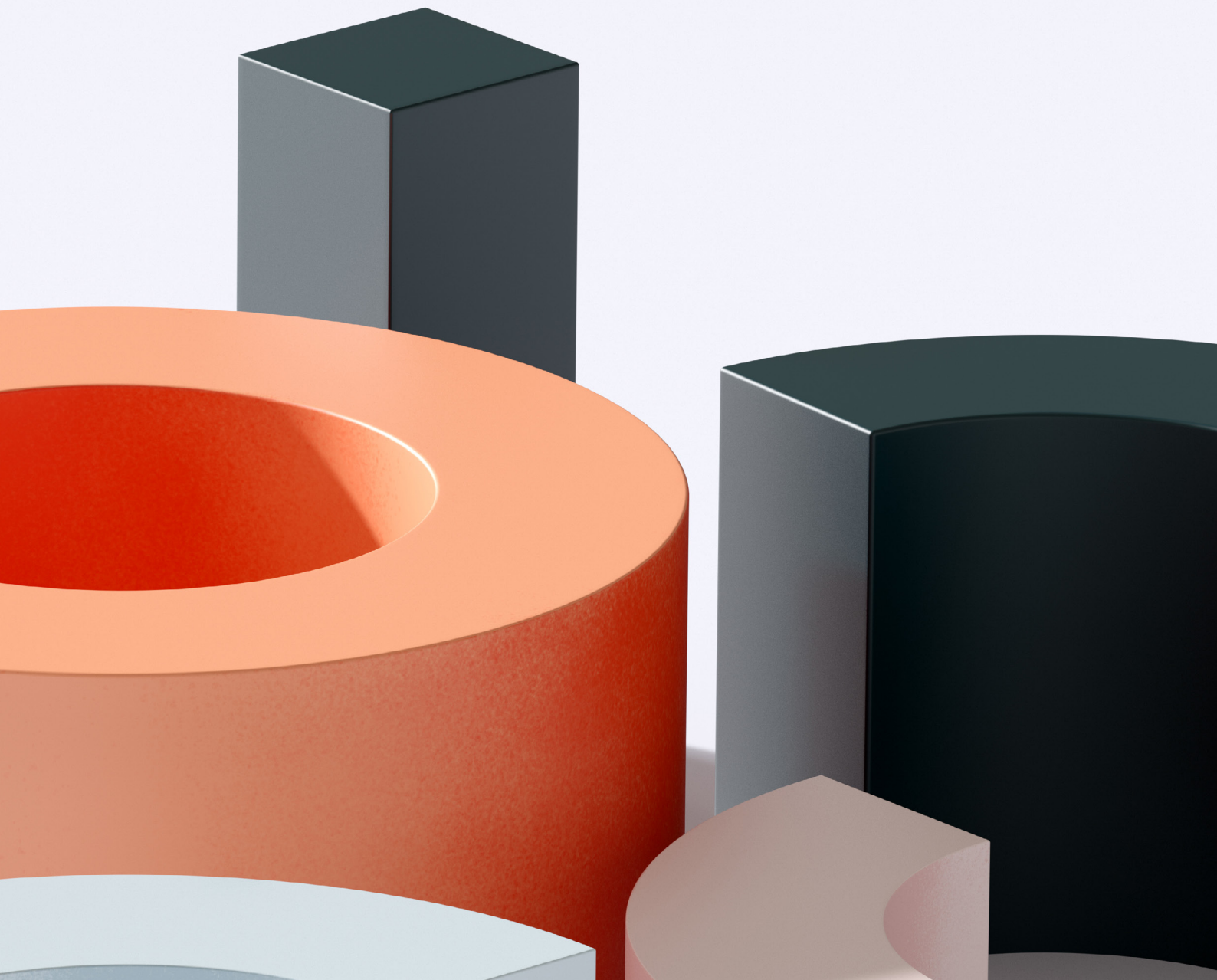
This study relies on intensive desk research of government websites to understand the legal status of open banking in each country. It is also backed by countless interviews with local practitioners who have helped provide relevant context to the findings.



About Tink

Tink is Europe's leading open banking platform that enables banks, fintechs and startups to develop data-driven financial services. Through one API, Tink allows customers to access aggregated financial data, initiate payments, enrich transactions, verify account ownership and build personal finance management tools. Tink connects to more than 3,400 banks that reach over 250 million bank customers across Europe.

Founded in 2012 in Stockholm, Tink became a wholly owned subsidiary of Visa in 2022. Tink's 500 employees serve more than 300 banks and fintechs in 18 European markets, out of offices in 13 countries. We power the new world of finance.





Curious about how we can power your ideas?

If you feel intrigued about the many possibilities of open finance and want to start building, we can help you put your ideas into practice. Get in touch with our team to find out what we can help you achieve:

partnerships@tink.com

Learn more at:
tink.com