



The current status of Open Banking - and a glimpse into the future of Open Finance



With companies increasingly embedding financial services into their offerings, financial institutions should now be deciding what role they want to play in these Open Finance ecosystems.

The demand for open, embedded finance is rising. In response to this, financial institutions are increasingly offering Banking as a Service (BaaS), or in other words white-label and (co-)branded financial services that other companies can integrate into their value propositions for their customers.

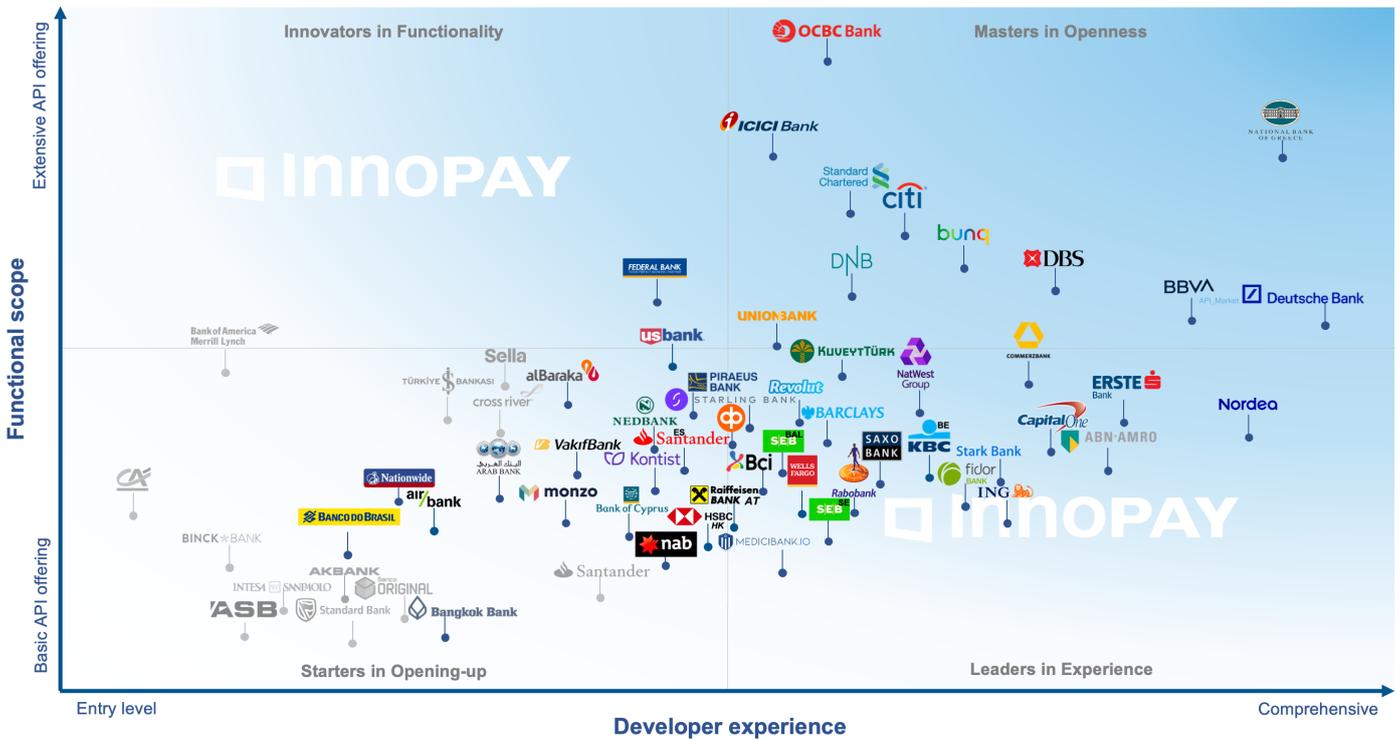
Financial institutions are often concerned that distributing their services through partners in this way will ultimately threaten their end-customer relationships. However, if a significant number of their customers begin adopting embedded finance at scale, those institutions might have little choice but to launch Banking as a Service across their relevant business lines.

In this report, we provide further strategic insights into how financial institutions are progressing on their BaaS

journey and product offering. We build further on the sneak preview of the INNOPAY Open Banking Monitor (OBM) that we published in December 2021 to highlight some of these insights. Specifically, we share some detailed findings from the OBM covering API products and developer experience as well as looking ahead to the future of Open Finance.

Existing players step up their game and new players enter the arena

INNOPAY's Open Banking Monitor shows the efforts banks are making in expanding their API product offering (the 'Functional scope' axis) and in improving the experience for API consumers (the 'Developer experience' axis). The latest edition of the Open Banking Monitor shows that existing players are stepping up their game and providing interesting Open Banking product propositions. Meanwhile, new banks are entering the arena.



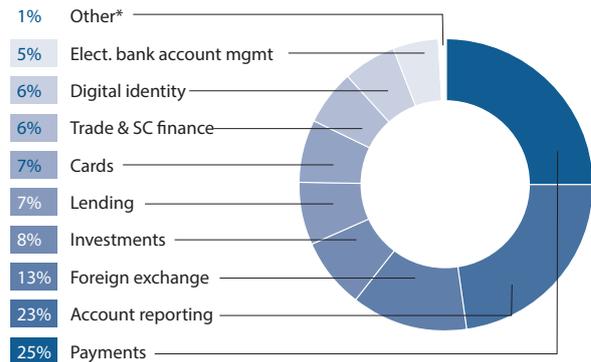
* Grey logo indicates limited portal accessibility, thereby complicating full assessment

** Banks with an Open Banking offering limited to regulatory requirements (e.g. PSD2 required services) are not included in this assessment

INNOPAY Open Banking Monitor (OBM) – Developer Portal benchmark (update Q4 2021)

Growing API product offering

Notably, there is a trend towards banks offering more APIs, indicated by a 17% increase in APIs offered per bank. The APIs now cover a broader variety of common banking functionalities, but account information (for various account types), payment initiation (for various payment instruments) and payment management (for various user-initiated actions around the payment) still top the list. These are followed by customer information APIs (enabling the controlled sharing of selected data attributes), which have increased considerably. Similarly, a variety of corporate APIs have hit the market, further driving efficiencies and improved customer experience in transaction banking operations (e.g. trade finance, electronic bank account management (eBAM) and real-time cash pooling capabilities)



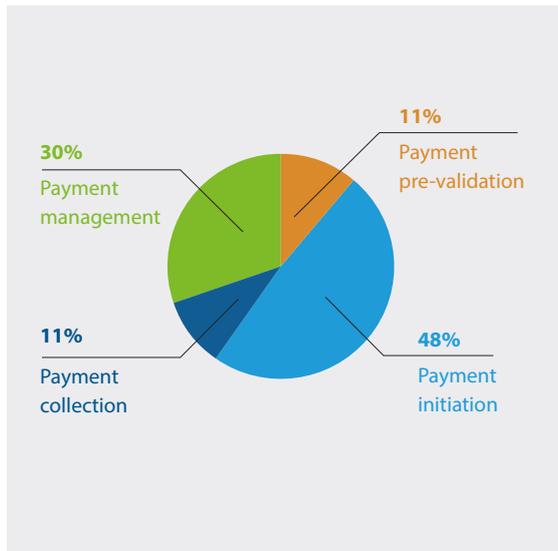
Source: INNOPAY analysis, Developer portals various banks (March 2022)

Note: *Other: Domain overview is not exhaustive. APIs are also being developed in other areas such as sustainability, cashpool management and virtual account management. The share of live APIs in those domains is however very low at the moment the analysis was concluded

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While Open Banking APIs still focus on core functionality, adoption is accelerating and spreading to other products and services, as shown in the image visualising our analysis of APIs in the developer portals of 15 large multinational banks.

Payments (25%)



Example use cases

Business Instant Payments

Real-time payment initiation solution without need for additional authorisation in bank environment

Real-time status tracking

Real-time visibility on payment status

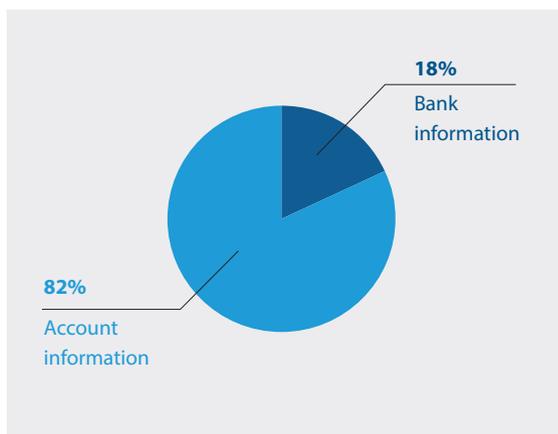
Payment pre-validation

Immediate feedback on payment errors, potential fraud

Request-to-pay

New payment collection method based on (instant) account to account payments with key info prepopulated (e.g. payee name/IBAN, amount, date, reference)

Bank & account information (23%)



Example use cases

Real-time information

Real-time visibility on transaction information & account balances

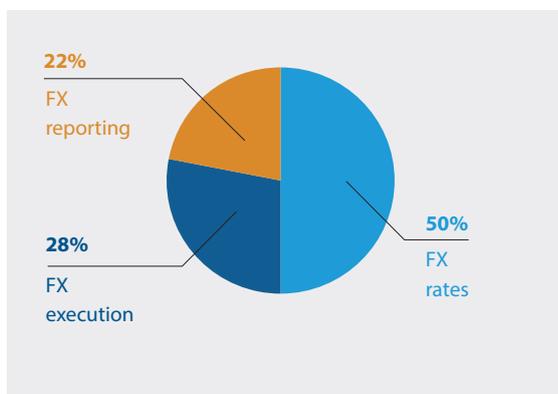
Transaction analytics

Access to enriched transaction information, e.g. categorisation and spending patterns

Operations/service information

Real-time access to generic, operational and service related bank information e.g. cut-off times, bank codes, bank fees, bank holidays

Foreign exchange (13%)



Example use cases

FX rates

Realtime retrieval of FX rates

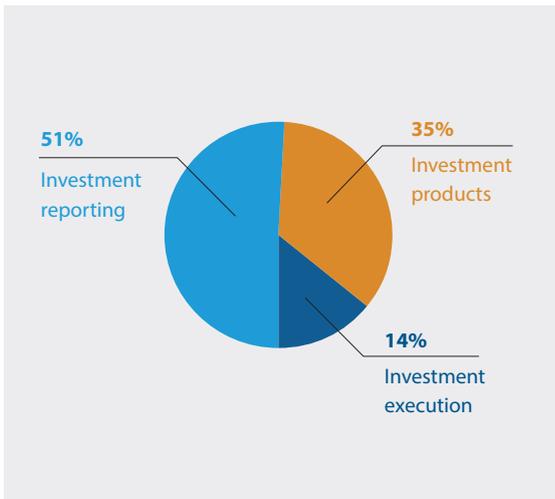
FX trade execution

Real-time execution of FX transactions (spot, forward, swap, option)

FX trading report

Realtime access to post trade FX reports (incl. transaction details & fees)

Investments (8%)



Example use cases (Fixed income securities)

Investment products

Retrieve details of available (fixed income) securities

Trade rates

Retrieve (real-time) valuation/rates of (fixed income) securities

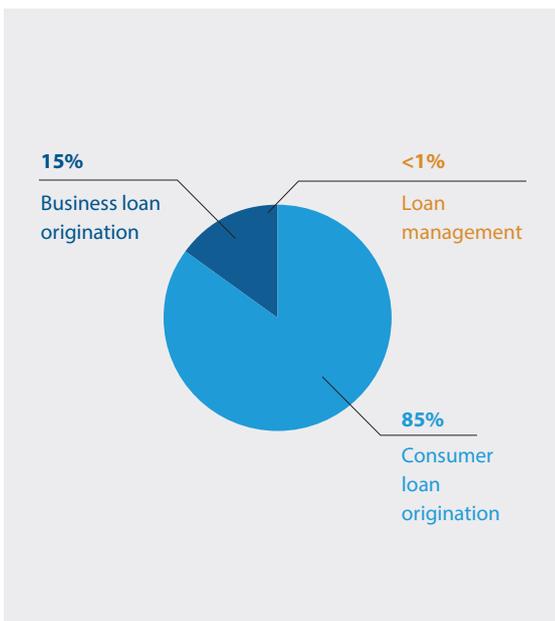
Trade execution

Place market order and manage order (edit or cancel limit / stop-loss order)

Trade reporting

Realtime access to deal status (settlement)

Lending (7%)



Example use cases

Loan origination

Real-time application process for business or personal loan (incl. onboarding in case of new to bank customer) and relevant management functions (e.g. status, contract, repayment schedule)

Financial lease

Real-time application process for lease contract and relevant management functions

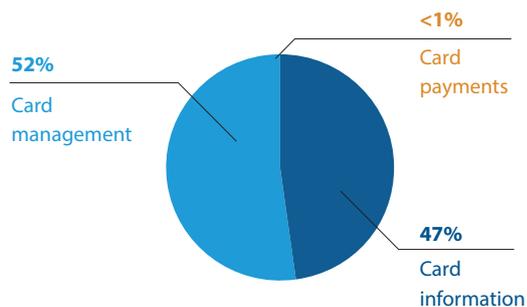
Buy Now Pay later

Real-time application process for Buy Now Pay Later service, for both B2C and B2B context and initiation of payment as per instalment schedule

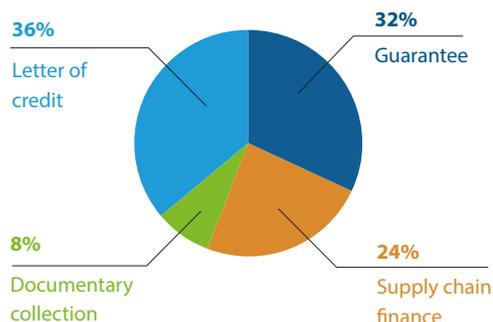
Invoice financing

Real-time application process for invoice financing

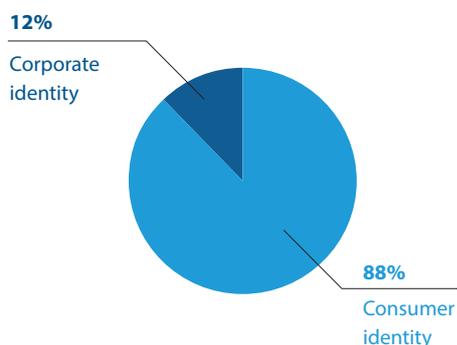
Cards (7%)



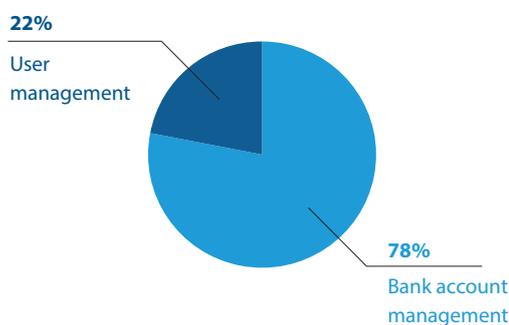
Trade & Supply Chain finance (6%)



Digital identity (6%)



Electronic bank account mgmt (5%)



Improved developer experience

The average developer experience score has increased by 11%. This raises the bar, meaning that competition is intensifying and banks need to step up their game to avoid falling behind their peers. The improvement in developer experience is mainly driven by:

- **Community Development:** 22% increase in banks actively investing in community development efforts through news articles, blogs, events or partnership programmes. This indicates that banks are picking up on the importance of establishing an Open Banking community to drive innovation.
- **Developer Usability:** 21% increase thanks to additional – or optimised – development tools such as dynamic sandbox functionalities, detailed ‘getting started’ guides or more comprehensive application and credential management features, contributing to a better developer experience by making life easier for API consumers.
- **API Documentation:** 3% increase in features such as information on API business context, API versioning & changelogs and conciseness of the API specifications, all of which improve the overall readability of the API documentation and related content.

Open Banking is not only about exposing and consuming data and functionalities, but also about exploring new possibilities enabled by open business models.

Three Open Banking trends to enhance the developer experience

We currently observe three trends that play an important role in enhancing the experience of API consumers:

- 1 *Consistent developer experience across countries and markets* API solutions solve a wide array of challenges for a variety of API consumers across multiple verticals and markets. One key differentiator for banks is being able to sustain a consistent and intuitive experience and to ensure interoperability of their solutions through a unified approach.

Examples for uniformity & interoperability



Offers access to all subsidiary countries through a single API access point



Enables developer access to more than 150 API functionalities through a single portal



APIs leverage India's biometric ID system (Aadhaar) for consumer identification

- 2 *Collaborative solutions through Partner APIs or 'mash-ups'* Open Banking is not only about exposing and consuming data and functionalities, but also about exploring new possibilities enabled by open business models. Banks with a collaborative mindset can establish a key position within new digital ecosystems by leveraging their commercial and operational open banking capabilities to co-create new mutually beneficial products in complete user journeys at scale.

Examples for open business models & partnerships



Combines partner APIs with their own APIs into "Mash-ups" for e.g. insurance & travel



Enables business clients to verify beneficiary account information through partner API of SurePay



Payment API solution enables global disbursements via partner API of Zelle & PayPal

- 3 *Flexible API solutions catering for diverging needs* There is no one-size-fits-all solution, and the needs of specific API consumers can differ in terms of security and authentication requirements or API formatting preferences. With this in mind, API solutions that cater for flexibility increase overall robustness and stimulate adoption at scale.

Examples for tailored solutions



API solutions enable corporate clients to utilise their preferred security procedures minimising friction in authentication & authorisation processes



Offers a variety of authorisation procedures & flows for corporate and retail APIs



Account information APIs provide option to select different output formats



Case study: Open Banking and Nordea – the frontrunner in developer experience

Nordea was one of the first banks in Europe to take a proactive approach to Open Banking back in 2017 and is therefore a familiar face in the Open Banking Monitor. When it comes to the developer experience, Nordea has ranked among the top players ever since the start of our ranking and this year it took the leap to become the frontrunner in this area.

So what is it about Nordea that makes it so successful in this respect? Well, to start with, Nordea is the top-performing bank regarding developer usability. Developers are supported by a wide array of information, tutorials and 'how-to' guides. App management features include organisation and certificate management capabilities. Sandbox functionalities include dynamic data and test-user management.

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Secondly, community development and engagement activities are well represented at Nordea, with active participation in the Open Banking market, for example through internal and external events, participation in different forums, blogs, customer cases, newsletters and social media interactions. In addition, community-developed tools and projects are frequently highlighted and promoted, stimulating others to participate. Nordea is deeply involved in community management activities, for example by inviting API consumers to help develop new APIs and by collecting feedback from third parties to drive API management improvements. Right from the start of its Open Banking journey, Nordea has continuously used the knowledge gained from the PSD2 API scope to benefit the creation of its commercial APIs.

Thirdly, when it comes to API documentation, Nordea makes a clear distinction between business and technical documentation to take different types of visitors to its developer portal into account. Nordea's developer portal has recently undergone a transformation into 'Nordea API Market'. It still caters for all the required technical elements considered in the OBM Capability model, but now also fulfils the needs of business users by presenting API use cases and offerings, a library of recent newsletters and a display of awards and rankings.

Three functional aspects of Open Banking to consider

When it comes to the functional scope of the Open Banking Monitor, three aspects are considered when comparing API functionalities:

1. comprehensiveness of the API product
2. the value enabled through the API
3. the complexity of the API.

Nordea's FX Trading API product is a good example of where these aspects come together. It covers a multitude of APIs across the complete trade chain (i.e. from access to real-time FX rates, to executing FX spots and swaps and retrieving posttrade reports).

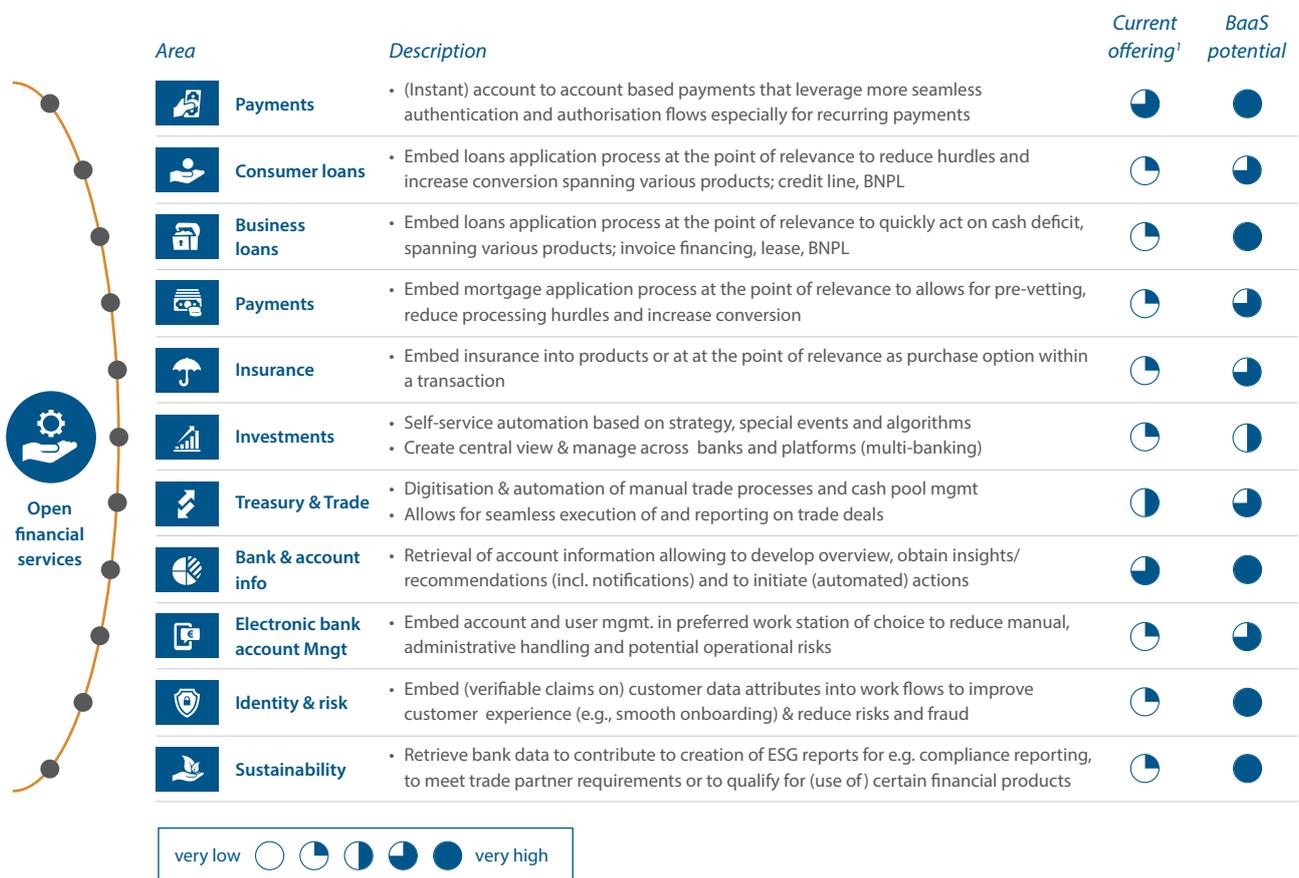
It's time to act: the value of Open Finance can be captured with Embedded Finance and the opportunity is just around the corner

For everyone in the Open Banking space, regardless of whether they are frontrunners or taking a more reactive approach, there is now a new challenge on the horizon: 'Open Finance'. In this emerging paradigm in the industry, value creation will come from sharing, providing and leveraging access to even more banking data, services and products through APIs.

As more companies and ecosystems embed financial services (not only payments, but also lending or insurance products) into their offerings, banks should seize this opportunity to capture the value of Open Finance. They can do this by integrating their API propositions with

personalised data sharing to enable compelling embedded finance experiences – such as enabling a small business to open a bank account or arrange insurance coverage through its bookkeeping software provider or payment service provider, or allowing a consumer to pay via their preferred retailer app. In fact, customers are increasingly demanding such an integrated digital experience due to the appeal of ease of use at the point of relevance.

Banking as a Service (BaaS) capabilities form the starting point for this, and they are now gradually expanding into various banking products and services to enable Open Finance and Embedded Finance. The visual shown below provides a high-level qualitative outlook on other relevant BaaS domains.



Source: INNOPY analysis ¹Note: refers to current maturity of market offering in this area based on INNOPY Open Banking Monitor data

Making it work will require additional BaaS technologies and capabilities as it involves new forms of distribution to customers via APIs and it requires strong risk and compliance management on the part of the embedded finance partner. The visual below shows the seven essential building blocks for creating sustainable value with BaaS.

INNOPAY END STATE VIEW ON BAAS CAPABILITIES



Source: INNOPAY analysis

There is a substantial market for Open, Embedded Finance because customers increasingly conduct their business in non-bank digital ecosystems. Part of this market will be new, but the main part of this market is a replacement market. This underlines that financial institutions need to act now if they want to defend their existing market position and strengthen their future relevance. Banks that execute ambitious Open Finance strategies are more likely to come out on top in this emerging world of datadriven, Embedded Finance propositions.

Open Finance is the game changer that challenges financial institutions to rethink their business models and get involved to unlock business value and secure their relevance. It is safe to say that Open Finance is key for financial service providers who wish to compete and collaborate in digital ecosystems by embedding their value propositions. For this, they need to start executing on the critical BaaS capabilities. It is now time for them to act.



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About INNOPAY

INNOPAY is an international consultancy firm specialised in digital transactions. We help companies anywhere in the world to harness the full potential of the digital transactions era.

We do this by delivering strategy, product development and implementation support in the domain of Digital Identity, Data Sharing and Payments. Our services capture the entire strategic and operational spectrum of our client's business, the technology they deploy, and the way they respond to local and international regulations.

We have grown from strength to strength since our foundation in 2002 and operate from our offices in Amsterdam and Frankfurt. Our head office is located in The Netherlands, where we have the #1 market position.

We are a founding member of Holland FinTech, a financial technology hub with links to the rest of Europe, the US, the Middle East and Asia. Our team consists of over 60 experienced domain experts who regularly advise a wide range of global organisations.