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Opinion

Open APIs and Open Banking:
Assessing the Impact on the
European Payments Industry and
Seizing the Opportunities

Thomas Egner

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Open APIs and Open Banking: Assessing the Impact on the European Payments Industry and Seizing the Opportunities

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European banks are at a critical juncture, with changes in the payment industry requiring major strategic decisions. They need to decide whether to become a banking service utility, supporting other providers in their customer-facing solutions, or play a central role in the daily lives of consumers. In this context, the regulatory requirements to open up payment accounts via application programming interfaces (APIs) play a major role, since they are expected to help drive the industry towards a new ecosystem shaped by the wider concepts of “Open Banking.”

The aim of this article is to try to explain the main aspects of this expected industry evolution and describe the impact and key strategic challenges and opportunities this will entail for banks in their role as “account-servicing

payment service providers” (AS-PSPs), in particular.

THE REGULATORY AND TECHNOLOGY DRIVE TOWARDS “OPENING UP” PAYMENT ACCOUNTS AND SERVICES

Since 2007, the European regulators have published two Payment Services Directives (PSDs) in order to create a pan-European legal framework for payments. PSD1 came into force in 2007 and paved the way for the introduction of SEPA in 2014, which aimed to harmonize payments processing. PSD2, which entered into force in January 2016, further looked into providing a regulatory framework and the necessary security requirements for an opening up

of payment accounts for third parties at the request of the customers holding the accounts. The intended effect of both sets of regulations, in conjunction with SEPA Regulation 260/2012 and previous legislations, has been to increase competition as well as to promote innovation and strengthen customer rights with regards to the use of payment and account-related services.

The introduction of this regulatory framework for payment account access will encourage new players to enter the payments market and existing players to revise and expand their service propositions. In their capacity as AS-PSPs, banks will need to offer and publish an interface for third-party providers (TPPs) to use to access the payment accounts of customers held with a respective bank. The Regulatory Technical

Standards (RTS), specifying the requirements for strong customer authentication and common and secure communication under the PSD2, which have a strong bearing on this interface topic, are expected to come into effect in late 2018 or early 2019. The common understanding in the industry seems to be that from this date on, the direct connection between the customer's bank and TPPs should be enabled via APIs.

Regarding TPPs, the PSD2 distinguishes between "payment initiation service providers" (PISPs) and "account information service providers" (AISPs). One key benefit for customers delivered by AISPs could be the ability to have access to their banking information from multiple providers in the same place. To this effect, it is expected that a wide range of aggregator websites and apps will emerge to provide this information to customers in an easy-to-use interface, giving customers a more complete view of all the accounts they hold with different banks, and helping them to better monitor and manage their finances.

In addition to the regulatory initiatives, advances in technology – including immediate payment infrastructures, blockchain, and the Internet of Things (IoT) – are creating new ways to pay in a digitized end-to-end value chain. Customer demands are also evolving as more and more transactions are initiated via mobile devices, demanding a real-time, personalized, and seamless payment experience.

Although the PSD2 regulates only the field of payment accounts and services, the opportunities that open APIs and Open Banking hold for the financial services industry in a digitalized market are very substantial and not limited to payments only. After all, outside the banking industry, some of today's globally operating corporate giants in the digital

space could not have grown so fast in the past decade without the business-accelerating capabilities of APIs.

Opening up to other market participants outside of one's own organization creates value for customers and benefits the surrounding ecosystem. Open APIs and Open Banking could change the way the banking industry thinks about products and distribution – two key dimensions in every business. APIs, and digitization in general, allow value to be created in a distributed fashion, through an ecosystem of partners. Co-creating value is likely to prove to be a major change and challenge for banks in the near future.

The changes triggered by the move to open APIs will also impact many of the traditional business models in the banking industry, in line with the experience that a variety of industries have already gone through following the large-scale adoption of open APIs. For banks, as well as other players in this space, the key to success will be to adapt to this changing landscape by re-conceptualizing their business models around the customer, and seize the opportunities of APIs as an enabler of new products and services.

RELEVANT CONCEPTS IN APIS

In order to fully understand the potential impact of APIs, and especially open APIs, on the payments industry, it is necessary to clarify a few relevant concepts relating to APIs. The significance of the degree of openness of APIs, how it relates to creating value through APIs, and the extent to which this value depends on the level of standardization are key aspects in this regard, as is a widening of the scope from open APIs to Open Banking.

To start with basic definitions, APIs can be seen as interfaces between software applications, both within as well as between organizations. More specifically, APIs enable communication between software applications where one application calls upon the functionality of another.

APIs represent a specific software-architectural approach that revolves around the view that interfaces should be scalable, reusable, and secure, while offering ease of use for developers through self-service. APIs, therefore, hold the promise to reduce cost and lead time of interfacing between systems, allowing faster, cheaper, and better innovation on a larger scale.

Various business dimensions of APIs can be identified, starting with the concept of "openness" in relation to APIs.

The level of API openness determines potential reach

APIs enable secure, controlled, and cost-effective access to data and/or functionality. If APIs can only be accessed within the boundaries of one organization, they are referred to as "closed APIs" or "private APIs." If they can also be accessed by third parties (outside of the organizational boundaries), they are referred to as "open APIs." It is relevant to stress that "open" does not mean that every third party can access a bank's system at their discretion. There will always be some form of control by the bank, in order to preserve security, privacy, and contractual conditions. This will be further detailed below.

In practice, different levels of API openness can be observed. This is important because the level of openness determines the potential number of parties with access and thus the potential reach of the functionality offered through an API. For the purposes of the

present article, the following levels of “API openness” are to be distinguished:

- **Private APIs:** private APIs are closed APIs, and, therefore, exclusively accessible by parties within the boundaries of the organization.
- **Partner APIs:** APIs that are open to selected partners based on bilateral agreements. Like Private APIs, Partner APIs are exclusively accessible at the discretion of the provider of the APIs. Bilateral agreements on specific data exchanges between, for instance, a bank and an enterprise resource planning (ERP) software provider is an example of a Partner API.
- **Member APIs:** this type of API is open to everyone who is a formal member of a community with a well-defined set of membership rules. When becoming a member of such a community, the API provider allows access to the community members who comply with community membership rules and regulations. Account information and payment initiation services as defined under the PSD2 fall in this category, since only authorized or registered TPPs can obtain access.
- **Acquaintance APIs:** this type of open APIs is inclusive, as they are open to everyone complying with a predefined set of requirements. Developer portals distribute this type of API, which also comes with some form of standardized agreements. Merchant access to point-of-sale (POS) APIs is an example in this category.
- **Public APIs:** Public APIs are inclusive and can thus be accessed by anyone, typically with some form of registration for identification and authentication purposes.

The levels of API openness are depicted in Figure 1.

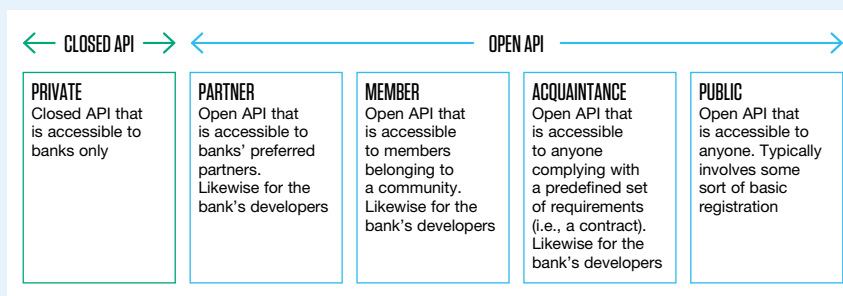


Figure 1 – Levels of API openness

Creating value with open APIs

Most digital players have used API technologies to meet their business objectives and ultimately create customer value. They have discovered that using APIs in opening up systems (to the outside world) is essential for driving traffic to one's assets, for co-creating end-customer value in the ecosystem, and for sharing the burden and benefits (including the profits) between the parties involved when unlocking new markets.

Value co-creation through APIs can be categorized as follows:

- **Enabling third parties to build applications “on top” of the platform:** examples include Facebook, Amazon, eBay, PayPal, Twitter, and Google. Developers can reuse existing functionality or use data sources to enrich their own applications. This lowers costs and speeds up time to market, but also creates additional dependencies on third-party developers. For API providers, this way of value co-creation provides a wider distribution network, creating traffic and minimizing innovation costs, which are carried by third-parties.
- **Social sharing for marketing purposes:** examples include Flickr, Delicious, Twitter, YouTube, LinkedIn, and Facebook. Social sharing is about sending, for example, photos,

videos, product recommendations, and website links to contacts within a social network. Social sharing is highly effective for branding and marketing purposes and for generating web traffic. Banks could use social sharing principles to build user communities, retain or increase brand awareness, and increase brand loyalty.

- **Syndicate products and services across different platforms:** examples include eBay and Google. Syndication occurs when multiple players work together to co-create and provide a service to a customer. Each player provides distinct features to create the value provided by the service. The fees paid by the customer are distributed amongst the syndicate membership.

The models described above not only enable and promote cooperation between different parties but also make it possible to create attractive and completely new value propositions. Ease of use, product and information aggregation, and direct communication are key for catalyzing this process.

Financial APIs require agreement on the scope and breadth of standardization

In the financial world, defining technical interfacing only is not enough for collaboration across organizations. Where

funds and sensitive data are involved, trust needs to be created. An additional dimension is provided by the various ways in which data may be handled, this includes different requirements for reading versus writing of data as well as for different types of data. Personal customer data require different provisions than bank data or aggregated (anonymous) customer data. A higher level of control is, therefore, needed. However, banks already have experience with controlled third-party access.

The financial services industry has a long tradition of applying control and standardization beyond technology, when creating infrastructures, such as for payments and securities, and when interfacing with clients and other third parties. In a fully digitized world (i.e., in a machine-to-machine environment without any foreseen human intervention), standardization becomes even more important. We distinguish four agreement and standardization dimensions (scope) in the banking industry:

1. **Legal:** rights and obligations of concerned parties for creating trust among the parties involved.
2. **Operational:** the agreements needed for running an API (after implementation): performance, up-time, service levels, support, etc.
3. **Functional:** aspects related to the user functionalities, data semantics, etc.
4. **Technical:** all aspects relating to technical implementation.

Industry infrastructures and business networks, such as today's payment systems (and financial systems in general), cannot function without agreements on all of these dimensions, either between individual banks or within communities. Consequently, financial APIs need at the very minimum a similar scope when it comes to agreements and standards.

The report by the U.K. Open Banking Working Group¹ provides explicit recommendations on the use of standards in the field of Open Banking.

In addition to the dimension of technical standardization, the governance in the field of standard setting is of utmost importance for the use of, and acceptance by, the users. The following governance levels could be distinguished:

1. **Organization:** this is the smallest unit of governance, as it concerns a single bank. Company policies, guidelines, and Member APIs fall under this category.
2. **Community:** standards are accepted and adopted by a group sharing common characteristics or interests, such as national communities, processors, banks, etc. The pan-European e-authorization solution MyBank is an example in this category, as well as the recent work done by the U.K. Open Banking Working Group.
3. **Industry:** standards are accepted and adopted by a complete industry on a regional or global scale. The SWIFT standards are an example of an industry standard. The SEPA Schemes also fall into this category.
4. **Universal:** standards are accepted and adopted by multiple industries around the world. Any standard defined by an international organization such as ISO, ITU or IEC fall into this category (HTTP/HTTPS used for Internet communication is one practical example).

From open API to Open Banking

From a strategic point of view, payments industry players in general – and account-servicing payment service providers, such as banks, in particular – should consider their use of (open)

APIs against the wider horizon of Open Banking and their positioning in that broader emerging ecosystem, which is facilitated by, but not limited to, a growing usage of open APIs across the financial services industry.

There are several definitions in use for Open Banking, coming, for example, from the Open Bank Project² and the U.K. Open Banking Working Group.³ In both cases, Open Banking revolves around the standardization of how banks share their own data, but also how they allow customers more choice and sharing of their data for use in third-party (FinTech) applications in a secure and resilient fashion. Open Banking can be characterized as a technology-driven evolution of banking, and this includes Open APIs. As such, Open Banking is a movement “bridging two worlds,” i.e., making it possible for customers to use their banking services in the context of other (FinTech) services, thereby combining innovative functionalities from banks and non-banks with reach through infrastructure.

Functionally, Open Banking is about how banks share their own products (i.e., services, functionality, and data) and how they enable their customers to share their data and account functionality with third-party (e.g., FinTech) applications in a secure and resilient fashion. As customers drive the actual uptake of such innovations, the concept of “customer ownership” or “product centric” is changing towards a concept of “customer centric” between banks and third-party developers.

1 <http://bit.ly/1nYWjv4>

2 <http://bit.ly/2mSAa1E>

3 <http://bit.ly/1nYWjv4>

The real challenge of customer centricity through Open Banking is to move away from the product-driven push and to develop the corporate capabilities to truly understand the customer's stated and tacit needs, to generate new ones, and to provide highly personalized solutions and experiences. Achieving customer centricity is a journey, an iterative one that may have significant impacts on the entire organization. It will require banks to holistically rethink the way the business is conducted, starting from its customers.

OPEN BANKING FROM A BANK'S PERSPECTIVE

Open Banking challenges traditional assumptions by creating new opportunities in product creation and distribution. Traditionally, banks have not only provided their customers with products but have also been responsible for the distribution of these products, i.e., the bank distributed its payment products through its own banking channels, such as mobile, web, and branches. In this traditional scenario, the bank controls the entire product and distribution chain.

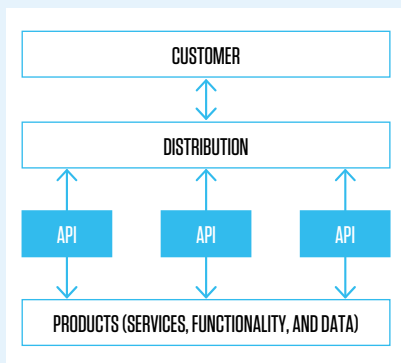


Figure 2 – APIs are the pivot between products and distribution

Open Banking redefines both product and distribution as the principles (re-usable, scalable, secure, self-service), technologies, and agreements of Open Banking allow for new possibilities. Figure 2 demonstrates where APIs fit in between products and distribution.

Using APIs for interfacing between product and distribution enables banks to decouple these functions. The combination of decoupling and opening-up allows banks to play different roles in the financial value chain with regards to the offering of products and the distribution of these products. Two fundamental strategic questions need to be looked at in this context:

1. Who distributes the products that are made accessible via an API to existing and new customers?
2. Who creates the products that need to be distributed to a bank's customer base?

Based on these two questions, four generic roles in the financial value chain may be defined as illustrated in Figure 3: integrator, producer, distributor, and platform.

Most of the larger financial institutions already play roles 1, 2, and 3 (integrator, producer, and distributor) at the same time (often assigned to different business lines or products), whereas role 4 (platform) is still at a very early stage of its development. The roles could also indicate the platformization levels of Open Banking. Each level correlates with increasing customer control when looking at things from the customers' perspective (Figure 4).

Embracing a new role in the financial value chain with a limited or extended level of platformization entails transformational challenges, as it requires changes in the business and operating

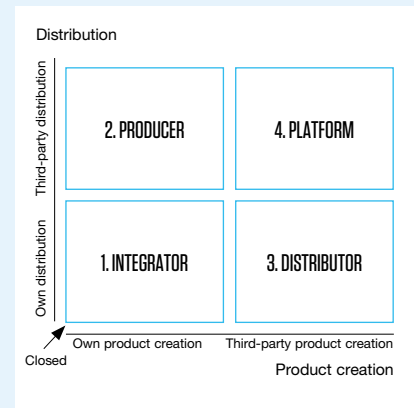


Figure 3 – Potential roles in the digital value chain

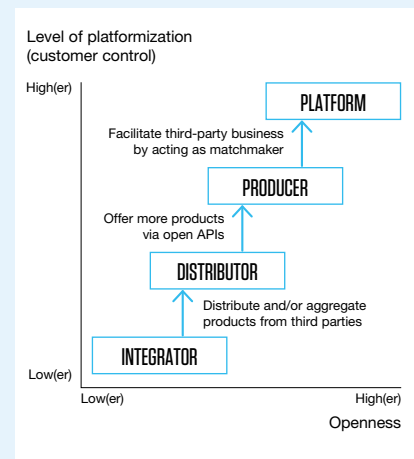


Figure 4 – The four platformization levels of Open Banking

model. Criteria to consider when evaluating the level of strategic change include customer choice and control, customer loyalty, market propositions, cost efficiencies, innovation culture, employer attractiveness, business and IT alignment, available means for investing, and possibly outsourcing.

Given this wide range of criteria and potential consequences to consider, decision-makers within banks are faced with significant strategic challenges. Opening up and giving customers more control can have a positive impact on revenues (and profits) as successful open

(platform) models in the non-financial industry have shown in the recent past. Risks, in terms of increased compliance challenges and increased competition, are mounting as well, all potentially to be mitigated and adequately managed by changes in the operating model. Each level of platformization comes with varying challenges, where the pursuit of a “doing nothing” strategy is not an option.

CONCLUSION

The above elaborations describe the strategic crossroads that every account-servicing payment service provider could face in the next one to three years, when confronted with choices on how to approach or embrace Open Banking and apply API technology. The minimum engagement in “opening-up” is what the PSD2 will prescribe in terms of access-to-account, i.e., a limited “producer role” and thus limited level of platformization, while the current FinTech and innovation initiatives pose growth challenges regarding business strategies for partnering and product propositions towards third-parties.

The ever-changing customer expectations – driven by the experiences customers make in their digital life – will increase this need for more advanced levels of platformization, enabling ultimate customer choice and control options. It will be up to each individual player in the market to rise up to the challenge of meeting these expectations and seizing the opportunities offered by the industry’s move towards open APIs and Open Banking.

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