The Open Banking Revolution

Open Banking requires banks to open customer data to third parties in an effort to enable more competition and customer control. In this article, we will highlight how customers, banks and third parties may benefit altogether from Open Banking and what technical impact it will have on banks' IT infrastructure.

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The idea of Open Banking

«Open Banking» defines a customer-oriented banking concept. It includes the opening of banks, as well as the provision of customer data against third-party (financial) service providers. Operations on bank accounts and data, including financial services, are made available to third parties through publicly available, standardized APIs, provided that customers agree. Thus customer data and services, as well as related functionalities, can be exchanged between banks and third-party providers. This opens up entirely new possibilities for customers, e.g. direct access to a variety of financial services from different providers on a single platform. As a result, competition on the financial market will increase. Customers benefit from more transparency, selection and control over their own data.

The expanded EU Payment Services Directive (PSD2), which enters into force in 2018, requires financial institutions to grant third parties access to customer data. PSD2 thus marks a first regulatory step towards open banking.

Currently, a non-standardized method (screen scraping) is used instead of APIs to extract customer data from e-banking platforms. Within the framework of PSD2, this method is supposedly replaced by standardized APIs, which is why screen scraping companies fear to lose their technological advan-

tage. Although PSD2 comes into force on January 14th, 2018, however, the EU is not expected to finalize the accompanying regulatory technical standards until about a year after that.

Impact on bank customers

With Open Banking, customers will have full control over their data. They are no longer limited to the service universe of few financial institutions, but can tailor individual offerings according to their needs. Furthermore, standardized access to financial products enables a product comparison across the entire financial market. It is therefore expected that the supply of financial services will change in terms of content and pricing. The following scenarios describe possible implementations of Open Banking:

○ Minimum approach: third-party APIs can access existing customer data from banks but cannot integrate their services into them.

○ Maximum approach: the integration of various services (e.g. e-banking) and functionalities (e.g. money transfer) is implemented in a single front platform.

As shown in 📊 1 the exact configuration of the front end,

which includes a variety of accounts, functions, and services, should be customizable for each customer. The goal should be a secure, comfortable and transparent handling of individual services on the user interface. For customers of more than one (financial) service provider, the frontend could look like this:

- ○ Consolidated view and control over all bank accounts and related functionalities

- ○ Online payments per bank account / credit card

- ○ Access management of third parties (e.g. e-commerce)

- ○ External trading platforms (e-trading)

- ○ Personalized financial management & advice

- ○ Administration of cryptocurrency wallet

- ○ Holistic credit card management

Impact on banks

From a business perspective, banks could leverage access to third-party customer data and functionality for their own services to extend their value chain and service offering. For example, the combination of existing, aggregated customer data and information enables a very detailed customer picture. Hence, innovative and attractive customer services, such as holistic advice or customer-specific credit products can be offered. The customer base of banks, which are first to actively implement Open Banking, could be expanded and additional market shares gained. In addition, banks could offer chargeable (micro-)services via APIs (API economy).

A modern IT architecture is imperative to make so-called micro-services available with publicly available APIs. This requires the following structural measures and investments:

- ○ The introduction of an integration layer allows a service-oriented architecture and is the prerequisite for publicly accessible, standardized APIs. It mediates between transformation, routing and protocol conversion and ensures the communication between core banking system and APIs.
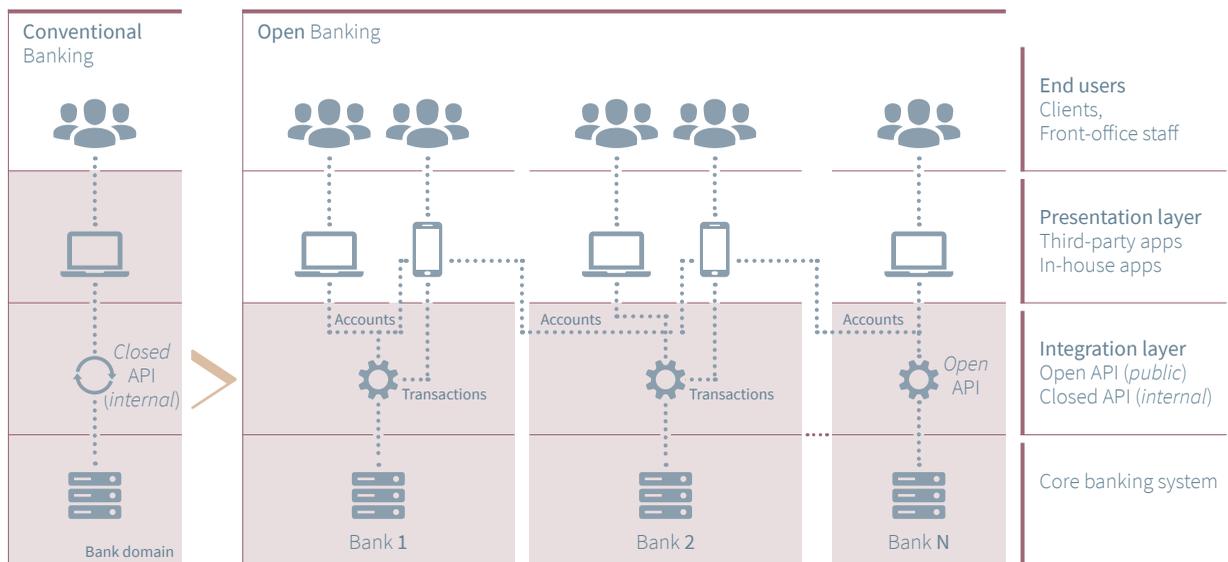
Source: Synpulse

1: *From conventional to open banking*

○ The provision of data via APIs can make databases significantly more efficient. Therefore, it is recommended to use a powerful database (e.g. NoSQL) for read-only API calls. If the core banking system cannot guarantee 24/7 availability, a front database for API calls is mandatory.

○ An API management platform or API gateway is required to perform API usage / performance analysis, API release / lifecycle management, API access management, and subscriber management.

○ An API developer portal is required to ensure that banks, as well as third-party developers, can develop and test their own applications using currently available APIs.

○ Costs for the introduction and maintenance of new IT architecture.

The expansion of the IT architecture is a time-consuming and cost-intensive endeavor, but has the advantage of introducing a time- and cost-saving two-speed architecture. Thus, core banking systems can maintain their classic, waterfall-like release cycles while new applications / APIs can follow agile release cycles.

Strategic impact on banks

The opening of the financial market to third-party suppliers has a major impact on the strategic orientation of banks, since they can no longer act in the role of an «integrator» exclusively but also in the roles of a «distributor», «producer» or «platform» (📊 2). Therefore, banks must decide about a clear strategic orientation in order to secure their positioning in the market by means of unique selling propositions. While banks are currently producing and offering their own products as integrators, third-party suppliers tend to act as producers offering banks their products. The situation changes for banks as soon as Open Banking becomes reality as they can also be in one of the following positions (📊 2):

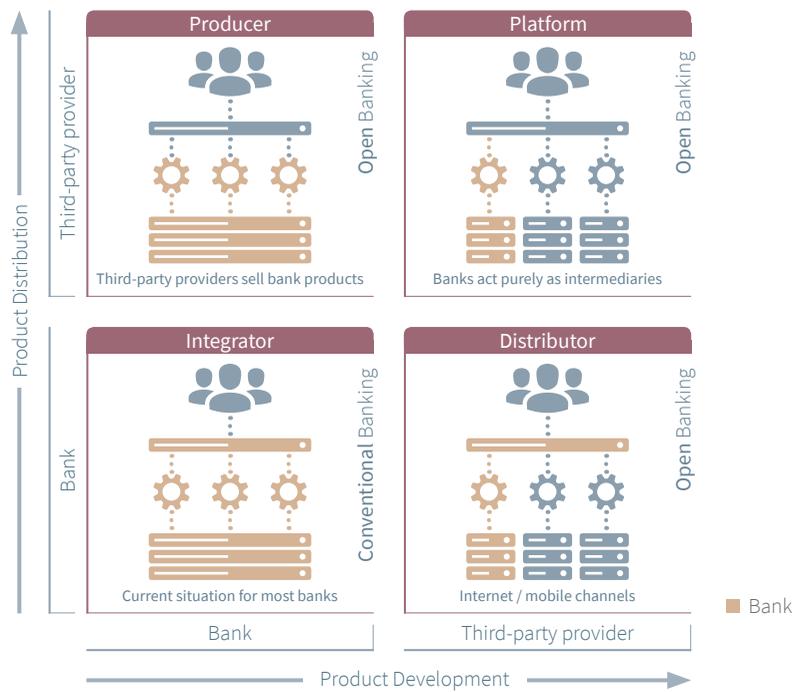*Source: Synpulse*

📊 *2: Strategic landscape in a world of open banking*

- Producer: banks create their own products and services, which are distributed by external parties.

- Distributor: banks use established digital channels from other banks to expand their offerings.

- Platform: banks act as intermediaries between third parties and their customers.

As a result, the strategic orientation and adaptation to the respective roles are strongly dependent on the individual business models of each bank as well as its objective. Banks with in-depth product know-how and an established IT infrastructure could, for example, conduct the product development themselves and distribute the end product independently or externally. An example would be a chargeable service such as the risk assessment of equity funds.

In order to maximally benefit from the new business generated, banks should position themselves as integrators, producers and distributors at the same time. As such, they remain flexible in an increasingly volatile financial market and can stimulate their B2B and B2C businesses through new production and sales channels. The role of a pure platform is problematic since banks thereby become just utilities moving the money around in the background while third parties would hold the customer-relationships. This would cause banks to weaken or even lose certain competences and thus be a tremendous threat. It will be vital for financial institutions to implement Open Banking proactively and quickly in order to master the imminent change in the financial industry on a sustainable basis and to leverage the opportunities that arise as a result of it.

Application programming interfaces (APIs)
JEach API is an interface, but not every interface is an API. APIs are a specific software architecture approach, which in turn makes interfaces scalable, reusable, and secure, while at the same time ensuring ease of use for developers through self-service. Therefore, APIs promise to reduce the cost and lead time of the inter-system interfaces, enabling faster, cheaper, and better innovation on a larger scale. Public APIs (open APIs) provide developers with access to a proprietary software application or Web service. APIs are subject to requirements that determine how applications communicate and interact with each other.

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