PSD2
Challenges and Opportunities for the CIO

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Introduction to PSD2
The revised Payments Services Directive (PSD2) follows in the footsteps of PSD—adopted in 2007—and is a fundamental step in implementing the SEPA (Single Euro Payments Area) directive. The original PSD aimed to regulate payment services provided by banks as well as payment and e-money institutions, which are formally called Payment Service Providers (PSPs). Following the vote to adopt the new revised directive, the European Commission highlighted that the new legislation focuses on making payments throughout Europe safer and more secure, and enables innovation by allowing new payment services to enter the market.

The drivers behind the regulation are clear: innovation, competition, and consumer protection. These are recurring themes that are being consistently pushed by regulatory authorities throughout Europe, both centrally and within its member states.

The changes proposed by PSD2 are far-reaching. Set against a backdrop of increasing Fintech investment, PSD2 now enables many new third parties to participate in a market that has previously not been open to them, whereas traditional players might lose control and influence within these markets if they are not careful to address these new challenges.

New stakeholders, new rules, and new processes
Two new types of third-party PSPs have been identified by PSD2: Payment Initiation Service Providers (PISPs) and Account Information Services Providers (AISPs). Together, under PSD2, they are called Third Party Service Providers (TPSPs).

Previously, Payment Service Users (PSUs) with multiple accounts were only able to create a holistic view on their financial portfolio by sequentially accessing their individual accounts through separate interfaces. AISPs now enable PSUs to access and aggregate account information from all accounts that could be of any use to them.

Additionally, a payer had to initiate a payment directly through his bank, while today PISPs are able, on behalf of a PSU, to directly access and initiate payments through the bank’s payment infrastructure.

In order for TPSPs to directly connect to the financial institutions’ infrastructure, a new set of technical standards and connection requirements have been in development. These requirements are referenced as XS2A or “Access to Account.”
Challenges and opportunities for the CIO

CIO environments all over Europe will be heavily affected by these new regulations. CIOs who can and want to move quickly could use these regulatory changes as an opportunity to accelerate open banking and digitization. PSD2 embeds a strategic component for banks; they could use PSD2 to reposition themselves, or be disrupted in terms of customer experience. Another Fintech may take over the services of its customers, and use the bank only as a booking or processing entity. The use of external Fintech platforms will contribute to the creation of new ecosystems that could enable new business and operating models more efficiently.

The legacy problem

Until recent years, building IT systems was seen as an important way to differentiate from the competition. Financial institutions believed that there was value in building their own proprietary, and therefore closed systems were seen as “the” way to deliver the best service to the end client.

For most banks, the successive waves of investments in the IT landscape resulted in cumbersome legacy platforms linked with enormous maintenance budgets just to keep them running.

In order for banks to survive in the banking market of tomorrow, financial institutions need to embrace aggressive standardization approaches and commoditization of their IT. This will not only make IT operations more cost effective, but will also encourage innovation.

Financial institutions need to step away from closed legacy systems to more open standards and software. They should accept that off-the-shelf solutions exist and are more cost-efficient than building them by themselves. With an open mind, financial institutions should look at how new fintech players could complement their application landscape more than trying to compete with them.

Mandatory use of APIs

PSD2 will force significant challenges upon the infrastructure of financial institutions, who will need to answer to these new regulations with an open, pluggable, and flexible IT architecture. Not only will TPSPs need to be able to access the IT architecture by apps that are developed outside the bank, but exposed services need to be shareable and reusable and allow agility in a rapidly changing environment.

XS2A proscribes that financial institutions expose enterprise assets for regulated third parties through open application programming interfaces (APIs). In computer programming, an API is a set of subroutine definitions, protocols, and tools for building software and applications. A good API makes it easier to develop a program by providing all the building blocks, which are then put together by the programmer.

APIs are not new: In the past decade, APIs have become the de facto paradigm for sharing data, and have enabled organizations that hold large amounts of data to become platforms for third party innovation. Large platforms such as Google, Twitter, and Facebook offer APIs to third parties, e.g., for login or for initiating messages. In the payment space, PayPal has pioneered external APIs since 2010, on the basis of which an entire new ecosystem flourished.

A few examples of the banking services that might be exposed through APIs include account initiation, account fund availability, account balance, payment guarantees, real-time payments, payment refunding, conditional payments, crypto-payments, e-mandate management, authentication, online contracting, personal data verification, and bank statement status reports.

Banks need to therefore invest in application service governance and API management. Financial institutions will need to build or buy an API management gateway and create new APIs to provide access to financial institution assets.

The security aspect in the overall API Architecture will need to be taken up carefully. The European Banking Authority (EBA) recently published a Consultation Paper on draft technical standards of strong customer authentication as well as common and secure communication under PSD2. These technical standards will ensure appropriate levels of security, while at the same time maintaining fair competition between all payment service providers and allowing for the development of user-friendly, accessible, and innovative means of payment.
A strong API strategy can create additional business value

Although the use of APIs within banks could initially be strongly driven by regulations, they can also create significant business value and address the strategic priorities of top management.

Some examples of how APIs could contribute to create business value within the financial services industry:

- The use of APIs could simplify time-to-market in making products and services available to the market. Accessibility of services toward new market players could increase, resulting in an increase of market share and revenues.

- Traditional ways of transforming business ideas into IT solutions can be quite time-consuming and cost inefficient. Using APIs, both for internal and external use, could enable CIOs to reduce costs through lower time-to-market, reduce the overall development lifecycle costs, as well as integrate partner solutions or services in a more efficient way.

- APIs could improve the internal or external user experience by developing dedicated or specialized mobile applications to give access to APIs. CIOs would have new ways to keep pace with disruptive innovation as seen in non-banking environments or Fintechs.

- More and more financial institutions could start experimenting with internal or external Hackathons, in order to identify best practices and lessons learned as well as engage with new a digital ecosystem of developers and partners. This engagement will be further facilitated if an efficient API strategy is in place.

- APIs also enable banks to explore new business models. For example, Fidor, an innovative German online bank, created a standard API layer on top of their core banking system, which allows developer communities to build their own applications and banking services, integrate solutions into the Fidor platform, and monetize their technology platform on top of traditional banking services.

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**API-based P2P payment or lending solutions**

Peer-to-Peer or Person-to-Person (P2P) payments are a fast and simple way for people to directly send money to others using a mobile phone number or email address through online banking, a smartphone, or a tablet. With a growing number of people expecting to access reliable P2P functionality, financial institutions gain a competitive edge by offering an API-centric solution that safeguards users’ sensitive information while securely delivering money faster.

One example in this sphere is Lending Club, the world’s largest online credit marketplace, facilitating personal loans, business loans, and financing for elective medical procedures. Borrowers access lower interest rate loans through a fast and easy online or mobile interface. Investors provide the capital to enable many of the loans in exchange for earning interest. They operate fully online with no branch infrastructure, and use technology to lower costs. They pass the cost savings to borrowers in the form of lower rates and investors in the form of attractive returns. They are transforming the banking system into a frictionless, transparent, and highly efficient online marketplace.

**Personal Financial Management solutions**

Recent years have seen the emergence of a multitude of PFM tools, each of which purports to be the best way to keep track of your finances. PSD2 forcing mandatory financial institutions to expose data will likely accelerate the commercialization of these kind of tools.

For example, German based Treefin is using APIs to offer customers a single and aggregated view of their investment portfolio, insurance policies, and bank accounts. While creating a holistic view of the client’s financial assets, the PFM solution proposes suggestions in order to further optimize the client’s portfolio and optimize financial returns. The introduction of PSD2 will enable local players, like Treefin, to expand their services across Europe more easily.

**The Open Bank Project**

The Open Bank Project provides an open source developer friendly “API for banks” that developers and companies can use to build innovative applications and services based on the account holder’s transaction data. It uses a secure, enterprise-ready technology stack and supports secure internet protocols such as OAuth.

Deploying the OBP API can encourage a community of developers to grow around the bank and enable them to build innovative products and services for customers based on the “bank as a platform” principle. Services may be offered through an app store, and the best ideas can be cherry-picked for use in branded interfaces. Customers can benefit from freer innovation cycles, greater choice, and quality; and the bank, as the gatekeeper to the OBP API, may charge customers for this added value.

The Open Bank Project also delivers a PSD2 sandbox that demonstrates a PSD2 API solution. The API provides a secure avenue that allows bank account holders to access their banking data and services through approved third party applications, following the consent of both the bank and customer.
Banking app stores are comparable with public app stores in other industries, but are created, branded, and hosted by banks. They mostly provide API-based access to bank functions and development platforms in order for third party developers to create custom apps. Examples include Crédit Agricole (CA Store) and Deutsche Bank (Autobahn App Market).

Open source banking systems are banking-specific applications or components that are made available to an open source licensing process. Cyclos developed an open source online payment, Hyperledger is a peer-to-peer distributed ledger technology for a new generation of transactional applications, and OpenChain and MultiChain are examples of open source blockchain.

Conclusion

Overall we can conclude the following:
• CIO environments all over Europe will be heavily affected by new regulations. CIOs that can and want to move quickly could use these regulatory changes as an opportunity to accelerate open banking and digitization. The Revised Payments Services Directive (PSD2) will force a more open banking model as it requires banks to open access to data and transactions to new market entrants.
• Mandatory use of open APIs will force significant challenges upon the financial institutions infrastructure that need to answer to these new regulations with an open, pluggable, and flexible IT architecture.

However, creating a strong API strategy can create additional business value.
• PSD2 will accelerate the adoption of open banking, reinforce the creation of new business models, redistribute responsibilities in the overall value chain, and therefore have a significant impact on the overall banking landscape.