OPEN BANKING AS A CATALYST FOR INDUSTRY TRANSFORMATION: LESSONS LEARNED FROM IMPLEMENTING PSD2 IN EUROPE

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OPEN BANKING AS A CATALYST FOR INDUSTRY TRANSFORMATION: LESSONS LEARNED FROM IMPLEMENTING PSD2 IN EUROPE

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Introduction

Newly introduced open banking and data-sharing regulations in finance have been described by regulations and practitioners alike as the next catalyst for reinvention in the banking sector and beyond. In recent years, the banking sector in the UK and across the EU has been largely functioning under monopolistic conditions (Molyneux et al., 1994) which was seen as problematic by regulators who deemed it necessary to tackle shortcomings of competition and introduce more pressure on “the older and larger banks which account for the majority of the retail banking market” to work harder for customers (CMA, 2016; p.1). As a result, both UK and European authorities set out to produce regulation that would introduce more ‘openness’ in the sector and help “unbundle” or “separate” banking services to create a more level playing field. The revised Payment Services Directive (PSD2) was proposed by the European Commission in 2015 and set out to extend the information requirements, rights and obligations of payment service users and providers (PSPs) that facilitate the transfer of funds (Zachariadis, 2020).

Generally, the key aims of PSD2 are to integrate further and support a more efficient EU payments market, as well as promote competition in an environment where new players are emerging. To fulfill the above target, one innovation that PSD2 brought is to enable third party payment institutions to access consumer bank accounts (Cortet et al., 2016) mostly held by incumbent banks and other account servicing payment service providers (ASPSPs). For this, PSD2 requires all banks to create interfaces (such as open Application Programming Interfaces (APIs)) through which trusted third parties (TTPs) will be able to automatically connect to customers’ bank accounts and access their transaction data as well as initiate payments, upon customers’ consent. This novelty disrupts the existing processes and network infrastructures that constitute the architecture of the banking and payments industry, and consequently, creates the possibility for customers to obtain these services from external and even multiple providers.

1 In parallel to the EU regulatory reform, in August 2015 the UK Government through the Competition and Markets Authority (CMA) published various provisional recommendations and subsequently delivered a framework for the introduction of open APIs in banking in order to drive the implementation of open banking in the UK. Both, PSD2 and UK Open Banking regulation came into effect in January 2018.
Regulation is generally known to play ‘catch-up’ with innovation and new technologies in that as innovative firms enter a market; regulations are updated to facilitate and demarcate the nature and scope of their activities. A familiar example is Uber which has entered several markets presenting itself as an information technology firm that matches drivers and passengers. Its approach to creating a multi-sided market has challenged traditional labor laws and caused a large number of regulators across the world to rethink and rewrite their guidelines in order to determine what defines an employee, what insurance is appropriate for ride hailing, among other issues.

Open banking is one of the rare cases globally where regulation precedes innovation and not vice versa. By redefining the ownership and therefore data-sharing rights, Open Banking and PSD2 regulations put the customer at the center and aim to lower entry barriers into the banking sector.

This study, which follows from our initial assessment of the API economy in banking (Zachariadis and Ozcan, 2017), explores the changes that incumbents and new entrants experienced in the banking sector following the announcement and implementation of open banking and PSD2 in the UK and EU. We conducted field interviews with over 100 key industry players including executives at established banks, fintech entrepreneurs, regulators and industry analysts. We also made numerous observations during industry events and conducted archival research between September 2016 and December 2019. This time interval marks both the period leading up to the regulatory change, as well as the first 24 months after the beginning of implementation. In our data collection, we focused on two main topics:

a) how open banking and PSD2 regulations motivated incumbent banks and new fintech start-ups to build an innovation ecosystem around themselves,

b) what unique challenges they faced in this process.

The rest of this paper discusses our findings in these two critical areas, and consequently, we present our assessment as to what these findings signify for the future of the banking sector.

The Strategic Importance of Open Banking

Open banking and PSD2 are generally viewed as ‘groundbreaking’ regulations for the banking sector. In our study, the majority of informants recognized that enabling third parties to safely access data and utilize existing banking infrastructure through new technologies could encourage competition without the need for prohibitive investment by firms and without the need for customers to switch current account providers. A fintech executive explained what these regulatory changes mean for third parties as follows:

“We are handling over a billion Euros. Today, we use banking partners for that; but post-PSD2, we don’t need banking partners, because we can just go and integrate with the APIs that every bank in Europe has to provide and effectively create an overlay, which is like a mega bank for our customers. And this directly challenges the business model of the banks. It is a complete shift in power.”

Another informant described how third parties will be able to provide services competing with banks through this regulatory change as below:

“If companies get hold of the data from the banks, they can make more accurate solutions and they can do it quicker than the banks. And that is a huge threat.”

Informants agreed that instructing banks to share customer data through open APIs provides an opportunity for firms to innovate through data-driven business models. An industry expert described this as follows:

“So imagine a daisy, you’re the yellow bit in the middle and then you’ve got all of these white petals of data that you can share. Your mobile data, telco data, internet data, health data, pension data, insurance data... Imagine a whole daisy worth of petals of data that could be shared. The power is not in the individual petal, it is in the daisy as a whole.”

A fintech executive similarly explained how innovation will rise below:

“There will be a huge ecosystem of products which can be built on top of the banks, without the banks even granting permission. They cannot block people from using these services.”

It is against this backdrop that we observed how both incumbents and new entrants in the banking sector strategized and attempted to adapt to the changes in their environment, as we describe below.

**Initial Incumbent Responses to Open Banking**

Since the 2018 launch of Open Banking and PSD2 regulations in the UK and the EU, incumbent banks have exhibited a wide range of responses to the shifting market dynamics. Under the recent open banking rules, banks and other deposit-taking institutions are mandated to grant access to customer data and effectively cooperate with other open banking players through participation in working groups and other such initiatives.

**Technical Challenges.** Under open banking regulations, banks are mandated to share open APIs and integrate with other open banking and third-party players. To facilitate these interactions, the UK’s open banking implementation entity (the OBIE) created an environment for Multi-Party Industry Testing, where Third-Party Providers (TPPs) could test and connect to the API infrastructure of various banks pre-launch. We observed that during these initial stages, many TPPs reported high barriers in the functionality of APIs. In the words of one TPP:

“The bank APIs that we connect to really aren’t fit for purpose. They’re not performing well enough to be able to handle the volume that we’re putting through. So we’re having to do a lot of work at our end to cope with the ecosystem not being efficient enough.”

Moreover, banks’ lack of developer experience (i.e., SDK tools and API documentation offered by banks to connect to their interfaces) in relevant online portals made integration more difficult. High error rates, limits on the capacity of APIs calls and overly long customer journeys have been key hurdles in the evolution of open banking into the consumer mainstream. Take payment initiation services (PIS) APIs, for instance. High error rates not only reflected poorly on TPPs, where reputation is critical to build sufficient scale to survive but added to the problem of fraud monitoring. Informants agreed that the growth of the open banking ecosystem with more players and higher volumes of transactions would only place more strain on the system.
Regulatory ambiguities. Regulatory ambiguity was mentioned by many informants as detrimental to the learning curve of banks and TPPs both, particularly on the part of PSD2. As described by a disruptor, “PSD2 is a regulation that’s really only going 10% of the way, it’s not real time, it’s not very granular data, it’s left open to interpretation, and I think this will evolve over time.” Beyond the overarching lack of clarity over whether PSD2 effectively mandated the use of APIs, the issues of API standardization and developer experience were immediate causes for concern. Whereas the UK took a more prescriptive stance in mandating API standardization through technical and consumer experience standards, the EU left the standardization guidelines for the market to develop. As described by a regulator, “PSD2 is very practical but it is actually technology-agnostic and standards-agnostic.” Though market initiatives like the Berlin Group, STET and Polish API attempt to fill the gap of API standardization, there remain imperfections that add additional pressure to TPPs to adapt efficiently to a variety of different specifications.

Regulatory ambiguity also came in the form of liability management. In the early days, the issue of legal liability in a bank-fintech collaboration was in flux. Several bank executives mentioned that fintechs were largely uncategorized at that point in time and since regulators were more familiar with how to regulate banks, they would continue to “come after them”. In November 2017, the regulator announced that until further notice, banks would in fact carry the responsibility of logging and investigating all abnormalities in the handling of data by third parties, practically giving all liability to banks. A bank informant explained:

> “Actually, it is in the RTS [Regulatory Technical Standards]. In November last year [2017], the banks were made responsible for any possible problems that could appear in the chain between the customer and the bank. So, if the customer says that they have fraudulent transaction in their account, even if it was originated through a third party, the bank needs to immediately reimburse the customer. Afterwards, the bank […] needs to prove what happened. […] They carry the whole responsibility and the burden of retaining information on each transaction, which is difficult and honestly not fair.”

A few months after the regulation came into effect, more clarity was reached. However, the new regulatory guidelines did not improve the banks’ situation by much, as explained below:

> “If the TPP is liable for the unauthorized payment transaction, the TPP must indemnify the bank immediately. It all sounds simple. But then you start scratching the surface. What if the TPP claims it is not liable and the bank also thinks it is not at fault? One thing is certain: the customer does not get caught up in the middle – it is refunded by the bank, no matter who’s ultimately at fault behind the scenes.” (Industry Analyst)

From the banks’ perspective, the difficulties of defining the boundaries of liability was overall one of the most inhibiting issues when it came to collaboration with fintechs.

Defensive Mindsets. In addition to these technical and regulatory difficulties, a commonly stated reason for the initial slowness of banks in publishing workable APIs and a smooth customer authentication process is that it was a strategically defensive response. As described by one regulator, “We’ve started up in a confrontational situation.” Given that the primary motivation of open banking is to push for more competition in an industry long dominated by a small number of incumbent players, a confrontational reaction to open banking regulation did make sense.

Our interviews showed that, with the entry of new and innovative players and the regulation that allowed these players to offer more customized services to customers, incumbent banks found
themselves in a world where their products were put into direct comparison with products from multiple innovative players and typically ranked unfavorably. An industry analyst explained:

“If you open up that ecosystem and I can get my current account from <incumbent bank>, but then I can go and get a loan at a cheaper rate from somewhere else with the click of a button and I can get my mortgage from somewhere else, you know, all of that value for them is suddenly escaping. I think it is a little bit like, you look at Amazon vs. Barnes and Noble. They can recognize that selling books in a shop at the moment may work, but they have to cannibalize their own business in order to be relevant in 5 years’ time.”

In the absence of an organizational transformation initiative that would reconsider the competitiveness of each product against the marketplace, incumbent banks were initially not willing to let fintechs compete with them directly. When asked how they were selecting which fintechs to work with, executives from different incumbent banks explained that they mainly used fintech complementors in areas that they did not yet compete in or underserved as seen in the example below:

“First, we look for what is missing inside. That’s the natural flow. If I can consume fintechs’ APIs as well, I can enrich them with our services and together we can bring even better service in the market.”

We observed that in addition to the competitive worries of exposing their products to direct competition from fintechs, not having a history of collaboration created a lack of openness to collaboration even when there was no conflict of interest, i.e., when the fintechs were not in direct competition with the banks.

Several fintech executives who negotiated with banks explained how banks’ not wanting to “share the customer”, i.e. give them visibility on the platform, was a big source of conflict. A fintech executive described:

“So we clearly need banks, as I said before, but for us to survive, to get other banks as customers, we have to hold on to our brand and become visible to the consumers, but banks initially didn’t like that.”

An incumbent bank executive confirmed this historical tendency of banks as follows:

“Branding is a big challenge. If a customer is interacting with those 2 APIs on the platform 90% of the time and interacting with the bank 10 times less than before, getting frequent reinforcement of the relationship that they have with the bank is a lot harder, unless the bank logo stays in front of those APIs. Volume things, and emotionally significant things, like getting money to buy my dream house or an insurance claim, which reinforce the brand are the key. If they’re gone, your customer relationship hurts.”

**Banks Learning to Take Advantage of Open Banking**

We observed that over time and with effort, most banks solidified their belief that technological progress was inevitable, and that collaboration was the ‘name of the game’. Recently, there have been a number of noteworthy cases of incumbent innovation and collaboration with disruptors across Europe and the UK. One of these is an established bank forming an independent API aggregator that serves to connect any bank and third party in the industry, enabling data exchange. Another established bank’s subsidiary launched an open banking platform with money management, investment, and savings fintechs through partnering with an external provider. Yet another one launched a digital subsidiary to entice millennials to sign up. In addition, almost all established banks have launched fintech and innovation challenges or hackathons to identify innovative fintechs. Many
of them also launched customer-facing account aggregation services where APIs are used to provide an overview of customers’ accounts and services (savings, loans, mortgages, investments, pensions) across financial institutions. The advantage of the latter service, of course, is that this data also becomes available to the bank that is hosting the service to offer competitive services to entice the customers to switch over.

It is worth noting, however, that many of these initiatives do not give a third-party access to the focal bank’s customers. We observed that cases of incumbents collaborating with third parties by exchanging data are still rare. One of the reasons for this is the IT requirements of doing so. Our interviews revealed that as incumbents in a regulated and data sensitive industry, banks had resorted to creating separate IT systems for adding new products to their portfolio in order to ensure system resilience.

As products (e.g., credit cards, loans, mortgages, etc.) were added over different decades and with minimal connection to the rest of the systems, the “isolated IT siloes” operated on different technologies that did not communicate well with one another. An industry expert explained:

“They’ve got all these vertically integrated pillars, which are all for different products and they don’t really talk to one another. That’s why, when you call your bank for something, they tell you, we’ve got great rates for a mortgage, and you go, but I actually have a mortgage with you!”

A bank executive confirmed the existence of this multi-system structure as follows:

“When a customer initiates a payment we obviously have to check that it is a valid customer, they have access to those accounts, those accounts have balance in them, we have to talk to an enterprise fraud solution to ensure that payment is not fraudulent, potentially financial crime, AML, sanctions check out, balance check out, do a memo posting to say that the balance is aligned it to be reduced so don’t use that balance elsewhere; and that’s all before we then send it to the various market infrastructures. And each one of those touch points is an integration; and sometimes it’s straight-forward and sometimes these are other legacy systems, which is not easy.”

For incumbent banks to build a platform for data exchange, having isolated IT pillars with different formats and standards became a significant obstacle, as making sense of customer data and sharing it with fintechs required connecting them, and connecting them without disruption was virtually impossible. Recognizing this problem, many banks launched large digital transformation projects, practically overhauling their IT infrastructure. However, this process can be painful and risky. For instance, during our study, an incident occurred where one incumbent’s customers were unable to access online banking for several weeks, while others had access to other customers’ accounts for several days during the bank’s IT restructuring effort. The bank’s handling of the project was still under investigation by UK regulators by the end of data collection. When asked, executives from other incumbent banks described this story as “the nightmare of every bank right now”. As incumbent banks are gradually progressing with their digital transformation journeys and more openness is injected into the industry through the use of open interfaces, banking architecture is expected to shift, as seen in Figure 1 below, from a vertically integrated one where each incumbent controls the entire value chain for each product (e.g., savings, mortgages) to a more distributed and inclusive one with many TPPs and technology firms playing a significant role in the formation of banking and financial services.
No matter how hard, a shift in mindset from reluctant compliance to active collaboration, as well as digital transformation to enable the IT infrastructure for collaboration, will bring banks abundant opportunities in an open banking environment in the future. Banks have a number of existing strengths that, if leveraged alongside digital adaptation, could lead to both increased market competitiveness and sustained market performance. For one, incumbents have the customer base and brand image necessary to fully appropriate the benefits of open banking. Beyond using the network effect of their large customer base to achieve the scale necessary for open banking innovations, their strong reputation for security and customer ownership opens the opportunity to serve as the face for consumer education of open banking. While regulators have designed an environment for open banking to thrive, many customers remain skeptical of its premise and functionality. Guiding customers through this transition would further enhance their trust in banks and play into a positive feedback loop of further transparency and openness in banking transactions. Moreover, the adoption of open banking initiatives by banks adds credibility to open banking more generally. In this case, banks are essentially endorsing the vision of open banking to their consumer base. In embracing digital adaptation, banks that seek collaborations with disruptors as well as improve their own technical capabilities not only result in more innovation but a critical change in culture for the digital age. These strengths ultimately lead to further revenue opportunities as banks become not just guardians but creators of value with customer data.

The Rise of Neo-Banks and Fintechs

As incumbent banks slowly adapted to the new and collaborative world of open banking, we observed that there were also new types of direct competitors to banks emerging in the market. Following the 2015 announcement that PSD2 and open banking regulations would come into effect simultaneously in the EU and UK in January 2018, a number of new digital-only banks started to make plans to enter the UK market. Being able to connect to customer data meant that these new entrants would have a chance to switch customers over by showing how much better they can analyze customer data and offer more customized services such as money management tools. Given that these new players only had one or a limited number of products, typically just a current or savings account, they focused on letting customers obtain financial services from multiple fintech providers by connecting them on a digital platform, typically in the form of a mobile application. Thus, the first business-to-customer
financial platforms, also known as “financial marketplaces”, were born as direct competition to the offerings of traditional banks.

The digital-born new entrants, often referred to as “challenger” or “neo banks”, offered financial platforms to customers, very much in the spirit of Amazon or the Apple application store, aimed to compete for attracting customers along three dimensions. First, their leaner structure allowed them to provide services at a lower cost, which they could translate into lower prices for various services on their platforms. Second, they competed on populating their platform with the “best choices for their customers” in as many areas as possible. Given that they did not come into the industry with many products or services of their own, mostly with just a current account, they kept their platforms “open”, i.e., available and easy to join for fintechs that met the regulatory qualifications, to be able to accommodate the different needs of customers.

Our interviews showed that these platform-based banks, as well as the fintech firms that offered singular services on these platforms, faced their own struggles in reaching customers with innovative services, as summarized below.

**Issues with Scaling Up and Breaking Even.** As start-ups, disruptors face the perennial challenges of customer acquisition and retention while accounting for resource constraints. For these financial players, the challenge of growing the user side of their business was even larger in an industry where data security and consequently trust in the bank, where data (and assets) resided, made customers inertial and sticky to well-known players. The issue of consumer trust remains pervasive, though consumer reluctance to try disruptor technology has waned across the UK and the EU. One challenger bank executive described the issue of customer trust as follows:

> “We’re sort of an iTunes, for financial products, but what’s maybe a little bit different than iTunes is that, iTunes is telling you which songs I should listen to...But when you advise a customer to buy a game and they don’t like it for two Euros well then fine, but if I’m sending a customer insurance and it turns out that’s not what she should have bought, then that’s probably something we will really have a problem with the customer.”

Regarding customer trust, we observed a paradox: on the one hand, there was massive growth in the popularity of challenger banks like Revolut and Monzo, more customers are willing to create accounts with disruptors. On the other hand, user growth did not automatically lead to transaction volume growth. We observed that while customers were willing to test the waters with disruptors, not many fully switched their accounts. One aspect of customer inertia affecting the challenger banks was that even when new customers signed onto their platform, the majority of them only transferred small amounts of money over to experiment, rather than import their salary payments or deposit their savings into the challenger bank, in order to minimize the risk of going with a new player. An industry expert explained:

> “People are intrigued, for sure. Especially millennials. But to survive as a bank, you need people’s money, and you need them to do things with that money. That’s why most of these new guys aren’t breaking even yet. People don’t trust them fully yet.”

**Entering Foreign Markets.** Often international expansion is necessary to achieve the levels necessary for user growth. We observed that this was even more so in the case of challenger banks, and more broadly fintechs that struggled from a low average revenue per user despite high user numbers. Typically, digital businesses can be fast to enter new countries. As described by one of our informants:
“<Apps> need to be scalable and scale fast to other countries. For example, to launch in Italy the app translated in Italian, it took us about probably eight weeks. To launch it in France, it took us about six weeks - and probably the next country will take us four weeks. At some point and day, it should pretty much be translating it and then launching it.”

We observed, however, that it wasn’t the local language barriers that held fintechs up regarding their international expansion, but the dependence of their products (e.g., investments, pensions, taxes) on local regulations. We observed this to be the case particularly with start-ups leaping from the UK to the EU, due to the delays in the transposition of the EU-wide PSD2 regulation into country-level laws. Entering the US market, on the other hand, was also complicated as the US still has no open banking regulation, which severely limits UK and EU fintechs’ ability to access consumer data without using screen scraping, a technology that will soon be outlawed across the EU and UK.

Resource constraints. While dealing with slow customer acquisition, one problem that aggravated matters was that given their resource constraints as young and venture backed companies, challenger banks spent most of their resources on perfecting and populating the customer-facing platform they were building, and typically had no resources to build the back end, which was quite expensive in banking as it dealt with processing a large number of payments. Many challenger banks relied on third parties for back-end transactions, i.e., payment, processing. We observed that this reliance on third parties for processing transactions on the platform created additional challenges in building trust among customers because it affected system resilience. For instance, during the data collection period, two of the challenger banks suffered systems failures twice for over 24 hours due to an issue with their payment partner. An industry expert described the effect of such breakdowns as follows:

“One negative experience can be very hard to overcome, typically for these smaller challengers. They have to be really on their best game in order to get and retain customers.”

Given the detrimental effect of a negative reputation on the already slow customer acquisition, most challenger banks aimed to switch to their own back-end IT infrastructure as soon as they had the resources so that they could gain more control over the customer experience. However, without reaching a break-even point, this plan remained on the drawing board for many.

Fintech and Financial Wellness. One exciting finding from our study was the way that many new fintechs are addressing financial wellness issues in society with the aim of making a societal impact. Some use open banking to help customers renegotiate and pay off their outstanding debt, solving one of the largest financial problems in both developed and developing countries. Other fintechs use APIs to allow users to see how much they are spending each month across all their accounts in one app and how they can save more. In the homebuying space, we observe a rise of peer to peer and other lending platforms that connect home buyers to individual and corporate lenders with competitive rates and saving circles which also serve as support groups for first-time home buyers. All of these fintechs and hundreds more are addressing financial wellness in societies by improving customers’ debt and savings balances as well as educating and supporting them in their financial decisions.

The success of such offerings, however, depends on a sufficient base of data on which technologies can draw insights, as well as sufficient funding for these firms to survive until they reach scale\textsuperscript{5}. 

\textit{Big Tech Entering Financial Services}

\textsuperscript{5} We must note that the Covid-19 crisis has made it harder for fintech start-ups to secure funding which gave an advantage to firms that had access to financing from previous money-raising rounds. While the pandemic crisis proved the need for better and more digital financial services it may also accelerate acquisitions and jumpstart a phase of consolidation in the industry.
At the macro level, the challenges we have identified in our study from the incumbents’ and newcomers’ perspective point to a picture of industry change which may be different from what regulators originally intended. One may conclude that if new entrants have difficulties gaining customers and surviving alone, consolidation is on the cards. And if incumbents are changing rather slowly and without rethinking their core offering, the industry may again remain stagnant after this initial spur of innovation.

Our view is that the future may look different from this. Open banking and PSD2 regulations, which make it easy for customers to try out services from new entrants are also particularly advantageous for established players from other industries to enter banking. Among such possible entrants, those that a) are digital born and innovative, and b) have a large customer base and a trusted brand name are in a particularly good position to overcome the hurdles faced by fintech start-ups and incumbent banks. This brings our last point in this paper to GAFAM firms (Google, Apple, Facebook, Amazon, and Microsoft) as new players in the banking sector.

Table 1: Comparison of Incumbents, Start-ups, and Cross-Sector Platforms in Innovation

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<th>Incumbent Banks</th>
<th>Fintech Start-Ups</th>
<th>Cross-Sector (GAFAM) Platforms</th>
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<td><strong>Advantages in</strong></td>
<td>Brand equity</td>
<td>Technical capabilities to maximize user</td>
<td>Technical capabilities to</td>
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<td><strong>Offering</strong></td>
<td>Large customer base</td>
<td>experience</td>
<td>maximize user experience</td>
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<td><strong>Innovative</strong></td>
<td>Financial resources</td>
<td>Collaborative mindset</td>
<td>Brand equity</td>
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<td><strong>Financial</strong></td>
<td>Regulatory experience</td>
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<td><strong>Services</strong></td>
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<td>mindset</td>
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<td><strong>Disadvantages</strong></td>
<td>IT and organizational silos</td>
<td>Lack of established brand</td>
<td>Potential for legal restrictions</td>
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<td><strong>in Offering</strong></td>
<td>Competitive mindset</td>
<td>Lack of resources</td>
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<td><strong>Innovative</strong></td>
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Table 1 above illustrates the numerous competitive advantages of cross-sector platforms in offering innovative financial services. In their seminal book ‘Platform Revolution’, Parker et al (2006) point out that regulated industries such as education, finance and healthcare have not been subject to disruption by platforms, mostly due to the high entry barriers that are typical in these industries. However, there are signs that open banking may just be the remedy for that. In 2019, Facebook and Google were granted e-money licenses to enable payments throughout Europe. Facebook’s integration of P2P payments into its platforms can revolutionize commerce especially in the developing world where a large proportion of the population is unbanked. In addition to its own credit card, Amazon is offering lending services to SMEs on their platform around the world, a business estimated at several billion US dollars. In 2019, Apple launched a credit card, and Google announced that it would offer personal bank accounts to its US customers. In 2020, Facebook announced the launch of a fintech toolkit for its platforms in a move to attract fintechs. While, at present, no GAFAM firm has acquired an open banking license (either as an account information or payment initiation provider) it may be a matter of time before we see that happening.
Such developments indicate that platform envelopment (Eisenmann et al, 2011), where a cross-sector platform absorbs products and services in a new industry, may be a possible future for UK and EU retail banking. As certain banking services get absorbed into the offerings of big tech platforms generally described as “platform as a bank” (Zachariadis and Ozcan, 2017), they will allow customers to pay each other directly through social media platforms, save and invest while they shop, and use voice recognition and AI to manage their finances.

![Figure 2: Positive data feedback loops (source: CB Insights)](image)

The power of such network externalities (illustrated in figure 2 above) which is inherent in many digital platform business models, should not be underestimated. In addition to adding value for customers by integrating interactions and transactions across different areas, platforms are unique in that they can offer an increasing amount of value as they grow through the use of more data. The significance of data (and of the technologies that handle data) in platform business models is known through the concept of demand economies of scale (Shapiro and Varian, 1999). Demand economies of scale are present when platforms are more valuable to their users as they scale their operations. Unlike supply-side economies of scale that benefit mostly “pipeline” organizations because of increased production efficiencies (usually by reducing marginal costs), demand economies of scale give an advantage to larger platform businesses as they take advantage of new innovations in collecting, managing, analysing, and communicating data to their users, thus making their decision making more informed and transparent and the services they consume of better quality and price. As a result, they are the foundation of positive data network effects and often the reason why users can be “locked in” to a particular platform.

At the moment a number of solutions from GAFAM firms come in at various points in the value chain and IT architecture of financial institutions. Direct access to financial data without the financial liability will give these firms a window of opportunity to amplify their data network effects. For instance, the ‘datafication of payments’ from third party non-bank actors is already considered an emerging threat for incumbent deposit-taking institutions that have to comply with heavy financial regulations at a big cost in a business that gradually delivers lower returns.
When platforms are able to combine financial data with other data they generate from customers in diverse areas such as retail, fitness, employment, social interactions, travel, they will also be in a position to gain a significant competitive advantage in using AI and machine learning tools to predict which products and services customers are likely to consume and how they may be swayed to change their preferences. This issue sits at the epicenter of many anti-trust cases launched by governments against GAFAM players around the world and is perhaps the only major risk that these players face in moving into the banking sector.

**Looking into the Future**

One entrepreneur in our study described open banking as “a vision where the data flows freely and the true owners of personal finance data is you”. Our study showed that open banking and PSD2 are in fact regulatory changes designed with the basic notion that data is the new gold; they are great first steps in reviving an industry through innovation. However, we must also recognize that these regulations may not lead to a more fragmented and therefore more competitive sector when we consider which types of players they favor in terms of entry.

Our findings serve as a warning that in industries with high customer inertia, regulations that open up the industry to platform business models may in reality be opening it up to competition from large platforms from other industries, which can create a new kind of monopolistic / oligopolistic industry structure. As it stands, GAFAM firms - or ‘TechFin’ as they are sometimes called in finance to make a contrast with ‘FinTech’ firms - are hesitant to make aggressive moves that will motivate regulators to force them to become more accountable or compliant to financial regulations. This incentivizes these platforms to move slowly on the fringes of the regulatory framework and, where necessary, partner with small or large financial institutions that will take the regulatory burdens.

This means that unless financial regulators start to respond to the gradual entry of GAFAM firms into the banking sector, the architecture of the industry can shift slowly, but dramatically leading to a new form of intermediation and potentially monopolistic behavior by GAFAM firms as gatekeepers of customer data. Regulations similar to open banking need to be implemented across sectors to regulate data access and usage to make sure they facilitate all kinds of new players rather than shifting monopolistic power from incumbent financial institutions to cross-sector platforms.

The success of open banking relies on entities establishing trust amongst customers. As players who have already earned customer trust much more than GAFAM firms, incumbent banks and other large financial institutions can play a vital role in the emerging innovation ecosystem as managers of customers’ data, assets and digital identity. By rethinking their role, perhaps even across sectors, incumbent banks still have time to surround themselves by innovative partners, small and large, to bring more value and innovation to their customers. Embedding their secure platform across different sectors will be the next step which will ultimately blur the boundaries between industries.

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6 As we finalized this article in late 2020, the US Department of Justice had filed an antitrust lawsuit against Google and EU had charged Amazon with breaching antitrust rules. The news came shortly after the EU announced that it was seeking to arm itself with new powers to take on big technology companies, including the ability to force them to break up or sell some of their European operations ‘if their market dominance is deemed to threaten the interests of customers and smaller rivals’ (FT, Sept 2020). Earlier in 2017, European regulators had charged Google a record 2.4 billion-euro ($2.7 billion) antitrust fine.
References


