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The Impact of Payment Services Directive 2 (PSD2) on Financial Services in the European Union Single Market

Abstract

The paper looks into the impact of PSD2 on payments system as it relates to the disruption of banks and the expansion of non-bank institutions, the financial technology companies (fintechs) in the process of expanding the payments systems in the European single market. The paper explains why there is a view that PSD2 will contribute the expansion of payment systems beyond the involvement of banks in Europe and portrays the impact and disruption that will be caused by fintechs to the traditional payment systems. The paper considers the rationale behind the PSD2 directive establishing a framework to respond to the significant innovation within the sector, removing regulatory gaps and legal uncertainties. PSD2 is the basis for innovative processes that allow payment service providers to launch digital payment services. It reviews current discussion and the activities of fintechs and banking disruption across the single market as well as examines specific cases where digital payment services have forced banks to change service delivery and its impact. Analyses focus on the fact that PSD2 amends the existing regulatory framework for payments within the European Economic Area. Fintechs are responding to changes to the scope of regulated activities, a trend towards customers with multiple relationships with service providers and increased need for interaction. The technical and legal landscape has started to change, and third-party service providers are now regulated entities. In conclusion, PSD2 will strengthen consumer rights in several ways, as Consumers have control over how they carry out payments.

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Introduction

The Payment services directive 2 (PSD2) has been actioned into the laws of the different nations in the European Union (EU) in January 2018 and there have been activities over the past two years since the EU commission published the new directive on 23rd December 2015.

The EU's vision of a Single Euro Payment Area is an act towards cashless society and PSD2 drives us another step closer to achieving this goal. This is all part of an even bigger digital transformation shift that is being created in the whole society. According to Honkapohja (2016: 3), it challenges old and established payment practices so they will most certainly change over time.

The EU single market (also referred to as the internal market) allows for the free movement of people, goods, services and money within the union, and hence the removal of barriers to trade. There are various aspects to ensuring the existence of a single market, but with regard to financial services and payment systems, the impact will be to:

(a) Expand the e-commerce and services trade within the EU.
(b) Reduce fragmentation, diversify sources, improve access (especially for small and medium-sized businesses), and strengthen capital flows in the finance sector.

From a general position, the PSD2 allows customers (retail and commercial) to use third-party providers (apart from banks) to manage finances.

Specifically, with respect to this topic and the impact of PSD2 on payment services, the value chain will change especially for business models, profitability of business and the choices made available to customers regarding e-commerce and trade across the single market.

Therefore, the objectives to be covered include:

1. The General framework of PSD2 and its impact on payments systems in the single market.
2. The history of payment systems and the role of banks.
3. The New Combination of players in the payments space as driven by PSD2.
4. The payment services industry in the EU and how PSD2 has changed it.

5. The future of payment services in the EU, including current issues of country control (the case of Brexit).

1. General PSD2 Framework. Impact on European Union Payment Systems

PSD2 is a part of EU's increasingly integrated single market. One of EU's greatest achievements is the European single market. EU has a vision of one territory with the same regulations and free movement of goods and services. The target is to stimulate competition and trade, improve efficiency, raise quality and reduce prices. When it functions well, every member country can benefit towards worldwide competition with greater economic growth and more convenient operation in the EU (European Commission 2017). Part of the strategy is a digital single market for business and consumers which fosters e-commerce by harmonizing EU-wide rules: "In a recent survey 57% of companies said that they would increase their sales to other EU countries if the same rules applied throughout the EU" (European Commission 2017). Strategy mentions standardization to achieve its goals; technical specifications can reduce costs, improve safety, enhance competition and aid in adapting innovations.

PSD2 covers the following:

(a) It updates current rules for e-payments by widening the previous scope to take internet and mobile payments into account.

(b) It increases transparency for payment services through improved requirements of conditions and information. Directive is a statement for further and better integration in EU payments market.

(c) It releases a comprehensive set of rules for existing and new payment service providers aiming to equal competition, greater efficiency, choice and transparency of payment services (European Parliament and the Council 2015). PSD2 opens EU market to new services and providers, especially of two kinds, Account information services and Payment initiation services.

(d) It opens the payment market in EU for companies that offer payment services based on access to information about the payment account through open application programming interfaces (APIs).

These services can be divided into two areas: account information services (AIS) and payment initiation services (PIS).

AIS allows the user to have an overview of his or her financial situation to better manage their personal wealth and finances. Article 67 (Rules on access to and use of payment account information in the case of account information services) states that AIS providers shall not request sensitive payment data linked to the payment accounts. The term 'sensitive payment data' is explained in the directive as data which can be used for fraud, and relates to such data as for example personalized security credentials.

PIS allows users to pay with a simple credit transfer for an online purchase providing merchant an assurance of the payment that it has been started and goods or services can be provided without delay (European Parliament and the Council 2015). According to directives article 66 (Rules on access to payment account in the case of payment initiation services) PIS providers are permitted to store sensitive payment data of the payment service user.

There is no doubt that competition in the area of payment services will increase due to third parties' involvement in payment chain and emerging innovation they bring. Banks may not feature in the process flow in some aspects anymore, as compared to their previous role where they were responsible for handling a payment transaction all the way through so their role may be reduced to only for providing maintenance of accounts and providing strong customer authentication. In addition, looking at the future income streams from how banks can increase revenue, vis-à-vis PSD2, they are not allowed to charge third parties (other banks or financial services providers) for using their technology infrastructure more than they would directly from a payer (the bank's customer). This should lead to a scenario where there are tradeoff situations in a bank between growth in the potential number of customers and the increase in the intensity of their payment habits *vis-à-vis* lost revenues to third parties and costs that are incurred through this cooperation.

While payments are a major revenue stream for banks, they are also very important for interaction because they are of informative nature, forming strategic importance. Payments provide information for the use of a right product (credit card, loan, mortgage, savings account, insurance or wealth management) for customers' situation or lifestyle; payments are important for client relationship and cross-selling banks portfolio of financial services. The amount and value of data collected from payments is increasing, which also increases the justification to invest and secure these data. It is even more strategic as we enter the Data Science space, where "big data" and owning data is the prime winner and not just the financial transactions. In fact, the owner of data will potentially earn more income from data than the payments.

2. History of Payment Systems in the European Union and Role of Banks

One of the main factors that led to the expansion in transfer payments in Europe, was the early setup of the giro system. The giro system is a payment system that was primarily driven by the postal savings structure in Europe.

In looking at the development of how the giro system influenced banking, we must take a look at the early years of banking. In the 1800's, banks in Europe were family businesses. Families were the hubs of "banking" and at the time, public deposits were not accepted.

The start of what we know today as banks, that acted as collection agents for the savings of people, in Europe, was in the mid 1800's with the opening up of commercial banks. Naturally, the increase in the responsibility of these banks to take money, led to the need to make and enable transfer payments by the banks on behalf of their customers, as opposed to carrying large amounts of cash.

With respect to the banks and the postal structure, because the post office was the initial "savings" institution, they drove payments through the use of postal payment orders, when they offered postal savings accounts to people. This was the early giro system. As a result of its success, commercial and savings banks, as well as other credit institutions started their own giro systems. This naturally led to competition between the postal companies and the banks. In turn, this led to agreements being established between the two groups, and to the growth in banking, specifically within payments, including the advent of "wages to banks" systems in the late 1960's and early 1970's, that saw employers paying the salaries of employees directly into bank accounts. This was a strong driver for payments, and the establishment of electronic payments. Employees did not need to collect cash to make payments as they could pay directly from their bank accounts.

Hence the start of the electronic payments, as the clearing system for credit transfer using the giro scheme in the early 1970s. Electronic payments has taken a significant position in payments in more recent years as the standard mode of payment in Europe, easy and safe, to effect bills and payments for regular standard activities (e.g. gas, electricity, insurance, etc.) which are due to be settled on specified dates.

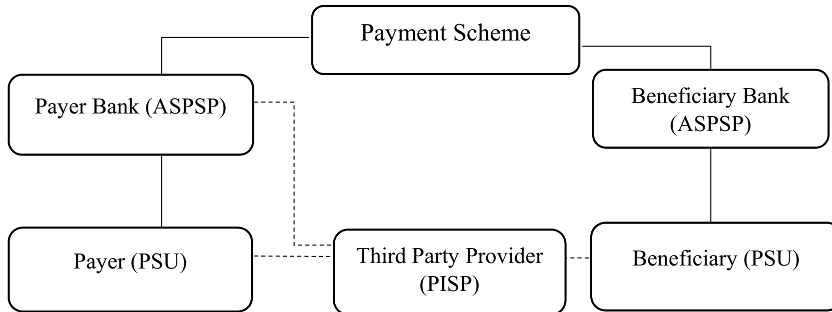
Beyond standard payment systems, card-bases transactions with real-time delivery have become the next phase in payments in Europe, as cards have overtaken the use of cash as legal tender. The "nearness" (cards being able to do almost everything cash does) of card payments to cash, has been driven by the trust in cards and the safety, with reduced risk. The use of cards and the associated on-line payments, has reduced transaction costs as well as the time it takes for transactions and payments to be effected. This also reduces the use of paper as well as currency notes (Padoa-Schioppa 1986).

The ability of electronic payments systems to spread across Europe, has been further aided by the cooperation between banks and other providers of payment services, since the advent of the giro system. The inclusion of ATM and card-based POS terminal systems has been important, as it has taken advantage of the network infrastructure already in place. This widespread use of electronic payment was largely a result of two factors (Vesala 1993):

1. The large scale of economies that was pushed by the use of common technology rather than individual organisations setting up different infrastructure. The more players, the lower the average and marginal unit costs of processing payments. As a result of the cooperation between institutions, one "network" was created and that makes it cheaper to move transactions between accounts on one network than to have established differing networks, with the associated technology infrastructure costs.
2. As people get used to the ability to make payments over a wider area, the requirements for payments and sophistication have expanded within and across borders in Europe. People use payments systems not only for paying bills, but also daily retail and consumption experiences. The wide use and compatibility across large scopes means that users are able to expand their reach, yet minimize transaction costs at the same time. (Neven 1993). With this approach, banks are also able to expand their reach and offer multiple payments services, using the same network. Therefore, technology is no longer a basis for competition. Banks are compelled to compete based on other factors such as customer service, payments pricing and service quality (Commission of the EC 1992; Yamaguchi 1993).

3. General PSD2 Framework. Impact on European Union Payment Systems

Figure 1: PSD2 Framework



Source: Accenture. Welcoming a new phase of Everyday Payments in Europe.

Within the PSD2 scheme, the two types of access mentioned above – to payment processing services and customer account information held by banks – pave the way for two new types of third-party providers: Payment Initiation Service Providers (PISPs) and Account Information Service Providers (AISPs) (Figure 1 and Table 1).

Table 1: Service Providers in PSD2

Service provider	Description
Account Servicing Payment Service Provider (ASPSP)	These are the banks that hold customer accounts, and are required by PSD2 to allow access to those accounts to TPPs through an open application program interface (API).
Payment Initiation Service Provider (PISP)	With approval from the customer (often referred to as the Payment Service User, or PSU), PISPs have the ability to initiate payments on the customer's behalf by accessing the customer's accounts through an ASPSP's open API. Typically, PISPs focus on e-commerce transactions, linking the merchant to a customer's account.
Account Information Service Provider (AISP)	AISPs act as aggregators of a consenting customer's financial information across all accounts and financial services institutions, enabling the display of that aggregated information on some kind of customer-facing dashboard.

Source: European Central Bank, *The revised Payment Services Directive (PSD2) and the transition to stronger payments security*, 2018.

Although the above services are mutually exclusive, nothing stops the same entity from providing more than one service. For example, a bank (an ASPSP) can set up a subsidiary that acts as a PISP.

PSD2 looks at updating and bringing together regulations, usage and data protection in payment services across the EU to give access to, and level the competitive playing field for, the third-party payments service providers (TPPs) – increasingly fintechs – that have emerged since the introduction of the original PSD in 2007.

Technological change in financial services has been pretty revolutionary in the last decade, and the challenges faced by TPPs, looking to offer services across Europe, were problems that the original PSD could not solve.

To solve these challenges, seeking to address these challenges by encouraging competition, PSD2 effectively has two main objectives:

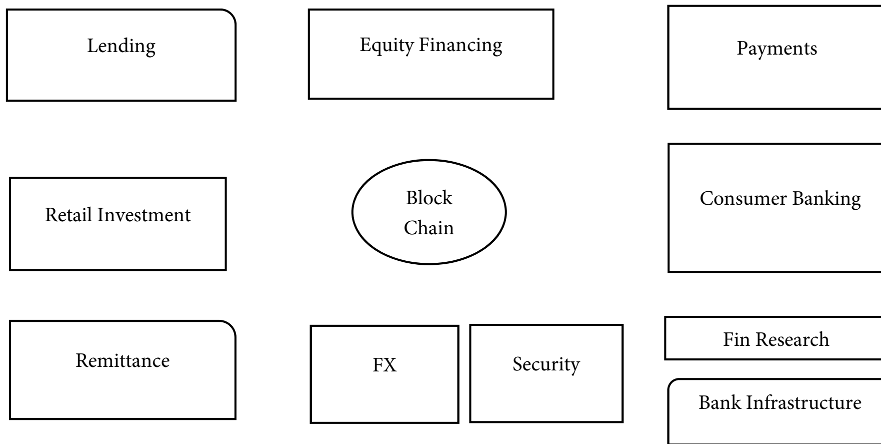
1. Increase transparency.
2. Increase access.

PSD2 gives TPPs access to customer accounts for payment initiation and account information services. This 'Access to Accounts' (XS2A) means customer accounts managed by banks must be opened to third party service providers that can use such information to provide services, as long as the customer has given consent. PSD2/XS2A splits up the payments value chain into several distinct service providers.

The breakdown of the value chain and increased access to accounts and customer data, driven by technology, is the bedrock of a new digital financial ecosystem that is driving a change that financial services companies must adapt or they run the risk of becoming marginalized.

The ability for third party providers to initiate payments directly from a bank's customer account must be worrying for banks. At a point, fees will be impacted. For example, whilst the payment system used to be largely between the customer and the bank, and who the customer wanted to pay, the new system and structure will see the play of third-party service providers earning fees with or, in some cases, without the bank.

Figure 2: The new digital financial ecosystem



Source: European Central Bank, *Digital transformation of the retail payments ecosystem* 2017.

The new payment scheme presents a challenge for the existing financial institutions (Figure 2). A challenge is that as non-bank PISPs grab market share, the banks lose payments operations as well as fees from payments and associated products and services. Another problem is the increasing amount of data that is now available to the new players to analyze, apply big data techniques, and create new products which reduces the importance of banks in the payment space.

According to Gartner, existing retail banks will ultimately fall into two groups in the new digital ecosystem:

- Banks that have the capacity to act as PISP or AISP to add value to current offerings.
- Banks that do not change and therefore do basic retail business and will be competing only on the basis of the price of these basic commodity-like services.

Therefore, banks that do not want to lose out, must embrace the digitalization of banking, and get involved in the changing of the face of the financial ecosystem, building a business to incorporate PISP or AISP functionality into their service offerings.

In times past, the banks have led the business of acting as the middlemen (intermediaries). This role of banks continues to be diminished as a result of the expansion of the payment space, driven by the adoption of technology, and the ability to be mobile using technology. There is competition from non-Bank companies and this has posed a large threat and disruption in payments. This kind of development also transforms the nature of legislation from a previous restrictive role to more

of an enabler type of body (Riikkinen 2016: 12). Such major changes in legislation of transaction banking will shift the business area and will reorganize the roles of previous players, pushing banks to consider their strategic approaches to survive through this compulsory change to stay ahead.

The banking industry is in the middle of a large digitalization phase that, first of all, affects customers with different kinds of more convenient services, being delivered through multiple and alternate banking channels and touchpoints. This indicates how banking industry is moving to electronic and mobile services and how the nature of commercial banking has changed, also because of cashless payment services.

As a conclusion, PSD2 will further accelerate the ongoing digital transformation and will bring more transactions within transparent actions (driven by the use of technology that has a strong audit function), more convenient payment methods (beyond the use of cards, innovations that explore other payments services e.g. mobile telephones), and the decrease in the use of cash. It is important to state that the driver for this push is the size of the payment market. According to European Central Bank's (2017) payment statistics, the total number of payment transactions in EU in 2016 was 122 billion. The growth in the number of transactions in the EU for the past five years has made the payments market larger. By extension associated services that ensure and enhance the industry also grew, e.g. security and risk management services.

4. The Payment Market in Europe

The payment system used in the Euro area, TARGET2, in 2016 settled the average of 342.008 payments daily with their daily average value of EUR 1.7 trillion. In 2015, European banks generated an estimated revenue from retail payments (from interest, transaction and product fees) worth EUR 128 billion, forming around a quarter of total retail banking revenues (Deloitte 2015). On top of payment amounts, business-to-customer ecommerce has risen 15% in 2016 and was forecast to grow 14% in 2017 in Europe according to the 2017 European Ecommerce Report. Also, when considering how different fintech product types are affecting financial industry, money transfers and payments is the most influenced area in the digitalization process. This is because money transfers and payments have the highest adoption rate (17.6%) of all the fintech product types (Gulamhuseinwala 2015: 19–20). The number of payment transactions

in EU 3 FinTech Survey 2016 indicates that consumer banking and fund transfer and payments will be the most disrupted sectors over the next five years. Payments, ecommerce and fintech statistics indicate how timely it is to update regulations to tackle significant growth going on in this area.

The EU, the European Payments Council (EPC) and the European Banking Authority (EBA) had different parts to play in the putting together of the directive. Payment services and transaction banking industry are the industries which were the most affected and therefore are the main focus area of this paper. The EU is trying to provide a platform for efficient payment services market through payment services directives, using them as building blocks. This means that same rules apply EU-wide, there is clear information on payments, they are quick and safe, and consumers also have a more open and varied selection of payment services to choose from. Through these targets and by using directives to reach them, EU is aiming to a single payment area (SEPA) with a vision of having as easy cross-border payments as they are now in domestic transactions, and this also applies to costs (EU 2017a).

One of the main goals of the EU is to achieve a single market for people, goods, services and money, within the Single Euro Payment Area (SEPA) (European Union 2017) and this aim was initially driven through a directive in 2001. SEPA was kicked off as a result of a challenge between the EU and banks. Euros as cash were launched but cross-border non-cash payments were still expensive and complicated. This posed no problem at the time because the banks were happy to charge customers, fees at significantly high rates. High costs from handling cross-border payments came from processing, clearing and settling the payment (European Central Bank 2009a). The EU drove for change in this issue by adopting regulation no 2560/2001 which demanded banks to charge the same fees for cross-border and national payments. This factor restricted banks to charge high fees from customers while processing costs remained high – creating an imbalance between bank fees and costs for cross-border payments. This led banks to form the European Payments Council (EPC) in 2002 which is in charge of the SEPA project to reduce these costs (European Central Bank 2009b).

PSD2 is a part of EU's increasingly integrated single market. One of EU's greatest achievements is the European single market. EU has a vision of one territory with same regulation and free movement of goods and services. The aim is to encourage competition and trade, drive efficiency, create a different standard of quality and lower the costs of services provision.. If this is achieved, the target is that all member countries will gain not only from better operations within the EU, but also compete better, globally (European Commission 2017). "In a recent survey 57% of companies

said that they would increase their sales to other EU countries if the same rules applied throughout the EU" (European Commission 2017). Strategy mentions standardization to achieve its goals; technical specifications can reduce costs, improve safety, enhance competition and aid in adapting innovations

PSD2 covers the following:

(a) It changes and improves the rules for e-payments by expanding the previous scope to take internet and mobile payments into consideration.

(b) It increases transparency for payment services through improved requirements of conditions and information. Directive is a statement for further and better integration in EU payments market.

(c) It releases a comprehensive set of rules for existing and new payment service providers aiming to equal competition, greater efficiency, choice and transparency of payment services (European Parliament and the Council 2015). PSD2 opens EU market to new services and providers, especially in two kinds.

(d) It opens the payment market in EU for companies that offer payment services based on access to information about the payment account through open application programming interface (API).

The payment services can be divided into two main areas:

(a) Account information services (AIS).

(b) Payment initiation services (PIS).

AIS allows the user to have an overview of his or her financial situation to better manage their personal wealth and finances. AIS providers shall not request sensitive payment data linked to the payment accounts. Term PIS allows user to pay with a simple credit transfer for an online purchase providing merchant an assurance of the payment that it has been started and goods or 12 services can be provided without delay. PIS providers are permitted to store sensitive payment data of the payment service user.

5. Analysis

According to Accenture Research Analysis of United Kingdom Merchant Service Charge 2016, in which the evolution of retail payments revenue in the UK has been evaluated during years 2015–2020, changes in industry may lead to as high as a 43% decrease in UK banks' revenues although the prediction has taken 20% organic growth into consideration.

The changes in industry include evolved customer demands, emerging competition, advanced technologies and regulatory initiatives. Cap on interchange fees will lead to a 27% decrease in revenues, which is the largest individual factor to have an influence, the rest is following contributions of revised payment service directive, totaling a 16% drop. A 7% estimated decrease is made by digital disruptors (e.g. Apple Pay, PayPal, MPOS (Mobile Point of Sale applications)) and a 9% decrease will be caused by payment initiation services. These numbers are only from direct losses compared to cards payments revenues (excluding interest incomes and cross border retail payments) but indirect losses could also occur, in form of losing customer ownership that will result in decreased bank-customer interactions (Accenture Payment Services 2016: 3–4). This may have a negative impact on the cross-selling of financial products and services of a large bank. PSD2 is set to accelerate industry's development which includes revenue losses for banks, but it will also create potential revenue stream opportunities which will depend on what kind of strategy does a given bank choose to implement.

The more Third-Party Processors (TPPs), primarily driven by the activities of fintechs, take control of the market the less will be the interface or exchange with the banks. This should impact the opportunities available to banks for cross-selling. The possibility for providing third parties with access to account will move the presence of a bank to the side and raise huge competition of customers' front office and their time spent in service providers' user interface or experience. This divide could be detected between front and back office services: new third-party service providers are managing user interface, user experience and direct customer contact; the front office services. Banks would take care of the back-office services, such as strong customer authentication; know your customer (KYC), anti-money laundering (AML) processes and maintaining accounts, which would be less visible to customers. Evolution can eventually proceed to breaking banking services to individual stand-alone products for a customer to use and choose from a single aggregated multiple digital service channel. Channel could be imagined as an app store, where all services are integrated with banks through open APIs to provide the apps with existing account and transactional data. This kind of banking as a platform could end up eroding their key competitive advantage, which is currently the wealth of customer data and insight (Accenture Payment Services 2016: 9).

Table2: Analysis of various Payments statistics (2013–2017)

	Cheques					E-Money					Card Payments				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Number of payments per type of payment (mln)	3,902.8	3,616.2	3,322.6	3,026.7	2,692.9	-	2,097.0	2,388.2	2,843.4	3,417.6	46,248.5	50,355.3	55,806.5	62,215.8	69,198.4
Relative importance of payment services as a % age of total payments	3.8	3.4	2.9	2.4	2.0	-	2.0	2.1	2.3	2.6	45.1	47.5	48.3	50.1	51.6
Increase/decrease in number of importance of payments (annual a % age change)	-	-7.3	-8.1	-8.9	-11	-	16.9	13.9	19.1	20.2	-	8.9	10.8	11.5	11.2
Value of payments (eur billions)	4,072.7	3,555.5	-	-	-	-	73.6	95.7	119.4	142.1	2,375.6	2,558.8	2,854.3	2,919.8	3,052.3
Number of payments per type of payment (mln)	3,902.8	3,616.2	3,322.6	3,026.7	2,692.9	-	2,097.0	2,388.2	2,843.4	3,417.6	46,248.5	50,355.3	55,806.5	62,215.8	69,198.4

Source: ECB Payments Statistics, September 2018.

Across the figures displayed in the table above, considering the EU and not just the single market as a trend, there is no doubt that the drive toward payments is on the increase. Whilst the historical data does not prove that this is as a result of PSD2, it points to the fact, especially because of the value of payments, that there is an increase in payments. An increase in payments can only be good for e-commerce and particularly so, the third-party companies that are making inroads into the hitherto space of the traditional banks. The value of payments, using cards, as well as the increase in the relative importance of payments as a percentage of total payments supports this trend. The increase in the use of technology to drive payments also supports this trend and hence the potential for PSD2 to act as a catalyst to even further deepen the payments trend.

Conclusions

PSD2 and open banking

One result of PSD2, is the concept of "open banking". Open banking is a system that allows a user with data to be spread across a network of various financial institutions. Access to this data is through the use of Application Programming Interfaces (APIs). Simply put, an API basically allows, through the use of a programming language, for disparate information or data silos to communicate and share information. The benefits are huge and lead to the ability of providing multiple products and services like the transfer of funds, ability to save in different ways, ability to make payments in an easier and flexible way, and changing the face and concept of banking, leveraging technology and the mobile phone as a device of choice and, as such, a different user experience (Banking where and how you want). The Open Banking Standard defines how financial data should be created, distributed and used. By relying on networks instead of centralization, open banking helps financial service customers to safely share their financial data with other financial institutions that may not be banks.

It improves customers' banking experience. It allows large banks to be more competitive with smaller and newer banks and financial companies, leading to lower costs, better technology and customer service. Its regulations demand that banks publish, both online and within their branch offices, accurate and unbiased

information that lets consumers evaluate the quality of their service. This is designed to encourage banks to provide the best possible customer experience.

Open banking should change traditional banks by increasing competition, requiring older banks to do things in new ways that they are not currently doing and in line with what the fintechs are doing, requiring that these banks spend money to adopt new technology. However, banks should see this as an opportunity to strengthen customer relationships and customer retention as well as deepen the products and services they offer, by better helping customers to manage their finances instead of simply being transaction handlers.

PSD2 and consumers

Consumers will enjoy economic benefits, improvement in consumer rights and in security. The directive will lead to increased competition in the e-payments market which, in turn, will lead to lower prices and increased amount of choices to customers (European Commission 2015b).

New services could mean better utilization for customers' own finance, for example through better budgeting or forecasting tools (Cortet, et al. 2016). Another impact for new services could be decreased use of credit cards and instead paying instantly from their accounts when shopping online. Although payments are somewhat shifting away from card-based transactions, the PSD2 does still ban surcharging for most card payments.

The new rules will also improve the card payment consumer experience around the EU. Among these economic benefits, consumers are better protected against fraud, and the maximum amount to be paid in case of a fraud is lowered (European Commission 2015b).

PSD2 and Providers

Third party providers are companies that provide payment services and they can be divided roughly into two groups, which are fintechs and tech giants. Fintechs are agile companies that utilize technology with a small focus to achieve a niche market.

They have been disrupting every part of financial services and payments as well. Large tech giants, or big techs, have entered payments business area, and they include for example Apple (Apple Pay), Samsung (Samsung Pay), Facebook Messenger payments, Alibaba (Alipay) and Tencent (TenPay) to mention a few (Cortet et al. 2016).

These companies have customer surface, data, resources, capital and technology expertise to use for competing payment services market. They are already connected in consumers' daily life which basically provides a payment infrastructure directly to the user.

Fintechs are focusing to improve a specific part of banks' operations and conquering a niche market from them. They apply technology in a new way to create an innovative service that outplays banks' current offerings. Fintechs have an eye for designing, building and executing a very specific component of current value chain improving it to become better, cheaper and faster than banks. Open API opens space even more for this kind of business to cover convenience, user experience and functionality gaps that exist. By discovering these and implementing a 'narrow finance' strategy, which is focusing on a specific part of the prevalent business model, they might be able to create a superior alternative, which PSD2 encourages.

After creating a successful alternative, they are open to expanding their product offering to other services and raise risk from a niche market to the whole portfolio of banking services (Cortet, et al. 2016).

SEPA venture and PSD2 are making EU increasingly attractive in the eyes of fintech operators and payment service users. Although PSD2 opens up in terms of innovation, the situation may still not be as beneficial as it can be because of national situations.

The biggest obstacle, especially in fintechs, is the lack of capital and its allocation to financial services startups. Also, collaboration between banks and fintechs is in an early stage. PSD2 pushes incumbent players to form partnerships with fintechs.

It is very obvious and certain that services like payments need regulation. Some views might disagree, but generally customers are not able to decide.

Looking at the benefits of PSD2 further:

1. It contains specific pro-competition provisions which force the stronger players in this sector to open up to authorised new players. However, there are certain minimum standards that companies taking advantage of this opening up need to adhere to.
2. It provides a unified regulatory space across Europe. This is good for scaling, because it means that the additional cost of accessing another country can be kept at a minimum. This, of course, is particularly useful and beneficial for technology

companies because of their cost-structure that is usually very heavy on fixed costs–the ability to spread those costs over more customers is an immense strategic advantage.

The summary of this with respect to access is that is easier for companies that are based in one-member state, working on innovative payment services, to be able to quickly and efficiently deploy across the entire single European economy.

PSD2 and the Impact of "Brexit"

So, what happens if the UK leaves the European Union?

Table 3: Analysis of Card payments in the UK with Europe

Country's share in the total EU value of payments (%)	Card payments				
	2013	2014	2015	2016	2017
UK	37.0	38.4	41.0	37.5	35.0
EURO AREA	53.3	52.0	50.2	52.6	54.4
EU	100.0	100.0	100.0	100.0	100.0

Source: ECB Payments Statistics, September 2018.

The table 3 above shows the size of the payment space in the UK alone, in comparison to the euro area as well as the European Union as a whole. Clearly the UK payments space is quite important in Europe and will continue to be important post-Brexit. This is an important factor that must be considered within PSD2.

PSD2 relates to the European Economic Area (E.E.A) not just the E.U. The lack of certainty with respect to the type of relationship that the UK will have with Europe post-Brexit, means that a good number of financial institutions are planning for some form of E.E.A relationship with Europe rather than an isolationist role on the continent. Compliance with PSD2 will be necessary to interact and thrive with broader European payments and finance. It will not make any economic sense if the UK finance industry became at variance with the rest of Europe. Existing banks, as well as the new fintech players in the UK understand the need to keep innovating with technology and finance and will do well to keep engaging and adhering to European standards, as much as possible, irrespective of the decision of the UK government. Of particular note is home shopping, which has grown tremendously

with people doing more shopping on the Internet, and goods being delivered from across the world into Europe (Amazon is a case in point). There is absolutely no doubt that home shopping is a big business, has come to stay and will only get bigger. Whilst PSD2 talks about home shopping it is slightly ambiguous.

In conclusion PSD2 will no doubt push the EU in the right direction with respect to payment systems as technology increasingly becomes the driver of financial services. The future of the PSD2 largely depends on the success of non-bank service providers being able to use technology to drive the way payments are done in Europe. The ability of the traditional banking methods to be altered and the use of mobile technology in delivering services, reaching areas and people that were hitherto unreachable and not profitable to be banked (the unbanked). Therefore, the directive should revolutionise the use of financial data in bringing a wider set of services and also drive the growth of electronic business, and bring the euro area market, irrespective of the base market of traders, into play and hence increase revenues.

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