Expanded Version Including an Assessment of Turkey's Situation

OPEN BANKING IN THE WORLD AND IN TURKEY

The Future of Banking

FINTECH ISTANBUL

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OPEN BANKING IN THE WORLD AND IN TURKEY: THE FUTURE OF BANKING

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DISCLAIMER

This report is for informational purposes only and does not constitute advice or an opinion binding people and/or institutions. It is intended to explain Open Banking, a concept which has recently gained importance in the financial world. The report aims to raise awareness by addressing the global developments in this field, its potential impact on the financial sector and the current situation in Turkey. This report contains information obtained from publicly available sources and through issues raised during meetings. It is not guaranteed to be up-to-date and complete. All the information and opinions in this report may vary over time. In this context, no responsibility or liability is assumed to any reader and/or third party.

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PROF. DR. SELİM YAZICI
FinTech Istanbul
Co-Founder

Open Banking enables third-party institutions to develop financial services by obtaining the users' consent for data sharing through Application Programming Interfaces (APIs) used by banks. This translates into the industry-wide "democratization of data." Once regarded an initiative by financial institutions, open banking is now becoming a compulsory and regulated approach that aims to broaden and refine the products and services offered to customers, strengthen the competitive environment, and make the market more transparent in many countries. In addition to the second Payment Services Directive (PSD2) adopted by the European Union, Open Banking is a rapidly growing new approach in many major economies such as Hong Kong, Australia, Canada, Japan, Malaysia and Singapore.

INTRODUCTION

Beyond the banking and financial sector, all areas in this ecosystem or industries that share common characteristics increasingly converge each day, opening the doors to an entirely new world. Fintech enterprises will be the most significantly impacted of these approaches. Fintechs will utilize APIs opened by financial institutions for data sharing, which will lead to new and creative business models, facilitating life for both consumers and financial institutions. Services such as comparative analysis, Know Your Customer (KYC), automatic savings tools or credit ratings will be more commonly used. From the customer's perspective, this will promote more equal access to financial products and services, ensure price transparency, and increase competition and quality.

The new regulations and banking APIs introduced by Open Banking will also bring about an institutional transformation. These structures, which have been newly defined by the regulations, will strengthen the link between fintech companies and financial institutions, morphing banks into platforms. They will also enable the development of new cooperation strategies, which will help create individual ecosystems. This will cause radical changes in financial services.

Whether we are ready or not, Open Banking will achieve a global impact. At FinTech Istanbul, our aim with this Open Banking report is to help you prepare for Open Banking by practically explaining its nature and many related concepts, and to act as a guide for the development of strategies by both public authorities and private corporations. Open Banking goes beyond the idea of being a mere strategic/regulatory necessity and pertains to the future of the industry. This emerging approach has started to take root around the world. As such, I believe it will lead to a significant transformation in the Turkish financial sector by enabling new ways of doing business.

OPEN BANKING AND ITS IMPORTANCE

The banking and financial sector is a pioneer of technological innovation. This interest undoubtedly stems from the sector's perception of technology's role in expediting the quality work that consumers and institutions can undertake per unit time.

The first Electronic Funds Transfer (EFT) transaction was a simple telegram sent in 1851. Today, some 170 years later, we live in a world where it is possible to manage a cashless life by opening an account and using almost any financial services without going to the bank.

The concept of money, which can be considered the most important component of the banking and financial sector, is also changing. Precious metals implied a physical value throughout the ages, but later evolved into print banknotes. Money has been largely digitalized nowadays, and is on its way to becoming customized for individuals, companies and communities alike.[1]

With the advent of mobile communication, technology now fits into our pockets, making banking more portable than ever. On the other hand, the rapid growth of mutual funds and entrepreneurial ecosystems led to a unique period in which innovative ideas for the sector began to take shape outside the banking and finance sector.

The financial technology companies born outside the traditional methods and regulations have been instrumental in shaping the new ecosystem, which we call "fintech"[2] today, with confines determined by regulations in time. Although the relationship between fintech and banking was once uncertain, today fintech companies and banks prefer to establish strong collaborations with each other.

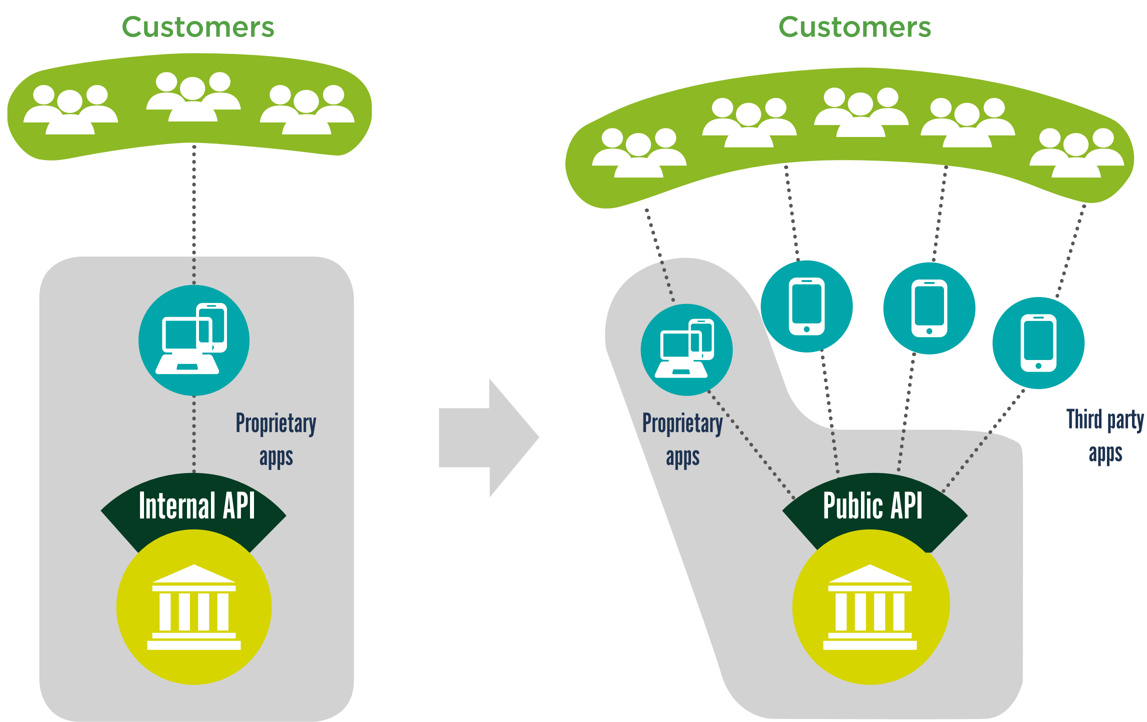
Intense market competition and the speed of communication prompted the banks to develop faster and more innovative ways to cooperate with fintechs. Accordingly, the demands of these new enterprises made it possible for the banks to enter an uncharted and novel area: **open data policies or, in other words, "Open Banking."**

(1) Ahmet Usta, Paranın Serüveni (The Adventure of Money), BKM Publications, 2018.
(2) The FinTech abbreviation referring to Financial Technologies is used as "fintech" in this study. Fintech also refers to the organizations working in the field of financial technologies.

What is Open Banking?

Banks traditionally use their own channels to offer customers core banking functionalities such as managing a deposit account, lending, and intermediating. Conventionally provided by branches for centuries, these services are now offered through ATMs, call centers, and internet banking and mobile banking applications as long as technological innovations and security measures allow. This is illustrated in Figure 1 as "Traditional Banking."Trust is paramount in banking, so it is often strictly regulated. Fundamentally, banks are charged with the safekeeping and management of the money entrusted to them by their customers. For this reason, customers are allowed access to banking services only through the channels the bank itself manages. However, with digitalization, security technologies, increasing expectations of end-users and regulatory developments addressing such trends, it is now possible for customers to access these services using third-party applications. Customers may sometimes wish to use their phone or their favorite loyalty or café application to access banking services, instead of the direct banking channels. If they work with more than one bank, they may also wish to manage all of their bank accounts in a consolidated way using a single application offered by a bank or a third party. Thus, the "Open Banking" diagram (Figure 1) shows how banks, in an effort to meet the growing demand, can open their basic banking services to other parties using appropriate security measures. This is the fundamental concept of Open Banking.

Figure 1:
Traditional Banking and Open Banking



Often described as an approach used by third parties to develop financial services using the bank-provided APIs*, Open Banking is defined as data democratization on the part of the sector.[3] While Open Banking was initially a bank-led initiative, it is now being transmuted into a legally mandated system that helps strengthen the competitive environment in the financial sector across various global regions. With PSD2 adopted by the European Union and the unique approaches used by Asian countries and banks, Open Banking is rapidly growing.

Although regulations are an important catalyst for Open Banking, they are not the only option. In various countries around the world, financial institutions that serve as major industry stakeholders are taking the initiative and building Open Banking platforms. Approximately 10 financial institutions in Turkey have unilaterally opened their APIs and are currently testing with the API gateways. However, in Turkey, the number of value-added solutions developed by third-party service providers using these APIs is very small. This is because: (i) there are no standards and unifying API gates that would help facilitate the integration with multiple financial institutions; (ii) the potential of APIs is not well understood and, therefore, the subject is not owned by the corporations; and (iii) the uncertainties associated with this new field cause concerns.Our country's financial institutions have set an example of global leadership in digitalization. To continue their pioneering role, it is crucial that they change this picture and take steps to standardize APIs by uniting sector players and improving collaboration with third-party institutions.

Why is Open Banking Important?

Beyond the banking and financial sector, all areas in this ecosystem or industries that share somehow common characteristics increasingly converge each day, opening the doors to an entirely new world. "Open Banking" transcends the notion of being a mere strategic necessity and instead pertains to the future of the industry.

In this study, we have attempted to explain Open Banking in plain language and analyze the direction the future will take in line with the development of this global phenomenon.

* *API:* Application Programming Interface – Technologies that allow third parties to access data and use them for their own services.

(3) "The Open Banking Report," BI Intelligence, April 2017.


Brand
Reputation
CRM
Quality
Goals
Teamwork
API
Innovation
Strategy
Solutions
Analysis
Marketing
Management
Service

REGULATORS' REVIEWS

MUSTAFA ÖMER OKAY

Former Executive Director of Central Bank of the Republic of Turkey (CBRT) Payment Systems

With its innovative technology-driven approaches, the financial sector is a leading area of global competition. Technology has allowed cheaper and easier access to financial services thanks to novel user-friendly tools, such as smartphones. The use of developing technologies in finance has brought significant changes to the way we conduct financial transactions, such as making payments, savings, loans and money transfers. Emerging financial instruments, applications and even companies can offer users many different products and options. In some cases, they can even supplant traditional methods. Following these innovations, consumers can perform their financial transactions faster and cheaper, making the financial system more inclusive and accessible.

Since its first appearance, money has existed in different forms, and the transactions involving money and other monetized assets have changed over time. During this process, money has taken different forms, ranging from commodity money to bank money. However, it has remained an incontrovertibly essential element of the economy. On the other hand, money and its uses are diversifying with the opportunities afforded by advancing technologies.

Precious metals implied a physical value throughout the ages, but later evolved into print banknotes that denote their own value. Money has been largely digitalized nowadays, and is on its way to becoming customized for individuals, companies and communities alike.

Now we are talking about the Central Bank Digital Currency (CBDC). CBDC is referred to as a new form of currency that the central bank issues. This digital money approach differs from the traditional central bank reserves or settlement accounts.

Therefore, it is a liability to central bank that is issued based on an existing unit of account and can be used both as a medium of exchange and as a store of value.

Fintech has been directly providing services to customers and improving their lives, while also offering benefits that support the overall economy. For example, it helps curb the use of cash, curtailing the share of informal economy. This way, the intense market competition and the speed of communication prompt the banks to develop innovative and faster ways to cooperate with fintech companies. Moreover, the demands of these new enterprises help create new concepts, such as open data policies or, in other words, "Open Banking."

I believe that this new approach will bring along many fresh solutions, business models and products.

MUHAMMET CERİT

Banking Regulation and Supervision Agency (BRSA) Vice Chairman

Technological advances increase competition, which facilitates the emergence of innovative business ideas. Intra- and inter-sectoral cooperation is essential for developing innovative ideas. At the end of the day, financial institutions that wish to offer the customer more competitive and qualified services realize the need for cooperation using customer data.

When corporations share customers' financial data - by obtaining users' explicit consent - with more agile financial technology companies, innovative products and services start burgeoning owing to advanced technologies such as artificial intelligence and machine learning. A harbinger of a rapid transformation in the financial system, Open Banking also proves that big fish would sooner cooperate with agile smaller fish than eat them.

The sharing of customer information forms the crux of Open Banking by emphasizing trust between parties and the security of data. Practices that better serve world examples and better meet national demands will help establishing trust between parties, and determining and harmonizing security requirements.

AN AGE OF COOPETITION* AND TRUST

In the years ahead, the current period is likely to be called the "age of coopetition and trust." The convergence between concepts and industries due to increasing speed of communication requires more trust between organizations and individuals. While this trust is established through legal agreements within limited frameworks, big data analytics brought by the age of communication have facilitated the emergence of intermediaries such as Booking.com, Airbnb or Uber. Innovative ideas like blockchain, on the other hand, take the concept of trust beyond contracts and big data analytics, making it the immutable fundamental feature of the relationships ecosystem.

Mutual competition as a basic market rule is now a thing of the past. An innovative approach emerges in which the competing institutional forces cooperate to protect their joint interests and grow the market; in other words, they "coopete." The coopetition strategy allows for traditional organizations to reposition themselves against disruptive innovative advances such as sharing economy.

A study titled "The Future of Financial Services," published by the World Economic Forum in June 2015, clearly shows us how financial services have visually evolved into an intense flow of relationships and started converging *(Figure 2)*.

It is impossible to find a single area in this network of relationships without a fintech enterprise. This transformation accelerates as the banking and financial sector develops its own APIs.

McKinsey discusses the API systems that facilitate data sharing and product development processes under three headings:[4] Internal, Partner/B2B and Public/Open *(Figure 3)*.

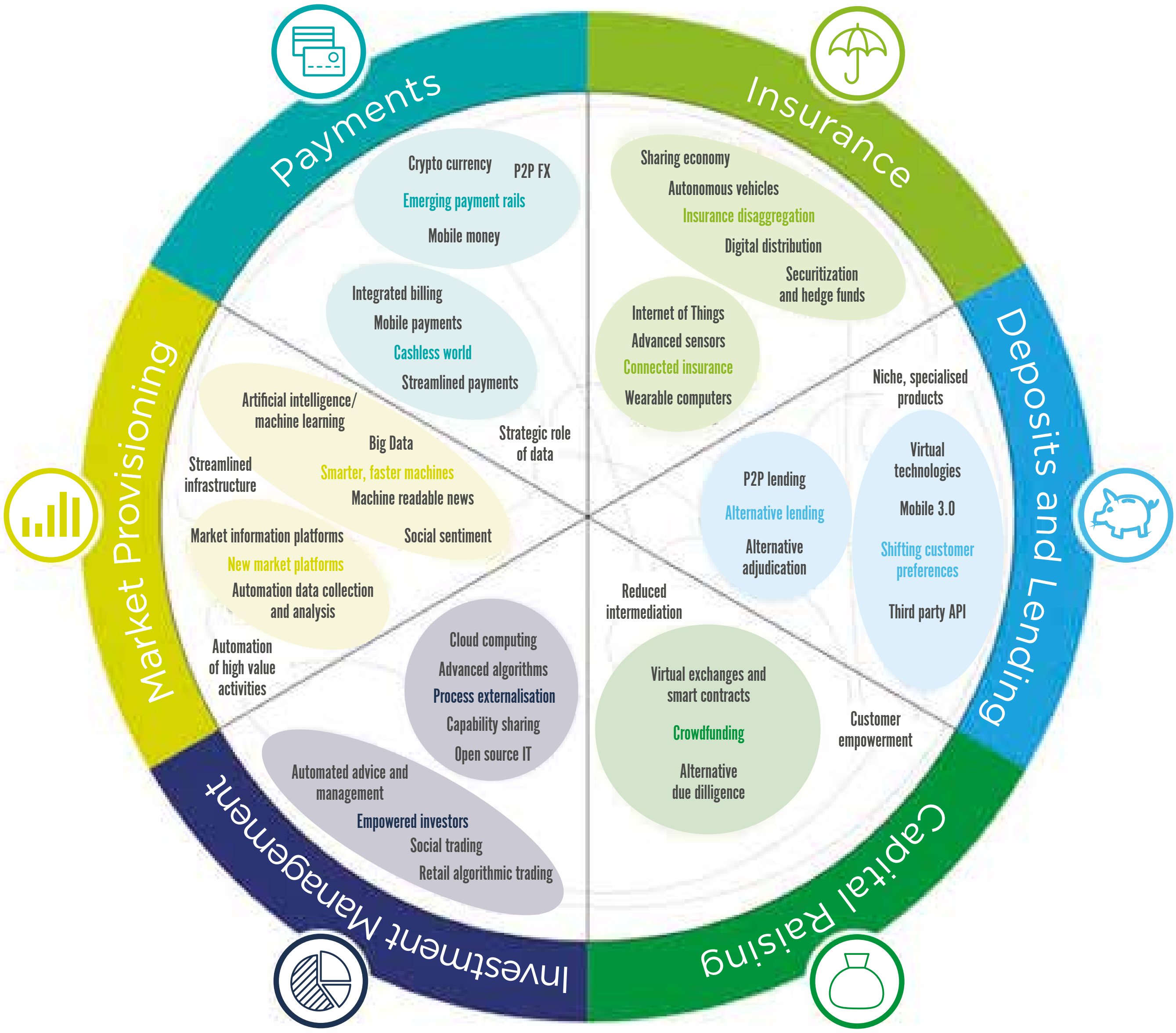
- **Internal:** These are created to serve between the units within an organization to accelerate software and solution development, increase productivity and improve security. In such solutions, APIs serve only to the departments of an organization.

- **Partner/B2B:** This API layer is provided for the organization's business partners, such as suppliers, service providers and external marketing services contractors. These can be defined as B2B partners. They are offered to reduce costs, to create a common language and standard, and to enhance security in common processes.

* Coopetition: Collaboration between business competitors

(4) https://www.mckinsey.com/industries/financial-services/our-insights/data-sharing-and-open-banking

Figure 2:
The Functions of Financial Services



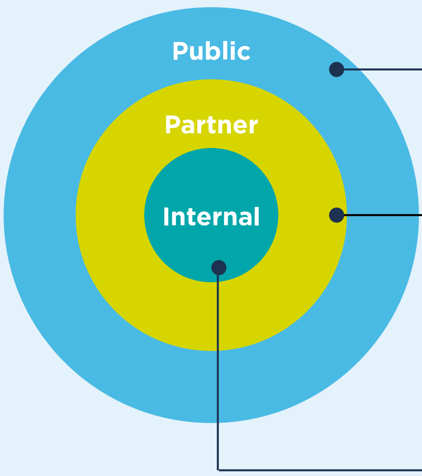
Source: *World Economic Forum.*

- **Public/Open:** This API layer is developed by providing the organization's various information and data services to all those who wish to externally access the appropriate API solutions, enabling enterprises and companies that have no direct connection with the organization to develop innovative applications. It is offered to encourage developer communities, expand to wider markets, and increase innovative approaches.

The rapid development of communication technologies with the advance of the internet encourages the banking and financial sector to develop and publish APIs. Conversely, high security becomes a necessity as market competition increases. This must all be controlled by strict regulations. Under these circumstances, it is not easy to extend API applications over the banking industry in a general framework. Although players begin accepting the idea of coopetition, the sector do not easily adapt to Open Banking.

Figure 3:

API Classification



Model Type	Attributes
• **Public/open** APIs are used by external partners and developers who build innovative apps and products.	Innovation through engaging developer community. Extended market reach.
• **Partner/B2B** APIs are used by business partners, including suppliers, providers, resellers and others for tighter partner integration.	Reduced partner costs. API monetization. Enhanced security.
• **Internal** APIs are used by developers within enterprise.	Cost reduction. Operational efficiency. Enhanced security.

Source: *McKinsey.*

CORPORATE PREFERENCES AND LEGAL INNOVATIONS

There are many collaborations with external contractors and service providers in the banking and finance sector. On the other hand, the sector's unique demands entail appointing specialized, professional teams within an organization. After a certain point, some teams specializing in information systems or education services continue to develop, further turning into a colossal department or a separate company as they retain the name of the organization.

The banking industry reaped the first fruits of coopetition in card payment systems and ATM solutions. For instance, the Interbank Card Center (BKM), established by banks for payment switch solutions that enable the use of different bank and credit cards in different POS and ATM systems, can be considered the leading accomplishment of coopetition borne from industrial dynamics. BKM has formed the basis of API banking since day one, given the nature of its operations with member banks. As a real fintech company, it also assumed pioneering roles in adapting innovative technologies to the industry.

On the other hand, we see the emergence of fintech companies offering integrated solutions to the traditional banking industry. In line with this development, accessing bank services from corporate software solutions is no longer a dream. These developments show us that we have entered an era where the API concept has transcended the organizations and taken root out in the industry.

Following an initial growth period, various regulations were introduced for fintechs in different countries at different times, necessitating the formalization of these initiatives. At this point, the EU introduced the first Payment Services Directive (PSD) in 2007 and implemented it in 2009. The aim of this regulation was to develop an efficient, fast, secure and competitive payments market among member states.[5] Two important steps were taken with this arrangement:

1. A region was created in which the same rules would apply to payment applications. This region is composed of the European Union, Iceland, Norway and Liechtenstein.
2. A new payment services provider category was created in addition to the banks. The aims of the Payment Services Providers were to introduce competition to the banks and open the payments market to new players.

Today, there are many global payment services providers that originated

(5) https://fintechistanbul.org/2017/03/21/psd-standartlari-ve-odeme-hizmetlerinin-gelecegi/

in EU countries. The list of these is very long, but the best-known ones are Transferwise, Azimo, Adyen, Earthport, Onescan, Judo and Traxpay.

Additionally, Turkey enacted Law No. 6493 in 2013[6], signifying the adoption of a similar arrangement approximately four years after PSD. Through this, such initiatives were formalized, paving the way for further innovative enterprises. As of July 2019, there are 14 electronic money and 34 payment institutions operating in Turkey.

In line with these developments, many fintech companies adopted a technique called "screen scraping," which enables businesses to consolidate different bank accounts and displays this data on a single screen before extending the service to individuals. This way, fintechs who were unable to communicate with the banks using APIs could fetch the information displayed on the screens of business entities who were logged in to bank web services. They would then transfer this data to their software. There were two problematic aspects to this method: potential security vulnerabilities and the need for frequent software updates following even the slightest changes to the banks' interfaces. These problems could be overcome by building a healthy API structure, though this was not a priority for the banking industry at the time. As a result, regulations in various parts of the world, especially in Europe, were catalysts in the expansion of Open Banking practices.

UNDERSTANDING PSD2

Aiming to increase innovation, competition and security in the payments industry, the EU published PSD2 in the Official Journal of the European Union on December 23, 2015, and announced that the new regulation will take effect on January 12, 2016. A sequel to PSD, PSD2 was intended to revolutionize the banking and finance sector. In this context, the EU granted a two-year transition period until January 13, 2018, to 28 EU member states and Iceland, Norway and Liechtenstein to translate the regulation into local laws. Key developments during this process are summarized in PSD2 timeline shown in *Figure 4*.

PSD2 intends to make "Open Banking" mandatory in EU countries rather than leaving it to the discretion of institutions. The overall PSD2 architecture can be summarized under two main headings:

(6) http://www.tcmb.gov.tr/wps/wcm/connect/TR/TCMB+TR/Main+Menu/Banka+Hakkinda/Mevzuat/6493/

1. Establishing the concept of Account Information Service Providers (AISP); in other words, the "Financial Data Aggregators."

2. Expanding the concept of Payment Initiation Service Providers (PISP).

These two titles are collectively called Third-Party Providers (TPP). We should also mention Card-Based Payment Instrument Issuer (CBPII) included in Article 65 of PSD2. Although not particularly prominent, this title defines an entity that is authorized to confirm the availability of funds for a card-based payment transaction initiated with a card-based payment instrument.

A PISP enables a third-party service provider to initiate a payment order at the request of customers and to provide the related services within a statutory framework. An AISP, on the other hand, has access to the customer data (depending on the customer's consent) in the banks, within a statutory framework. However, we must emphasize that this access does not cover all customer data, as it is restricted to payment account information (balance and transactions). In this way, information obtained from more than one bank can be consolidated, presented to the customer and analyzed to provide value-added services. However, AISPs cannot use user data obtained from transactions to develop business models without additional permission from the customer.

Introduced alongside PSD2, AISP offers a structure that is atypical in the industry. It grants bank customers access to an assortment of banking data through different channels. At this point, platforms that offer both AISPs and PISPs are seen establishing close relations with banks. However, this is not a requirement under PSD2. In other words, AISPs and/or PISPs can access customer banking data with the customer's permission without needing to sign a contract with the banks. At this point, ownership of the data is granted to the consumer. Additionally, General Data Protection Regulation (GDPR) – which went into effect in the EU in 2016, giving the member states a period of two years, until May 25, 2018, to translate this amendment into local laws – seeks the express approval of the customer to determine how customer data will be used. It also requires that detailed information is provided to the customer on how this data will be used. The mandatory nature of these requirements will give rise to new obligations to fulfill under the GDPR, for both the TPPs and ASPSPs (i.e. banks). For example, banks can no longer transfer the bank data to third parties for processing purposes without the customer's consent. While the bank normally requires a separate authorization from the customer to respond to an access request from a TPP, this problem is resolved in PSD2 by authorizing the customers themselves in the eyes of the bank via TPP or independently, in line with the European Banking Authority (EBA) assessments. Additionally, companies which operate under the AISP and PISP status cannot use the user data arising from payment transactions they intermediate to improve their business models as such a data record falls outside the purpose of the service.[7]

Even though PSD2 defines the new services and their framework, it does not provide a framework for API standards, which would establish the communication infrastructure of Open Banking.[8] This means banks and financial institutions which endeavor to comply with PSD2 in matters regarding Open Banking may set their own standards. However, this also highlights the difficulty fintechs would face when trying to integrate with each institution individually. Therefore, we see the emergence of fintechs and other organizations bridging the banks and third-party institutions with the aim to achieve API standardization by focusing solely on this problem. The largest organizations established within the EU to set national and international API standards are the Berlin-Group[9] and STET.[10] This is particularly true for the standard formed by the NextGenPSD2 initiative (introduced by the Berlin-Group in 2017), which covers more than 1,700 banks from 20 countries, and was adopted and followed by 78 percent of the European banks, according to European Central Bank (ECB) data. Fintechs can test the applications in a “sandbox” environment prepared in accordance with these standards. Applications that successfully comply with the Berlin-Group NextGenPSD2 standard in the sandbox tests can be quickly integrated into the banks that support this standard.

We will return to the problem of setting API standards and explore how this process will affect the ecosystem in the following pages. However, it would be incorrect to regard PSD2 as the only regulation on Open Banking at this time. Many studies are carried out for Open Banking in different regions and countries around the world. In Turkey, the Eleventh Development Plan, which was announced in July 2019, states that the legislation would be harmonized with PSD2 to strengthen the legal infrastructure of Open Banking, and regulations and industry sandboxes would be formed in this regard. On the other hand, the BRSA has defined “Open Banking” in the “Draft Regulation on Information Systems of Banks and Electronic Banking Services.” The agency is planning to determine which APIs will be launched in the coming periods.

Conversely, approximately 10 financial institutions in Turkey have opened their APIs to developers and are currently testing with API gateways. However, very few value-added solutions have been developed with these APIs. If sector players take the necessary steps in this regard and determine the API standards, Turkey can accelerate the development of Open Banking.

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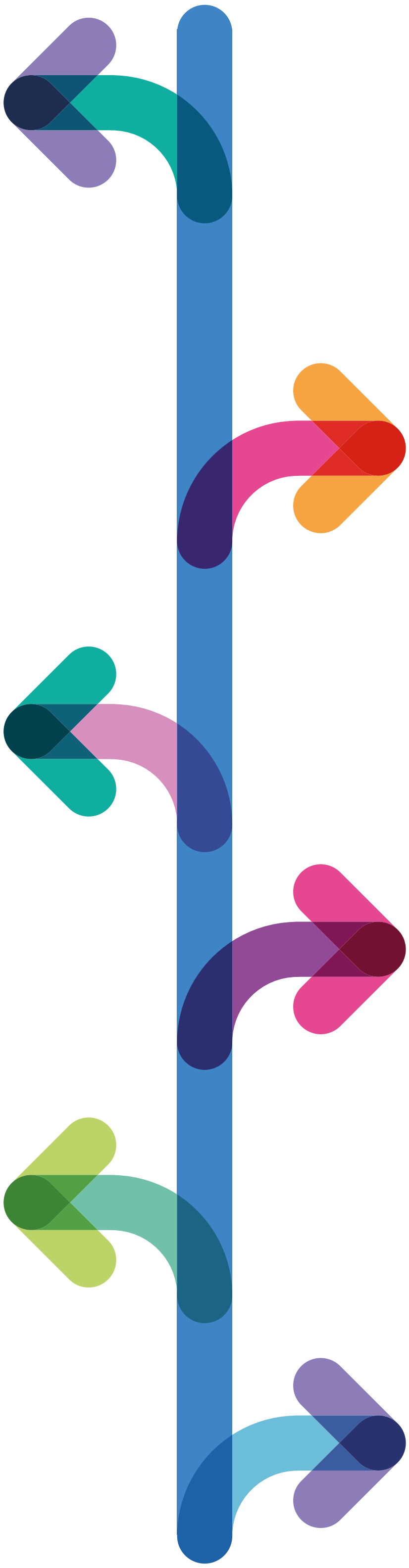
(7) https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/Banking/lu-psd2-new-market-entrants-03032016.pdf
(8) On the other hand, compliance with PSD2 in matters other than API standards is monitored by the National Competent Authorities (NCAs) of the member states using the Regulatory Technical Standards (RTS) published by EBA (14 in total), Guidelines (GL) and Opinion Papers. We should emphasize that RTSs have clarified the particular details related to the technical processes.
(9) https://www.berlin-group.org/
(10) https://www.stet.eu

Figure 4:
PSD2 Timeline



Monitoring

NOVEMBER 2019

The performance and continuity of the banks' API interfaces will be reported and updated every three months.

DECEMBER 2019

NCAs should require acquiring PSPs to provide information about the communications to e-merchants (every 3 months).

31 DECEMBER 2020

To align the NCAs, EBA's opinion issued on 16 October 2019, presents a harmonised plan for enforcement flexibility, indicating migration to SCA should be completed by 31 December 2020.

2021 Q1

EBA to develop a report on the status of SCA-compliance by acquiring PSPs based on consolidated information provided by NCAs.

Implementation

MARCH 2019

For the first time, banks opened their APIs to third-party providers (TPPs) for testing in a sandbox environment they have created.

JUNE 2019

Banks opened their APIs to TPPs for testing in a production environment.

SEPTEMBER 14, 2019*

SCA rules in place. The European Economic Area faces new regulatory obligations for authenticating online payments.

Formalization

JANUARY 2018

PSD2 was enacted in all EU countries.

MARCH 2018

The technical standards for strong customer authentication were published in the EU Official Journal.

Technical Study

JANUARY 2016

PSD2 was approved by the EU and entered into force.

NOVEMBER 2017

The EBA11 published the final version of the technical standards for Strong Customer Authentication (SCA) and Common and Secure Communication (SCC).

Acceptance

OCTOBER 2015

The PSD2 proposal was accepted in the EU Parliament.

DECEMBER 2015

PSD2 was published for the first time in the Official Journal of the EU and the draft Regulatory Technical Standards (RTS) was distributed for comments.

Idea

JULY 2013

The EU Commission drafted the revised PSD proposal (PSD2).

**The process was planned to end on September 14, 2019. However, the European Banking Authority (EBA) has announced a supervisory flexibility period of approximately fifteen months. Thus, implementation and testing of SCA rules by merchants should be completed by 31 December 2020.*

(11) European Banking Authority (EBA).
(12) European Association of Payment Service Providers for Merchants (EPSM)

THE OPPORTUNITIES AND RISKS OF OPEN BANKING

Open Banking offers a variety of opportunities to different segments of society. Retail customers can now access faster and more efficient financial services at lower cost due to increased competition with Open Banking. Within the framework of their forthcoming Open Banking strategy, banks will be able to cooperate with fintechs to offer more diversified services and products, and can increase customer loyalty by better meeting the needs of existing customers. Fintechs, on the other hand, can win new customers by offering a better customer experience and added value, integrating banking services into their own service models. However, despite all these positive aspects, Open Banking bears certain risks and challenges too. The survey conducted with the participation of 130 senior finance executives by FinTech Futures and the UK law firm TLT in August 2018 emphasized some important points in this regard. The majority of respondents cited the difficulties they experienced in establishing an Open Banking strategy and understanding the requirements of Open Banking as the biggest problem (33 percent of fintechs and 51 percent of banks) with Open Banking, and the difficulties encountered in forming the right partnerships (e.g. IT and payment services partnerships) as the second-biggest problem (33 percent of fintechs and 37 percent of banks). In the survey, the respondents cited the loss of customer confidence due to loss/misuse of data as the biggest risk (67 percent) to Open Banking, and the damage to arise due to data loss by fintechs as the second-biggest risk (52 percent). The risk of fraud (50 percent) caused by a large-scale cyber attack trails this by a small margin.[13]

The success of Open Banking will depend not only on the extent banks and fintechs take advantage of these opportunities, but also on the effective management of the measures taken to address such challenges and risks. Regulations introduce a series of rules or sanctions on the parties involved, ensuring the successful implementation of Open Banking. However, achieving the desired success necessitates parties seeing each other as partners and not as barriers to the healthy functioning of their existing business models.

With the adoption of PSD2, major technology companies, such as Google, Alibaba, Amazon and Facebook, have begun to launch new products in Europe, either by acquiring an electronic money institution license or renewing their existing licenses. Given their advantage over banks and fintechs in terms of the number of customers and the technologies they use, the strategy to be followed by these institutions is significant in the development of Open Banking.

(13) https://www.bankingtech.com/2018/11/white-paper-opportunity-knocks-the-future-of-open-banking

OPEN BANKING AROUND THE WORLD

Open Banking takes a regulatory approach to the development of the global banking and financial sector. One of the most successful and global examples of these approaches is in the United Kingdom.

The global leadership of the United Kingdom, and London in particular, has caused controversy in recent years as the debate over Brexit flared. Nevertheless, the UK government has managed to maintain the country's high fintech appeal by taking bold but controlled steps in Open Banking, and remained decisive.

These rapid developments in the United Kingdom, however, have not come about with the touch of a magic wand. The UK Competition and Markets Authority (CMA) made decisions to encourage growth in the sector and accelerate technological innovations in the banking industry. With the decisions taken in early 2018, targets have been set to adopt Open Banking practices, to allow the secure sharing of individual and SME financial data between banks and third parties, and to ensure banks clearly inform consumers about these processes.[14] Irrespective of PSD2, the CMA has mandated that nine major banks in the country must switch to Open APIs and establish Open Banking Implementation Entity (OBIE).

Alasdair Smith, a former member of the Retail Banking Group, said: "The reforms we have announced today will shake up retail banking for years to come, and ensure that both personal customers and small businesses get a better deal from their banks. We are breaking down the barriers which have made it too easy for established banks to hold on to their customers. Our reforms will increase innovation and competition in a sector whose performance is crucial for the UK economy."[15]

BNP Paribas - Tink

BNP Paribas has added a feature to its Easy Banking application to help display accounts from different banks. Developed in collaboration with the Swedish Open Banking platform Tink, this feature will allow BNP Paribas customers to add their accounts at the Belfius, ING and KBC banks in Belgium to the application. Other features, such as initiating payments from accounts in other banks, tracking account movements and setting spending targets, will be added to the application in time.

Revolut

Revolut teamed up with financial API specialist TrueLayer to enable all of its retail and business customers to see balances and transactions from other high street and challenger banks. Retail customers can also set budgeting controls for their Revolut and external accounts, giving them greater control over their financial lives.

The practices born out of CMA's decisions has yielded quick results that can set an example for Open Banking.

Only days after OBIE published its first Open Banking standards on January 13, 2018, the first transfer of account information between Yolt and Lloyds Bank was successfully achieved. Within a month, the digital account information sharing capability between banks was introduced to 80 percent of the population. OBIE published Open

(14) https://www.gov.uk/government/news/cma-paves-the-way-for-open-banking-revolution
(15) https://www.gov.uk/government/news/cma-paves-the-way-for-open-banking-revolution

Visa Acquired Plaid

Visa has signed a definitive agreement to acquire Plaid, a network that makes it easy for people to securely connect their financial accounts to the apps they use to manage their financial lives. Visa will pay total purchase consideration of $5.3 billion to acquire Plaid.

Banking Standards (OBS) Version 2 in March 2018, incorporating its short-term experience. On the other hand, as of July 2018, the roadmap was changed and some of the regulations in OBS Version 2 were postponed to September 7, 2018. Plans were underway to publish OBS Version 3 on March 13, 2019 and Version 4 in September 2019.[16] In May, the number of transactions performed through the Open Banking APIs exceeded one million and, in June, the first point-to-point payment transaction was made through the APIs. OBS Version 2 was published in September and the first corporate loan was granted in November via Open Banking systems. In the same month, the number of API transactions reached 17.5 million.[17]

According to OBIE data[18], 118 organizations received Open Banking licenses and 200 companies were in the application/filing phase at the end of the 15-month period. In addition to the nine major banks known as CMA9, which were mandated to participate in the system, 40 other banks have voluntarily complied with these standards.

According to OBIE, the new structural developments observed in the sector predominantly used the compiled data that most banks provide to their customers by communicating with other banks.

OBIE trustee Imran Gulamhuseinwala described the Open Banking experiment: "Two years ago, Open Banking was regarded by many as a typical compliance exercise championed only by a handful of fintechs – more tech spending driven by compliance rather than business case or customer need. This is no longer the case. Banks have very firmly moved from viewing Open Banking as a compliance exercise to an opportunity to compete and innovate. Open Banking is not happening simply because the regulators are mandating it — it is happening because there is a commercial opportunity and because there is an opportunity to make the financial infrastructure of a nation more efficient, more flexible and serve customers better. We are looking forward to the opportunities it will bring across the economy and society as a whole."

Swedish Open Banking Platform Tink

Originally an application for personal finance management, Tink has evolved into an Open Banking platform that allows its users to view the accounts they hold in any bank. Then it began to develop solutions for banks. The company received an investment of €56 million in February and, in June, it received an investment from the payment technology giant PayPal. Accelerating its expansion in Europe with these investments, Tink signed an agreement with the Swiss Agency for Development and Cooperation (SDC), which has 120 banks in Northern Europe, allowing them to use Tink's Open Banking solution.

(16) https://www.openbanking.org.uk/wp-content/uploads/Open-Banking-Revised-Roadmap-July-2018.pdf
(17) https://www.bankingtech.com/2019/01/infographic-one-year-of-open-banking/
(18) https://fintechistanbul.org/2019/04/26/acik-bankacilik-15-ayda-neleri-degistirdi/

According to the OBIE, Open Banking not only helps individuals in their financial situation, but also benefits in areas such as access to loans and credit advice. In this respect, it also provides advantages for SMEs in the UK.

Gulamhuseinwala shared the following in the interview: “2019 is the year that Open Banking becomes real. The user experience is going to be improved, with a frictionless experience for customers being introduced, as we move onto mobile.” He added: “Fintechs are already demonstrating that you can come into the market and provide a great proposition because the barriers to entry are so low. There is an opportunity to challenge some of the established players and I anticipate seeing non-financial services companies – such as mobile phone operators, pure tech companies and insurance companies – also entering this space. All of those lines are going to blur.”

Spiir Got Funding from Danske Bank and DNB

Used by 250,000 people in Denmark, Spiir allows individuals to better manage their money by viewing accounts held in any bank. It was established in 2011 and got funding worth €5.2 million from Danske Bank and DNB. Spiir facilitates data-sharing between banks and cooperations using the Nordic API Gateway, which commenced operations at the beginning of the year.

Companies such as Mint and Yodlee offer solutions that display different financial products on the same interface, which are popular in the US. They are regarded as the ancestors of Open Banking applications. The US Consumer Financial Protection Bureau (CFPB) recommends the use of API solutions as a safer data access method since the screen scraping method creates a security vulnerability. While the Electronic Payments Association (National Automated Clearing House Association – NACHA) is working to provide all industry players with a standardized API system, various US banks have also developed and introduced their own API systems. The US Treasury has published a report on the sharing of Open Banking and financial data with the aim of advancing innovation in loans, payments and asset management.

The Canadian government is in the process of evaluating Open Banking, which will allow consumers to share their financial data with third parties.

With the law enacted on March 10, 2018, Mexico legalized the sharing of user data among financial institutions with open APIs. The structures allowed by the law will be further developed by the Central Bank of Mexico and

Adyen

Online ödeme dünyasının Adyen, a successful financial player in the online payment industry, launched a new Open Banking-based payment method. Adyen was among the first fintechs to use third-party institutions under PSD2 to initiate payments on behalf of bank customers. Working with OBIE, Adyen has introduced its direct payment solution for use by 90 percent of the individual accounts in the United Kingdom. The Dutch airline KLM will be the first to use Adyen’s this service.

IATA

The International Air Transport Association (IATA) is launching IATA Pay under PSD2 and the UK Open Banking legislation. The solution developed in partnership with the UK-based fintech company ipagoo will allow direct money transfers between the customer's and airline's bank accounts for payments made through airline websites. The system aims to reduce the estimated $8 billion airline card payment costs.

the Mexican National Banking and Securities Commission (Comisión Nacional Bancaria y de Valores – CNBV). Brazil is at an early stage in its efforts towards Open Banking. In Switzerland, the Swiss Open Finance API (SOFA) is working to prepare a general API standard for its national banking system. While Africa's Open Banking trends have fallen behind, we know that South Africa and Nigeria are actively pursuing the subject.

Asian countries, on the other hand, are the markets that championed the field as early entrants thanks to their bold steps in Open Banking. The Monetary Authority of Singapore (MAS) has ensured its legislation is as simple and directive as possible, allowing the market to create its own playing field. A joint working group, developed with the World Bank and IFC, is developing a common standard within the Association of Southeast Asian Nations (ASEAN). In South Korea, banks launched open API systems in 2016. However, these systems were opened to a limited number of fintechs and received complaints about high transaction fees. As part of its plan to reduce API transaction fees by 90 percent, the Financial Services Commission (FSC) in South Korea ordered the banks to open their payment systems to other banks and third-party institutions as of 2019.

The Hong Kong Monetary Authority (HKMA) has focused its efforts on a study aimed at regulating large banks in the country. The Central Bank of Hong Kong published a framework document on the subject mandating that financial institutions must open their services through APIs in four phases. The Hong Kong market will approach the EU's PSD2 when the as-yet-undated third and fourth phases are completed.

- **Phase 1 – Information Services:** As of January 2019, information services (such as information on loan and deposit interest rates, fund prices, exchange rates) were opened.
- **Phase 2 – Customer Order Services:** As of October 2019, banks will receive orders for all kinds of products through APIs and will make such products available to customers.
- **Phase 3 – Account Query Services**
- **Phase 4 – Transaction Services**

Designated by the Central Bank of Malaysia, Malaysia Digital Economy Corporation (MDEC) is continuing its efforts to determine the legal framework of Open Banking for the domestic development of the fintech ecosystem.

In India, China, South Korea, Thailand, Cambodia and Indonesia, studies are underway for Open Banking. Each are presently at different stages.

Under the Consumer Data Rights Act, the Australian Treasury Department is enacting its Open Banking legislation as of 2019, starting with the large banks. All banks are required to provide access to this structure within 12 months. In New Zealand, all banks and fintechs have come together in a rare move to conduct an Open Banking pilot study. The work carried out by the Payments NZ organization is similar to PSD2 and is poised to shape the country's financial ecosystem.

HSBC and Goldman Sachs Invest in Bud

The UK-based Open Banking enterprise Bud, which has seen success in recent product tests conducted with banks, has garnered a $20 million investment during the roadshow organized under the leadership of HSBC and Goldman Sachs, which covers banks from different countries, including Australia's ANZ, South Africa's Investec, and Spain's Banco Sadabell. Introduced in 2016 as an account consolidation application, Bud is now open for B2B Open Banking.

A WORLD BEYOND PAYMENTS

PSD2 and Open Banking advances across the world clearly demonstrate the rapid development of this concept. When it debuted, Open Banking was solely used for payments but now its utilities have expanded. In general, Open Banking refers not only to a relationship, but to a reshaped ecosystem. The once-static relationship between banks and their customers has become dynamic. This transformation not only implies the new involvement of a third party, but a new era in which all parties build multiple relationships.

Open Banking can legally and directly compel the players in the banking and financial sector to particular processes, affording fintechs many exciting opportunities. Yet Open Banking also causes other ecosystems, including e-commerce, to converge with the banking and financial sector. With the prospect of long-term transition into Open Banking, it is likely we will encounter different solutions in the future; in fact, we are already seeing signs of this happening.

The relationship between consumer confidence and regulations is addressed in a study prepared by the research and consultancy firm EY titled "Open Banking Opportunity Index." Emphasizing the importance of consumer confidence in the success of Open Banking, the study addresses lingering questions about the sharing of consumer data with third-party institutions. Among the 10 countries involved in the study, only China has high consumer confidence in Open Banking.

Figure 5:

EY Open Banking Opportunity Index 2018

Overview: The Four Pillars

Regulatory Environment

How conducive is the regulatory environment for open banking?

Adoption Potential

What is the potential for consumers to adopt open banking services based on existing behaviors?

Consumer Sentiment

How do consumers feel about open banking, and the data sharing involved?

Innovation Environment

How strong is the environment at fostering innovation, especially among financial services firms?

Overall Global Ranking

1. K

The UK sets the regulatory benchmark but consumer trust is a barrier

1 1 7 3

2. Mainland China

Mainland China holds greatest adoption potential

8 1 1 2

3. Singapore

Consumer adoption potential in Singapore is strong

3 3 3 4

4. US

US out-performs on innovation

9 6 2 1

5. Australia

Positive sentiment helps Australia reach 5th place

4 8 4 6

6. Hong Kong SAR

Hong Kong SAR has high adoption potential but lags APAC neighbors

5 4 6 7

7. Netherlands

Netherlands ranks lowest on sentiment, but uptake of mobile banking indicates potential

6 5 10 8

8. Canada

Canada's adoption potential is lower, but a strong FinTech environment may boost its prospects

10 10 8 5

9. Germany

German consumers may be hesitant to adopt open banking

2 9 9 10

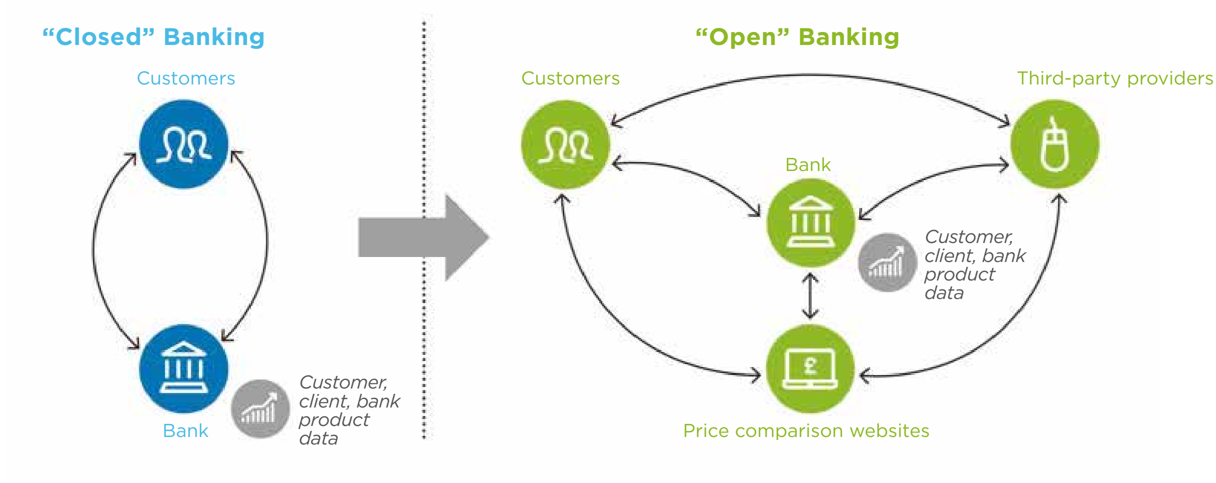
10. Spain

Spain outpaces its European peers on consumer sentiment

6 7 5 9

Figure 6:

The 'Opening up' of Customer Transaction Data



Source: *Deloitte*

OPEN BANKING AND ITS SHORTCOMINGS

The Open Banking regulations in the European Union were prepared without factoring in the technology giants' willingness to move closer to the banking and financial sector. Therefore, some unexpected effects of these regulations have emerged. At the end of 2018, Google obtained e-money institution licensing from the Central Bank of Lithuania and payment institution licensing in Ireland in the first week of January 2019. With these licenses, Google has positioned itself as both a PISP and an AISP. It's just a matter of time before the steps taken by Google, which is part of the so-called GAFA quartet of Google, Apple, Facebook and Amazon, is replicated by other technology giants.

The severe steps taken by GAFA under PSD2 also pose a risk for fintech enterprises. Sensing the threat posed by both GAFA and Chinese competitors, fintech enterprises and companies incorporate a survival strategy that involves cooperation and forming associations.

Banks and regulatory authorities are also worried about the financial and information security risks fintechs could create. However, these problems can be solved during development with the experience and know-how to be gained over time, without allowing such risks to restrain progress.

OPEN BANKING APPLICATIONS AND EFFECTS

The pioneering Open Banking applications consisted of the consolidation of different bank accounts and the presentation of this consolidated information to consumers and companies. However, this was the most basic and simple solution among the Open Banking applications. It could go beyond functioning as a consolidation app that displays the accounts you hold across different banks. Therefore, it would be useful to brainstorm a hypothetical application to determine what it would look like, if it could recognize you through accessed data to issue advice and warnings about your next steps. This application might feature:

- An opportunity guide to advantageous campaigns based on consumer habits.
- A virtual investment consultant that allows you to open a savings account based on your expenditure analysis.
- Direction to the most optimal loan product, matching your preferences of interest rate, monthly payment amount, maturity, etc., given your income and expenses.
- An assurance robot that encourages you to purchase an appropriate life insurance after assessing your debts.
- Simulation tools that list possible future scenarios.
- A guide to organizing your subscriptions.

The main purpose of adopting Open Banking applications under regulations such as PSD2 is to create more innovation and competition. This way, new products will be developed and customers can access more options under more favorable conditions. Open Banking, which started in Europe and reached an important milestone in the United Kingdom, has spread through many parts of the world, from South America to Asia. So, which Open Banking strategies should the banks employ to create more competition and innovation in today's world where every other day technology companies, retailers, telecom operators and internet-based new generation enterprises generate more interest in banking?

"OPEN BANKING HAS ARRIVED, WHETHER YOU LIKE IT OR NOT"[19]

In his personal blog, Chris Skinner, a global fintech leader, supports that 19 what was imagined ten years ago came true today. He says that "Open Banking is no longer just a UK thing, but it's gone global." He further adds that consumer surveys show that 80 percent of people do not want to share their personal financial data with other institutions. However, they are quick to change their minds when presented with the potential advantages.

[19] https://thefinanser.com/2018/10/open-banking-arrived-whether-like-not.html/

The penetration of mobile technologies and the growing trend of young generations with high digital consumption habits increasing their share in the mainstream customer base all confirm Chris Skinner's thesis. On the other hand, studies show that consumers need more time before they are convinced to share their financial data with third parties, even though they continue to use digital platforms and digital banking services. At this point, features that were once seen as threats to the banking and financial sector become opportunities.

Open Banking is a developing concept right now; the developments and the experiences gained in the leading countries are a guide for others who will enter this field. More importantly, Open Banking presents an opportunity for the traditional banking and finance sector during this development and learning process. It can help the sector to build up businesses at low costs and achieve progress with devoted entrepreneurial talents who are more focused on the positive, innovative aspects of Open Banking.

Banks have already begun to integrate e-commerce into their systems. The simplest application is instant loans, which have been integrated into the payment step of these e-commerce sites. Say a fintech was to do this integration for you. Wouldn't your market share and productivity see a rapid increase?

The industry may give different answers to this question. Let us not forget that similar arguments were once raised for the Payment Initiation Service Providers (PISPs) as well. The companies that operate as PISPs today enabled banks to gain a customer base that they had not pursued before. By bearing the potential risks and ensuring security, enterprises such as Klarna and TransferWise have accelerated the virtual POS requisitions where the ordering process may be time consuming. This indirectly led to the creation of a new and secure channel for banks.

API layers developed for Open Banking will help not only enterprises but existing ecosystems too, ensuring their integration with the banking industry. Insurance and retail are just two of these industries. For whom would it be easier to discover the trove of information in their data warehouses: banks using their own means or the collaborative fintechs who are willing and developing unique solutions?

PROSPECTS NOW COME TRUE

Just 10 years ago, Open APIs, blockchain, mobile banking, instant payments and mobile wallets were nothing but mere prospects. Today, all these structures have become essential components of everyday transactions for consumers and corporations. According to the research and consultancy firm EY, the size of the global payments industry, which was just over $1 trillion in 2015, will reach $2.1 trillion in 2023 with the inclusion of innovative players. This growth shows that there is ample room in the market for both current and new players. However, in a world where new players move fast and bear low costs and big tech relies on its strengths, such as huge data and customer base, to enter the banking services business, traditional players must develop themselves and partner with fintechs.

PREPARATION STAGE

The new digital world requires new concepts. Digital leaders will no longer equip their companies with digital products and solutions, but with new leadership qualities such as shared economies, decentralized structures and ecosystem creation. Leveraging their talent, these leaders will first change the concepts and habits before transforming the structure of their companies to meet modern requirements. Here are a few tips for adapting to the world of Open Banking:

- Creating new explorers through new communication networks by mobilizing and organizing different entrepreneurial cultures both inside and outside the organization.
- Develop an agile “fail fast, learn faster” culture.
- Answer the question: “How can we quickly win over the individuals with no access to financial services using Open Banking?”
- Look at all the steps taken from the eyes of the consumer and develop need-based solutions.
- Study and prepare for all possible regulatory scenarios.
- Analyze the risks and opportunities in the light of learning and development culture, and develop a custom long-term strategy tailored to the organization rather than adopting a general strategy.

OPEN BANKING IN TURKEY

Many countries have different forms of practices with respect to Open Banking. In Turkey, banks have begun taking the first steps for Open Banking by launching the APIs of their choice, despite there being no obligation to do so. Fintechs, on the other hand, have held individual meetings with banks to realize the projects of their dreams. They have even launched elaborate products and services, albeit few in number.[20] Beyond cooperation, Open Banking provides any bank with the opportunity to act as a fintech and develop new-generation solutions.

Open Banking is one of the top priorities of FinTech Istanbul's roadmap for 2019. Since banks have been demanding to establish Open Banking standards in Turkey, a working group has been established under the umbrella of FinTech Istanbul. In this section, the interviews conducted to determine the needs, problems and expectations of the parties in this working group are summarized and suggestions pertaining to the related action plan are discussed.

1. An Analysis of the Current Situation

We can evaluate the advantages of Open Banking in three parts:

1.1 For individuals and SMEs:

- Customer experience
- Help improve individuals' financial health
- Access to loans
- Credit advice
- Different advantages offered to SMEs

1.2 For banks:

- Meet current customer needs by offering better products and services
- Increase customer loyalty
- Build closer relationships with fintech enterprises to achieve this

1.3 For fintech companies:

- Provide a better customer experience by integrating banking services into their business models
- Develop new products and services

Here, our evaluation will focus primarily on fintech companies offering new products and services through banks and their APIs.

(20) However, this report does not address the API portals shared through mutual agreements, but the APIs opened to organizations meeting all and/or certain specific standards.

Seven banks in Turkey have currently launched API portals. Additionally, some banks have opted to open API portals through technology companies.

We can group the APIs as follows:

- Information services (Branch/ATM, campaigns, exchange rates, gold, fund and stock prices, etc.)
- Loans
- Deposit
- Credit card
- Money transfer
- Customer
- Donation
- Payments
- Virtual POS

The Needs and Expectations of Banks

The first meeting of the working group was held on March 20, 2019, with the participation of 32 people representing the banks. During this first meeting attended by the Bank representatives, the following opinions were raised:

- It is necessary to determine the national Open Banking strategy and national Open Banking standards.
- In general, Open Banking is owned only by some teams in banks. Since Open Banking has not been fully appreciated by company executives and relevant departments, there are problems in both the design stage of new products and services and the launching of APIs.
- Because Open Banking is still in its infancy, business models are not fully formed. As such, it is difficult to have sufficient resources allocated to this issue, when there is no business model within the bank.
- Publicly available APIs in Turkey are only information APIs. The real problems will arise when transaction APIs are launched. On this subject, banks are particularly concerned about “data security.”
- There is a need to address and clarify the regulatory issues involving the permissions and approvals to be obtained from regulators when banks want to launch the APIs they have developed in cooperation with fintechs.

The Needs and Expectations of Fintechs

In the second meeting, parties using APIs were invited in an effort to identify any difficulties they encountered in this process. Enterprises with whom banks commonly collaborate attended the meeting to discuss and emphasize the following:

- Fintechs say that banks will not be the only parties to open their APIs. They too would be opening their APIs and this should be viewed as a two-way street.
- Due to the lack of clarity in the banks' API strategy, problems arose in finding and addressing the relevant unit.
- Banks should incorporate sufficient resources (e.g. 1,000 people per day) in their annual (master) development plans for annual API development.
- APIs should become a part of project management and product development to soundly determine whether to open APIs and by whom they will be owned.
- Banks should launch API services for "account list," "account activities," "EFT/remittance," "opening demand and time deposit accounts" and "personalized exchange and interest rates," as this would meet 90 percent of the need and ensure the necessary standards are being introduced.
- An audit standard should be established for fintechs that use the banks' APIs.

Findings

We can summarize the findings on the above headings after both parties (which open and use APIs) have expressed their views:

- **Lack of Strategy:** Organizations' lack of API strategies. This is one of the most important issues and is emphasized by both sides.
- **Internal Ownership/Coordination/Governance Problem:** Difficulties relating to the adoption of APIs by senior management and technical units. Banks have problems dealing with the ownership and coordination necessary to create and deliver APIs. And fintechs cannot reach authorized departments in banks about API problems. These are all critical issues that must be solved.
- **Business Model/Cooperation Model:** The lack of a business model and collaboration on API usage. APIs are at the heart of many business models today. It is possible to create platform-based business models through the collaboration of banks and fintechs.
- **Pricing:** It is generally expected that this will be linked to a revenue model for the API issuing party. However, given that Open Banking will enable access to new markets by helping develop new products and services and drive innovation, utility models can be created to focus on mutual gains beyond pricing.
- **User Expectations:** Companies using APIs expect to have an easily accessible contact on the other side. Platforms that are easy to use and equipped with sufficient information create significant advantages.

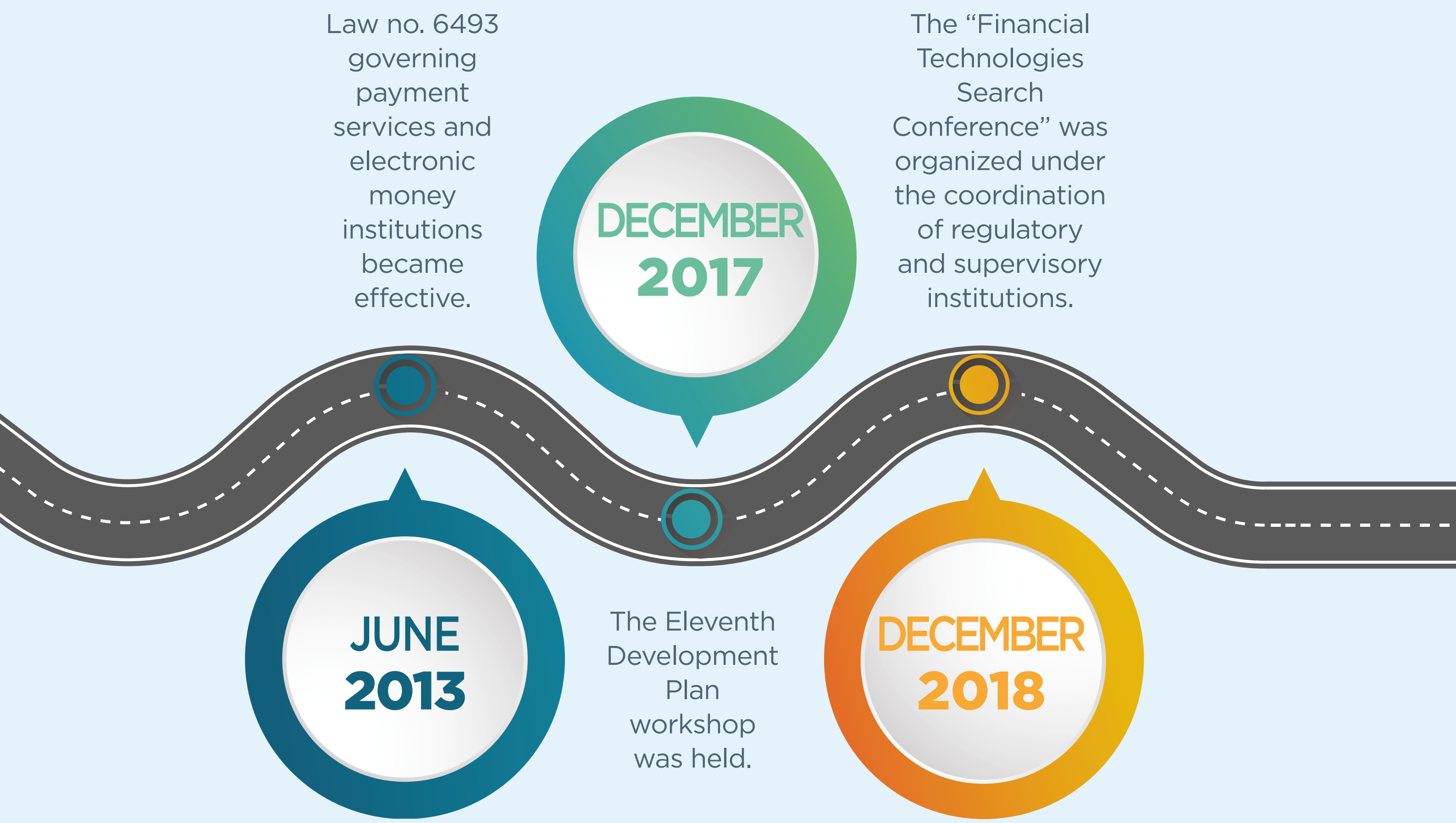
- **Data security:** It is necessary to coordinate the relevant units within the bank in terms of which APIs will be opened in which scope and how data will be protected. Cyber security and personal data protection are top priorities here.
- **Problem of Finding a Trusted Partner:** Hard to find/lack of experienced and reliable API business partners/developers is a major problem for banks. Awarding developers with certificates is important in this regard.
- **Lack of Standards:** Technological incompatibility caused by a lack of standards is an important issue for fintechs. Fintechs consider having to adapt to the unique standards of each bank a waste of their time.
- **Documentation:** Service contract conditions, lack of support material and deficiencies in Software Development Kits (SDKs) create problems for fintechs during the development phase.
- **Legal Barriers:** The support or resistance of legal and compliance units within the organization determines the speed of the process. At the same time, the process of approving new products or services created through APIs by regulators and supervisory agencies must be clarified.

2. Determining Turkey's Open Banking Roadmap

Open Banking has been on Turkey's agenda since 2017. The enactment of the Law on Payment and Securities Settlement Systems, Payment Services and Electronic Money Institutions No. 6493 has legally put the Electronic Money and Payment Institutions on the agenda and established the formation of the fintech concept in Turkey. Open Banking has gained importance, particularly with the introduction of PSD2 within the European Union.

At the workshop held in December 2017 during the preparations for Turkey's Eleventh Development Plan, Open Banking was brought up and entered the government agenda. Following this, Open Banking was evaluated from different perspectives at the "Financial Technologies Search Conference," which was organized by regulatory and supervisory institutions in Ankara in December 2018. Open Banking services were defined in the "Draft Regulation on Information Systems of Banks and Electronic Banking Services" issued by the BRSA in March 2019. Finally, in the Eleventh Development Plan adopted on July 18, 2019, the harmonization of legislation with the EU Payment System Directive 2 (PSD2) has been brought up to strengthen the legal infrastructure of Open Banking (250.5). This chronological information shows that the topic of Open Banking has been on the government's agenda for the last two years. The important thing is the next application stages.

Figure 7:
OPEN BANKING TIMELINE IN TURKEY



MARCH 2019

Open Banking services were defined in the “Draft Regulation on Information Systems of Banks and Electronic Banking Services” issued by the BRSA.

JULY 2019

The Eleventh Development Plan states that the harmonization with PSD2 will be ensured to strengthen the legal infrastructure of Open Banking.

NOVEMBER 2019

Revision of 6493, transfer of all payment systems responsibilities from BRSA to Central Bank. The Law has entered into force as of January 1, 2020.

JANUARY 2020

Payment Systems Department of CBRT reorganized as Payment Systems and Financial Technologies Department.

What can emerge at this stage?

- **Determining A National Strategy:** Determine whether Open Banking should be mandatory and, if so, determine whether it will be done in phases, and who will be the responsible institutions and organizations.
- **Ownership and Governance:** If Open Banking has been included in the government agenda and incorporated into the Development Plan, then a coordination mechanism should be established. Due to its structure and functioning, Open Banking requires the collaboration of many institutions. The coordination of these institutions can pose problems on occasion. Therefore, the authorities and responsibilities of the relevant boards should be clearly defined.
- **Regulation:** Open Banking should become operational with the sub-regulations. Issues such as how to resolve legal disputes, consumer protection and data security must be clarified.

The cooperation of fintechs is essential for the success of Open Banking. The structure and operation of third-party providers who link the customer and the bank under PSD2 has already been determined. What is important here is to decide what kind of a platform should be established with third parties. The 'Platformification' approach (a common term in the literature) is one of the most important examples of this. In this way, banks will be focusing on their core capabilities while collaborating with the fintechs which will create new business models on the banks' APIs. This will help increase the revenue generated from customer satisfaction and save transaction costs. As a result, both banks and fintechs will win, and customers will receive better-quality services under more favorable conditions.

3. Turkey Gets Ready for Open Banking

The Turkish Government has revised Law No. 6493 which helps Turkey to pave the way for the introduction of Open Banking. The Law entered into force as of January 1, 2020. 6493 introduces major changes to the regulation and supervision of payment services and open banking service providers.

In accordance with the Amendment, the Central Bank of the Republic of Turkey (CBRT), in lieu of the Banking Regulatory and Supervisory Authority (the "BRSA"), will supervise and regulate e-money and payment service providers. The CBRT will also supervise third parties providing support services to these institutions.

The Amendment categorizes open banking products of PISPs and AISPs as payment services and includes them in the scope of payment services. Payment service providers are also allowed to provide PISP and AISP services.

CONCLUSION

The positive approach of visionary institutions in the banking and finance sector towards Open Banking points to the weight and importance of the global role they will play in the future. Accordingly, regulatory institutions are changing Open Banking from a voluntary initiative to mandated. Although some practices and regulations seem to be disruptive to the sector, the essential aim is to grow and strengthen the sector. As seen in this study, the United Kingdom and European Union, which took a step in this direction in 2016, continue to rapidly grow the sector today. This process gives great responsibilities to not only banks but also regulatory institutions that have yet to undertake any work in this field. Moreover, these tasks require not only setting the boundaries, but also adapting to the pace of global development.

Turkish regulators closely follow Open Banking, which is swiftly advancing around the world. Turkey is planning to take the necessary steps in line with the lessons learned from global practices. As a preparatory step in this direction, the BRSA has defined "Open Banking" in the "Draft Regulation on Information Systems of Banks and Electronic Banking Services." As they later stated, the BRSA will also determine which APIs will open in the coming period. The "Financial Technologies Search Conference" held in Ankara in December 2018 under the leadership of regulatory and supervisory agencies was an important event where Open Banking was addressed and discussed. Finally, the Eleventh Development Plan, which was announced in July 2019, states that industry sandboxes and regulations would be formed and the legislation would be harmonized with PSD2 to strengthen the legal infrastructure of Open Banking. In light of these successive steps, regulators will examine the best global practices and adopt an Open Banking structure to fit the local market conditions in Turkey in the coming period.

However, Open Banking does not solely develop through regulatory pressures. Our banks are opening up various basic APIs to developers and are conducting API gateway trials. However, because there are no unifying API gates for the standards facilitating integration and Open Banking is not owned in the institutions, the number of services have been limited. In today's world, where companies are fast discovering the potential of APIs, the steps taken to standardize APIs will be a game changer for the future of Open Banking in Turkey.

Because it will help cultivate and nurture a new banking approach, Open Banking will need to be watched closely, and it will be high in Turkey's and the world's agenda in the coming period.

SECTOR REVIEWS

SONER CANKO, PH.D.
Bankalararasi
Kart Merkezi
CEO

With the abundance of products, services and convenience it will provide, Open Banking will radically change the entire banking landscape and the ways in which we do business. We must be prepared for this great change in terms of technological infrastructure and concept formation, and to take the necessary steps in advance. According to research undertaken by Fintech Futures, 84 percent of companies offering financial technologies are investing in Open Banking. While some countries are adapting to this change to comply with regulations, others voluntarily determine their own vision and roadmaps without any regulatory pressure.

It is also important to gain the trust of consumers. Structures must be developed to ensure data is securely shared with third-party institutions.

It is crucial to be well versed about this important issue and to take the right steps. This is a great opportunity for Turkey that will help shape the finance of the future. Financial institutions, regulators and fintechs unite to discuss expectations and needs. This shows that all parties involved are ready to create new business models and business partnerships, and, most importantly, to determine the strategic vision for our country.

In this sense, I am happy to see that banks, the public and other sector players have been taking important steps towards Open Banking, and I hope they will continue to do so in the future.

YİĞİT ÇAĞLAYAN
Mastercard Turkey
and Azerbaijan
General Manager

Collaboration and transparency, rather than competition, are common trends in every sector. As Open Banking rapidly spreads out, it will pave the way for financial institutions and third-party providers to provide better-quality services at lower costs, which will help expand their business. According to March 2019 OBIE data, the growing number of fintechs and third-party service providers, and the use of more effective APIs in the United Kingdom, has caused the use of Open Banking services to increase by 30 percent. This increase is expected to gain momentum when PSD2 adopted by the European Union. In the long run, this cooperation will provide a model that will benefit everybody, generate more agile decisions and create a safer environment.

While this is the case internationally, Turkey, as a pioneering country in realizing the firsts in banking, gets ready for Open Banking and formulate a strategy for this new financial genesis that reflects the future of the sector. In addition to the new necessary regulations in this field, it is evident that specialization in security and payment technologies is also required to open up small-scale financial institutions to the world. At Mastercard, we will continue to advise financial institutions to develop their open banking strategies by providing the necessary expertise and technical support to the sector using the strengths we derive from our half-century of experience and Mastercard Open Banking Solutions™.

MEHMET GÜLEZ
EY Consultancy
Innovation Leader

Do consumers trust Open Banking? What is the secret to success in the widespread adoption of Open Banking? According to the results of the "Open Banking Opportunity Index 2018," which we have developed as EY, Open Banking cannot be successful unless consumers feel secure when sharing data with financial institutions and they understand the benefits of Open Banking. Regardless of the regulatory environment, consumer confidence is low or mild at best in all markets.

In countries with the most stringent regulations, consumers can still opt for the most cautious approach to Open Banking, while those in countries that adopt relatively less restrictive regulations can have a greater motivation for Open Banking. Additionally, cultural norms, which are difficult to change, play a major role in the transition to Open Banking. For this reason, regulators should try to create an environment that safeguards consumers without interfering with innovation.

Innovation can accelerate acceptance. In the end, innovation is the ultimate approach that will win over consumers. First of all, financial institutions should engage their consumers in the Open Banking experience, prove that the pros are greater than the perceived cons, and convince their customers. Innovations by financial institutions in market-oriented countries like Turkey may convince consumers of the value of Open Banking and can help accelerate its adoption in the global markets.

The expansion of Open Banking in Turkey would be possible through legislative support and the development of new initiatives, products and services. The Turkish financial sector and legislators should cooperate and expedite the process while supporting work that will increase awareness. In this regard, we see this work as a major step.

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