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Open Banking: Developments, Opportunities and Challenges

CIBAFI is pleased to present its fourteenth "Briefing" Open Banking: Developments, Opportunities and Challenges. The briefing presents an overview of open banking, its ecosystem, and contemporary trends in the global banking industry. It will focus on the existing open banking frameworks and the related developments in the legal and regulatory sphere. The briefing highlights the main opportunities and emerging challenges in open banking. It also presents a perspective on the integration of open banking in the Islamic banking industry.

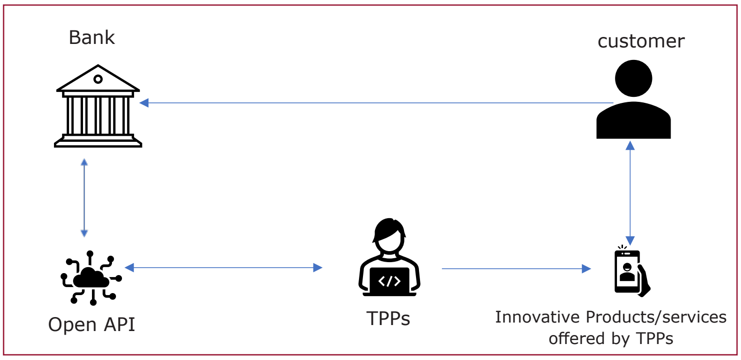
1. Introduction

The global financial system has been disrupted by different factors such as the emergence of the internet, digital transformation, the impact of the financial crisis of 2007/2008, and most recently, financial technologies (FinTech). With their associated opportunities and challenges, all these factors contributed to the development of all the sectors constituting the financial system, including the banking industry. The impressive improvements of technology, the change in customers' behaviors and the rising demand for innovative products and services play a major role in pushing the banking sector to embrace technology. FinTech adoption has become a significant response to achieve financial sustainability in an incredibly competitive market.

The current situation related to the Covid-19 pandemic has also played an important role in accelerating the digitalisation movement within the financial sector.

One of the evolving trends in the banking sector is "Open Banking". It is a new business model, allowing banks to shift from the traditional banking system to an open model where customers' data, after their consent and approval, are shared by the banks with other third-party providers (TPPs). By permitting the bank to share financial and personal data with TPPs, such as FinTech companies, services providers, or other banks, the bank can become more customer-centric, and the customer will be introduced to several possibilities and a new range of innovative financial products and services. The activities carried out by TPPs will generally be regulated, and may be subject to technical scrutiny as well as, for example, data protection requirements.

Figure 1: Open Banking Model



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TPPs can access the data and information that the customers allowed the bank to share via the enabling technology called Application Programming Interfaces (APIs) that allow the interoperability of different systems. An API works as an intermediary between systems allowing the exchange of data and information between the systems.

The banking sector witnessed an increased implementation of API strategies due to their importance and the opportunities that this technology offers. Banks are implementing mainly three types of APIs.

Figure 2: Types of API

Private API

Used for **internal** purposes and to allow the communication between the different systems within a bank to improve its internal processes and procedures.

Partner API

Grants access to connect with the bank's system to **selected partners**. Using this type of APIs, banks can reach out to new channels and collaborate with partners to offer services to their customers through the bank's platform.

Open or Public API

Allows **anyone** to connect with the bank's system (though banks may be allowed to refuse access, for example, if the TPP does not have the appropriate regulatory permission). Open banking relies on this type of API.

By opening their APIs, banks can reach beyond their boundaries and allow smooth integration with FinTech companies.

TPPs can leverage the insights they can identify from analyzing the shared data to develop and provide innovative solutions for the banks' customers. For example, connecting a customer's bank account to an application that analyzes his spending can provide recommendations for new products such as credit card or savings account. A customer can sign up to a platform showing all the accounts that he has with different banks. Applications like these depend on APIs meeting common, publicly available, technical specifications.

Open banking will gradually push banks to adopt a new ecosystem with new players and components. According to KPMG, adopting open banking successfully requires 5 elements[1].

Figure 3: Five Ecosystem Requirements for Successful Open Banking

APIs	These are the mechanisms by which banks interact with others in the digital ecosystem.
Enabling Assets	These will likely include digital identity and access management, consent management and data and analytics.
Use cases	Banks will need to go beyond compliance to develop a set of core objectives for open banking to prioritize use cases.
Killer Apps	Banks will need to offer their customers amazing experiences through their apps.
Partnerships	These could range from simple data sharing agreements to deep strategic service partnerships.

1.https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/05/open-banking-opening-opportunities-for-customer-value.pdf

2. Driving Forces of Adopting Open Banking

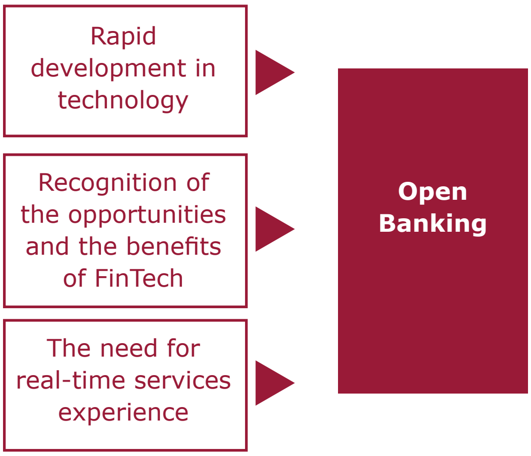
Opening and adopting such an innovative business model by banks is a result of several forces guiding banks to allow the integration of their systems by external parties.

One of the main drivers of adopting APIs, the technology underlying open banking, is the rapid development in technology and its possibilities for the financial system. FinTech allows addressing targeted financial services needs of customers effectively and innovatively, resulting in an improved and satisfying experience. Prominent examples of these are seen in payments and financial management for small and medium enterprises (SMEs) through platforms providing multiple payment options to customers or allowing SMEs to request loans and conduct payments towards suppliers easily.

Recognizing the opportunities and the benefits of FinTech, banks are harnessing innovative solutions, within their core business activities, to attract new customers and retain the existing ones. One of the approaches to realize this is by using APIs to link and combine several solutions already provided by third parties to generate the final solution to customers. Therefore, the banks are replacing purpose-built solutions with an environment that saves resources and provides more possibilities without having expertise in developing software and applications.

The need for real-time services experience is also one of the key drivers for the adoption of open banking. For example, conducting immediate payments worldwide, consulting in real-time the exchange rate from different platforms requires real-time solutions that can be achieved by using publicly available APIs and connecting them up to third parties.

Figure 4: Driving Forces of Adopting Open Banking



However, much of this could be done using partner APIs, without moving to fully open banking where using APIs depend on how shared data is being used. While there can be benefits for banks from open banking, there are also risks, discussed later. As a result, another key driver for open banking is regulation, e.g., the Revised Payment Services Directive (PSD2) in European Union (EU) and the UK's Open Banking Standard, which establish the ground for increased competition by obliging banks to open their systems to third parties. More details on these two leading regulations are included in the next section.

3. Open Banking Across Jurisdictions

Open banking initiatives are emerging in different regions around the world with different development stages and scope.

These initiatives have helped to transform the idea of open banking into reality[2]. In some jurisdictions, the implementation of open banking is driven by regulation, as an example in the European Union (EU) and United Kingdom (UK). Other jurisdictions such as Singapore and the United States follow more market-driven approaches to open banking; these may range from complete non-involvement by government to active encouragement of industry initiatives.

The EU, with the introduction of the revised PSD2, is the leading region in adopting open banking. PSD2 requires banks to provide regulated third parties access to customer-specific data, like payments processing data, and provide third parties with both "read" and "write" access to data and payment initiation, using secure open APIs. PSD2 however does not require a specific standard guiding the use of open APIs and the way data is shared.

The UK's Competition and Markets Authority (CMA), in its open banking initiative brought into the market in January 2018, has taken the PSD2 to a new level by requiring financial institutions to open their data to third parties in a standard format and to extend the type of shared data to include publicly available information on branch and ATM locations, bank products and fees. In early 2020, open banking in the UK surpassed the one million customer mark for the first time, and by mid-2021 had passed 3.5 million.

In the UK's implementation, APIs are used for Account Information Sharing (AIS) and Payment Initiation Services (PIS). AIS gives a regulated and authorised TPP access to a customer's account data to provide some form of useful information back to the customer. Examples here include personal financial management services where the FinTech helps customers understand how they are spending their money in that account – what types of products and services they are buying, and perhaps even helping them budget through the month until their next paycheck. PIS go further than simply having access to that data and using it to provide useful information back to the customer. PIS means that a customer is allowing a FinTech to access their account and make payments directly from their account. Naturally, this requires greater levels of authorisation, but both AIS and PIS can only take place between authorised and regulated actors within the ecosystem.

2.https://www.bis.org/bcbs/publ/d486.pdf

In Australia, open banking started in July 2020 with four big banks required to provide access to specific financial data. Open banking in Australia is part of a legislation, approved by the Australian government in 2017, called the Consumer Data Right (CDR). It is envisaged to become an economy-wide system that will enable the safe and secure transfer of consumer data.

Regulators in other jurisdictions are also leading their financial sectors in the journey to open banking adoption. In 2018, the Hong Kong Monetary Authority issued an Open API Framework with an approach consisting of four phases to help banks' implementation of Open APIs. The approach starts with information sharing on products and services and ends with sharing transactional information and payment initiation services.

Malaysia has been a prominent player in the Southeast Asian financial services sector with the release of Open Banking Guidelines for industry participants (both Islamic and traditional financial institutions) in 2018. In the subsequent year, the Central Bank also released a policy document that outlines recommendations in developing and publishing Open Data API, accompanied by the Open Data API Specifications.

In the MENA region, Bahrain is the pioneering country in terms of introducing open banking initiatives. The process started in 2018 with the issuance of comprehensive rules on Open Banking mandating its adoption by retail banks. In 2020, the Bahrain Open Banking Framework (Bahrain OBF) was launched to ensure the industry's holistic implementation of Open Banking services. This framework includes detailed operational guidelines on security standards, customer experience, technical open API specifications, and the overall governance framework needed to protect customer data. More recently, Saudi Arabia's Central Bank has introduced an open banking policy, intending to go live in the first half of 2022[3].

In Africa, the Central Bank of Nigeria issued a draft regulatory framework for open banking in February 2021. The Central Bank of Kenya has announced its intention to move in a similar direction.

Other initiatives are popping up in different countries following a market-led approach with no formal or compulsory open banking regulation. In some countries, policymakers are introducing various measures to promote data sharing frameworks in the banking sector. For example, the Monetary Authority and the Association of Banks in Singapore have developed a playbook for the use of APIs and are actively encouraging their use, without mandating it. In North America, the United States and Canada, lack open banking regulations and have so far opted for a market-driven approach. However, there is pressure, in Canada at least, for government action.

Diverse approaches to open banking adoption are being followed globally. These approaches have their pros and cons. It is hard to see that a regulatory-driven approach can succeed without substantial industry support, especially given the need for strong technical standards. On the other hand, a purely market-driven approach may mean competing standards, or a significant part of the industry failing to participate, thus reducing the benefits to customers. However, this will depend partly on the structure of the industry, including the strength of industry bodies.

4. Opportunities and Challenges

The growing initiatives supporting open banking's adoption worldwide display a global recognition of the opportunities it provides. Open banking presents various benefits including stimulating competition, driving innovation, and reshaping the banking ecosystem. However, as open banking involves various parties in its process, it is important to recognise that these benefits vary from one party to another.

For TPPs, using the financial data shared by the banks could generate insights that will help identify the needs of businesses and individuals and provide easy access to innovative financial services. These services may include cash flow and payroll services, utilities, insurance, real estate management, and potentially much more, from travel to entertainment. In addition, the data provided by banks is the fuel of TPPs to develop and offer services to customers since the insights generated from analyzing the shared data will allow identification of needs and the ability to offer new products. However, this depends on customers being willing to share their data in this way and being confident that it will be kept secure and not misused.

Open banking brings several opportunities for banks such as improving the services and product offerings by offering a new set of innovative products and services or enhancing existing ones. In addition, these products and services can be distributed widely through the platforms of other partners in the open banking ecosystem.

By partnering with TPPs through open APIs, banks will be able to implement connected strategies to improve the customer experience.

Accessing the innovative services offered by TPPs will be through the financial sector. This will help banks retain their existing customers and attract new ones as the result of increased financial inclusion. They also increase the attractions to customers of operating digitally, allowing banks to take advantage of other benefits of digitalisation, including reducing the costs of maintaining a large branch network.

Some of the benefits of open banking could be more relevant to smaller banks such as offering their customers, in particular SMEs and non-standard retail customers, access to a variety of products in a fast and reliable way. Not having the legacy of a large branch network, thousands of staff, and hard-to-replace technology plays an essential role in facilitating this.

3.https://www.openbankingexpo.com/news/saudi-arabia-to-go-live-with-open-banking-in-2022

For Islamic banks, open banking could present an access point to unbanked tech-savvy communities through partnerships with TPPs and sharing the required data, thus achieving core values of Islamic banking to improve customers' well-being, ensuring greater transparency and economic justice. Also, adopting FinTech and providing innovative products and services require expertise and financial resources that Islamic banks, in particular small banks, may not have. Open banking could overcome these constraints by allowing Islamic banks to collaborate with FinTech companies for the adoption of innovative solutions, resulting in an improvement of processes and customer experience.

Open banking could also reinforce Islamic banks' position in the market and allow them to better compete with conventional banks by providing innovative services that comply with the current behaviors of customers in this digital age

The third, and arguably the most important, interest group is customers. With the plethora of solutions created and envisaged, open banking allows customers to be better served with higher quality services, cheaper alternatives, and faster transactions. The sharing of data reduces the high switching costs that have long existed, allowing customers to have more flexibility in their choice of services and tools for managing their finances. Innovative solutions provided by TPPs, such as personal finance management tools or enhanced credit scoring solutions, also allow a better customer experience and increase financial inclusion by tapping unserved/underserved segments. For example, the use of open banking could help small businesses to overcome some of the challenges in their relationship with their banks; this could be through offering integration with accounting, consulting, and advisory platforms in addition to highlighting opportunities related to insurance for a new property purchase or the right timing for new financing[4].

Figure 5: Opportunities of Open Banking

TPPs

- Access to a well established database of financial data
- Access to new market segment in protected and orgnized manner

Banks

- Improving services and products offerings
- Improving customer experience
- Reducing operational costs
- Serving unbanked tech-savvy communities
- Achieving core values of Islamic banking to improve customers' well-being, ensuring greater transparency and economic justice

Customers

- High quality services and better customer experience
- Cheaper alternatives and faster transactions
- Flexibility in the choice of services and provides tools for managing the finances
- Improved relationship between small businesses and their banks

However, like any other emerging trends, adopting open banking is also subject to overcoming and managing many challenges that could delay or make it difficult for the banking sector to fully benefit from its advantages. One of the strongest challenges that surfaces when the expression "data sharing" appears is the security and the protection of customer data. Banks will need to emphasize data security since all players of the ecosystem will rely on data managed by them. This puts more pressure on banks to ensure the reliability of the data and avoid any declined financial transaction or fraud.

Obtaining the consensus from customers to share their data with TPPs could be challenging, especially that partnering with TPPs is subject to this condition. Giving the green light by the customers to banks to provide TPPs access to customers' data is conditioned with the identification of the benefits that such action could bring to customers and to the level of trust the customers will have in the security system of the bank and its ability to protect the data.

There are other challenges related to operational and cybersecurity issues, since open banking inevitably implies allowing a wider range of parties to connect to the bank's systems through APIs. The risks may include data breaches, misuse, falsification, denial of service attacks, and un-encrypted login.

The implementation of open banking will require an important transformation either in the IT infrastructure or the bank's culture to providing the proper API to TPPs while maintaining the operational standards adopted by the bank, which could be very challenging. Generating revenue from Open APIs by the bank is subject to providing relevant propositions, within short timeframes. If the bank fails in providing a relevant proposition, there will be competitive consequences that could include deterioration of the customer base which will result in cost pressure due to decreased volumes. This may involve internal structural and cultural changes.

There may also be strategic issues. In an open banking environment, especially for customers for whom payments processing is their dominant application, customers may perceive their most important relationship as being with TPPs rather than with the underlying bank. This may weaken the bank's ability to rely on the loyalty of those customers in other contexts. It may result in fundamental changes to customer relationships and a need to reinforce these in new ways.

Moreover, in the Islamic banking sector where most of the banks are considered small (compared to their counterparts), partnerships with TPPs could be very challenging especially when it comes to complying with rules and regulations of open banking imposed for both small and big banks. Islamic banks also need to ensure Shariah-compliance of products and services offered by TPPs to the banks' customers; this may not be trivial given that TPPs may be small, may not have substantial Shariah-governance structures of their own, and that the products and services they are offering may not be entirely transparent to the bank.

4. https://www.ey.com/en_gl/banking-capital-markets/will-open-banking-be-the-key-to-unlocking-financial-gains

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5. Conclusion and Recommendations

Given the opportunities offered by open banking and technological advancement, some banks have started taking steps toward embracing open banking. Others are taking the more dangerous course of waiting to address the issues until they are forced to do so by regulators or by competitive pressure.

Innovation and technology are key factors for the success of open banking; however, adoption is a long-term process that requires a collective effort. A collaborative approach is needed where different market players join hands to ease the process and build a strong foundation, especially a strong technical foundation, that will help to initiate innovative actions and help open banking to flourish. To ensure the growth of Islamic banking by leveraging on the benefits of open banking, the market players of the Islamic banking sector will need to seize the opportunity and join the movement of open banking adoption while it is in its infancy stage.

Therefore, market players are recommended to:

- Adopt a culture based on innovation, collaboration, and partnerships to participate fully in the journey of open banking implementation.
- Educate customers about the benefits of open banking to encourage data sharing.
- Through trade groupings, or in collaboration with regulators, develop clear regulations and guidelines with flexibility in implementation to encourage open banking adoption.
- Improve and develop the technical capabilities and the required infrastructure, including the required cybersecurity infrastructure, gradually to implement open APIs.
- Embed procedures to mitigate the risks associated with sharing customer-permitted data; and the connectivity of various entities involved in the ecosystem.
- Encourage and facilitate the entry of Shariah-compliant FinTech companies into the ecosystem of open banking.

About CIBAFI

CIBAFI is an international non-profit organisation founded in 2001 by the Islamic Development Bank (IDB) and a number of leading Islamic financial institutions. CIBAFI is affiliated with the Organisation of Islamic Cooperation (OIC).

CIBAFI represents the Islamic financial services industry globally, defending and promoting its role, consolidating co-operation among its members, and with other institutions with similar interests and objectives.

With over 130 members from more than 34 jurisdictions from all around the world, CIBAFI is recognised as a key piece in the international architecture of Islamic finance.

Its mission is to support the Islamic financial services industry as the leading industry voice in advocating regulatory, financial and economic policies that are in the broad interest of its members and that foster the development of the Islamic financial services industry and sound industry practice.

CIBAFI is guided by its Strategic Objectives, which are 1) Advocacy of Islamic Finance Values and Related Policies & Regulations; 2) Research and Innovation; and 3) Training and Professional Empowerment.

Contact Information:

General Council for Islamic Banks and Financial Institutions (CIBAFI)
Jeera 3 Tower, Office 51, Building No. 657, Road No. 2811, Block No. 428
Manama, Kingdom of Bahrain. P.O. Box No. 24456

Email: cibafi@cibafi.org
Telephone No.: +973 1735 7300
Fax No.: +973 1732 4902
www.cibafi.org

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We trust that this publication will provide valuable insights to the Islamic bankers around the globe in the adoption of Open Banking thus, contributing to the growth of the financial system.