

**Council of Arab Central Banks and  
Monetary Authorities Governors**

**Guidelines for  
Effective Open Banking/ Finance Adoption**

**Arab Regional Fintech Working Group**

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# Guidelines for Effective Open Banking/ Finance Adoption



**Arab Regional Fintech Working Group**

## Guidelines for Effective Open Banking/ Finance Adoption

**Arab Monetary Fund**

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Banque Al-Maghrib

The opinions expressed in this vision paper are solely those of the authors and do not necessarily reflect those of entities they represent.

<sup>1</sup>Arab countries are listed in their alphabetical order of the League of Arab States.

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## Guidelines for Effective Open Banking/ Finance Adoption

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# Executive Summary

## Guidelines for Effective Open Banking/ Finance Adoption

Open Banking (OB) is evolving into a more comprehensive model known as Open Finance (OF) from smoothing access to payment accounts and related services to a larger variety of financial services, including investments, pensions, insurance, and consumer credit. With this larger perspective, individuals and businesses will have a deeper perception of their financial footprint, which will allow them to make more informed decisions.

Many Arab countries are actively progressing towards OB and OF adoption, fueled by its affinity for technology and drive for innovation. The regional OB market is anticipated to grow by 25% annually over the next five years<sup>2</sup>, supported by factors such as the accelerated digital financial transformation amid COVID-19 pandemic and a youthful, digital-native population. Furthermore, OF is expected to play a crucial role in promoting financial inclusion in the Arab region, with projections indicating nearly double the growth by 2027<sup>3</sup>. To pave the way for OB/OF, Arab countries are developing open infrastructures, facilitating financial institutions' collaboration with Third Party Providers (TPPs), and encouraging data sharing to extend the sector's capacity to innovate.

Central banks, as the primary regulators for financial institutions including fintechs, play a crucial role in putting OB regulations, ensuring data protection, and promoting interoperability between market participants for enhanced consumer benefits and financial system resilience.

The OB regulatory framework coincides with data protection and privacy legislations, which govern the collection, use, and disclosure of personal data by organisations; since OB/OF arrangements give customers the ability to consent to sharing their data with financial institutions and licensed Third Party Providers.

To embrace OB/OF, authorities need to complement current data protection law to safeguard consumers from data risks associated with OB/OF transactions and address the flow of financial data. Alternatively, authorities need to incorporate in the respective OB/OF framework the required aspects to govern customer data sharing, if not sufficiently addressed in the data protection law, and to meet the OB/OF context. This would imply (i) consumer control over data; clear and transparent privacy notice; informed consent; access requirements, data correction, and deletion of data; (ii) responsible use of data: restricting data usage, data transfers, data localization, permissive data usage; and (iii) data security.

An effective OB/OF regulatory framework should take into consideration diverse aspects to provide a sound foundation for the OB ecosystem. These include, but not limited to, a definition of OB, the scope of data to be shared, types of participants in the OB ecosystem, data access and sharing requirements, consent mechanism and informed consent, identifying the regulated Third Party Providers (TPPs), access to TPPs, licensing of diverse services providers, operational and technical requirements, strong consumer authentication (SCA), consumer safeguards, governance scheme for the implementation of the OB/OF framework and Application Programming Interfaces (APIs), standardization of APIs, standardization of contractual terms on partnerships with non-regulated entities, as well as data security.

Authorities can leverage the potential of OB and APIs to deploy several use cases, including account aggregation, credit scoring services, digital identity verification, remote customer onboarding, digital lending, personal financial management, account-to-account payments for large purchases, as well as Buy Now Pay Later (BNPL) arrangements.

<sup>2</sup> Fintech Galaxy. 2022. MENA Report: From Open Banking to Open Finance.

<sup>3</sup> Ibid 2.

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## Guidelines for Effective Open Banking/ Finance Adoption

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In the meantime, policy makers can foster OB adoption by targeted awareness campaigns and educational programs, sharing use cases and knowledge gained, as well as competitions on the use of open APIs in the industry.

This note draws some lessons learned from global experiences, stressing that most OB regulations have been released after consultation and deep dialogue with stakeholders. Leading jurisdictions share key elements in their OB framework, such as a sole standard proposed by a centralized governance scheme, technical standards integrated into the regulatory framework, and data reciprocity.

The note provides a step-by-step guide, along with the concerned stakeholders, aiming to support Arab central banks in implementing OB/OF. The respective OB/OF framework should be tailored according to each country's specific conditions, levels of readiness and progress.

At the end, Open Banking is not a one-time project, but rather an ongoing process that requires continuous effort, improvement, and adaptation. It's crucial to remain flexible and responsive to changes in the market, technology, and regulatory environment.

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## Abbreviations

AIS	Account Information Services
AML/CFT	Anti-Money Laundering / Countering the Financing of Terrorism
APIs	Application Programming Interfaces
ASPSPs	Account Servicing Payment Service Providers
AWS	Amazon Web Services
BNPL	Buy Now Pay Later
eIDAS	Electronic IDentification, Authentication and Trust Services
FIDA	The European Union's Financial Data Access Legislation
FISPs	Financial Information Service Providers under the FIDA
GDPR	General Data Protection Regulation
ID	Identity
MoU	Memorandum of Understanding
OB	Open Banking
OBIE	Open Banking Implementation Entity
OF	Open Finance
PFM	Personal Financial Management
PIS	Payment Initiation Services
PISP	Payment Initiation Service Provider/s
PSP	Payment Service Provider/s
PSD2	The European Union's Payment Services Directive 2 (the Revised Payment Services Directive).
PSD3	The European Union's third Payment Services Directive (the Revised Payment Services Directive 3)
PSR	The European Union's Payment Services Regulation (established with PSD3)
ROSCA	Rotating Savings and Credit Associations
SCA	Strong Consumer Authentication
SMEs	Small and Medium Enterprises
TPPs	Third Party Provider/s
VC	Venture Capital



# Introduction

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## Guidelines for Effective Open Banking/ Finance Adoption

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Open Banking (OB) and Open Finance (OF) enable a vast range of customized services for retail and SMEs based on their consent to share their financial data with regulated entities and third-party service providers (TPPs), using secure Application Programming Interfaces (APIs). In other words, it is a customer centric approach based on a customer-permissioned data sharing regime that should be safe and sound to mitigate risks associated with opening up access to customer data.

The “Guidelines for Effective Open Banking/Finance Adoption” provide a comprehensive analysis of the OB/OF landscape in the Arab region and globally, to equip decision-makers with valuable insights, success stories, and necessary recommendations to navigate the evolving financial ecosystem and unlock the potential benefits of OB/OF.

The guidelines deep dive into global regulatory frameworks surrounding OB/OF, best practices from leading jurisdictions, requirements and prerequisites for adoption, challenges in deployment, lessons learned from global adoption, and the way forward for a successful implementation.

The document begins by examining the landscape of OB/OF in the Arab region, highlighting key developments that support its growth. It provides an overview of OB in several Arab countries, including Jordan, UAE, Bahrain, Saudi Arabia, Iraq, Oman, Kuwait, Egypt, and Morocco; with the objective of shedding light on the initiatives, regulatory frameworks, and advancements in each country, offering a comprehensive understanding of the regional landscape.

Moving on, the report delves into the current global regulatory frameworks surrounding OB/OF, exploring the regulatory landscape and its implications for the Arab region. It also explores the transition from OB to OF, emphasizing the broader scope and potential benefits of Open Finance for financial ecosystems.

The document then presents best practices from around the globe, showcasing diverse success stories. These examples highlight effective strategies and outcomes that can serve as valuable insights for Arab countries in their OB/OF journey. It also sheds light on the recently proposed EU’s digital payment and electronic money services package, which involves (i) the third Payment Services Directive (PSD3), (ii) the Payment Services Regulation (PSR), and the (iii) Financial Data Access regulations (FIDA).

Next, the report focuses on the requirements and considerations for adopting OB/OF. It examines the necessary steps and prerequisites for implementing OB/OF initiatives successfully along with the responsible parties.

Furthermore, the document addresses the challenges and issues that arise during the deployment of OB/OF. It identifies common challenges faced globally and provides an in-depth perspective on the Arab countries' challenges specific to OB/OF adoption. Case studies and experiences from countries like Jordan, UAE, Bahrain, Saudi Arabia, Oman, Palestine, Kuwait, Lebanon, Egypt, and Morocco offer valuable insights into the obstacles faced and potential solutions.

Drawing from global adoption experiences, the report highlights effective use cases for OB and provides a case study on the Emirates Digital Wallet in the UAE. It also clarifies common limitations and misconceptions associated with OB, helping stakeholders navigate potential pitfalls.

Finally, the document concludes with step-by-step recommendations for implementing OB/OF. These recommendations serve as a practical guide, outlining the key considerations and actions needed to establish successful OB/OF frameworks.

## Landscape of Open Banking/Finance in the Arab Region

The Arab Countries are actively progressing towards Open Banking (OB) and Open Finance (OF) adoption, fueled by its affinity for technology and drive for innovation. Factors such as the COVID-19 pandemic and a youthful, digital-native population have contributed to the anticipated growth of the regional OB market by 25% annually over the next five years<sup>4</sup>. Furthermore, OF is expected to play a crucial role in promoting financial inclusion in the Arab countries, with projections indicating nearly double the growth by 2027<sup>5</sup>.

### Key developments supporting OB in the Arab Region

#### 1. Regulatory Landscape:

- Progressive regulations, such as the Central Bank of Bahrain's (CBB) Open Banking Framework, the first in the region, and the Saudi Arabia's Central Bank (SAMA) that has issued Open Banking guidelines, setting a clear roadmap for implementation.
- United Arab Emirates (UAE) Regulatory Laboratory (RegLab) is paving the way for widespread OB and OF adoption.
- Central Bank of Jordan (CBJ) issued its regulation of Open Finance Services Operations Procedures to govern service arrangements between banks and regulated third party providers under contractual agreements.
- Other central banks in the region, such as Oman, Kuwait, Egypt, Morocco, and Tunisia, are closely monitoring global trends and formulating regulations to facilitate a secure and controlled environment for OB/OF.

#### 2. Technological Advancements:

- Arab countries are witnessing rapid digitalization and the growth of Fintech industry, which are essential components of the OB/OF ecosystem.
- Investments in digital infrastructure, including cloud computing, digital and instant payments, artificial intelligence, and APIs that already exist in many Arab Countries, even if their use is not regulated yet, are bolstering the capabilities of financial institutions to support Open Banking and Open Finance initiatives.

#### 3. Market Players and Collaboration:

- Traditional banks, non-banking financial institutions, and Fintech firms are increasingly collaborating to create innovative solutions that leverage Open Banking and Open Finance principles.
- Regional Open Banking market size is estimated between \$0.35-0.42 billion in 2022, forecasted to reach \$1.17 billion by 2027 with a 25% average CAGR<sup>6</sup>.

<sup>4</sup> Fintech Galaxy. 2022. MENA Report: From Open Banking to Open Finance.

<sup>5</sup> Ibid 4

<sup>6</sup> Ibid 4

## Guidelines for Effective Open Banking/ Finance Adoption

- Regional Open Finance market size is estimated between \$1.65-2.01 billion in 2022, forecasted to reach \$11.74 billion by 2027 with a 45% average CAGR.<sup>7</sup>

- **Notable partnerships** include the collaboration between Abu Dhabi Global Market (ADGM) and the Central Bank of Bahrain (CBB) to promote Fintech innovation across the region. Also, Dubai International Financial Centre (DIFC) and Abu Dhabi Global Market (ADGM) signed a Fintech cooperation agreement in 2018 to support the development of Fintech and create a regulatory framework for Fintech firms. The Central Bank of the UAE (CBUAE) signed a memorandum of understanding (MoU) with the Dubai Future Foundation (DFF) in 2020 to collaborate on Fintech projects and initiatives.

In 2019, the Saudi Central Bank (SAMA) signed an MoU with the Dubai Financial Services Authority (DFSA) to facilitate the exchange of information and support the development of Fintech in both countries.

The Bahrain Economic Development Board (EDB) signed an MoU with Singapore's Infocomm Media Development Authority (IMDA) in 2018 to promote Fintech collaboration and explore new opportunities for collaboration between the two countries.

The Qatar Financial Centre (QFC) signed an MoU with the China Banking Association (CBA) in 2021 to enhance cooperation and facilitate financial services and innovation between the two countries.

### 4. Customer Adoption:

- While the adoption of OB and OF services is still in its early stages in Arab countries, growing awareness and demand for digital financial services are expected to accelerate the uptake of these innovations.

- Banks in the region and Fintech firms are investing in customer education and awareness programs to drive the adoption of OB and OF services.

### 5. Challenges and Opportunities:

- There are some challenges coupled with the implementation of OB/OE, including cyber resilience, data privacy, and the need for interoperable systems.

- Despite these challenges, the Arab region offers significant opportunities for growth, driven by a young and tech-savvy population, increasing smartphone penetration, and government support for digitalization.

<sup>7</sup>Ibid 4



# Arab Countries Overview<sup>8</sup>

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<sup>8</sup>Arab countries are listed in their alphabetical order of the League of Arab States.



# Jordan Overview

- Jordan has a strong regulatory environment and is working on numerous initiatives to digitalise the banking sector.
- The Jordanian financial sector is poised for a major transformation. Promoting the digital transformation and the digital economy, positioning Jordan to become a leading regional hub and investment destination for fintech, as well as promoting transforming into a digital cashless society using digital financial services are part of the general directions of the Jordan Economic Modernisation Vision (2033) and its executive program (2023-2025).
- The central bank of Jordan (CBJ) launched its vision for financial technology and innovation in August 2023. This vision aims to chart a roadmap for guiding the financial sector and technology partners towards harnessing advanced technologies, enhancing the ecosystem for startups, and ensuring the provision of innovative financial services that cater to the evolving needs of the Jordanian society and driving sustainable development.
- Jordan has a robust technological infrastructure, like the country's instant payment system.
- Jordan is focusing on addressing financial literacy, raising awareness, and increasing trust in financial institutions.
- CBJ issued instructions governing Open Finance services that apply to banks and electronic payment and transfer of funds companies in the Kingdom, covering Account Information Service (AIS) and Payment Initiation Service (PIS).
- Banks/payment companies are required to grant Third-Party Providers (TPPs) access to customer data via APIs.
- Jordan's Open Finance regulation aligns with other Arab countries' developments, with its regulation of Open Finance Services Operations Procedures being based on the UK Open Banking Standard with consideration of local laws and provisions. The associations between third-party providers and banks are governed by comprehensive and precise written contracts. These agreements explicitly outline the roles, duties, rights, and obligations of both entities. They also encapsulate confidentiality, privacy, and safeguarding of information, with strict non-disclosure terms. Additionally, these contracts specify the conditions under which the agreement between the parties may be terminated.



- The Central Bank of the UAE (CBUAE) introduced the Financial Infrastructure Transformation (FIT) Programme, aiming to accelerate digital transformation in financial services through nine key initiatives. The first stage includes launching a domestic card scheme, a Central Bank Digital Currency (CBDC), and an instant payment platform. The program is expected to be fully integrated by 2026, enhancing financial inclusion, innovation, security, and efficiency.
- Intense competition and awareness among local and international banking and financial sector players, with over 88% of UAE banks eager to participate in OB.<sup>9</sup>
- The UAE is serving as a regional hub for Fintech startups in terms of number, market value, and VC investment attractiveness.
- Leading the region in digitalization and financial inclusion, with 84.6% of adults banked and 48.5% using online banking.<sup>10</sup>

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<sup>9</sup> <https://www.wamda.com/2021/06/evolving-landscape-state-open-banking-regulations-mena>

<sup>10</sup> Findex. 2022. The Global Findex Database 2021, The World Bank.  
<https://www.worldbank.org/en/publication/globalfindex/Data>



# Bahrain Overview



- Bahrain has led Arab countries in introducing OB policies, launching the Bahrain Open Banking Framework (OBF) in 2020.
- Bahrain has established a supportive environment for OB and OF, with a focus on innovation, a strong regulatory framework, and a well-educated, talented workforce.
- The Central Bank of Bahrain (CBB) is proactive in embracing innovation, having established the region's first onshore Fintech regulatory sandbox and a major Fintech hub, contributing to the growth of OB and OF.
- The country is committed to continuously developing and refining digital-friendly regulations to attract fast-growing Fintech companies and support the growth of the OB and OF ecosystem.



- KSA has the biggest market in the GCC in terms of banked population and digital payment transactions volume and is one of the regional leaders in OB and OF.
- Having initially followed a market-driven approach, the Saudi Central Bank (SAMA) launched recently the KSA's OB Regulatory Program based on two key pillars, the (i) Open Banking Framework, and (ii) the Open Banking Lab. The OB Lab aims to foster innovation and accelerate open banking services development for retail and corporates. The lab provides a technical testing environment for banks and fintechs to develop and certify their OB services. This initiative is part of the Fintech Strategy under Saudi Vision 2030, which seeks to make the Kingdom a global Fintech hub.
- The OB Framework includes regulatory guidelines and technical standards, focusing firstly on Account Information Services (AIS) and later Payment Initiation Services (PIS).
- The market is primed for rapid adoption and implementation of OB policies, resulting in swift early growth during the forecast period.

# Iraq Overview

- Iraq's internet and mobile penetration laid the foundation for a digital economy.
- Central Bank of Iraq (CBI) introduced electronic payment service regulations.
- Mobile and electronic payment services are steadily increasing.
- The national switch platform in CBI integrates all parties for transactions.
- CBI supports Fintech for financial inclusion and expanded banking services.
- Iraq vision for the Fintech ecosystem includes digital ID, e-KYC, data warehouse, sandbox, innovation hub, CBDC, cyber threat intelligence, and open banking framework.
- The country is witnessing growth in mobile money and eWallets usage.
- Some challenges may persist, such as the domination of state-owned banks on deposits, and the SMEs' access to banking services.





- Oman's digital payments market is predicted to see the second-fastest regional growth, reflecting progress towards a cashless society.
- The ongoing digital revolution in Oman is driving traditional banks to embrace new technologies to remain competitive, increase market share, and target new customer segments.
- Central Bank of Oman (CBO) Fintech primary objective is to establish a comprehensive and nurturing Fintech ecosystem in Oman that will support and promote Fintech Startups, SMEs, banks, and technology firms to develop innovative solutions which will eventually contribute to the country's economic growth, job creation and attract venture capital investment to the country. CBO has taken certain strategic steps and decision to support Fintech space by establishing the National Digital On-boarding platform with the Oman Credit and Financial Center (Mala'a), releasing the Cloud Computing Policy and Ancillary Payment Service Activities, and is currently working on Open Banking API Framework and the Assessment of the need to establish a Central Bank Digital Currency.
- These efforts are aligned with Oman's 2040 vision<sup>11</sup>, focusing on economic diversification and supporting SMEs and entrepreneurship. The country's primary achievements include nurturing local talent, fostering collaboration between academia and the Fintech sector, and attracting investments to boost the sector. These accomplishments have laid a solid foundation for OB and OF in Oman, positioning the country for continued success in the years to come.
- The Oman Fintech Ecosystem's strategy<sup>12</sup> is built upon four beams and seven interconnected pillars, which focus on Policies, Infrastructure, Talent, and Demand. These pillars are: adoption of dynamic laws and regulations, development and engagement of national innovative talents and skills, support of collaboration between education & academia and the Fintech sector, as well as attraction of considerable and sustainable investments to the sector.

<sup>11</sup> [https://www.mof.gov.om/pdf/Vision\\_Documents\\_En.pdf](https://www.mof.gov.om/pdf/Vision_Documents_En.pdf)

<sup>12</sup> <https://www.omanobserver.om/article/9203/Business/major-strategy-to-fuel-growth-of-fintech-industry-in-oman>



- Kuwait's Vision 2035 aims to diversify the economy and reduce oil dependency while embracing digital transformation and Fintech growth.
- The Central Bank of Kuwait (CBK) has been proactive in promoting sound regulation and supporting the local banking sector in its digitalization efforts. New policies and regulations aim to boost innovation in the digital banking sector and pave the way for OB and OF adoption.
- CBK approved the testing of an OB product within the Regulatory Sandbox, established in 2018, aiming to support Fintech and innovative business models in financial services.<sup>13</sup>
- Kuwaiti banks have been developing targeted services for wealth and asset management, taking into consideration local market specificities and cultural aspects.

<sup>13</sup><https://www.cbk.gov.kw/en/cbk-news/announcements-and-press-releases/press-releases/2022/08/202208250858-cbk-to-test-a-first-of-its-kind-product-for-open-banking-within-the-regulatory>





- Egypt is actively discussing OB implementation, with recent regulatory initiatives expected to boost the digital banking sector and pave the way for full OB adoption.
- Central Bank of Egypt (CBE) launched National Instant Payment Network (NIP) and InstaPay mobile application in March 2022. InstaPay is the first payment service provider mobile application licensed by the CBE via the NIP. It allows instant, seamless electronic fund transfers at any time. Also, it has been developed by Egyptian Banks Company with guidance from CBE.
- CBE reports EGP 112.7 billion in InstaPay transactions over one year, from March 2022 to March 2023, with 2.16 million registered users having conducted 20.3 million transactions.<sup>14</sup>
- CBE's Regulatory Sandbox offers a live testing environment for Fintech innovators, paving way for faster, easier access to new financial solutions and embedding compliance within Fintech ecosystem at an early stage. Fintech startups and financial institutions can test applications under CBE guidance and supervision.
- Egypt is one of the most attractive Fintech destinations and largest markets in the region in terms of population and digital payment transaction volume, showcasing significant growth potential in the coming years.

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<sup>14</sup> Ahramonline. 2023. <https://english.ahram.org.eg/News/492470.aspx>

# Morocco Overview



- Since 2017, Morocco has realized double-digit increase in account ownership, making it one of four nations globally to accomplish this achievement. According to the World Bank Global Findex (2021), 44% of adults in Morocco have access to the formal financial sector, up from 29% in 2017. This growing trend has been influenced by the nation's ongoing reforms that would enhance the enabling environment for financial inclusion.
- Moroccan authorities have taken efforts to support digital transformation at large and digital payments in specific as an entry point to formal financial services and financial inclusion.
- The Fintech industry in Morocco is expanding quickly, having a promising landscape, given the young population, high literacy rates, and the country's sound banking sector.
- In an advancement to promote innovation in the financial sector, the Moroccan Capital Market Authority (AMMC) launched a dedicated Fintech portal on its website in August 2022. The portal aims to facilitate exchanges between the AMMC and market players involved in Fintech sector.<sup>15</sup>
- Bank Al-Maghrib is paying great attention to unlock Open Finance opportunities for banks and financial sector, telcos, and fintechs sharing data and APIs, over the medium-term.<sup>16</sup>

<sup>15</sup> AMMC. 2022. The AMMC launches its Fintech portal. <https://www.ammc.ma/fr/fintech>

<sup>16</sup> UNSGSA. 2023. Morocco has Opportunity to Harness Digital Payments, Fintech, and Green Finance to Expand Financial Inclusion, April 2023.



# Current Global Regulatory Frameworks

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## Guidelines for Effective Open Banking/ Finance Adoption

Open Banking refers to a financial services framework that promotes secure access to and sharing of banking and financial data through standardized Application Programming Interfaces (APIs). This enables collaboration between regulated financial institutions, Fintech companies, and other Third-Party Providers (TPPs), fostering competition, innovation, and efficiency in the banking sector. Central banks, as the primary regulators and overseers of monetary policy and financial stability, play a crucial role in developing and implementing OB regulations, ensuring data protection, and promoting interoperability between market participants for enhanced consumer benefits and financial system resilience.

OB arrangements imply the emergence of new service providers and third-party service providers, such as (i) Account Information Service Providers (AISP), (ii) Payment Initiation Service Providers (PISP), and (iii) aggregation services by new intermediaries.

### Market-driven vs regulatory-driven regulatory framework

Open Banking regulatory frameworks can be either market-driven or regulatory-driven. A market-driven approach refers to a framework that is primarily driven by market forces and competition, while a regulatory-driven approach involves the imposition of legal and regulatory obligations on financial institutions to participate in OB.

- **Market-driven Open Banking frameworks** have been adopted in countries like the UK and the UAE. The UK's Open Banking regime was launched in 2018 as part of the country's Smart Data initiative, which aimed to improve customer access to their financial data. The UK's approach was market-driven, with banks and third-party providers voluntarily agreeing to participate in OB. Similarly, in the UAE, OB was introduced as part of the Central Bank of the UAE's strategy to promote innovation and competition in the financial sector. The country's approach is also market-driven, with banks and TPPs encouraged to participate in OB through the creation of a supportive regulatory environment.

- **Regulatory-driven Open Banking frameworks** have been adopted in countries like Bahrain and China. Bahrain's Open Banking Regulatory Framework was launched in 2019 as part of the country's efforts to position itself as a regional Fintech hub. The framework requires all retail banks to adopt OB by providing access to customer data to TPPs through a common API. In China, OB was introduced as part of the country's push for financial reform and innovation. The country's approach is regulatory-driven, with banks and TPPs required to comply with strict data privacy and security regulations.

### Pros and Cons

- Market-driven OB frameworks have the advantage of being flexible and adaptable to changing market conditions. They can also encourage innovation and competition among financial institutions and TPPs. However, a market-driven approach can also result in a fragmented market with inconsistent standards and practices.

- Regulatory-driven OB frameworks have the advantage of creating a level playing field for all financial institutions and TPPs. They can also ensure a high degree of consumer protection and data privacy. However, a regulatory-driven approach can also stifle innovation and competition if the regulations are too prescriptive or burdensome.

The choice between a market-driven or regulatory-driven OB framework will depend on the specific needs and characteristics of each country's financial sector. A market-driven approach may be more suitable for countries with a highly competitive financial market, while a regulatory-driven approach may be more appropriate for countries with a less developed financial sector or weak consumer protection laws.

### Moving from Open Banking to Open Finance

Open Banking is transitioning towards a more comprehensive model known as Open Finance. While OB primarily focuses on facilitating access to payment accounts and related services, Open Finance extends this approach to a wider range of financial products and services, such as investments, pensions, insurance, and consumer credit. This broader scope aims to provide consumers and businesses with a holistic view of their financial well-being and enable them to make more informed decisions based on a complete understanding of their financial footprint.

The future of Open Finance holds significant potential for both consumers and the financial services industry. As technology continues to advance, we can expect further integration and collaboration between financial service providers, Fintech firms, and other stakeholders. This integration will likely result in the development of more innovative, customized, and user-friendly financial solutions. The evolution of Open Finance is set to reshape the financial landscape, fostering an environment of increased transparency, competition, and efficiency that ultimately benefits end-users and contributes to the overall stability of the financial system. Additionally, regulatory bodies and central banks will need to adapt their policies and frameworks to ensure that the expansion into Open Finance maintains robust consumer protection, data privacy, and security standards.

The Open Finance market presents a massive growth opportunity to drive new revenue streams and enable greater financial inclusion in the region. Arab countries are developing open infrastructures, facilitating financial institutions' collaboration with TPPs, and encouraging data sharing to extend the sector's capacity to innovate.

### The Relation with Customer Data

The OB regulatory framework coincides with the data protection and privacy legislation, which governs the collection, use, and disclosure of personal data by organisations. While OB/OF arrangements require financial institutions to share user data upon their consent, then, going beyond the scope of personal data protected by data protection law.

To embrace OB/OF, authorities need to complement the current data protection law to safeguard consumers from data risks associated with open OB/OF transactions and address the flow of financial data. So as to incorporate in the respective OB/OF framework the required aspects to govern customer data sharing, if not sufficiently addressed in the data protection law, and to meet the OB/OF context. This would imply (i) consumer control over data: clear and transparent privacy notice, informed consent, access requirements, data correction, and deletion of data; (ii) responsible use of data: restricting data usage, data transfers, data localization, permissive data usage; and (iii) data security.

### Leading practices from around the globe

Around the world, several countries have implemented open banking and open finance policies and frameworks to facilitate data sharing and promote innovation in the financial sector.

**1. In the United Kingdom**, comprehensive open finance policies and frameworks have been implemented as part of the Smart Data initiative, along with top-notch regulatory sandbox testing mechanisms. Amended Electronic Money, Payment Services, and Payment Systems regulations have also been introduced to strengthen data-sharing directives post-EU exit.

**2. Brazil** has established open banking policies that allow neobanks, fintechs, and foreign players to grow in the country. Open finance has been introduced in four phases, currently in the final stage that allows customers to provide consent to data sharing with third-party providers.

**3. Poland, Germany, Lithuania, and Nordic countries** have also implemented open finance frameworks for localized growth. For instance, Project 27 will establish a single pan-Nordic payments platform, while the European Payment Council's SEPA Instant Credit Transfer creates a request-to-pay service, API open gateway, and API-focused architecture for e-invoicing, supply chain finance, and trade finance.

**4. South Korea's** MyData initiative outlines standard data-sharing mechanisms, including regulator-defined use cases in accounts, payments, and lending.

**5. Australia** has detailed Consumer Data Rights policies, which is a regulatory framework designed to give consumers greater control over their data, promoting competition, innovation, and consumer choice in various sectors. The implementation of CDR is carried out in a phased approach, starting with the banking sector, also known as Open Banking: **Phase 1** (July 2020): This phase covered the four major Australian banks (ANZ, Commonwealth Bank, NAB, and Westpac) and focused on sharing consumer data related to credit and debit cards, deposit accounts, and transaction accounts. **Phase 2** (November 2020): The second phase expanded the CDR regime to include sharing consumer data related to home loans and personal loans, still limited to the four major banks. **Phase 3** (February 2021): This phase saw the rollout of CDR to all other banks, credit unions, and building societies, starting with sharing consumer data related to credit and debit cards, deposit accounts, and transaction accounts. **Phase 4** (July 2021): In this phase, all remaining banks, credit unions, and building societies were required to share consumer data related to home loans and personal loans.<sup>17</sup> It's important to note that the Australian CDR regime is not limited to the banking sector. The phased rollout approach intends to extend the CDR framework to other sectors, such as energy and telecommunications, further empowering consumers and promoting competition across various industries.

**6. Singapore's** open finance policy framework is led by market growth. The country's regulatory body - the Monetary Authority of Singapore (MAS) provides prescriptive frameworks for thriving ecosystems, and the top three banks are capitalizing on the open banking policy to introduce new business models for growth.

**7. In India**, the implementation of the Aadhar national ID database, which makes authentication easier, and the Reserve Bank of India's Innovation Hub which actively promotes open banking initiatives have put the country at the forefront of the open banking ecosystem. India has become a benchmark for open banking deployment due to active government and private sector support and the API preparedness of banks.

**8. In Japan**, the Banking Act sets out thorough open banking policies, and the country is modernizing the API architecture by developing a common API gateway.

<sup>17</sup> <https://www.cdr.gov.au/rollout#goto-timeline>.

### Success story: Singapore Financial Data Exchange (SGFinDex)

The Monetary Authority of Singapore (MAS) has been a key proponent of open finance in Southeast Asia, leading the charge for digital transformation in the region's financial sector.

In 2020, MAS announced the development of an open finance API framework, which aims to provide consumers with greater control over their financial data, and enable third-party providers to offer new innovative financial services.

Under this framework, financial institutions are required to provide open APIs for account information and payment initiation services to licensed TPPs. MAS has also set out security and data governance standards for the APIs to ensure that customer data is protected.

One of the first initiatives launched under this framework is the Singapore Financial Data Exchange (SGFinDex), a public digital infrastructure jointly developed by MAS and the Smart Nation and Digital Government Group. SGFinDex allows individuals to access their financial information across different financial institutions and government agencies using their national digital identity.

This initiative aims to enable individuals to consolidate financial information in a comprehensive manner and use the available tools to make better financial decisions. Banks in Singapore have also joined SGFinDex, and are offering financial planning services to their customers, providing apps that cover money management, investments, and identifying protection needs, retirement planning and more.

The SGFinDex initiative has been successful in promoting open finance in Singapore and is an example of how open finance can be used to enhance financial inclusion, improve financial literacy, and create a more competitive financial sector.

Overall, Singapore's open finance initiatives are positioning the country as a leading hub for Fintech innovation in the region and providing a blueprint for other countries looking to embrace the benefits of open finance.

### Regulatory Framework Building Blocks

An effective OB/OF regulatory framework should take into consideration diverse aspects to provide a sound foundation for the ecosystem and for supervision purposes as well. This would imply integrating into the regulatory framework some building blocks, such as a definition of OB, the scope of data to be shared, types of participants in the OB ecosystem, data access and sharing requirements, consent mechanism and informed consent, identifying the regulated third party providers (TPPs), access to TPPs, licensing of diverse services providers, operational and technical requirements, strong consumer authentication (SCA), consumer safeguards, governance scheme for the implementation of the OB framework and Application Programming Interfaces (APIs), standardization of APIs, standardization of contractual terms on partnerships with non-regulated entities, as well as data security.

**Standardization** is crucial to ensure the proper functioning of the OB ecosystem given that OB is centered around a data-sharing infrastructure.

**Security** is crucial for a sound data-sharing process in order to mitigate security and data breaching risks using APIs. This should be ensured by all parties: the data provider (the financial institution), the data recipient (the third-party provider), and entities that provide outsourcing services.

Adding to the above, it is essential to have a **cyber-resilience framework** for financial institutions to enable robust cybersecurity systems and combat cyber threats. Sound operational and cyber security arrangements are needed to ensure proper data transfer without hindering the access of new actors.

Similarly, OB leading jurisdictions focused on defining standardized API frameworks, creating governance bodies and rules, enhancing security, developing infrastructure, and establishing authentication methods.

### Key Global Regulatory Frameworks

**The European Union (EU)** Revised Payment Services Directive (PSD2) and the General Data Protection Regulation (GDPR) are considered the baseline for payments and customer data sharing, giving the basic requirements for access to accounts. In June 2023, the European Commission introduced updates on the PSD2 to reach the proposed third version of the Payment Services Directive (PSD3). EU's proposed legislation replace the existing EU's digital payment regime, the PSD2 and the second Electronic Money Directive (EMD2), by a single package that consists of three proposals: (i) **the PSD3** that governs the authorization and supervision of payment entities and e-money issuers, in addition, it merges the existing payment services regulation and electronic money regulation into one framework. (ii) **Payment Services Regulation (PSR)** that covers payment services business conduct including the rights and obligations of parties involved, and (iii) **the Financial Data Access Framework (FIDA)** that sets distinct rights and obligations to govern customer data sharing in the whole financial sector and not being limited to payment accounts.<sup>18</sup>

The PSR reflects a Regulatory Technical Standard, which includes among others, new requirements on API performance, smoothed authentication requirements, risk-based fraud prevention rules ... etc.

<sup>18</sup> European Union. 2023. Financial data access and payments package, European Commission, Finance Publications. June 2023. [https://finance.ec.europa.eu/publications/financial-data-access-and-payments-package\\_en](https://finance.ec.europa.eu/publications/financial-data-access-and-payments-package_en)

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## Guidelines for Effective Open Banking/ Finance Adoption

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It addresses several axes, namely: (i) mitigating payment fraud risk, (ii) improving consumer rights, (iii) levelling the playing field between banks and non-banks, (iv) smoothing OB functioning, (v) advancing the availability of cash in shops and via ATMs, and (vi) enhancing harmonisation of execution and enforcement of payments and e-money regulation.<sup>19</sup> It is worth noting that, unlike the PSD3 directive, that should be mirrored in national legislation of the EU member states, the PSR, as an EU regulation, will be immediately applicable to EU countries once endorsed. In the meantime, FIDA regulation is based on key pillars, namely: (i) providing the option for customers with no obligation to share their data with data users, (ii) obligation for financial institutions, as customer data holders, to make this data available to data users, (iii) giving full control for customers over who accesses their data and for what purpose, (iv) standardisation of customer data and the required technical interfaces, (v) clear liability regimes for data breaches and dispute resolution mechanisms, and (vi) additional incentives for data holders to put in place high-quality interfaces for data users.<sup>20</sup>

**The United Kingdom** was an early adopter of Open Banking, its regime was put in place in 2018. Afterwards, Australia deployed the Consumer Data Right (CDR) in mid-2019, mandating the banking sector to share data under the CDR.

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<sup>19</sup> European Union. 2023. Modernising payment services and opening financial services data: new opportunities for consumers and businesses, European Commission, Press Corner, June 28th, 2023. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_3543](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3543)

<sup>20</sup> European Union. 2023. Electronic Payments in the EU - Review of the Payment Services Directive 2, European Commission, FIDA Factsheet. June 2023. [https://finance.ec.europa.eu/system/files/2023-06/230628-payments-fida-factsheet\\_en.pdf](https://finance.ec.europa.eu/system/files/2023-06/230628-payments-fida-factsheet_en.pdf)



## Guidelines for Effective Open Banking/ Finance Adoption

### Open Banking Pioneers - at a glance

Jurisdiction	UK	Australia	Brazil
Legal Definition	Allows customers to consent to Third-Party Providers (TPPs) accessing their payment account to access their account information and/or make payments on their behalf.	Allows Australian consumers to access their own bank data and have that data shared with selected third parties upon their authorisation.	A standardized sharing of data and services between financial institutions and other institutions licensed by the Brazil Central Bank (BCB).
Respective Legislation	The UK Payment Services Regulations 2017 (PSRs 2017) fulfilled the EU revised Payment Services Directive (PSD2) into UK domestic law and started to apply in January 2018.	-The Competition and Consumer Rules, 2020 (Consumer Data Right), published by the Australian Competition and Consumer Commission (ACCC). - Version 3 of the Rules was released in October 2021 to foster market participation and raise consumers' benefits.	The OB joint resolution (May 2020) issued by the Central Bank of Brazil (BCB) and the National Monetary Council (CMN).
Governance Scheme	- The Open Banking Implementation Entity (OBIE) was established in 2016, by virtue of the UK Competition and Markets Authority's order (CMA), as the central standards entity for setting the common APIs and associated standards. It is founded and funded by the nine largest UK banks (CMA9). - The FCA is responsible for (i) registering and authorising AISPs and PISPs, and (ii) ensuring that account servicing payment service providers (mainly banks), AISPs, and PISPs are meeting their obligations under the PSRs 2017.	- Does not have a stand-alone entity charged with overseeing implementation. It is a multi-agency model, with different responsible regulators and entities. - Data standards, including standardised APIs, are developed by the Data Standards Body (part of the Australian Treasury). - Data recipients must be accredited by the ACCC.	The Central Bank of Brazil (BCB) is responsible for the implementation, compliance with the regulation, as well as licensing of the participant entities.
Scope of Data	Payment Initiation, current account information, product information, and ATMs & offices information.	Current account information, product information, credit scoring, and ID verification.	Payment Initiation, current account information, product information, and ATMs & offices information.
Participating Entities	The nine largest banks (CMA 9).	Banks and other sectors (telecom, energy).	Banks and financial institutions.

## Guidelines for Effective Open Banking/ Finance Adoption

<p>Third Party Access Requirements</p>	<ul style="list-style-type: none"> <li>- Third-Party Providers (TPPs) can access customer payment accounts held at other account servicing payment service providers.</li> <li>- Access is provided via APIs.</li> </ul>	<ul style="list-style-type: none"> <li>- To access consumer data from a data holder, a third party must be accredited as a data recipient.</li> <li>- The ACCC manages the application process and maintains a Register of Accredited Persons.</li> </ul>	<ul style="list-style-type: none"> <li>- Data access request may be initiated by the customer or the TPP.</li> <li>- Unlicensed TPPs can have access to customer data through bilateral contracts with regulated and licensed participating entities, upon customer's consent.</li> <li>- Parties involved in the data sharing regime have reciprocal data access.</li> </ul>
<p>API and Technical Standards</p>	<p>Three main types of APIs are applied: (i) Private API, (ii) Partner API, and (iii) Open/Public APIs.</p>	<ul style="list-style-type: none"> <li>- Having APIs is a mandatory obligation for banks and other financial institutions.</li> <li>- Consumer Data Right is implemented in a phased process, and it remains for review as the API's continue to evolve.</li> </ul>	<ul style="list-style-type: none"> <li>- Participating entities share data and services via standardized and secured APIs.</li> <li>- A market convention, subject to the BCB's approval, outlines technology standards, operational procedures, safety standards, certificates, and the implementation of interfaces.</li> </ul>
<p>Consent Mechanism</p>	<ul style="list-style-type: none"> <li>- The Payment Services Regulations 2017 and the rules and guidance in the FCA Handbook outline the mechanism of how AISP and PISP software authenticates, accesses data and initiates payments with an account servicing payment service provider.</li> <li>- Users are well informed on data shared with AISP, and/or what functionality is exposed to PISP, when using their services.</li> <li>- As an essential requirement for access, TPPs must use eIDAS certificates that allow account servicing payment service providers to properly identify TPPs and verify their regulated status.</li> </ul>	<ul style="list-style-type: none"> <li>- An Accredited Data Recipient is required to use a consumer's consent to collect and use that consumer's specified data for a specified purpose, and for not more than 12 months. This should be to a minimum extent for the collection and use of the customer data that is necessary to provide the requested service/ product.</li> <li>- Consent must be voluntary, express, informed, specific in purpose and time, and easily withdrawn.</li> <li>- Consumers must be informed, before they provide consent, on how their data will be used. Consumers may withdraw or amend their consent.</li> <li>- An Accredited Data Recipient must provide the consumer with a facing electronic dashboard of details for current and historic consents. Also, a data holder must provide the consumer with an online dashboard when it receives a consumer data request from an Accredited Data Recipient.</li> </ul>	<p>Payment Initiation, current account information, product information, and ATMs &amp; offices information.</p>



## Guidelines for Effective Open Banking/ Finance Adoption

<p>Strong Customer Authentication (SCA)</p>	<p>The UK regulatory technical standards for strong customer authentication and secure communication stem from the Payment Services Regulations 2017 (PSRs 2017) and rules and guidance in the FCA Handbook.</p>	<p>The Consumer Data Standards facilitate the sharing of consumer information with trusted and accredited third parties, with their explicit approval, using APIs.</p>	<p>The data transmitter institution or account service provider shall adopt procedures and controls for authenticating.</p>
<p>OB Implementation</p>	<p>The UK's Open Banking Implementation, which was launched in 2018, has been one of the most comprehensive implementations in the world. It aims to promote competition and innovation in the financial services industry, increase consumer choice, and improve access to financial services. It has also been a significant driver of the development of the Fintech industry in the UK, creating a fertile ground for new and innovative solutions.</p>	<ul style="list-style-type: none"> <li>- Australia is currently in the process of enhancing the functionality of the CDR, with the planed consultation on draft legislation to enable “action initiation” within the current ecosystem.</li> <li>- Australia has expanded its OB framework to include other sectors, by which has initiated a framework for data sharing in the energy sector.</li> </ul>	<ul style="list-style-type: none"> <li>- A robust governance structure, strong data protection measures, and mandatory participation have been some of the highlights of the adoption.</li> <li>- Brazil has embedded other sectors in its open finance framework, namely: investment, insurance, open pension funds, and foreign exchange. The initiative aimed to drive innovation, competition, and inclusion by creating a level playing field for fintechs and financial institutions.</li> </ul>
<p>Industry Initiatives</p>	<p>The UK banking trade association, the UK Finance, and other industry players developed voluntary guidelines to enhance customer protection around the ‘screen scraping’ practice, which is used in the market as a method of accessing customers’ data or initiating payments on their behalf.</p>		

Source: AMF (2023) based on OECD. 2023; WBG. 2022; Norton Rose Fulbright. 2022; and respective countries' legislations.

## Main modifications' highlights in the EU Payments and Open Finance proposals

Aspects	Proposals' Modifications	Prospective Results
Direct Access to Payment Systems for Non-Banking Payment Institutions	It gives fintechs and other non-banking payment entities access to payment settlement infrastructure in Europe. Accordingly, EU commission has updated the Settlement Finality Directive (SFD).	<ul style="list-style-type: none"> <li>- More competition among PSPs,</li> <li>- More innovative and efficient payment services across the continent.</li> </ul>
Removing the distinction between payment and e-money institutions	Payment and e-money institutions will be authorized as payment entities that can offer e-money services.	Set a unified framework for licensing and authorization of both types of entities, reflecting a clearer and simpler regime.
Re-authorization payment and e-money institutions	Payment and e-money institutions will be required, within 24 months of the new regulations taking effect, to get new licenses from national authorities.	Boosting customers' trust and integrity of the ecosystem by ensuring that all regulated entities are aligned with the PSD3 and can operate safely.
Standardization of APIs	PSR sets requirements for the OB APIs performance standards, including minimum level of functionality. It also puts APIs levels of latency, which should at least equal the mobile/ online banking latency.	Harmonisation of APIs performance standards across EU states, which will improve OB operations and reduce disparity across member countries.
Strong Customer Authentication (SCA)	Proposed smoothed SCA requirements, to be at least similar the online banking.	Enhancing customer experience and fostering adoption levels through a more simplified SCA journey that reduces frictions in the authentication process.
Permissions Dashboards	Account Servicing Payment Service Providers (ASPSPs) provide customers with a dashboard giving them the right to revoke data access to a given OB provider.	Increasing transparency in managing data access by OB users.
Dedicated interfaces and waiver of fallback interface	<ul style="list-style-type: none"> <li>- ASPSPs have to retain dedicated interfaces for changing information with AISPs and PISPs.</li> <li>- Elimination of the requirement on ASPSPs to keep a "fallback" interface with exception of unusual circumstances.</li> </ul>	<ul style="list-style-type: none"> <li>- Harmonise and ensure minimum business requirements of interfaces for exchanging information.</li> <li>- Ensure interoperability between service providers.</li> <li>- Remove redundancy of interfaces for use unless exceptional conditions exist.</li> </ul>

\*/ Source: Authors' illustration based on: EU publications, Clifford Chance. 2023, Detons. 2023, Sidley. 2023, and TrueLayer. 2023.

# Requirements to adopt Open Banking/ Finance

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## Guidelines for Effective Open Banking/ Finance Adoption

Requirements	Details	Responsible
Policies	Clear policies should be in place to establish a conducive and sound open banking ecosystem. Policies cover data sharing, customer data protection and privacy, and consumer rights, among others.	Central Bank
Regulatory Frameworks	Robust regulatory frameworks should be established to ensure the safe and secure sharing of customer data. These frameworks cover data privacy, consent management, and security, among others.	Central Bank (after consultation with industry stakeholders)
Open Banking and Data Protection – Supporting Data Regulations	Supporting regulations should be put in place to complement data protection laws and govern customer data sharing. These regulations govern consumer control over data, responsible use of data, and data security.	Central Bank
Open Banking Program Design Framework	A program design framework should be established to guide the development of open banking programs. This framework outlines the program's scope, data-sharing requirements, consent mechanisms, access to regulated third parties, licensing, operational and technical requirements, and governance scheme, among others.	Central Bank
Benchmarking of Regional and Global Regulatory Frameworks	Jurisdictions with established regulatory frameworks should serve as examples for other countries. The European Union's Revised Payment Services Directive (PSD2) and the General Data Protection Regulation (GDPR), the UK's Open Banking regime, and Australia's Consumer Data Right (CDR) are good examples.	Central Bank along with work group (usually comprised of fintechs & experts in Open Banking)
Common Rules for OB Industry Participants	Common rules should be introduced to simplify the interaction between participants in the open banking ecosystem. These rules should cover data access and sharing requirements, consent mechanisms, and identifying the regulated third parties (TPPs), among others.	Central Bank (after consultation with industry stakeholders)
Accreditation Frameworks	Accreditation frameworks should be put in place to ensure that all participants in the open banking ecosystem comply with regulatory standards. These frameworks involve certification and authorization processes, among others.	Central Bank
Licensing Frameworks	Licensing frameworks should be established to regulate service providers and ensure compliance with regulatory requirements. These frameworks should cover licensing requirements, compliance reporting, and monitoring, among others.	Central Bank

## Guidelines for Effective Open Banking/ Finance Adoption

<p>Technical Specs Implementation (Unified vs. Non-unified)</p>	<p>When it comes to rolling out open banking and open finance, central banks need to consider the technical specifications for implementation. There are two primary approaches: unified and non-unified.</p> <p><b>Unified Approach:</b> In a unified approach, the central bank or regulatory authority establishes a single set of technical standards and specifications that all participating financial institutions and third-party providers (TPPs) must adhere to. This creates a consistent and interoperable environment, simplifying integration and ensuring a uniform user experience. Examples of unified approaches include the United Kingdom's Open Banking Implementation Entity (OBIE) and the European Union's Revised Payment Services Directive (PSD2).</p> <p><b>Non-unified Approach:</b> In a non-unified approach, central banks or regulatory authorities set out broad guidelines and principles for open banking and open finance, without prescribing a single set of technical standards. Financial institutions and TPPs are then responsible for developing their own APIs and technical solutions, leading to a more diverse ecosystem. An example of a non-unified approach is Singapore, where the Monetary Authority of Singapore (MAS) released an API Playbook, in collaboration with the Association of Banks, providing guidance and recommendations for banks to develop their internal APIs rather than regulatory technical specifications.</p>	<p>Central Bank (after consultation with industry stakeholders)</p>
<p>Operational Guidelines</p>	<p>Operational guidelines should be introduced to provide guidance on the operational aspects of open banking programs. These guidelines should cover risk management, dispute resolution, and customer support, among others.</p>	<p>Central Bank (after consultation with industry stakeholders)</p>
<p>Technical Standards</p>	<p>Technical standards should be established to ensure a common language among participants in the open banking ecosystem. These standards should cover API design, security, and interoperability, among others. Cyber resilience measures should also be included to mitigate</p>	<p>Central Bank (in collaboration with industry)</p>
<p>Customer Experience Guidelines</p>	<p>Customer experience guidelines should be developed to ensure that the open banking program provides a seamless and secure experience for customers. These guidelines cover customer communication, transparency, and ease</p>	<p>Banks, Financial Institutions</p>

\*/ Source: Authors' illustration.



# Issues in deploying Open Banking/ Finance and Arab Countries' Perspectives

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### Common Challenges:

Deploying open banking and open finance around the globe presents several challenges and issues. Some of the most common ones include:

#### **Data privacy and security:**

Open banking involves sharing customer data between financial institutions and third-party providers, which raises concerns about data privacy and security. It's important to formulate robust data privacy and security policies and standards to protect customer data.

#### **Regulatory compliance:**

The development and adoption of open banking and open finance require regulatory compliance, which can be a significant challenge. Developing clear regulatory guidelines that balance innovation, competition, and consumer protection can be a delicate balance.

#### **Technical challenges:**

Open banking requires the development and implementation of standardized APIs that enable seamless communication and data exchange between financial institutions and third-party providers. This can be a complex and technically challenging process.

#### **Interoperability:**

Ensuring that different financial institutions and third-party providers can interoperate and communicate with each other can be a challenge. This requires the development of common standards and protocols.

#### **Competition:**

Open banking can lead to increased competition in the financial services industry, which can be both beneficial and challenging for financial institutions. Some institutions may struggle to adapt to increased competition and may face new challenges in retaining their customer base.

#### **Consumer awareness:**

Open banking and open finance are still relatively new concepts, and many consumers may not fully understand the benefits and risks of these systems. Educating consumers about these systems and ensuring they have the information they need to make informed decisions about their financial data is important.

#### **Cultural differences:**

Different countries and regions have different cultures and attitudes towards data sharing, privacy, and financial services. This can present challenges in developing and deploying open banking and open finance regimes that are appropriate for different cultural contexts.

### Arab Countries' Perspectives on Open Banking/ Finance:<sup>21,22</sup>

The below Arab countries' perceptions on OB/OF stem from Arab central banks responses to the AMF survey on the topic.

#### Jordan

- Jordan's regulation of Open Finance services stands out for not being limited by account types, which allows OF gear to work in full motion and extend existing use cases to include new non-banking services.
- The CBJ established a committee to draft instructions to regulate OB services in the financial sector in Jordan, which included members from the banking supervision department, payment department, and oversight on the national payment system department.
- The committee explored various experiments around the world, such as PSD2, Bahrain, and the UK, to identify best practices for regulating OB.
- The committee prepared an initial draft of the Open Finance instruction and sent it to banks and payment service providers in Jordan for feedback.
- A workshop was arranged for banks and PSPs to discuss the instructions and provide their final feedback. Based on their feedback, the committee finalized the draft instructions and issued them in November 2022.
- The CBJ identified the following challenges and solutions for a robust OB/OF adoption:
  - Challenges in deploying OB/OF in Jordan include aligning instructions with data protection and privacy regulations and consumer protection regulations, licensing Third-Party Providers (TPPs), defining security and technical requirements of APIs, and defining unified API standards.
  - To overcome these challenges, the CBJ plans to engage in workshops and training sessions for all parties involved to ensure they understand the instructions and can comply with them. CBJ may also encourage the market to define unified API standards to avoid inconsistency and lack of transparency in pricing.
- From the CBJ perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:
  - Conduct workshops and training sessions to educate all parties involved about OB/OF and the regulations surrounding them.
  - Developing additional provisions and regulatory technical standards can address concerns such as the lack of monitoring mechanisms for determining minimum and maximum commissions charged by TPPs and the lack of a unified formula for calculating fees for API usage.

<sup>21</sup> Source: AMF. 2023. Arab central banks reflections and inputs on OB/OF survey in May 2023.

<sup>22</sup> Arab countries are listed in their alphabetical order of the League of Arab States.



### UAE

- As part of its Financial Infrastructure Transformation (FIT) Program, the Central Bank of the UAE (CBUAE) has embarked on its Open Finance journey and has achieved several key milestones thus far, including conducted several exhaustive assessments of the market and regulatory landscape to identify challenges and opportunities, identified key stakeholders, including licensed financial institutions (LFIs) and third-party providers, and engaged with them to understand their needs and concerns, established a robust project plan and timeline for implementation to ensure a smooth transition, started developing its regulatory framework and guidelines for OF to provide clear and comprehensive guidance to financial institutions.

- The CBUAE plans to fully implement its Open Finance program, whereby LFIs and TPPs will be required to comply with the regulatory frameworks and guidelines, and customers will have access to a wide range of new services and products.

- The CBUAE identified the following challenges and solutions for a robust OB/OF adoption:

#### **Challenge 1: Security and Privacy Concerns**

- Establish strong regulations and standards, and protocols, along with establishing a supervisory regime to monitor both licensed financial institutions and third-party providers.
- Ensure that customer data is protected from identity theft, fraud, and other forms of misuse.
- Implement measures to mitigate the risks of data breaches and other security incidents.

#### **Challenge 2: Interoperability and Standardization**

- Establish common data standards and protocols for APIs that facilitate data exchange between financial institutions.
- Provide technical support and guidance to licensed financial institutions to ensure that they can implement these standards effectively.
- Establish testing and certification processes to ensure the interoperability and security of these systems.

#### **Challenge 3: Customer Education and Awareness**

- Create public awareness campaigns to educate customers about the benefits and risks of Open Finance.
  - Provide educational resources to customers to ensure that they are aware of their rights and responsibilities with respect to their data.
  - Work with financial institutions to ensure that they provide clear and concise information to customers about their data rights and how their data is being used.
- From the CBUAE perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:
    - **Providing clear and comprehensive regulatory frameworks** for OF that provide guidance and oversight to financial institutions.
    - **Developing technical standards and infrastructure** for OF, including APIs and other protocols for data exchange between financial institutions.
    - **Establishing clear rules and procedures for data sharing.**
    - **Promoting transparency and accountability** among financial institutions and third-party providers.
    - Holding **financial institutions accountable** for any misuse or breaches of customer data.
    - Collaborating with industry stakeholders, including financial institutions, Fintech companies, and consumer advocacy groups, to ensure that OF is developed and implemented in a way that benefits all parties.
    - Promoting customer education and awareness about the benefits and risks of OF.

### Bahrain

- The Kingdom of Bahrain has been proactive in adopting Open Banking regulations. The Central Bank of Bahrain (CBB) issued regulations on OB in 2018, mandating all retail banks to comply and introducing a new license category for Account Information Service Providers (AISPs) and Payment Initiation Service Providers (PISPs).
  - The Bahrain Open Banking Framework (BOBF) was issued in 2020, which includes use cases along with their technical specifications, operational guidelines, conformance checklist, as well as security standards and guidelines.
  - An industry consultation was issued to cover OB corporate use cases in 2023.
  - The groundwork for Open Finance was initiated in 2023.
  - Challenges in deploying OB/OF in Bahrain include financial institutions not being prepared, lack of adoption by the industry, and API downtimes.
- From the CBB perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:
    - **Industry collaboration** to create unified technical specifications and standards.
    - **Encouraging industry-led use cases** to ensure that the technology meets the needs of all stakeholders.
    - **Financial institutions should be well-prepared to adopt OB/OF**, and central banks can play a role in providing training and resources to ensure readiness.

### Saudi Arabia

- **Progressive Approach in KSA:** OB adoption was initiated by Saudi Central Bank (SAMA) with the introduction of the Open Banking Policy in January 2021. The policy describes three phases to set up the OB ecosystem.

- **Open Banking Framework:** SAMA issued a comprehensive set of legislation, regulatory guidelines, and technical standards in November 2022. The framework focuses on Account Information Services (AIS) with plans for a second version addressing Payment Initiation Services (PIS).

- **KSAOB Standard:** The KSA Open Banking (KSAOB) Standard is based on the EU's PSD2, with modifications for the national context of KSA, including changes in customer consent types, consent management, accounts endpoint, transactions endpoint, and parties' endpoint.

- **SAMA extended the parties' endpoint capabilities** using OpenID Connect for identity verification and authentication.

- **Open Banking Lab:** The Open Banking Lab is a technical testing environment for banks and fintechs, providing a sandbox, ready-use cases for retail and corporate end-users, testing and certification.

- **First Version of SAMA's KSAOB Standard:** The first version covers AIS services for retail and corporate payment accounts through two major sets of APIs - Letter of Guarantee API and Account Information API.

#### ***Main Milestones in the Open Banking/ Finance Journey***

- In 2021, SAMA started accepting OB fintechs to test their solution in a controlled environment under the regulatory Sandbox.

- SAMA has permitted more than 10 OB fintechs to operate in the Regulatory Sandbox.

- The Regulatory Sandbox in SAMA has changed its operating model from a cohort base to an

always-open model, enabling the OB fintechs to test more use cases in the Open Banking space.

- In 2023, SAMA launched the Open Banking Lab to certify market participants on the KSA Open Banking Framework, making sure that all participants have done all the developments according to the framework.

- SAMA plans to develop phase 2 of the Open Banking Framework, Payment Initiation, later this year.

- SAMA is developing the Open Banking Strategy and its vision and strategic phases.

#### ***Challenges in Deploying Open Banking:***

- **Security and Privacy Concerns:** One of the primary challenges in deploying OB is the potential risk to data security and privacy.

- **Technical Infrastructure:** OB requires the implementation of a secure and robust technical infrastructure that can integrate various systems and platforms seamlessly.

- **Regulatory Compliance:** Application of OB requires compliance with various regulations and standards.

- **Standardization:** The lack of standardization in the way financial data is shared and accessed among different institutions poses a challenge in ensuring interoperability and creating a consistent user experience.

- **Maintaining and promoting a healthy OB ecosystem** and ensuring a level playing field for new entrants, e.g., fintechs.

- From SAMA's perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:

- **Regulatory Frameworks:** Central banks should develop comprehensive regulatory frameworks that provide clear guidelines and standards for the implementation of OB. These frameworks should cover data privacy and security, technical infrastructure, and interoperability, among other things. The frameworks should also ensure that banks and other financial institutions adhere to regulatory requirements.

## Guidelines for Effective Open Banking/ Finance Adoption

These regulations should be reviewed and updated regularly to keep up with the latest technological developments and emerging risks.

- **Industry Standards:** Central banks could encourage the development of industry standards and protocols for sharing financial data, ensuring interoperability and consistency across different institutions and platforms. These standards should be developed through a collaborative effort between banks, fintechs, and other stakeholders. Prioritizing and releasing standards with a clear focus and priority of customer experience and digitalization is essential. These standards should be flexible enough to allow for future innovation and advancements in technology.

- **Collaboration and Partnerships:** Central banks could facilitate collaboration and partnerships between banks, fintechs, and other stakeholders, encouraging innovation and driving adoption of OB. This could be achieved by providing a platform for stakeholders to share ideas, frameworks should also ensure that banks and other financial institutions adhere to regulatory requirements. These regulations should be reviewed and updated regularly to keep up with the latest technological developments and emerging risks.

- **Technical Support:** Central banks could provide technical support and guidance to banks and third-party providers, helping them to implement the necessary technical infrastructure and ensuring compliance with regulatory requirements.

- **Awareness and Education:** Central banks could promote awareness and education among consumers, businesses, and other stakeholders about the benefits and risks of OB, helping to build trust and drive adoption. This could be achieved through targeted campaigns and educational programs. It is crucial to provide transparent and clear information to customers about their rights and how their data is being used.

- **Governance:** Central banks could establish governance structures to oversee the implementation of OB, ensuring compliance with regulations and standards and providing transparency and accountability. This could include establishing an independent oversight

### Oman

- In 2021, Central bank of Oman (CBO) developed an Open Banking Strategy to support Fintech and digital transformation in the financial and banking sector.
- CBO published a survey in collaboration with Oman Banks Association to evaluate licensed banks' readiness for the OB initiative.
- CBO aims to issue the detailed Open Banking Framework in 2023, including technical API specifications, data standards, regulatory framework.
- The CBO identified the following challenges and solutions for a robust OB/OF adoption:

#### ***Challenges in deploying Open Banking/Finance***

- Cybersecurity and data risk, where more data is shared between third-party providers and data holders, leading to a higher risk of data compromise or fraudulent access.
- Legal/Compliance Risk, where rules and regulations differ from market to market and come with a high cost to control, the lack of local expertise in the field and supervision tools to oversee Open Banking operations.

#### ***Overcoming Challenges***

- Create or enhance the current infrastructure to allow identifying vulnerabilities used by TPPs through OB risk management and API development.
- Create a regulatory framework for Open Banking API and revise related laws and regulations.
- Allocate possible capital/funds for the development of OB.
- Promote local and international Fintech companies to invest in this field in Oman.
- Conduct capacity building of relevant stakeholders.
- From the CBO perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:
  - **Partnerships between data holders and TPPs** to provide innovative services and move beyond traditional banking, enhancing customer engagement and loyalty.
  - Having **necessary framework, laws, and regulation** in place.
  - Fostering the **availability of needed expertise**.

### Palestine

- Palestine Monetary Authority (PMA) is in the phase of studying the subject of OB/OF and plans to develop a regulatory and legal framework for it to issue regulations in the near future.

- The PMA identified the following challenges and solutions for a robust OB/OF adoption:

#### ***Challenges in deploying Open Banking/Finance***

- Increased risk of customer data theft as OB adds more points of failure where data can be stolen.
- Other challenges include data privacy, data protection, and cybersecurity.

#### ***Overcoming Challenges***

- Balancing innovation with security, providing a regulatory sandbox for testing and defining the vetting process for third parties.
- Increasing market awareness and trust through awareness campaigns and endorsement from trusted financial providers.

- From the PMA perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:

- **Changing the mindset of traditional financial players** to open their data to third parties.
- **Increasing awareness campaigns** dedicated to all stakeholders to promote understanding and adoption.
- Setting out a **clear licensing process** alongside transparent requirements.
- Explore deeply OB/OF, **introduce a feasible data-sharing framework**, and ultimately decide the future of their national financial services sector.
- **Analyze similar regions** to produce insights that are relevant to the country in question.



### Kuwait

- The Central Bank of Kuwait (CBK) is keen to enable new fintechs and support them to bring out innovative business models in the field of financial services. CBK specialists conducted a wide-scope study concluding that there is a need for an OB Regulatory Framework and API specifications.

- CBK has very recently updated its instructions for Regulating the Electronic Payment of Funds,<sup>23</sup> a significant move towards OB. The revised rules, developed after public consultation, set clear guidelines for financial firms engaging in electronic transactions. The instructions cover vital areas like governance, risk management, cyber security, anti-money laundering measures, and customer protection. They also incorporate the rapidly growing Buy Now Pay Later (BNPL) services, demonstrating CBK's commitment to customer protection and financial inclusivity.

- Also, the CBK has formed the "Open Banking Working Group", which includes specialists from Kuwaiti banks and the Open Banking Committee, headed by the Central Bank of Kuwait with representatives from leading Kuwaiti Banks.

- The CBK approved testing Sandbox Application related to OB products.

- The CBK is in the process of drafting an Open Banking Regulatory Framework and for API specifications.

- The CBK identified the following challenges and solutions for a robust OB/OF adoption:

#### ***Challenges in deploying Open Banking/Finance***

- Determining API specifications and security standards poses a challenge in deploying OB/OF.

- Other challenges might include risks associated with OB, selecting the OB model and customer consent, and developing a secure framework with wide use cases that improve the banking experience for customers and allow for new innovative products.

#### ***Overcoming Challenges***

- To overcome these challenges, the CBK is working with Kuwaiti banks to issue the Open Banking Framework and API specifications based on best practices.

- Taking advantage of OB products and services within the Regulatory Sandbox.

- From the CBK perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:

- **A space to test Open Banking products and services** is needed to ensure that central banks meet standards and OB solutions are safe for customers to use.

- **Clear and flexible specifications and standards** are required to help different players understand and perform in the market, and to ensure the interoperability of services.

- **Knowledge transfer** is crucial to ensure that all stakeholders understand the benefits and risks of OB/OF, and how to use and benefit from them.

- **Increasing awareness** among customers and stakeholders is necessary to ensure smooth adoption, as it helps to build trust and confidence in the new technology and services.

<sup>23</sup> CBK. 2023. New Instructions Regulating the Electronic Payments of Funds, May 2023.

[https://www.cbk.gov.kw/en/images/e-payment-instructions-2023-161512\\_v40\\_tcm10-161512.pdf](https://www.cbk.gov.kw/en/images/e-payment-instructions-2023-161512_v40_tcm10-161512.pdf).

### Lebanon

- Banque du Liban (BDL) was working on setting milestones for OB as well as for other Fintech services, however, the repercussions of COVID-19, the political instability, and the economic crisis delayed the initiated work due to other priorities.

- Recently, BDL issued Intermediate Circular No.667 on 13/4/2023 amending Basic Circular No.69 dated 30/3/2000 on Electronic Banking and Financial Operations to include special provisions on new customers' onboarding, eKYC, enhanced new diligence, E-signature, and Digital ID systems.

- The BDL identified the following challenges and solutions for a robust OB/OF adoption:

Challenges in deploying Open Banking/Finance

- Lack of technical infrastructure, absence of enacted Fintech strategy, lack of comprehensive legal framework governing digital trust and enhanced cybersecurity, absence of appropriate supervisory framework, absence of consumer protection framework for Fintech in general and OB in particular.

#### **Overcoming Challenges**

- BDL may establish in the future a regulatory framework that balances innovation, competition, and consumer protection while ensuring financial stability. This includes developing rules and guidelines for data privacy, security, and interoperability, as well as defining the roles and responsibilities of different industry stakeholders.

The central bank must have appropriate governance and oversight mechanisms in place to monitor and regulate OB/OF activities, which includes implementing clear governance structures, independent oversight, risk management frameworks, audit and review processes, and consumer protection measures.

- BDL can take several steps such as developing and implementing robust data privacy and security policies and standards, working with industry stakeholders to develop and implement open and standardized APIs, establishing clear regulatory guidelines, implementing a strong governance and oversight framework, fostering collaboration and coordination among industry stakeholders, investing in new technological infrastructure, and providing consumer education and awareness campaigns.

- From the BDL perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:

- Organize a concertation on the national level between all stakeholders to set a national strategy in this regard.

- Raise awareness on the subject matter and organize digital financial literacy campaigns.

- Work on enhancing data privacy and digital trust.

- Organize training for capacity building.

- Learn from the experience of other central banks.



### Egypt

- The issuance of banking law No. 194 for the year 2020 mandated OB in Egypt. The Central Bank of Egypt (CBE) dedicated an entire chapter in the law for 2020 introducing the legislative basis for digital transformation in the financial and banking sectors.
- In October 2021, the Instant Payment Network (IPN) regulations were issued, allowing instant transfers among all operating banks within Egypt.
- The IPN officially launched on March 22, 2022. The network links all Egyptian banks through digital infrastructure, enabling integration with Fintech companies and paving the way for innovative services for the entire population.
- Similarly, the CBE launched its first conceptual OB application 'Instapay' on the same date. This application allowed instant transfers among all Egyptian banking institutions.
- The CBE is currently working on developing OB regulation that is set to be finalized by end of 2023.
- The CBE identified the following challenges and respective solutions for a robust OB/OF adoption:
  - **Data privacy** and sensitivity remain significant challenges in reconciling data protection obligations and OB frameworks. Financial data is particularly sensitive, and data breaches carry considerable risks for users. **Digital security mitigation** measures should be introduced, the type of enforcement mechanisms and the permitted use purposes of the data. Limits and restrictions on data sharing and usage, such as the prohibition on screen scraping, should also be set out.
- TPPs entering the financial sector require technical standards and guidelines to be adopted to define how banks should build interfaces for TPPs to receive data. It is also important to ensure a higher threshold for identity checks to avoid serious privacy and digital security incidents.
- Difficulties for consumers to sign up for OB services can arise due to trust issues associated with switching from traditional banks to OB services. To overcome this challenge, central banks need to follow a consumer-centric approach and set user-experience guidelines to ensure customer trust and make it easier and faster for them to port their data to OB services and authorize the sharing of their data.
- Big Techs have the potential to dominate the market through the advantages provided by the inherent data-network-activities (DNA) loop, raising competition and data privacy issues. Central banks need to build public policy in a more comprehensive approach that draws on financial regulation, competition policy, and data privacy regulation. The aim should be to respond to Big Techs' entry into financial services while mitigating the related risks.
- From the CBE perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:
  - Thoroughly plan for the design of the OB/OF regime to determine the adoption approach based on the national ecosystem dynamics.
  - Identify market problem statements and needs to adopt the OB/OF use cases that address those problem statements.
  - A clear data monetization strategy should be followed to ensure the effective use of data.
  - Raising awareness of all parties involved, particularly target consumers, should be a priority for central banks.
  - Follow a user-friendly approach including, and not limited to, digital authentication procedures and transaction limits.
  - Developing a conducive legislative framework according to market conditions. For example, a voluntary regulatory framework may be better if the market is already moving in that direction.

### Morocco

- Banque Al-Maghrib (BAM) considers innovation essential for a long-term viable banking sector. However, innovation also involves risks. The aim is to ensure good preconditions for innovation, and to reduce the impact of potential incidents in an OB industry.

In this context, BAM, in collaboration with the World Bank, has launched a project to supervise OB in Morocco.

- The main objectives of OB implementation in Morocco would be similar to what is observed at the international level, namely, to stimulate competition, foster innovation and digitalization, as well as to improve financial inclusion, particularly the use of banking services. OB should also create an environment that reduces barriers to entry for innovation, allows new players to access markets, enables consumers to benefit from new services while securing the use of their data.

- Yet the implementation of OB frameworks is at an early stage in Morocco, Bank Al-Maghrib has carried out a series of actions in relation to OB including exchanges with banks and a survey which led to the conclusion that this new service in Morocco is nascent and has great potential if data exchange is encouraged, standardised and secured.

- The central bank has also initiated, within the framework of an internal working group, work that has focused on benchmarking the publications of the work of standard setters at the international level and in different jurisdictions.

- This work enabled to identify the authorities involved in the supervision of OB in various

jurisdictions, which are mainly the banking supervisor, the technology standard-setters, competition authorities, consumer protection authorities and personal data protection authorities.

- BAM identified the following challenges and respective solutions for a robust OB/OF adoption:

- OB has the potential to transform banking services and bank business models. However, banks and central bank supervisors will need to pay greater attention to the associated risks: (i) the increased sharing of customer-permissioned data; and (ii) the growing connectivity of various entities involved in the provision of financial services.

- The adoption of OB required many jurisdictions to update several regulatory aspects to strengthen the rights of customers to control the use of their personal data by requesting customer consent and limiting the use of such data and its sharing with third parties.

- From BAM perspective, central banks need to consider the following key areas for a smooth adoption of OB/OF:

- Legal and regulatory framework of OB and OF.

- Clear mandate of the central bank in this field.

- Framework for multilateral exchange and **sharing of experience** in the field of OF.

- A **clearer definition of the data that can be shared**, a more **precise allocation responsibilities for authentication**, and the promotion of the use of **standardised APIs**.

- Training programmes and internships to **build the capacity of their staff**.

# Lessons learned from global adoption

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## Guidelines for Effective Open Banking/ Finance Adoption

- Most OB regulations have been released after consultation and deep dialogue with stakeholders.
- In many cases, standards have been set collaboratively with banks and the Banking Association.
- Leading jurisdictions share key elements in their OB framework, such as a sole standard proposed by a centralized governance scheme, technical standards integrated into the regulatory framework, data reciprocity, and standardization of contractual terms on partnerships with non-regulated entities.
- Moreover, regulators scale up the OB adoption by promoting the OB ecosystem via targeted awareness campaigns and educational events, sharing use cases and knowledge gained, as well as competitions on the use of open APIs in the industry.

### Effective use cases for Open Banking

Authorities can leverage the potential of OB and APIs to deploy several use cases. OB and APIs have led to the emergence of various use cases in the banking and financial sectors.

Here are some recommended use cases that may apply to the region:

Use Case	Description
Account Aggregation	Provides real-time personal financial management, account-to-account money transfer using payment initiation services, SMEs financial management, and access to transaction data from different financial data sources.
Credit Scoring Services	APIs in credit and risk assessment procedures for retail and corporates, based on account data accessed through data sharing arrangements.
Customer Onboarding	Accelerates the customer remote onboarding process, making it more systematic and automatic, and streamlining the processes of account verification, income verification, and TPP verification.
Lending	Automated bank statement collection, showing the real financial situation of the borrower, resulting in higher conversion and approval rates for customers with good credit scores.
Personal Financial Management (PFM)	Open Banking-based PFMs provide real-time insights into customers' financial situations, drawing from different accounts and different banks.
ROSCA	Enhances the Rotating Savings and Credit Associations (ROSCA) concept with OB, helping users reach financial goals faster and enhance personal wellbeing.
Digital Identity Verification	Supports Digital ID verification by extending Open Banking principles, helping customers share identity attributes with consented TPPs.
Account-to-account payments for large purchases	Enables TPPs to initiate payments from a bank account on behalf of the consumer, reducing extra-costs supported by merchant, bank, and consumer.
Robo Advisory	Based on algorithms that automatically pull data from existing accounts and turn it into financial planning with zero to minimum human involvement.

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## Guidelines for Effective Open Banking/ Finance Adoption

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Integrated accounting software	Optimizes financial data consolidation into real-time insights, increasing revenue and decreasing costs.
Eliminating cash	Open Banking-powered solutions help transition to a paperless world, enabling digital payments.
BNPL	OB revolutionizes the concept of Buy Now Pay Later (BNPL), allowing consumers to delay payments.



### Open Banking implementation in UAE: Case study - the Emirates Digital Wallet

The Emirates Digital Wallet was launched in 2018 and is an example of Open Finance implementation in the Arab region. It is a digital wallet that enables secure and seamless payments and financial services for individuals and businesses. The initiative was developed by the UAE Banks Federation, which represents 50 banks in the country and was supported by the central bank. The initiative aimed to drive financial inclusion, increase access to financial services, and promote the adoption of digital payments.

The Emirates Digital Wallet represents an example of OF implementation, as it aims to enable access to financial services beyond banking, including payments, loyalty programs, and other services.

### Open Banking Limitations and Misconceptions

There are several misconceptions about Open Banking (OB) among industry players and end-users. Here are some of them:

1. The belief that OB is nothing more than a regulatory exercise. With banks regarding it as a mandatory check box and doing nothing more than the bare minimum, adopting OB becomes even more of a challenge. Banks need to understand that this is not just another burden thrown at them by the regulator. It is the chance to consolidate their market position, increase their competitive advantage, improve their relationship with customers, and all this, in the end, has the great benefit of increasing revenues.

2. Another confusion regarding OB which refers to data sharing. Natural persons have been taught for decades about how important is to hold the bank accounts' credentials secret, and now, the paradigm has changed, and they are asked to share their data. All innovations have been regarded as suspicious in the beginning and once people get how OB works in their favour, they will embrace it. The problem is that most of them don't know what OB actually is and don't fully understand how it works. As mentioned above, this can be solved through educational campaigns initiated both by banks and TPPs, since it is their interest to make OB work, after all.

With Open Banking set to bring innovation into the banking sector, on one hand, and data protection-targeted regulation, including GDPR, on the other hand, the tension around security arises. The truth is that both OB regulations around the world and data protection legislation have an identical role: to give users power over their own data. In order to achieve OB's full capacity, all market players need to take a proactive position, from banks investing into their own infrastructure to TPPs creating secure and inventive applications.

3. There are regions out there believing that some markets, especially end-users, aren't ready to adopt OB just yet. Well, that is not true. Take Saudi Arabia, for example. A recent survey found that KSA leads the region when it comes to Fintech adoption among consumers for satisfying banking needs. Whereby 82% of the respondents were willing to try the OB solutions<sup>24</sup> – quite an impressive majority. In this light, it's important that the core team tasked with implementing OB analyse the true potential of the market in terms of how OB can become a driver of commercial opportunities for the bank and to incorporate these findings into the OB strategy right from the beginning.

<sup>24</sup> WSO2.2022. A Practical-Guide-to-Open-Banking-Implementation-in-Saudi-Arabia.

[https://wso2.com/wso2\\_resources/A-Practical-Guide-to-Open-Banking-Implementation-in-Saudi-Arabia.pdf](https://wso2.com/wso2_resources/A-Practical-Guide-to-Open-Banking-Implementation-in-Saudi-Arabia.pdf)

## Guidelines for Effective Open Banking/ Finance Adoption

4. The misconception that OB is limited to payment accounts only is quite popular. There are so many opportunities out there to leverage OB in new, maybe even not yet explored, use cases. OB should be extended to all banking products.

5. The whole aspect around data residency is another misconception we need to bust off. OB involves aggregating data from various jurisdictions around the world into one single view. However, there are regulators who don't allow data to leave their country, as means of protection. Say you have AWS (Amazon Web Services) available in 2 out of 3 countries where you have bank accounts. The problem occurs when you are trying to fetch data from that third country with no AWS. There is a whole limitation around data localisation and residency that needs to be worked around by regulators.

A circular frame containing a faded image of a business meeting. A man in a suit is leaning over a desk, pointing at a laptop screen. A woman is also visible, looking at the screen. There are papers, a pen, and a coffee cup on the desk.

# **Step by Step recommendations to implement Open Banking/Finance**

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## Guidelines for Effective Open Banking/ Finance Adoption

It is highly recommended that central banks in Arab Countries pay attention to the following aspects when embracing Open Banking:

### Regulatory Framework

- Establish a **clear regulatory framework** that promotes innovation and competition, while ensuring consumer protection and financial stability. This framework should be developed in consultation with various industry stakeholders to address the unique challenges and opportunities of the region. For instance, the UK's Financial Conduct Authority (FCA) has been instrumental in developing a robust Open Banking ecosystem, providing clear guidelines and support for all participants.
- It is important to implement a thorough **licensing process** for Third Party Providers (TPPs). In the EU, under PSD2, TPPs are required to be licensed and are regulated to ensure that they meet security and operational standards. TPPs that wish to provide either payment initiation services (PIS) or account information services (AIS) need to be licensed by the competent authority in their home member state. The licensing process involves demonstrating to the authority that the TPP has robust operational and security measures in place. This would include proving that they have adequate risk management systems, that they are able to maintain business continuity, and that they have implemented measures to prevent, detect, and correct security incidents. Once the TPP is licensed in their home member state, they can "passport" their license to other member states, meaning they can provide their services across the EU without needing to get a separate license in each country. This may be a good practice to consider in the future as a way of simplifying the collaboration between TPPs and banks from different countries in the Arab region.
- Provide clear guidelines and documentation: To ensure a smooth implementation of OB, regulators ought to provide clear guidelines and comprehensive documentation. This can help stakeholders understand their responsibilities and the technical requirements they need to meet.

### Standardization

- Balance data sharing provisions and access by diverse institutions with the protection and fair use of customer data.
- Standardization is crucial to ensure the proper functioning of the Open Banking/Finance ecosystem, given that it's centered around a data-sharing infrastructure. This will support a safe and fully functioning cross-industry data sharing ecosystem.
- Adopt standardization for APIs, data formats, and security protocols. A good example in this direction is the European Union's Payment Services Directive 2 (PSD2) and the UK's Open Banking initiative – both dedicating a good part of the documents to standardization, which has helped in achieving interoperability and reducing complexity.
- Another good example of the Open Banking's implementation in the EU is that TPPs are required to use eIDAS (electronic IDentification, Authentication and trust Services) certificates issued by a Qualified Trust Service Provider (QTSP). These certificates are used for secure communication between TPPs and banks. The QTSPs are supervised by the national competent authority of their member state, and they are listed in the EU Trust List. There is also a regulatory reason for using eIDAS certificates: they are required by the Revised Payment Services Directive (PSD2) in the European Union. Under PSD2, all TPPs are required to use eIDAS certificates when communicating with banks. This helps to standardize the process and ensure a consistent level of security across the industry.

### Technical Specifications

- Develop guidelines: Authorities need to develop guidelines that take into consideration diverse aspects to ensure the proper functioning of the Open Banking/Finance ecosystem. This includes setting new data-sharing rules and developing data-sharing infrastructure, initiating standardized API frameworks, setting operational and technical specifications, enhancing security, initiating authentication methods, and establishing a governance body to ensure the the proper implementation and oversight of the Open Banking/Finance and APIs processes as well as the compliance with the framework.

## Guidelines for Effective Open Banking/ Finance Adoption

### Technological Infrastructure

- Invest in advanced technologies, such as cloud computing, to support the development and implementation of OB/OF. This technology infrastructure should be secure, scalable, and capable of handling large volumes of data. The regulations indirectly influence the choice of technology. For instance, the requirements for data security and privacy under laws like the EU's GDPR mean that any technological infrastructure used for OB needs to have robust security measures in place.
- It is also worth noting that some regulatory bodies, like the U.S. Securities and Exchange Commission (SEC), have shown an interest in the use of cloud computing and other advanced technologies in the financial sector. The SEC has stated that it will focus on issues related to technological innovation in financial services, including the use of cloud computing, which implies a regulatory interest in ensuring these technologies are used responsibly and securely.

### Consultation with Industry stakeholders

- OB/OF regulations are to be released after consultation and collaboration with industry stakeholders. Consultation with industry stakeholders is an essential step in the adoption of OB/OF to ensure that the development and implementation are as seamless as possible. Here are some recommendations:
- **Collaborative Approach:** Conduct an open dialogue between regulators, banks, fintechs, and other stakeholders. Each group can offer unique insights into their operational challenges and opportunities, helping to shape a balanced and effective framework.
- **Establish a Central Body or Committee:** Similar to the UK's Open Banking Implementation Entity (OBIE), a central organization can be formed to oversee the development and implementation of OB. This body can bring together representatives from various stakeholders and serve as the central point of coordination.
- **Incorporate Stakeholder Feedback into Regulation:** The legal framework for OB should be built with the input of industry stakeholders. This can help ensure that the regulations are practical, implementable, and effective in achieving their goals.
- **Regular Review and Updates:** OB is a dynamic field, with new technologies and business models emerging frequently. To keep pace with these changes, the regulatory framework and technical standards should be reviewed and updated regularly, with ongoing input from industry stakeholders.
- **Promote Transparency and Fairness:** The process of consulting with stakeholders should be transparent and fair. This can help build trust and cooperation among the various parties involved, which is crucial for the success of OB.

### Public Awareness and Consumer Education

- Launch awareness campaigns for consumers and industry players. These campaigns should educate them about the benefits and risks of OB/OF and provide resources to navigate the landscape.
- Regularly update consumers about their rights and liabilities, the measures taken to protect their data, and how they can take advantage of OB/OF.
- Raise public awareness: To reach scale, significant efforts need to be made by regulators and other stakeholders to raise consumer awareness and educate industry players.



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## Guidelines for Effective Open Banking/ Finance Adoption

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*Implementing Open Banking/Finance is a complex process that requires careful planning, coordination, and regulation. Central banks in the Arab region can succeed in this endeavor by taking a proactive approach, fostering collaboration, and prioritizing consumer interests.*

## Guidelines for Effective Open Banking/ Finance Adoption

The following step-by-step guide aims to support central banks in implementing Open Banking/Finance and may be tailored to each country's level of progress:



### Step 1: Establish a Cross-Institutional Taskforce

First, central banks need to create a dedicated task force to oversee the implementation of OB. This team should comprise representatives from various departments within the central bank, banks, third-party providers, fintechs, and other relevant stakeholders. This taskforce will be responsible for planning, coordination, and execution of the entire implementation process.

### Step 2: Conduct a Thorough Market Research

The task force should conduct extensive market research to understand the specific needs and challenges of the country. This should involve analyzing the financial habits of consumers, understanding the needs of small and medium-sized enterprises (SMEs), assessing the readiness of existing financial institutions, and identifying any unique cultural or socio-economic factors that could impact the adoption of OB.

### Step 3: Create an Implementation Roadmap

Using the information gathered from market research, the task force should create a detailed implementation roadmap. This should include timelines, key milestones, and specific tasks that need to be completed. It should also clearly define the roles and responsibilities of all parties involved.

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## Guidelines for Effective Open Banking/ Finance Adoption

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### **Step 4: Develop an API Ecosystem**

The next step is to develop a robust API (Application Programming Interface) ecosystem that facilitates data sharing. This should involve defining API standards, ensuring interoperability between different systems, and building a secure and scalable infrastructure. It is also important to ensure that the API ecosystem supports both Arabic and English languages to cater to the diverse population in the region.

### **Step 5: Set Clear Compliance and Security Protocols**

Data privacy and security are of paramount importance in OB. The central banks should develop clear compliance and security protocols to protect customer data. This may involve adopting advanced cybersecurity measures, creating a framework for data management, and defining protocols for data access and sharing.

### **Step 6: Develop a Dispute Resolution Mechanism**

Central banks need to establish a clear dispute resolution mechanism to handle conflicts that may arise between financial institutions and third-party providers. This should include clear guidelines on how to handle customer complaints and provide compensation in case of any data breaches or fraud.

### **Step 7: Test the System**

Before launching OB to the public, it is essential to conduct comprehensive testing to ensure the system works as expected. This should involve stress testing, security audits, and user acceptance testing.

### **Step 8: Launch a Public Awareness Campaign**

To ensure a smooth transition to Open Banking, central banks should launch a public awareness campaign. This should involve educating consumers about the benefits of OB, explaining how their data will be used and protected, and addressing any concerns or fears they may have.

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### **Step 9: Monitor and Review**

After the implementation, continuous monitoring and reviewing are necessary to ensure the system is functioning as intended. This should involve tracking key performance indicators (KPIs), analyzing user feedback, and making necessary adjustments.

### **Step 10: Foster Innovation**

Lastly, central banks should create an environment that encourages innovation. This could involve hosting hackathons, providing grants for Fintech startups, or creating innovation labs to explore new ways to use open banking data.

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## Guidelines for Effective Open Banking/ Finance Adoption

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*It is worth noting that open banking is not a one-time project, but rather an ongoing process that requires continuous effort, improvement, and adaptation. It's crucial to remain flexible and responsive to changes in the market, technology, and regulatory environment.*

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## Guidelines for Effective Open Banking/ Finance Adoption



<http://www.amf.org.ae>