

POLICY DEVELOPMENT AND IMPLEMENTATION GUIDE FOR INCLUSIVE OPEN FINANCE

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EXECUTIVE SUMMARY

This guideline note on Policy Development and Implementation Guide for Inclusive Open Finance is a strategic resource designed to assist policymakers and regulators in crafting inclusive open finance ecosystems that encourage innovation, competition, and financial inclusion.


Developed with insights from AFI’s DFSWG and grounded by survey data from AFI network members, the guideline note delivers a clear, actionable policy framework tailored to diverse regulatory and market contexts across developing and emerging economies.

GUIDING PRINCIPLES: FOUNDATIONS OF INCLUSIVE OPEN FINANCE


The guideline note is anchored in a set of guiding principles that prioritize inclusivity, consumer empowerment, and collaboration while ensuring robust governance, transparency, and accountability. These principles include:




INCLUSIVITY AND ACCESSIBILITY
Promoting the intentional and proactive participation of financial sector entities, including financial service providers (FSPs), mobile money operators (MMOs) and fintechs, in designing and enhancing an inclusive open finance ecosystem, while ensuring equitable access for underserved groups such as women, youth, elderly populations, and MSMEs.




PRIVACY-COMPLIANT DATA SHARING
Enabling customers to retain full control over their data with transparent mechanisms for consent management.




CYBERSECURITY, PRIVACY, AND DATA PROTECTION
Establishing robust safeguards to protect against fraud, misuse, and unauthorized access.



INTEROPERABILITY
Promoting common technical standards, like APIs, to facilitate seamless and secure data-sharing, promoting innovation and competition.



COUNTRY-LED, CONTEXTUALIZED APPROACH
Ensuring that frameworks are proportionate to national regulatory environments, financial inclusion goals, and market maturity.



COLLABORATION AND MULTI-STAKEHOLDER GOVERNANCE
Encouraging ongoing engagement between regulators, industry players, and civil society to co-create solutions and address emerging challenges.

By considering these principles, the guideline note emphasizes a structured, inclusive, and secure approach to open finance policymaking.

INTRODUCING THE INCLUSIVE OPEN FINANCE POLICY FRAMEWORK

The guideline note presents a **three-step policy framework** designed to help jurisdictions navigate the complexities of open finance development and implementation:

1 **STEP 1 - FOUNDATIONAL READINESS**
Policymakers are guided through an internal and external situational analysis to assess institutional capacity, ecosystem dynamics, and market readiness. This step enables stakeholders to identify gaps, evaluate global best practices, and align open finance with national financial inclusion strategies.

2 **STEP 2 - CORE POLICY ELEMENTS FOR OPEN FINANCE**
Five key pillars form the backbone of the policy framework:

- **Regulatory Authority and Governance:** Ensuring coordinated oversight and transparency across stakeholders.
- **Ecosystem Design and Participants:** Defining roles, responsibilities, and principles for inclusive participation.
- **Policy Provisions:** Providing foundational regulatory requirements tailored to each jurisdiction's legal and market context.
- **Data, API, and Security Specifications:** Establishing interoperable technical standards to safeguard data-sharing processes.
- **Implementation and Monitoring:** Offering a phased and adaptive roadmap for rolling out and evaluating open finance initiatives.

3 **STEP 3 - INCLUSIVE OPEN FINANCE ECOSYSTEM**
The culmination of the framework highlights expected outcomes such as increased financial inclusion, greater consumer trust, market competition, and economic resilience. These outcomes align with AFI's overarching goals of building sustainable, inclusive, and secure digital financial ecosystems.

WHY THIS GUIDELINE NOTE MATTERS

The guideline note addresses the varied progress of AFI member countries, offering tailored recommendations for jurisdictions at different stages of their open finance journey. It emphasizes the importance of proportionality and adaptability, providing solutions that range from feasibility assessments to full implementation of open finance frameworks. By balancing innovation with security and inclusivity, the guideline note enables policymakers to design systems that prioritize underserved populations while building trust and stability.

Additionally, it promotes cross-border collaboration and knowledge-sharing, leveraging peer insights and global best practices. By providing AFI members with tools to navigate challenges such as data privacy, cybersecurity risks, and stakeholder coordination, this guideline note ensures that open finance initiatives deliver meaningful and sustainable results.

A CALL TO ACTION

As open finance continues to evolve globally, this vital resource offers invaluable guidance to AFI members seeking to establish robust frameworks. By aligning regulatory advancements with inclusive financial goals, the guideline note supports the creation of ecosystems that are not only resilient and innovative, but also equitable and trustworthy. Policymakers are invited to leverage the insights and tools provided to drive impactful changes in their jurisdictions.

1. INTRODUCTION AND POLICY CONTEXT OF INCLUSIVE OPEN FINANCE

1.0 BACKGROUND

The development of this guideline note aligns with the DFSWG’s mandate as a collaborative platform for financial regulators and policymakers within the AFI network, facilitating the exchange of insights and the development of practical, actionable guidance to address emerging policy priorities.

One such priority has been the exploration and advancement of inclusive open finance, aimed at providing AFI member institutions with guidance of this kind for its implementation. The guideline note details approaches to conducting feasibility assessments, developing appropriate policies, governance, and other aspects aligned with the country-specific considerations, serving as critical tools to support financial inclusion, competition, and ecosystem innovation.

Inclusive open finance enables regulators and policymakers to address financial inclusion gaps, encourage competition, and spur ecosystem innovation. This year’s AFI DFSWG Survey on Inclusive Open Finance reveals that while 52 percent of members are conducting feasibility assessments, only four percent have fully implemented open finance frameworks, highlighting the need for this GN to guide members at various stages of their open finance journeys.

For more detailed findings from the survey, please refer to [Annex A - AFI Digital Financial Services Working Group \(DFSWG\) Open Finance Survey Report October 2024](#).

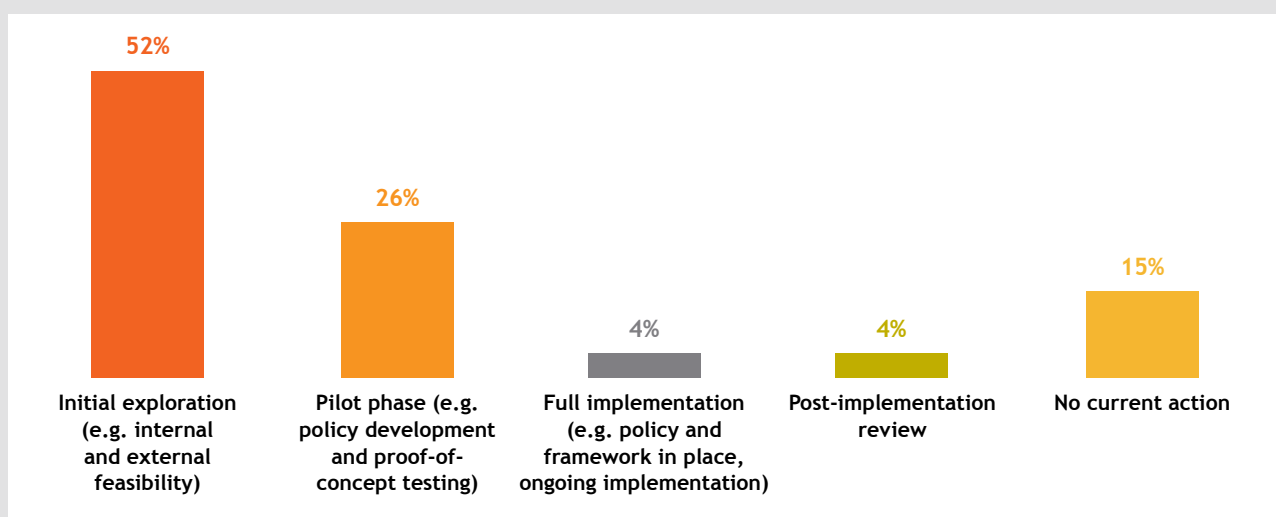
1.1 DATA-SHARING REGIMES AND INCLUSIVE OPEN FINANCE WITHIN THE AFI NETWORK

Definitions: What Are Inclusive Data-Sharing Regimes and Ecosystems?

The concept of data-sharing ecosystems in financial services originated from efforts to improve customer choice, increase competition, and promote innovation. Open banking emerged as an early model, primarily focused on enabling customers to securely share their banking data with authorized third parties. Examples include the [UK’s Open Banking Regulation](#), the [EU’s PSD2 Directive](#), and [Brazil’s Open Finance Regulation](#). Over time, these frameworks expanded to include more financial products, evolving into open finance, which extends data-sharing beyond banking to cover insurance, investments, and other financial services.

While this guideline note will primarily use the term Open Finance, the content and recommendations are relevant and actionable for adjacent terms such as Open Banking, Open Data, and Open API. This ensures that the guideline note offers practical guidance regardless of the specific ecosystem members are pursuing. For clarity (next page):

FIGURE 1. OPEN FINANCE STAGE WITHIN THE AFI NETWORK (N=27)

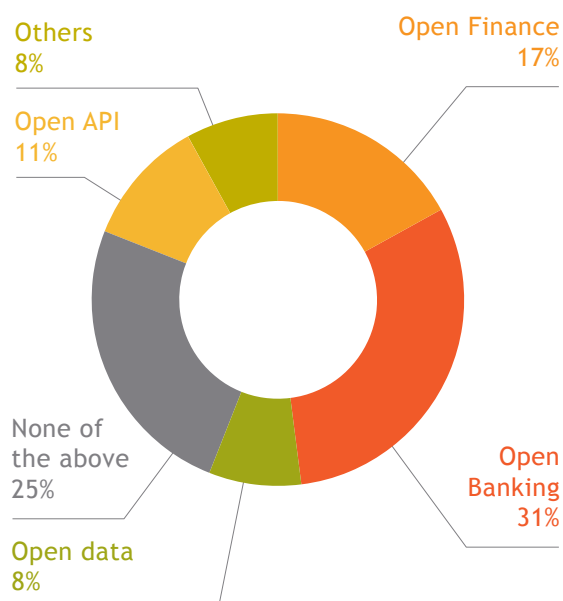


<p style="text-align: center;">OPEN BANKING</p>	<p style="text-align: center;">OPEN FINANCE</p>
<p>A data-sharing regime primarily led by banks, focused on enabling consumers to securely permit and share their banking data with third parties. In addition to consumer data, financial institutions are encouraged to provide access to information about their products and services. This approach supports market transparency, helping consumers compare offerings and select suitable providers.</p>	<p>An extension of Open Banking that expands the scope of data-sharing to include other financial services and providers such as mobile money, insurance, mortgage, credit, and investment services. Similar to Open Banking, Open Finance encourages financial institutions to provide data not only on consumer accounts but also on products and services, further facilitating consumer choice and financial inclusion.¹</p>
<p style="text-align: center;">OPEN DATA</p>	<p style="text-align: center;">OPEN API</p>
<p>A broader data-sharing regime that extends beyond the financial sector to include other sectors, including utilities (water, energy, etc.), transportation, telecommunications, and government services, creating a holistic customer-permissioned data-sharing ecosystem. This regime also promotes transparency by enabling consumers and businesses to access product and service information across sectors, enhancing decision-making.</p>	<p>A data-sharing regime emphasizing interoperable and secure API-driven data-sharing. In addition to enabling consumer data-sharing, Open API frameworks can provide standardized access to institutional product and service information, supporting more use cases and functionalities in a more informed and transparent marketplace.</p>

Survey data shows varied engagement across the AFI network, with 31 percent of members pursuing open banking initiatives and 17 percent exploring open finance frameworks. These efforts reflect diverse regional approaches driven by market conditions, regulatory readiness, and ecosystem maturity.

For a deeper dive into data-sharing frameworks and member insights, see [Annex A](#).¹

FIGURE 2. PREVALENT AND EMERGING DATA-SHARING REGIMES IN THE AFI NETWORK (N=27)



¹ Further information on Open Banking’s UK Journey to Open Finance is available at: <https://www.openbanking.org.uk/open-finance/>

Inclusive Open Finance Policy Development in the AFI Network and Beyond

Globally, regulators are implementing frameworks that balance innovation with security and consumer protection. Key examples include:



THE PHILIPPINES: The Bangko Sentral ng Pilipinas (BSP) launched its [Open Finance Framework](#), aimed at promoting trust and inclusive financial innovation through ecosystem collaboration.



BRAZIL: The [Open Finance Regulation](#) adopted by Brazil extends data-sharing beyond banks to non-bank financial institutions, payment systems, and insurance providers.



NIGERIA: The [Central Bank of Nigeria's Open Banking Framework](#) seeks to encourage innovation through its Open Banking Framework, supporting the participation of non-bank institutions in the financial ecosystem.



MEXICO: [Article 76 of the Law to regulate Financial Technology Institutions](#) mandates standardized APIs for data-sharing, fostering competition and transparency across financial services (Banco de Mexico, 2018).



UK: The CMA's Open Banking Regulation focuses on secure data-sharing within the banking sector.

These examples underscore the importance of inclusive regulatory frameworks to promote trust, enhance competition, and advance innovation while aligning with financial inclusion objectives. Please see [Annex A](#) for more information on inclusive open finance policy development across the AFI network.

Rationale and Motivation for Inclusive Open Finance in the AFI Network

The AFI DFSWG survey highlights strong stakeholder interest in open finance, with 52 percent of respondents confirming robust market demand, reflecting its potential to unlock new opportunities for financial inclusion, especially in developing markets with limited traditional banking services.

Inclusive open finance is expected to contribute directly and indirectly to critical financial inclusion outcomes. Key motivations cited by AFI members include:

- ✓ **Improving financial inclusion** (21 percent) by expanding access to tailored financial products.
- ✓ **Enhancing customer choice** (21 percent) through the introduction of competitive financial services.
- ✓ **Advancing innovation and ecosystem development** (20 percent) by encouraging collaboration between traditional and non-bank institutions. For instance, the [BSP Open Finance PH Hackathon](#) demonstrates how open finance enables personalized financial management, reduces MSME lending barriers through consent-driven data sharing, and supports digital payment innovations.
- ✓ **Building trust in the financial ecosystem** (13 percent) by providing transparent, consent-based data-sharing mechanisms. For example, Bangko Sentral ng Pilipinas Circular 1122 highlights how giving consumers ownership and control over their financial data encourages trust and improves customer experience with tools such as budgeting, competitive credit options, and identity management.
- ✓ **Enhance competition in the financial sector** (16 percent) to create a level playing field for all actors. Mexico's open finance framework, for instance, has spurred market entry by new players, driving down costs and improving service quality².

Inclusive open finance encourages financial inclusion by building trust, enhancing competition, and promoting innovation while reducing costs, expanding access through non-bank providers, and ensuring responsible product design. Furthermore, transparent data-sharing practices and robust consumer protections safeguard users and contribute to sustainable financial inclusion.

These motivations align with financial inclusion objectives, enabling underserved populations to access tailored financial products. The interplay between trust, innovation, and inclusion ensures that financial services address diverse consumer needs, particularly in developing markets.

Please see [Annex A](#) for more information.

² BBVA Research. Open Finance: regulation, innovation and competition. Available at: <https://www.bbvarresearch.com/en/publicaciones/open-finance-regulation-innovation-and-competition/>

1.2 POLICY DEVELOPMENT AND IMPLEMENTATION GUIDE FOR INCLUSIVE OPEN FINANCE

Inclusive open finance provides regulators with a strategic opportunity to advance accessible, diverse, and innovative financial services. However, balancing these opportunities with inherent risks is critical to successful implementation.

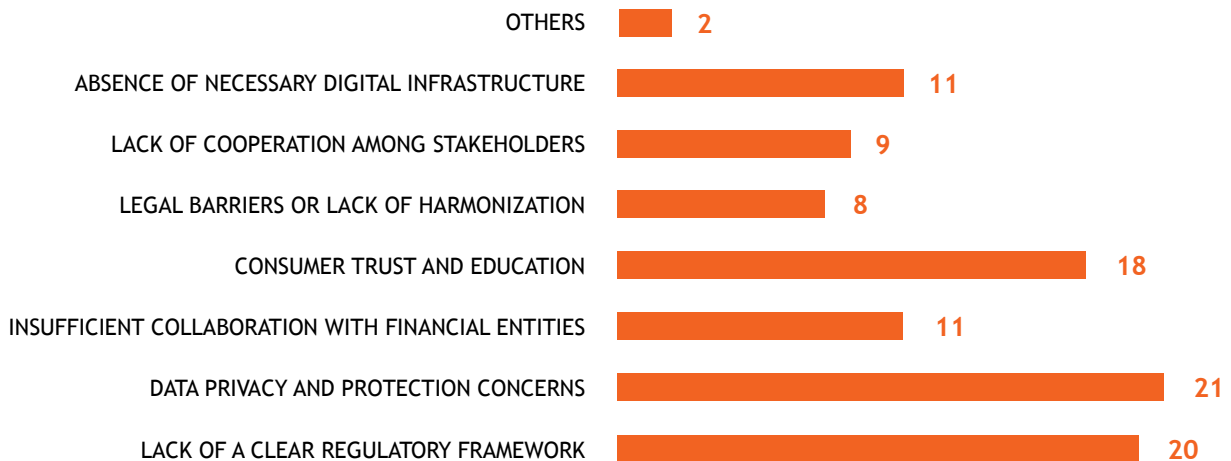
Importance of Regulatory Guidance and Policy Clarity

Regulatory clarity is essential to strengthen trust, competition, and consumer protection within open finance ecosystems. Policymakers must ensure that regulatory frameworks are:

- ✓ **Aligned with market conditions**, supporting both innovation and financial inclusion.
- ✓ **Collaborative across sectors**, ensuring seamless data-sharing between financial and non-financial entities.
- ✓ **Adaptive to technological developments**, allowing frameworks to evolve with market needs.

Survey data highlights ecosystem challenges such as limited technical capacity, infrastructure constraints, and insufficient regulatory clarity, emphasizing the need for cohesive policies that balance innovation and risk management.

FIGURE 3. ECOSYSTEM CHALLENGES IN IMPLEMENTING OPEN FINANCE

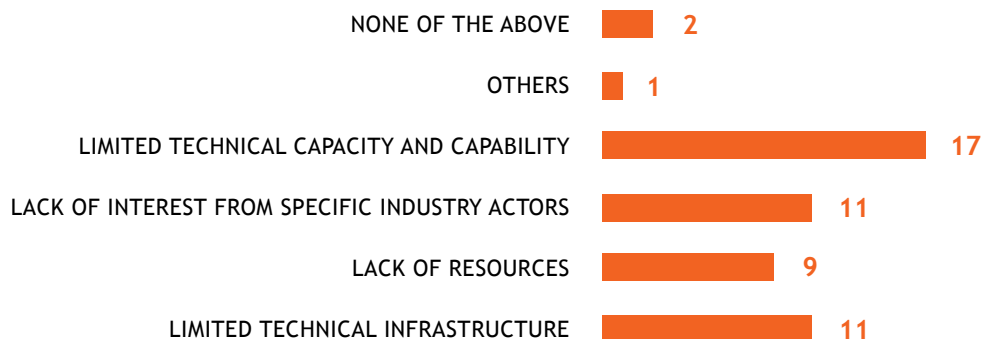


Implementation Challenges in Open Finance

A proportionate, and inclusive regulatory approach is needed to ensure that open finance contributes to financial inclusion without leaving vulnerable or disadvantaged populations behind.

Beyond ecosystem challenges, technical and operational issues can impede open finance adoption. Survey respondents (as shown in Figure 4) report limited technical capacity (33 percent) and infrastructure constraints (22 percent) as key barriers to implementation. Furthermore, 22 percent of members highlight a lack of interest from specific industry actors, indicating the need for collaboration between stakeholders.

FIGURE 4. IMPLEMENTATION CHALLENGES IN IMPLEMENTING OPEN FINANCE



1.3 OBJECTIVES OF THE GUIDELINE NOTE

When implemented effectively, open finance has the potential to spur innovation, competition, and equitable access to financial services. This guideline note aims to equip financial regulators and policymakers with practical guidance to design, improve, and implement a responsible and inclusive open finance ecosystem.

Key objectives include:

- ✓ Providing structured frameworks for assessing market readiness and effectively coordinating policy efforts.
- ✓ Presenting clear, actionable policy considerations that can be tailored to the unique contexts of developing and emerging markets, with an emphasis on long-term sustainability.
- ✓ Reinforcing the importance of policies that drive innovation, encourage competition, and ensure consumer protection, while promoting equitable access to financial services for underserved and vulnerable groups, including women, youth, older people, and MSMEs.

This guideline note serves as a comprehensive roadmap for AFI members, facilitating the development of robust open finance frameworks that align regulatory advancements with the overarching goal of sustainable financial inclusion.

2. INCLUSIVE OPEN FINANCE ECOSYSTEM - PRINCIPLES AND FRAMEWORK

2.0 GUIDING PRINCIPLES FOR AN INCLUSIVE OPEN FINANCE ECOSYSTEM

The design and implementation of an inclusive open finance ecosystem should be anchored by core principles that promote equity, security, and innovation. These principles provide a balanced regulatory foundation, guiding policy decisions to ensure trust among customers, ecosystem participants, and regulators.

GUIDING PRINCIPLES



INCLUSIVITY AND ACCESSIBILITY

Promoting the intentional and proactive participation of financial sector entities, including financial service providers (FSPs), mobile money operators (MMOs) and fintechs, in designing and enhancing an inclusive open finance ecosystem, while ensuring equitable access for underserved groups such as women, youth, elderly populations, and MSMEs.



PRIVACY-COMPLAINT DATA SHARING

Provide clear guidance on customer control over data-sharing decisions, including the ability to transparently grant, revoke, and manage consent.



CYBERSECURITY, PRIVACY, AND DATA PROTECTION

Prioritize strong data protection and cybersecurity measures to prevent fraud, misuse, and unauthorized access, ensuring that customer data always remains secure.



INTEROPERABILITY

Encourage the use of common technical standards (such as APIs) across the ecosystem to enable seamless and secure data-sharing and that enables competition and innovation.



PARITY, NEUTRALITY, AND RECIPROCITY

Ensure that all participants, regardless of size or sector, are held to the same standards of data-sharing, with clear reciprocity mechanisms that prevent power imbalances and encourage fair participation. The ecosystem must maintain neutrality, safeguarding against preference for incumbents or specific sectors, while upholding the principle of parity in access to data, services, and infrastructure.



COUNTRY-LED, CONTEXTUALIZED APPROACH

Design open finance frameworks tailored to each country's unique market dynamics, proportionate to identified risk, regulatory environment, and financial inclusion goals, promoting national ownership through context-specific, phased implementation and stakeholder collaboration.



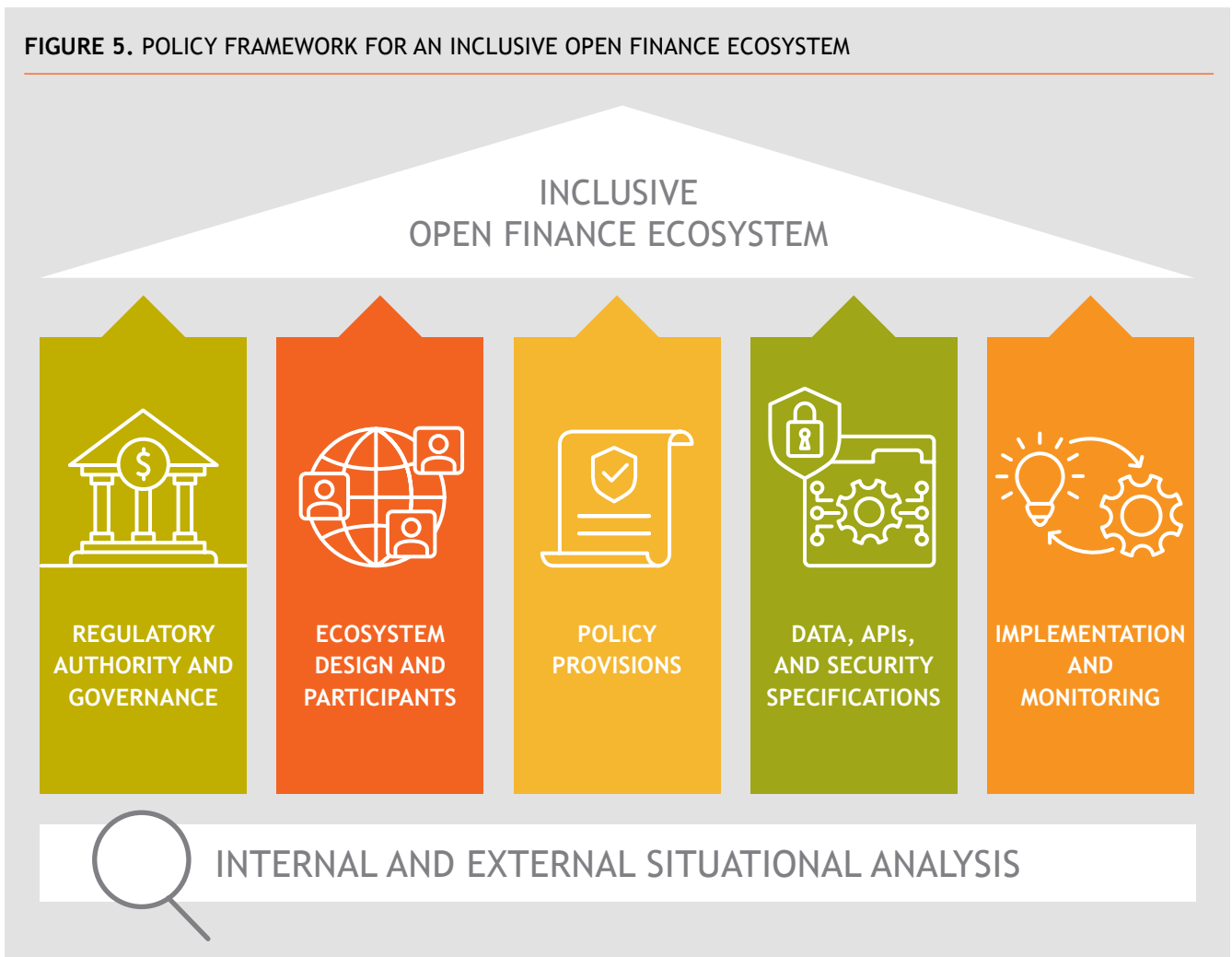
CONSUMER EMPOWERMENT AND LITERACY

Equip consumers with the knowledge, tools, and confidence to actively manage their data and engage meaningfully with digital financial services, encouraging trust, informed decisions, and responsible usage.

	COLLABORATION AND MULTI-STAKEHOLDER GOVERNANCE	Promote continuous engagement and coordination between regulators, industry players, and civil society to co-create inclusive solutions and address evolving challenges across sectors.
	ACCOUNTABILITY, TRANSPARENCY, AND ETHICAL CONDUCT	Establish clear performance indicators and governance mechanisms that are ethnically grounded to monitor progress, ensuring transparent policymaking processes and responsible, evidence-based adjustments.
	DATA QUALITY, USABILITY, AND TIMELINESS	Ensure that data exchanged within the ecosystem is accurate, comprehensive, timely, and in a format that meets user needs for decision-making.

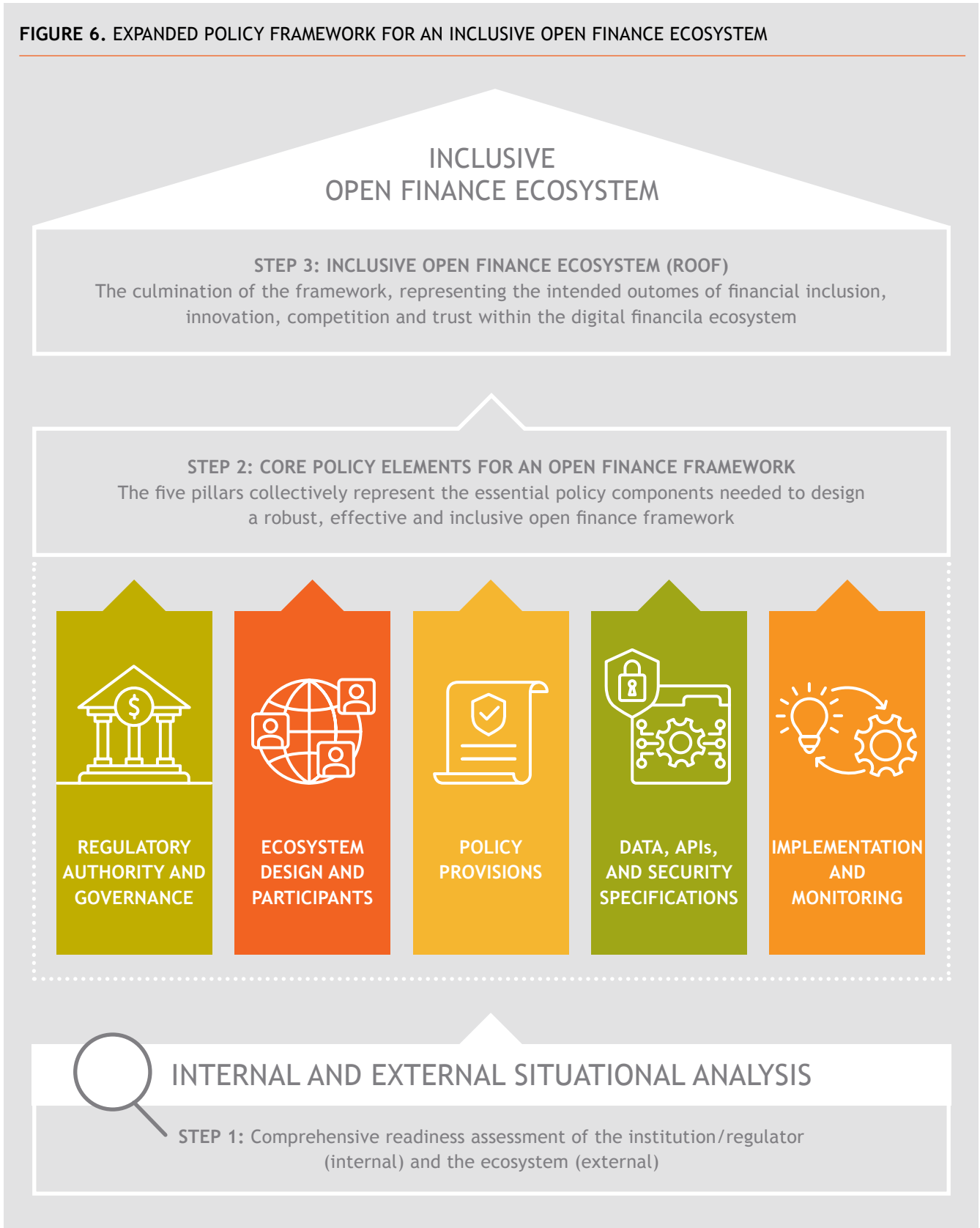
2.1 PROPOSED POLICY FRAMEWORK FOR AN INCLUSIVE OPEN FINANCE ECOSYSTEM

FIGURE 5. POLICY FRAMEWORK FOR AN INCLUSIVE OPEN FINANCE ECOSYSTEM



To structure policy considerations and recommendations, we propose a policy framework where the foundation and five pillars form the core of an inclusive open finance ecosystem, supporting a roof that represents the desired outcomes of financial inclusion, trust, and an innovative ecosystem development.

FIGURE 6. EXPANDED POLICY FRAMEWORK FOR AN INCLUSIVE OPEN FINANCE ECOSYSTEM



Foundational: Internal and External Situation Analysis

The foundation of the framework is built on a **comprehensive readiness assessment** of both internal and external factors. This analysis allows policymakers to understand the current regulatory environment, ecosystem dynamics, and market readiness for open finance.

INTERNAL ANALYSIS

- ✓ This involves evaluating the current regulatory environment, identifying gaps, overlaps, and areas for improvement that could affect the implementation of open finance.
- ✓ It also assesses the capacity and readiness of financial and non-financial institutions, including technological infrastructure, data-sharing capabilities, and alignment with data protection regulations.
- ✓ Additionally, the internal analysis considers opportunities to leverage or enhance financial inclusion strategies by integrating open finance initiatives into existing policies and frameworks.

EXTERNAL ANALYSIS

- ✓ The external analysis examines emerging trends in financial technology and the financial sector within the jurisdiction contrasted with global best practices to inform policy development.
- ✓ Policymakers evaluate experiences from peer jurisdictions such as Brazil, Nigeria, Mexico, the Philippines, and the UK, identifying key lessons, challenges, and solutions for their local context.
- ✓ Furthermore, an analysis of global financial inclusion benchmarks and technological advancements (e.g. digital financial infrastructure, ecosystem-wide data exchange use cases, adoption of emerging technologies such as blockchain, AI-driven financial services, and cooperation models among financial sector actors, etc.) could serve as proxy datapoints that help determine the developmental maturity and broader market readiness for open finance.

CORE PILLARS OF THE POLICY FRAMEWORK

Five core pillars collectively form the critical elements needed to develop, implement, and monitor a robust open finance ecosystem. Each pillar addresses specific areas essential to achieving financial inclusion, innovation, and system security, with their interdependence enabling a comprehensive framework tailored to the needs of developing and emerging markets.



PILLAR 1: REGULATORY AUTHORITY AND GOVERNANCE

This pillar ensures that **governance structures are in place to coordinate efforts** among regulatory bodies, central banks, financial regulators, sectoral authorities, and industry shareholders. Governance frameworks are designed to facilitate **cross-sector collaboration** between financial and non-financial actors—such as telecommunications providers and utilities—while promoting accountability and transparency within the ecosystem. Effective governance also ensures alignment between all parties on how the open finance ecosystem is organized, including the establishment of a board secretariat, committees, and independent implementation entities or specific working groups responsible for providing oversight and support on standards and specifications, technology, data, pricing, consumer protection, etc.



PILLAR 2: ECOSYSTEM DESIGN AND PARTICIPANTS

This pillar establishes the **parameters** that define the design of an inclusive open finance ecosystem, including the roles, responsibilities, and operating principles for **participants in the open finance ecosystem**. It provides the **foundation for a customer-centric and innovation-friendly framework**, ensuring that all stakeholders—banks, non-bank financial institutions, FinTechs, and third-party providers—operate with clear rules that promote **financial inclusion and system integrity**. Key areas include data ownership, the definition of ecosystem actors, customer protection, design and choice of the inclusive digital infrastructure, and evolving regulatory oversight to promote innovation without compromising financial stability.



PILLAR 3: POLICY PROVISIONS

Policy provisions provide foundational regulatory and policy requirements essential for the effective operation of open finance. These provisions may already exist within a jurisdiction's broader policy landscape, and, depending on the licensing regime adopted for open finance participants, referencing existing policies may be sufficient to avoid duplication and reduce potential confusion. Ultimately, the choice of policy provisions remains at the discretion of the policymaker or regulator, subject to their market readiness and their ability to tailor these provisions to align with the country's legal context, unique circumstances, and policy priorities. This approach allows for a flexible and proportionate approach that supports a secure, transparent, and inclusive open finance ecosystem.



PILLAR 4: DATA, APIS, AND SECURITY SPECIFICATIONS

The **technical backbone** of the ecosystem lies in the specifications, standards and protocols governing data sharing, APIs, and security measures. This pillar ensures **secure, interoperable, and seamless data-sharing** across entities, promoting competition and innovation. Clear API specifications promote system-wide interoperability, while **stringent security standards**—including encryption, authentication protocols, and compliance audits—help protect consumer data. Regulatory sandboxes and testing environments are recommended to allow safe experimentation with innovative financial solutions.



PILLAR 5: IMPLEMENTATION AND MONITORING

This pillar outlines the **strategic roadmap** for implementing and monitoring open finance initiatives. A **phased and adaptive approach** to implementation allows for incremental rollouts based on the capacity and readiness of participants, minimizing risks while promoting innovation. Collaboration between regulators, FinTechs, and financial institutions ensures that challenges are addressed promptly. Monitoring and evaluation frameworks—supported by **SupTech tools and performance metrics**—enable continuous oversight, ensuring compliance, identifying risks, and adapting the framework as market conditions evolve.

ROOF: EXPECTED OUTCOMES OF AN INCLUSIVE OPEN FINANCE ECOSYSTEM

The culmination of this policy framework represents the **expected outcomes** that align with the goals of financial inclusion, competition, and innovation, with a strong focus on **building trust in the digital financial ecosystem**.

- ✓ **Customer-Centricity and Financial Inclusion:** Inclusive open finance should enhance access to affordable, high-quality financial services for underserved populations, including women, youth, MSMEs, and low-income individuals. Empowering consumers through tailored financial products and trust-building mechanisms encourages active participation in the digital financial ecosystem.
- ✓ **Market Competition and Innovation:** Open finance promotes a level playing field by enabling both established financial institutions and new entrants to innovate. This encourages the development of disruptive products and services, improves the customer experience, and drives down costs through healthy competition.
- ✓ **Trust, Security, and Stability:** A well-regulated ecosystem encourages trust among consumers and service providers, ensuring secure data-sharing practices and responsible data management. Strong governance frameworks and cybersecurity standards help maintain financial system integrity, minimizing risks and preventing misuse.
- ✓ **Economic Growth and Resilience:** An inclusive open finance ecosystem contributes to economic growth by providing individuals and businesses with access to a range of financial products, including credit, savings, and insurance. This enables greater participation in the economy, building resilience during times of uncertainty.

3. POLICY CONSIDERATIONS FOR AN INCLUSIVE OPEN FINANCE ECOSYSTEM

3.0 FOUNDATIONAL PILLAR ON INTERNAL AND EXTERNAL SITUATION ANALYSIS

Starting the journey towards establishing an inclusive open finance ecosystem requires a thorough analysis of both internal and external factors that shape the readiness and potential impact of the policy framework. Regulators must approach this with a structured, data-driven process that allows them to evaluate current capabilities, gaps, and opportunities, while also understanding the broader market and technological landscape.

This section provides a step-by-step process to guide regulators in conducting a comprehensive internal and external situational analysis, assessing the impact on financial inclusion, and establishing a baseline through benchmarking.

FIGURE 7. INTERNAL AND EXTERNAL SITUATIONAL ANALYSIS





1 INTERNAL SITUATIONAL ANALYSIS

The internal situational analysis focuses on the regulatory authority’s internal capacity and mandate, among other indicators, to evaluate readiness to lead, govern, and facilitate an open finance ecosystem. It serves as the foundation to determine if the financial authority is equipped to initiate, implement, and manage open finance.

KEY CONSIDERATIONS

MANDATE

Identify which institution(s) have the **legal and regulatory authority** to implement open finance policies and enforce data-sharing mandates among financial institutions, non-bank financial institutions, and third-party providers.

Determine if existing regulatory bodies have jurisdiction over non-bank financial institutions and third-party providers that will participate in the open finance ecosystem.

SUPPORTIVE LEGAL FRAMEWORKS

Evaluate **existing laws, directives, and regulatory instruments** that support secure and inclusive data-sharing mechanisms. This includes evaluating the presence and sufficiency of consumer protection regulations applicable to financial institutions, FinTechs, and third-party providers. Where appropriate, consider the potential need for a Personal Data Protection Law to enable effective implementation of Open Finance, noting the benefits and challenges of such legislation.

Identify any primary or secondary regulations that impose restrictions on sharing financial data, such as bank secrecy laws, and propose solutions or alternatives to address these limitations within the open finance framework.

If such legal frameworks are absent or outdated, develop a strategic plan for enhancing or drafting new legislation or proportionate policy to support open finance implementation.

MONITORING AND ENFORCEMENT CAPABILITIES

Evaluate the capacity to monitor, supervise, and enforce compliance with open finance rules. This includes having a clear mechanism for sanctioning non-compliance and handling data protection or privacy breaches.

RESOURCE ADEQUACY AND CAPACITY

Assess whether the regulatory body possesses the necessary internal resources—human expertise, technical tools, and digital infrastructure—to efficiently govern the open finance ecosystem.

This includes monitoring data flows, overseeing third-party integrations, and managing emerging risks, such as cybersecurity threats.



2 EXTERNAL SITUATIONAL ANALYSIS

The external situational analysis is designed to assess broader market readiness for implementing an inclusive open finance ecosystem within a jurisdiction. It evaluates the financial landscape, technological infrastructure, and the capacity of market participants.

KEY CONSIDERATIONS

MARKET DEMAND AND ECOSYSTEM TRENDS	<p>Analyze consumer behavior and demand for innovative financial products, assessing their openness to engaging with digital finance solutions enabled by open finance ecosystems.</p> <p>Consider whether consumers are demonstrating a growing interest in new digital finance solutions, such as personalized financial services, payment initiation, pricing comparison, and DFS choice options that could benefit from open finance.</p>
TECHNICAL READINESS OF THE FINANCIAL SECTOR	<p>Assess the technical capacity of financial institutions and FinTechs to comply with open finance standards, particularly regarding API implementation, data-sharing protocols, and infrastructure.</p> <p>Can incumbents easily integrate with third-party platforms?</p>
INCLUSIVE DIGITAL FINANCE INFRASTRUCTURE (IDFI) AND API ADOPTION	<p>Understand the current level of Inclusive Digital Finance Infrastructure such as Instant or Fast Payment Systems, Digital ID, Ecosystem Data Warehouses, etc. across the sector, including the extent to which APIs are already being used. This includes an evaluation of existing partnerships between banks, FinTechs, and non-bank financial players.</p>
COMPLIANCE WITH DATA PROTECTION AND PRIVACY LAWS	<p>Evaluate whether market participants have implemented (or have the capability to implement such) systems that fully comply with existing data protection regulations, such as consent management protocols and encryption standards.</p> <p>Assess compliance trends, audit capabilities, and identify any existing gaps in data privacy safeguards.</p>
FINTECH DEVELOPMENT AND INNOVATION	<p>Assess the development of the FinTech sector, including its capacity for innovation and the deployment of solutions such as mobile wallets, digital credit products, and API-driven platforms.</p> <p>Identify the level of collaboration between traditional financial institutions and FinTechs in building inclusive and user-centric financial services.</p>
MARKET DYNAMICS AND INCUMBENT CONCENTRATION	<p>Assess the concentration of incumbents within the financial ecosystem to understand how many entities would be impacted by open finance regulations and what the competitive dynamics might look like.</p>
DFS AND FINANCIAL INCLUSION METRICS	<p>Evaluate the historical performance of financial inclusion initiatives, focusing on mobile internet access, digital financial service adoption rates, and smartphone penetration across different customer segments.</p>
STATUS AND EXTENT OF COLLABORATION WITH OTHER REGULATORS	<p>Assess the degree of coordination and collaboration between financial, telecommunications, and data protection regulators to ensure a harmonized regulatory approach, minimize overlaps, and address gaps in the open finance ecosystem.</p>



3 EVALUATION OF THE POTENTIAL IMPACT ON FINANCIAL INCLUSION

To ensure financial inclusion remains a central outcome of the open finance initiative, regulators should focus on assessing the impact on underserved populations. This analysis should inform the design of the framework to address the needs of vulnerable and excluded segments.

KEY CONSIDERATIONS

SEX-DISAGGREGATED DATA

Ensure the collection of sex-disaggregated data during the internal and external analysis phase. If collecting new data is not feasible, rely on existing datasets and survey reports to identify barriers to financial inclusion for specific demographic groups.

INCLUSION BARRIERS

Identify barriers preventing key groups, such as women, youth, MSMEs, and rural populations, from accessing formal financial services.
Determine how open finance initiatives and use cases can alleviate these barriers by improving affordability, access, usage, and personalized financial services, thereby increasing overall financial participation.

TARGETED FINANCIAL INCLUSION

Determine from the outset, if the design of the open finance framework will address the unique needs of specific underserved segments, such as low-income households, ensuring that financial services provided under this framework are accessible, affordable, and aligned with consumer protection standards.



4 BENCHMARKING - ESTABLISHING A BASELINE

Benchmarking against other countries or regions that have implemented similar frameworks helps establish a baseline for what success looks like in terms of design, governance, and financial inclusion outcomes.

KEY CONSIDERATIONS

COUNTRY COMPARISON STUDIES

Conduct comparative studies of countries with similar socioeconomic profiles that have implemented open banking or open finance ecosystems, such as Brazil, Mexico, the Philippines, Nigeria, and the Dominican Republic. Focus on understanding their legal frameworks, interoperability standards, data-sharing mechanisms, customer and data protection standards, and the role of third-party providers in driving financial inclusion, with the aim of learning from their approaches and adapting them to your jurisdiction's context.

ADOPTION AND SUCCESS METRICS

Identify key adoption metrics such as user uptake rates, transaction volumes, and consumer trust indicators. Analyze how these metrics correlate with improved access to financial services for underserved communities and increased innovation in financial products.

BEST PRACTICES AND LESSONS LEARNED

Extract **best practices** from early adopters and tailor them to the context of your jurisdiction. This will help regulators avoid common pitfalls and build on proven strategies to accelerate financial inclusion through open finance.

KEY TAKEAWAY: A DECISION TRACKER FOR POLICYMAKERS

At the conclusion of the situational analysis, policymakers are encouraged to create a decision tracker to summarize the findings and guide the next steps in the policy development process. This can take the form of a decision tree or rubrics based on the following dimensions:

CONSIDERATION	YES/NO	NEXT STEP
Is there a clear legal mandate for open finance?	Yes/No	Define the responsible authority or draft new legislation
Are the required technical standards (API, security) feasible?	Yes/No	Initiate collaboration for standard-setting with ecosystem stakeholders
Is there a robust legal framework for data protection?	Yes/No	Identify gaps and propose amendments
Are there sufficient internal resources and capacities?	Yes/No	Develop a capacity-building program
Have financial inclusion metrics been assessed and aligned?	Yes/No	Collect additional data and adjust the framework accordingly
Are the key stakeholders, specifically the implementing partners, willing and prepared?	Yes/No	Engage stakeholders through consultations and readiness assessments to address concerns and build consensus
Does the external landscape support open finance adoption?	Yes/No	Conduct an external situational analysis to assess market readiness, technological infrastructure, and peer regulatory alignment, and identify potential barriers



3.2 PILLAR ON REGULATORY AUTHORITY AND GOVERNANCE

In an inclusive open finance ecosystem, defining the regulatory authority and governance approach plays a critical role in ensuring the integrity, security, and sustainability of the open finance scheme. This pillar addresses how central banks or financial sector supervisors, complemented by other relevant bodies, can lead and manage the open finance ecosystem effectively. Clear governance ensures that all ecosystem actors abide by agreed-upon standards, data-sharing protocols, and security frameworks while also balancing innovation and financial inclusion goals.

Regulatory Authority

The regulatory authority refers to the primary entity responsible for overseeing the implementation, management, and enforcement of open finance regulations. Within the context of AFI member institutions, in most cases, this is the central bank or financial sector supervisor, as these entities have the dictate, capacity, and expertise to regulate financial ecosystems, ensure systemic stability, and safeguard consumer protection. The authority is responsible for establishing the regulatory framework, defining the roles of participants, and ensuring compliance with established guidelines.

Central banks and financial supervisors are well-placed to lead open finance schemes due to their broad oversight of payment systems, financial institutions, and consumer protection. Their role is critical in maintaining public trust in the financial system and ensuring that data-sharing practices align with national financial inclusion goals, cybersecurity standards, and data protection laws.

KEY CONSIDERATIONS FOR THE REGULATORY AUTHORITY

- ✓ **LEADERSHIP AND COORDINATION:** The central bank or financial sector supervisor must take the lead or, in scenarios where they do not, actively support the regulatory framework's design, ensuring alignment with national goals for financial inclusion, competition, and consumer protection.
- ✓ **COMPLIANCE OVERSIGHT:** The authority must regularly assess whether ecosystem actors are compliant with open finance policies, including data-sharing agreements, API specifications, and cybersecurity measures.
- ✓ **INNOVATION FACILITATION:** The regulatory authority must strike a balance between enabling innovation in financial services and maintaining financial stability and security.
- ✓ **CONSUMER PROTECTION:** Ensure that robust safeguards are in place to protect the rights, privacy, and consent management of consumers across the ecosystem.
- ✓ **ADAPTABILITY:** The regulatory authority should ensure that the framework is flexible enough to evolve as the ecosystem grows and matures.

Complementary Regulatory Bodies and Entities

In addition to central banks or financial supervisors, which typically lead the open finance regulatory landscape, other regulatory bodies and entities play crucial roles in establishing a holistic and secure open finance regime. These entities may include API and Technical Specifications or Standards Setting Bodies, Data Privacy Commissions, Telecommunication Regulators, National Identity Authorities, a Financial Sector Cybersecurity Operations Center (FSOC), and Alternative Dispute Resolution (ADR) Mechanisms. Each of these bodies provides essential oversight, technical standards, privacy protections, identity verification, and dispute resolution capabilities that collectively support the broader success and sustainability of the open finance ecosystem.

Examples of Complementary Entities and their Roles:

- **API and Technical Specifications Bodies:** These entities are responsible for developing, setting, and maintaining technical standards, including API specifications that ecosystem participants must follow. Their role ensures interoperability, security, and technical consistency across platforms, promoting seamless data exchange.

- **Data Privacy Commissions:** These regulators enforce data protection and privacy compliance, ensuring that data-sharing practices within the open finance ecosystem align with data protection laws, such as GDPR³ or national equivalents (e.g. Nigeria's NDPR⁴ or the Philippines' Data Privacy Act⁵). Data Privacy and Protection Commissions also provide guidelines for securely and transparently handling personal and financial data.
- **Telecommunication Regulators:** In many jurisdictions, telecommunication regulators play a crucial role in supporting reliable, secure, and widely accessible digital infrastructure. By ensuring the availability and quality of internet connectivity and mobile network services, they enable the functionality and reach of digital financial services. They may also oversee policies related to mobile number portability and USSD standards for financial transactions in areas with limited connectivity.
- **National Identity (ID) Authorities:** National ID authorities provide identity verification and digital authentication frameworks, supporting secure and accessible customer onboarding in the open finance ecosystem. Their integration facilitates seamless Know Your Customer (KYC) processes and enhances trust by enabling secure and verifiable digital identities, as seen in countries such as the Philippines and Nigeria.
- **Financial Sector Cybersecurity Operations Center (FSOC):** Subject to the context of each jurisdiction, FSOC can serve as a crucial complementary regulatory body within an open finance ecosystem. It is a centralized hub dedicated to monitoring, managing, and responding to cybersecurity threats across the financial industry, enhancing resilience and ensuring a rapid response to cyber incidents.
- **Alternative Dispute Resolution (ADR) Mechanisms:** ADR bodies provide frameworks to resolve conflicts among ecosystem participants, including disputes over data-sharing agreements, liabilities, and breaches. These mechanisms build trust by providing a structured process for dispute resolution outside of traditional courts, allowing for quicker and more accessible redress options.

³ Further information on the GDPR is available at: <https://gdpr-info.eu/art-4-gdpr/>

⁴ Further information on the Nigeria Data Protection Commission (NDPC) is available at: <https://www.ndpc.gov.ng/>

⁵ Further information on the Philippines National Privacy Commission, Republic Act 10173, Data Privacy Act of 2012 is available at: <https://privacy.gov.ph/data-privacy-act/>

ENTITY	ROLE
Central Bank or Financial Regulator	Leads the design of the open finance policy framework, oversees compliance, authorization or licensing, and manages financial stability risks.
API Standards Body ⁶	Defines the technical specifications and API standards to ensure interoperability, data security, and consistency across platforms.
Data Privacy Commission	Enforces compliance with data protection laws, providing oversight on data security, privacy, and customer consent practices.
Telecommunication Regulator	Ensures the availability of digital infrastructure, manages standards for mobile network accessibility, and supports USSD transactions.
National Identity Authority	Provides identity verification services, supporting secure digital onboarding and authentication, crucial for KYC compliance.
Financial Sector Cybersecurity Operations Center (FSOC)	Proactively identifies, assesses, and flags potential security vulnerabilities across the ecosystem.
ADR Mechanism	Offers conflict resolution services for data-sharing disputes, liabilities, and breaches, ensuring quick and accessible redress.

KEY CONSIDERATIONS FOR COMPLEMENTARY REGULATORY BODIES

- ✓ **COLLABORATION AND COORDINATION:** Establish formal collaboration mechanisms between the central bank and complementary regulatory entities to ensure coherent and unified governance across the open finance ecosystem. Regular communication and collaborative decision-making processes help align objectives and address cross-cutting regulatory challenges.
- ✓ **JURISDICTIONAL BOUNDARIES AND CLARITY:** Clearly define the regulatory scope and boundaries of each entity, ensuring that roles are complementary rather than overlapping. This clarity minimizes regulatory confusion and potential conflicts among ecosystem participants, promoting efficient oversight and accountability.
- ✓ **RISK MANAGEMENT AND SECURITY ALIGNMENT:** Align the risk management frameworks of complementary bodies with the central bank's overall approach to financial and data-related risks. This includes establishing consistent standards for data privacy, cybersecurity, and operational resilience across all ecosystem participants to support a secure and reliable environment.
- ✓ **PROPORTIONAL REGULATION AND FLEXIBILITY:** Encourage proportional regulation that considers the size, capability, and role of different ecosystem participants. This flexibility enables smaller actors, such as FinTech startups, to participate without facing prohibitive compliance burdens, while larger institutions meet higher regulatory standards.
- ✓ **SUPPORT FOR DIGITAL AND FINANCIAL INCLUSION:** Leverage the unique capabilities of telecommunication regulators and national ID authorities to extend access to digital and financial services, particularly in underserved areas. National ID systems and reliable mobile network infrastructure are critical for inclusive onboarding and service delivery, supporting the ecosystem's overall inclusion objectives.
- ✓ **INTEROPERABILITY AND TECHNICAL CONSISTENCY:** Ensure that API and technical standards bodies focus on interoperability across platforms, regions, and technology providers. By promoting unified standards, they support seamless data-sharing interactions and consistent customer experiences throughout the ecosystem.
- ✓ **CUSTOMER-CENTRIC DISPUTE RESOLUTION:** Establish ADR mechanisms that prioritize accessible and efficient dispute resolution, allowing customers and participants to promptly resolve issues related to data-sharing, consent revocation, and liability. This approach builds customer trust and confidence in the fairness of the open finance system.

⁶ Examples include: (i) Monetary Authority of Singapore (MAS) API Exchange (APIX) initiative, which promotes the use of standardized APIs for financial services within Singapore and across the region. Available at: <https://apixplatform.com/> (ii) National Payments Corporation of India (NPCI): NPCI, which manages the Unified Payments Interface (UPI), sets API standards for payments in India. The UPI framework facilitates real-time interbank transactions with standardized APIs, enabling seamless integration for banks and FinTechs across the country.

Governance of an Open Finance Scheme

Governance in an open finance regime refers to the structured processes and mechanisms that manage the interaction, compliance, and oversight of all ecosystem actors. Governance mechanisms are often necessary to ensure transparency, fairness, and accountability across the ecosystem. For example, the Open API Implementation Group⁷ in Malaysia, Open Banking Limited UK (OBL)⁸ in the UK, or the Open Finance Oversight Committee (OFOC)⁹ in the Philippines play crucial roles in defining and maintaining the governance structure of their respective open finance ecosystems.

Governance bodies can be established to manage the continuous evolution of the open finance regime, ensuring that policy decisions, technical implementations, and security standards are aligned with the needs of the ecosystem. These bodies typically consist of representatives from regulatory authorities, financial institutions, FinTech companies, and consumer protection agencies.

KEY CONSIDERATIONS FOR GOVERNANCE

- ✓ **GOVERNANCE STRUCTURE:** Establish a governance body that includes diverse stakeholders, ensuring fair representation and balanced decision-making.
- ✓ **TRANSPARENCY AND ACCOUNTABILITY:** Ensure that governance processes are transparent, with clear accountability for decision-making and policy changes.
- ✓ **EVOLUTION AND FLEXIBILITY:** Governance bodies must remain flexible to adapt to technological changes, emerging risks, and evolving consumer needs.

What Must Be Governed in an Open Finance Regime

Several aspects of the open finance regime require governance to ensure its efficient, effective, and secure operation. Governance bodies must set standards, oversee operational changes, and ensure ecosystem sustainability. Key areas of governance include:

⁷ Bank Negara Malaysia. 2019. Publishing Open Data using Open API. Available at: <https://www.bnm.gov.my/documents/20124/761679/Open+Data+API+PD.pdf>

⁸ Further information on Open Banking Limited UK is available at: <https://www.openbanking.org.uk/>

⁹ Bangko Sentral ng Pilipinas. 2021. Open Finance Framework. Available at: <https://www.bsp.gov.ph/Regulations/Issuances/2021/1122.pdf>

- **Open Finance Regime Participants:** Develop a clear, technically sound, and comprehensive framework to govern participants in an open finance regime. Key participant types may include banks, FinTechs, data aggregators, third-party providers, credit bureaus, and any other entities as defined by the open finance policy framework of the jurisdiction. Each participant type should be governed based on specific conditions, such as:
 - **Type and Sensitivity of Data:** Define which types of data participants may access or share (e.g. customer account information, transaction history, and credit information).
 - **Nature of Services:** Determine governance requirements based on the services provided, such as payment initiation, data aggregation, or credit scoring.
 - **Entity Type:** Establish different levels of oversight and requirements depending on whether the entity is a regulated financial institution, technology provider, or third-party service provider.

Additionally, subject to the market readiness, policy position and legal context of the jurisdiction, consider best practices for exclusive permissible (or prohibited) activities. For instance, entities may be restricted to specific functions (e.g. limited to data-sharing or data aggregation) or may be allowed to perform multiple roles (e.g. a bank offering both banking services and data aggregation). This approach supports a balanced regulatory environment that ensures both innovation and consumer protection.

- **Data, Security, and API Specifications:** Governance bodies must establish and maintain technical specifications for data-sharing, security protocols, and APIs to ensure a secure and interoperable ecosystem. In mature ecosystems, these specifications may evolve into formal standards, setting a consistent baseline for all participants.

To articulate the respective roles:

- **Governance Body:** Primarily responsible for overseeing the development and continuous improvement of technical specifications and standards, focusing on technological risk management.
- **Regulator, Supervisor, or Central Bank:** Holds the broader role of enforcing legal and regulatory requirements related to consumer

and data protection, overseeing compliance with data security and privacy provisions, and ensuring that participant activities align with national financial policies.

This distinction ensures that governance bodies focus on technical and operational integrity, while regulatory authorities enforce compliance with legal frameworks and consumer safeguards.

- **Operational Efficiency:** The governance entity should manage the necessary changes to the scope of the open finance regime, ensuring that the ecosystem operates efficiently and responds to evolving market needs.
- **Liability Management:** Governance should clearly define the responsibilities and liabilities of different ecosystem actors, ensuring accountability in the event of data breaches or misuse.
- **Reciprocity Management:** Data-sharing arrangements should be reciprocal, ensuring that no entity disproportionately benefits from access to data without contributing its own.
- **Commercial Model and Pricing:** Governance should be established around the pricing and cost structure of API calls, ensuring economic sustainability without disproportionately burdening smaller actors.
- **Inclusive Digital Infrastructure Design:** The governance entity should oversee decisions related to the development and management of digital infrastructure such as API testbeds, sandboxes, or data repositories.
- **Ecosystem Actor Registration and Certification:** The governance entity must ensure that all actors within the open finance ecosystem are registered and certified, maintaining compliance with technical and legal requirements.
- **Dispute Resolution Mechanism:** The governance entity should establish a clear and efficient dispute resolution process to manage conflicts related to data access, timeliness, uptime, quality, reliability, usage, sharing, and commercial terms (e.g. pricing). This mechanism should provide participants with a formal pathway for resolving legal, operational, and technical challenges associated with data-sharing agreements, while upholding customer rights and trust within the ecosystem. The process should be accessible, timely, and transparent, offering recourse for

unauthorized data use, performance issues, and disputes over data-sharing terms and conditions.

- **Interoperability and Ecosystem Innovation:** The governance entity should ensure that APIs and data-sharing systems are designed for interoperability across different platforms, institutions, and regions, enabling seamless and consistent interactions throughout the open finance ecosystem, and encourage the adoption of new technologies and responsible practices, ensuring they align with the overall goals of security, innovation, inclusion and competition
- **Monitoring and Audits:** The governance entity should implement ongoing monitoring and audit requirements to verify that all participants comply with security protocols and data-sharing policies, maintaining accountability and strengthening ecosystem integrity.

KEY CONSIDERATIONS FOR OPEN FINANCE GOVERNANCE

- ✓ **STAKEHOLDER INCLUSION:** Governance must be inclusive, involving representatives from all key stakeholder groups to ensure balanced and fair decision-making.
- ✓ **SUSTAINABILITY:** Governance must ensure that the financial and operational model of the ecosystem remains sustainable in the long-term.
- ✓ **ACCOUNTABILITY:** Clear accountability mechanisms must be in place to address any failures or breaches in the ecosystem, safeguarding trust and stability.

KEY TAKEAWAY: DECISION TRACKER FOR POLICYMAKERS

CONSIDERATION	YES/NO	NEXT STEP
Is the central bank or financial regulator adequately positioned to lead the open finance regime?	Yes/No	Confirm leadership and define the regulatory scope
Are the roles of complementary bodies (e.g. API Standards Body, Data Privacy Commission) clear and well-defined?	Yes/No	Establish clear collaborative frameworks
Is there a transparent and inclusive governance structure in place?	Yes/No	Set up or refine governance bodies with diverse stakeholder input
Are key areas such as data security, API specifications, and liability management being governed effectively?	Yes/No	Strengthen the governance of technical standards, liabilities, and operations
Is there a sustainable commercial model for API calls and data-sharing?	Yes/No	Define or update the commercial model for long-term sustainability
Is the inclusive digital infrastructure (e.g. sandbox, API testbed) being governed and managed for efficiency?	Yes/No	Ensure that the design of inclusive digital infrastructure meets the needs of the ecosystem and evolves alongside it.
Does the external landscape support open finance adoption?	Yes/No	Conduct an external situational analysis to assess market readiness, technological infrastructure, and peer regulatory alignment, and identify potential barriers



3.3 PILLAR ON ECOSYSTEM DESIGN AND PARTICIPANTS

Introduction

The key design of the ecosystem and participant considerations for inclusive open finance must establish the core tenets of the regime, along with their definitions, rules, and frameworks, to ensure a secure, customer-centric, and innovation-friendly environment. By defining the terms including customers, ecosystem actors, data, and promoting the development of impactful use cases, regulators can create an ecosystem that accelerates financial inclusion while ensuring system integrity.

Each component within the design of the ecosystem provides insightful considerations to help regulators build a robust open finance framework. The following

sections outline customer rights, participants, data governance, and use cases, all of which should be considered holistically to promote innovation, inclusion, and security.

Customers (Data Subjects)

The customer (also known as the data subject¹⁰) plays a central role in the open finance ecosystem. As the owners of personal and financial data, customers enable ecosystem participants to access and use this information to deliver innovative financial products and services. Regulators must ensure that customer rights are protected and their interests prioritized throughout their interaction with open finance.

¹⁰ Individuals to whom personal data pertains. They are natural persons whose data is collected, held, or processed. In open finance, data subjects are typically customers who own their financial data. Further details on Article 4(1) of the General Data Protection Regulation (GDPR) are available at: <https://gdpr-info.eu/art-4-gdpr/>

KEY CONSIDERATIONS

- ✓ **DATA OWNERSHIP AND CONTROL:** Customers should be informed that they own their personal and financial data, and they must be empowered to control how their data is accessed, shared, and used by other participants in the ecosystem.
- ✓ **INFORMED CONSENT AND MANAGEMENT:** Clear guidelines and mechanisms must be established for obtaining, managing, and withdrawing consent. Customers should be able to easily grant and revoke consent at any point without compromising their access to financial services. See AFI's [Workshop Report on Consent, Convergence, and Data Protection: Cornerstones for the Success of Inclusive Open Finance](#).
- ✓ **CONSUMER PROTECTION AND PRIVACY:** The regulatory framework should ensure that customer data is processed securely, with robust consumer protection mechanisms in place to address breaches or misuse. Privacy standards must comply with national data protection laws (e.g. NDPR in Nigeria, GDPR in the EU) and relevant global standards. See AFI's [Policy Model on Consumer Protection for Digital Financial Services and Guideline Note on Data Privacy for Digital Financial Services](#).
- ✓ **CUSTOMER EDUCATION AND AWARENESS:** Financial authorities must ensure that ecosystem actors prioritize consumer education and digital financial literacy initiatives, particularly around data-sharing practices and consent management. Customers should be well-informed about their rights, the risks, and benefits of participating in the open finance ecosystem. See AFI's [National Financial Education Strategies Toolkit and Digital Financial Literacy Toolkit](#).
- ✓ **GENDER TRANSFORMATIVE DESIGN:** Products and services should be designed with the needs of women, vulnerable groups, and disadvantaged populations in mind, promoting gender equality and reducing barriers to financial inclusion. See AFI's [Policy Model for Gender Inclusive Finance](#).

Ecosystem Participants

In an inclusive open finance ecosystem, ecosystem participants (“Participants”¹¹) are entities that collaborate to facilitate secure data sharing and improve financial services through the access, sharing, and use of customer-permissioned data. Participants are categorized into three main groups: Data Providers (DPs), Data Users (DUs), and Data Aggregators (DAs). Each group plays a critical role in ensuring the functionality, security, and innovation of the ecosystem.

Policy Considerations for Ecosystem Participants:

DATA PROVIDERS¹² (DPs):

Definition: DPs are regulated entities that hold consumer data and make it available to authorized third parties via APIs, typically with the consumer’s consent. This category includes banks, mobile money operators (MMOs), and other financial institutions that possess customer data and information about financial products and services.

Across jurisdictions, various terms are used to describe data providers, reflecting diverse policy and legal frameworks. For instance, the Consumer Financial Protection Bureau (CFPB) in the United States refers to them as “data holders”, while the US Treasury often uses the term “Financial Services Companies” or “Financial Services Firms”. In Europe, under the European Banking Authority (EBA) and Open Banking UK frameworks, they are known as “Account Servicing Payment Service Providers” (ASPPs). Additionally, the Bangko Sentral ng Pilipinas (BSP) refers to them as “BSP-Supervised Financial Institutions” within its open finance framework.

This term is, however, different from Data Brokers¹³ and Data Harvesters.¹⁴

¹¹ OBIE (Open Banking UK). 2018. Open Banking: Guidelines for Open Data Participants. Available at: <https://www.openbanking.org.uk/wp-content/uploads/2021/04/Guidelines-for-Open-Data-Participants.pdf>

¹² Financial Data Exchange. 2022. Taxonomy of Permissioned Data Sharing (version 1.4). Available at: <https://financialdataexchange.org/FDX/FDX/White-Papers-Guides.aspx>

¹³ Data brokers collect personal information from public and private records and provide this information to public and private sector entities for many purposes, from marketing to law enforcement and homeland security purpose. Further information is available at: <https://financialdataexchange.org/FDX/FDX/White-Papers-Guides.aspx>

¹⁴ Data harvesters use communication and information services, including applications (apps), to collect data from customers and provide the data or derived digital products to third parties. Further information is available at: <https://financialdataexchange.org/FDX/FDX/White-Papers-Guides.aspx>

POLICY GUIDANCE AND KEY CONSIDERATIONS

- ✓ Define clear roles and responsibilities for DPs regarding mandatory or voluntary data-sharing.
- ✓ Ensure that DPs maintain and publish APIs that promote data reciprocity, allowing for a fair exchange of data between all ecosystem participants.
- ✓ Mandate that DPs create clear consent management systems allowing customers to control the sharing and revocation of their data.
- ✓ Require DPs to establish clear notification protocols for any breaches, changes to APIs, or interruptions in service that affect data-sharing agreements.

DATA USERS¹⁵ (DUs):

Definition: DUs are entities that access and process data provided by data subjects or data providers to offer financial products or services. This term encompasses FinTech companies, third-party providers (TPPs), financial innovators, technology service providers, and other organizations utilizing customer data to deliver value-added services.

In different jurisdictions, the concept of “data user” varies, with terminology adapted to fit local regulatory and market environments. In the US, the Financial Data Exchange (FDX) uses the term “data recipient”, while the US Treasury refers to them as “Consumer FinTech Application Providers”. Frameworks from the European Banking Authority (EBA), Open Banking UK, and BSP refer to them as TPPs with a sub-designation as “Account Information Service Providers” (AISPs) and Payment Initiation Service Providers (PISPs).

POLICY GUIDANCE AND KEY CONSIDERATIONS

- ✓ Ensure that DUs comply with the consent, security, and privacy requirements set by DPs and regulators.
- ✓ Require DUs to implement robust data security and fraud prevention mechanisms to protect customers from misuse of their data.
- ✓ Establish clear guidelines for DUs on data use, ensuring they only access and process data necessary for providing financial services.

- ✓ Mandate regular audits of DUs to ensure compliance with data protection and regulatory standards.

DATA AGGREGATORS¹⁶ (DAs):

Definition: DAs are entities that collect and consolidate data from multiple sources, standardize it, and provide a comprehensive or specific view of a data subject’s information to data users. They play a crucial role in open finance by facilitating the flow of data between data providers and data users, and facilitate value-added services such as API management, analytics, financial planning, credit assessment, fraud detection, and personalized financial advice.

POLICY GUIDANCE AND KEY CONSIDERATIONS

- ✓ Provide DAs with clear guidelines on data aggregation, ensuring they comply with privacy standards and data protection regulations.
- ✓ Ensure that DAs promote interoperability by adhering to common API and data exchange standards, facilitating the seamless flow of data between ecosystem participants.
- ✓ Mandate that DAs collaborate with DPs and DUs ensuring real-time monitoring of data security and mitigating risks of breaches or misuse.
- ✓ Require that DAs establish redress mechanisms for customers whose data may have been compromised or misused.

DATA¹⁷ (CUSTOMER-PERMISSIONED DATA)

In the inclusive open finance ecosystem, customer-permissioned data refers to personal identification data, transactional data, and financial history that a customer explicitly consents to share with a data provider, which may then share it further with other ecosystem participants. Ensuring the protection, transparency, and ethical use of this data is paramount to maintaining trust in the system.

A few indicative customer data categories and associated data types in an open finance ecosystem are provided in **Annex B**.

¹⁵ European Commission. 2022. Report on Open Finance. Available at: https://finance.ec.europa.eu/system/files/2022-10/2022-10-24-report-on-open-finance_en.pdf

¹⁶ Basel Committee on Banking Supervision. 2019. Report on Open banking and Application Programming Interfaces. Available at: <https://www.bis.org/bcbs/publ/d486.pdf>

¹⁷ Basel Committee on Banking Supervision. 2019. Report on Open banking and Application Programming Interfaces. Available at: <https://www.bis.org/bcbs/publ/d486.pdf>

KEY CONSIDERATIONS FOR CUSTOMER-PERMISSIONED DATA

- ✓ **DATA SECURITY AND PRIVACY:** Regulators must ensure that data is processed with robust security measures, including advanced encryption and cybersecurity standards, to protect against breaches and unauthorized access. Data-sharing frameworks should emphasize secure channels and mechanisms that prioritize customer privacy at each stage. See the [Guideline Note on Data Privacy for Digital Financial Services](#).
- ✓ **VOLUNTARY CONSENT AND TRANSPARENT MANAGEMENT:** Data-sharing should operate on the principle of informed, voluntary consent, allowing customers to

manage their preferences at any time. Information on the specific purpose for which data is requested or used must be clearly communicated, empowering customers to make informed consent decisions and adjust their settings as they choose.

- ✓ **ASSURANCE OF DATA QUALITY:** Data collected, processed, and shared within the ecosystem must meet high standards of quality, ensuring accuracy, completeness, reliability, and usability. Regulations should outline provisions for regular data quality assurance, allowing data users to trust that the information they receive is consistent and fit for the intended purpose.



SNAPSHOT: CUSTOMER-PERMISSIONED DATA ACROSS JURISDICTIONS

Bangko Sentral ng Pilipinas (BSP) (BSP, 2021)

In its open finance framework, the Bangko Sentral ng Pilipinas adopted a tiered approach to accessing, using, and sharing customer data, based on data sensitivity, type, and the category of the data user. The tiers are as follows:

- Tier 1: Publicly available, read-only product or service information.
- Tier 2: Data related to subscriptions and new account applications.
- Tier 3: Account information, including personal biodata such as name, registered address, and phone number.
- Tier 4: Transactional data covering payments, financial transactions, and related activities.
- Tier 5: Information related to complex financial products.

Central Bank of Nigeria (CBN) (CBN, 2021)

The Central Bank of Nigeria categorized data types by risk level (data sensitivity) as follows:

- (i) Product Information and Service Touchpoints (PIST) - Low sensitivity.
- (ii) Market Insight Transactions (MIT) - Moderate sensitivity.
- (iii) Personal Information and Financial Transaction (PIFT) - High sensitivity.
- (iv) Profile, Analytics, and Scoring Transaction (PAST) - High & Sensitive.

This classification informs access levels and participant categories, as outlined below:

S/N	PARTICIPANT CATEGORY	RISK MANAGEMENT MATURITY LEVEL (TIER 0 - 3)	ACCESS LEVEL BY DATA AND SERVICE CATEGORY
1	Participants without a regulatory license	Tier 0	PIST and MIT
2	Participants through the CBN Regulatory Sandbox	Tier 1	PIST, MIT and PIFT
3	Licensed payments service providers and other financial institutions	Tier 2	PIST, MIT, PIFT and PAST
4	Deposit money banks	Tier 3	PIST, MIT, PIFT and PAST

- ✓ **ETHICAL CONDUCT IN DATA USAGE AND HANDLING:** All parties handling customer-permissioned data must adhere to ethical guidelines in the usage, security, and storage of data. This includes implementing ethical data-handling practices, safeguarding against misuse, and committing to transparency and accountability in all data transactions. Ethical conduct is vital for maintaining consumer trust and aligning with regulatory and societal expectations.
- ✓ **USABILITY AND PRACTICAL RELEVANCE:** Data shared within open finance frameworks must be meaningful and useful for data users, such as third-party providers or data aggregators, so they can effectively meet customer needs. This requires that data formats, accessibility standards, and shared information be designed to ensure functionality, interoperability, and practicality across diverse applications, thereby enhancing the value delivered to end-users.
- ✓ **RISK-BASED DATA CLASSIFICATION:** Establishing a risk-based approach to data classification, whereby more sensitive or personal financial data is subject to higher levels of control and regulatory oversight, is essential. This tiered approach ensures that data-sharing practices align with the relative sensitivity of the data, providing enhanced protections where necessary.
- ✓ **AUDIT TRAILS AND COMPLIANCE MONITORING:** Regulators should enforce a system of audit trails and ongoing compliance checks to ensure adherence to data privacy and security standards. Ecosystem participants must be accountable for data handling practices, with clear penalties for breaches or misuse. Regular compliance reviews further ensure transparency and build consumer confidence in the ecosystem.

USE CASES

Use cases are practical applications of customer-permissioned data that drive innovation, inclusion, competition, customer choice, and empowerment, all of which ultimately contribute to ecosystem development within the open finance ecosystem. These use cases span a diverse array of financial services—from payments to credit, savings, and insurance—each leveraging the guidance from an open finance framework that supports a thriving, inclusive digital financial ecosystem.

Use cases within open finance often follow a phased implementation approach, guided by the readiness of the market, the capacity and capability of participants, and a gradual, incremental deployment strategy aimed

at promoting inclusivity. For instance, Brazil's open finance framework exemplifies this approach, with the initial phases focusing on standardized data sharing of product information and subsequent phases expanding to transactional and credit data sharing as market capabilities mature.¹⁸ Likewise, Bangko Sentral ng Pilipinas implementation initiatives¹⁹ prioritize use cases such as the sharing of customer financial account information, MSME lending, and digital payment innovation.

KEY CONSIDERATIONS FOR USE CASES

- ✓ **FINANCIAL INCLUSION-ORIENTED USE CASES:** Promoting use cases that specifically target underserved populations, such as women, MSMEs, and the unbanked, is crucial to ensure that open finance aligns with broader financial inclusion goals. Examples include:
 - **Alternative Credit Scoring for Microloans:** Using non-traditional data to assess creditworthiness, this use case enables financial access for individuals with limited or no formal credit history, particularly benefiting underserved communities.
 - **Digital Identity Verification for Account Opening:** Simplified KYC processes enabled through digital identity can streamline access for unbanked populations, enhancing onboarding and inclusivity.
 - **Cross-Border Remittance Services with Cost Transparency:** By integrating foreign exchange rates and fee transparency, cross-border remittances become more affordable and accessible, especially for migrant workers supporting family abroad.
- ✓ **COMPETITION AND INNOVATION-ORIENTED USE CASES:** Encouraging innovative use cases can stimulate market competition, expand choice, and drive the development of new financial services:
 - **Account Information Service (AIS):** Aggregating financial data from multiple accounts allows customers to manage finances more effectively, enabling informed choices while encouraging competition.

¹⁸ Jenik, Ivo, Rafe Mazer, and Maria Fernandez Vidal. 2024. The Building Blocks Supporting Open Finance (CGAP Working Paper). Available at: <https://www.cgap.org/sites/default/files/publications/Working%20Paper%20building%20blocks%20supporting%20open%20finance.pdf>

¹⁹ BSP-IFC. 2024. Race to the Future: The Open Finance PH Hackathon. Available at: <https://www.bsp.gov.ph/Pages/InclusiveFinance/Open%20Finance/Welcom%20Deck.pdf>

- **Payment Initiation Service (PIS):** By allowing third parties to initiate payments directly from customer accounts, PIS encourages the growth of innovative payment solutions.
 - **Automated Personal Finance Management (PFM) Tools:** PFM tools leverage account data to provide budgeting insights and savings recommendations, empowering consumers and promoting self-directed financial health.
- ✓ **CUSTOMER-CENTRIC INNOVATION:** All use cases should prioritize the customer experience, ensuring that financial services are easy-to-use, affordable, and accessible, thus building trust in the open finance ecosystem:
- **Product and Price Comparison Tools:** Offering transparent product comparisons, these tools empower customers to make well-informed financial decisions and encourage transparency across providers.
 - **Consent Management and Data Access Controls:** By allowing customers to manage their data-sharing preferences, these tools reinforce data ownership, privacy, and customer trust in data-sharing processes.
 - **Customized Insurance Offerings:** By leveraging customer data to tailor insurance products, such as microinsurance or event-based coverage, this use case enhances relevance and accessibility, addressing diverse consumer needs.
- ✓ **CROSS-SECTORAL INTEGRATION:** To advance comprehensive financial inclusion, policymakers should encourage the integration of non-financial data sources (e.g. utilities and telecommunications) to support inclusive credit-scoring models and personalized financial products:
- **Alternative Credit Scoring Models:** Integrating non-financial data (such as utility bill payments) into credit assessments can improve access to credit for low-income and excluded populations, supporting equitable financial services.
- ✓ **BROADER DFS ECOSYSTEM DEVELOPMENT AND SECURITY:** Use cases that contribute to ecosystem-wide open API integration, capacity building, security, and risk management are critical for a sustainable DFS ecosystem:
- **Real-Time Fraud Detection and Security Monitoring:** Data-sharing frameworks that

enable real-time monitoring enhance fraud prevention and secure customer transactions.

- **Ecosystem-Wide Risk Assessment Tools:** By facilitating aggregated and anonymized data-sharing, regulators can assess systemic risks in real-time, improving regulatory oversight and stability.

Each of these use cases plays a vital role in supporting a robust and inclusive open finance ecosystem, with applications that address diverse needs and outcomes. By encouraging these use cases, regulators and policymakers can ensure that open finance not only stimulates innovation and competition but also promotes financial inclusion, customer empowerment, and trust.

ECOSYSTEM DESIGN

Ecosystem design in open finance involves the intentional structuring of a data-sharing environment that enables secure, seamless interactions among ecosystem participants, supported by interoperable, open, and inclusive infrastructure.

Drawing insights from Financial Data Exchange (FDX)²⁰ and Open Banking Limited (OBL) UK²¹ experiences, the design relies on critical components, such as interoperable data access platforms, regulatory and technology sandboxes, API testbeds, and well-defined standards for data, APIs, and security. Additionally, it incorporates participant directories for access, rights, registration, and certification, all of which create an environment where participants can confidently and securely engage.

Given the varying technical capabilities and available resources across participants, the ecosystem design must prioritize flexibility and proportionality. Rather than prematurely imposing uniform standards, a phased approach that begins with voluntary codes of conduct or technical specifications is recommended.

Over time, these can evolve into full regulatory standards as use cases demonstrate maturity, technical capability is established, interoperability is validated, and security measures are proven. This approach allows smaller actors to participate meaningfully without disproportionate compliance burdens, creating an inclusive environment that encourages innovation and participation.

²⁰ Further information on the Financial Data Exchange is available at: <https://financialdataexchange.org/>

²¹ Further information on Open Banking Limited UK is available at: <https://www.openbanking.org.uk/>

A robust governance body, such as those exemplified by OBL in the UK, FDX in the US, and OFOC²² in the Philippines, could be considered with the mandate to oversee the design, development, and operation of data-sharing platforms. Recognized as a core function of Inclusive Digital Infrastructure (IDI), this governance approach ensures that the ecosystem is supported by a reliable, inclusive digital platform capable of managing data access and security, while adapting to the evolving needs of the open finance landscape.

KEY CONSIDERATIONS FOR ECOSYSTEM DESIGN

- ✓ **PHASED APPROACH TO STANDARDS:** Initiate with voluntary technical specifications, progressively transitioning to enforceable standards as the ecosystem matures. This adaptive approach ensures that regulatory obligations align with proven use cases, participant capability, interoperability requirements, and enhanced security.
- ✓ **OPEN, INCLUSIVE SANDBOXES:** Establish regulatory and technology sandboxes and open API testbeds to encourage innovation at minimal compliance costs, allowing participants, including smaller entities, to experiment with open API for new and pioneering products and services within a secure, monitored environment. See [Innovative Regulatory Approaches Toolkit](#).
- ✓ **PROPORTIONAL COMPLIANCE OBLIGATIONS:** Compliance should be tailored to participant size, capacity, and risk profile, recognizing that larger, well-resourced institutions can meet higher standards, while smaller participants benefit from proportional requirements that encourage participation without any undue burden.
- ✓ **DATA, API, AND SECURITY SPECIFICATIONS REPOSITORY:** Create a centralized, accessible repository of standards and specifications, offering participants consistent guidelines on data-sharing protocols, security requirements, and API design that support interoperability and secure data handling across the ecosystem.
- ✓ **COLLABORATIVE, MULTI-STAKEHOLDER GOVERNANCE:** Implement a governance structure that represents a range of stakeholders, including regulators, financial institutions, FinTechs, and consumer advocacy groups. This collaborative model promotes transparency,

ensures fair representation, and guides the evolution from voluntary specifications to mandatory standards.

- ✓ **RISK-BASED DATA GOVERNANCE FRAMEWORK:** Adopt a risk-based governance approach, applying heightened controls to high-risk activities (e.g. sharing sensitive personal or financial data) while allowing greater flexibility in lower-risk data categories. This structure balances the need for security with a commitment to innovation and accessibility.
- ✓ **INCLUSIVE DIGITAL INFRASTRUCTURE (IDI) DEVELOPMENT:** The governance body should prioritize IDI by overseeing the design, operation, and expansion of the data-sharing platform, ensuring its functionality as a reliable access point that aligns with the ecosystem's goals of interoperability, security, and inclusivity.
- ✓ **ADOPTION OF CHANGE MANAGEMENT PRINCIPLES:** Policymakers and regulators are encouraged to adopt and implement change management principles both within their institutions and across the broader financial sector. Effective change management builds a data-driven culture and supports smooth transitions within the open finance ecosystem. The SPACE framework²³ by the Alliance for Financial Inclusion (AFI) provides a practical, phased approach for nurturing a data-driven mindset, guiding institutions through critical stages: State the vision, Present a pragmatic policy, Advocate collective experimentation, Carry out responsible implementation, and Establish a sustainability loop. By applying these principles, policymakers can build a resilient ecosystem, progressively enhance capabilities, and ensure the continuous adaptation needed for a sustainable open finance environment. See [FinTech and Digital Financial Services Ecosystem Data for Supervision and Market Intelligence](#).

²² Further information on the BSP's Open Finance Oversight Committee (OFOC) is available at: <https://www.bsp.gov.ph/Regulations/Issuances/2021/1122.pdf>

²³ Alliance for Financial Inclusion. 2024. Guideline Note on FinTech and Digital Financial Services Ecosystem Data for Supervision and Market Intelligence. Available at: <https://www.afi-global.org/publications/fintech-and-digital-financial-services-ecosystem-data-for-supervision-and-market-intelligence/>

KEY TAKEAWAY: DECISION TRACKER FOR POLICYMAKERS

CONSIDERATION	YES/NO	NEXT STEP
Are guiding principles clearly defined and aligned with financial inclusion goals?	Yes/No	Refine the principles to ensure better alignment with financial inclusion, competition, and innovation.
Are the rights of customers to control, manage, and revoke their data-sharing consents protected?	Yes/No	Implement customer-centric consent management protocols, including clear revocation options.
Are ecosystem actors (DPs, DUs, and DAs) clearly defined with proportional roles and responsibilities?	Yes/No	Clarify the roles and apply proportional compliance and liability management models.
Is customer-permissioned data handled securely, ethically, and transparently?	Yes/No	Strengthen data protection, privacy, and compliance mechanisms with audit trails and transparency.
Are relevant financial inclusion use cases being developed, phased, and promoted effectively?	Yes/No	Promote innovative, inclusion-focused use cases with a phased approach aligned to market readiness.
Is the data governance framework flexible, risk-based, and scalable to accommodate varying participant capacities?	Yes/No	Implement risk-based data-sharing guidelines and phase-in standards gradually.
Is there a provision for inclusive digital infrastructure (e.g. sandboxes, testbeds, and standards repositories) for testing and innovation?	Yes/No	Launch public sandboxes, testbeds, and a standards repository to enable broad and inclusive participation.
Is there a collaborative, multi-stakeholder governance model to ensure fair representation and adaptability?	Yes/No	Develop a governance structure with broad stakeholder representation and adaptability mechanisms.
Are change management principles being adopted to support a data-driven culture and smooth transitions?	Yes/No	Apply change management principles (e.g. SPACE framework) to promote adaptability and a data-driven mindset.
Are commercial models in place that balance cost recovery with affordability for smaller actors?	Yes/No	Establish fair, transparent pricing models to ensure sustainability while avoiding excessive costs for smaller entities.



3.4 POLICY PROVISIONS

A robust, secure, and inclusive open finance ecosystem requires complementary policy provisions that align with existing regulatory frameworks, policies, and laws. Jurisdictions should aim to integrate open finance regulations with their broader financial services frameworks and, where necessary, develop new policies to fill any gaps.

This alignment facilitates the operation of an open finance regime within a clear policy structure that supports innovation, consumer protection, and financial inclusion while managing risks and ensuring ecosystem sustainability.

Complementary policy provisions should address several key areas to ensure that participants operate under fair, transparent, and secure conditions. These areas include the fit and proper criteria for participants, inspection and monitoring, consumer protection, and reporting suspicious activities, among others. Each provision ensures that open finance participants are held to the highest standards of governance and responsibility.

Licensing and Authorization Approaches for Open Finance Participants

A structured licensing and authorization approach for open finance participants, including data aggregators, is essential to creating a secure and resilient open finance ecosystem. Establishing clear requirements for entities involved in data-sharing provides regulatory clarity, defines responsibilities, and mitigates risks associated with handling consumer data.

As jurisdictions explore licensing or authorization structures, they must assess market conditions, policy objectives, and legal frameworks to determine whether to introduce new designations, such as Account Information Service Providers (AISPs) and Payment Initiation Service Providers (PISPs), or to expand the permissible activities under current payment service or financial technology provider frameworks.

For some jurisdictions,²⁴ introducing distinct licensing categories for AISPs and PISPs, as seen under PSD2 in the European Union, offers a viable model. This

approach allows for specialized oversight of data-sharing and payment initiation services, ensuring that these entities meet rigorous security and privacy standards. In other jurisdictions, particularly emerging markets with limited regulatory resources, integrating open finance functions within existing licensing frameworks (e.g. for Payment Service Providers or Payment Technology Service Providers) may achieve a balanced approach, enabling wider participation with manageable regulatory oversight.

KEY POLICY CONSIDERATIONS AND TECHNICAL GUIDANCE

- ✓ **PROPORTIONALITY AND RISK-BASED LICENSING:** To ensure that licensing requirements are proportionate to the risk posed by each participant, policymakers should consider the unique dynamics of their financial sector. For example, in markets with a strong FinTech presence but limited regulatory resources, a tiered licensing model could be beneficial. In this model, smaller data aggregators or third-party providers may undergo a registration or certification process rather than full licensing, with higher-risk participants, such as PISPs, requiring more comprehensive licensing.
- ✓ **MINIMUM TECHNICAL STANDARDS AND CONSUMER PROTECTIONS:** Establishing minimum technical and operational standards for data aggregators is essential to safeguard consumers and support public trust. Licensed data aggregators should comply with robust standards for data storage, privacy, security, and fraud prevention. Jurisdictions can also introduce legal frameworks that allocate liability in the event of data breaches, clarifying responsibilities among aggregators, financial institutions, and FinTech providers. Countries such as the United Kingdom have implemented such frameworks, ensuring that consumer protection is at the forefront of the open finance agenda.
- ✓ **DEFINING THE ROLES OF THE LEAD REGULATOR AND GOVERNANCE ENTITY:** A clear delineation of responsibilities between the central bank (or lead regulator) and the governance entity is crucial for effective oversight and support. The central bank, as the primary financial regulator, would grant licenses, monitor compliance, and ensure financial system stability. Meanwhile, a governance entity could manage registration and certification processes, monitor adherence to technical standards, and support capacity building within the ecosystem. This collaborative structure enables the central bank to focus on regulatory enforcement, while the governance entity facilitates industry compliance and innovation.

²⁴ Further information is available at: https://connect-content.us.hsbc.com/hsbc_pcm/onetime/17_psd2_corp_brochure.pdf

- ✓ **PHASED IMPLEMENTATION AND MONITORING:** For jurisdictions navigating the transition to open finance, a phased implementation approach is recommended. Initial phases could focus on the registration and certification of data-sharing participants, allowing the governance entity to conduct preliminary monitoring and collect ecosystem data. As the market matures, regulators can advance toward a licensing regime for high-risk participants, ensuring that licensing requirements are aligned with the jurisdiction’s enforcement capacity and oversight needs.
- ✓ **TAILORING LICENSING APPROACHES TO MARKET REALITIES:** To accommodate diverse regulatory landscapes, jurisdictions may adopt a mixed approach. For instance, certain data-sharing activities could fall under existing licenses for PSPs, while more specialized activities like data aggregation may warrant separate licensing. This flexible model respects the realities of each market, promoting growth without imposing undue burdens on smaller participants.

By adopting a context-driven approach to licensing and authorization, regulators can support innovation and growth in open finance while safeguarding ecosystem stability and consumer trust.

A balanced, risk-based licensing framework—one that reflects the jurisdiction’s market realities, proportionally allocates responsibilities, and ensures compliance with minimum technical standards—allows open finance ecosystems to flourish securely.

A phased rollout, supported by collaboration between the central bank and governance entities, provides a path to sustainable adoption. This strategy equips policymakers with the tools to facilitate responsible data-sharing, promote industry-wide collaboration, and build a resilient, inclusive open finance environment.

Fit and Proper Criteria

“Fit and proper” criteria establish the minimum requirements that individuals and entities must meet to participate in the open finance ecosystem. Regulators should ensure that participants demonstrate competence, honesty, and integrity. Key personnel responsible for managing or overseeing open finance activities should be evaluated for their ethical conduct, business governance, and legal qualifications.

KEY CONSIDERATIONS FOR FIT AND PROPER CRITERIA

- ✓ **COMPETENCE AND CAPABILITY:** Participants must demonstrate the capacity to fulfill their responsibilities within the ecosystem, particularly regarding data management and customer protection.
- ✓ **ETHICAL AND RESPONSIBLE CONDUCT:** Regulators must assess the track records of participants, ensuring they have not engaged in fraudulent or unethical practices.
- ✓ **LEGAL COMPLIANCE:** Participants should meet legal and governance requirements set by financial regulators, ensuring full adherence to open finance policies.

Inspections and Monitoring

To maintain a secure and fair open finance ecosystem, regulators must conduct regular inspections and actively monitor participants. Supervisors should leverage innovative technologies, such as SupTech and RegTech, to analyze data flows, detect suspicious activities, and assess the impact on financial inclusion. Ongoing oversight ensures that open finance continues to drive inclusion while effectively mitigating risks.

KEY CONSIDERATIONS FOR INSPECTIONS AND MONITORING

- ✓ **DATA MONITORING:** SupTech and RegTech solutions should be used to monitor real-time data flows and identify risks or irregularities.
- ✓ **FINANCIAL INCLUSION IMPACT:** Regulators should regularly assess how the open finance ecosystem impacts underserved populations and adjust policies as needed.
- ✓ **COMPLAINT REVIEW:** Regularly reviewing consumer complaints can provide valuable insights into systemic issues that require attention and resolution.

Consumer Protection and Personal Data Privacy

Consumer protection is a foundational aspect of any open finance ecosystem, requiring regulators to ensure that participants protect consumers from fraud and data misuse. Establishing a clear framework for reporting suspicious activities and incidents of fraud is essential, along with enforcing strict data protection regulations to ensure that personal information is handled securely and customer privacy is preserved.

**KEY CONSIDERATIONS FOR CONSUMER PROTECTION
AND PERSONAL DATA PRIVACY**

- ✓ **EQUITY AND FAIR TREATMENT:** All participants must treat customers fairly, particularly vulnerable groups such as women, the elderly, and the disabled.
- ✓ **PRIVACY PROTECTION:** Personal data must be securely managed, with safeguards against unauthorized access and data breaches.
- ✓ **INCIDENT REPORTING:** Participants must promptly report incidents of fraud or suspicious activity, ensuring transparency and accountability.

Digital Financial Literacy and Financial Education

Promoting digital financial literacy is essential to enable consumers to fully benefit from open finance. Financial education should focus on raising awareness of both the opportunities and risks within the ecosystem, including data privacy, consent management, and fraud prevention. Regulators should work with participants to develop consumer education programs tailored to the diverse needs of different population segments.²⁵

**KEY CONSIDERATIONS FOR DIGITAL FINANCIAL LITERACY
AND FINANCIAL EDUCATION**

- ✓ **INCLUSIVITY IN EDUCATION:** Programs must be accessible to all demographic groups, particularly those that are financially or digitally excluded.
- ✓ **FOCUS ON DATA RIGHTS:** Consumers should be educated on their rights regarding data sharing, consent management, and dispute resolution.

Gender-Specific Regulations,²⁶ National Financial Inclusion and FinTech Strategies

Gender-specific regulations are vital to secure equitable access to financial services for women and marginalized groups. Additionally, national financial inclusion strategies should align with open finance to create

²⁵ Further information on AFI's knowledge products is available at: <https://www.afi-global.org/publications/national-financial-education-strategies-toolkit/>, <https://www.afi-global.org/publications/digital-financial-literacy/>, and <https://www.afi-global.org/publications/digital-financial-literacy-toolkit/>

²⁶ Further information is available at: <https://www.afi-global.org/publications/toolkit-on-gender-inclusive-policy-development/>

opportunities for broader participation in the financial ecosystem. Similarly, national FinTech strategies should encourage innovation while ensuring that new technologies support consumer protection and financial inclusion goals.²⁷

**KEY CONSIDERATIONS FOR GENDER-SPECIFIC REGULATIONS
AND NATIONAL STRATEGIES**

- ✓ **GENDER EQUITY:** Ensure that financial products and services are designed to meet the specific needs of women and other vulnerable populations.
- ✓ **ALIGNMENT WITH NATIONAL STRATEGIES:** Open finance regulations must align with broader financial inclusion and FinTech strategies to maximize impact.

Reporting Suspicious Activities and Incidents of Fraud

A transparent and robust system for reporting suspicious activities and incidents of fraud is critical to maintaining trust in the open finance ecosystem. Participants should be mandated to report any suspicious activities to the relevant regulator within a specified timeframe, providing detailed information about the incident, affected customers, and the actions taken to address the issue.

**KEY CONSIDERATIONS FOR REPORTING SUSPICIOUS
ACTIVITIES AND INCIDENTS OF FRAUD**

- ✓ **CLEAR REPORTING GUIDELINES:** Regulators should establish clear, easy-to-follow procedures for reporting suspicious activities.
- ✓ **CENTRALIZED INCIDENT REGISTRY:** A registry of incidents should be maintained to track trends and provide data for training and future prevention efforts.

²⁷ Further information and guidance is available at:
 · <https://www.afi-global.org/publications/policy-framework-on-developing-a-national-fintech-strategy/>
 · <https://www.afi-global.org/publications/integrating-digital-financial-services-into-a-national-financial-inclusion-strategy/>
 · <https://www.afi-global.org/publications/financial-products-and-services-for-womens-financial-inclusion-a-policy-and-regulation-design-toolkit/>

Complaint Handling and Resolution²⁸

Effective complaint handling and resolution (CHR) procedures are essential for building trust between consumers and participants in the open finance ecosystem. All participants should establish mechanisms to handle complaints in a timely and transparent manner, providing consumers with clear paths for recourse and resolution.

KEY CONSIDERATIONS FOR COMPLAINT HANDLING AND RESOLUTION²⁹

TIMELY RESOLUTIONS: Ensure that complaints are addressed within a reasonable timeframe.

PUBLICLY AVAILABLE INFORMATION: Make certain that information about CHR procedures is readily accessible to all consumers.

²⁸ Further information is available at: <https://www.afi-global.org/publications/complaint-handling-in-central-bank-toolkit/>

²⁹ Further information is available at: <https://www.afi-global.org/publications/complaint-handling-in-central-bank-framework/>

Technology Risk Management and Cyber Hygiene³⁰

Managing technology risks and maintaining cyber hygiene are critical components of a secure open finance ecosystem. All participants should establish policies and procedures to manage technology risks, including cybersecurity threats. This includes maintaining robust data protection practices and ensuring system resilience through regular audits and updates.

KEY CONSIDERATIONS FOR TECHNOLOGY RISK MANAGEMENT AND CYBER HYGIENE

CYBERSECURITY STANDARDS: Ensure compliance with industry standards, such as relevant ISO standards.

RESILIENCE AND REDUNDANCY: Implement business continuity and disaster recovery plans to ensure operational resilience.

³⁰ Further information is available at: <https://www.afi-global.org/publications/cybersecurity-for-financial-inclusion-framework-risk-guide/>

KEY TAKEAWAY: DECISION TRACKER FOR POLICYMAKERS

CONSIDERATION	YES/NO	NEXT STEP
Are fit and proper criteria in place for all open finance participants?	Yes/No	Ensure that clear criteria are established and enforced for all participants.
Is a robust system for inspections and monitoring established?	Yes/No	Implement SupTech and RegTech solutions for real-time data monitoring.
Are consumer protection and data privacy guidelines adequately enforced?	Yes/No	Strengthen data protection measures and reporting requirements.
Are gender-specific regulations and financial inclusion strategies aligned?	Yes/No	Ensure alignment with national strategies and promote gender equity.
Is a system for reporting suspicious activities in place?	Yes/No	Establish clear guidelines for reporting incidents of fraud or suspicious activities.
Are participants required to follow established complaint handling procedures?	Yes/No	Ensure that all participants have effective CHR systems in place.
Are technology risk management and cybersecurity standards being met?	Yes/No	Implement and enforce cybersecurity and resilience standards across the ecosystem.



3.5 PILLAR ON DATA, APIs, AND SECURITY SPECIFICATIONS

The development of an inclusive and effective open finance ecosystem requires clear, actionable, and scalable data, APIs, and security specifications. These specifications should initially be defined as guidelines, codes of conduct, or voluntary specifications, based on the outcomes of a comprehensive situational analysis for the individual jurisdiction.

This ensures that they are proportional to the capacity and maturity of the ecosystem's actors. A tiered and incremental approach to developing these specifications is essential to ensuring inclusion, equity, and parity in implementation, especially in developing and emerging markets.

The principle of proportionality is key to this pillar, allowing smaller actors to meaningfully participate while avoiding the risks associated with premature standardization that may disproportionately burden certain participants. By initially focusing on specifications, and then gradually advancing to standards as the ecosystem matures, the framework generates the necessary inertia for widespread adoption and facilitates smooth implementation across diverse jurisdictions.

Data Specifications

In an open finance ecosystem, well-defined data specifications are crucial for ensuring the secure, consistent, and transparent exchange of customer-permissioned data. Data specifications in developing and emerging markets must consider the varied technical capabilities of ecosystem participants. It is important to define common data formats, data structures, and rules governing data sharing, protection, and privacy to ensure that all actors can effectively interact within the ecosystem.

KEY COMPONENTS OF DATA SPECIFICATIONS INCLUDE:

- ✓ **DATA FORMATS:** Data exchange should be standardized in text-based, language-independent formats such as JSON (JavaScript Object Notation), XML (Extensible Markup Language), or any other industry acceptable formats enabling easy integration across platforms.

- ✓ **DATA CLASSIFICATION:** Data should be classified as public data (e.g. financial institution interest rates), personal data (e.g. full name, birth date, phone number), financial data (e.g. account records, current balance), or transactional data (e.g. account number).
- ✓ **DATA STRUCTURES:** The structuring of customer-permissioned data (e.g. personal data, financial data) must follow predefined models that ensure consistency across various systems.
- ✓ **DATA SHARING RULES:** Clear rules must be established to govern the sharing, storage, and management of data, including privacy protections and consent management.
- ✓ **DATA DICTIONARY:** A centralized data dictionary or repository should be maintained, defining terms and standards to ensure that all participants speak a common language.
- ✓ **CUSTOMER EXPERIENCE GUIDELINES:** Regulators should define how customer data is used, saved, stored, authenticated, and permissioned, ensuring transparency and trust. These guidelines should be user-friendly, providing customers with clear information on how their data is managed.

KEY CONSIDERATIONS FOR DATA SPECIFICATIONS

- ✓ **DATA PRIVACY:** Establish clear data-sharing rules that protect consumer privacy and ensure compliance with local and international privacy laws.
- ✓ **DATA REPOSITORY:** Create and maintain a data dictionary to ensure consistency across platforms.
- ✓ **CONSUMER-CENTRIC APPROACH:** Design customer experience guidelines that prioritize transparency, ensuring that customers understand how their data is being used.

API Specifications

Application programming interfaces (APIs) form the backbone of an open finance ecosystem, enabling secure and efficient communication between ecosystem participants. For developing and emerging markets, API specifications must be proportionate to the technical capabilities of participants, ensuring interoperability without overwhelming smaller actors. A flexible, industry-wide consensus on API architecture and protocols should be adopted, allowing for gradual enhancements as the ecosystem matures.

KEY COMPONENTS OF API SPECIFICATIONS³¹ INCLUDE:

- ✓ **ARCHITECTURE PROTOCOLS:** APIs should adopt architecture protocols, such as Representational State Transfer (REST) or Simple Object Access Protocol (SOAP), depending on the needs and capacity of ecosystem actors.
- ✓ **API ARCHITECTURE:** A flexible API architecture should be adopted, with the option to transition from RESTful APIs (which are simpler and easier to scale) to more complex architectures as the ecosystem grows.
- ✓ **TESTBEDS AND SANDBOXES:** Establish central sandboxes or API testbeds to allow for safe experimentation and testing before full deployment. These sandboxes should be accessible to all actors, regardless of size.
- ✓ **COMMERCIAL MODEL:** Define the commercial model for API calls, ensuring that smaller actors are not disproportionately burdened by high costs. Pricing models should be transparent and scalable.

KEY CONSIDERATIONS FOR API SPECIFICATIONS

- ✓ **PROPORTIONAL ADOPTION:** Ensure that API standards are scalable and proportionate, allowing for incremental adoption.
- ✓ **SECURITY AND AUTHENTICATION:** Implement strong API security standards, such as OAuth 2.0 for authorization, to protect against unauthorized access.
- ✓ **INTEROPERABILITY:** Promote the use of common API standards to ensure interoperability across the ecosystem.

Security Specifications

Security is critical to maintaining trust in an open finance ecosystem. All participants must adhere to a minimum set of security standards that protect customer data and ensure the stability of the system. A risk-based approach should be taken to managing

security, with stricter requirements applied to high-risk activities such as the sharing of sensitive financial data.

KEY COMPONENTS OF SECURITY SPECIFICATIONS INCLUDE:

- ✓ **AUTHENTICATION AND AUTHORIZATION:** Strong mechanisms, such as Multi-Factor Authentication (MFA), OAuth 2.0, and JWT should be used to verify users and control access to data.
- ✓ **ENCRYPTION STANDARDS:** Data should be encrypted both in transit and at rest using advanced encryption protocols, such as Advanced Encryption Standard (AES) and Hashed Message Authentication Code (HMAC).
- ✓ **CYBERSECURITY PRACTICES:** All participants must adhere to cybersecurity best practices, ensuring that their systems are protected against attacks. Compliance with cybersecurity frameworks, such as NIST's Cybersecurity Framework, CIS Controls, and ISO 27002:32 should be encouraged and aligned to insights from country situational analyses and the capability of participants to adopt these practices in a proportionate manner.
- ✓ **RISK MANAGEMENT:** A risk-based approach should be used, where higher-risk entities or activities are subject to more stringent security requirements.
- ✓ **INCIDENT MANAGEMENT:** Clear procedures for managing security breaches should be in place, including the blacklisting of compromised actors or APIs and the implementation of sanctions.

KEY CONSIDERATIONS FOR SECURITY SPECIFICATIONS

- ✓ **ENCRYPTION:** Ensure that all data is encrypted using robust standards such as AES and HMAC.
- ✓ **RISK-BASED APPROACH:** Implement a tiered security model that applies stricter controls to higher-risk activities.
- ✓ **CYBERSECURITY COMPLIANCE:** Encourage participants to comply with cybersecurity frameworks, such as NIST's Cybersecurity Framework, CIS Controls, and ISO 27002.³³

³¹ Further information and guidance is available at:

· Bank Negara Malaysia. 2019. Publishing Open Data using Open API. Available at: <https://www.bnm.gov.my/documents/20124/761679/Open+Data+API+PD.pdf>;
· Central Bank of Nigeria. 2021. Regulatory Framework for Open Banking in Nigeria. Available at: <https://www.cbn.gov.ng/out/2021/psmd/circular%20on%20the%20regulatory%20framework%20on%20open%20banking%20in%20nigeria.pdf>;
· Bangko Sentral ng Pilipinas. 2021. Open Finance Framework. Available at: <https://www.bsp.gov.ph/Regulations/Issuances/2021/1122.pdf>

³² Further information is available at: <https://www.iso.org/standard/75652.html>

³³ Further information is available at: <https://www.afii-global.org/publications/cybersecurity-from-the-perspective-of-the-financial-regulator-and-supervisors-in-peru/>

Outsourcing Specifications

Outsourcing³⁴ is a common practice in open finance ecosystems, where certain services, such as API management or data storage, are outsourced to third-party providers. However, outsourcing introduces risks, particularly around data confidentiality, privacy, and system security. It is, therefore, essential to establish clear outsourcing specifications that effectively manage these risks.

KEY COMPONENTS OF OUTSOURCING SPECIFICATIONS INCLUDE:

- ✓ **DATA DISCLOSURE AND CONFIDENTIALITY:** Outsourcing agreements must ensure that third-party providers adhere to strict confidentiality agreements regarding customer data.
- ✓ **DATA PRIVACY AND PROTECTION:** All outsourced services must comply with relevant data privacy laws and regulations, ensuring that customer data is always protected.
- ✓ **CONTRACT MANAGEMENT:** Contracts with third-party providers should include provisions for data protection, performance monitoring, and business continuity.
- ✓ **PERFORMANCE MONITORING:** Regular audits should be conducted to ensure that outsourced services meet performance and security standards.
- ✓ **BUSINESS CONTINUITY:** Outsourcing contracts should include clauses that ensure continuity of service in the event of a failure or disruption.

KEY CONSIDERATIONS FOR OUTSOURCING SPECIFICATIONS

- ✓ **CONFIDENTIALITY AND PRIVACY:** Ensure that outsourcing agreements protect customer data and comply with relevant privacy laws.
- ✓ **MONITORING AND AUDITS:** Regularly audit outsourced services to ensure compliance with data protection and security standards.
- ✓ **CONTINUITY OF SERVICE:** Ensure that outsourcing agreements include provisions for business continuity in case of failure.

Consent Management³⁵

Consent management is a foundational element of an open finance ecosystem, empowering customers to control how their data is used, accessed, and shared. Effective consent management systems should provide customers with clear, accessible, and user-friendly options for granting, revoking, and managing their consent. The following components and key considerations outline a robust approach to consent management.

COMPONENTS OF CONSENT MANAGEMENT INCLUDE:

- ✓ **CONSENT DASHBOARD:** A centralized dashboard, integrated within the user's electronic banking or mobile application, should allow customers to easily view and manage their data-sharing consent, track permissions, and revoke access as needed. This approach ensures accessibility and control within a familiar digital environment, aligning with Customer UX guidelines established by the open finance governance body, to enhance customer trust and transparency.
- ✓ **EXPLICIT, INFORMED CONSENT:** Consent should be explicit, with customers providing clear, affirmative permission specifying how their data will be used, the purpose of data sharing, and the entities involved. Each data set that is shared must require specific consent, ensuring that customers are fully informed about the scope of each authorization.
- ✓ **GRANULAR, PURPOSE-SPECIFIC CONSENT:** Customers should have the option to consent to data sharing for specific purposes and data categories (e.g. account information, transaction data). Each data request should include detailed information about the intended use, duration of consent, and access frequency, allowing customers to make tailored and well-informed choices.
- ✓ **REVOCACTION OF CONSENT:** Customers must have the ability to revoke consent at any time through a simple and transparent process, without facing penalties or disruption to their existing services. Once consent is revoked, data sharing should cease immediately, and customers should receive a notification confirming the revocation. There should be no automatic renewal of consent, and each consent should have a defined validity period or condition (e.g. 90 days or per transaction), after which renewal may be requested.

³⁴ Alliance for Financial Inclusion. 2021. Supervision of Outsourcing of Digital Services by Banks. Available at: <https://www.afi-global.org/publications/supervision-of-outsourcing-of-digital-services-by-banks/>

³⁵ Alliance for Financial Inclusion. 2022. Consent, Convergence and Data Protection: Cornerstones for the Success of Inclusive Open Finance. Available at: <https://www.afi-global.org/publications/consent-convergence-and-data-protection-cornerstones-for-the-success-of-inclusive-open-finance/>

- ✓ **AUDIT TRAILS AND COMPLIANCE LOGGING:** Consent actions, including the granting, modification, and revocation of consent, must be tracked, and logged in an audit trail for compliance purposes. This provides a clear history of consent activities, supporting regulatory oversight and ensuring accountability among participants.
- ✓ **TRANSPARENCY AND CUSTOMER NOTIFICATIONS:** Customers should be notified of significant consent-related actions, such as when data is transferred or accessed by a data user. This notification system should provide information on the timing and purpose of data access, reinforcing transparency and trust in the ecosystem.
- ✓ **VERIFICATION MECHANISMS FOR CONSENT VALIDITY:** Data providers and data users must verify the validity of customer consent before sharing or receiving data. This includes MFA where appropriate, and verification that consent is current and consistent with the specified purpose. The governance body should facilitate this by providing real-time validation of participant registration, status, and access permissions.
- ✓ **DISCLOSURE OF THIRD-PARTY INVOLVEMENT:** If a data user engages third parties to assist in delivering services, this must be disclosed to the customer at the point of consent. Consent management systems should provide clarity on third-party access to data and enable customers to monitor or revoke these permissions, as necessary.

KEY CONSIDERATIONS FOR CONSENT MANAGEMENT

- ✓ **CUSTOMER EMPOWERMENT AND CONTROL:** Consent management should prioritize customer empowerment, giving users clear control over their data-sharing preferences. Systems should be designed to ensure ease of access, enabling customers to effortlessly adjust or revoke permissions.
- ✓ **COMPREHENSIVE INFORMATION SHARING:** Customers should be presented with comprehensive details before granting consent, including the identity of the data user, the specific data sets requested, the intended purpose, and the duration and frequency of access. This information enables customers to make informed decisions aligned with their privacy preferences.
- ✓ **PROPORTIONAL AND RISK-BASED CONSENT REQUIREMENTS:** Compliance obligations for consent management should be tailored to the level of risk and sensitivity of the data involved. Higher-risk data

types (e.g. transactional data) may require stricter controls and verification, while lower-risk data types may benefit from streamlined processes to facilitate the user experience.

- ✓ **DISPUTE RESOLUTION MECHANISM:** A clear and efficient process should be established to address consent-related disputes, protect customer rights, and provide recourse in cases of unauthorized data sharing or misuse.
- ✓ **PERIODIC CONSENT REVIEW AND RENEWAL:** Consent should be reviewed periodically (e.g. annually) to ensure that it remains aligned with the customer's preferences. This review process should also serve as an opportunity to renew consent where appropriate, with explicit confirmation from the customer.
- ✓ **INTEROPERABLE STANDARDS FOR CONSENT MANAGEMENT:** Consent management practices should align with interoperable standards established by the governance body to ensure seamless implementation across participants and maintain consistency in customer experience across platforms.
- ✓ **INTEGRATION WITH DATA-SHARING INFRASTRUCTURE:** Consent management should be integrated into the data-sharing infrastructure, enabling streamlined authentication, consent verification, and data access processes through specified and standardized APIs as prescribed by the governance body. This infrastructure enables a seamless flow of information and upholds the security and integrity of data transactions.

Additional Policy Considerations for Data, APIs, and Security Specifications

- ✓ **INTEROPERABILITY:** Ensure that data-sharing systems and APIs are designed to be interoperable across different platforms, institutions, and regions. This promotes seamless data exchange, enhances the customer experience, and enables consistent functionality regardless of the provider, enabling a cohesive and inclusive open finance ecosystem.
- ✓ **LIABILITY MANAGEMENT:** Clearly define the liabilities and responsibilities of each ecosystem participant, particularly in cases of data breaches, misuse, or unauthorized access. This includes establishing accountability protocols and response measures to protect customers and maintain trust in the ecosystem. Liability management frameworks should be transparent and legally sound, specifying compensation or remediation actions in the event of violations.

- ✓ **COMMERCIAL MODELS AND PRICING STRUCTURES:** Establish fair and transparent pricing models for API access and data-sharing services. These models should ensure the ecosystem's financial sustainability while avoiding prohibitive costs that could discourage participation by smaller actors, such as FinTech startups or community banks. Pricing considerations should balance cost recovery with accessibility, promoting a diverse and competitive ecosystem.

Screen Scraping in Open Finance Ecosystems

Screen scraping is a method through which TPPs access consumer financial data by using consumer login credentials to “scrape” data directly from online banking interfaces, emulating user interactions on a webpage. Unlike open APIs, which enable structured and secure data-sharing directly between systems, screen scraping extracts unstructured data as displayed on the screen, often resulting in broader data access than necessary. This practice poses significant challenges to data security, reliability, and consumer privacy, as it requires consumers to share their login credentials with third-party services.

Globally, screen scraping remains a transitional data-sharing method in some jurisdictions. For example, it continues in the United States as a legacy method due to limited API adoption by smaller financial institutions (CFPB).³⁶ In Australia, it was used prior to the establishment of the Consumer Data Right (CDR) framework, which mandates the use of open APIs (ACCC).³⁷ Similarly, in Japan, while screen scraping is permitted, the Financial Services Agency encourages API adoption for enhanced data security (Japan FSA).³⁸

To minimize risks associated with screen scraping, jurisdictions are advised to adopt a measured, phased approach, prioritizing the gradual transition to secure, standardized APIs while supporting the readiness and capacity of participants for structured data-sharing.

³⁶ Further information on the Consumer Financial Protection Bureau (CFPB) is available at: <https://www.consumerfinance.gov/>

³⁷ Australian Competition and Consumer Commission. n.d. The Consumer Data Right. Available at: <https://www.accc.gov.au/by-industry/banking-and-finance/the-consumer-data-right>

³⁸ Further information on the Japan Financial Services Agency is available at: <https://www.fsa.go.jp/en/index.html>

CHALLENGES OF SCREEN SCRAPING

While screen scraping has facilitated broader FinTech innovation in the absence of standardized APIs, it poses several critical challenges:

Security Risks: Screen scraping requires consumers to share their login credentials with third-party providers, heightening the risk of unauthorized access and data breaches.

Data Reliability: Data extracted via screen scraping is often unstructured and may include inconsistencies, making it less reliable for accurate and comprehensive service delivery.

Consumer Consent and Privacy: Screen scraping offers limited transparency around consumer consent and data usage, raising privacy concerns as TPPs frequently access more data than is necessary for their specific service.

Lack of Control and Monitoring: Financial institutions have restricted visibility and control over the data-sharing process in screen scraping, complicating efforts to effectively monitor and secure consumer data.



KEY POLICY CONSIDERATIONS ON SCREEN SCRAPING

- ✓ **PROMOTE A PHASED TRANSITION TO OPEN APIS:** Jurisdictions should encourage financial institutions and TPPs to progressively adopt open APIs as the preferred, secure approach for data-sharing. Starting with API support for high-risk data (e.g. transaction histories), this phased approach minimizes security risks while enabling smaller institutions to build API capacity.
- ✓ **ESTABLISH TEMPORARY SECURITY STANDARDS FOR SCREEN SCRAPING:** Where screen scraping remains in use, regulators should implement temporary security requirements, such as MFA and data encryption, to mitigate the risks associated with credential sharing. Additionally, TPPs should be required to collect only the minimum data necessary, coupled with clear, granular consent mechanisms for users.
- ✓ **DEFINE A CLEAR ROADMAP FOR MIGRATION TO SECURE APIS:** Develop a roadmap for transitioning from screen scraping to APIs, with interim

milestones to assess API adoption and reduce reliance on screen scraping. Set specific API development targets based on institution size, technical capacity, and service use cases, providing smaller institutions flexibility in meeting these targets.

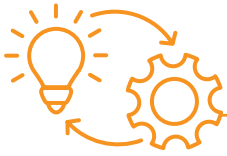
- ✓ **ENHANCE CONSUMER AWARENESS AND CONSENT**
PRACTICES: Require TPPs and financial institutions to provide consumers with transparent information about the risks of screen scraping and the benefits of API-based data-sharing. Enhanced consent mechanisms should enable consumers to make informed choices about what data they share and who can access it.

- ✓ **ENCOURAGE CROSS-INDUSTRY COLLABORATION:**
Facilitate collaboration among regulators, financial institutions, and TPPs to be fully aligned on data security, privacy standards, and API development. Establishing regional working groups or innovation hubs can support knowledge sharing and accelerate the ecosystem's transition to secure, standardized data-sharing practices.

By taking a measured approach, jurisdictions can support a balanced transition from screen scraping to secure open APIs, aligning policy goals with market realities while safeguarding consumer data within the open finance ecosystem.

KEY TAKEAWAY: DECISION TRACKER FOR POLICYMAKERS

CONSIDERATION	YES/NO	NEXT STEP
Are data formats, structures, and classifications clearly defined and standardized across the ecosystem?	Yes/No	Develop a centralized data dictionary and ensure consistency across platforms, formats, and classifications.
Are API specifications proportionate, flexible, and inclusive for all ecosystem participants?	Yes/No	Establish a flexible API architecture with proportional specifications that allow for incremental adoption.
Are minimum security standards, including encryption, MFA, and incident management, being met by all participants?	Yes/No	Implement robust security standards, including AES encryption, MFA, and clear incident management protocols.
Is consent management comprehensive, transparent, and effectively implemented across all platforms?	Yes/No	Ensure that consent dashboards are accessible for customer use, enabling clear control over data-sharing preferences.
Are outsourcing agreements aligned with data protection, privacy requirements, and business continuity standards?	Yes/No	Conduct regular audits to ensure compliance with data protection, privacy, and continuity requirements.
Is interoperability ensured across platforms, institutions, and regions to support seamless data exchange?	Yes/No	Promote the use of common standards and interoperable protocols to enable cohesive data-sharing experiences.
Is there a clearly defined liability management framework for cases of data breaches or misuse?	Yes/No	Define transparent liability and accountability protocols, specifying participant responsibilities and remediation measures.
Are commercial models for API access and data-sharing fair and supportive of diverse ecosystem participants?	Yes/No	Establish clear, sustainable pricing models that balance cost recovery with affordability for smaller actors.
Is screen scraping usage and the transition to secure open APIs clearly addressed within the policy framework?	Yes/No	Develop a phased roadmap to transition from screen scraping to secure APIs, with interim security standards and API adoption milestones.
Are consumer consent practices transparent, especially regarding screen scraping and data-sharing risks?	Yes/No	Enhance consumer awareness on data-sharing risks and promote consent practices that allow users control over data access and sharing.



3.6 IMPLEMENTATION AND MONITORING

The successful rollout and sustainability of an open finance ecosystem depend on structured implementation and robust monitoring frameworks. Implementation involves the practical steps required to activate open finance policies, data-sharing mechanisms, and regulatory provisions, guided by flexibility, inclusivity, and proportionality to support participants at varying levels of readiness.

Monitoring ensures continuous oversight to assess compliance, financial inclusion impact, and the need for regulatory adjustments, making the ecosystem secure, inclusive, and responsive to market dynamics and technological advancements.

As the CGAP Working Paper on Open Banking: How to Design for Financial Inclusion³⁹ suggests, a phased, adaptable approach is essential for developing and emerging markets (EMDEs), where resource constraints and technical capacities vary significantly. In these contexts, a mandatory regime may not be necessary if market-driven initiatives can achieve similar outcomes.

It might be prudent, therefore, for regulators across the AFI network to consider or choose voluntary or hybrid participation models initially to gain industry buy-in and reduce the regulatory burden while building enforcement capacity for the future. If mandatory participation is pursued, it is critical to ensure sufficient resources and authority to enforce compliance; otherwise, a voluntary approach may be more effective in advancing industry alignment without straining regulatory capacity.

Phased Approach to Implementation

Given the diverse capabilities and readiness of participants, a phased approach to implementation is recommended to enable gradual adoption, minimize risk, and encourage equitable access across all actors. Implementation phases may include pilot programs, testing environments (e.g. regulatory sandboxes), and a progressive rollout to full implementation as ecosystem participants gain experience and regulatory frameworks mature.

To ensure broad support and alignment, implementation requires coordinated efforts across the ecosystem. Regulators, along with governance and implementation entities, should play an active role in supporting the transition by offering practical interventions and ongoing support mechanisms. Successful models include the UK's Open Banking Implementation Entity (OBIE), now Open Banking Limited, which guided implementation through collaboration, hackathons, and innovation challenges, encouraging participants to develop API-based products while identifying and addressing potential bottlenecks.

These events not only promote innovation but also help regulators and policymakers identify potential implementation bottlenecks and adjust policies accordingly.

KEY CONSIDERATIONS FOR IMPLEMENTATION SUPPORT

- ✓ **PILOT PROGRAMS AND SANDBOXES:** Encourage the use of regulatory sandboxes to test the ecosystem on a smaller scale before full implementation. Sandboxes provide a controlled environment for experimenting with data-sharing models, managing risks, and identifying issues at an early stage.
 - **Hackathons and Innovation Challenges:** Organize challenges to encourage collaboration and generate open finance use cases, providing platforms for ecosystem actors to develop and test new products and services with open APIs.
 - **API Sandboxes and Testbeds:** Establish secure test environments for financial institutions and FinTechs to work with open APIs, facilitating collaborative development and enabling early identification of compliance challenges.
- ✓ **PHASED AND ADAPTIVE IMPLEMENTATION (GRADUAL ROLLOUT):** Implement open finance incrementally, beginning with core financial institutions, then progressively including non-bank financial institutions, FinTechs, and TPPs. This gradual approach supports iterative testing, stakeholder feedback, and scalability, minimizing disruption and enabling industry adaptation. Regulators can adjust timelines and requirements based on market feedback and technological advancements.
- ✓ **TECHNICAL AND REGULATORY SUPPORT:** Provide ongoing technical and regulatory support to ecosystem participants, including access to open API testbeds, capacity building initiatives, and technical assistance. This support helps participants meet compliance requirements and effectively address implementation challenges.

³⁹ Plaitakis, Ariadne and Stefan Staschen. 2020. Open Banking: How to Design for Financial Inclusion. Available at: https://www.cgap.org/sites/default/files/publications/2020_10_Working_Paper_Open_Banking.pdf

- ✓ **INCENTIVE STRUCTURES:** Incentivize innovators through prize funds, recognition, or additional development resources to drive sustained engagement. Structured incentives ensure continued investment in product development, benefiting the entire ecosystem.
- ✓ **SCALABILITY AND INTEGRATION:** Prioritize the scalability of winning concepts from pilots or innovation challenges, ensuring they integrate effectively into the broader ecosystem with a focus on long-term sustainability.
- ✓ **COLLABORATION WITH ECOSYSTEM ACTORS:** Facilitate close collaboration between regulated entities, FinTechs, and regulators to maintain an innovation friendly environment that meets compliance requirements. Regular industry consultations, feedback sessions, and cooperative frameworks encourage active ecosystem involvement and ongoing alignment with regulatory goals.

Collaborative Governance and Stakeholder Engagement

Successful implementation requires ongoing collaboration between regulators, financial institutions, FinTechs, consumer groups, and other stakeholders. Stakeholder engagement ensures that the ecosystem reflects the needs of its participants and can adapt to emerging trends and challenges.

KEY CONSIDERATIONS FOR COLLABORATIVE GOVERNANCE

- ✓ **MULTI-STAKEHOLDER COMMITTEES:** Establish committees or working groups that include representatives from key stakeholder groups. These groups can provide guidance on implementation timelines, data-sharing standards, and best practices for ecosystem design.
- ✓ **PUBLIC-PRIVATE PARTNERSHIPS (PPPS):** Promote partnerships between public regulatory bodies, peer regulators, and private sector actors to leverage technical expertise and resources. Leverage global partnerships with organizations, such as the [Alliance for Financial Inclusion](#) and the [Digital Financial Services Working Group](#), to bring international best practices, resources, and additional capacity building initiatives into the local ecosystem. These collaborations provide access to broader expertise and financial support for innovation initiatives, and

can drive innovation while ensuring that regulatory goals, such as financial inclusion, are met.

Technical Infrastructure for Implementation

To ensure smooth implementation, jurisdictions must invest in the necessary technical inclusive digital infrastructure to support data-sharing protocols, API management, and cybersecurity measures. Central sandboxes, open API testbeds, and shared digital infrastructures are critical for allowing participants to integrate and innovate within the ecosystem.

KEY CONSIDERATIONS FOR INCLUSIVE DIGITAL INFRASTRUCTURE

- ✓ **CENTRALIZED VS. DECENTRALIZED INFRASTRUCTURE:** Decide whether the open finance ecosystem will rely on centralized digital infrastructures (e.g., a central data-sharing hub) or allow for decentralized, participant-managed infrastructures. Both models have their advantages, depending on the jurisdiction's regulatory and technical environment.
- ✓ **API STANDARDS AND TESTBEDS:** Provide open API testbeds where participants can test their APIs and integrations before going live. A robust testing environment minimizes the risk of operational disruptions during full-scale implementation. For instance, Bank Negara Malaysia (BNM) Open API framework⁴⁰ allows financial institutions to test APIs in a controlled environment before fully adopting open finance principles.

Capacity Building and Knowledge Exchange for Open Finance Implementation

To ensure the successful implementation of open finance, it is essential that all participants, governance bodies, and lead regulators possess the necessary technical expertise and regulatory knowledge to function effectively within the ecosystem.

Policymakers are encouraged to adopt a change management mindset, actively engaging in knowledge exchange with peers and integrating insights from global best practices. This approach not only enhances

⁴⁰ Bank Negara Malaysia. 2019. Publishing Open Data using Open API. Available at: <https://www.bnm.gov.my/documents/20124/761679/Open+Data+API+PD.pdf>

institutional capacity for data sharing but also supports intentional, impactful knowledge generation and application across the ecosystem.

Subsequently, well-designed capacity-building initiatives for all ecosystem participants—regulators, governance bodies, and financial institutions—can be transformative, enabling compliance and contributing to the ecosystem’s success.

KEY CONSIDERATIONS FOR CAPACITY BUILDING

- ✓ **PEER LEARNING AND KNOWLEDGE EXCHANGE:** Actively engage with regional and global peers to exchange insights and best practices. Policymakers and regulators can benefit from collaborative networks that share experiences on data sharing, change management, and open finance implementation.
- ✓ **TRAINING PROGRAMS:** Develop targeted training for financial institutions, FinTechs, and regulators to deepen their understanding of data-sharing protocols, compliance standards, and consumer protection responsibilities.
- ✓ **CERTIFICATION PROGRAMS:** Implement certification programs for ecosystem participants ensuring they possess the necessary technical skills and meet regulatory standards. Certification topics can include API management, cybersecurity protocols, and consumer consent management, among other critical areas.
- ✓ **INSTITUTIONAL CHANGE MANAGEMENT:** Encourage a mindset of adaptability within regulatory bodies and institutions by integrating change management principles that support a smooth transition to data sharing frameworks.

Monitoring and Evaluation Framework

A comprehensive monitoring framework is essential for ensuring compliance, assessing performance, and adjusting the open finance ecosystem as it evolves. Monitoring should be proactive, risk-based, and focused on ensuring both system security and alignment with broader financial inclusion and market goals.

KEY COMPONENTS OF A ROBUST MONITORING FRAMEWORK:

- ✓ **CONTINUOUS COMPLIANCE MONITORING:** Establish regular audits and compliance checks to verify that participants adhere to data sharing, security, and privacy

requirements. Monitoring should include assessments of data quality, reliability, and accessibility.

- ✓ **PERFORMANCE AND IMPACT METRICS:** Develop performance indicators that measure the impact of open finance on financial inclusion, customer satisfaction, market competition, and innovation. These metrics should be used to guide policy adjustments and ecosystem enhancements.

ENFORCEMENT OF MANDATORY REQUIREMENTS (if applicable):

- ✓ In jurisdictions with mandatory participation, regulators must be prepared to enforce compliance through sanctions for non-compliance. For EMDEs with resource constraints, a voluntary regime with enforcement focused on high impact areas may be more effective, enabling phased enforcement based on capacity and market maturity.

STAKEHOLDER FEEDBACK MECHANISMS:

- ✓ Collect feedback from ecosystem participants and customers to identify operational issues, compliance challenges, and opportunities for improvement. Regular engagement ensures the monitoring framework remains responsive and customer-centric.

Risk Management in Implementation and Monitoring

Implementation and monitoring should be supported by a robust risk management framework that addresses both operational and cybersecurity risks. This is essential for protecting the integrity of the ecosystem and the sensitive data shared within it.

KEY CONSIDERATIONS FOR RISK MANAGEMENT

- ✓ **OPERATIONAL RESILIENCE:** Ensure that participants have business continuity and disaster recovery plans in place to mitigate operational disruptions.
- ✓ **CYBERSECURITY PROTOCOLS:** Require that participants implement strong cybersecurity protocols, including MFA, encryption, and regular security audits.
- ✓ **INCIDENT REPORTING:** Establish clear guidelines for participants to report security breaches, data leaks, or operational failures. Prompt reporting allows regulators to respond quickly and limit the impact of such incidents.

KEY TAKEAWAY: DECISION TRACKER FOR POLICYMAKERS

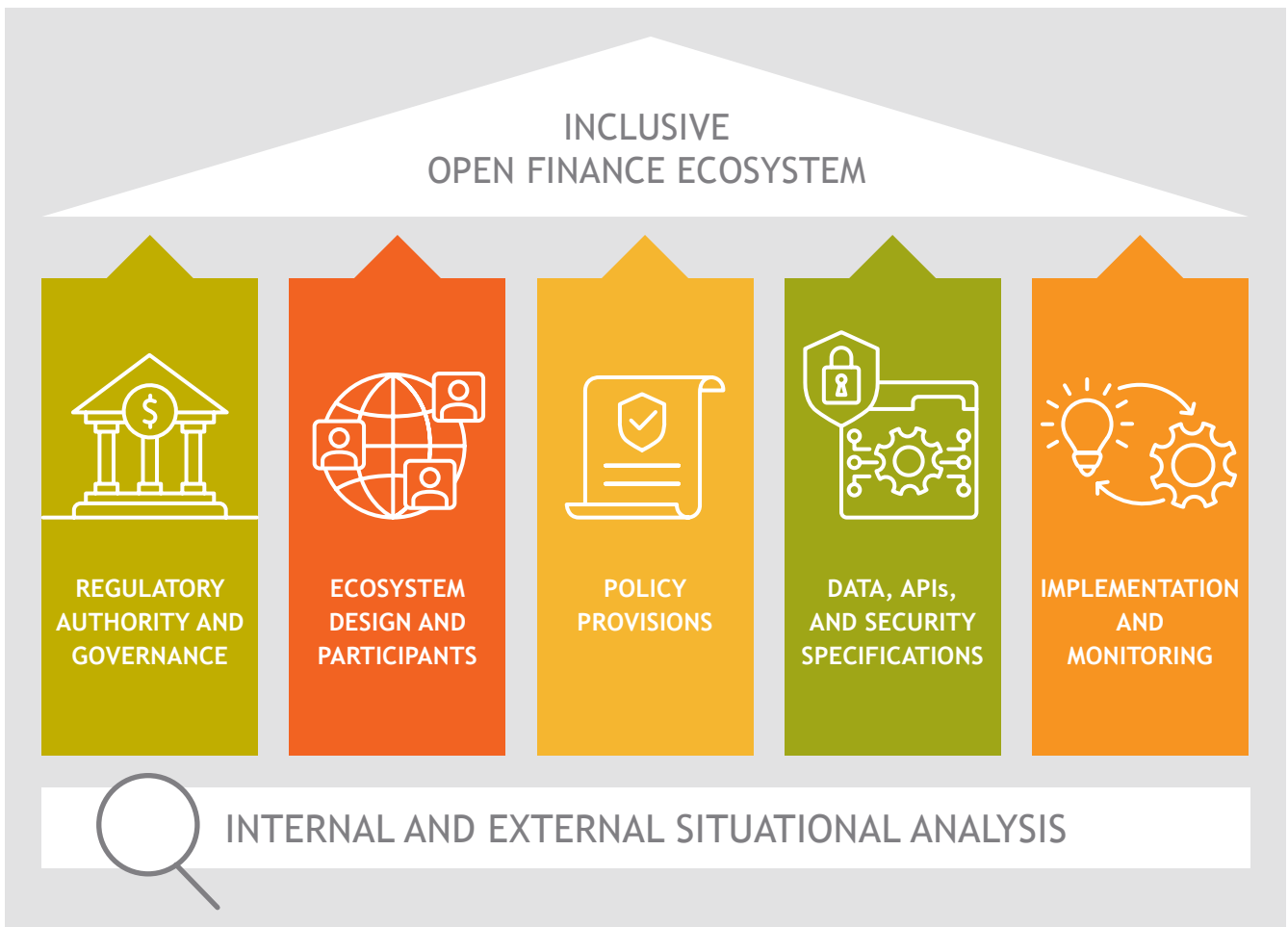
CONSIDERATION	YES/NO	NEXT STEP
Is there a phased implementation approach in place?	Yes/No	Establish pilot programs, regulatory sandboxes, and a gradual rollout
Are there clear collaborative governance structures involving stakeholders?	Yes/No	Form multi-stakeholder committees to guide implementation
Is the necessary technical infrastructure in place?	Yes/No	Invest in open API testbeds, central sandboxes, and secure digital infrastructure
Are participants provided with sufficient capacity building programs?	Yes/No	Implement training and certification programs for ecosystem participants
Is a real-time monitoring framework in place?	Yes/No	Leverage SupTech solutions for real-time data monitoring and risk management
Are there clear performance metrics for monitoring the ecosystem's success?	Yes/No	Define and track key performance indicators (KPIs) for implementation
Are risk management and cybersecurity protocols clearly defined?	Yes/No	Establish robust cybersecurity protocols and incident reporting mechanisms

4. INCLUSIVE OPEN FINANCE ECOSYSTEM – OUTCOMES

The **Inclusive Open Finance Ecosystem** aims to create a comprehensive and robust framework where financial inclusion, innovation, competition, and trust converge

to build a future-proof financial environment. The overarching roof, as depicted in the illustration, symbolizes the ultimate goal of an inclusive ecosystem that benefits all participants.

The foundational pillars supporting this vision—customer-centricity, market competition, trust, and economic growth—work in tandem to enable a sustainable and resilient financial system.



4.0 CUSTOMER-CENTRICITY AND FINANCIAL INCLUSION

An inclusive open finance ecosystem should empower underserved populations—including low-income individuals, MSMEs, women, and youth—by granting them access to affordable, tailored financial services. By utilizing a wide range of data sources, financial institutions and FinTechs can develop personalized products that directly address the unique needs of

these groups. A customer-centric approach enhances trust, enabling customers to actively engage with the ecosystem, which is critical for the sustainable growth of digital financial services.

Central to this outcome is ensuring that customers are not only aware of the benefits of sharing their data but also confident in the protection of their rights within the system. This builds trust, leading to increased participation and bridging the financial inclusion gap, while ensuring that the products offered remain relevant, accessible, and trustworthy.

4.1 MARKET COMPETITION AND INNOVATION

Open finance can potentially pave the way for a dynamic and competitive financial ecosystem where FinTechs and traditional financial institutions collaborate and compete on an equal footing. The open access to customer data through secure, customer-permissioned mechanisms levels the playing field, encouraging innovation while allowing smaller players to disrupt the market with cutting-edge financial products.

By encouraging competition, open finance improves the consumer experience by offering a greater variety of financial products at lower costs. New entrants challenge incumbents to innovate, thereby improving efficiency, driving down prices, and expanding the reach of financial services. This innovation cycle benefits consumers and contributes to the evolution of the financial ecosystem as a whole.

4.2 TRUST, SECURITY, AND STABILITY

A well-regulated open finance ecosystem must prioritize data security and privacy to build and maintain trust among all stakeholders. Customers need to feel secure in knowing that their financial data is protected, while financial institutions need assurances that robust governance and data security standards are in place to prevent exploitation or misuse.

Trust is the linchpin for a sustainable open finance ecosystem, and this can only be achieved through strong governance frameworks, data protection regulations, and effective cybersecurity measures. In doing so, the financial system will enjoy long-term stability, protecting consumers from systemic risks and ensuring that innovation and inclusion progress without compromising the overall integrity of the financial landscape.

4.3 ECONOMIC GROWTH AND RESILIENCE

An inclusive open finance ecosystem significantly contributes to economic growth and financial resilience. By enabling access to essential financial services—such as credit, savings, insurance, and investments—open finance allows individuals and

businesses to participate more fully in the economy. Financially resilient households and enterprises are better positioned to weather economic challenges, promoting stability at both micro and macro levels.

Through inclusive open finance, economies can tap into previously underserved markets, unlocking the potential for broad-based growth. This economic empowerment, particularly for marginalized communities, strengthens financial inclusion as a development goal, creating ripple effects that improve productivity, entrepreneurship, and innovation across all sectors of the economy.

KEY CONSIDERATIONS

- ✓ **CUSTOMER-CENTRIC DESIGN:** Ensure all financial products and services within the ecosystem meet the specific needs of underserved populations.
- ✓ **BALANCED MARKET COMPETITION:** Create a level playing field for both FinTechs and traditional financial institutions to drive innovation.
- ✓ **TRUST AND SECURITY:** Implement strong governance and data protection standards to secure customer data and ensure systemic stability.
- ✓ **SUSTAINABLE ECONOMIC GROWTH:** Align the open finance framework with national financial inclusion strategies to drive economic participation and resilience.

KEY TAKEAWAY: DECISION TRACKER FOR POLICYMAKERS

CONSIDERATION	YES/NO	NEXT STEP
Is the open finance ecosystem enabling customer-centric innovation?	Yes/No	Encourage the development of inclusion-focused financial products
Are security and privacy standards ensuring trust?	Yes/No	Strengthen data protection measures and ensure compliance with privacy laws
Is market competition being encouraged?	Yes/No	Monitor for fair competition and support market innovation initiatives
Are economic growth and resilience objectives being met?	Yes/No	Measure the impact of financial inclusion programs on economic development

4.4 CONCLUDING REMARKS

The outcomes detailed in this chapter highlight the transformative potential of an Inclusive Open Finance Ecosystem. Through a combination of customer-centricity, competition, trust, and economic growth, central banks and financial regulators can build a sustainable and resilient financial landscape that empowers all participants.

These goals, interconnected and mutually reinforcing, ensure that open finance not only drives financial inclusion but also sustains a dynamic, secure, and innovative ecosystem that benefits individuals, businesses, and the wider economy.

In the next chapter, we will delve into the practical steps needed to implement these outcomes, building on the insights provided in this policy framework to ensure a successful and inclusive transition to open finance.

ANNEX

A. AFI DFSWG OPEN FINANCE SURVEY REPORT (OCTOBER 2024)

The collective interest from the AFI membership in open finance reflects the potential of data-sharing ecosystems to advance financial inclusion by expanding access to financial services.

According to the AFI DFSWG Survey on Inclusive Open Finance (2024), 52 percent of respondents are currently in the initial exploration stage, conducting feasibility assessments. Twenty-six percent have initiated pilot programs, with four percent reporting full implementation of their open finance frameworks.

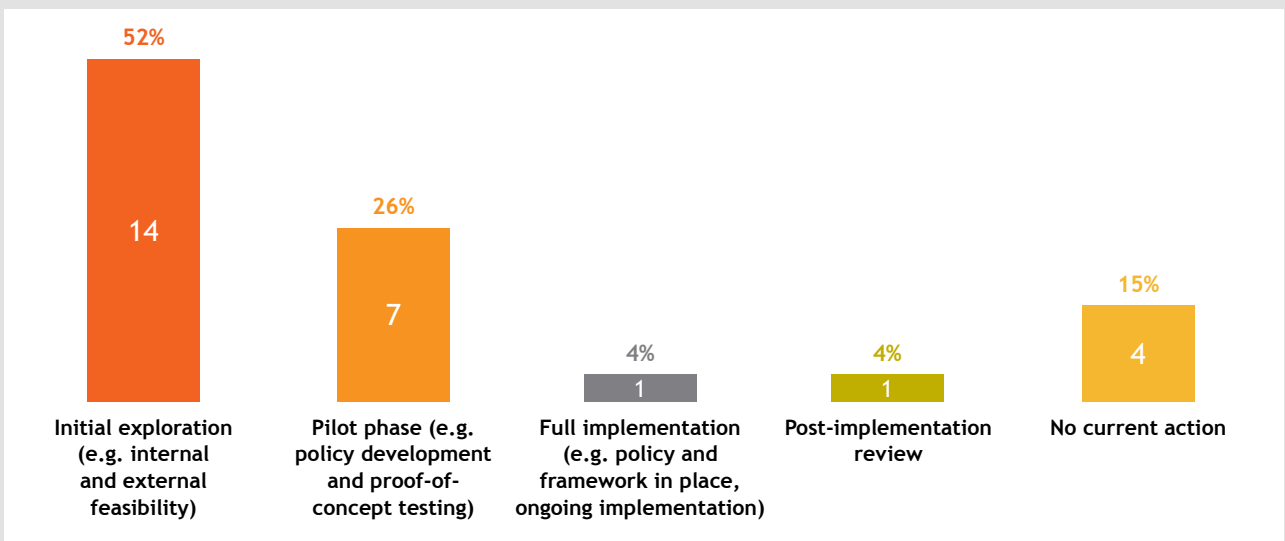
Meanwhile, 15 percent have yet to develop formal documentation or initiate action, which highlights the need for targeted guidance.

These findings underscore the guideline note’s relevance as a resource to support members at every stage of development.

The opportunities identified by AFI members are linked to the ability of open finance to close financial inclusion gaps through innovative services and expanded data-sharing frameworks.

The guideline note will provide guidance on market readiness assessments, regulatory development, and implementation strategies, ensuring alignment with national financial inclusion goals. As open finance continues to evolve within the network, the guideline note aims to help regulators overcome challenges, optimize stakeholder engagement, and ensure sustainable outcomes.

FIGURE A1. OPEN FINANCE STAGE WITHIN THE AFI NETWORK



Definitions: What Are Inclusive Data-Sharing Regimes and Ecosystems?

The concept of data-sharing ecosystems in financial services originated from efforts to enhance customer choice, encourage competition, and promote innovation. Open banking emerged as an early model, primarily focused on enabling customers to securely share their banking data with authorized third parties. Examples include the [UK Open Banking Regulation](#), the [EU’s PSD2 Directive](#), and Brazil’s [Open Finance Regulation](#).

Over time, these frameworks expanded to include more financial products, evolving into open finance, which extends data-sharing beyond banking to cover insurance, investments, and other financial services.

While this guideline note will primarily use the term Open Finance, the content and recommendations are relevant and actionable for adjacent terms such as Open Banking, Open Data, and Open API.

The AFI DFSWG Survey on Inclusive Open Finance (2024) reveals that 31 percent of respondents are engaged in open banking, 17 percent in open finance, 11 percent

in open API development, and eight percent in open data initiatives. Collectively, this reflects an interest in creating interoperable data-sharing ecosystems across the AFI network. This diverse engagement showcases the varied approaches of members toward ecosystem development, driven by local market needs and differences in regulatory readiness.

Inclusive Open Finance Policy Development in the AFI Network

Inclusive open finance emphasizes the intentional design and implementation of a proportionate regulatory framework to establish a robust and secure customer-permissioned data sharing ecosystem that prioritizes equitable access, responsible usage, and the sustainable quality of financial services for all segments.

The AFI survey reveals that 45 percent of members have no formal documentation on open finance, underscoring the importance of regulatory guidance to structure policy efforts. Other members have adopted regulatory frameworks (12 percent), guidelines or white papers (nine percent), and public consultations (12 percent) to shape their policy direction.

Developing clear policies ensures that open finance frameworks align with national financial inclusion strategies and other pivotal policy documents. Regulators must strike a balance between promoting innovation and managing risks to ensure that data-sharing ecosystems enhance financial stability and trust across the financial landscape.

FIGURE A2. PREVALENT AND EMERGING DATA-SHARING REGIMES IN THE AFI NETWORK

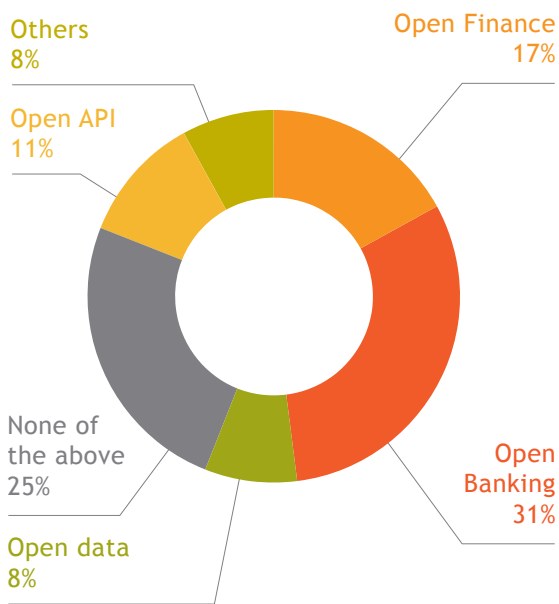
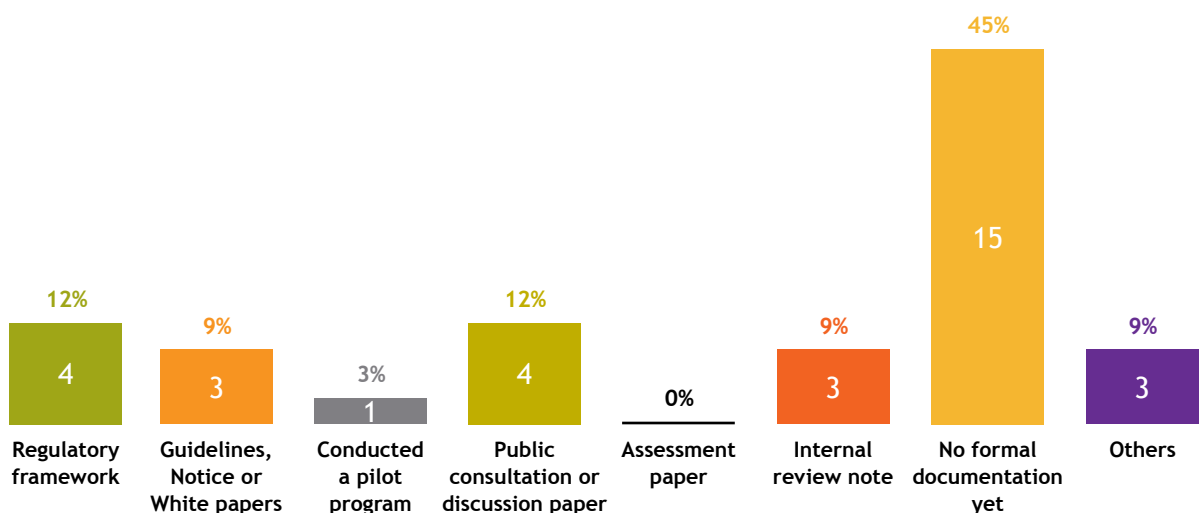


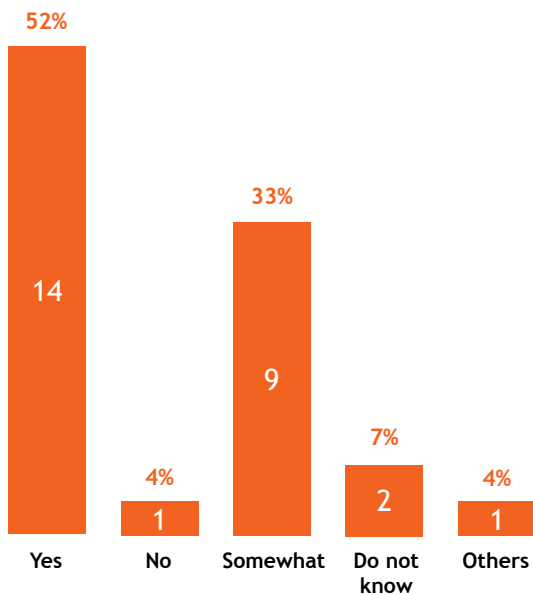
FIGURE A3. ISSUANCE OF FORMAL POLICY DOCUMENTS ON OPEN FINANCE



Rationale and Motivation for Inclusive Open Finance in the AFI Network

The survey reveals significant stakeholder interest in open finance, with 52 percent of respondents confirming strong market demand. This high level of engagement reflects the recognition that open finance can unlock new opportunities for financial inclusion, especially in developing markets where traditional banking services are limited.

FIGURE A4. STAKEHOLDER INTEREST IN OPEN FINANCE WITHIN THE AFI NETWORK



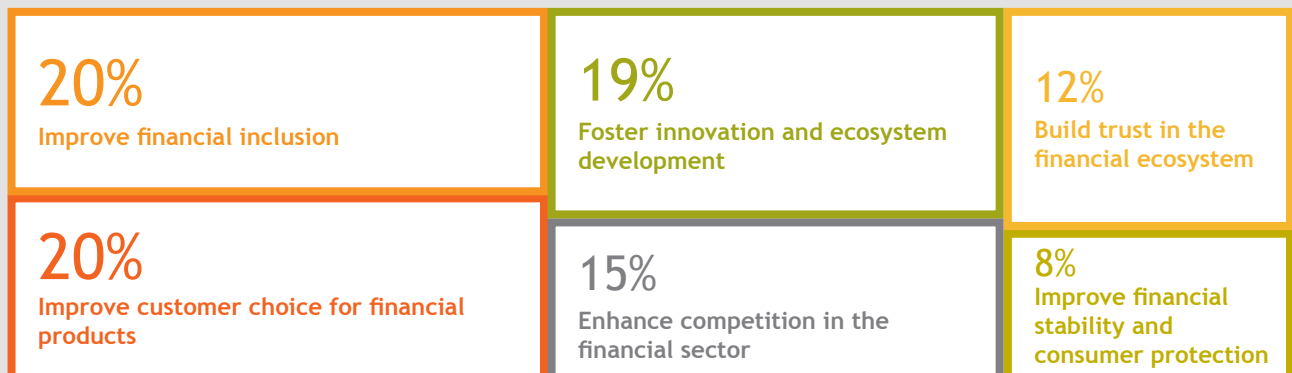
Inclusive open finance is expected to directly and indirectly contribute to several key outcomes that are critical to advancing financial inclusion. AFI members cited multiple motivations for pursuing open finance, including:

- ✓ **Improving financial inclusion** (21 percent) by expanding access to tailored financial products.
- ✓ **Enhancing customer choice** (21 percent) through the introduction of competitive financial services.
- ✓ **Promoting innovation and ecosystem development** (20 percent) to encourage collaboration between traditional and non-bank institutions.
- ✓ **Building trust in the financial ecosystem** (13 percent) by providing transparent, consent-based data-sharing mechanisms.
- ✓ **Enhance competition in the financial sector** (16 percent) to create a level playing field for all actors.

Inclusive open finance drives financial inclusion by building trust, enhancing competition, and promoting innovation, with the interplay of these factors creating a more inclusive financial ecosystem. By reducing costs, expanding access through non-bank providers, and ensuring responsible product design, open finance makes financial services more affordable, equitable, and aligned with consumer needs. Additionally, transparent data-sharing practices and robust consumer protection measures enhance trust and safeguard users, contributing to sustainable financial inclusion.

These motivations demonstrate a clear alignment with financial inclusion objectives, as open finance enables underserved populations to access tailored financial products. The interplay between trust, innovation, and inclusion ensures that financial services meet the diverse needs of consumers, particularly in emerging and developing markets.

FIGURE A5. PRIMARY MOTIVATION FOR OPEN FINANCE

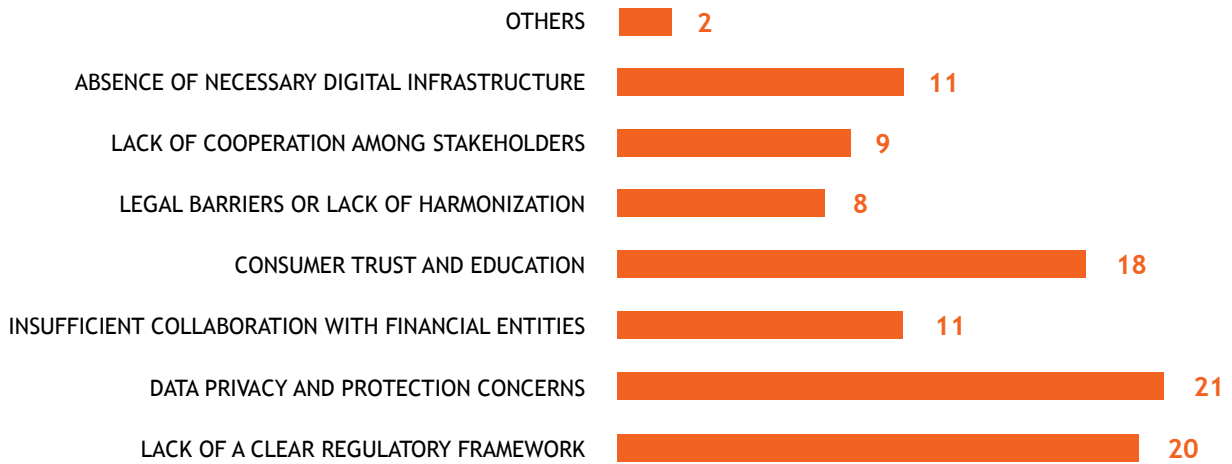


Inclusive open finance offers policymakers and regulators a pivotal opportunity to enhance the accessibility and diversity of financial services. However, balancing innovation with the inherent risks and challenges is essential to the success of open finance initiatives. This section explores the role of policy frameworks, the importance of regulatory clarity, and the progress made within the AFI network, drawing insights from the latest survey data.

Importance of Regulatory Guidance and Policy Clarity

Survey data reveals that 20 percent of respondents cite the lack of a clear regulatory framework as a significant challenge, while 21 percent highlight concerns about data privacy and protection. This underscores the need for cohesive policies that balance consumer rights with the growth of digital financial services.

FIGURE A6. ECOSYSTEM CHALLENGES IN IMPLEMENTING OPEN FINANCE

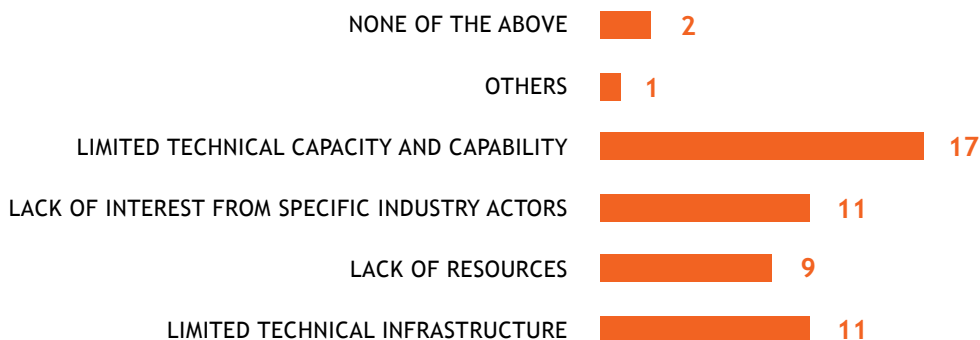


Implementation Challenges in Open Finance

Beyond ecosystem challenges, technical and operational hurdles can impede the adoption of open finance. Survey respondents (as shown in Figure 7) report limited technical

capacity (33 percent) and infrastructure constraints (22 percent) as the key barriers to implementation. Furthermore, 22 percent of members highlight a lack of interest from specific industry actors, indicating the need for improved collaboration between stakeholders.

FIGURE A7. IMPLEMENTATION CHALLENGES IN IMPLEMENTING OPEN FINANCE



B. CUSTOMER DATA TYPES IN AN OPEN FINANCE REGIME

Citing a few sources,⁴¹ the table below presents an indicative and comprehensive list of customer data types, organized by category, that consumers could authorize for use within an open finance regime:

DATA CATEGORY	1 PERSONAL IDENTIFICATION DATA	2 ACCOUNT AND FINANCIAL PRODUCT INFORMATION	3 TRANSACTION HISTORY	4 INCOME AND EMPLOYMENT DATA	5 CREDIT AND LOAN INFORMATION
DATA TYPES	<p>Basic Identifiers: Name, date of birth, gender, nationality.</p> <p>Contact Information: Phone number, email address, physical address.</p> <p>Digital Identification: National ID number, tax identification number, social security number, digital identity credentials, biometric identifiers (e.g. fingerprint, facial recognition).</p>	<p>Account Details: Account type (e.g. savings, checking, credit), account number, IBAN, account balance, account status (active or inactive).</p> <p>Product and Service Information: Product terms, interest rates, fees and charges, product types (e.g. insurance policies, investment accounts, loans).</p> <p>Transaction Limits and Features: Overdraft status, transaction limits, payment features available.</p>	<p>Bank Transactions: Detailed transaction history including deposits, withdrawals, transfers, bill payments.</p> <p>Credit Card Transactions: Date, merchant, amount, transaction category (e.g. groceries, travel, utilities).</p> <p>Loan Repayments: Loan type, installment amount, due dates, outstanding balance.</p> <p>Investment Transactions: Purchase and sale of securities, dividends received, investment contributions.</p>	<p>Income Streams: Salary deposits, income from investments, business revenue, pension, or social security payments.</p> <p>Employment Information: Employer details, employment status, job title, income frequency.</p> <p>Tax and Benefits Data: Tax filings, tax bracket, government benefits received.</p>	<p>Credit Score and History: Credit scores, credit history summary, credit inquiries.</p> <p>Loan Details: Loan amount, interest rate, tenure, repayment schedule, collateral details.</p> <p>Credit Card Details: Credit limit, credit utilization rate, payment history, outstanding balance.</p>
DATA CATEGORY	6 INSURANCE AND PROTECTION DATA	7 INVESTMENT AND WEALTH MANAGEMENT DATA	8 BEHAVIORAL AND USAGE DATA	9 PAYMENT DATA	10 CUSTOMER PREFERENCES AND CONSENT INFORMATION
DATA TYPES	<p>Policy Information: Policy type (e.g. life, health, property), policy coverage, premium amount, policy term.</p> <p>Claims History: Past claim details, claim amounts, claim status (approved, denied), date of claims.</p> <p>Insurance Beneficiaries: Beneficiary names, relationship, benefit amount.</p>	<p>Portfolio Holdings: Asset types (stocks, bonds, mutual funds), current value, asset allocation.</p> <p>Investment Performance: Historical returns, risk profile, performance metrics.</p> <p>Retirement Accounts and Pension Funds: Contribution amounts, fund allocation, projected benefits.</p>	<p>Financial Behavior Patterns: Spending patterns, savings habits, payment preferences.</p> <p>Channel Usage Data: Usage frequency across digital channels (e.g. mobile app, web banking, ATMs), preferred transaction methods.</p> <p>Engagement and Interaction Data: Interaction history with financial services (e.g. customer support requests, loan applications, product inquiries).</p>	<p>Bill Payment Information: Recurring bill details (utilities, rent, subscriptions), payment frequency, payment amount.</p> <p>Merchant and e-Commerce Transactions: Merchant names, transaction amounts, purchase categories.</p> <p>Peer-to-Peer Payments: Recipient details, transaction descriptions, payment dates.</p>	<p>Communication Preferences: Preferred contact methods, marketing opt-ins or opt-outs.</p> <p>Consent Records: Consent status, timestamp of consent, type of data sharing permitted (e.g. full account details, transaction history only).</p> <p>Data Access Permissions: Authorized third-party access list, duration of access, data scope authorized.</p>

⁴¹ Further information is available at Open Banking UK: <https://www.openbanking.org.uk/>; EBA PSD2 Guidelines: <https://www.eba.europa.eu/regulation-and-policy/payment-services-and-electronic-money>; Financial Data Exchange (FDX): <https://financialdataexchange.org/>; GDPR Information: <https://gdpr-info.eu/>; Alliance for Financial Inclusion <https://www.afi-global.org/library/>; World Bank: <https://www.worldbank.org/ext/en/home>; and CGAP: <https://www.cgap.org/>

C. KEY DEFINITIONS AND USE OF TERMS

The following terms and technical expressions used in this policy framework are intended to have the following defined meanings and definitions as set out in Table 1 below.

TERM	DEFINITION	SOURCE
Application Programming Interfaces (APIs)	APIs are programming interfaces that allow two or more computer programs to communicate with each other, facilitating the exchange of data and services between systems.	Open Banking UK
API Data	API Data refers to financial or personal data made available to third-party providers through an API, allowing structured, permissioned access to such data for financial and service-related purposes.	Financial Data Exchange (FDX)
API Provider	An API Provider is a financial institution or service provider that exposes financial data and services through APIs, enabling third-party access under specific terms and permissions.	Open Banking UK
API User	An API User is a third-party provider that leverages APIs to access data from financial institutions, enabling the development of applications that serve customers through web or mobile channels.	European Banking Authority (EBA) PSD2
Open API	Open APIs, also known as Public APIs, provide access to financial data and customer information in a structured and secure way, allowing third-party providers to interact with financial systems.	Open Banking UK
Open Data	Open Data refers to data that is freely available, accessible, and can be securely shared and reused by authorized parties, often promoting transparency and innovation.	European Data Portal
Read APIs	Read APIs allow third-party providers, with customer consent, to access specific account data such as transaction history, account balances, and other financial information.	Financial Data Exchange (FDX)
Write APIs	Write APIs enable third-party providers, with customer consent, to initiate actions like payments or fund transfers from a customer's account through secure data-sharing protocols.	Open Banking UK
Read Data	Read Data encompasses the ability of third-party providers to access and retrieve data sets from customer financial accounts, as authorized by the data owner for a defined purpose and time.	Financial Data Exchange (FDX)
Write Data	Write Data refers to the capability granted to a third-party provider to initiate financial transactions on behalf of a customer, following specific authorization protocols and data-sharing standards.	Open Banking UK
Open Finance Standards	Open Finance Standards include comprehensive guidelines covering technical architecture, API security, data formats, contractual, and third-party agreements to ensure interoperability and security within the open finance ecosystem.	Financial Data Exchange (FDX)
Third-Party Provider (TPP)	Third-Party Providers are entities authorized to use APIs for accessing data or initiating transactions within an open finance environment. They can be Account Information Service Providers (AISPs), Payment Initiation Service Providers (PISPs), or similar entities.	European Banking Authority (EBA) PSD2
Account Information Service Providers	AISPs are third-party providers that access and compile financial data from one or multiple accounts to provide customers with a comprehensive overview of their finances.	European Banking Authority (EBA) PSD2
Payment Information Service Providers	PISPs are third-party entities that initiate payment transactions on behalf of customers, facilitating secure payments directly from their bank accounts.	European Banking Authority (EBA) PSD2

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