



Open finance in Africa

The why and the how
for context-appropriate
implementation

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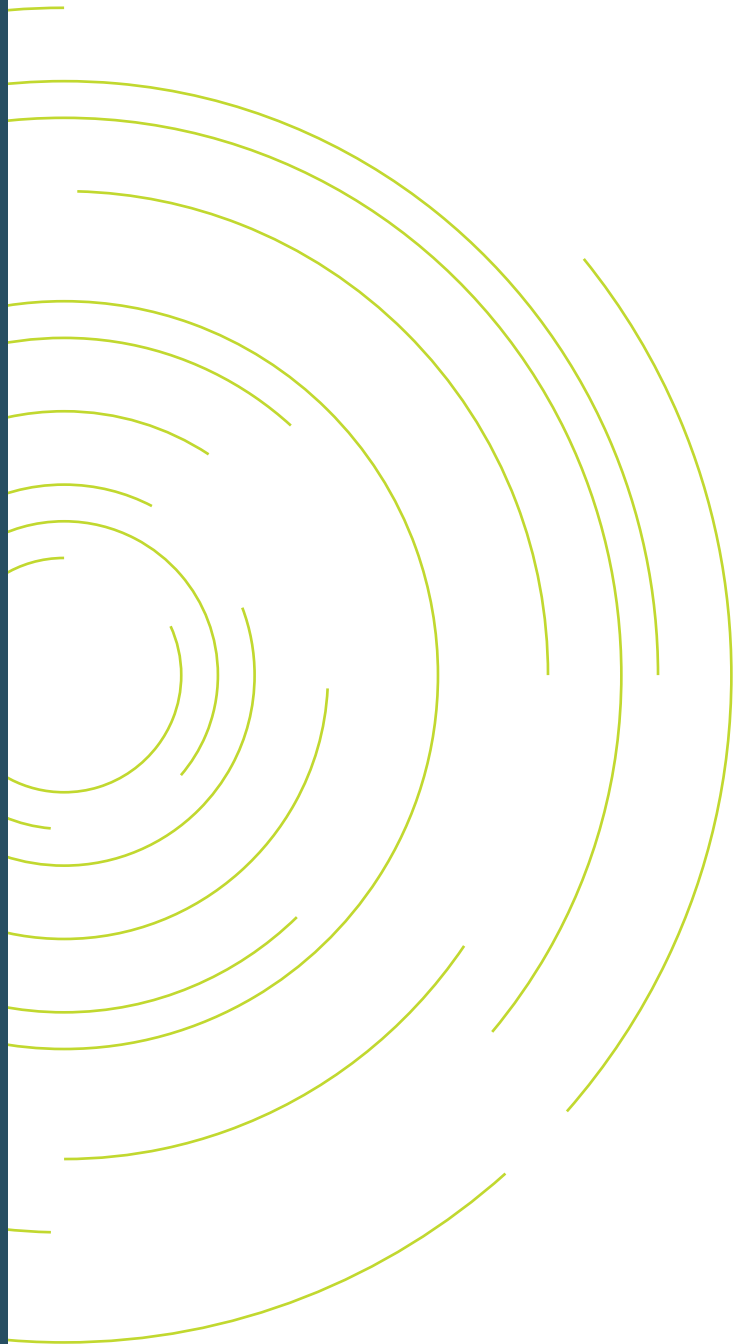


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List of acronyms and abbreviations

| | |
|--------|---|
| AEMO | Australian Energy Market Operator |
| API | Application Programming Interface |
| CDR | Consumer Data Right |
| CGAP | Consultative Group to Assist the Poor |
| DPI | Digital Public Infrastructure |
| FAPI | Financial-grade Application Programming Interface |
| FSCA | Financial Sector Conduct Authority |
| FSP | Financial Service Provider |
| INRIS | Integrated National Registration Information System |
| ISO | International Organisation for Standardisation |
| JOPACC | Jordan Payments and Clearing Company |
| MSME | Micro, Small and Medium Enterprises |
| NEM | National Electricity Market |
| NIBSS | Nigeria Inter-Bank Settlement System |
| OBIE | Open Banking Implementation Entity |
| PSD2 | Payment Services Directive 2 |
| SANAD | Social Aid National Database |
| SARB | South African Reserve Bank |
| TPP | Third-Party Processor |
| UK | United Kingdom |





1 Executive summary

Data can be an engine for innovation. A better appreciation of a customer's transaction patterns across their full portfolio of financial and mobile money services can unlock new ways of serving them through products better tailored to their needs. Yet such data is traditionally held in siloes: each financial institution has sight only of a customer's behaviour at their own institution. And because access to data bestows a competitive advantage, financial institutions with large datasets guard this data closely against fintechs and other competitors.

Open finance is a way of changing the playing field to the benefit of all. It refers to the exchange of consumer data between financial service providers and third-party service providers on the basis of consumer consent. At the core is the simple principle of empowering consumers with meaningful ownership of their own data. This principle is then facilitated by technology – through the use of open Application Programming Interfaces (APIs) – and institutionalised frameworks and standards to ensure meaningful participation by financial institutions and third-party providers in a way that builds consumer trust.

Getting it right means that the monopoly that large financial institutions or mobile money providers have on their customers' data is broken to promote competition, innovation and inclusion. For financial institutions and fintechs, it can help to deepen or broaden their customer base and increase revenue, while for consumers it can lead to more appropriate and diverse product and service options. In so doing, open finance not only serves government's broader market development and financial inclusion goals but can help to build interoperable digital public infrastructure (DPI).

It is therefore no surprise that more and more countries, globally, are considering open finance. In Africa alone, at least nine countries have expressed official interest in open finance or are taking steps towards its design as of 2024.

However, getting it wrong can have dire consequences. The sharing of personal and sensitive consumer data carries significant risk, and open finance will not be appropriate

in contexts where the foundational regulatory, market and infrastructure building blocks are not in place. Rushed implementation of technical solutions that copy or transplant models from elsewhere in the world will exacerbate the risks.

This document presents a how-to guide for policymakers and regulators interested in open finance to (i) assess the feasibility thereof in their local context, (ii) establish the building blocks for implementation and (iii) bring these together in a sequenced implementation roadmap.

1. Assessing feasibility

How to determine if open finance is for you? To understand whether open finance is feasible and desirable in the African context, national decision-makers need to consider the parameters and use cases for open finance in their local context, do a stock-take of what is already happening in their market and proactively design and communicate their intended approach in line with the local realities – even if the stance is initially to take limited steps. Doing so requires a consultative approach with industry to consider four core pillars to open finance feasibility:

- **The policy and regulatory environment:** At the outset, it is important to consider three core layers of the regulatory and policy framework that will shape the success of open finance initiatives: (i) whether there is a constitutional right to data privacy; (ii) whether there is a supportive policy environment in the form of policies for financial inclusion, competition and fintech; and (iii) if there is a robust regulatory framework on data protection, cybersecurity and consumer protection with corresponding legal mandates and powers for regulators.
- **The state of infrastructure required for digital financial services:** Lacking or sub-optimal digital financial services infrastructure presents significant hurdles to open finance. Three types of infrastructure are relevant: (i) the digitalisation of financial services and the degree of interoperability; (ii) the existence of a robust payment system; and (iii) a national ID database which allows financial service providers to directly verify the identity of

consumers. It is important to consider whether initial efforts should focus on strengthening this core infrastructure before investing further into open finance-specific infrastructure.

- The demand-side perspective:** This angle considers the willingness and ability of consumers and MSMEs as data owners to share their personal financial data. To assess the feasibility of open finance from the data owners' perspective, one needs to understand how consumers think about their personal and financial data. Are they willing to share their data? Do they understand consent? Are there specific use cases that resonate more than others? And importantly, do they trust financial service providers to handle and share their data securely? Answering these questions requires primary demand-side research with individual consumers and MSMEs, respectively.
- The supply-side perspective:** The final leg of the feasibility assessment is to consider the willingness and capacity of data holders to participate and share data, as well as the demand for shared data in the market and the ability of data users to tap into the system and innovate to generate value on the back of shared data. While some documented desktop research may be available, most of the supply-side assessment will rely on key informant interviews with data holders and potential data users.

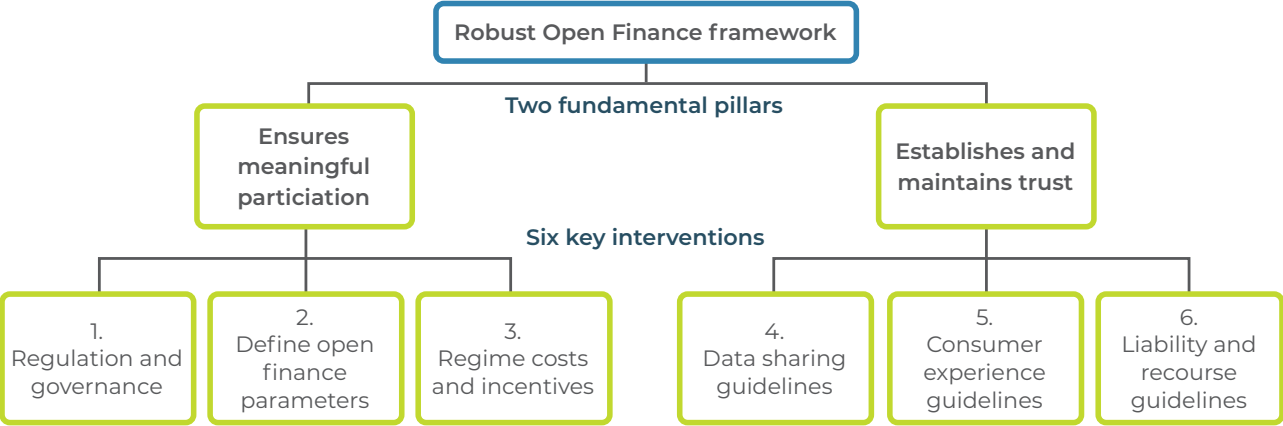
In evaluating each feasibility parameter, it is important to be on the lookout for potential enablers, opportunities and challenges to open finance implementation in the local context.

2. Imperatives for effective implementation

Building blocks for implementation. Once feasibility is established, the focus shifts to what is required for successful implementation. Implementing open finance is a complex and lengthy undertaking, spanning several steps coordinated across numerous actors. An analysis of global open finance approaches reveals that a robust open finance framework is built upon two fundamental pillars or principles as depicted in the diagram below: (1) ensuring meaningful participation in the regime; and (2) establishing and maintaining trust in the system.

As also indicated in the diagram, six categories of interventions are needed to achieve these two pillars. Together, these will impact the speed and effectiveness of open finance roll-out. They therefore form the basis for any open finance implementation plan.

Figure 1. Components of a robust open finance framework



Source: Cenfri, 2024

The table below summarises the key tenets of each intervention as discussed in this report:

Table 1. Key open finance implementation interventions

| Pillar | Intervention | What does it entail? |
|------------------------------------|--------------------------------------|--|
| Ensuring meaningful participation | 1. Regulation and governance | <ul style="list-style-type: none"> • Designate a lead regulator to champion open finance • Appoint a team • Establish an implementation entity – independently or housed at the central bank • Set up a coordination structure • Update regulation as needed |
| | 2. Define open finance parameters | <p>Publish a position paper with a clear articulation of:</p> <ul style="list-style-type: none"> • The national purpose behind open finance • The targeted use cases it seeks to facilitate • The participants to involve • The form of participation – whether data sharing will be done on a voluntary or mandatory basis, or both • The scope of data that will be shared. |
| | 3. Regime costs and incentives | <p>Outline who bears the costs of the regime:</p> <ul style="list-style-type: none"> • Implementation and infrastructure cost: typically covered by the government or via donor funding • Compliance costs: covered by data holders and data users • Operational costs linked to responding to data requests: best covered by participants <p>Balance costs by setting incentives for participation related to:</p> <ul style="list-style-type: none"> • Standardisation • Reciprocity • Fraud prevention • Access to government datasets |
| Establishing and maintaining trust | 4. Data sharing guidelines | <p>Develop technical guidance on three aspects:</p> <ul style="list-style-type: none"> • How to share data –API standards developed in collaboration with industry • What data should be shared –data standards • The system architecture to facilitate data sharing |
| | 5. Consumer experience guidelines | <p>Develop consumer experience guidelines on three main aspects:</p> <ul style="list-style-type: none"> • Consent provision: Obtaining the consumer's initial consent. • Consent management: Managing consent on an ongoing basis. • Data usage compliance: Making sure that data users adhere to the consent. |
| | 6. Liability and recourse guidelines | <p>Put in place guidance to cover two liability challenges in open finance:</p> <ul style="list-style-type: none"> • Absence of operational risk capital among non-regulated financial institutions. • Assignment of liability where multiple parties are involved. |

3. Developing an implementation roadmap

Not all implementation interventions can happen at once. Successful implementation requires the various actions to be sequenced in an implementation roadmap that starts after the feasibility assessment has been conducted.

Four phases. Typically, implementation happens across four phases:

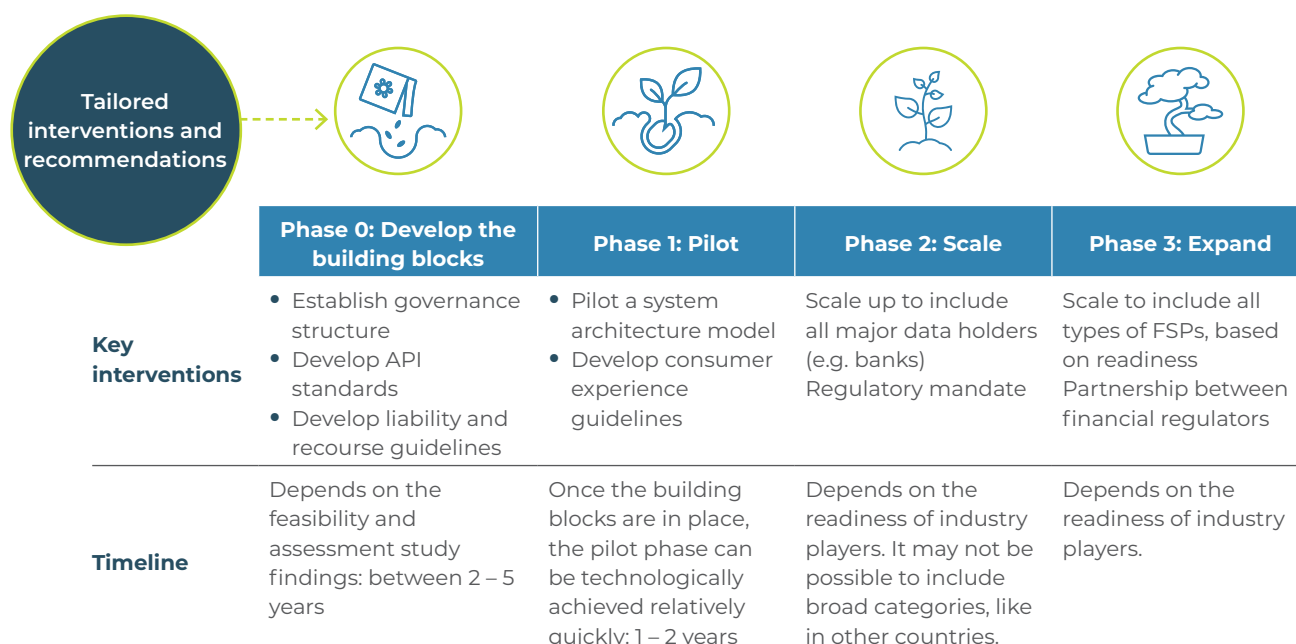
- **Phase 0: Building blocks.** First the building blocks for feasibility need to be established, be it updating or expanding data privacy or other regulation. It will also entail establishing the governance structure for open finance, developing API standards and liability and recourse guidelines.
- **Phase 1: Pilot.** Next, the system architecture can be piloted for limited use cases with a few select banks and third-party providers. This phase also sees the development of consumer experience guidelines.
- **Phase 2: Scale.** Following successful piloting, the system can be launched with all major data holders in the country – in the African context this would typically be the largest banks and mobile money providers.

- **Phase 3: Expand.** Finally, once open finance proves successful among major data holders, rollout can be extended to a broader set of financial service providers, such as insurers, pension providers, investment providers and MFIs, depending on their readiness.

The diagram below outlines indicative key interventions and timelines for each phase of the roadmap, based on the experience of the focus countries and global early adopters.

A long-term endeavour focused on learning and adapting. For most African countries, effective implementation that meets the twin imperatives of ensuring meaningful participation and building and maintaining trust will likely require a multi-year process – the indicative roadmap below spans five to seven years. Even if full implementation remains pending, initial interventions can already address existing frictions in the data-sharing market to, ultimately, contribute to better value for more consumers. Throughout, it is important to have extensive stakeholder engagement to ensure buy-in, meaningful participation, and to coordinate across relevant regulatory authorities. It is also important to evaluate progress at the end of each phase to inform the approach for the next phase. Finally, regional and global peer exchange is important to learn from the experience of others.

Figure 2. Indicative open finance implementation roadmap



Source: Authors' own, based on global experience and focus country assessments

1 Introduction

Data is the new frontier of financial sector innovation. For governments committed to ensure that financial inclusion creates benefits for their citizens and businesses, it is key to consider how data can be safely shared to promote innovation. Open finance – as the exchange of consumer data between financial service providers and third-party service providers on the basis of consumer consent – has emerged as a priority policy consideration for financial regulators and policymakers across the world. Whilst the first movers were developed countries, in the last few years some developing countries have not just caught up but have taken the lead in implementation.

Clear benefits. Open finance stands to enhance competition, support fintech and innovation, empower consumers with meaningful ownership of their own data, support consumer protection, and build financial inclusion through tailored product offerings appropriate to end-users' needs and realities. By enabling the secure and interoperable exchange of consumer data, open finance can also contribute to the broader policy objective of developing robust digital public infrastructure (DPI).

Stark risks. While the benefits are clear, sharing personal and sensitive consumer data presents considerable risks, and open finance may not be suitable in every context. Hastily implemented technical solutions that replicate or transplant models from other regions without adaptation can heighten these risks and further deepen the divide in financial inclusion.

Is open finance feasible and desirable in the African context?

Appreciating local realities. To answer this question, local decision-makers must assess the parameters and use cases for open finance within their specific context, take stock of existing developments in their market, and proactively design and communicate a tailored approach that aligns with local realities—even if that means taking measured and cautious initial steps. Ignoring open finance entirely is not a viable option; doing so risks not only missing significant opportunities but also allowing practices to

emerge that could undermine key goals of protection, competition, innovation, and inclusion.

A why, what and how-to guide. This note draws together the global experience in open finance and translates it for the African context. It combines this with insights from in-depth feasibility assessments conducted in Rwanda and Zambia to extract stylised lessons for policymakers and regulators considering the core questions of whether open finance is feasible for their markets and, if so, how to tackle implementation. It is structured as follows:

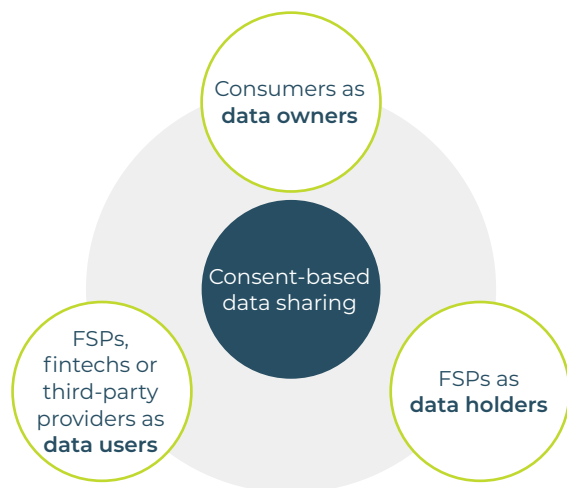
- Section 2 unpacks the definition of open finance and the key players involved, provides an overview of recent trends, and discusses the benefits and risks in more detail.
- Section 3 outlines the core tenets of an open finance feasibility assessment.
- Section 4 considers the interventions needed for effective implementation.



2 What is open finance and why does it matter?

Consent-based data sharing. Open finance¹ lacks a precise, universally accepted definition, as it is not inherently a technical term. Broadly, it refers to the exchange of consumer data between existing financial service providers (FSPs), other FSPs and/or regulated third party services providers on the basis of consumer consent (Plaitakis & Staschen, 2020)². At its core, open finance hinges on the interaction between three primary actors:

Figure 3. The open finance triad



Source: Authors' own

- **Data holders:** Data providers are typically financial institutions, like banks, or mobile money providers. These entities generate and manage consumer data. In the context of open finance, they are responsible for sending data to a data user at the request of the consumer.
- **Data users:** These entities seek access to consumer data to enhance their offerings. They are permitted to receive and use the financial information of the data owner, and can then use that data to recommend innovative products and services tailored to the specific needs and realities of individual consumers (IFWG, 2021).³ A data user can either be a third-party provider (TPP) or a financial institution that acts as both a data holder and a data user (that is, they not only share data, but can also access data from others on the basis of the principle of reciprocity).

Simplified data access. Open finance is built on the secure exchange of consumer data, enabling data users to access authorised information directly from data holders. This process removes the need for consumers to manually request and transfer their data between providers. With consumer consent, data users can access the necessary information in real time, ensuring a smooth, efficient process, facilitated by the underlying technology that governs these exchanges.

Setting the rules. Making this possible also requires a fourth key actor: policymakers and regulators define the objectives and rules that set out who can share and receive data, and how this data can be shared safely. Depending on the type of open finance regime, policymakers and regulators can either play an active or passive role.

- **Financial service consumers as data owners:** Consumers, as the rightful owners of their financial data, have the power to decide which entities can access their information. Open finance enables consumers to securely manage and share their data (OBIE, 2020). These consumers may be individuals or enterprises, including micro, small and medium-sized enterprises (MSME).

1 Open banking is defined as the sharing and leveraging of customer-permissioned data by banks with third party developers and firms to build applications and services, including for example those that provide real-time payments, greater financial transparency options for account holders, marketing and cross-selling opportunities. Individual jurisdictions may define open banking (BIS, 2019).

2 Not explicit in this definition is that payments interoperability and the potential for open finance to facilitate payments initiation is becoming clear as a key and essential part of successful open finance models. This document opts to retain a simpler definition, but an alternative definition which explicitly incorporates this, offered by Mazer & Jenik (2024) is: "Open finance establishes consumer consent-based sharing of data across FSPs, and relies on interoperable digital payments and determines requirements for participating in the data ecosystems".

3 It is important to note that whilst the large FSPs would be the primary data providers, these FSPs will also be data receivers. Furthermore, under a principle of reciprocity, any fintechs or other providers that register as data users would also make their data shareable and therefore also act as data providers.

Box 1. The role of the regulator: mandatory versus voluntary models for open finance

How the players relate to one another within the open finance ecosystem and how the infrastructure is set up and financed depends on what model of open finance is adopted. A scan of approaches, globally, shows two types of open finance, each in turn with two sub-categories:

- A voluntary approach where participation in the regime is on an opt-in basis. The regulator either plays a completely hands-off approach or can act as an orchestrator of the system, whereby it develops standards, rules or frameworks to govern the open finance regime, even if participation remains voluntary. The former was how open finance initially developed in the US, while Singapore is a prime example of the latter.
- A mandatory approach where participation in the regime is compulsory. The regulator's stance can either be consultative (as in the case of Brazil), where industry is involved in the design, or non-consultative (as in the initial approach in the UK, where open banking was introduced to major banks without their inputs; however, participating FSPs were subsequently involved in establishing the operational rules).

Which approach is adopted, and how the data sharing market evolves, is critical to the success of open finance. In many markets, large financial institutions already have data sharing partnerships with fintechs which may be called a type of voluntary "open finance". While these arrangements may offer short-term benefits to consumers, they do not significantly alter the market dynamics in the long run, where large data holders retain a competitive advantage. This is evident in the US, where data sharing has, until recently, been entirely voluntary and bilateral, with common industry standards and codes of conduct developed by the Financial Data and Technology Association. However, by late 2023, the US Consumer Financial Protection Bureau announced an intention to regulate this market because the purely voluntary approach was creating a distorted and unlevel playing field. This highlights that, even if the origins of open finance are market-based, some level of mandated sharing may eventually be needed. The UK is another prime example: a court ruling in 2017 found the withholding of consumer data as anti-competitive, prompting the nine largest banks to make such data accessible, with consumer consent, through open sharing mechanisms.

One clear lesson from the global experience to date is the importance of a consultative approach, where standards and approaches are informed through industry engagement and joint working groups. This is especially important under a mandatory approach, as simply mandating data sharing without true buy-in will not result in meaningful participation.

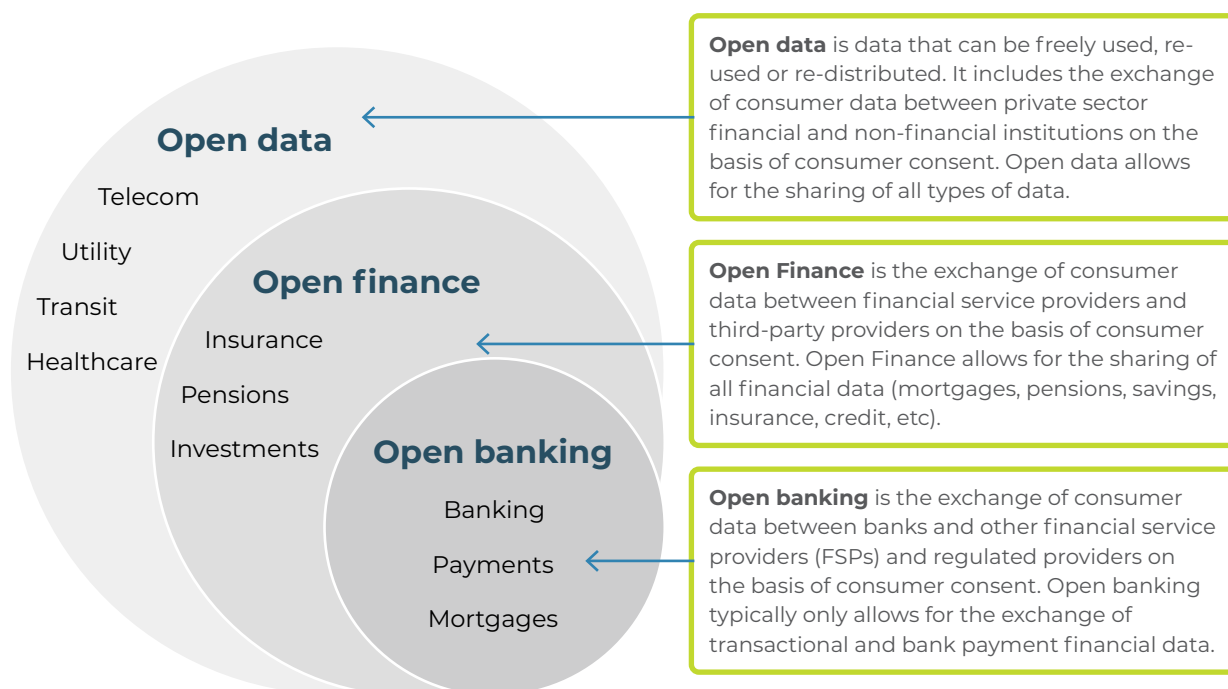
Source: Various as quoted in (Cenfri, 2022); (Gray, 2024).

Open “what”? Not all data sharing regimes are referred to as open finance. As Figure 4 illustrates, open finance is an intermediate step in the progression towards an open data ecosystem. The inner ring represents open banking, which formed the genesis of data sharing, as many countries initially focused on sharing data within the banking sector only. Open finance builds on this to include a broader spectrum of financial institutions’ data, such as mobile money operators, insurance providers, pensions, and investment schemes. This note focuses on open finance rather than open banking, as mobile money accounts are more prevalent than bank accounts across much of the continent. The outermost ring, open data, goes beyond finance to enable data sharing across various sectors such

as telecommunications, utilities, and healthcare. Consumer consent or authorisation/permission is the fundamental enabler of data sharing at each of these layers.⁴

What data gets shared? Four categories of data are typically exchanged: (1) generic services data, which includes publicly available information about financial services such as product pricing and locations; (2) customer data, comprising personal identification details crucial for both initiating accounts and their subsequent management; (3) financial history data, which records the specific financial activities undertaken by consumers, such as transaction and claims data; and (4) account data, which provides information necessary for payment processing.

Figure 4. Layers of data sharing: From open banking to open finance and open data.



Source: Cenfri, 2022

⁴ Whilst most developments in open data sharing begin with the financial sector, many other sectors are increasingly exploring the potential for open data sharing. In the UK, for example, Open Transport and Open Energy have gained traction in the last few years. Estonia has an Open Government Data Portal, which provides access to public sector data. The X-Road governmental system leverages shared infrastructure by providing access to standardised databases accessible by other parts of the government, citizen, and private entities (Eaves, 2020).

Technology as enabler. Fundamentally, open finance is a regulatory and/or market-driven framework that aims to unlock a more inclusive, transparent, and collaborative financial ecosystem through data sharing. It is not, at its core, a technological concept. However, technology plays an essential role in supporting its implementation. Open finance relies on Application Programming Interfaces (APIs) as the key technology to securely manage data sharing⁵. An API is a set of protocols that allow different software applications to securely communicate and exchange data. APIs

act as a bridge between systems, allowing data users to request and retrieve the authorised information in real time, ensuring the process is both efficient and secure. Closed APIs typically serve internal purposes and remain private within organisations, while open APIs are accessible to third parties. These open APIs allow consumers and businesses to access account details, as well as initiate and monitor payments through third-party applications that securely and seamlessly link to their existing FSP's systems.

Box 2. A closer look at the use of open APIs

How does it work? Data sharing via an open API can be broken down into three simple steps:

- When a consumer applies for a financial product from a new provider, they give explicit consent for their data to be shared.
- This consent allows the new FSP to request access to specific information from the organisation that is holding that information, like the last three months' bank statements, via an open API.
- Open APIs, established by the consumer's existing financial institution, facilitate the secure exchange of the consumer's data with the new service provider.

Fit-for-purpose and secure. APIs do not require consumers to divulge login details. This greatly reduces the risk of fraud and phishing attacks (Itzikowitz & Gunning, 2021). APIs are also purpose-built for data exchange, offering strong authentication and authorisation checks to ensure that only consented data is accessed. Furthermore, APIs are designed to handle changes in data structure or banking interfaces without disrupting the service. Thus, APIs are crucial to the functioning of open finance as they provide the infrastructure that enables a secure, efficient, and customer-centric model of financial data sharing.

Not without challenges. Despite the benefits, open APIs also come with challenges. Supporting regulatory frameworks and standards are often lacking, and the technological investment required to set up open APIs can deter many institutions, especially those with outdated legacy systems. Concerns over data privacy and security persist, and the necessary interoperability between disparate financial systems can be difficult to establish. Furthermore, entrenched financial entities may resist open APIs due to competitive fears, and consumer trust in third-party services leveraging their financial data via APIs is not built overnight.

Design solutions. The implementation of a comprehensive open finance framework can address many of these issues by providing clear regulations, fostering standardisation, ensuring robust security protocols, and promoting an environment that encourages innovation while protecting consumer interests.

⁵ There is also an alternative technology for sharing financial data: screen scraping is a practice that allows third-party service providers to access a customer's bank account using their internet banking credentials. It has emerged in some markets as a makeshift solution for fintechs to obtain access to data in the absence of formal data sharing frameworks. However, this necessity-driven practice raises considerable concerns about data security and governance (The Australian Government the Treasury, 2017).

2.1.Trends

On an upwards trajectory. Open finance, although a relatively recent phenomenon, is rapidly gaining momentum globally. The first version came to light in 2013 when the Monetary Authority of Singapore issued a playbook for Finance-as-Service APIs. By 2017, the Open ID Foundation issued Financial Grade API (FAPI) standards, specifically designed to enhance API security for accessing financial data, which has since become a key enabler for open banking initiatives worldwide (Nordic APIs, 2020). A landmark moment came in 2018, when the UK launched open banking and Hong Kong introduced its open API framework. Since then, the pace has accelerated. For example:

- 2019 saw the official launch of open banking in the EU, triggered by the Payment Services Directive (PSD2) coming into effect.
- In 2020, Brazil launched open banking, and Australia launched open banking as part of the broader Consumer Data Right (CDR) initiative.
- In 2021 Nigeria adopted an open banking framework, while Colombia issued an open finance decree.
- In 2022, the EU framework evolved through an expansion of the open banking regulations established in terms of PSD2⁶.
- In 2023, a partnership was launched to bolster an open finance platform across the MENA region.

Several more countries are advancing along the journey to implement open finance, including New Zealand⁷, Canada⁸, Mexico⁹ and Jordan¹⁰. A 2023 study revealed that open banking is either live or in development in 68 countries (Konsentus, 2023).

Rising interest in Africa. There is also growing interest in the potential benefits of open finance across Africa. Given the policy emphasis on financial inclusion on the continent, open finance offers a promising avenue for innovation to better address end-user needs. Other key policy objectives include boosting competition, creating a supportive environment for fintechs, expanding payment systems, and aligning with global trends. The map on the next page highlights countries that have expressed interest or witnessed market activity in open banking or open finance. This interest is primarily driven by central banks, supported by data protection regulations, which have seen approximately 61% adoption across the continent as of 2021. Nigeria stands out with its advanced stage of implementation, having issued guidelines on open banking in 2023. However, there is still uncertainty regarding the effectiveness and comprehensiveness of these guidelines. Namibia has also taken proactive steps by declaring an intention to mandate data sharing and initiating the development of API standards, including issuing a request for proposal(RFP) for consultants to aid in drafting guidelines. In contrast, countries such as South Africa, Ghana, and Kenya have not yet mandated data sharing but have expressed intentions to develop API standards, with South Africa's Financial Sector Conduct Authority (FSCA) recently issuing a roadmap for implementation

6 In 2023, the European Commission published a Third Payment Services Directive (PSD3). PSD2 initially introduced the concept of open finance and PSD3 is seen as a continuation of PSD2, not a change of direction (European Payments Council, 2023).

7 New Zealand's four major banks - ANZ, ASB, BNZ and Westpac - were mandated to be ready to support payments through open banking from May 2024 (RNZ, 2024).

8 The Canadian government has committed to releasing open banking legislation by the end of 2024 (Finextra, 2024).

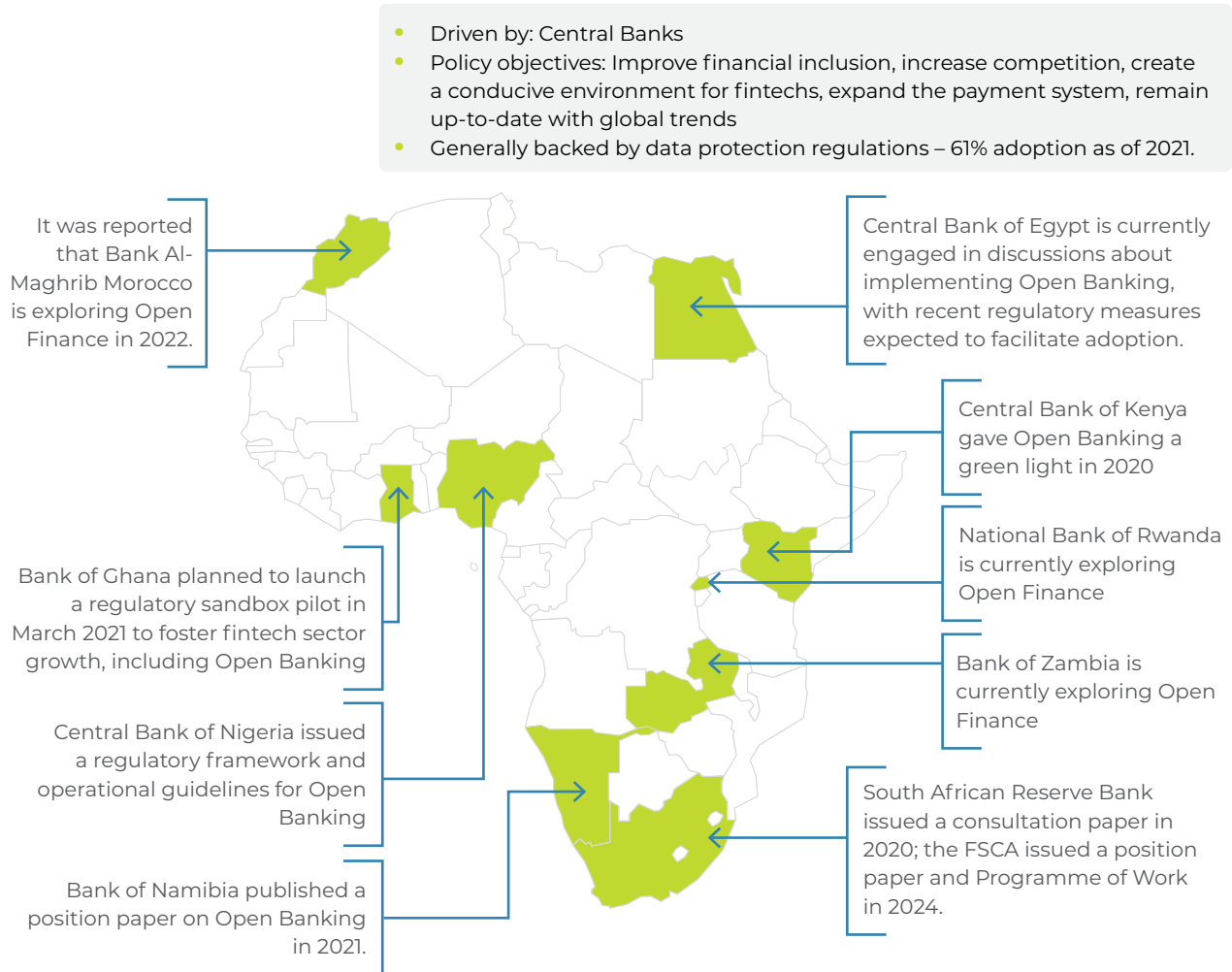
9 Mexico has made progress in adopting Open banking, with regulations introduced by the Bank of Mexico in 2020, though implementation has been slow. The market is seeing increased activity from fintechs offering innovative financial products and services (Ozone API, 2023).

10 In 2022, the Central Bank of Jordan issued "Open Finance Services Instructions" and, in collaboration with JoPACC and banks, launched the Jordan Open Finance Standards to establish unified API requirements for key financial services (JoPACC, 2024).

earlier this year. Rwanda and Zambia demonstrate early interest in open banking, with Zambia prioritising open finance as part of its 2023-2027 strategy and Rwanda showing strong indications of moving forward with foundational steps like issuing a position paper. On the other hand, Egypt and Morocco have not yet mandated data sharing but have expressed intentions to develop clearer regulations on infrastructure, particularly Open APIs. However, no fully operational open finance model has been implemented yet:

“
Nigeria stands out with its advanced stage of implementation, having issued guidelines on open banking in 2023.
”

Figure 5. Rising interest in open banking/open finance in Africa



Source: (Santosdiaz, 2022), (Central Bank of Nigeria, 2021), (Central Bank of Nigeria, 2023) (Bank of Ghana, 2019), (Bank of Zambia, 2023) (Bank of Namibia, 2022), (South African Reserve Bank, 2020), (FSCA, 2024), (Council of Arab Central Banks and Monetary Authority Governors, 2023), (Central Bank of Kenya, 2021) (Central Bank of Kenya, 2022), (National Bank of Rwanda, 2018) (UNCTAD, n.d.)

2.2. Benefits

As mentioned in Section 1, open finance has benefits as well as risks, and the imperative when designing an open finance regime is to strike a balance between the two. This sub-section unpacks the benefits in more detail and the next sub-section considers the risks.

A ripple effect. Open finance holds potential benefits for consumers, financial service providers (FSPs), and governments alike. These benefits are not inherent in open finance itself but are driven by the increased competition and improved understanding of consumer behaviour and risks that open finance enables. Over time, this should lead to more tailored services, greater operational efficiencies, and ultimately, broader market development:

- **Better tailored services for individuals and MSMEs.** Open finance can enable a range of services that enhance financial accessibility and functionality for consumers. Key among these are payment initiation services and account information services¹¹. Open finance further unlocks the potential for tailored financial products and services, such as credit or insurance. While those well-served by traditional banking benefit from enhanced convenience and cost savings, the underbanked stand to gain even more if open finance enables them to access services specifically tailored to their needs — a level of service that traditional banking models often fail to deliver. For instance, for individuals unable to access loans due to a limited transaction history, open finance could allow their mobile money transaction history to be taken into account. Or for MSMEs, open finance could enable the development of an application that consolidates the MSME's bank and mobile money accounts for accurate cash flow predictions, which could result in enhanced credit access.

- **Scope for providers to build their customer base, enhance operational efficiency and better detect fraud.** For those service providers adept at harnessing the power of data, open finance offers a gateway to deeper insights into customer behaviours that can position them to grow or deepen their customer base, thereby increasing revenue. Depending on the product context, they can achieve this by improving cross-selling opportunities, refining risk assessments, speeding up underwriting decisions and/or increasing the accuracy of credit decisions. Additionally, the abundance of data may simplify Know Your Customer (KYC) processes, leading to reduced operational expenses, and help with fraud detection.
- **Serving government's development goals while managing risks.** For financial sector policymakers and regulators, open finance can be a pivotal tool to advance market development goals through heightened competition, innovation, and inclusion. By promoting secure data sharing practices, open finance minimises the risks associated with unsecured data transfers. Open APIs also create the foundation for more effective and cost-effective reporting, monitoring and compliance.

A growing track record. Examples from Brazil and the UK as outlined in the diagram on the next page illustrate the impact of open finance so far. In the most documented case study, the UK, estimated benefits to individual consumers have been calculated at GBP 12 billion per year, and estimated benefits for business clients at GBP 6 billion per year (Open Banking UK, 2023). Similarly, Brazil has experienced considerable success since launching its open finance framework. With the rollout starting in 2021, Brazil's open finance ecosystem has driven greater competition among financial service providers, improved product offerings, and enhanced access to financial services for consumers (Fernandez Vidal, Jenik, & Salman, 2023).

¹¹ Payment initiation services enable users to initiate online payments directly from their bank accounts, streamlining transactions and potentially reducing fees associated with traditional payment methods. Account information services provide users with a comprehensive view of their financial data across multiple accounts, offering valuable insights into their financial health and facilitating better financial management.

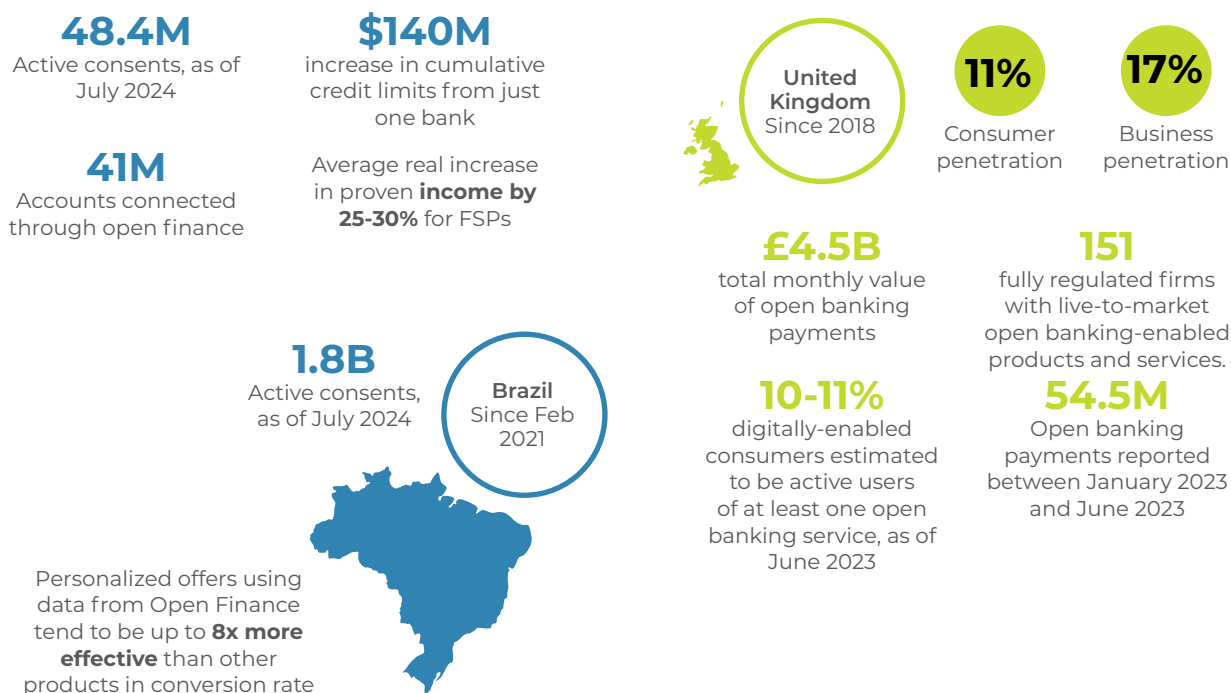
Box 3. The policy rationale for open finance

For open finance to be meaningful, it needs to align with and contribute to a country's broader objectives and targets. The goals of open finance regimes are diverse across the globe, and not mutually exclusive. For example:

- In the United Kingdom (UK) and European Union (EU), initiatives have primarily aimed at increasing market competition and fostering innovation.
- In Australia, New Zealand, and Canada, the initiatives have emphasised empowering consumers, providing them with greater authority over their personal data, and eliminating risky data-sharing practices like screen scraping.
- In emerging economies such as Brazil, Mexico, and Nigeria, the drive toward open finance has focused on enhancing financial inclusion, improving access to financial products, and stimulating the growth of the fintech industry.

For a full list of national objectives and use cases served by open finance, see FSCA (2020) and FSCA (2023).

Figure 6. The impact of open finance to date in Brazil and the UK



Source: (Fernandez Vidal, Jenik, & Salman, 2023), (Open Finance Brasil, 2024), (Open Banking UK, 2023)

2.3. Risks

Additional complexities and heightened risks.

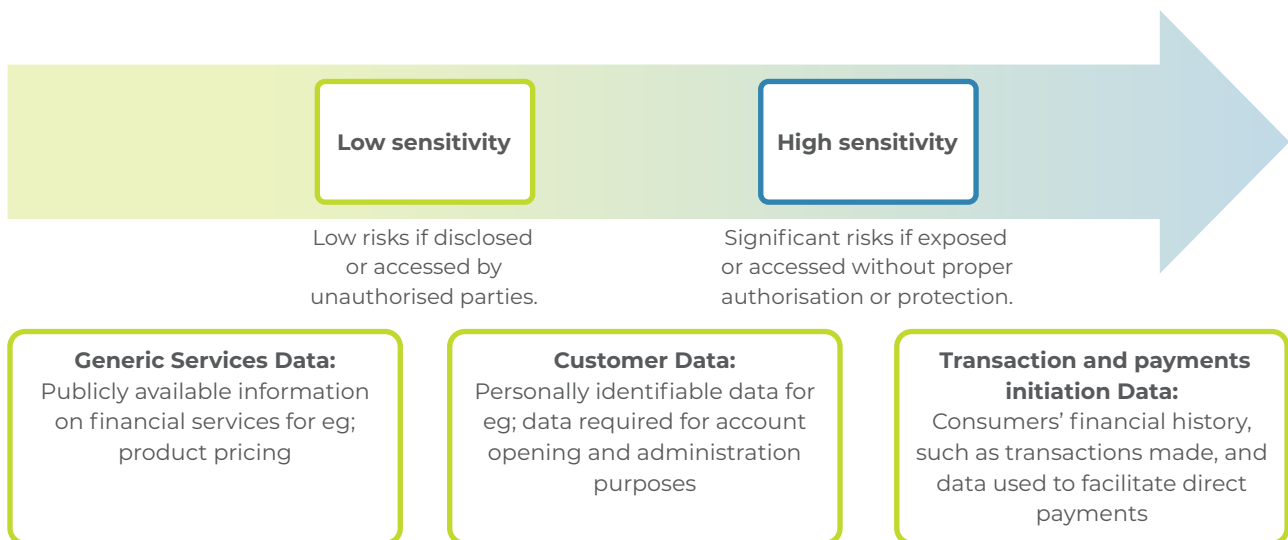
Open finance does not introduce new types of risks, but can exacerbate existing risks within digital financial services, notably data privacy and security risks, fraud and cybersecurity risks, and consumer protection risks. Individual participants in an open finance framework, such as banks, mobile money providers and fintechs, continue to operate independently and are still required to adhere to all applicable financial services regulations in accordance with the type of service they provide. Open finance risks therefore primarily revolve around the exchange of data between these participants. The type of data shared dictates the additional level of risk introduced, as depicted in Figure 7 below:

- **Low sensitivity data** is data that poses minimal risks if disclosed or accessed by unauthorised parties. This category includes data such as publicly available financial

product and price information that does not require a consumer to provide any consent. An example use case for such data would be the creation of an API that allows a fintech to query point of sale (POS) device costs from different providers, which allows the fintech to then create a product comparison for MSMEs.

- **Moderate to highly sensitive data** carries substantial risks if exposed or accessed without proper authorisation or protection. This includes personally identifiable information (PII), such as identity or demographic details required for account opening and administration. Additionally, it involves sensitive financial data, such as detailed transaction histories or payment initiation capabilities. For example, an API that enables a fintech offering an account aggregation service to retrieve transaction data from a client's bank account and mobile money wallet, or initiate payments on their behalf, would require strong security protocols and clear consumer consent mechanisms to mitigate these risks.

Figure 7. Categories of data shared within an open finance ecosystem.



Source: Cenfri, 2024

Consumers become the weakest link. In traditional banking, consumers typically interact with a limited number of well-known institutions. This reduces the risk of oversharing sensitive information. However, open finance expands the ecosystem to include numerous new platforms and third-party providers. As consumers navigate these platforms, they are frequently prompted to share their personal and financial data. The repetitive nature of requests can lead to complacency, making individuals more susceptible to oversharing or not critically evaluating where and how they share their information. This shift, combined with a potential unfamiliarity with the nuances of open finance, amplifies consumer vulnerability. While it is crucial to educate consumers comprehensively about the risks and best practices in data sharing, it is equally important to implement innovative fraud prevention and detection strategies. Thus, the establishment of an open finance framework must not only focus on broadening access and convenience but also prioritise the development and integration of security measures to protect consumers in this new and expansive financial ecosystem.

Trade off with access and innovation. As open finance evolves, the sharing of highly sensitive data among participants becomes inevitable. Thus, stringent data protection and privacy regulations are essential. However, if data sharing is overly onerous, it can disincentivise innovation and consumer engagement. Where this happens, the costly systems and standards that FSPs must implement to mitigate cybersecurity risks and ensure data protection may become a financial and operational burden without adding corresponding competition, innovation and consumer value gains.

Exclusion of offline or marginalised populations. Finally, open finance carries the risk of deepening financial exclusion for those who remain offline or are considered too high-risk or costly to serve based on data analytics. Customers with limited digital skills may also not be able to fully utilise the opportunities presented by open finance. This could widen the gap between the digitally proficient and the underserved. This risk is especially concerning in Africa (FSCA, 2020).

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While it is crucial to educate consumers comprehensively about the risks and best practices in data sharing, it is equally important to implement innovative fraud prevention and detection strategies.

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3 How to determine if open finance is for you?

Doing the homework. The discussion in Section 2 has shown that the benefits of open finance, substantial as they may be, are not inherently assured. As more countries implement open finance, policymakers face increasing pressure to take decisive action. Poorly designed open finance frameworks run the risk of high implementation costs and/or consumer harm without realising any significant benefit. Getting it right calls for an evidence-based feasibility and readiness assessment.

Consultative methodology. There are several ways to approach a feasibility assessment and, depending on the resources available, it can be done in depth or at a high level. The approach in Rwanda and Zambia was to conduct a high-level assessment based on desktop research, consumer research and interviews and workshops with key stakeholders. This type of assessment can provide valuable insight into key decisions such as the timelines for implementation, where to direct resources as well as which actions will have the most immediate impact.

Four key focus areas. The key to a successful feasibility assessment is to focus on specific areas which early adopters have revealed as critical to successful implementation. These are:

- The **policy and regulatory** environment
- The state of existing **infrastructure** required for digital financial services
- The willingness and ability of **data owners** to share their personal financial data (that is, the demand-side perspective); and
- The opportunity and ability of **data holders and data users** to extract benefits from an open finance ecosystem (the supply-side or market perspective).

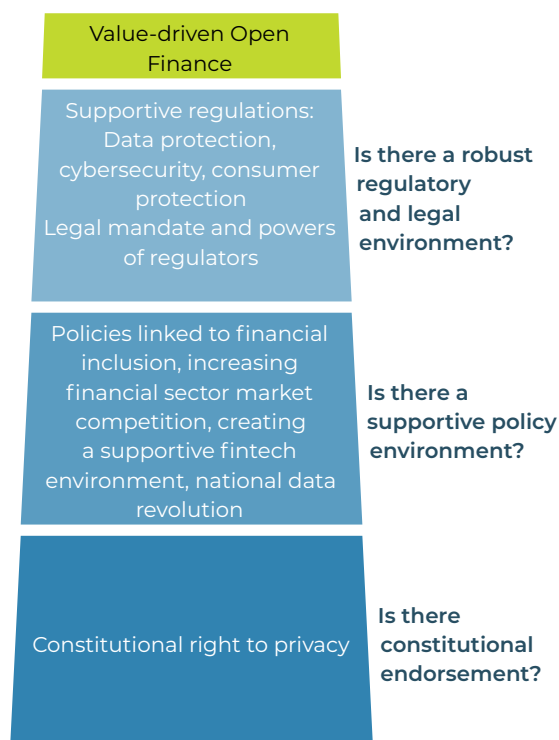
The goal of assessing each of these aspects is to understand the **enablers, opportunities and challenges** within each area, as these will eventually need to be built into the open finance implementation roadmap.

The sub-sections to follow outline each element in turn.

3.1.Regulation

Three layers. A high-level policy and regulatory environment assessment looks at three core layers, as depicted in the diagram below, that together feed into value-driven open finance. Together their presence, or absence, will shape the success of open finance initiatives:

Figure 8. Elements of a policy and regulatory assessment.



Source: Cenfri, 2024

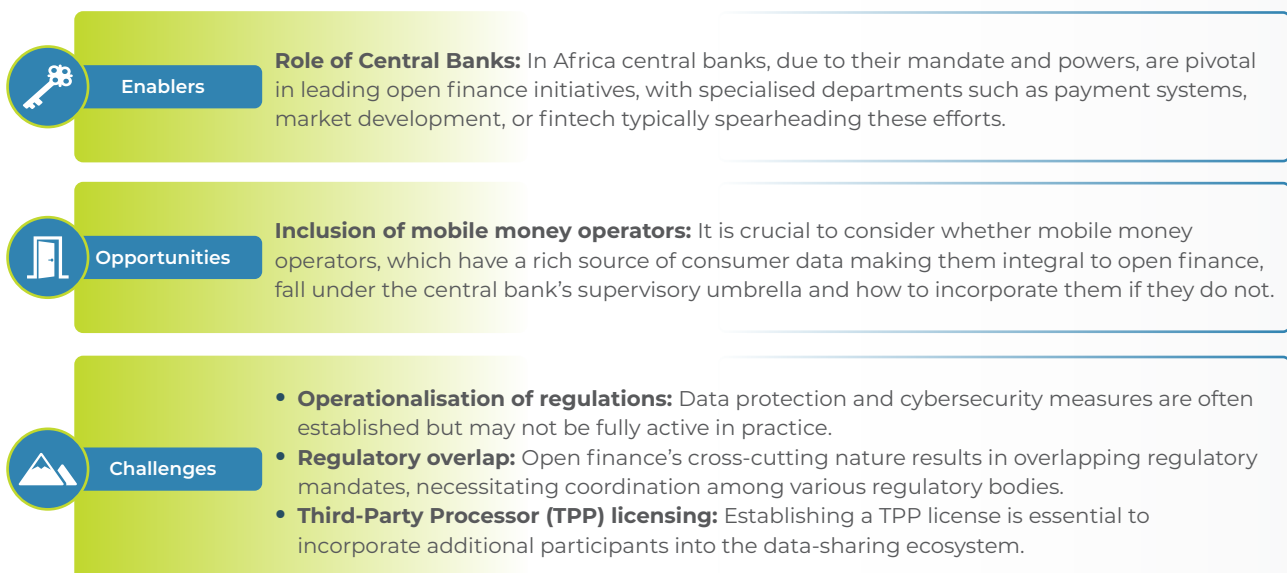
- **Layer 1: Constitutional endorsement.** The foundation of open finance begins with constitutional protections. In many countries, the right to privacy is enshrined in constitutional law, forming the cornerstone of trust in financial services. Even in the absence of specific data protection regulations, constitutional privacy rights can provide a legal basis for protecting individuals' financial data, ensuring that privacy remains a fundamental principle in any open finance framework.

- Layer 2: Policy environment.** Next, it is important to look at whether there is a supportive policy environment. Open finance is not the goal, but rather a means to achieve broader policy objectives. It is therefore important to determine what the financial inclusion and financial sector development objectives of a country are and whether open finance can help to achieve those goals. These include policies that focus on promoting financial inclusion, fostering market competition, supporting the growth of fintech and harnessing data-driven innovation.
- Layer 3: Legal underpin.** Lastly, and critically, one must assess whether there is a robust regulatory and legal framework for open finance. The supportive laws or regulations include data protection frameworks, cybersecurity regulations and consumer protection regulation. Equally important is to determine whether the lead regulator has the necessary legal authority to mandate data sharing within the financial services sector and to enforce guidelines for such data sharing. No single regulation or law individually dictates the feasibility of open finance, but their collective presence or absence will impact the success

of open finance implementation and the achievement of the broader policy objectives.

Lessons from the focus countries. Based on the two focus country assessments, we see that central banks play a pivotal role in leading open finance initiatives. In many countries, the banking and payments regulator (often combined inside the central bank) is best positioned to take the lead initially, due to banks and payment providers holding the largest client bases and the most comprehensive client data¹². However, the assessments also revealed that open finance efforts may be held back by the fact that data protection and cybersecurity measures are not fully implemented and that third-party provider licenses do not yet exist. Thus, it will be important to implement effective coordination mechanisms where there is an overlap in jurisdiction. In particular, the widespread adoption of mobile money means that the inclusion of mobile money operators within open finance becomes critical. Therefore, it is important to determine which regulatory body they fall under and to ensure effective coordination between such a body and the central bank. The diagram below summarises the key learnings:

Figure 9. Policy and regulation: lessons from the focus countries



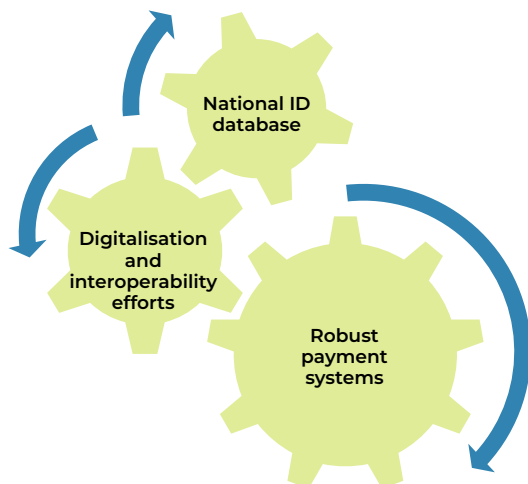
Source: Desktop research and stakeholder interviews, 2023

12 The question of who the lead regulator should be is not always straightforward. In the UK, the competition markets authority initiated the effort, leading to the creation of a separate supervisory institution. In countries with a twin peaks structure, the conduct regulator often takes the lead, as objectives like consumer protection and financial inclusion align closely with their mandate. In some countries with multiple financial regulators, the Ministry of Finance may drive the initial push. However, in most African countries the central bank, as the banking and payments regulator, is best positioned to lead due to its mandate and capacity.

3.2. Infrastructure

The backbone for open finance. Lacking or sub-optimal digital financial services infrastructure presents significant hurdles to open finance. Three types of infrastructure are important to consider, as depicted in the diagram below¹³. The successful implementation of open finance in countries like Brazil and India can be attributed to their early investments in building these supporting infrastructures, which provided a strong foundation for open finance ecosystems to flourish.

Figure 10. Types of infrastructure to take stock of



Source: Stakeholder interviews, 2023, (Jenik, Mazer, & Fernandez Vidal, 2023)

Understanding the state of play. To gauge the maturity of this infrastructure, one needs to firstly evaluate the progress made in the digitalisation of financial services and the degree of interoperability. The existence of a robust payment system and a national ID database which allows financial service providers to directly verify the identity of consumers are two further critical infrastructure components. Both of these also matter for financial service digitalisation.

First things first. It is important to consider whether initial efforts should focus on strengthening this core infrastructure, before investing further into open finance-specific infrastructure. For example, in Brazil, the Central Bank dedicated close to a decade to the development of robust payment systems and the digitalisation of financial services. This laid the groundwork for the successful rollout of open finance.

Lessons from the focus countries. The experience of the focus countries shows that well-functioning payment systems and the ability to verify identity are key infrastructure building blocks for open finance. While most countries in Africa have well-established payment systems, different countries are at different levels of maturity in the development of a functional ID system¹⁴.

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The successful implementation of open finance in countries like Brazil and India can be attributed to their early investments in building these supporting infrastructures, which provided a strong foundation for open finance ecosystems to flourish.

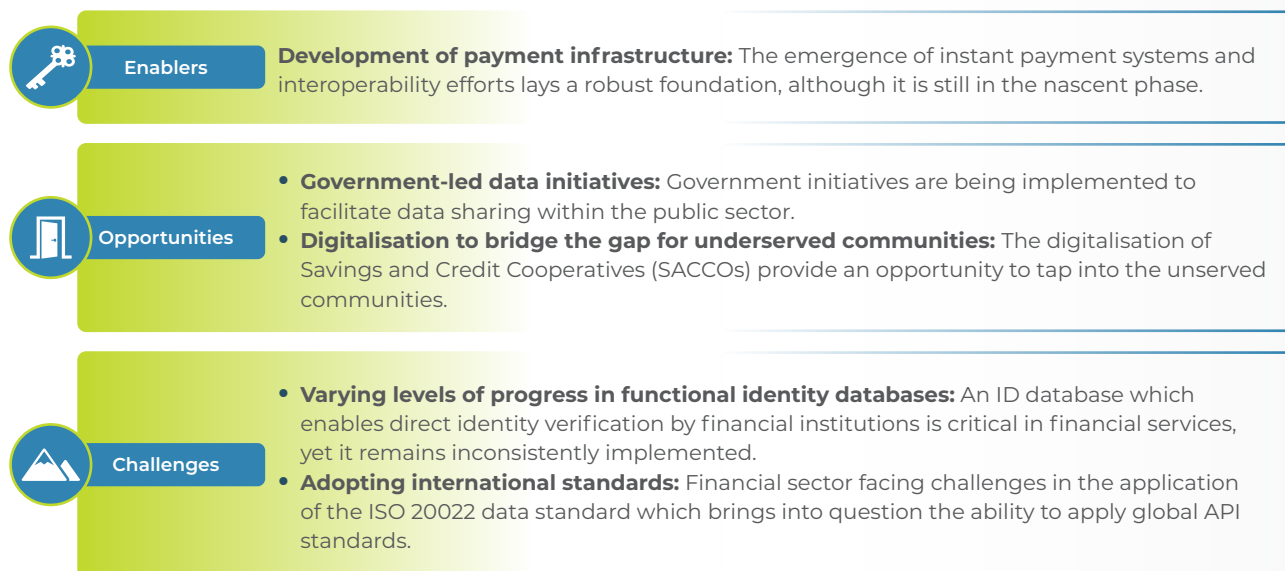
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¹³ These elements are also integral to the development of digital public infrastructure (DPI) more broadly, and the presence of DPI can enhance the implementation of open finance.

¹⁴ In Rwanda, for instance, the implementation of an ID verification API has been a game changer for financial services, and is helping to position Rwanda for rollout of open finance. In Zambia, however, digital ID efforts are still nascent. It is important to note that a single national digital ID system is not necessarily a prerequisite for open finance. Some countries have successfully implemented open banking or finance with a different configuration. Thus, though a functional ID system needs to be in place, this could take different manifestations, and must be assessed in the local context.

The main enablers, opportunities and challenges identified in the focus countries are:

Figure 11. Infrastructure: lessons from the focus countries



Source: (AfricaNenda, 2023); Stakeholder interviews, 2022

Box 4. Infrastructure case study - Zambia

The key payments infrastructure in Zambia¹⁵ already broadly supports open finance and will be made more inclusive under the National Payment System Vision and Strategy (2023-2037). The ongoing migration of payment systems to the ISO20022 data model is a strong enabler for realising the benefits of open finance.

However, the absence of a functional ID system acts as a roadblock to digital financial services (DFS) and the realisation of open finance, and the implementation of the Integrated National Registration Information System (INRIS) to address this challenge is facing delays¹⁶. In the interim, many providers are working on alternative eKYC solutions, but a centralised KYC platform will require a national ID database. International evidence shows that the successful implementation of open finance is based on an effective, structured and integrated approach to developing this key infrastructure.

Whilst important interventions to support and enable data sharing in the financial ecosystem can still be taken in the interim, the choices made by the Zambian State in whether, how and how quickly it addresses these red-flagged challenges will determine the success and adoption of open finance in Zambia.

Source: Stakeholder interviews, 2023

15 The Real-Time Gross Settlement (RTGS) system (ZIPSS) and the National Financial Switch (NFS), which link banks, MMOs, MFIs, and non-bank payment service providers.

16 A national ID system is not a precursor for open finance, as demonstrated in the UK, an early adopter of open finance, which lacks a unified national ID system. However, banks in the UK have been leveraging alternative methods of ID verification, including biometrics and smartphone-based technologies, which are effective given the high smartphone penetration rate in the UK.

3.3. Demand-side

Will customers be willing to share their data – and will they reap the benefits? To assess the feasibility of open finance from the data owners' perspective, one needs to understand how consumers think about their personal and financial data. Are they willing to share their data? Do they understand consent? Are there specific use cases that resonate more than others? And importantly, do they trust financial service providers to handle and share their data securely?

Asking consumers directly. Answering these questions requires primary demand-side research with individual consumers and MSMEs, respectively. While statistical inferences can only be made from a nationally representative survey, even a non-representative sample and qualitative techniques such as in-depth interviews and focus group research can reveal valuable insights into the attitudes and readiness for open finance among different segments of the population¹⁷.

Lessons from the focus countries. The focus country assessments show that the rise of mobile money in Africa has created a large potential target market for open finance. End-users' familiarity with existing data sharing processes such as credit checks, and high levels of trust in regulatory authorities bode well for the implementation of open finance. The top perceived benefits differed between the two focus countries and is illustrated in Figure 12 below, with Rwandan consumers focusing on simplicity and convenience while Zambian consumers indicated benefits such as improved credit scoring and tailored financial products. There was no difference in perceptions among different genders or employment types, but less resonance among lower-income consumers. In terms of use cases, faster and frictionless payments were not a high priority for either individual consumers or MSMEs in either country, as existing payment methods already serve their needs. Instead, the top use cases were account aggregation and accessing credit.

Box 5. What's in it for me? Consumer quotes from the focus countries

"While financial institutions have access to my data, I can get easier access to premium discounts." – Male, 25-34, Micro business owner

"If I have 100 cows in my village, I can register them with PACRA [Patents and Companies Registration Agency] and give this data as part of my financial information... if anyone wants collateral, I can give this... I feel empowered." – Male, SME, 18 -24 years

"If you need a loan, they will give you in a short period of time, it will not take days because you have already shared your personal data." – Female, Employed, 35-44 years

"Everyone would want to give their information if they can get something at the end of the day." – Male, Self Employed, 35-44 years

“

The top perceived benefits differed between the two focus countries and is illustrated in Figure 12, with Rwandan consumers focusing on simplicity and convenience while Zambian consumers indicated benefits such as improved credit scoring and tailored financial products.

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¹⁷ This was the methodology employed in the two focus countries. The sample was selected to focus on consumers likely to be early beneficiaries of open finance initiative – namely those that already participate actively within the financial services sector.

Figure 12 Top benefits perceived by Rwanda and Zambian consumers



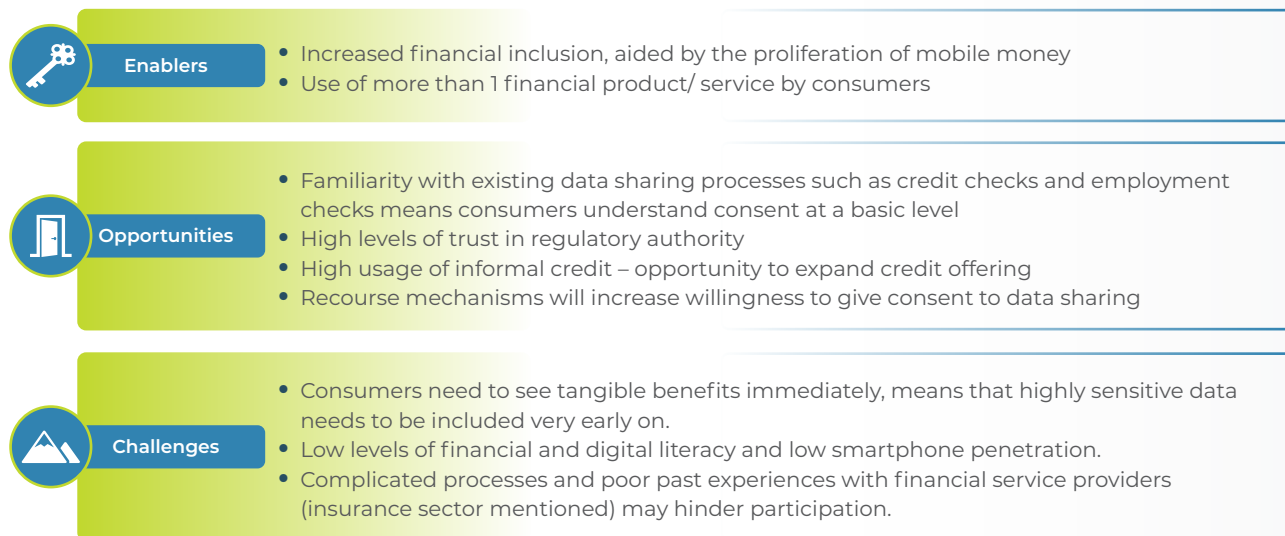
Source: Consumer research, 2023

On the downside, poor past experiences may hinder adoption, as may low levels of financial and digital literacy and limited smartphone penetration¹⁸. To ensure value-add, open finance will need to provide immediate tangible benefits to consumers (reduced time periods for loan

application approvals)¹⁹ alongside effective recourse mechanisms.

The diagram below summarises the enablers, opportunities and challenges encountered in the focus countries:

Figure 13. Data owners/demand-side: lessons from the focus countries



Source: Consumer research, 2023

¹⁸ This means that there would need to be innovative solutions to obtain consumer consent, as it may not be possible to do so via applications as other countries have done.

¹⁹ This means that highly sensitive data needs to be included in the roll out of open finance very early on, and hence regulators will need to have guidelines in place to ensure that such sensitive data is being shared securely.

3.4. Supply-side

Willingness and ability on both sides. The lessons from the focus countries show that simply mandating data sharing will not ensure meaningful participation. The final leg of the feasibility assessment is to consider the willingness and capacity of data holders to participate and share data, as well as the demand for shared data in the market and the ability of data users to tap into the system and innovate to generate value on the back of shared data. While some documented desktop research may be available, most of the supply-side assessment will rely on key informant interviews with data holders and potential data users:

- **For data holders:** Do they already engage in bilateral data sharing and, if so, with whom and under what conditions? Do they have the capacity and maturity to implement open finance? For those that have the capacity, what are the key incentives for participation?
- **For data users:** Do fintechs and other third-party providers have the capacity to participate in open finance and could they operate on an equal footing to established players in terms of adhering to data protection and cybersecurity requirements? Are they able to use data for product development and, if so, would they be willing to pay for access?

Lessons from the focus countries. In-depth interviews and workshops with market players in each country showed that the use of APIs and bilateral data sharing was more prevalent than initially anticipated. However, these bilateral agreements are not without challenges – the data holders hold disproportionate bargaining power²⁰, the fact that APIs or data standards are not standardised makes integration time consuming and expensive²¹, and liability and consumer recourse are not dealt with consistently,

or sometimes at all²². Many large data holders also still have legacy systems that challenge their ability to handle data requests. Moreover, data-driven product development is still in the early stages for both data holders and data users. This means that fintechs may not actually be able to benefit from the individual-level data that open finance provides and that regulators may need to provide additional support to data users, independent of open finance, to drive data-driven innovation.

Box 6. The importance of buy-in: lessons from early adopters

Without true buy-in, providers can find ways to undermine open finance initiatives even within a mandatory regime:

- Even though data sharing was mandated for the nine largest banks in the UK, the banks initially made the consent process so cumbersome for consumers that consumers ended up opting out completely. This resulted in the UK creating dedicated guidelines for consumer experience with the aim of simplifying and standardising the consent process.
- In Brazil, there is still a significant difference in the consent success rate between large banks and fintechs. Consent success rate is on average about 55-60% for fintechs but only half that for the large banks.

These experiences show the need to incentivise meaningful participation by all parties.

Source: (Fernandez Vidal, Jenik, & Salman, 2023)

²⁰ The disproportionate bargaining power between big banks and mobile money operators, as prominent data holders, and fintechs and smaller financial institutions as data users, means that data holders can largely set the terms of the partnership and earn a large proportion of the revenue. This creates an unlevel playing field and can have cost implications for customers.

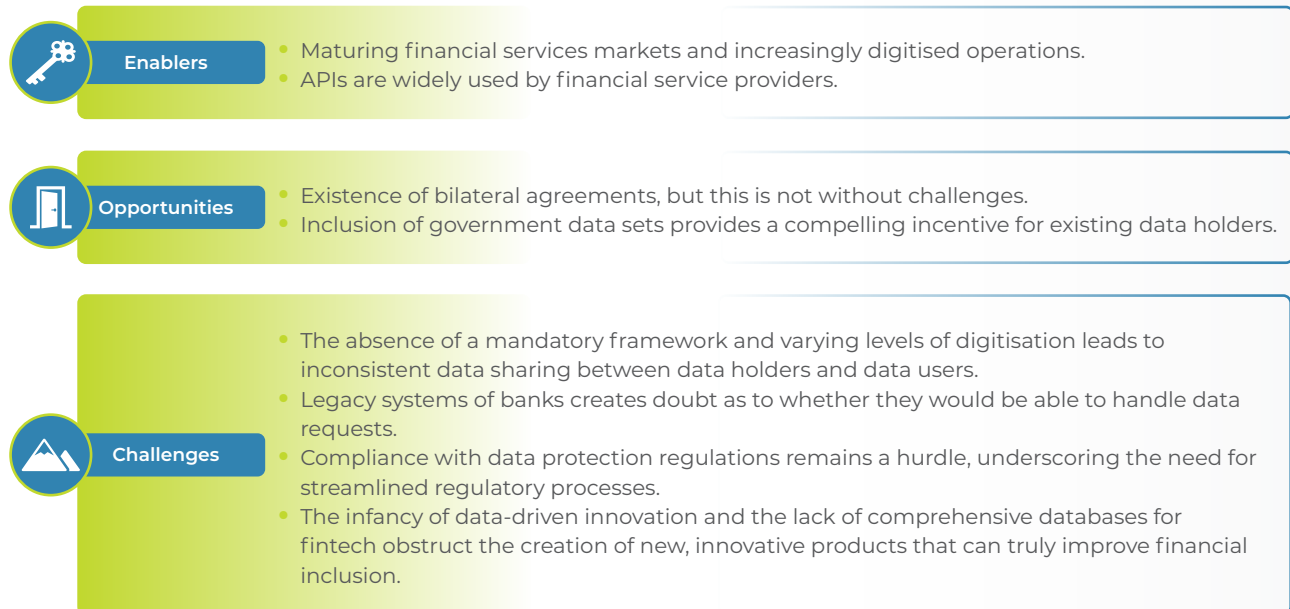
²¹ Case studies from the focus countries show that bilateral data sharing partnerships can take up to a year to become operational.

²² In one instance in the focus countries, a bilateral contractual agreement failed to specify liability allocations and responsibilities.

Following a data incident, the two organisations were left at an impasse on how to respond, and the central bank was required to step in to mediate.

The diagram below summarises the key supply-side enablers, opportunities and challenges surfaced through the feasibility assessments:

Figure 13. Data owners/demand-side: lessons from the focus countries



Source: Consumer research, 2023

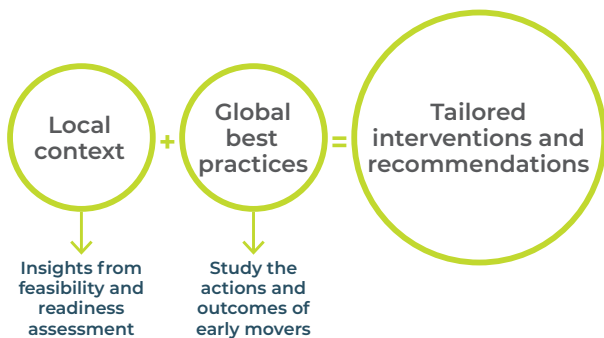
Connecting the dots. Together, the assessment of the four areas as outlined above will form a holistic picture of the feasibility of open finance in a particular country: the opportunities, enablers, challenges and prerequisites for successful implementation. For instance, the country may have policies that align with open finance, some of the base regulations may already be in place, and there may be existing consumer demand. However, the assessment may show remaining regulatory gaps, the absence of a functional ID database, limited buy-in by data holders, or capacity constraints to data-driven innovation. Such a cross-cutting appreciation of the enablers, challenges and opportunities can then form the basis for a tailored implementation roadmap to suit the country context. This is the focus of the next section.



4 Imperatives for effective implementation

Global ingredients, local recipe. What should an open finance regime look like? No country has implemented the perfect approach right from the start. For African countries embarking on this journey, it is important to learn from early adopters²³, but then use the feasibility assessment findings to develop a tailored approach for the local context. In short: one must draw on global ingredients, but come up with local recipes²⁴:

Figure 15. Global ingredients, local recipe for implementation



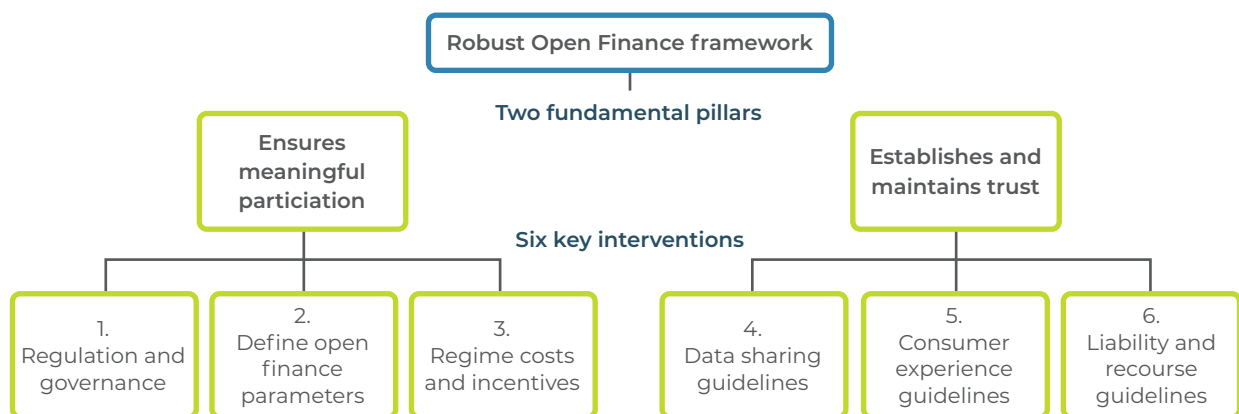
Source: Authors' depiction, drawing on (Mazer, 2023)

Ensuring participation and building trust.

Implementing open finance is a complex and lengthy undertaking, spanning several steps coordinated across numerous actors. An analysis of global open finance approaches reveals that a robust open finance framework is built upon two fundamental pillars or principles as depicted in Figure 16: (1) ensuring meaningful participation in the regime; and (2) establishing and maintaining trust in the system. The key challenge is to develop a strategy to bring these pillars to life. To do so, a conceptual approach has been developed, grouping six global categories of interventions under these two pillars. A consultative process, involving industry stakeholders throughout design and implementation, is also critical. Together, these interventions will influence the speed and effectiveness of open finance rollout and form the foundation of any implementation plan.

The sub-sections to follow take a closer look at the interventions under each of the two core principles.

Figure 16. Components of a robust open finance framework



Source: Cenfri, 2024

23 Notably the UK, Brazil, India and Australia. We also considered learnings from the African context (Nigeria) and MENA (Jordan). See the Annex for an overview of the approach taken by these countries.

24 With credit to Rafe Mazer for the global ingredient, local recipe terminology.

4.1. Ensuring meaningful participation

The first goal of open finance is to ensure meaningful participation. This is not just about involving data holders and users. It is about ensuring that their involvement has impact²⁵ and is sustainable in the long term. Three key interventions support this goal:

Intervention 1: Regulation and governance

The first intervention is to establish the foundational regulatory and governance structures for setting up an open finance framework. Five key actions are needed:

- 1. Designate a lead regulator to champion open finance.** Because of the cross-cutting nature of open finance, progress may stall unless a single regulator spearheads the process. Typically, central banks are best placed for this role.
- 2. Appoint a team.** Once the lead regulator is identified, the next question is who within the authority will be best placed to coordinate efforts. Typically, payment systems departments are tasked with open finance – a logical move given the synergies between open finance, API technology and payments. However, open finance is about much more than just payments initiation. In the longer term, therefore, it will be necessary to earmark focused capacity to the topic, either via a separate unit or an eventual department.
- 3. Determine whether to establish an implementation entity – independently or housed at the central bank.** Even a dedicated team may not be enough to see to all the nuts and bolts of open finance. The operational model for rolling out open finance differs between jurisdictions. Some, like the UK with its Open Banking Limited, opt to establish an autonomous body. Others, such as Brazil, task a specialised division within the central bank to run with implementation. The role of the implementation entity is to oversee technological advancements, set

industry standards, ensure alignment with regulatory frameworks, and foster stakeholder engagement. This is not necessarily a decision that is made once off. With limited resources, it would make sense for the central bank to initially take on this role and later on, when open finance reaches scales, for an autonomous body to take over.

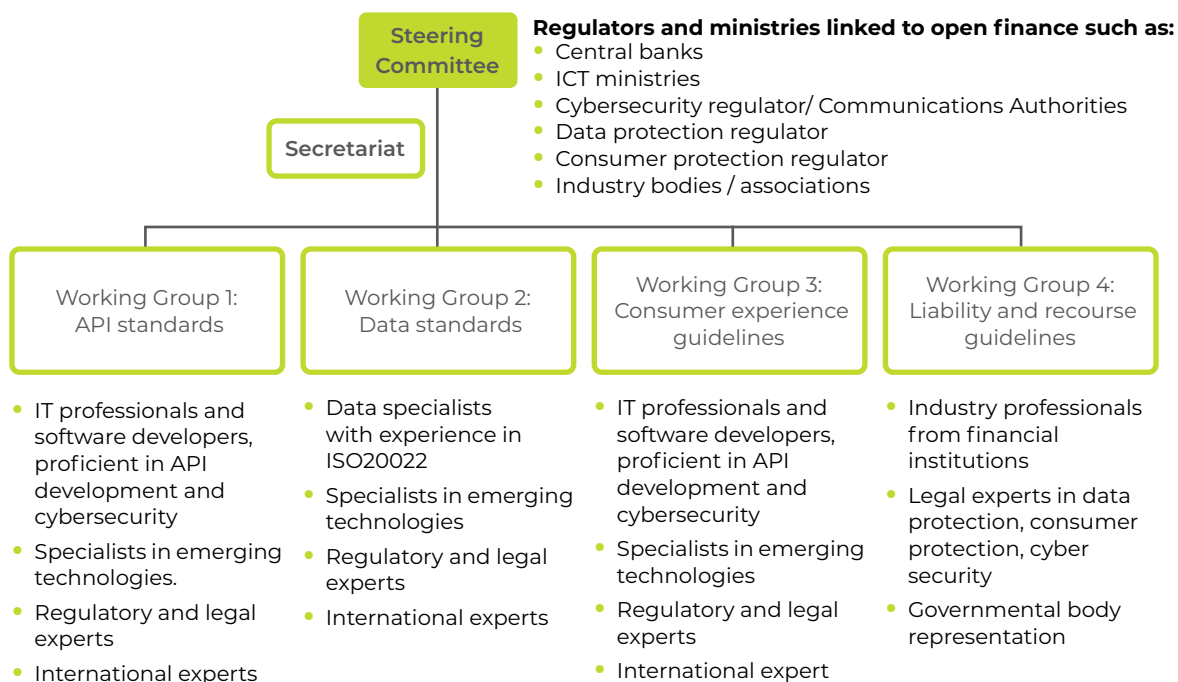
- 4. Set up a coordination structure.** The fourth aspect is to establish coordination mechanisms for open finance governance and implementation. Governance entails oversight over the process to ensure that the objectives are met, while implementation entails the day-to-day tasks for rolling out open finance. The cross-cutting nature of open finance means that both these functions require coordination, even if the central bank acts as champion. See the box below for a schematic of a typical governance structure.
- 5. Update regulation as needed.** The final action is to consider whether any regulatory guidance or amendment is needed before open finance can be introduced. For example: does the data protection law need amendment, are existing licensing structures for financial service providers appropriate, or is there a need for a third-party license? These aspects cannot be addressed within the core guidelines comprising the open finance framework, and hence need prior regulatory attention.

²⁵ For instance: payment initiation did not emerge as a strong use case for consumers in Rwanda and Zambia. If open finance were to only enable further payment methods, it would not contribute significantly to broader inclusion policy objectives.

Box 7. What form should an open finance governance and implementation structure take?

An effective governance and implementation structure should coordinate all government stakeholders and facilitate industry consultation. It could take the following indicative form:

Figure 17. Intervention 1: Regulation and governance framework



Source: Cenfri, 2024

At the apex is the establishment of a steering committee with strategic-level stakeholders from key regulators and ministries as well as industry bodies. The steering committee fulfils an overarching governance function.

A secretariat is then needed to coordinate the technical design and implementation of the framework. The secretariat represents the executive function. This function is typically fulfilled by the central bank.

On-the-ground development of the guidelines for the open finance framework happens via technical working groups, coordinated by the secretariat. At least four working groups are needed²⁶: (i) an API standards working group; (ii) a data standards working group; (iii) a consumer experience guidelines working group; and (iv) a liability and recourse guidelines working group. Figure 16 outlines the various individuals to involve in each working group to ensure the right mix of expertise.

²⁶ The guidelines covered by these working groups speak to the key elements needed to establish and maintain trust in the system as will be discussed in Section 4.2.

Intervention 2: Define the parameters of open finance

The blueprint. Setting out the context-specific parameters for open finance is a foundational step in the pursuit of a comprehensive open finance framework. Doing so involves a clear articulation of the national purpose behind open finance, the targeted use cases it seeks to facilitate, the participants to involve, the form of participation – whether data sharing will be done on a voluntary or mandatory basis, or both – and the scope of data that will be shared. The feasibility assessment will be core to informing the decisions on these parameters.

Packaged in a position paper. The decisions taken are best articulated in a position paper published by government prior to the launch of open finance. It consolidates the findings from the feasibility study, lays the groundwork for buy-in and ongoing consultation, and sets out the implementation plan. Figure 18 below outlines a generic structure for such a position paper:

- It starts with an introduction to explain what open finance is and why it is a national objective.
- This is followed by high-level insights from the feasibility assessment, as basis for outlining the priority use cases for data owners, as well as the participation incentives for data holders and data users.
- The position paper then typically touches on the related legal and regulatory considerations. The purpose is to inform the market of what reforms are planned, rather than to extensively describe such reforms.
- Next, the position paper details the intention for stakeholder engagement and how such engagement will take place.
- This is followed – depending on how ready government is to disclose the details – by an overview of the key milestones and phases for implementation.
- The position paper then ends off with a call to action for stakeholders.

Figure 18. Generic position paper structure

Introduction

- Background – reference to any policy/ strategy/ vision document
- Definition of Open Finance
- Importance and benefits of Open Finance
- Identified risks and challenges
- Success stories from early movers

Readiness assessment results

- Key points from readiness assessment
- Priority use cases
- Incentives
- Key challenges

Policy and regulatory framework

- Legal and regulatory considerations ie voluntary vs mandatory
- Scope of data to be included
- Proposed regulations and guidelines to be issued

Stakeholder engagement

- Key stakeholders (MMO's, Banks, Fintechs, Consumers, etc.)
- Engagement and consultation process

Implementation roadmap

- Phased implementation approach
- Key milestones and timelines

Conclusion and next steps

- Call to action for stakeholders

Source: Cenfri, 2024

Not a template. There is no perfect template for what the position paper should look like. As long as it sets out the purpose and key parameters, the structure and contents can be moulded to the local context. What is key is that once something is included in the position paper it is followed through in the subsequent interventions – otherwise the credibility of open finance will be undermined.

Intervention 3: Regime costs and incentives

Who pays what? The third intervention category addresses the costs of the regime and how to provide incentives to encourage participation. A critical requirement for open finance is that data sharing should always be free for consumers. Consumers own their data, and it is expected that fees paid to financial institutions already include charges associated with mechanisms for making data available and executing transactions. However, implementing open finance does not come without costs. Hence, it is important to clarify upfront who will bear which costs and how the incentives to participate will be balanced with the costs incurred.

Three types of cost. The costs for rolling out open finance span three categories:

- **Implementation and infrastructure cost:** The first category covers the initial costs of implementation and any potential infrastructure costs to set up an implementation entity. These costs can be substantial and are not linked to specific benefits for participants. Hence, the feasibility studies in the focus countries recommend that this cost be covered by the government, either through a budget allocation or donor funding.
- **Compliance costs:** The second category is the compliance costs for participants to adhere to open finance standards. These costs are covered by data holders and data users, as with any other compliance requirements.
- **Operational costs:** Lastly, there are operational costs linked to responding to data requests. This includes establishing APIs. Again, such costs are best covered by participants.

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A critical requirement for open finance is that data sharing should always be free for consumers.

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Striking the right balance. In a mandatory regime, it is very important to also build incentives into the design, and to ensure that costs are balanced against incentives. Otherwise, participation may not be meaningful, and the objectives of the regime may be undermined. The diagram below outlines some of the incentives needed to counter-balance the costs:

Figure 19. The importance of balancing costs and incentives



Source: Cenfri, 2024

Relevant incentives identified through the global experience to date include:

- **Standardisation:** If the regulator creates guidelines or standards for APIs, consumer experience, liability and recourse, this removes the need for participants to negotiate these elements on a bilateral basis, thereby significantly reducing the associated costs. Even just creating a third-party provider license category can already reduce costs for participants.
- **Reciprocity:** Reciprocity means that any entity that shares data is also entitled to receive data, based on consumer consent. Building reciprocity into the framework will help to drive meaningful participation.

- **Fraud prevention:** Participants flag the scope for fraud prevention as a key incentive. Data sharing within open finance, linked to a national ID system, could help participants to more effectively identify fraudsters.
- **Access to government datasets:** Finally, access to government datasets could also be a key incentive. Many countries are already starting to digitalise government services. As e-government services mature, they could become key data sources to incorporate in open finance data sharing ecosystems.

4.2. Establishing and maintaining trust

The second set of interventions relates to the critical need to establish and maintain trust in open finance. Doing so requires all parties to understand their rights, responsibilities and the expectations for interaction under open finance. Establishing this understanding requires the lead regulator to publish industry standards or guidelines crafted by the working groups established under Intervention 1.

Learning by doing. Globally, interventions to build trust have differed, with each country tailoring strategies based on insights gained from earlier adopters:

- In Singapore's voluntary open finance framework, where highly sensitive data is exchanged, the Monetary Authority of Singapore launched initiatives like the "API Playbook" and the Finance Industry API Registry (Monetary Authority of Singapore, n.d.). These resources primarily seek to build trust through data sharing guidelines.
- The UK, which operates under a mandated open finance model, initially also concentrated on data sharing frameworks. Over time, the need arose to respond to market dynamics that undermine consumer consent. They then developed consumer experience guidelines, and are progressively refining their approach to liability and recourse.
- Australia's strategy shows the advantage of learning from experiences elsewhere. Australian policymakers placed emphasis on

liability and recourse measures early on in their open finance journey to address potential challenges proactively.

The benefit of hindsight. The evolution of the approach in response to the challenges faced in the early stages of implementation in countries like the UK provides valuable learning to other countries. Decision makers in Africa are in the prime position to learn from these experiences to proactively implement all the interventions needed to establish and maintain trust, namely: data sharing guidelines, consumer experience guidelines and liability and recourse guidelines.

Below, each is considered in turn.

Intervention 4: Data sharing guidelines

This intervention involves developing technical guidance on three aspects:

- How to share data – done through the development of API standards
- What data should be shared – via the development of data standards; and
- The system architecture to facilitate data sharing

API standards

Industry front and centre. Different countries have followed different processes to develop API standards, but with the common theme that industry either led the development of the standards or was heavily consulted in the process:

- In the UK, a trustee was appointed to facilitate the process. The standards were then developed by industry, but the regulator retained the ability to veto any standards that did not meet the national objectives, or to step in if industry could not reach consensus. The UK's experience then informed the refinement of open-source FAPI (Financial-grade Application Programming Interface) standards (more on FAPI below).
- In Brazil, the process was spearheaded by the Central Bank. A multitude of working groups were used, and the regulator had veto power. They were able to start with FAPI as basis.

- In Nigeria, the central bank has not yet officially published API standards. Open Banking Nigeria, a non-profit organisation founded by experienced professionals from the banking and fintech sectors, took the lead to develop standards based on FAPI but adapted to the Nigerian context, and consulted with industry to refine the standards²⁷. However, adoption has been limited due to the lack of official central bank endorsement.
- In Jordan, the clearing house, Jordan Payments and Clearing Company (JoPACC), took the lead in facilitating the development of standards through a collaborative effort involving the Central Bank and several Jordanian banks. As point of departure, they consulted FAPI and other global standards. Recognising that existing global standards were not fully applicable, JoPACC created custom standards, which were refined through extensive stakeholder consultation and industry working groups²⁸.

Leveraging existing tools. The growing interest and adoption of open finance across various jurisdictions have created a wealth of knowledge and practical experience. Various global open finance API standards have already been developed and tested, and can therefore form a point of departure for a country embarking on the open finance journey. Notably, FAPI has gained prominence as a widely used open-source standard. Formulated by the OpenID Foundation, FAPI establishes a comprehensive framework of security protocols and guidelines. However, as the experience above illustrates, it is important to tailor standards to the context.

Scope for regional standards? Given the centrally available frameworks to draw on, the question arises whether it is necessary for each country to develop their own standards or whether regional standards may be more effective in the African context. While this is not currently on the agenda for regulators in Africa, it may become a valid consideration in future.

This could be important to facilitate cross-border data sharing use cases, which are likely to grow significantly in the next decade in line with the African Continental Free Trade Agreement's vision for a single digital market, as well as to simplify compliance for the multinational financial service providers that dominate the continent's financial landscape.

Data standards

Tailored standards needed. Data standards play a crucial role in enabling the seamless sharing of data within an open finance framework. FAPI has a specific and narrow focus on standardising the security of API transactions. Data standards, in contrast, encompass a wider range of elements including data formats, structures, semantics, variables, and use cases that underlie API integration. This diversity makes it harder to establish a one-size-fits-all standard. Financial data standards must cater to various types of use cases, financial transactions and products, each with its own set of characteristics and requirements. The adoption of data standards therefore varies across jurisdictions, and a dedicated working group should be tasked with drafting appropriate data standards for the local context.

Applying a use case approach. Based on global experiences, the typical approach to developing data standards is to take a use case-based approach. This means that a country would start with developing data standards for only the most important use cases initially (for example, payments initiation or account aggregation) and expand those over time. Eventually, a country may have numerous financial data standards - each outlining a standardised approach for sharing a standard set of data points in standard format per individual use case.

Aligning with global messaging standards. When drafting data standards, it is important to ensure that the standards are consistent with existing payment messaging standards.

²⁷ Source: interview with Open Banking Nigeria (2024)

²⁸ Source: interview with JoPACC (2024)

Messaging standards are pivotal in defining how transactions are structured, communicated, and processed within financial systems. ISO 8583, established in 1987, has been foundational in supporting global card transaction processes, primarily in legacy systems. ISO 20022²⁹ is now increasingly adopted (World Bank, 2022); (OpenID, 2022). It presents a global standard for financial messaging that ensures interoperability, rich data exchange, flexibility, and enhanced security. As such, it provides a good basis for the development of open finance data standards tailored to local use cases.

System architecture

The nuts and bolts for sharing data. System architecture refers to how the system for integration in an open finance regime is set up. The building of system architecture typically follows after the development of API standards. While different regions or frameworks may describe these models differently, three broad categories consistently emerge:

- A **decentralised** model³⁰ is built on bilateral connections between participants. This model offers flexibility and autonomy for each institution but may lead to less standardisation and higher complexity in integration efforts.
- A **centralised** model³¹ establishes a central connection point that all parties can connect to, thereby making bilateral connections unnecessary³². This central platform manages all API calls, thereby ensuring standardisation, security, and efficient data exchange. While this model can lead to greater consistency and ease of integration, it also introduces dependency on a central point of control.

- A **trust framework** model³³ strikes a balance between autonomy and standardisation. It allows institutions to maintain their independent systems while adhering to a common framework that guarantees interoperability and security across participants.

Piggy-backing on existing integration infrastructure.

Implementing system architecture is expensive and may thus not be an immediate priority when designing open finance. However, considering that many countries across the continent are implementing payment infrastructure in the form of national switches or have upgrades planned, it may be worth considering how open finance requirements could potentially be integrated into those plans. For example, in Mauritius the central bank has indicated an intention for the instant payment system, MauCAS, to include open finance data sharing features, even though API standards have not yet been developed.



Messaging standards are pivotal in defining how transactions are structured, communicated, and processed within financial systems.



29 ISO 20022 provides consistency in payment message data. Standardised APIs can leverage the ISO 20022 data model, ensuring that data exchanged via APIs aligns with data submitted through traditional messaging routes. This harmonisation facilitates seamless data transfer across different messaging channels, reduces the need for manual intervention, and minimises investment in translation services. Therefore, adopting a standardised ISO 20022 data model significantly supports API harmonisation. (BIS, 2022)

30 The US primarily follows a decentralised model for data sharing in its open banking initiatives. Financial institutions create bilateral connections through APIs to share data directly with third parties. Plaid, a fintech company, uses a decentralised model to connect to various banks and financial institutions across the US, enabling data sharing for applications like Venmo and Robinhood. (Plaid, 2024)

31 The UK has adopted a centralised model for its open banking framework, managed by the Open Banking Implementation Entity (OBIE). This entity provides a single platform for standardising and managing API calls. The Open Banking UK initiative requires the largest banks and building societies to provide standardised API access, managed centrally by OBIE. (Open Banking UK, n.d.)

32 In this way, it operates similarly to a national payment switch. It strikes a balance between autonomy and standardisation, allowing institutions to maintain their independent systems while adhering to a common framework that ensures interoperability and security

33 Brazil has adopted a trusted framework model for its open banking framework (Raidiam, 2023).

Intervention 5: Consumer experience guidelines

How to go about consent. Open finance comprises a multifaceted ecosystem of players and processes. Consumers are required to trust and navigate this complexity by consenting to the sharing of their data. Low initial consent success rates in prominent international examples³⁴ show that this can be a challenge. To achieve the financial inclusion objectives of open finance and foster widespread adoption, it is imperative that the consumer consent journey is made straightforward, transparent, and clearly advantageous to the consumer. This requires the development of consumer experience guidelines that establish clear, standardised processes for consent, authentication and confirmation, and that ensure that financial institutions and third-party providers communicate data usage and consumer rights transparently and accessibly.

Three elements. Consumer experience guidelines need to cover three main aspects: obtaining the consumer's initial consent, managing that

consent, and then making sure that data users adhere to the consent. Together, these have a profound impact on building trust and facilitating user adoption. The table below outlines the objectives, challenges and example solutions for each of these aspects.

Not starting from scratch. Consumer experience guidelines are best developed by a dedicated working group. Again, there are existing international resources to draw on, such as the extensive consumer experience guidelines developed by the UK's Open Banking Limited³⁵. These guidelines centre around five key customer experience principles: control, speed, transparency, security and trust. They focus on key elements that impact the customer experience, such as messages, fields to fill in, checkboxes to tick, and the number of steps to navigate. They apply irrespective of the platform used to obtain consent.

Table 2. Elements of consumer experience guidelines.

| Providing consent | Managing consent | Data usage compliance |
|--|---|---|
| <ul style="list-style-type: none"> • Objective: Ensure a user-friendly, clear, and empowering consent process. • Challenges: Complex consent processes can deter participation (e.g., some UK banks). • Regulatory role: Essential in standardising processes to build trust and facilitate adoption. • Example: In Brazil, despite guidelines, consent success rates remain low - highlighting the need for simpler processes (Fernandez Vidal, Jenik, & Salman, 2023). | <ul style="list-style-type: none"> • Objective: Enable effective ongoing management of consent. • Challenges: Low smartphone penetration in Africa complicates using app-based consent management. • Solutions: <ul style="list-style-type: none"> • Use of USSD Technology: Suitable for feature phones, allows secure service access. • Two-factor Authentication: Combines known credentials with a one-time passcode, enhancing security. • Visibility: Providing users access to a list of third parties with data access through simple, integrated systems. | <ul style="list-style-type: none"> • Objective: Ensure data users adhere to agreed data usage terms beneficial to consumers. • Challenges: Open finance can amplify risks related to data misuse. • Regulatory oversight: Assess if existing data protection laws sufficiently monitor compliance and protect consumer interests. |

Source: (Open Banking UK, 2019), Key Informant Interviews, 2023

34 Notably Brazil, as outlined in Box 6.

Intervention 6: Liability and recourse guidelines

Where does the buck stop? The final intervention to establish and maintain trust entails the development of liability and recourse guidelines. There are two primary challenges related to liability in open finance. Firstly, non-regulated financial institutions may not be required to hold operational risk capital, which is typically used to compensate consumers in case of errors resulting in loss of money. Secondly, the involvement of multiple parties complicates the assignment of liabilities – determining who is responsible when issues arise, be it a bank,

third-party service provider or even a consumer – and makes it difficult to resolve disputes. This intervention involves putting in place guidance to cover these challenges.

Drawing inspiration from elsewhere.

The approach to financial liability and risk management in the Shared Responsibility Framework developed by the Monetary Authority of Singapore (see the box below) could provide a useful starting point. Applied to open finance, it would entail an approach whereby responsibility cascades down from financial institutions to third-party providers to consumers.

Case Study: Shared Responsibility Framework issued by the Monetary Authority of Singapore – Waterfall approach

The Shared Responsibility Framework (SRF) is designed to outline the distribution of responsibility for losses due to phishing scams among various stakeholders. The key stakeholders involved are:

- **Financial institutions:** They are the primary custodians of consumer money and have the foremost responsibility to safeguard consumer accounts and act as gatekeepers against the outflow of funds resulting from scams.
- **Telecommunication companies:** They play a secondary role as supporting infrastructure providers, with responsibilities including the use of SMS as an official communication channel and for sending authorisation access codes.
- **Consumers:** Consumers are expected to maintain vigilance as their first line of defence against scams.

The SRF specifically targets phishing scams where scammers deceive consumers by impersonating legitimate entities, leading consumers to take actions such as clicking on links provided through digital messaging platforms (like SMS), or entering account credentials on fake websites, which then allows scammers to take over accounts and perform unauthorised transactions.

The implementation of the SRF follows a “waterfall” approach. First, the financial institution with the primary role assesses if it has fulfilled its duties under the SRF. If it has breached any duties, such as failing to provide outgoing transaction notifications, it is expected to cover the losses. If the financial institution has fulfilled its duties, the responsibility falls to the telecommunication company to assess its compliance with its SRF duties, such as implementing anti-scam filters over all SMS. If both the financial institution and the telecommunication company have fulfilled all their duties, no payouts will be made to the consumer under the SRF, and the consumer bears the loss. Dissatisfied consumers may seek recourse via existing dispute resolution bodies.

Source: (Monetary Authority of Singapore, 2023)

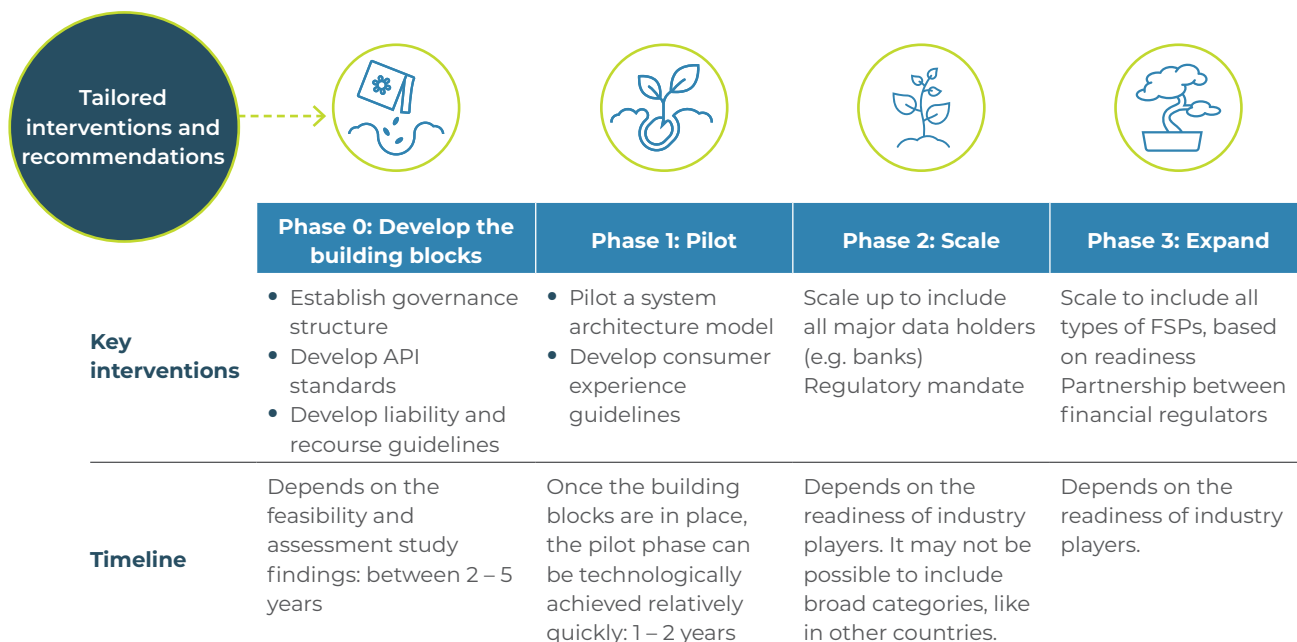
35 Formerly the Open Banking Implementation Entity (OBIE). See <https://standards.openbanking.org.uk/customer-experience-guidelines/latest/> for the full guidelines, including numerous example wireframes and diagrams.

4.3. Developing an implementation roadmap

A phased approach. The preceding sub-sections set out what aspects need to be covered in an open finance framework. But how should these interventions be sequenced, and what can a roadmap for implementation look like? Figure 20 below outlines an indicative open finance implementation roadmap, based on the experience of the focus countries and global early adopters:

Not a short-term endeavour. The roadmap as outlined below starts after the feasibility assessment has been conducted and resulted in a decision to proceed with open finance. Depending on the context, the roadmap may span five to seven years.

Figure 20. Indicative open finance implementation roadmap



Source: Authors' own, based on global experience and focus country assessments

A phased approach. Typically, implementation unfolds across four phases:

- **Phase 0: Building blocks.** The initial phase involves developing the foundational elements necessary for open finance adoption. Depending on what the feasibility study found, this may entail updating or expanding data privacy or other regulation. It will also entail establishing the governance structure for open finance, developing API standards and liability and recourse guidelines.
- **Phase 1: Pilot.** During Phase 1, the system architecture is then piloted with a few select banks, mobile money providers and third-party providers, spanning limited use cases. This phase also sees the development of consumer experience guidelines.
- **Phase 2: Scale.** In Phase 2, the system is launched with all major data holders in the country – typically the largest banks and mobile money providers³⁶. Where there is overlap in jurisdiction, it becomes important to establish regulatory mandate.
- **Phase 3: Expand.** Finally, in Phase 3, rollout is extended to all types of financial service providers, depending on their readiness. This can include pensions, insurers, MFIs and investment providers. This will require more formal partnerships between the applicable sector regulators.

Continuously evaluate and iterate. It is important to evaluate progress at the end of each phase to inform the approach for the next phase. At the end of Phase 0, one should assess whether it is still considered desirable to pilot the mandating of open finance, and whether the building blocks are sufficiently established to make this possible. At the end of phase 1, the focus is on key lessons learned during the pilot and how these should inform the design of the next phase. After the scale-up phase, the emphasis shifts to assessing the ongoing stability and reliability of the system and how to onboard new providers as easily and simply as possible.



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It is important to evaluate progress at the end of each phase to inform the approach for the next phase.

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³⁶ In some global examples, this phase entailed including categories of players in a blanket fashion, for example all banks. However, in the African context, some smaller players may not be ready to participate.

5 Conclusion

High stakes. This document has shown that open finance holds much potential for Africa, but that its benefits are by no means guaranteed. Overly hasty or ill-considered implementation creates a real risk of consumer harm, and may undermine the incentives for market players to participate effectively, thereby rendering open finance stillborn. In emerging markets, where resources are constrained, regulatory frameworks for protected data sharing are still in the early stages, and a large digital divide exists in the population, the stakes are even higher than for some of the global early adopters.

Making the right decisions. The primary challenge lies in deciding not only whether to pursue open finance, but also how and when to intervene effectively. These decisions will greatly impact the pace and direction of financial innovation and the achievement of broader policy objectives such as competition and inclusion.

And evidence-driven approach. To address this challenge, an evidence-based approach is necessary. This document provides a step-

by-step guide for how to take stock of the key building blocks for open finance feasibility, and outlines the key interventions needed to ensure meaningful participation while establishing and maintaining trust.

Worth the effort. For most African countries, effective implementation will likely require a multi-year process built on extensive stakeholder engagement. This may seem daunting. However, it is still a journey worth embarking on. Even if full implementation remains pending, initial interventions can already address frictions in the data-sharing market to, ultimately, contribute to better value for more consumers.

Learning from experience. No country has figured it all out or got it all right at once. As countries progress along the open finance journey, it is important to learn from early adopters, globally, as well as to tap into regional peer learning.





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Annex: Implementation approaches among global early adopters

Table 3. Implementation approach among the UK, Australia, Brazil and India as global early adopters

| | UK | Australia | Brazil | India |
|---|---|--|---|--|
| Regime type | Mandatory | Mandatory | Mandatory | Initially voluntary |
| Open banking/ open finance? | Started with Open Banking | Consumer Data Right- Started with banking sector | Started with Open Banking | Open finance - Regulated Account Aggregator framework |
| Authority/ regulators | Open Banking Implementation Entity (OBIE) and Competition and Markets Authority (CMA) | The Australian Competition and Consumer Commission | Central Bank of Brazil | Reserve Bank of India |
| Regime rationale | Remedying anti-competitive behaviour of the 9 largest banks. | Customer empowerment | Financial inclusion | Customer empowerment |
| Infrastructure that was in place | <ul style="list-style-type: none"> Faster payments, launched in 2008 No national ID system in place | <ul style="list-style-type: none"> New Payments Platform launched in 2018 No national ID system in place | <ul style="list-style-type: none"> PIX, launched in 2020 ID cards are issued but this is not a unified system | <ul style="list-style-type: none"> UPI, launched in 2016 Aadhaar |
| Guidelines issued | <ul style="list-style-type: none"> API standards, 2017 Consumer experience guidelines, 2019 Ongoing development of liability and recourse guidelines | <ul style="list-style-type: none"> API standards, 2019 CDR rules, 2019 which cover accreditation process, dispute resolution, privacy safeguards | <ul style="list-style-type: none"> API standards, 2019 Consumer experience guidelines | Guidance and directions issued across a number of different aspects |

Sources: (BCC, 2023) (FSCA, 2020) (Australian Government, 2023) (Plaitakis & Staschen, 2020) (Cenfri, 2022) (Accenture, 2022) (VISA, 2023) (CFPB, 2023) (AEMO, 2023) (Deloitte)

Table 4. Implementation approaches: additional examples

| | Nigeria | Jordan |
|---|---|--|
| Regime type | Voluntary | Mandatory but restrictive |
| Open banking/ open finance? | Open Banking | Open Finance |
| Authority/ regulators | Central Bank of Nigeria | Central Bank of Jordan |
| Regime rationale | Financial Inclusion | Enabling innovation and consumer protection |
| Infrastructure that was in place | NIBSS Multitude of ID systems | <ul style="list-style-type: none"> JOPACC SANAD (2020) |
| Guidelines issued | Operational Guidelines for Open Banking (Central Bank of Nigeria, 2023) | Open Finance Instructions (Central Bank of Jordan, 2022) |

Source: Interviews with Open Banking (Nigeria, 2024) and (JoPACC, 2024)







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