



OPEN FINANCE: SEIZE THE MARKET OPPORTUNITY

Introduction

Growing innovation in technology, rigorous regulations and demanding customer expectations are driving major changes across the globe for most of the industries. Getting customer's 360 degree financial data from multiple data sources in a secured manner along with customer's consent is now a key competitive differentiator. Several economies across the globe are at different maturity stages to implement this data sharing framework under the banner of Open Banking, Open Finance, Open Data, Account Aggregator or Consumer Data Rights.

This structured and consented data sharing framework enable interconnectedness of data and propel the digital economy forward. While it brings innovation and business growth opportunities but at the same time also poses sustainability challenges for firms if they do not act quickly.

This paper looks at the regulatory development across different parts of the world and growth of Open Finance ecosystem. The paper also provides insights into key implementation considerations for a firm to develop their Open Finance capabilities.

Data sharing initiatives are mainstream across the globe

Global regulators and market forces are framing up different ways to empower individuals with their own data and nurture innovation

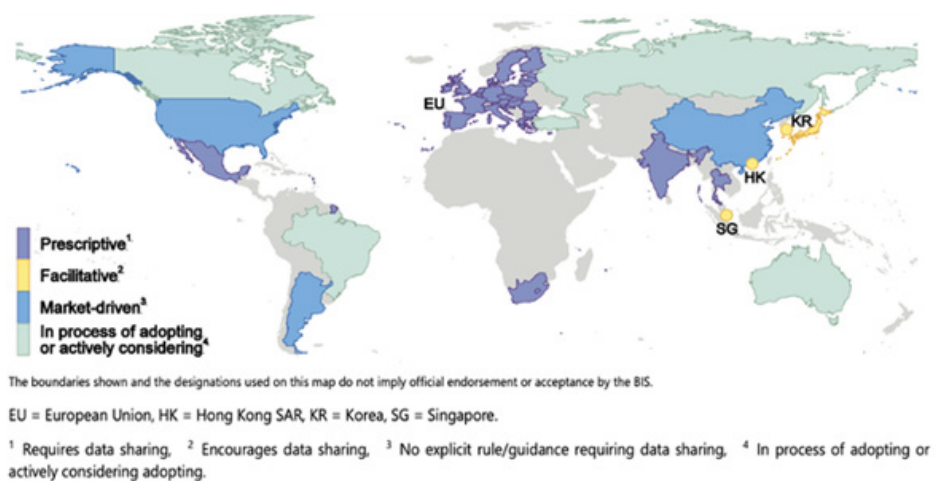
Moving beyond Open Banking towards Open Finance – not limiting data sharing opportunities to banking services but also into other aspects of the financial services industry such as lending, insurance, wealth and pensions

Open Finance is based on the principle that the data supplied by and created on behalf of financial services customers are owned and controlled by those customers

With the growth of smart phones and spread of internet penetration, each individual is leaving a huge digital footprint across several service providers. People across the globe are becoming data rich, irrespective of their location or per-capita income. Regulators across the globe have endorsed Open Banking or data sharing frameworks, to encourage people to leverage their own data and cultivate innovation. Open Banking framework is expanding to Open Finance by including data sets outside of banks covering mutual funds, pensions, insurance, mortgage and many more. Taking it to next level, many economies are attempting to enlarge this framework to other industries such as telco, healthcare and education.

This collective profound idea is to empower the individuals so that they can use their own data for their own benefits by getting better financial services - a low interest rate loan or a good insurance package. Such an ecosystem enables efficient, economical and privacy protected digital delivery that will have multi-fold impact on the growth of an economy. This also augments customer experience by reducing unproductive time to get better services and simplify switching to competitive service providers.

Figure 1: Global view of Open Banking initiatives



Source: Map from the Basel Committee's report on open banking and APIs^[2]

Firms should not wait to be pushed on Open Finance

Open API ecosystems represent a new set of opportunities for frictionless finance but also add relevancy challenges for firms

Aggregating customer data and driving meaningful insights will result in designing sachet-sized hyper-personalized products & services. This provides opportunities for new revenue streams while expanding customer reach

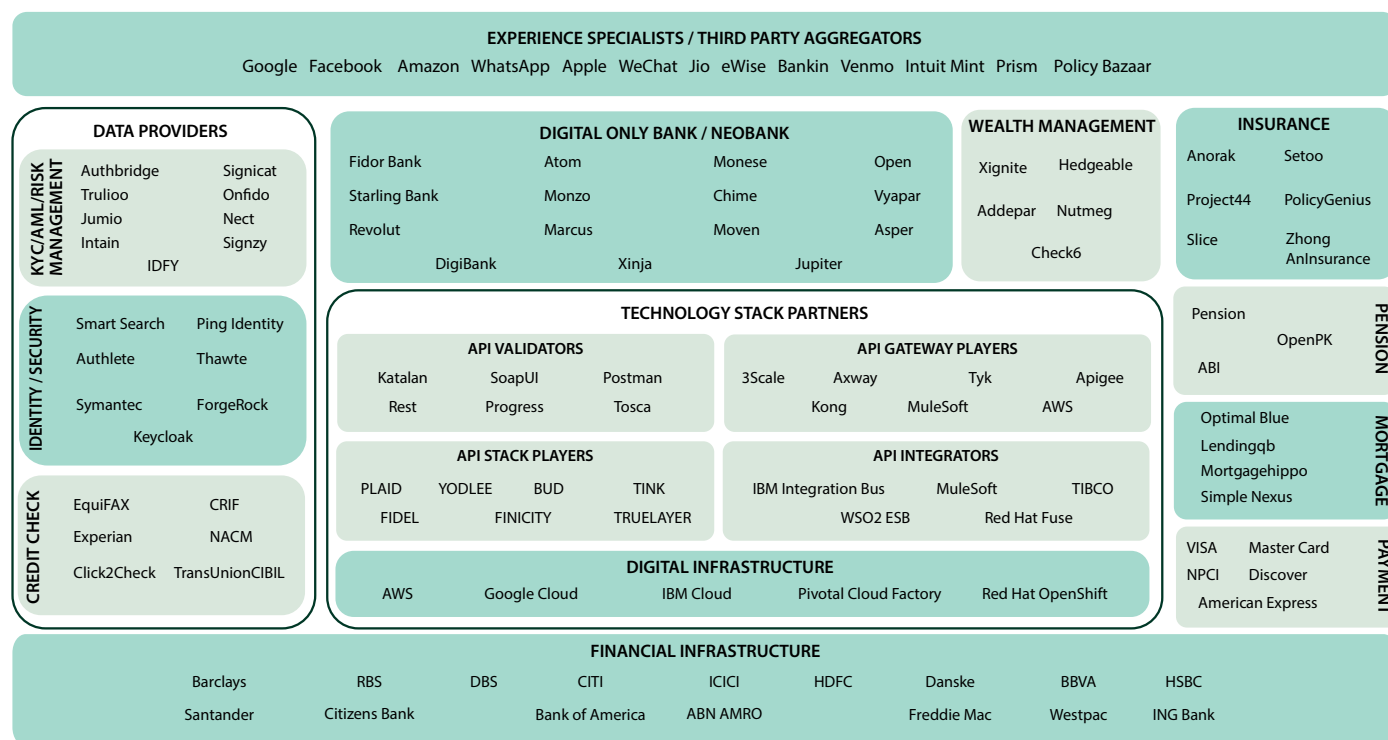
Traditionally, financial institutions have their own combined omnibus capabilities - their own distribution channels, products, run analytics on their own data and tech stack & infrastructure. This enables them

to make bundled offerings. However, the future is shaping at an accelerated pace towards fragmented value-chain and more of an ecosystem play. To bring this into perspective, see how quickly the payments landscape has changed. A small number of payments wallet providers have secured the largest share of the market, with enhanced customer experience, despite the large numbers of incumbent banks which enable the payment rail. Similarly, several financial services transactions like saving, lending, managing investment, getting insurance and others are also getting separated and delivered

by specialists with improved customer experience, while the balance sheet is still provided by banks.

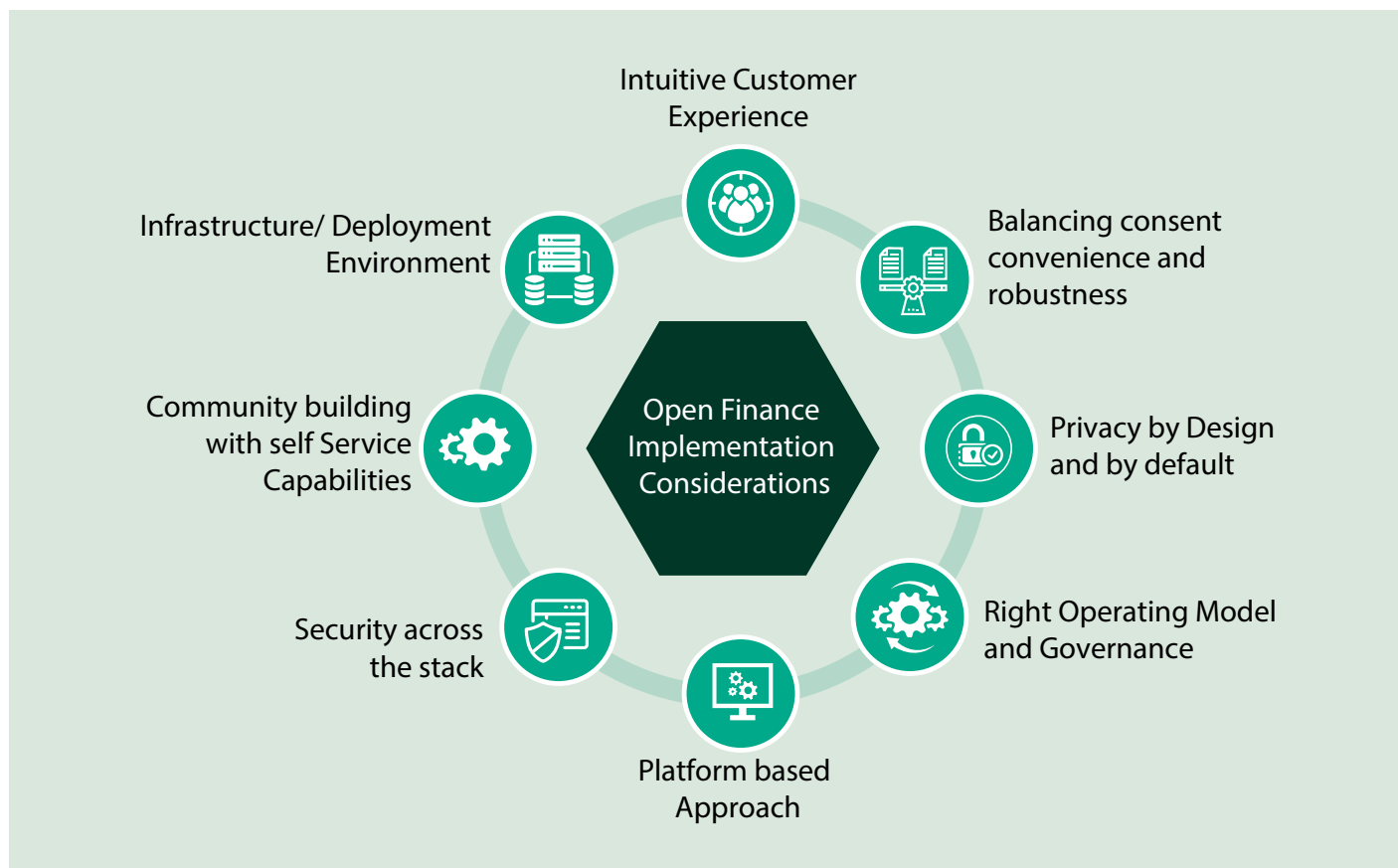
Open API ecosystem provides opportunities for incumbent Financial Institutions and specialist fintechs to interact, partner and build innovative solutions. For example, HSBC partnered with BUD to created a financial marketplace^[3], FreddieMac leveraged Finicity for end user verification^[4], ABN AMRO developed Grip - a Personal Finance Management (PFM) app in partnership with Tink^[5], and Venmo built their payment services on top of API platform Plaid^[6].

Figure 2: Open API Ecosystem shaping up financial industry (indicative list)



Key Implementation Considerations

To stay relevant and serve the growing customer expectations in Open Finance space, ensure key checkboxes are ticked



Listed below are some key considerations that an organization should take into account while navigating through their Open Finance journey^[7]. These considerations are further elaborated with examples and pointers to guide the thinking.



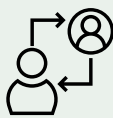
Intuitive customer experience



Customer experience will be one of the key success factors for the Open Finance adoption. Financial institutions should study and think through knowledge asymmetry across segments of customers while designing customer experience.

- Consider intuitive experience that should also address customer's concerns such as consent fraud with the use of multi-channel alerts and simplified consent dashboard.
- Gain customers confidence by enabling set of educational tools to help customers make informed approve / reject decision for volume and sensitivity of data
- Provide regulatory compliant authentication for users through preferred channels including feature phone for large inclusion
- Uplift product and service offerings at the customer's speed of thought enabled by speed to fetch data and derive insights, to paint holistic financial health picture

Balancing consent convenience and robustness



Balancing consent management convenience and making it robust require considerations around consent authentication, authorization and fraud prevention.

- Consider consent fraud prevention by leveraging machine learning (ML) models, a model that can learn overtime about the industry data requirement benchmarks for a given consent purpose. For example, for a given consent purpose of a home loan application, the industry benchmark is three months' bank statements, the model should inform the customer if a consent is asked for >3 months bank statements. This model could further be extended to classify sensitivity of the data requested based on type of data, flow of data and others.
- Another key consideration is integration with central repository that will enable quicker third party provider (TPP) validation, as provided in the API specifications of certain jurisdictions

Privacy by Design and by Default



As per regulations, financial organization should ensure the privacy and security of the consumer financial data "Privacy by Design and by Default" incorporates privacy considerations for processing of data,

which includes collection, sharing, access, and use of this data^[8]. When data is exchanged with other financial institutions through open APIs ecosystem, privacy becomes another key consideration aspect.

- The initial stages of product and service design should consider privacy principles. A business should take "practical measures" to secure customer's personal information.
- Leverage data minimization and zero knowledge proof concepts to curtail the data protection liability
- Enforce enterprise-wide data privacy policies focused towards accountability and risk management while sharing the data with internal / external entities. Privacy protection should be established with regular audits for all the business activities that process underlying data.

Right operating model and governance



Defining future state operating model in the early stage and implementing it in the phased manner will be another important success factor in the Open Finance journey for a firm. Adopting to

an operating model that support the future Open Finance proposition will help mitigate risk of losing market share to competitors or new specialist digital entrants:

- In order to establish trust and collaboration, governance should be implemented through principles of transparency and inclusion of all players
- The optimal governance structure should be like a hub and spoke model, with a central hub team defining strategy and LoBs as spokes, executing individual Open Finance workstream as per business requirements

Platform-based approach



Technical implementation of data sharing regulations across several regions is a major challenge for global financial institutions. Each region could

have different APIs, security standards, customer consent approach and data management requirements.

- Consider approach of platform development, that will facilitate regulatory alignment and enable flexibility to choose API bundles,

required standards, consent and data management rules, and others

- Open Banking platforms enable Financial Institutions with quick third party onboarding faster deployment cycles and provide secure gateways

Security across the stack



Security aspects are crucial and are required at each level in the stack that includes - network, gateway, application and data

- Network: Mutual Transport Layer Security(MTLS) to authenticate third parties
- API Gateway: Leveraging Oauth 2.0 and SAML for token validation
- DevSecOps with shift left strategy to achieve security in development phase

- Data encryption using digital signature for sensitive data over the wire and also encryption of data at rest on cloud storages. Secured data vault room could be a deal breaker to simplify data regulatory compliance.

Community building with self service capabilities



In order to attract innovators and make it easy for partners, consider building self registration and easy-to-use developer portals that will provide comprehensive

view of available APIs and associated access methods. Self service with Whatsapp-like discussion forums and conversational chatbots would help developers to interact with FI's support on API access/data challenges

- API Sandbox to play with sample data with swagger documentation will reduce many offline interactions and expedite usage
- Third party onboarding with API token/key exchange to test APIs will lead to quick development life cycle

Infrastructure / deployment environment



The ever-existing dilemma for many financial institutions has been defining line between on-prem and cloud infrastructure. Regulations around data localization could further influence the

decision at times. Open Finance can be a good tipping point for firms to shape up their infrastructure strategy.

- Application deployment on Kubernetes can enable firms to be cloud agnostic and journey towards multi /poly cloud. This can also address data localization compliance guidelines.

- Simplify API management considering products that could support expected transaction load and availability of rich features without compromising on the security aspects
- Clustering database across regions would hit performance of API response. Caching of data is another consideration to meet response SLAs.

But there are challenges too

Growing initiatives beyond Open Banking across the globe indicates making of holistic financial services ecosystem. However, there are certain challenges that should also be addressed while navigating through this transition.

It will be interesting to observe whether such a comprehensive service will benefit customers of all segments or just the one who takes active interest in finance? Some areas like mortgage, consumer credit, savings, have logical touchpoints with Open Banking but others such as pension, investments and insurance may make Open Finance implementation more challenging. Additionally, what piece of legislation could overlook for such a multi-sector customer rights will be a key question to many authorities. For the connected ecosystem to evolve and gain adoption, true buy-in from all parties is also a must.



Conclusion

Looking to the future

Open Banking is a great foundational layer, which can be extrapolated to larger financial industry to develop its natural sequence - Open Finance ecosystem - and eventually to other sectors too. User authentication, consent management, secured data exchange, API standards, programmable consent and other hard

won capabilities can be re-used by other financial players for faster integration in the ecosystem. The consumers' legal data rights while using the Open Finance services should be at the core to create an innovation platform and to facilitate its secured access to customers.

Open API ecosystem is enabling a transformational opportunity on how incumbents can interact and partner with not only specialist fintechs and data

providers but also with each others. In order to enhance the underlying IT landscape, an 'open- first' mindset is required by the individual firms to align their core systems and business processes. This will make the financial institutions remain competitive in the rapidly evolving industry, be compliant with regulatory guidelines and stay relevant with growing customer demand for comprehensive services.

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Acknowledgements:

We thank **Rajesh Subbarao** (Partner - Business Consulting, Infosys Consulting) and **Viral Thakkar** (AVP - Senior Principal Technology Architect, Infosys) for their valuable inputs and support.

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