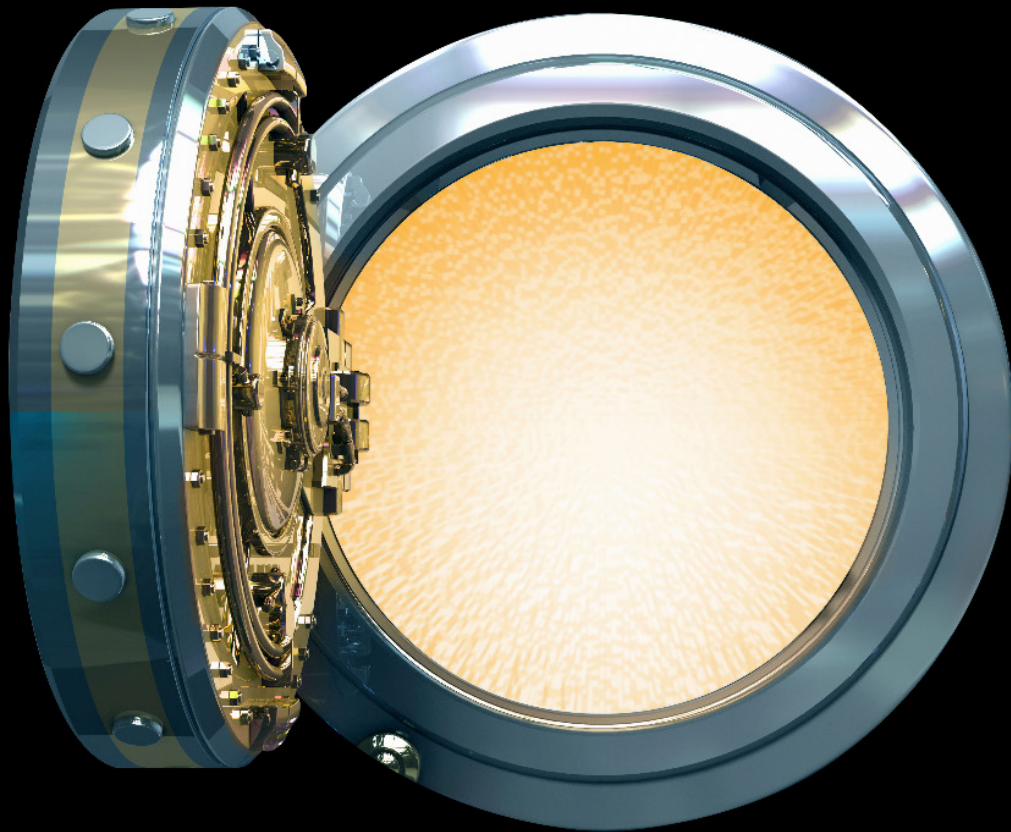


Deloitte.



Open banking
Unleashing the power
of data and seizing
new opportunities

January 2021

Contents

Summary	3
Introduction	5
Strategy for implementing open banking	7
Organisational assessment	7
Understanding customer sentiment	8
Key challenges	9
Go-to-market strategy	9
Developing core capabilities	10
Identification and monetisation of use cases	11
Annexure	14
Open banking – a global phenomenon	14
Deloitte survey – key results	18
Key tenets of open banking	20



Summary

“You have got to start with the customer experience and work back toward the technology – not the other way around”

Steve Jobs¹

These famous words by Steve Jobs continue to dictate how technology can be leveraged to best serve customers, and open banking is a resounding nod to this. This paper intends to answer some basic, pertinent questions including “what is open banking?”, “how do I implement and monetise open banking?”, and “what are the most relevant use cases?”

Over the years, the value of data has reached unprecedented levels. Countries, globally, are empowering customers with access to institutions of their choice

while jurisdictions are witnessing various approaches to open banking strategy and implementation based on regulatory favourability and industry maturity. FIs also have realised that they are now custodians and not owners of data and are trying to move to alternative revenue streams after receiving customer consent.

As FIs start formulating the strategy to adopt and implement open banking, a critical consideration is to first have a clear view of the potential benefits and then gauge internal capabilities and determine areas that require capability building. This would include technology readiness, people readiness, and cost considerations. Further, addressing customer concern areas would be a key factor—A Deloitte survey indicated that cybersecurity and data protection are the top concern areas across all age groups, followed closely by caution towards third-party access to data and transparency on data usage.

¹Source: World Wide Developers Conference 1997

With the onset of COVID-19 and the focus towards digitisation, we believe the next 12-24 months will see a significant shift towards open banking amongst Indian FIs. Companies will invest in building core capabilities to address customers' immediate needs. The "top 10 use cases" emerging from our survey and elaborated in this paper can be of help in the prioritisation of API-enabled products and services by financial institutions. Pricing would be key and should be used as a competitive advantage.

As FIs move forward with ideation, implementation, and rollouts, they are likely to face multiple challenges, including integration with legacy systems and data/risk management. FinTechs, however, believe that several integration issues could be resolved if there is a supporting regulatory framework for API standardisation, guidelines for

establishment of sandbox facilities and liability rules and assigning ownership in the event of financial loss, erroneous sharing and loss of sensitive data between the bank/NBFC and third parties. Regulator involvement would also mean that the banks would be more open to sharing customer data with the FinTech.

The insights in the paper are supported by extensive research, past work, and credentials, complemented by a survey to understand customer needs with 400+ respondents across age groups and population codes. To add some perspective, we also conducted interviews with multiple Financial Institutions (FIs), including banks and FinTechs, to understand their focus areas in the short, medium and long term, as well as the challenges faced while implementing open banking, and their potential solutions.





Introduction

Banks have historically served as custodians of customer data; however, over the last few years, a paradigm shift has seen customers take ownership and consent of handling of their data to institutions of their choice. Banks and non-banks alike have gathered actionable insights to introduce several innovative products and business models to better serve their customers. Effective utilisation of data not only provides customers with a better grip on their financial health, but also assists FIs re-configure their approach towards customer experience.

Customers are increasingly relying on digital banking services to have a “doorstep banking” experience. Regulatory impetus coupled with a maturing FinTech ecosystem have caused digital banking services to garner mainstream appeal. In India, the introduction of UPI by NPCI has resulted in an exponential increase in online payment adoption and re-defined customer sentiment. Looking at the success of UPI, government has introduced sub-products such as UPI mandates for small value transactions and launched initiatives such as account aggregators (Sahamati) and open credit networks (OCEN). The onset of the pandemic has further prompted FIs to scale up their digital services and ensure customer expectations are met.

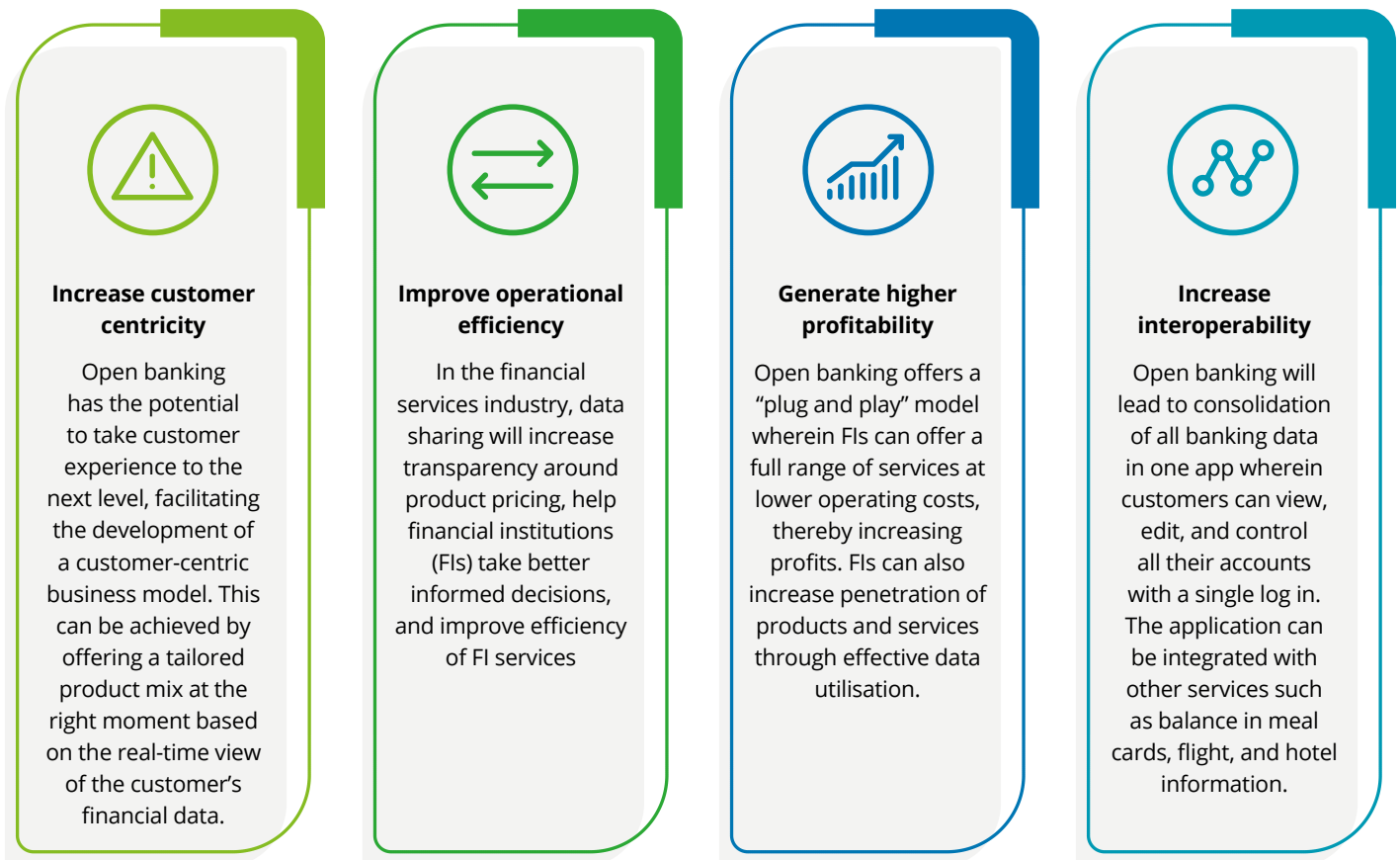
Customers are slowly decreasing their branch reliance and are open to online services for less complex functions such as payments, account-related services and card applications, and investment management.

API-based banking has thus been instrumental in providing a gateway to create value offerings through data. It has facilitated an easy and secure sharing mechanism that has led to the proliferation of several transformative products and services. FIs across the globe are looking to make data capture and utilisation more effective. This has led to an evolving concept of open banking.

Open banking, however, is perceived quite differently across jurisdictions. Some have gone ahead to create a regulator-driven, well-defined framework such as UK and Australia; while others have followed a more market-driven approach such as India. The bottom line, however, is providing customers control over sharing their information and servicing them through a targeted, data-driven approach. This has also served FIs well as it has created new monetisation opportunities, an increasing number of channels and touch points, and most importantly, a better understanding of customer behaviour.

There are many benefits that can be realised through API-led open banking

Exhibit 1: Benefits of Open Banking



Source: Deloitte analysis

For banks embarking on a journey to develop API-enabled products and services, a well-defined roadmap is necessary to produce demand-driven solutions and to remain ahead of the curve while maintaining the principles of customer-centricity, security, and trust.



Strategy for implementing open banking

Organisational assessment

As a FI, as you start formulating your strategy for API-based open banking, you need to first gauge internal capabilities—how ready are you to embrace the future and conduct a gap analysis to identify areas that require capacity building. The following considerations must be assessed by key stakeholders.

Exhibit 2: Organisational assessment



Technology readiness

Current state of IT infrastructure and ease of API integration



Manpower readiness

Manpower capabilities to build out and manage APIs



Cost implications

Cost of technology upgradation and developing APIs



Customer experience

Customer needs and alignment of products and services with their requirements

Source: Deloitte analysis

Implementing open banking would require a robust, agile, and scalable IT architecture to enable API integrations with multiple entities. This means moving from monolithic architecture with CBS at its core to a micro-service-based architecture. The biggest challenge would be integration issues with legacy systems. At the same time, considering the risk around data sharing and security, banks would also need to make significant investments in data monitoring and cyber security.

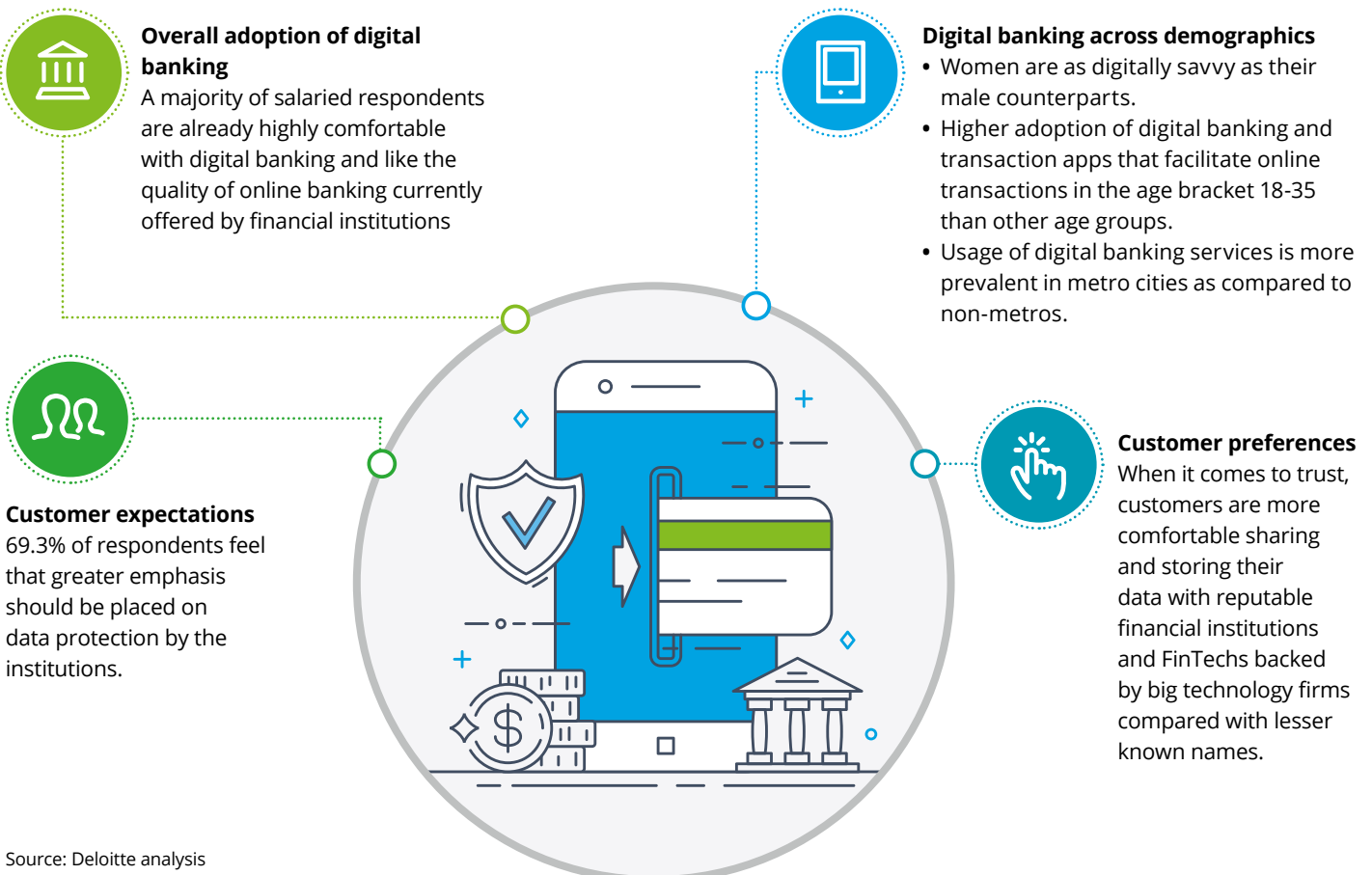
Additionally, developers/vendors with expertise in micro-services and API development would have to be hired. Banks would also need to significantly enhance its manpower skillsets around data security and risk management and determine APIs to be prioritised and developed first based on what delivers superior customer experience and are likely to be adopted by customers.

A step towards open banking would come with investment requirements not just to cover the initial cost of implementation, but also the on-going cost as banks operationalise offerings, drive customer acceptance, and onboard new customers. Leadership should have a clear view on the returns to justify the investments needed.

Understanding customer sentiment

According to a survey conducted by Deloitte with over 400 customers and interviews with several FIs in India, the usage of digital banking services is more prevalent in metro cities as compared to non-metros. Further, per the survey result, 65 percent respondents within non-metro cities feel that emphasis should be made towards creating awareness in the form of financial education programmes for a better understanding of open banking. Respondents from non-metros are keener on educational initiatives than those in metros.

Exhibit 3: Customer sentiment



Source: Deloitte analysis

Key challenges

The survey also indicated that not only banks, but even customers are wary of data sharing. Cybersecurity and data protection are the top concern areas across all age groups, followed closely by wariness towards third-party access to data and transparency on data usage. About 70 percent survey respondents feel that greater emphasis should be made towards data protection by institutions. More than 80 percent respondents are uncomfortable in sharing transaction history of accounts hinting towards a need for all FIs to assure customers that their data is secure.

When it comes to trust, customers are more comfortable in sharing and storing their data with reputable FIs and FinTechs, backed by big technology firms, as compared to lesser known names, indicating a need for more partnerships between banks and upcoming FinTechs. Banks must evaluate certain parameters such as cybersecurity measures reviews undertaken by FinTechs to trust confidential data storage and strategic,

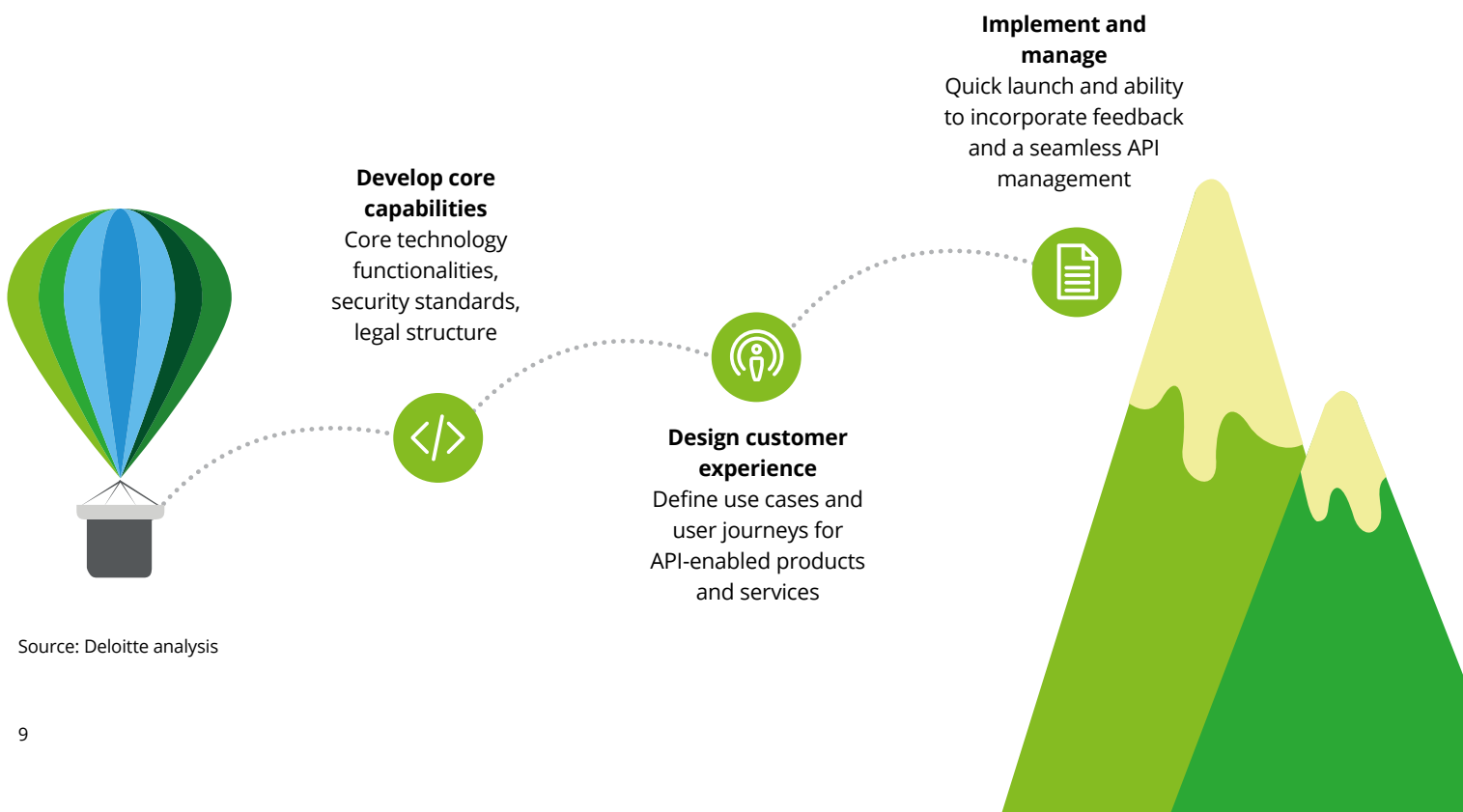
operational, and compliance risks with respect to open banking and FinTech partnerships.

From the perspective of banks and FinTechs, the challenge that reverberated most was integration issues with legacy systems. FinTechs, however, believed that several integration issues could be resolved if there is a supporting regulatory framework for API standardisation, guidelines for establishment of sandbox facilities, liability rules, and assigning ownership in the event of financial loss, erroneous sharing and loss of sensitive data between the bank/NBFC and third parties. Regulator involvement would also mean that banks would be more open to sharing customer data with the FinTechs.

Go-to-market strategy

As FIs build a clear understanding of their organisational capabilities and evolving customer needs, they will be better placed to define an effective strategy to implement open banking-enabled products and services.

Exhibit 4: Go-to-market strategy



Source: Deloitte analysis

Three key areas that would facilitate smooth “go-to-market” are as follows:

- **Development of core capabilities** post assessment of existing core functionalities, security standards, customer experience controls and contractual frameworks to ensure optimum channel penetration and customer acquisition.
- Identify and prioritise **relevant use-cases** to yield maximum benefits
- **Determine the right monetisation/ pricing strategies** to enable achievement of target goals and vision.

Developing core capabilities

As FIs move towards developing core capabilities, they should aim to develop an agile architecture with the capabilities to support API-enabled use cases. It is also imperative that FIs have a seamless API management system in place, including an API gateway, API lifecycle management, and a sandbox environment.

Exhibit 5: Core capabilities

Well-defined legal framework

- Liability and dispute management should be clearly articulated and agreed upon by the participating institutions.
- Customer experience must always be a priority for both parties.



Talent

- Capacity building for employees operating the system to ensure timely actions in case of errors and early warning signals.
- Acquire the requisite skill set for developing APIs



Process

Identify internal processes and user journeys where API-enabled products and services can add greater value.



Technology

- Develop a scalable, agile infrastructure to offer greater modularity and easier configuration.
- Follow global FAPI (Financial grade API) and ISO 20022 standards to ensure adequate security controls.

Source: Deloitte analysis

Identification and monetisation of use cases

Access to data can be leveraged by FIs for lead generation, cross-selling products, risk assessment, pre- and post-delinquency management, collections strategy, and product development; potentially leading to significant business augmentation, asset quality improvement, operational efficiency, and cost optimisation. Open banking also offers scope to increase customer onboarding at remote locations through quick, paperless documentation, verification, and alternate credit risk assessments.

FIs can also leverage partnerships to reduce costs by replacing internal

operations with efficient third-party service providers, resulting in low service costs and reduced technology change costs, by using external developer communities to develop customer applications.

Our survey with customers and leading banks and FinTechs has enabled us to identify the top 10 use cases with varying relevance to stakeholders. Relevance to customers is a factor of intent to use, awareness, perceived benefits and current experience (if any). Relevance to banks is a factor of potential opportunity, monetisation, data availability, and risk management (if applicable).

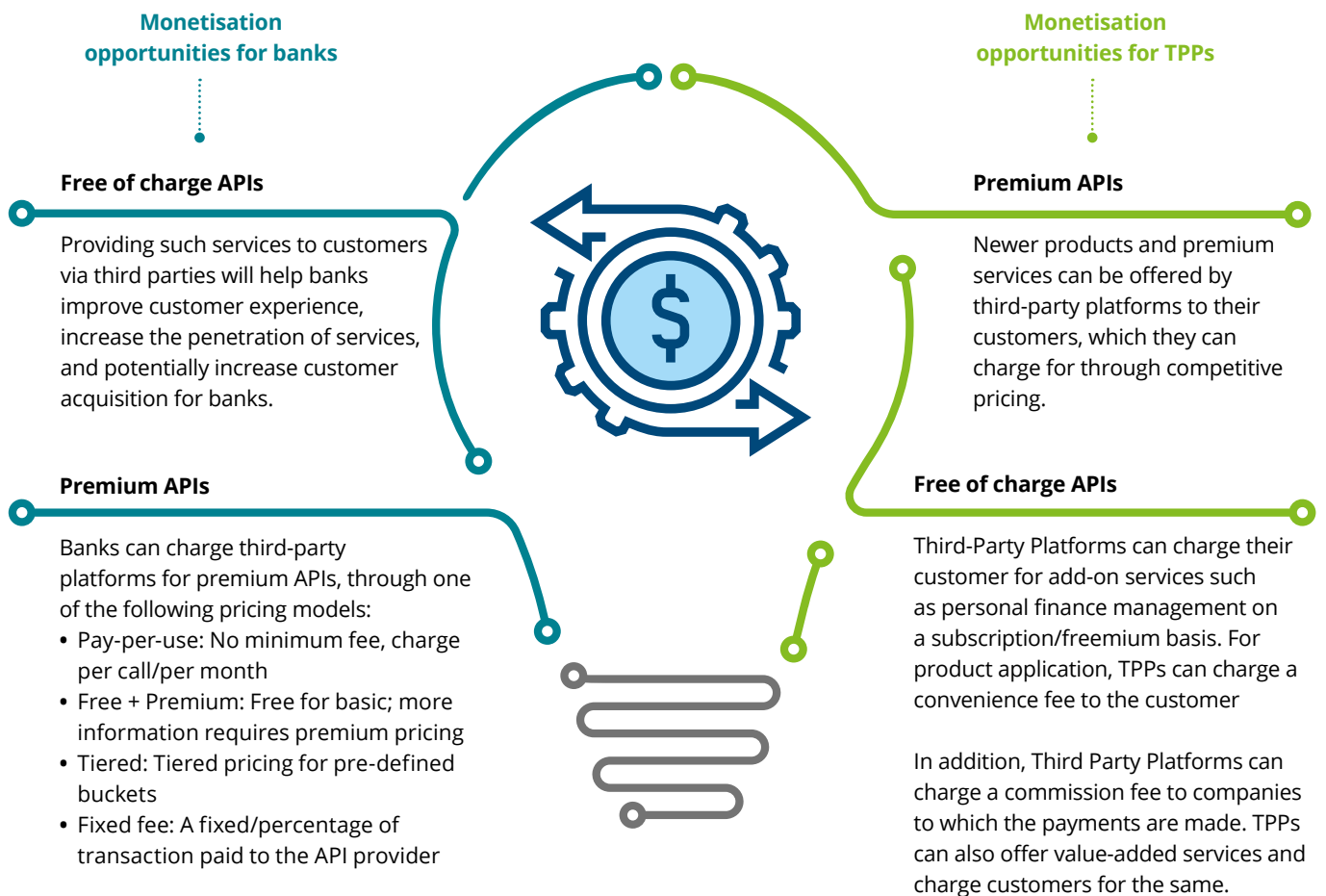
S. No.	Use case	Futuristic scenario	Relevance to customer	Relevance to FIs
1	Wealth management	A FI can create an AI-driven bank account that can intelligently assist in investing funds in short-term securities based on payday and biller information for mutual funds, mobile bills, etc.	Medium	High
2	Recurring payments	The customer takes the same metro route every day, the ticket gets automatically delivered to the customer on his phone at the desired time as soon as he/she enters the station.	High	Medium
3	Sweeping accounts and micro-savings accounts	To encourage a micro-savings culture, the amount gets rounded-off and swept into other liquid instruments	Low	Medium
4	Credit risk assessment	Access to alternate data points such as salary credit, monthly expenses, financial prudence via investments, lifestyle choices such as frequented stores, behavioural choices such as "does not use reward points"	Low	High
5	NPA management and collections	Real-time analysis of customer transactions such as non-credit of salary, high medical expenses, recent default on credit card, missed bills	Medium	High
6	Financial product aggregator	For customers to compare offers from various providers and grant access to customer verification documents stored in the digital locker for quick loan sanctions	High	Medium
7	Spend management	Based on the cash flow statement, the application predicts days to go to save for tuition fees in dream college	High	Medium
8	Non-financial product aggregator	Based on the various movies that a customer has watched in the theatre, the application would suggest which OTT platform to subscribe to and allows subscription with the click of a button	Low	Low
9	Automated overdraft credit	SMEs can mandate their loan account to be repaid from a revolving credit line to avoid overdraft. This is particularly useful for SMEs with a cyclical business and varying levels of cash flow	Medium	High
10	Automated payables reconciliation	SMEs can upload the receipt on the platform shared with the buyer. The OCR automatically fetches all details from the receipt and schedules payment	Medium	High

Source: Deloitte analysis

With the onset of COVID-19, there is a strong view that the next 12-24 months will be very promising for open banking. Banks have already embraced open banking and embarked on their journey of API monetisation.

Pricing strategy would be key and can be used as a competitive advantage. Banks, and FinTechs alike, can leverage the following monetisation opportunities to unlock the full potential of API-enabled products and services.

Exhibit 6: Monetisation opportunities



Source: Deloitte analysis

Some leading banks (both in the public and private sector) have started to build infrastructure or forge partnerships with FinTechs to offer services beyond the gamut of financial services. These services and offers are customised depending on the bank's customer data analysis (transaction, purchase pattern, demographics, etc.).

Most banks in India have used the mobile banking route to cross-sell financial products. Recently, a leading public sector bank made a very strong case for monetisation as it plans to allow small lenders to use its digital banking platform. Other lenders would need to connect to the mobile banking application's API to use the platform.

Another potential example of monetisation would be in the area of investment management where they aggregate account information and offer budgeting and spend management insights to customers with a subscription fee and while paying a charge to partner banks. Also, with the advent of Account Aggregators (AAs), these kinds of models would be extremely prevalent. A Third-Party Platform (TPP) would provide a fee to the AA for sharing customer insights.

Open banking has a lot to offer and weathering under these unprecedented times has led to the evolution of breakthrough operating models and interesting use cases. Rapidly, priorities of the last few years are becoming table stakes of the future.





Annexure

Open banking – a global phenomenon

In the last couple of years, adoption of open banking has gained traction. There has been a significant difference in its interpretation, reception, and adoption from one country to another.

India



Regulatory guidelines and policies

Regulation: Personal Data Protection Bill, 2019, for protection of personal data. The Information and Technology Act of 2000 is India's primary cybersecurity law, but was last updated in 2008.

Regulatory approach:

- Market-driven approach, supported by the regulations from the Reserve Bank of India (RBI).
- IndiaStack developed a set of APIs (Aadhaar, eKYC, UPI, Digilocker and eSign).
- For payment initiation, the National Payments Council of India (NPCI) launched the Unified Payments Interface (UPI), which has seen an exponential increase in adoption.
- The RBI has prescribed Account Aggregator (AA) guidelines on permissible activities and API specifications.



Market readiness and the current state

- India witnessed a surge in the FinTech space, particularly in payments, owing to an increasing adoption of digital payments by customers.
- Financial institutions have taken active steps to educate the customer, invested in increasing distribution, and offered rewards to drive customer behaviour.
- Account aggregation use cases are expected to scale up.

Source: RBI, NPCI, IndiaStack

European Union



Regulatory guidelines and policies

Regulation: PSD2, implemented as on 13 January 2018, was designed to address shortcomings of PSD1, integrate EU's payments market, promote competition, open access to data, and increase consumer protection. The Network and Information Systems Directive establishes common standards for cybersecurity across the EU.

Regulatory approach:

- Regulator-driven ecosystem, with the European Banking Authority (EBA) drafting guidelines
- The EBA has published customer experience guidelines.
- API specifications have been drafted and circulated for review amongst industry stakeholders as of May 2020.
- Berlin group, which consists of more than 40 banks, associations, and PSPs across Europe, has defined API standard "NextGenPSD2" to form an interoperable standard.



Market readiness and current state

- Proliferation of several new market entrants in the FinTech space with innovative business models that level payment initiation and account information data.
- Several banks have implemented measures to meet the minimum regulatory requirements and are yet to explore the broader scope of open banking. However, an evolving landscape in Europe holds the potential to tap into the benefits associated with open banking to a greater extent.

Source: European Banking Association, The Berlin Group

The U.K.



Regulatory guidelines and policies

Regulation: The PSD2 regulation under the oversight of the Competition and Markets Authority (CMA), Financial Conduct Authority (FCA), and HM Treasury (HMT) have been instrumental in the well-established Open Banking Framework in the U.K. The General Data Protection Regulation (GDPR) has harmonised the data privacy laws.

Regulatory approach:

- The CMA created the Open Banking Implementation Entity (OBIE) that has conducted extensive market research to develop API specifications, customer experience, and operational guidelines for ASPSPs, Account Information Service Providers (AISPs), and Payment Initiation Service Providers (PISPs).
- The FCA is responsible for regulatory oversight and accreditation of AISPs and PISPs.



Market readiness and current state

- As of January 2020, the nine largest banks mandated by CMA are compliant and there are 204 accredited third parties positioned as "open banking service providers."
- The FinTech sector in the U.K. has seen several innovative business models through the utilisation of account information, payment initiation, and product information data. The most common use case has been account aggregation.

Source: OBIE, FCA

Australia



Regulatory guidelines and policies

Regulation: Australia has undertaken the open banking initiative as the first step in implementing Consumer Data Right (CDR). The movement extends beyond financial services and is set to encompass non-financial sectors including telecom, utilities, and power.

Regulatory approach:

- Australian Competition and Consumer Commission (ACCC) has defined customer experience and operational guidelines and will oversee the development and accreditation of all financial institutions with regard to open banking.
- Data 61 is the interim body responsible for developing the technical standards related to APIs, information security, and customer UX



Market readiness and current state

- The top four banks (Commonwealth Bank of Australia, ANZ, Westpac, and NAB) are compliant as of July 2020.
- Implementation would be phased on the basis of the product and entity type.
- Currently only account and product information, i.e., read data is mandated as part of the Open Banking Framework.

Source: ACCC, Data 61

Japan



Regulatory guidelines and policies

Regulation: The Banking Act was amended in May 2017 to include open banking by the Financial Services Agency (FSA), aimed at regulating Electronic Payment Intermediate Service Providers (EPSPs). The Cybersecurity Basic Act has been passed, covering all organisations, however the rollout has been slow.

Regulatory approach:

- In Japan, the open banking movement was introduced by the government in 2017 as part of their growth strategy to promote innovation and modernisation
- Following this, The Open Banking Framework in Japan relies on the Japanese Banking Association (JBA) to define broad, high-level data-sharing policies, while it allows banks and TPPs to independently develop standards. The framework requires bilateral contracting between data generators and third parties.



Market readiness and current state

- As of date, 80 Japanese banks are required to outline policies by 2020 around data to be shared, communication protocols, data format, and timelines for opening up APIs.
- The FinTech sector in Japan is still developing and open banking is expected to provide the much-needed impetus for further growth.

Source: JBA

Singapore



Regulatory guidelines and policies

Regulation: Personal Data Protection Act establishes a general data protection law that applies to all private sector organisations. The Cybersecurity Act, 2018 creates a regulatory framework to monitor and report cybersecurity threats to essential services in Singapore.

Regulatory approach:

- The Monetary Authority of Singapore (MAS) has jointly created the “Finance-as-a-Service API playbook” with the Association of Banks in Singapore (ABS). The playbook contains 400+ APIs for banks to choose from.
- MAS encourages FIs to adopt open banking and has not mandated it.
- MAS has published high-level guidelines, however, there is no detailed framework with specifications and operational requirements prescribed.



Market readiness and current state

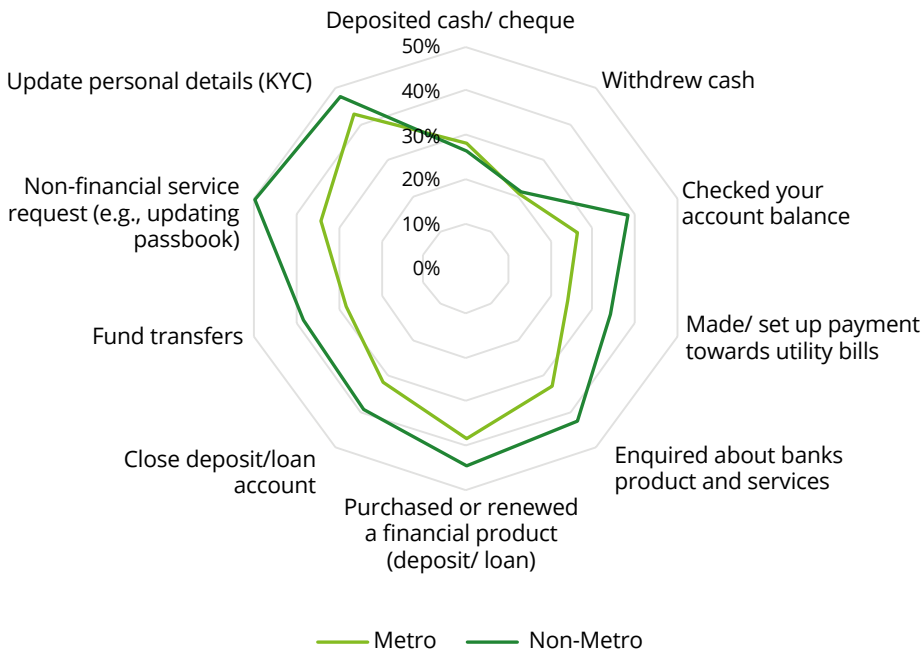
- Singapore has a mature FinTech sector with banks and non-banks innovating digital financial services.
- However, despite the numerous APIs exposed by banks, their actual utilisation has been comparatively low, owing largely in part to lack of API standardization, common infrastructure, and processes.

Source: MAS, Finance – as – a – service API playbook

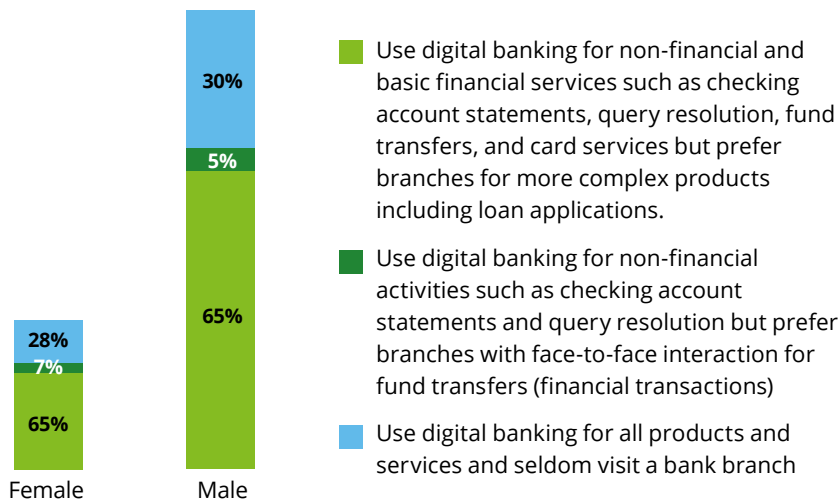
A regulator-driven ecosystem has seen a well-defined and standardised approach that ensures security and transparency across all players. Certain jurisdictions already have a fairly mature FinTech environment with existing use cases of API-led banking. This provides a conducive environment for open-banking-enabled products and services. It is imperative for financial institutions to consider market maturity and the required core capabilities before embarking on their open banking journey.

Deloitte survey – key results

Recent visit to branch

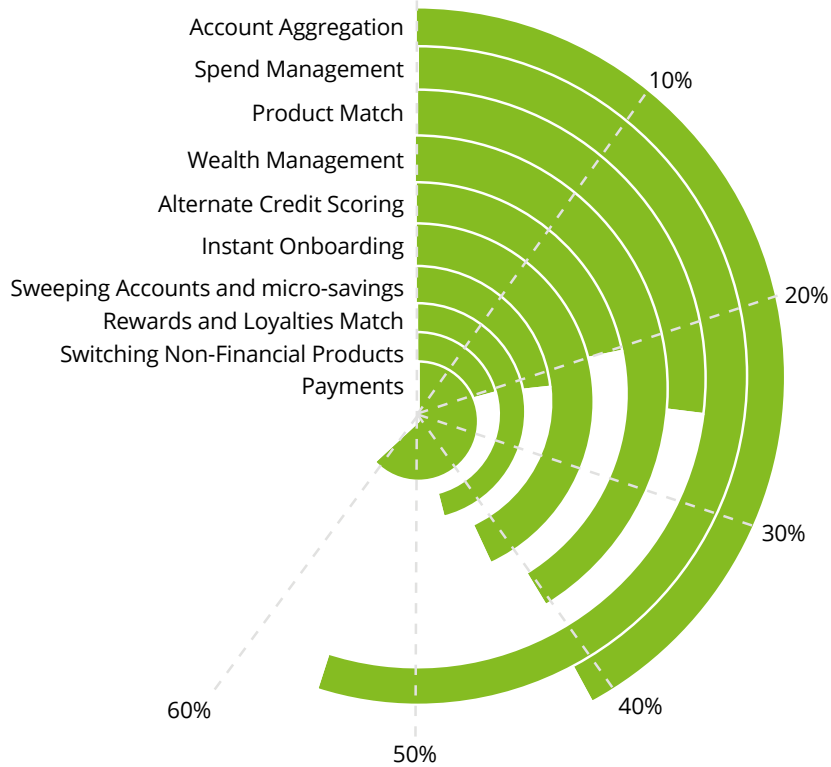


Extent of digital banking



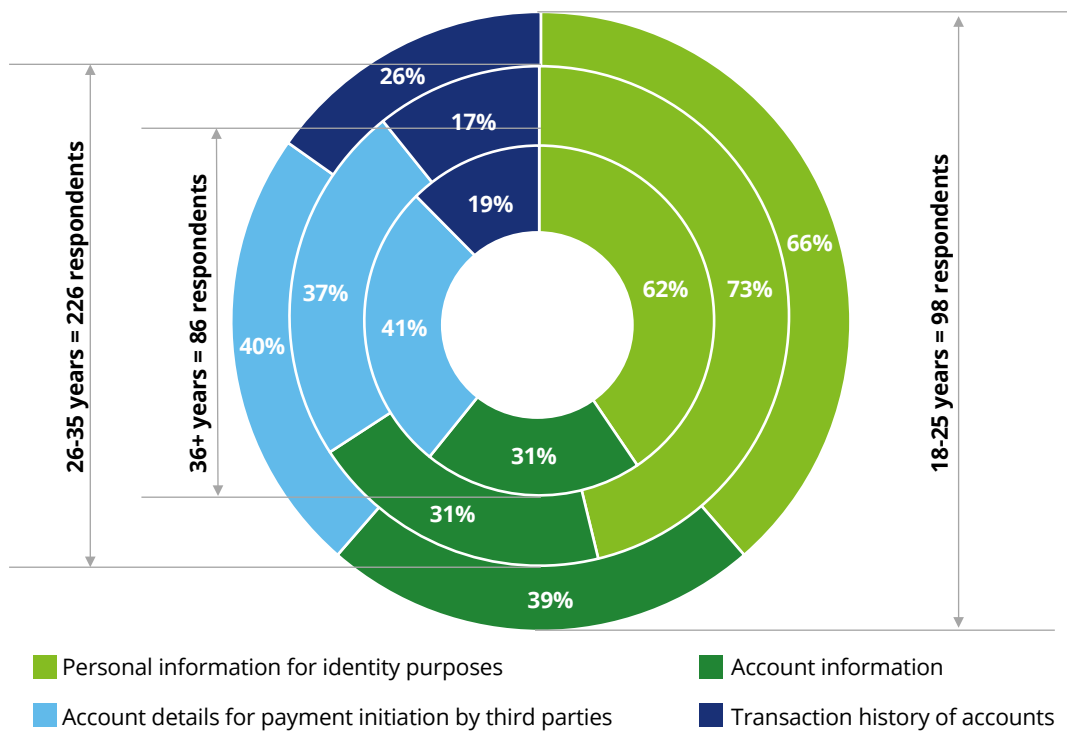
Source: Deloitte analysis

Customer Sentiment towards use cases



Source: Deloitte analysis

Customer's propensity to share data*



*Note: The total does not add to 100% as survey respondents were allowed to select more than one option.

The graph is to be read as xx% of the total respondents of the respective circle

Source: Deloitte analysis

Key tenets of open banking

Financial institutions and regulators must assess certain key considerations that serve as pillars to a successful open banking ecosystem:



Data sharing

Data sharing forms the basis for open banking. Open banking envisages secure sharing of data, on the basis of customer consent, to various third parties for desired outcomes. Financial institutions can monetise customer data, thereby creating an alternate source of income.



Data privacy and cybersecurity

Data protection is of utmost importance as customer trust, reputational risk, service adoption, and market confidence, all hinge on the ability of a financial institution to manage data in a secure environment. Institutions are facing an increasing number of cyber frauds and phishing attacks that bypass existing controls. Hence, they should attempt to inculcate cybersecurity best practices for a secure mechanism to capture, share, and store data. Financial institutions need to ensure that there are sufficient audit trails for every data transfer.



Regulatory compliance

Regulatory authorities across jurisdictions have followed a differentiated approach in the development and implementation of open banking. Financial institutions should ensure that they are compliant with existing personal data protection, consumer protection, data sharing, and cybersecurity regulations, as applicable.

- In a regulator-driven open banking ecosystem, financial institutions must implement measures to adhere to additional mandated guidelines within the specified timelines. This would assist the regulating authority in looking at new innovative propositions for the ecosystem.
- In a market-driven open banking ecosystem, financial institutions must comply with existing laws. However, following leading global practices with respect to customer experience, operations, and API specifications is a good-to-have practice



Partnerships

Interoperability forms the premise of open banking. It includes banks and non-banks developing capabilities to strategically leverage data, products, and services, to continually innovate and better serve customers. Following certain standards with respect to security, APIs, customer experience, and operations can also ease the process of forming partnerships and ensure an end-to-end seamless user journey.



Customer experience

Open banking not only provides customers greater control over their data, but also improves banking experience as a whole through intuitive, easy-to-use channels that harness actionable insights from their data to provide customer-centric products and services. Keeping the customer at the centre would help build trust and increase adoption.

Connect with us



Sandeep Sonpatki

Partner

DCM: Digital Customer

ssonpatki@deloitte.com

Contributors

Ritesh Jha

Prachi Gupta

Vineeth Singhi

Ratika Kapoor



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