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Prospects and Likely Challenges in Open Banking with special reference to India

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ABSTRACT

Over the last few years, we have observed development in Open Banking across the World, especially European Union countries and UK both of which played pioneering role in implementing this new paradigm in banking under the careful supervision of their regulatory bodies. Considering the pace at which open banking has been making strides at various other parts of the world too, it seems to be a question of 'when' rather than 'whether' it will be embraced by India in a wholesome manner. The plausible explanation for the growing acceptance of open banking may be attributed to inter alia impressive range of benefits it confers on customers, the growing awareness of customers about the value of their own financial data, astounding growth of digital technology and regulatory capability to handle the open banking regime. At the same time, Open Banking poses varied challenges to various stakeholders. This article seeks to examine both the prospects of open banking in India and also the likely challenges its introduction may pose to various stakeholders, including customers, regulators, legislative bodies, banks and other service providers in the country.

1. Prospects of Open Banking in India:

Technology has been disrupting business models of several industries, banking being one of them. The latest application of technology has been with regard to the aggregation of financial data relating to individual customers across the industry and their analysis. The world has realized that sharing of customer financial data in a secure manner based on customer consent by using sophisticated technology tools can potentially transform the banking and financial industries by facilitating product innovation, improving customer experience, and connecting customers to products and services of best fit to their needs. These are the various attributes of Open Banking. No surprise that countries, one after another, are realizing its benefits and evincing interest in this new paradigm in banking. However, adoption and implementation of Open Banking in a country hinge on a set of factors like the trend in the banking industry which shapes its response to new changes, composition of demography especially in terms of digital orientations, state of technology capabilities, market forces, and regulatory stance.

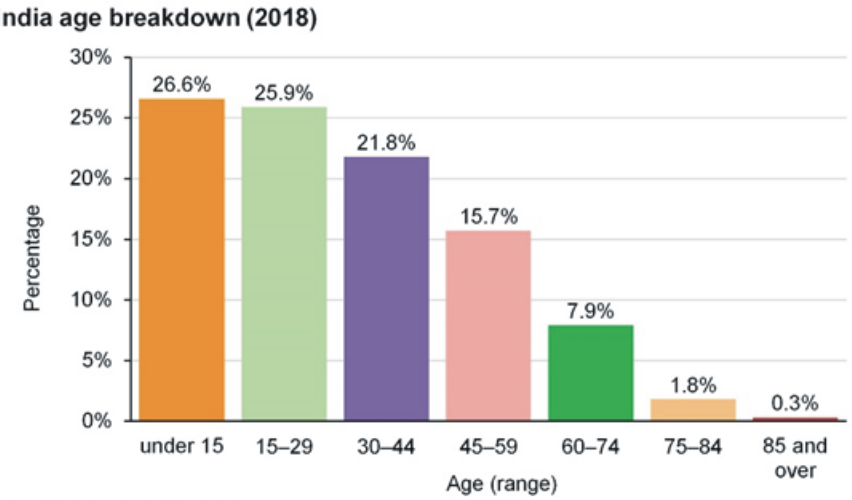
Accordingly, the acceptance and development of open banking in India may be seen to be a combination of following five factors.

1. Trend driven;
2. Demand driven;
3. Technology driven;
4. Market driven;
5. Regulator driven;

1. Trend driven: The modern banking system in India was organized during the colonial era and after the British model. The experience of past several decades suggests that changes in banking industry in UK tend to influence developments in the banking industry in the country. In recent decades, of course, the industry also takes note of developments in banking in other developed economies, especially West Europe and North America. Examples are many and these involve technology, products, regulatory approaches, and more. UK may be called as a pioneer of open banking. Besides the legacy connection between UK and India which makes a case for Indian regulatory authorities to take note of this new paradigm in banking industry, it needs to be noted that open banking has been gradually spreading to countries in various continents too. On the whole, it is emerging as a strong influence globally. It is both logical and likely that India will seriously examine its adoption in lines with important economies.

2. Demand driven: These relate to the demographic composition of the country, the people's changing needs and their approach and exposure to technology.

If we consider the demographic profile of India, the most striking thing is about the proportion of youth. More than half of the people in the country are less than 25 years of age of which again more than half are under 15 years of age. This sizeable section of population has been exposed to technology in various ways most important being as user of mobile telephony, internet and social media. If we include people up to the age till 45, nearly three-fourth of the country's population would be covered in this extended category. Life expectancy has been rising steadily and it stands at about 68 for men and 70 for women.



Source : https://www.britannica.com/place/India/Demographic-trends

As observed above, 50% of Indian population is less than 25 years' age group. Since they are more tech savvy compared to other age groups and potentially better prepared to adapt to banking services in digital form, this not only facilitates rapid development of digital banking (which also includes payment systems through UPI or other methods) but is likely to help in the implementation of Open Banking.

A customer survey on Retail Payment Habits of Indians (SRPHI) conducted by Dept of Statistics and Information Management in 6 important cities of India covering 6,000 respondents concluded that as many as 96% of them were aware about digital payment methods and their awareness level varied with their education level[1]. The study was done on behalf of Department of Payment and Settlement Systems (DPSS).

Another relevant information (which was hinted earlier) is the explosive growth in the numbers of smart phone users including in semi-urban and rural areas. Their numbers were estimated to reach over 760 million in 2021. Familiarity with mobile apps is an important potential facilitator for open banking. Customer friendly payment apps e.g., Paytm have been encouraging growing numbers of people to use mobile apps for doing financial transactions.

Following de-monetization in the country in November 2016, digital payments had shot up by a stupendous 43 percent in the very next month. Interestingly, though 86 percent of the country's currency notes were de-monetized by the government, it was the positive attitude of common people who accepted and adjusted to the digital payment systems with remarkable agility thus turning a severe abnormality to normal & stable situation. The fact that large chunk of Indians including in the vast rural belt have had bank accounts and many were used to mobile telephony helped matter. In this connection it may be mentioned that percentages of Indians holding any bank account rose from 54% in 2014 to 80% in a matter of a couple of years. Nearly 355 million bank accounts were opened in different states of India in this period.[2]

On the whole large percentage of Indians have access to bank accounts today and they are also getting exposed to digital methods of transactions. These are likely to be of help for implementation of open banking in India.

3. Technology driven: We propose to discuss this factor in two parts. First, we give a general description of technology attributes of Open Banking. Second, a chronology of relevant technology-related events and the extant technology ambience in the country's banking industry will follow. It may be of interest to observe from the descriptions in this section that how apart from the efforts by some leading banks themselves, the RBI has, besides acting as banking regulators, also made extra-ordinary contribution in equipping and hand-holding the banks and the banking industry technologically. It is important to recognize the enormous amount of technology initiative by RBI to impart efficiency in the 'payment system' in the industry. Incidentally an efficient payment system forms the backbone of the Open banking system too though the modalities are different.

Open banking hinges on smooth transfer of financial data, products, services, and solutions while simultaneously ensuring that customer right to privacy and data security are accorded high priority. This requires seamless connectivity amongst banks, regulator-approved third parties and authorized fintech companies. While core banking system are basic necessities for this purpose, the banks need to employ sophisticated Open API regime to ensure that the data transfer happens in an efficient and secure manner. The quality of API is also important because open banking brings in several radical changes with regard to mode of data sharing and the manner in which the financial products, services and solutions are formulated and transferred. It may even be possible for a bank to access and use another bank's API in customizing the latter's given product for its own customers. This pre-supposes banks granting others access to their products and services through efficient and secure APIs.

The PSD2 directives by the EU regulators provides for interconnectivity amongst specified banks and approved third parties through Open APIs of prescribed standards. In some countries e.g., Singapore, attempts have been made to evolve a set of standard interoperable Open APIs. On the whole it may be appreciated that an efficient payment system, one of the major goals of PSD2, serves as the backbone of open banking.

[1] [RBI AR FY 2018-19]

[2] According to the World Bank's 2017 Global Findex Database

As already indicated, In India, the RBI has taken several important steps over years to improve the industry's payment system efficient though banks still interconnect through RBI and NPCI rather than directly. However, the banks are on strong technology foundation using core banking system, digital technology and online platform. They are likely to make easy transition when they would be required to provide open API to other banks and approved third parties enabling the latter directly connect to their systems. Incidentally, introduction of UPI in 2016 has made interconnectivity amongst banks, NBFCs, and other regulator approved parties through NPCI extremely convenient and efficient.

We look at the chronology of a few key initiatives by the RBI to improve payment system. It introduced two significant customer-friendly efficient money transfer systems like RTGS and NEFT in 2004 and 2005 respectively. In 2007 it introduced the Payment and Settlement Systems Act, which ensured India's payment and settlement systems were not only safe and secure but simultaneously efficient, fast and affordable. In 2010, RBI gave another push to money transfer system by starting IMPS or Immediate Payment System up to a specified limit. It continued extending the horizon and carried out the pilot launch of UPI or Unified Payment Interface in April 2016. As indicated earlier already, UPI heralded a sea change in the payment ecosystem in India.

On the back of such improvements, more exciting new channels for payment like Bharat Interface for Money -Unified Payments Interface (BHIM-UPI), Aadhar enabled Payment system (AePS) and National Electronic Toll Collection (NETC) have been launched by RBI to cater to customer requirements facilitating Person to Person (P2P) as well as Person to Merchant (P2M) payments. It is very significant that large public and private banks have implemented banking apps for smartphones to enhance volume of digital payments among smart phone users.

Even as the RBI was initiating these series of measures, in 2009 the Government of India launched a technology initiative (Aadhar) of far-reaching consequence to give every Indian unique digital cum biometric identity. Thanks to this project, by now nearly 90% of Indian population has a digital identity and this has simplified and brought paradigm shift in their manner of availing banking and financial services. We already mentioned about AePS which enables a person to make payments without card or cheque using his Aadhar identity and the UPI mechanism. Another corollary project e-KYC also took off which can potentially be a game changer in simplifying KYC across every kind of account openings and financial transactions. It enables verification of identity and address of the subscriber electronically through Aadhar Authentication. This can be also seen as a precious help in the matter of 'financial inclusion.'

Yet another offshoot of Aadhar project has been the account aggregator system, which allows people to use their own data to get credit from banks and other lending institutions. The AAs or the account aggregators can move customer data on their behalf and based on their consent to the prospective lenders. It may be intuitively realized that how by linking Aadhar, UPI and AA, better credit facilities, financial management advice, wealth management and insurance services can be rendered to individuals. Thanks to infrastructures of Aadhar, UPI and AA, today short duration, small value loans have been made possible in digital platforms covering every aspect starting from origination to disbursement and ending with repayment. The vendors who use digital platforms for running their businesses automatically can create transaction history which can be used by lenders for credit decisions.

4. Market driven: The percentage of 'connected' and 'digital first' customers may not yet be very large in the country but it is growing steadily. They expect ability to conduct financial transactions with minimum efforts via wearable, contactless devices, voice interfaces and biometrics. However, the extant regulations on customer right of privacy and data protections impinge on how seamless these transactions can be. Obviously there needs to be a trade off between these conflicting considerations and here banks and other financial services providers are in competition to woo customers and excel.

Customers' growing demand for better quality and 'closer to need' products and services are making banks in India engage in data warehousing, datamining, big data analytics and artificial intelligence technologies in respect of their respective in-house data. A few leading banks have invested big in creating data lakes. All of these are helpful in creating and delivering state of art and friendly services to customers. In comparison, the scope for data sharing amongst banks and third parties has remained restricted due to legal and regulatory restrictions. Banks here also realize that they have an ethical duty to customers to deal with their accounts data carefully and also in manner that makes good business sense. Banks are harnessing power of technology to secure optimization on the issue of customer data privacy vs. creating state of art products. Towards this end, they, especially the big banks, are partnering the technology-rich fintech companies in more than one way. Interestingly with regulatory relaxations happening over time several non-bank entities are also emerging as powerful competitors of banks in terms of technology, products and services.

With relentless progress in technology, even slender opportunities to sneak into traditional turfs of banking industry have begun to be lapped up by non-bank entities, NBFCs leading the pack. NBFCs are also working hand in hand with fintech companies in enticing customers with friendlier products in niche markets and trying to pose competition to banks in newer territories wherever allowed by regulatory bodies and sometimes by circumventing provisions, if there is a scope.

The collaboration of fintech companies and NBFCs have assumed various forms. At times, NBFCs launch fintech subsidiaries, while there have been cases where successful fintech companies converted themselves to NBFC or opened NBFC entities. Tech-equipped NBFCs are posing tough competition to banks in the domain of personal loans, auto finance, etc.

Fintech companies have perhaps been a dominant force trying to open up the banking industry. More than one and a half thousand fintech companies have already set up presence in the country and India ranks very high in terms of fintech adoption globally. The launching of Prepaid Payment Instruments by RBI in 2009 came as a big opportunity to them. Starting with plain vanilla cards, going forward they offered sophisticated payment products i.e., digital wallets. Significantly they provided superior customer experience in all of their

offerings and carved out distinct space in the market. In less than a decade, demonetization and UPI opened up floodgate of opportunities to them and they grabbed these with both hands. According to a recent report nearly 50 companies have been using UPI to operate their wallets.

Perhaps the most exciting thing about them is their productive and gradually rising association with leading banks including inter alia HDFC Bank and ICICI Bank in India. These banks are inviting developers to create new applications by using their banking APIs. However, there are varieties of fintech companies pursuing their unique business goals and models. On the whole however these companies are continuing to exert pressure for opening up the banking sector on the premise that there could be world of good to banking customers out of open banking. Few examples may be relevant.

Paytm, the leader amongst Fintech companies at the time of demonetization converted itself to a 'payment bank' in 2017. There are slew of fintech companies in India which forged strategic partnership with different banks and they are offering limited range of products like funds transfer, cards and payment products. They include such names as. Instant Pay, Niyo, PayZello, Razorpay X, Open, and more. Since they do not have banking licenses, these companies are adding features to existing products of incumbent banks and selling them to their own customers. Being called as neo banks, most of them have been successful in proving that there are lots of scope to improve customer experience and that a more open banking industry can mean lots of benefits to customer.

In the backdrop of such interesting technological developments happening in the industry, few top ranked private and public banks have begun to use the Open API mechanism in limited measure with a view to both innovate and improve products and make processes friendlier to give customers better experience. HDFC Bank is a good example. The bank is ready with nearly 100 APIs to share with third parties. The latter could use these APIs to connect to its banking system and build and offer next generation products, services and convenience facilitating financial inclusion and innovations in the process. Through this strategy HDFC Bank foresaw significant growth opportunities for itself and its strategic collaborators. The opportunities were available to fintech companies, aggregators, third party service providers, etc. The scope was in the realm of payments, services and sourcing. These third parties can build own applications and portals and customers can directly apply for credit card, forex cards., debit card EMIs, etc. and make various transactions and raise service requests through these parties' digital platform.

Finally, the silent entry of BigTech companies in the banking and financial space in the country has important implications for all other participants of the banking ecosystem. What lends their entry significance is the fact that their action here is in conformity with their global business and strategies. This in other words means they are looking for long term exploration of the profitable business of financial products and services, increasing access to market segments and adding to market share. For example, Amazon entered the payment space in India offering its customers wallet kind of product to make cashless payments at its e market place. This bigtech has also the wherewithal, technology and plans to enter into making small loans to numerous vendors registered selling at its platform. Google-Pay set up its own brand in the payment space in India in 2016 and it is poised to snatch chunks of payment market from other players. They have common customer-base with banks and they have, by exposing the latter to superior technology, begun to rapidly raise customer expectations about banking products and services. These companies have enormous data base of customers through their social media platforms and they also have cutting edge technology for big data analytic. Prima facie, based on their technology expertise and data -oriented nature of their business these companies can play important role in Open Banking regime, though as of now, it is not possible to make any accurate estimation of the nature of their involvement in the distant time. Meanwhile, however, the bigtech companies are growing association with banks in a number of ways. These present both opportunities and challenges to banks. However, their contribution to Open Banking can only be positive and India is no exception in this regard.

5. Regulator driven: We refer here to both regulatory actions and legislative initiatives. In Great Britain and EU countries, two key initiatives relevant to Open Banking have been (a) requiring banks to share information about their products, services, rates and charges; and, (b) sharing customer data with other banks as well as accredited third parties or fintech companies in a secure manner based on customer consent. A hall mark of West European banking system in general and British system in particular has been high emphasis on customer right of privacy and data protection. As open banking involves data sharing with third parties, the customer data get spread over wide surface in the digital era and needs careful protection. These challenges have been addressed by the EU through GDPR (General Data Protection Regulations) and PSD2 directives. Great Britain has passed Data Protection Act 2018 to cover grounds of GDPR. These countries seem to have resolved the conflict of primacy of data privacy and protection vs customer benefits out of data sharing on the basis of 'customer-consent architecture'.

Indian banking system has also been highly conservative on the issue of customer right to privacy. The Banking Regulation Act, 1949 provides strict restrictions and the RBI being the regulator also aggressively defends customer rights in this regard. However, after long decades of conservatism, both the law makers and the regulators in India began to take incremental steps to relax the iron grip in the larger interest of the society. More recently they seem to be reconciling to the benefits of data sharing based on 'customer consent', the principle which has begun to drive the EU and Great Britain already. The few paras below examine the milestones in the country's ongoing journey in this regard.

Historically India deeply respected 'data privacy'. This psyche pervades not only customers but banks, regulators and even judiciary. The initial change in this regard came on the issue of sharing 'credit related data'. This was probably driven by the fact that NPA was weighing heavy on banking industry and sharing of information about the track records of borrowers was thought to be useful in societal interest.

The Credit Information Companies Act 2005 sought to achieve the above-mentioned purpose. Under this legislation third party organizations could provide credit information to lending banks and financial institutions. However, the CIC could furnish information only to its members while maintaining

the principle of privacy envisaged under Section 20 of the said Act. In another significant step in 2016 the government passed the Insolvency and Bankruptcy Code which proposed to set up Information Utilities (IU). Like the CIC under the Act of 2005, the IUs too was empowered to create database of financial information that could help banks and other lending institutions to make quality credit decisions.

Meanwhile in 2011 the government had taken another initiative which was impelled by a different consideration viz., to guard against risks and optimize the benefits arising out of the rapid adoption of IT technology by banks and other financial institutions. The IT (Reasonable Security Practices and Sensitive Personal Data or Information) Rules 2011 sought to create a robust architecture which, while aggressively protecting sensitive personal data of customers, allowed banks to release data when the customer has explicitly consented to such disclosure.

More recently, the government of India has prepared a draft legislation viz., Data Protection Act 2019 which seeks to create a robust architecture for protection of data of various types (including financial), in the country and set up a Data Protection Authority for this purpose. It gives high priority for individual rights on data protection. Under the proposed Act citizens' personal information cannot be collected, processed and shared without their consent. However, while it seeks to protect the customers' right of privacy of their personal data, it may simultaneously open up new possibilities for sharing of customers' personal financial data on the basis of 'customer consent'. The bill is engaging the attention of a Joint Parliamentary Committee.

We had mentioned about Account Aggregator system earlier in connection with 'technology'. This was a significant step to facilitate 'data sharing' not only across banks, but few other financial sectors such as insurance, mutual fund, and pension fund. In 2016, the joint regulatory bodies of the Reserve Bank of India, SEBI (Securities and Exchange Board of India), IRDAI (Insurance Regulatory and Development Authority of India) and PFRDA (Pension Fund Regulatory and Development Authority) created a special category NBFC called as Account Aggregator (AA) through the Financial Stability & Development Council (FSDC). Under the arrangement banks and other entities regulated by any of these above-mentioned regulatory bodies can participate in the system both as 'information provider' and 'information user'. One has to be a provider first to be eligible as a user of information. The AA is 'data blind' as the data passed on to it is in encrypted form and the data opens only on the device of the end user. The data transmission is based on customer consent. We have earlier discussed about the system of regulator-approved third parties forming part of Open Banking ecosystem in Europe. In a way, AAs may be seen as Indian version of regulator approved third parties tasked with transmission of customer-permissioned data across member banks and financial institutions. Although, the scope of data exchange through AA is limited at present, the potential to expand is large.

As may be observed from the above discussions, the regulatory bodies in the financial sector are in the process of building up institutions, instruments, systems and processes that support and protects the integrity of customer data and financial transactions.

2. Likely Challenges of Open Banking in India:

Having examined the factors that may facilitate the adoption of Open Banking in India, let us proceed to consider the likely challenges this new paradigm may pose to various stakeholders, including customers, regulators, legislative bodies, banks and other service providers.

i) While benefits of open banking to bank customers are varied and obvious, they would have to adapt themselves to a sophisticated and higher form of technology. While sections of bank customers are yet to adjust fully to the present state of industry technology e.g., mobile banking, they may find the new API led paradigm, which will constitute another big leap forward, difficult to handle, without proper education and handholding. Another potent area of concern for them would be security of their financial data as third and even the fourth parties will get involved and the customers may not have the wherewithal to make any judgement about their credibility and integrity, save that the parties up to the third level would have to be regulator-approved.

ii) Since open banking would significantly alter the structure of the banking industry, the regulators will be expected to lay down appropriate regulations and protect interests of customers. These are likely to be different from what they experienced in the past. For example, the responsibility for approving the third parties who can deal with customers' data will rest upon them. Further, by its very nature, open banking may bring together service providers from various sectors like NBFCs, mutual fuds, insurance, fintech and bigtech companies, big retailers, etc. They will also have the primary responsibility to protect customers' right to privacy. This means the banking regulators will have to co-ordinate with others to ensure its successful implementation;

iii) The passing of legislation on data sharing by banks is a precondition for open banking. It needs to be recognized that this matter is pending in the Parliament for some time now and has to be expedited:

iv) Challenges are likely to be manifold and of high order to banks themselves. First, they have been habituated to working in a protected environment for decades or centuries and taking their customers for granted. Now suddenly they would face the risk of losing their customers to other banks and service providers who have better products and services. Second, open banking is essentially 'open API' based which leads to practically borderless banking. Banks would need to rearrange their business models as they will be required to work with strategic partners and under altered regulatory guidelines while protecting customer privacy rights. Third, since open banking implies regular data exchange with outsiders, banks need to be ever vigilant. Fourth, open banking may give a boost to app-based banking, which implies their distance with customers may grow to another level. Such estrangement implies loss of opportunities for cross selling which happen in course of personal interactions in branches. *For example in India , Paytm has more than 200 million users who transacted more than 1 billion times in 2016.*[3] *Customers bypassed their*

[3] Moneycontrol, "Paytm records 1 bn transactions in 2016: user base up by 45%,Jan.02,2017

Banks to carry out these transactions , thereby having an impact on the bank /customer relationship as well as resulting in banks not having the data related to the transactions.[4]

v) Banks may face reputational risk in the event of illegitimate use of data or breach of customer privacy by third party service providers, albeit accredited. Sixth, since open banking will essentially be online and in digital form, risks of financial frauds may grow and banks will need to take this as a challenge. Seventh, banks will face the commoditization risk. In the open banking environment financial product or service are likely to be treated as commodity where customers will have a choice to select service providers (as banks should not have control over it). The result is, loosing competitive advantage for which banks may require to reshaping of business model. Eighth, standardization of API across the industry with banks of varying levels of size and capacities is likely to be challenging. Limited resource or budget may prohibit small banks to successfully implement open banking model. Even for banks which have enough resources to manage technical part for implementing Open Banking Model, they will need to share Open API with third parties without diluting operational standards. They must address this transformational challenge properly.

iv) Open banking also requires other stakeholders like accredited fintech companies, big tech companies, retailers, and other service providers to perform their role responsibly and efficiently. It may be realized that these companies may be of various sizes possessing varying levels of resources, but all need to adhere to the regulatory standards to make the new regime a success. A common concern for all may be data protection and customer privacy. Thus, information security will be a big challenge for multiple stakeholders starting from the regulators, banks, their employees, to the accredited third parties and may be sub-contractors, if any. By its very nature, open banking will lead to sharing of customer data to third parties and most of these online, which implies scattering of data over wide surfaces. In some cases, there may be outsourcing of data processing by third parties to the fourth level and clearly these may not be within regulatory or supervisory oversight. All of such challenges can be tackled by all stakeholders jointly. Finally, it may be mentioned that bigtech companies are tech leaders and constantly upgrading their IT infrastructure to address needs of new generation tech-savvy customers in a bid to continuously provide them with personalized offering and value addition. It is possible for banks and other stakeholders to benefit from their technology experience. However, at the same time bigtech companies are gradually leveraging their global footprints, social media platforms, huge networking and technology edge to enter into the banking and financial services space and emerging as powerful competitors of incumbent banks.

3. Conclusion:

Across the world, countries have adopted three kinds of approaches for adopting Open Banking. First is prescriptive where banks are mandated to share customer-permissioned data with third parties while the latter must be registered and approved by regulators. Second, is facilitative, where regulators have issued guidance and standards to banks and other participants. Third, is a laissez faire approach allowing market to take the process forward, while regulators are not intervening? In case of India one can see regulators have generally been prescriptive, while at the same time, also they are also proactively creating systems, institutions and processes that are likely to facilitate Open Banking. Meanwhile market forces driven by technology are also silently pushing the banking ecosystem towards Open Banking and regulators seem to be trying to moderate their flow and direction.

On the whole and upon a detailed analysis we find that all five sets of factors viz., trend, demand, technology, market and regulatory developments point out to the fact that India is readying for open banking, though the manner of its implementation here will not be formal like UK or EU. The transition may be silent and gradual in consonance with India's unique situation and especially its regulatory approaches. However, it is likely that India will benefit from this new paradigm in several ways including in the area of financial inclusion. Further given its strong technology power and a massive population as users, India's tryst with open banking can unfold new possibilities and enrich its features significantly. It is both probable as well as desirable that the consummation takes place sooner than later. Though the challenges outlined may seem to be daunting, it needs to be realized that many of them are temporary and likely to be encountered initially. Some e.g., information security may continue and they have to be addressed dynamically.

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