SunTec





UNLOCK REVENUE INNOVATION Gearing up for changing business

models in the digitally open economy

WHITEPAPER

THE GAME CHANGER

APIs, open banking, platform banking, bank as a service- these are some of the buzzwords which are becoming more prevalent in the financial services industry. Open banking isn't a matter of if, but rather when, and who is ready to seize the opportunity. Governments across many parts of the world are pushing for, or have already enacted regulations to have financial institutions provide third parties with access to customer data, a move that is enabling a new open banking economy to take off.

For a long time, application programming interfaces (APIs) has been the typical method of how software systems interact with each other. However, in the recent few years, they have been discussed in the context of financial services as 'a game changer'. There are numerous factors behind this 'game-changing' paradigm, but they are now commonly referred to as open APIs. When they are made publicly available, these services allow anyone to connect to the core operating environments and build new applications around them. The outcome is an expanded customer centric ecosystem, whereby a financial institution can expand the features and services they offer. This allows for greater customer convenience, builds additional brand prominence, and opens the door to additional revenue streams.

There are a number of use cases which can be envisioned around open banking. Examples include aggregation of financial products offered in one location, providing more meaningful insights about customer spending habits, offering recommendations to a customer, also known as contextual banking, co-innovation to offer multi-industry offers that can meet exact requirements of a customer, just to highlight a few.

The word "open" is central to both of the main drivers of API development in financial services: the rise of financial technology companies & fin-tech start-ups, and regulatory initiatives taken up in certain geographies to open the market for further innovation and competition. Open banking has the power to completely change and revolutionize the way banks offer products & services to the customer, as well as the way in which a customer interacts with their bank.

"Open banking enables people, businesses and things to give, take and multiply value creation for the bank by sharing assets like data, algorithms and transactions with business ecosystems"

- Gartner,2016

THE ROLE OF REGULATIONS

While there are number of factors driving the open banking phenomena, the most relevant and the foremost has been the regulatory measures enacted in the EU to allow access of customers data (on consent) to third parties and to enable payment on behalf of the customer.

First, there was the mandatory adoption of PSD2 compliance into EU member state legislation by January 2018. The European Banking Authority has also come out with a defined set of regulatory technical standards (RTS) which will be subsequently implemented by European banks. Second, the Competition and Markets Authority (CMA) in the UK has made considerable effort to enforce banks to openly share their banking data with the third party providers (TPPs) to foster innovation. Recommendations for this are developed by the Open Banking Working Group,

which has been appointed by the UK government. Thus, at present, Europe is showing the way in the open banking economy, with the rest of the world keeping a close watch on how the innovation and competition creates incremental value in the EU banking sector.

Regulators across the globe are moving towards open account access, and in some countries, payment initiation. Australia, Hong Kong and the United States, have local bodies such as the Australian Government Treasury, Hong Kong Monetary Authority (HKMA), Financial Services Information Sharing and Analysis Center (FS-ISAC), and the National Automated Clearinghouse Association (NACHA). All of these organisations are working towards laying the framework for Open Banking in their respective regions.



	(Directorate General n Commission rate General Market) to increase pan-Euro and to provide for a	es Directive 2 is an EU Directive, administered by the European Commission Internal Market) to regulate payment services and payment service providers pean Union (EU) and European Economic Area (EEA). The Directive's purpose was pean competition and participation in the payments industry also from non-banks, level playing field by harmonizing consumer protection and the rights and ent providers and users.
Region/Country: United K Program Underway: Open Ba Regulating Body: - Competition and Markets Aut - Open Banking Working Grou	nking (OBIE) to manage the innovation in UK retains (OBWG) published it data that's shared, in information and rele	and Markets Authority (CMA) authorized the Open Banking Implementation Entity e rollout of bank and building society open APIs to drive competition and all banking. In February 2016, the Open Banking Working Group is framework for the UK Open Banking Standard. It seeks to create an open API for including, but not limited to, customer data, as well as an open data API for market evant open data. The Open Banking Rollout began in January 2018, with regulated start integrating with Open banking and testing their products.
Review	Australia (the Review Banking in Australia). Government with trusted recipier initially in the banking economy-wide on a Government release public comment on On 9 May 2018, the offramework of the ov Banking, with a phas with all major banks by 1 July 2019 and mwill be available by 1 12-month delay on t	Treasurer Scott Morrison MP commissioned the Review into Open Banking in (), chaired by Scott Farrell, to recommend the most appropriate model for Open Since then, the Government has decided to legislate a Consumer Data Right to ter control over their data, empowering customers to choose to share their data its only for the purposes that they have authorised. The Right will be implemented in (Open Banking), energy, and telecommunications sectors, and then rolled out sector-by-sector basis. Before making final decisions on implementation, the did the Report of the Review into Open Banking in Australia on 9 February 2018 for the Review's recommendations. Government agreed to the recommendations of the Review, both for the erarching Consumer Data Right and for the application of the right to Open and implementation from July 2019. The Government will phase in Open Banking making data available on credit and debit card, deposit and transaction accounts oortgages by 1 February 2020. Data on all products recommended by the Review July 2020. All remaining banks will be required to implement Open Banking with a imelines compared to the major banks. The Australian Competition and Consumer will be empowered to adjust timeframes if necessary.
Region/Country : Hong Ko Program Underway : New Era Banking Regulating Body : Hong Ko Authority	of Smart January 2018, setting (API) for the banking seven initiatives ann New Era of Smart Ba banks and other ind framework set out ir deployment timefrar measures and the m with different produ Phase 1 - Product an	
Region/Country : Singapor Program Underway : Finance- Regulating Body : Monetar Singapor	as-a-Service y Authority of e (MAS) Association of Banks The PlayBook serves interested entities in also developed as a The PlayBook addres 1. High-level guidelir 2. Standards governi 3. An API governance Since the introductio solutions. In late 201 as a centralised data share data securely in	"Smart Nation", the Monetary Authority of Singapore (MAS) has been encouraging to develop and share their APIs openly, so that they can work with other service tomers a richer and more seamless experience. On 16 November 2016, the in Singapore and MAS issued the "Finance-as-a-Service: API Playbook" (PlayBook). as a comprehensive guide for financial institutions, fintech players and other developing and adopting Open API-based system architecture. The PlayBook was reference guide for industry adoption across the wider ASEAN region. sees several key areas, including: less and best practice for API design and usage and APIs in Singapore framework of the PlayBook in 2016, Singapore has embraced and developed API based 7, the Government Technology of Singapore built an API exchange (APEX) to serve sharing platform. Government agencies across Singapore can utilise APEX to n real-time through the use of APIs. The use of API technology significantly on dataset requests, as requests and delivery of data are automatic.

Region/Country Program Underway : 2017 Growth and Amendn the Banking. Regulating Body : Financial Ser Agency (FSA)	nents to electronic payments service providers (EPSP): Payment Initiation Services Providers (PISP) and Account Information Services Providers (AISP).Operation of an electronic payment service business (PISP or
Region/Country: India Program Underway: - Unified Payments Interface (UPI) - Bharat Interface for Money (BHIM - Aadhar Regulating Body: Government and Reserve India	government has also implemented a set of APIs –IndiaStack – in 2016 and launched the Bharat of India Interface for Money to accept payments from any bank. India also introduced Aadhaar, a program to
Region/Country : Canada Program Underway : Review of the Financial Sec Framework Regulating Body : Canadian Go	tor to share their financial data with chosen third parties. It is hoped that by making it possible for people to open up access to their own banking data, new providers will offer more tailored
Region/Country: USA Regulating Body: - Financial Services Information Sh and Analysis Center (FS-ISAC) - API Standardization Industry Gro NACHA	consumers. Large banks are entering into data sharing arrangements with individual partner
Region/Country : South Korea Program Underway : Fintech Oper Regulating Body : South Korea Services Con (FSC)	Financial span 16 commercial banks and 25 securities companies in a unified format. The platform is managed

Quite a few leader banks around the globe are taking initiatives to open up their data and services via APIs on a global scale, irrespective of regulations. Banks such as BBVA, Credit Agricole, Citi, Bank of America, Capital One, Banco do Brasil, Absa, Fidor Bank, Emirates NBD, DBS, Mitsubishi UFJ, and YES BANK all offer freely available access to their developer portals, unlocking business value with open banking APIs. (Source: Celent)

The ever expanding pace of innovation, coupled with a truly globalized and connected world, shows that ecosystem-based business models, driven by a digitally open economy, will truly develop only when banks across regions embrace the opportunity. That is when we will get to experience the real beauty and power of open banking. While the banks are already putting considerable effort and investment in devising their open banking strategies, and getting the infrastructure ready for collaborative banking, they will also eventually look at ways in which they can build a revenue model around this open ecosystem.

"Banks are working to expand their digital footprints while customers are changing the way they find financial services. Finding ubiquitous digital channels, powered by virtual assistants and chatbots, offers legacy institutions an attractive alternative to engage new consumers."

- Mike Quindazzi, Managing Director, PwC

The open ecosystem economy has created an environment of competition and innovation within the banking space and thus, forcing all banks to revisit their business strategies. Open banking is acting as a

catalyst for entry of new players in the financial services space and will enable the delivery of new and innovative products & services to customers. This has equal applicability in the retail and corporate environments. Fintecs can be value creators for banks, by creating profitable partnerships within the business units of the bank, connecting with other banks, as well as third party partners.

SUNTEC OPEN BANKING VALUE FRAMEWORK Building new revenue streams with business model transformation

The Open Banking Value Framework, by SunTec Business Solutions, provides a direction to enterprises moving towards transformation with Open Banking. It provides a perspective on the different stages towards becoming a value aggregator, and helps organizations choose their best play in the open banking economy and then implement the chosen model.

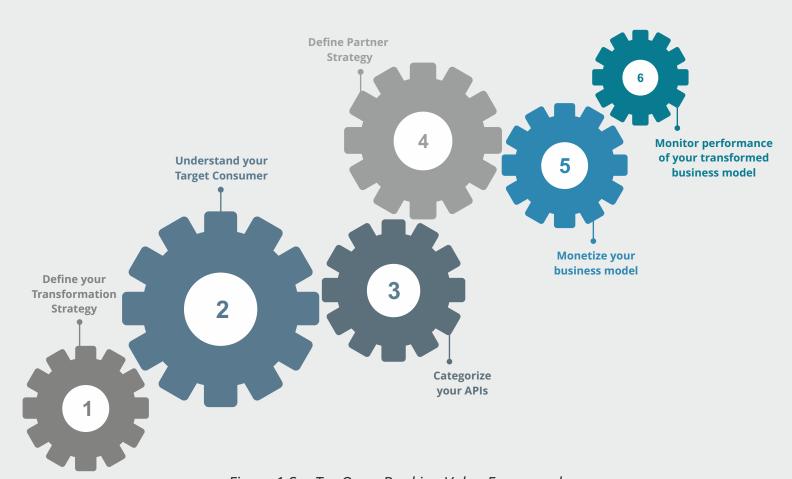


Figure 1 SunTec Open Banking Value Framework

DEFINE YOUR TRANSFORMATION STRATEGY - Choose the right growth model

The first step towards leveraging Open Banking to its full potential involves finding a suitable business model that can complement the capabilities as an organization and its long term business strategy. The organization can either choose to be a utility provider or move towards becoming a value aggregator. The basic strategy for any bank will be to meet the regulatory requirements, if any, which can be termed as a service based approach. However, going a step ahead, banks can also strategize to innovate and offer more services beyond the compliance factor, and create an open ecosystem for third parties for app development, which will lead to a more consumer oriented approach.

In order for banks to pursue a successful strategy, they must approach open banking with a clarity of well-thought out products and services, clear intention and articulation of value, and clear identification of the target consumer. It is all about understanding the

end-consumers who will pay for your product/solution, their requirements, why will they pay, how the pricing will happen and under what terms should they pay.

Leader banks, with a greater focus on their end customers and markets, are openly collaborating with other partners to accelerate their market position through increased use of digital platforms and digital insights that support their specific business strategies. Leaders of such banks will have to clearly define their strategies related to their fitment and positioning in this open landscape.

Some banks (like BBVA, Nordea) are using different models of open banking, including an app ecosystem model, while other smaller banks will put compliance as the priority, provided there is an open banking regulation in the region, before going forward with an ecosystem approach. The model bank will eventually adopt the strategy which would align to its preferences and most critical business drivers. The ideal path for leading banks moving towards value aggregation would be a 5 step incremental process that would assist the transformation.

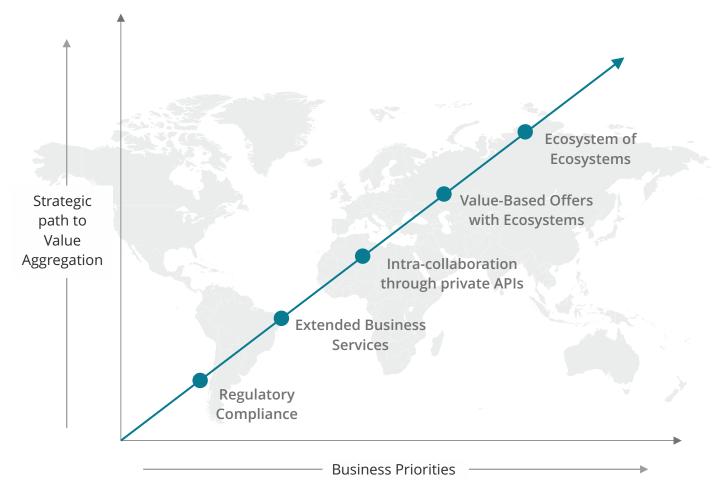


Figure 2
SunTec recommendation on journey to become "The Bank of Tomorrow"



Regulatory Compliance

- Make sure that the Bank is compliant with the regulation for the region, if any, and provide access to accounts to third-party providers (TPPs) for customer information & payment initiation.
- Expose the minimum mandated API services to TPPs



Extended business services

- Build your own innovative account and payment initiation services to compete with TPPs.
- Act as an Account Information Service Providers
 (AISPs)/ Payment Initiation Service Providers
 (PISPs) with offerings such that customers holding
 accounts with other banks can also avail these
 services thus, contending with other banks &
 other AISPs/PISPs.



Intra-collaboration through private APIs

- Collaborate within the bank across business lines using private APIs to eliminate operational silos and bring in incremental efficiency.
- o Build product and service bundles more efficiently



Value-based offers with ecosystems

- Identify the gaps with the in-house products and service offerings that can be filled by third party providers.
- Build an ecosystem of third party providers, within and beyond, to collaborate with, and widen offering portfolios with co-innovated solutions.
- **o** Develop and expose additional APIs which go beyond the minimum mandated compliance.
- o Build an ecosystem, fashioned as an App Store, for the developers, third parties and partners to easily consume API services and think of newer ways of delivering products & services that can deliver value to customers.



Ecosystem of ecosystems

- Build business linkages or gain access to other ecosystems, which are either partner ecosystems or ones which partners are part of simultaneously.
- Move into B2B2C business models. Widen scope and market your solution offerings to a larger customer base, thus enhancing avenues for revenue growth.



Understand your target consumer

With banks opening up customer data in the open banking economy, the diversity of players consuming the data through APIs will also increase as the market evolves with time. Consumer profiling is an important aspect in traditional business models and the same can be extended to the open banking ecosystem. Understanding the target consumer will help the bank and the ecosystem players through:

Better functionality offering – Identifying and understanding use cases for target consumers can help design the right APIs around the identified need, and make them accessible to the partner ecosystem

Reduce acquisition cost – Better knowledge of your target consumer can help in better positioning of your products and co-innovated solutions & reduce acquisition cost.

Better market fitment – Identifying open needs in market which are still unmet and how the organisation's open banking strategy can potentially meet that need.

Setting price points – Identifying the value your offers deliver to the target consumer will help in setting more effective price points.

While banks have been custodians of humungous amounts of customer data for years now, most of them have not leveraged this data to its full potential. The successful banks of the future will be the ones who identify the right technologies to leverage the customer data to create contextual real-time offers that can cater to the en-to-end value chain of the customers.



Categorize your APIs

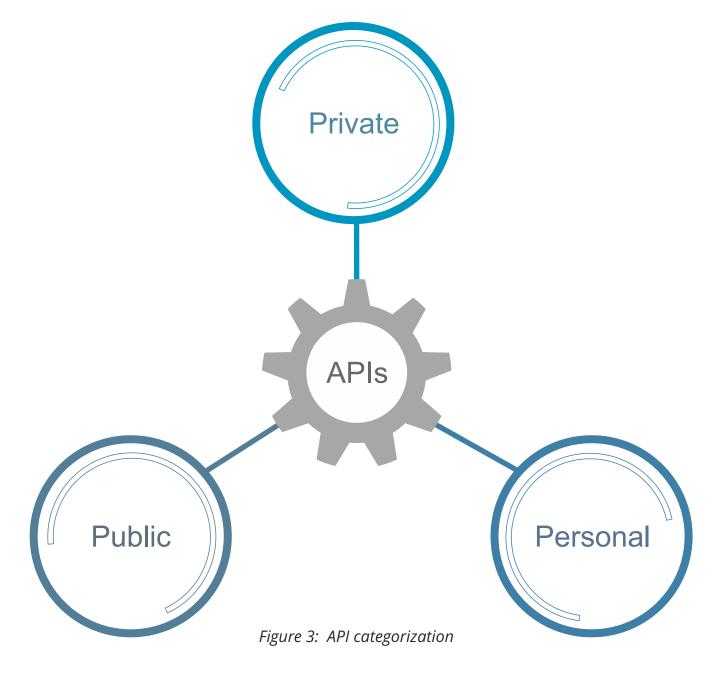
The first level of classification of APIs starts with the kind of access the external partners and internal consumers get over the API services. In broader terms, API consists of two parts: published API standard and the actual connection (API access).

Public APIs are the APIs for which the standards and the access is open to all interested third parties to encourage use of data & business information in innovative ways. For private APIs, the standards and access are limited only to internal developers and approved external third parties. These are primarily used within the business for optimizing internal operations as well as for sharing of information and collaboration. The third kind, Personal APIs enable end

users to privately encrypt their personal data, like and securely share the data with trusted contacts.

Banks should treat API as a technical product which will need to be actively maintained and supported, and should be easy to use for internal consumption and external developers. Further, banks should also invest the time and strategic thought process in identifying similar APIs which can be bundled under an API product.

- Data inquiry (Utility) APIs
- Transaction APIs
- Integration APIs
- User interface APIs
- Authentication APIs



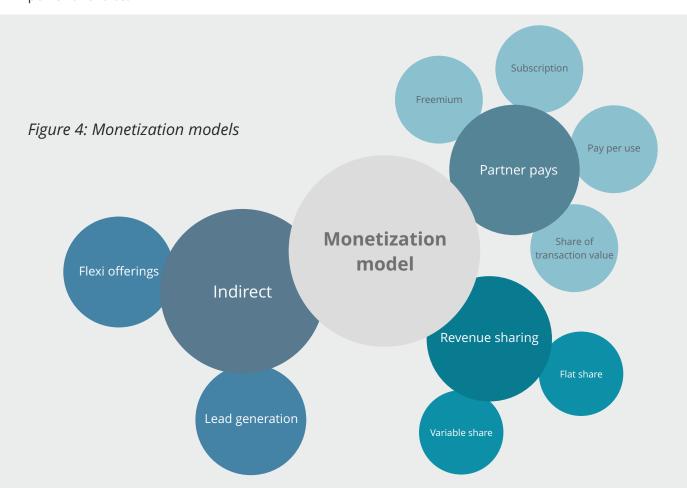
Define your Partner Strategy

Your organization's partner strategy would be largely dependent on your maturity levels in the strategic path towards value aggregation. For banks just looking at initial regulatory compliance (if relevant in the region) or open up data for basic third party payment initiation service providers or account information service providers, the key requirement would be to set up a developer portal with a sandbox, where the qualifying third parties can register themselves and gain access to the APIs exposed by the bank. For banks looking at a larger play and moving towards ecosystem-based business models the partner strategy could get more complex. Ecosystem-based business models again could have variants. One variant would involve identifying the gaps that your own bank's products and services cannot fulfil, identify the third party providers within and beyond your industry, who you could co-innovate with, and then create a niche partner ecosystem that could widen your offering portfolio to the end consumer. Another strategy would be to create a platform where third parties could register and list themselves as partners and access the exposed APIs to develop their own solutions, yet offer it to the customers through your bank's platform. With this model, the end consumer would get access to a wider marketplace with multiple solution options to their requirements and hence the power of choice.

Whatever the ecosystem variant, this would require the bank to segment the large number of partners. Examples of partner segments could be Developers, FinTechs, Other Banks, Telcos, Insurance Providers, Retailers and many more. These larger groups could be segmented into further layers to iron out the differences in terms of size, product/service type, business models, business relevance to the bank, etc. Segmenting the partners helps in managing them better and defining revenue models with each of them to ensure a win-win for either parties. Banks would need to define the best partnership models to work with each of the partner segments in order to deliver maximum value to customers, in the form of an extended offer catalogue.

Monetize your business model

While devising monetization models, banks will have to identify the value their solutions will deliver to the end consumer. There is no "one size fit all" model when devising revenue models for different category of products or partners and thus, banks should get into deeper details and conversations for the best suited model. Some examples of partner monetization models:





Freemium

Freemium is a great model to kick-off and is also widely prominent in the open banking ecosystem for both the API publishers (Banks) and the third parties who are curious to connect and want to test the waters before a full dive-in. This can also serve as a first step towards other monetization models like subscription and pay per call. In this model, Banks offer third party developers a part of their API services for free and charge for additional services. For example, the bank could charge the partner a flat fee for the number of new customers or number of new revenue generating transactions initiated through the bank's platform, with a pre-defined initial free limit before charging.



Subscription-based pricing

Subscription-based pricing offers multiple subscription plans available to the third parties to subscribe as per their need. A subscription model can be fixed or dynamic. Under the fixed model, various plans (e.g. Silver plan, Gold plan, and Platinum plan) can be defined with third parties having full access to the API services covered under the respective plans. A more dynamic model can have additional services under a subscription plan charged as pay per use or as a tiered pricing. Third parties can sign up for a particular tier usage over a period of time. While under different tiers, the cost of the plan increases but the cost per API call goes down and thus, third parties with more volume consumption will prefer opting for higher tier plans.



Pay per use

Pay per use or Pay as you go is the most straight forward monetization model. Under this model, third party pays each time the TPP makes an API call. This is a direct monetization model and in order to succeed with this model, it is important to clearly identify the value your API creates for the third parties and the willingness to pay for the value proposition of the APIs.



Share of transaction value

Share of transaction value based pricing charges third parties on the value of transaction done through an API call rather than directly charging for an API call. This is more relevant for payment transaction APIs and can be defined as an absolute amount based on tiers defined on transaction value or as a percentage of the transaction value.



Revenue share with partner

Revenue share with partner is an excellent option to encourage open innovation and enhance the reach of your product offerings.

Flat Share: Under this model, the third party gets a fixed percentage or fixed amount as share of revenue generated from an event initiated by the third party on the bank's platform. In case of a co-innovated solution, it could be a share of the revenue generated from the solution, irrespective of the origin of the event.

Variable Share: Banks could get really creative with this model, by introducing multiple rules for different conditions in any transaction involving a partner solution or co-innovated solution. For example, there could be multiple tiers with specific percentages of revenue assigned for different levels of transaction values/revenue generated.

Even a step further, in case multiple third party partnerships are involved in an end to end process, revenue sharing agreements can be set-up between the third parties and revenue sharing can be done as per the agreement.

Other indirect monetization methods can include ways which may not directly generate a revenue for the bank but will help the bank in acquisition of new customers or in improving customer service. Banks could also learn from the pricing innovations from other industries. For example, cab aggregators' surge price mechanism works on real-time analytics which seeks to put a premium on limited supply of cabs during peak hours and offers services to customers who are willing to pay more. Twitter uses a rate limit window of 15 minutes wherein it allows 15 API requests per allotted user. For users who want higher traffic, Twitter offer this for a fee. In the open banking context, server availability is one similar parameter which can be used to offer "premium" access to partners at peak working hours who are willing to pay more. It is crucial for bank to clearly identify its "resources" which can be offered at a premium to the third parties.

Monitor performance of your transformed business model

Banks will also need to periodically review and measure the performance of certain indicators to understand the direction in which their overall open banking strategy is heading and take appropriate measures in the necessary areas. Keeping track of parameters at the product level and partner level like the API traffic, traffic from individual partners, partner engagement, top performing partners and apps, revenue from products and individual partners, account payables and receivables from the partner ecosystem, top performing revenue model, etc. can help in taking a better informed decision about any change in strategy. Banks need to become agile and keep constantly experimenting and redesigning their revenue models to stay ahead of competition in the ever evolving digital economy.

OPPORTUNITIES OUTWEIGH CHALLENGES

"Although big banks are well aware of how agile and innovative their newcomer market competition is, their legacy IT systems often present serious and specific challenges to overcome when trying to adopt similar innovations themselves. APIs are a prime example of this. Many banks have an IT infrastructure that was developed before the introduction of modern data sharing techniques and then upgraded in a piecemeal fashion over the course of decades rather than years"

—Currencycloud: "The state of APIs in banking"

Opportunities

- ∠ Collaborative innovation
- ✓ Reduced time to market
- Rapid integration
- ∠ Improved user experience
- ∠ Improved customer satisfaction
- New revenue models around APIs and partner ecosystem





- ∠ Legacy problem
- ∠ Delivery of APIs
- Rapid deployment
- ∠ Infrastructure development
- ✓ Security management
- ∠ API governance
- ✓ Regulatory & compliance



Figure 5: Challenges & Opportunities

Similar to many ideas which emerge around the digital economy, open banking has its own advocates and sceptics. Open banking will create both opportunities and challenges for banks as it will create new ways of interacting with partners, service providers, competitors and customers. Banks will no longer be in competition with banks but with everyone who is providing financial services - Fintechs, telecom players, TPPs, social media players and so on.

While there are multiple options available with Banks for making themselves ready for the digitally open economy and many banks already making moves in getting themselves ready for the revolution, banks will have to think through new ways of recovering their investments and building a sustainable business model around APIs.

Outside of the banking industry, technology biggies like Google, Amazon, Salesforce, Twitter, eBay and Facebook could not have grown at such a rapid pace without the business accelerating capabilities of APIs.

Salesforce.com generates more than 50% of its revenue through APIs. Salesforce has an "AppExchange" marketplace for apps created by its partners that work on its platform and offers multiple flexible pricing plans to its partners. There are 2900+ apps listed on its public AppExchange. Expedia.com, a \$10.06 billion company (as of 2017) generates more than 50% revenues through its Expedia Affiliate Network .Expedia's APIs allow customers to use its functionality to book flights, cars, hotels using the third party apps.

Another great example of building a business model around APIs is Facebook. Ads on mobile devices accounts for its major revenue chunk and much of this success is down to its Marketing API. This API provides developers & advertising teams with all the resources they need to market their product as per their need.



Conclusion

Rapid growth of Fin-tech industry worldwide and entry of major digital players in financial services is continuously mandating banks to think of new ways of deeper engagement with customers and devising new ways of revenue generation. While Europe is one of first regions which mandated the use of open APIs for sharing information to third parties under PSD2, continuously changing customer preferences are rapidly driving the initiatives and discussions in other geographies as well. Banks and financial institutions have multiple options to choose from in the open banking economy depending on the strategic and tactical priorities. Readying for the digitally API economy will need considerable investment & effort from bank's side and thus, it is imperative that banks will also need to deliberate about building newer revenue streams around the open banking ecosystem sooner than later.

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About us

At SunTec Business Solutions, we help our clients increase the lifetime value of their customer relationships through effective revenue management and real-time customer experience orchestration. We are the leading provider of experience orchestration solutions not only to financial services but also digital and communications services industries. With a legacy of deployments in 45+ countries, SunTec is a trusted partner of the world's leading banks and digital and communication service providers. Headquartered in India, we have our offices in USA, UK, Germany, UAE and Singapore.

With a team of highly skilled folks and our highly innovative product development models, we help our clients to always remain at the cutting edge of technology. A stable, mature and flexible product suite, Xelerate® is benchmarked regularly for optimum performance. Coupled with insights from our industry experts and a robust future-ready roadmap, Xelerate® continues to develop along with the market. Able to seamlessly integrate with any ecosystem, it is one of the fastest products to implement.

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