

White Paper

The Future of Banking: Redefining Business Model and Collaboration

Sponsored by: PT Sarana Pactindo

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IN THIS WHITE PAPER

The Southeast Asia (SEA) region boasts a vibrant financial service ecosystem through the combination of long-standing financial services and up-and-coming financial technology (fintech) firms, which will pave the way toward maturing its financial technology landscape over the next few years. These changes are being driven by several key factors:

- **Population.** The SEA region comprises a digitally savvy and productive working age population (2021: 59.7% population aged 15–64).
- **Technology readiness.** Southeast Asia internet subscribers grew to 79.5 per 100 population in 2021, nearly tripling the 2019 figure (ASEAN Secretariat, 2022). This is coupled with the high growth rate in the digital economy sector and labor participation in the region.
- **Intercountry activities.** Amid the pandemic recovery, sustained inter-SEA economic activities (i.e., cross-border business-to-business [B2B] trade, ecommerce, travel) provide fertile ground for both local and regional firms to prosper.
- **Modernized financial infrastructure.** Regulatory innovations, mature real-time payment networks, and developments of cross-border payment infrastructure had accelerated consumer preference toward digital payments while enhancing regional trade and promoting regional stability.

In this white paper, IDC disseminates how fintech is evolving in SEA across the many pillars of consumer financial services, and how bank-to-fintech interactions play out over time. This white paper explores open application programming interface (API) as the most crucial underpinning of bank-to-fintech innovations and its overall benefits to the market. Finally, we take a closer look at the implementation of open API across SEA, key areas to watch out for, and how open API necessitates new technology and leads to the creation of new business models within the financial services sector.

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SITUATION OVERVIEW

Overview of Fintech and Bank Landscape in Southeast Asia

Payments

The payments industry transformation in SEA has been largely driven by the COVID-19 pandemic, which has enabled rapid growth in digital transactions especially in ecommerce. The lockdown has propelled customers toward transactions online, and therefore doing more digital payments. For retail customers, most growth is seen in the usage of ewallets. More incumbent banks develop mobile applications and more fintechs collaborate with big banks to fulfill customer needs of online payments. The partnership with major ecommerce is also key for both banks and fintech in surviving the competition. As to entrepreneurs, the need for payment gateways is also growing in the market to support them in maintaining business in online platforms.

Indonesia

When it comes to Indonesians in general, conventional payment methods, such as bank transfers and swiping debit card or credit card, are still preferred. As for the younger generation in big cities, such as Jakarta, most customers prefer using mobile payments, such as through ewallets and QRIS — from state-owned banks, private banks, to fintech providers. Major and powerhouse banks include BCA, Mandiri, and BNI. Whereas the fintech segment includes GoTo (GoPay), Shopee (ShopeePay), OVO, DANA, and LinkAja. It is estimated there are 72 payment fintech in Indonesia (Bank Indonesia, 2019). Most of the collaboration between banks and fintech in payment areas are top-up and ewallet features. For example, top-up for GoPay can be done using BCA OneKlik in the GoPay application. Payment gateways include Doku, Xendit, Midtrans, and Spots. Payment gateway is also considered a growing opportunity in the Indonesia market as small and medium-sized businesses (SMBs) are key drivers of development in the country.

TABLE 1

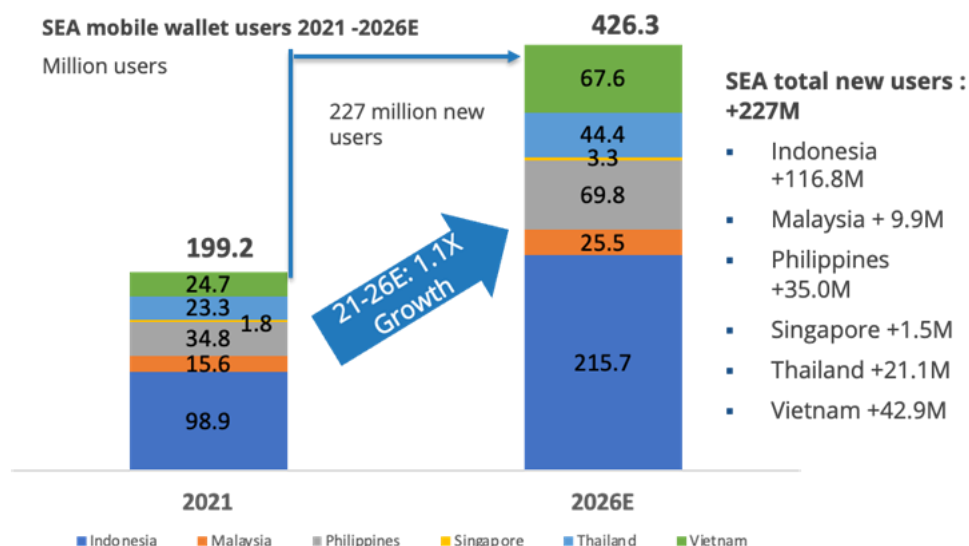
Southeast Asia Peers for Payments

Country	Initiatives
Malaysia	<ul style="list-style-type: none">▪ eWallets (GrabPay, Boost, Touch 'n Go, CIMB, UOB, Maybank)▪ Payment gateway (PayPal, iPay88, Worldpay)
Singapore	<ul style="list-style-type: none">▪ eWallets (DBS, GrabPay, Alipay, PayNow)▪ Payment gateway (Stripe, Checkout.com, Braintree)
Thailand	<ul style="list-style-type: none">▪ eWallets (Apple Pay, LINE, TrueMoney, Advanced Info Service)▪ Payment gateway (Bangkok Bank, Thaiepay, SiamPay)
The Philippines	<ul style="list-style-type: none">▪ eWallets (Gcash, PayMaya, GrabPay)▪ Payment gateway (Xendit, PesoPay, Dragonpay)
Vietnam	<ul style="list-style-type: none">▪ eWallets (Momo, ZaloPay, ViettelPay)▪ Payment gateway (Vitapay, 2C2P, SenPay)

Source: IDC, 2023

FIGURE 1

Mobile Wallet Users in SEA, 2021–2026E



Source: IDC, 2023

Growth Areas in Payments

- Real-time cross-border payments
- Unbanked population
- Increase QRIS usage in merchants
- Wearables (payments in smartwatch, and so forth)
- Biometric payments

Lending

Digital lending is one of the fastest-growing sectors in SEA. There are two main factors that shape this trend; first, is the underbanked or unbanked population. Based on World Bank, over 6 in 10 Southeast Asians remain underbanked or unbanked today. Most fintech companies offer relatively easier methods of loan application than traditional banks, therefore attracting a wider society to register. Second, the exponential growth of ecommerce further accelerates the demand for digital lending as it offers customers ease of payment while helping their cashflow management. The buy now, pay later scheme (BNPL) is currently trending within the SEA lending landscape.

Indonesia

As of April 2022, there are 102 registered lending fintech companies in Indonesia (OJK, 2022 - X2). There are several categories of fintech lending for individuals/consumers as some providers specify the purpose of the loan. For general purpose and unsecured loans, there are UangTeman, Kredit Pintar, and Tunaiku.

Aligning with the growth of ecommerce, the BNPL scheme is one of the most popular business models of lending fintech in the archipelago, with Findaya (GoPayLater), Kredivo, and Shopee

(ShopeePayLater) as major players. Other BNPL providers are Akulaku, HomeCredit, Atome, and BRI (BRI Ceria). Some of these players also collaborate with each other; for example, it is observed that transactions in Tokopedia can also be conducted with loan installments from BRI Ceria, Kredivo, and HomeCredit, although its group already has GoPayLater.

There is also a trend of providing loans for educational purposes (university tuition fees, courses, gadgets for learning, and so forth), such as Danacita, Edufund, Pintek, and Cicil. There also some collateralized lending provided by some pawnshop fintech, such as PawnHero and Pinjam.co.id. On the other side, fintech lending for businesses ranges from loans for SMBs to those for large businesses. Major players include KoinWorks, Amarnya, Akseleran, and Modalku. For agriculture lending, there are TaniFund and Eratani.

TABLE 2

Southeast Asia Peers for Lending

Country	Initiatives
Malaysia	<ul style="list-style-type: none"> ▪ P2P lending (AlixCo, B2B Finpal, Funding Societies) ▪ BNPL (Atome, FavePay, Hoolah, myIOU, Grab PayLater)
Singapore	<ul style="list-style-type: none"> ▪ P2P lending (Capital Match, Funding Societies, Validus Capital, Minterest) ▪ BNPL (Atome, Hoolah, OctiFi, Rely)
Thailand	<ul style="list-style-type: none"> ▪ P2P lending (Peer for All) ▪ BNPL (K PAY LATER by Kasikornbank)
The Philippines	<ul style="list-style-type: none"> ▪ P2P lending (Acome, Akulaku, AsiaKredit, Grab PayLater) ▪ BNPL (Plentina, Cashalo)
Vietnam	<ul style="list-style-type: none"> ▪ P2P lending (Tima, FinRei, Vay Muon, Money Bank, Interloan, Cashwagon) ▪ BNPL (Ree-Pay)

Source: IDC, 2023

Growth Areas in Lending

- BNPL
- Agriculture financing
- Education financing

Digital Banks

Digital banks, or "challengers," refer to the providers of banking services from start to end, entirely through an online interface. Across SEA, regulators introduced licenses and frameworks to allow nonbank firms (i.e., fintech, ecommerce, conglomerates) to accept customer deposits, lend out money, and provide services like a bank. This is done with the aim of addressing the underbanked needs, optimize the financial services cost-to-serve through technology, and forge paths toward a thriving digital financial system. In parallel, incumbent banks are also pursuing digital-only strategies to appeal to new customer segments as part of their digital transformation (DX)

initiatives. The speed of bank-versus-fintech adoption toward building fully digital financial services ultimately depends on how regulations are taking shape in each country.

Indonesia

Otoritas Jasa Keuangan (OJK) in 2021 revised the ownership rules of its banks, allowing foreign holdings of up to 99% in a commercial bank, from 40% previously. Coupled with the fact that capital requirements to set up a digital bank are prohibitively high, this updated ownership rule leads to both local and foreign tech conglomerates aggressively entering the digital banking space through acquisition channels, such as GoTo with PT Bank Jago, Grab-Singtel with Bank Fama, and Sea Group with Bank BKE (SeaBank).

TABLE 3

Southeast Asia Peers in Digital Banks

Country	Initiatives
Malaysia	<ul style="list-style-type: none"> It announced five digital banking licenses in 2022, with applicants from foreign consortiums, local banks, and local fintech firms (Grab, AEON, Sea Group, Axiata, KAF). Incumbent banks are pushing digital-only strategy to appeal to younger generations (CIMB's OCTO, Maybank's MAE).
Singapore	<ul style="list-style-type: none"> It announced two digital full banks (GXS, SeaBank) and two digital wholesale banks (ANEXT, Green Link) in 2022. Digital banks are tapping into the financialization of the small and medium-sized enterprise (SME) market and addressing the growing needs of millennials, gig workers, and underserved segments.
Thailand	<ul style="list-style-type: none"> It started accepting applications for virtual banking licenses in 1Q23, with a focus on boosting competition, lowering costs, and widening access to financing. The country is expected to grant up to three licenses in 2024. Digital-first channels are led by incumbents through the creation of new banking apps and services (LINE Bank, Make, GSB MyMo, K Plus, and UOB's TMRW).
The Philippines	<ul style="list-style-type: none"> It announced six digital bank licenses in 2021 and set a three-year moratorium to stabilize competition and assess market impact (GoTyme, Maya, Overseas Filipino Bank, Tonik, UnionBank, UNObank). The demand for digital-only financial services is driven by mobile payments, internet penetration, and national digital ID system PhilSys.
Vietnam	<ul style="list-style-type: none"> There are strong prospects for digital banking as online transactions and cashless payments pick up. Incumbents lead the digital banking initiative, appealing to the younger and tech-savvy segments (TNEX by MSB, Timo and CAKE by VPBank).

Source: IDC, 2023

Growth Areas in Digital Banks

- Underserved segments (i.e., cash-only workers, small-scale family businesses)

- Super-app financial services with savings, payments, loans, and more
- Embedded finance within transactional touch points

Insurtech

The SEA region saw technology transformation to upend its insurance sector, driven by consumer demand and push by regulators to increase its national insurance penetration. Technology-enabled insurance (insurtech) means that end-to-end insurance process from application, pricing, claims, and disbursements can be fully done in-app or online. Further, innovation in digital channels allows insurance to be offered in new ways: (1) micro, in which it can be priced lower to insure against smaller value and higher frequency purchases; and (2) modular, in which it can be integrated to any transactional workflow (e.g., buying tickets, ordering goods) to add trust elements and enhance experience. Because of the change in how insurance can be delivered, many banks are starting to view insurance as an integrated offering that can be bundled together with their existing products (i.e., car/home financing, business loans, wealth protection) rather than leaving it as a separate customer touch point. Enabling insurtech within banking enables banks to grow their customer base and product lines, as well as increase their noninterest revenue.

Indonesia

The country benefits from digitalization and maturity in internet and mobile payments, which supports the growth of digitally distributed insurance in tackling legacy issues and unlocking new use cases. Most insurtech platforms start out as comparison sites before productizing their insurance services. Going digital also enables insurance to be delivered at scale through microinsurance models (e.g., PasarPolis partners with sellers such as Shopee, IKEA, and Xiaomi) to provide low-cost insurance on customer's purchases, which efficiently scales their market reach and insurance coverage. Providers, such as Fuse and Lifepal, integrate multiple insurance providers in a single digital platform to simplify customer journey from onboarding to claims process.

TABLE 4

Southeast Asia Peers for Insurtech

Country	Initiatives
Malaysia	<ul style="list-style-type: none"> ▪ Digitizing insurance for gig workers (foodpanda-PolicyStreet) ▪ Digital-only insurance (Qoala, Tune Protect) ▪ On-demand insurance (Senang, Ouch!) ▪ Comparison sites (Bjak, iMoney)
Singapore	<ul style="list-style-type: none"> ▪ Comparison sites (InsurPal, SingSaver, MoneyOwl) ▪ On-demand insurance (Gigacover) ▪ All-in-one app (Singlife)
Thailand	<ul style="list-style-type: none"> ▪ Comparison sites (EasyCompare, Pacific Prime, OOHOO) ▪ P2P car insurance broker (FairDee)
The Philippines	<ul style="list-style-type: none"> ▪ On-demand insurance (Gigacover) ▪ Mobile-first insurance (BIMA)

TABLE 4**Southeast Asia Peers for Insurtech**

Country	Initiatives
Vietnam	<ul style="list-style-type: none">▪ Digital-only insurance (SaveMoney Igloo)▪ All-in-one marketplace app (IZlon24)

Source: IDC, 2023

Growth Areas in Insurtech

- Unlocking new use cases/product lines for the underinsured segment
- Ecosystem-based insurance that protects against all kinds of services offered in a super-app
- Parametric insurance that auto-disburses payouts on a trigger event

Wealthtech

The demand for tech-enabled wealth management solutions (wealthtech) in the SEA region grew in tandem with the higher rate of financial literacy; the upward shift in income levels driven by economic growth; and until early-2022, the yearlong low interest rate environment that stimulates risk-taking. Wealthtech seeks to deliver personalized wealth and asset management services at scale, without the traditional high upfront capital requirement and complex, high-friction onboarding process. It appeals to the growing consumer segment that looks for accessible, self-managed investing, as well as transparent pricing and fee structure. One popular wealth management service is the robo-advisory service, which uses an algorithm to automatically allocate user funds and rebalance it across asset classes that match user's risk tolerance. Wealthtech also taps into investments in alternative asset classes, such as real estate, precious metals, and private capital markets.

Indonesia

Indonesia comprises a relatively young population (millennial and Gen Z: 53%) and a high-growth rate in its economy, which presents an opportunity for greater participation in capital market investments. These are already seen over the last few years; Indonesia's retail investors grew eightfold from 1.6 million in 2019 to 8.86 million in 2022. Access to wealth management services is democratized by providers, such as Bibit and Ajaib, which require low initial deposits and no hidden monthly/annual fees. Providers, such as Pluang, offer an investment "super app" concept that enables access to U.S. equities, index futures, and cryptocurrencies from a single interface. GoTo's GoInvestasi and Bukalapak's BukaReksa extend their super-app influence and large user base to offer seamless mutual funds service on their platform.

TABLE 5**Southeast Asia Peers for Wealthtech**

Country	Initiatives
Malaysia	<ul style="list-style-type: none"> ▪ Embedded asset management (TnG's GOinvest) ▪ Robo-advisor (StashAway, Wahed) ▪ Alternative investing (HelloGold, Luno)
Singapore	<ul style="list-style-type: none"> ▪ Robo-advisor (StashAway, Endowus, SqSave) ▪ Investment brokerage platform (Syfe) ▪ Alternative investing (Cake DeFi, Alta, Fraxtor)
Thailand	<ul style="list-style-type: none"> ▪ Robo-advisor (Robowealth, Finnomena) ▪ Alternative investing (PeerPower, Bitkub)
The Philippines	<ul style="list-style-type: none"> ▪ Fund management platform (ATRAM) ▪ Alternative investing (PeerPower, Bitkub)
Vietnam	<ul style="list-style-type: none"> ▪ Robo-advisor (Finhay, Tititada) ▪ Fractional trading platform (Anfin) ▪ Alternative investing (Interloan, Cotien JSC)

Source: IDC, 2023

Growth Areas in Wealthtech

- Low-fee exposure to international asset classes
- Micro-investing via "basket of funds" (micro-ETFs) or fractional ownerships in equity
- Personalized "financial butler" app that offers insights and actions based on user data

CHALLENGES/OPPORTUNITIES**Charting the Competitive Dynamics**

Over the last few years, the "fintech wave" undoubtedly had upended the traditional way financial services are done by banking and financial institutions (FIs); mobile technologies, online interface, and virtual interactions became consumers' preferred channels, as the banking world moves from physical to the virtual realm. These priorities are achieved by fintech providers that have successfully reengineered digital channels and adapted to customer preferences at a faster pace than legacy FIs.

Banks and FIs are moving fast to adapt to the changing customer preferences and innovation in product design, and this often leads to multiple interactions and touch points with fintech providers. Over time, the interaction between legacy FIs and nonbank fintechs can be seen through three non-mutually exclusive themes: competition, collaboration, and ecosystem driven.

TABLE 6

The Shift of Bank and Fintech Dynamics

	Competition	Collaboration	Ecosystem Driven
Areas/Industry	FIs view fintech as competing services and raise their stake to retain existing customers and maintain new customer growth rates.	FIs collaborate with fintech through acquisition/funding to extend their own digital arm.	Banks and fintech utilize technology to form many-to-many relationships.
Payments	FIs and payment fintech (paytech) providers pursue separate market segments, offering payments service with trade-offs between cost, reliability, and user experience.	FIs acquire/enter into exclusive agreements with paytech providers to offer their service in the banks' platform as value-add to users.	Platform-based interface allows payments to be made from any bank/FI, and through the "best and cheapest" paytech provider option.
Lending	FIs offer loans through "relationship based" models, which prioritize existing customers with good profiles. Fintechs offer loans to underserved users with a "high risk, high growth" assumption.	FIs extend their loan offering through digital channels via fintech apps or websites, offering easy onboarding, straightforward terms, and fast approval.	Lending-as-a-service (LaaS) platform blends various FI underwriters with intelligent risk models, allowing merchants and fintechs to provide near-instant financing at scale.
Onboarding and account management	FIs' on-premises onboarding reaches maturity, whereas fintechs pioneer online-only account opening and paperless setup. Account details can be accessed via apps/web platforms.	Banks branch out to online-only onboarding and quick setup for a fully functional bank account, giving immediate access to apps/web platforms.	Account linking enables seamless cross-platform onboarding without repeating authorization and documentation process. Account details, such as balance, activities, and statements, can be consolidated in one app/platform.
Travel	FIs offer disparate travel deals to selected customers.	They give out targeted cross-platform offers when credit card is used in the travel platform.	They embed financing or insurance within flight tickets purchasing or hotel booking process.
Wealth management (WM)	FIs and fintechs compete on better yields and lower fees on WM products.	Banks acquire online-only WM providers to unlock new customer segments.	Banks deploy managed WM products to be sold across multiple fintech providers.
Cash withdrawal	ATMs are restricted to bank transactions, whereas ewallets are dominated by fintechs.	Banks acquire/build their own ewallet apps.	Customers can withdraw cash from any merchant/point of sale; standardized QR payment allows banks and fintech apps to interoperate.

Source: IDC, 2023

In the SEA market, leveraging technology to allow for ecosystem-driven interaction is the ideal form of bank-to-fintech partnership. In an ecosystem, multiple banks will cross-partner with multiple fintechs to come up with products and services that can address the needs of customers, be delivered at scale, and improve cost/revenue efficiency.

A good ecosystem-driven interaction combines high-volume and high-value banking data with responsive digital channels from fintech providers to deliver effective financial service across touch points, such as payments, lending, insurance, and WM. This can be enabled by frameworks, such as the open API.

What Is Open API?

Open API is an application programming interface made publicly available to software developers. In a nutshell, APIs are sets of requirements that govern how one application can "talk" to another. APIs enable the exchange of information between programs, as simple as allowing screenshots of pictures from Microsoft PowerPoint to Microsoft Excel. In the context of web pages, APIs allow applications, such as Agoda or Traveloka, to connect with Google Maps to pinpoint property location. The applicability of open API emerged to be an "embedded finance" trend, which is the integration of financial services within the products and infrastructure of a nonfinancial services organization. For example, you can book a flight through a travel application and use the same application to apply for loans to install your flight tickets, book hotel rooms, and even buy travel insurance for your trip.

The latest development of open API makes it possible for the financial services ecosystem to collaborate. It means fellow financial services organizations can collaborate with each other. For example, Bank Jago customers can access Bibit application from Bank Jago's mobile banking application. Mobile banking can also sum up the total balance of the assets invested in Bibit.

Benefits and Risks of Open API

Open API initiatives are mainly driven by banks that design the pipeline and structure for their data to be analyzed, explored, and tested in a secure and compliant manner. Open API is a transformative shift in the bank's operational model. Proprietary data are no longer deemed exclusive and "owned" in totality. Opening the data to a third party is imperative to realize its value, benefit end users, and enhance innovation in digital financial infrastructure.

Open API allows for the development of new collaboration models between banks, fintech providers, and broader lines of business. From the bank's point of view, much of its product line (transfers, accounts, cards, loans) can be extended via open API to support the creation of new business models — think "travel only" bank accounts with extended features, accurately priced insurance, and financing based on the user's banking data itself.

To fintech providers and businesses, open API gives them accessibility to large-scale banking data to derive insights. This data can include transactional history, credit data, payment preferences, account balances, timing, and locational data. Such data can greatly support fintech services that deal with unquantifiable risks, such as lending — for example, a BNPL provider or an instant credit provider is essentially "operating in the dark" in pursuit of user growth; they may lend to people and businesses mostly without reliance on solid multiyear banking or credit data. Open API can give them an advantage to design better financing products and target better customers.

Further, APIs can also allow businesses to innovate their business models through new products integration. In Singapore, DBS Bank offers an API for its rewards system, which allows any brand partner to offset customer purchases in its platform with their accumulated DBS card points. DBS

currently has 350 partners across multiple industries utilizing their rewards API. Integrating businesses with banking API this way will increase customer's average order value, loyalty, and retention rates.

To end customers, open API and the embedded banking ecosystem reduce friction to access financial services when they interact with businesses, as the "banking layer" is readily available in-app or onsite through simplified and secure interfaces. On top of improving customer experience, ecosystem-driven financial services will eliminate information asymmetry — in which a user's financial standing, identity, and behavior are reflected correctly across all services that they always use.

Overall, the main risk of open API or open banking system is the potential data leak that can lead to fraud activities, such as account takeover, unauthorized transactions, phishing, and so on. Since the pandemic, the risk of fraud has been increasing because of the rise of online transactions. Therefore, it is crucial for every open API collaboration to be governed by a clear framework to ensure sufficient security standard and solid risk management and governance to mitigate fraud. Data security is key to persuade banks, fintechs, and consumers to participate in an open banking ecosystem. Thus, when a regulator in a certain market establishes national standards for open API, it creates more confidence that the whole ecosystem can grow safely.

Case Study of Open API

Enabling SME Financing at Scale — Tokopedia

Indonesia's ecommerce conglomerate Tokopedia launched "Modal Toko" in 2019, which offers working capital financing service for its merchants on the platform. Upon approval, a credit limit of up to IDR300 million (US\$20,100) will be predetermined upon approval, and loan repayments can then be made in-app through various payment methods. Small and medium-sized merchants utilized it to increase their inventory level, invest in platform marketing, and extend operating runways to sustain their business growth. According to Tokopedia, merchants using Modal Toko experienced 50% revenue increase on average, with 2.5 times increase in order volume.

With access to a large pool of borrowers (2022: 12 million registered merchants), Modal Toko presents itself as an effective loan origination and servicing platform for lending at scale, in which its loans are underwritten by separate entities like P2P lenders (e.g., Dhanapala, Modalku) and banks (e.g., Bank Mandiri, Permata Bank).

Modal Toko's success illustrates the crucial need for a standardized API platform — governed by API standards and frameworks issued by the Central Bank of Indonesia — to manage data flows between multiple parties within an ecosystem. Instead of the lenders having to separately build their own customer-facing tool, they can simply connect to Tokopedia's API and leverage its platform to generate sustainable lending revenue without incurring high acquisition cost. APIs bridge the lenders' capital availability and risk preferences with Tokopedia's adaptive credit scoring and seamless loan disbursement and collection service. In effect, merchants can enjoy more accessible lower-rate financing without having to know who is behind the lending arrangements at all.

Batch Disbursement Technology — Xendit

Xendit's bulk transfer technology allows corporations and start-ups to scale by using a simple batch disbursement tool. The tool enables up to 10,000 disbursements at once through an Excel file upload. Major use cases among others are payroll, reimbursements, paying merchants for completed orders in marketplace, and agent commissions. The transfers could be done not only to bank accounts but also to major ewallets.

With this technology, Xendit can support banks and fintechs for loan disbursement of lending products. Xendit's recent acquisition of Bank Sahabat Sampoerna could potentially revamp its disbursement channel to allow for better speed, minimize manual work, and avoid potential human errors. The open API technology enables Bank Sahabat Sampoerna to have more efficient process and scalable business by utilizing Xendit's disbursement technology — rather than building the entire infrastructure from scratch.

Recurring Social Protection Payment through Various eWallets — Xendit

BPJS Ketenagakerjaan, or BPJSostek, is a public legal entity in Indonesia that focuses on providing social security protection for Indonesian workers. Every working citizen must make regular payment to BPJSostek as a contribution to this program. Unlike formal workers who are collectively registered through their employers and have contribution payments made through the companies, nonwage recipient workers/informal workers must enroll and make payments individually on their own. This is prone to human error since informal workers may miss the payment, leaving millions of these workers vulnerable without social protection.

Xendit supports BPJSostek in creating a seamless and secure payment experience through the recurring payments feature. Users can now make their payments through a scheduled auto-debit every month via BRI Direct Debit and various top ewallets in Indonesia, such as DANA, OVO, and ShopeePay. This is possible because Xendit performs open API collaboration with relevant banks and fintechs. As a result, the participation rate for contribution payment increased and improved the payment experience for thousands of informal worker participants in just one month. It is estimated that Indonesia has 4.6 million informal workers and at least Rp10,000 fees from each participant per month, which means the monthly transaction value is around Rp46 billion or US\$3 million per month. It shows how the proliferation of open banking ecosystem allows banks and fintechs to benefit, especially by expanding mutual partnerships with public entity.

Open API Regulations

Within the SEA region, most major SEA countries are establishing regulatory frameworks or standard recommendations for open API. Singapore is one of the pioneers when it comes to the development of open banking ecosystem. APIX is an initiative of the ASEAN Financial Innovation Network (AFIN), a not-for-profit entity that was jointly formed by the Monetary Authority of Singapore (MAS), the World Bank Group's International Finance Corporation (IFC), and the ASEAN Bankers Association. It is a global, open-architecture platform that supports financial innovation and inclusion in SEA and around the world. APIX facilitates FIs' adoption of APIs and enables them to rapidly deploy new digital solutions to underserved markets in SEA and other parts of the world (MAS, 2021).

TABLE 7

Open Banking Regulations in SEA

Market	Open Banking Plan Started	Open Banking Plan Announced Year	Open Banking Plan Target	Open Banking Plan Scope
Indonesia	Yes	2019	2026	<ul style="list-style-type: none"> ▪ Technical and security standard ▪ Data standard ▪ Governance standard ▪ 27 standards for open API

TABLE 7

Open Banking Regulations in SEA

Market	Open Banking Plan Started	Open Banking Plan Announced Year	Open Banking Plan Target	Open Banking Plan Scope
Malaysia	Yes	2019	N/A	<ul style="list-style-type: none"> ▪ Open data API standard ▪ Third-party governance process ▪ Open data API specifications
Singapore	Yes	2016	N/A	<ul style="list-style-type: none"> ▪ Implementation guidelines ▪ Data standard ▪ Information security standard ▪ Governance mechanisms
Thailand	No	N/A	N/A	N/A
The Philippines	Yes	2021	N/A	<ul style="list-style-type: none"> ▪ Governance frameworks ▪ Registration standards ▪ API architecture and data standards ▪ Security standards ▪ Outsourcing standards ▪ Consumer protection ▪ Five main categories of API
Vietnam	No	N/A	N/A	N/A

Source: IDC, 2023

MAS and The Association of Banks in Singapore (ABS) published the "Finance-as-a-Service: API Playbook." It presents an important framework for API best practices, such as implementation guidelines, data standard, information security standard, and governance mechanisms. There are 411 APIs identified within the value chain of product, marketing, sales, servicing, payments, and regulatory.

In Malaysia, the "Publishing Open Data Using Open API" document was issued in 2019 by its central bank (Bank Negara Malaysia). The document outlines recommendations for financial services institutions in formulating open data API, accompanied by the Open Data API Specifications developed by the Open API Implementation Groups. Rather than a mandatory measure, this is more of a recommendation, and there is no specific target of completion. However, FIs are advised to define and disclose relevant metrics, such as response time, API availability/uptime, performance throughput, and invocation quota/throttling limit. The guideline recommends open data API standards, third-party governance process, and open data API specifications for banking, insurance, and the tafakul industry.

Based on the Indonesia Payment Systems Blueprint 2025, there are five payment system visions toward 2025 for implementation, namely open banking, retail payment system, large-value (wholesale) payment system and financial market infrastructure, data and digitalization, as well as regulatory, licensing, and supervisory reforms. It follows the publication of Standar Nasional Open API Pembayaran/National Standard of Payment Open API (SNAP).

The scope of regulation mainly covers technical and security standards, data standards, and governance standards. It also governs use case specification, sequence, and data structure for 27 APIs within card registration, account registration, balance services, transaction history, and credit transfer category. The details are presented in Table 8.

TABLE 8

List of API Standard Governed by Central Bank of Indonesia

No.	Items
1.	API card registration
2.	API card registration — Set limit
3.	API card registration inquiry
4.	API verify OTP (Direct integration)
5.	API card registration unbinding
6.	API account creation
7.	API account binding
8.	API account binding inquiry
9.	API account unbinding
10.	API get OAuth URL
11.	OTP
12.	Balance inquiry
13.	API transaction history list
14.	API transaction history details
15.	API bank statement
	Credit transfer
16.	API account inquiry
17.	API trigger transfer
18.	API customer top-up
19.	API bulk cash in

TABLE 8**List of API Standard Governed by Central Bank of Indonesia**

No.	Items
20.	API transfer to bank
21.	API transfer to OTC
22.	API QR MPM
23	API transaction status history
	Debit transfer
24.	API direct debit
25.	API QR CPM
26.	API auth payment
27.	API direct debit BI-FAST

Source: IDC, 2023

Besides serving as a supervisory tool for regulators, the key benefit of implementing this regulation for the industry is promoting open banking adoption. Prior to standardization, it takes time for respective stakeholders to review and adjust the security, technical, and governance specifications for each open API collaboration. With clear national standards, all players have the same opportunity to be involved in an open banking ecosystem.

Focus Areas in Open API

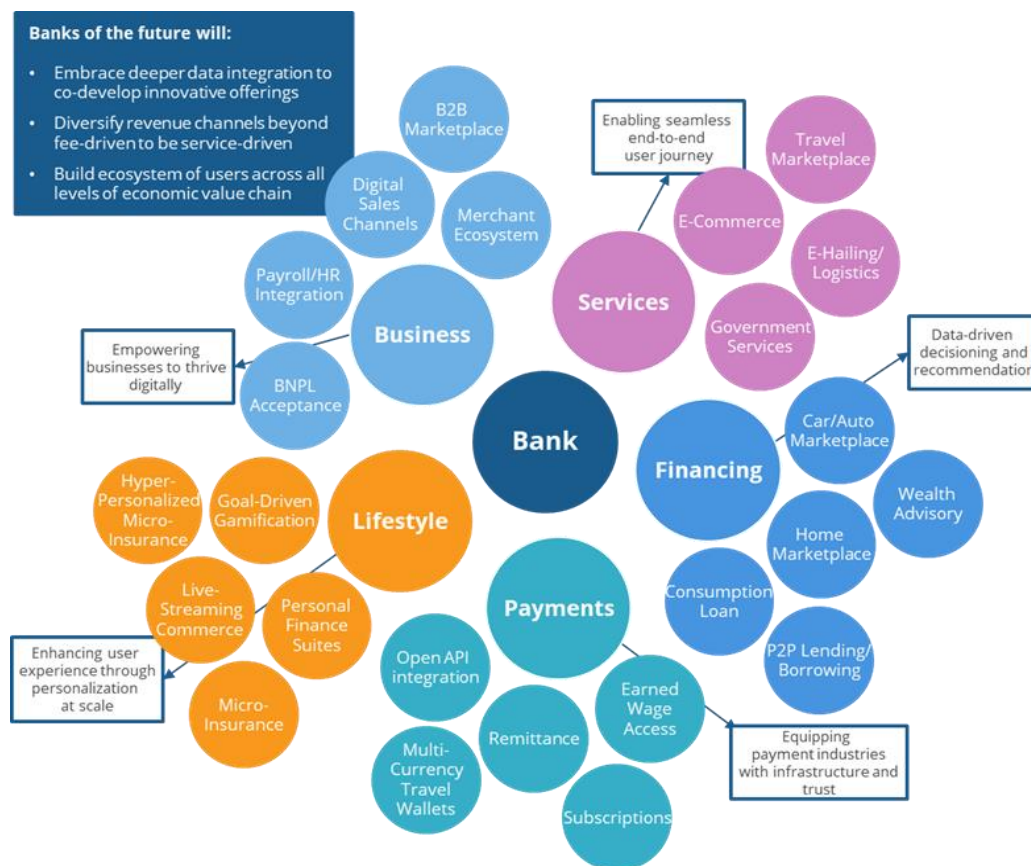
The open API technology is not new but is certainly gaining momentum in the SEA financial services landscape, owing to its potential in meeting the evolving market landscape and addressing customer priorities. As regulatory standards are being meted out and early versions are being executed by banks around the region, the following are what FIs, technologists, and businesses need to watch out for in this space:

Enhanced use of banking data. Applying enhanced analytics on transaction data — with the right models and localization parameters — can determine if a customer is planning for a wedding, expecting a big purchase, or saving up for travel. Having such insights enables early fintech adopters to create new offerings around these customer needs or serve existing offers with higher relevance and more accurate context. By leveraging analysis through open API, fintechs can "know" customers better than banks can.

Deeper third-party partnerships. Although ecosystem-driven interaction means banks and fintechs are intertwining more than ever, it also means banks can now partner with virtually any business in any sector, with the goal of enhancing each other's products and services through data sharing, cocreation, and financializing transactions. Through the standardization and simplicity offered by open API, the depth, speed, and variety of these partnerships in the next couple of years will increase in the next few years. Figure 2 shows what is possible.

FIGURE 2

Mapping the Many Possibilities of Bank–Nonbank Partnerships



Source: IDC, 2022

Cloud as a necessity. A strong integration strategy ran by banks and FIs — particularly when the goal is to launch future-proofed services — must be underpinned by cloud infrastructure that is scalable, high capacity, always-on and up-to-date, and is supportive of the newest computing/processing requirements. Open API will be one of the key reasons that accelerates banks' transition to cloud.

Beyond Open APIs

The Digital Core

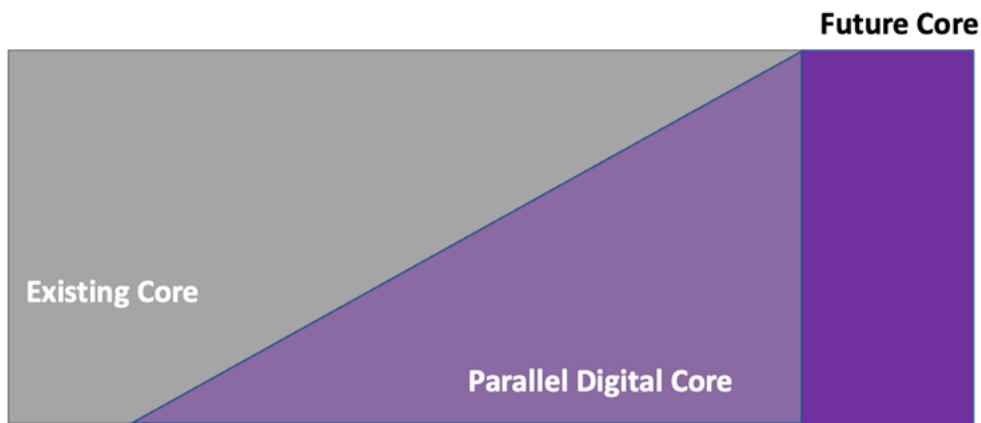
Going from traditional banking core systems, which were built for either the mainframe era or the internet era to a stage that can successfully manage the demands of open API, is far from a straightforward task. Some FIs attempt to join the open API revolution through the use of interfaces or other middleware that allows some functionality to utilize APIs, but there will generally be longer-term problems with scaling, configurability, and future-proofing with such solutions. They may work in providing fixes for API connectivity for the present, but future use cases as channels and usage increase may require significant reconfigurations or even a new interface to be used as a total replacement.

Replacing the legacy cores are often huge and time-consuming investments, but banks now have many more options to enable true DX, cloud-native infrastructure, and innovation through APIs by

using "digital cores" that handle the modern workloads required by today and tomorrow's banking processes, whereas leaving the legacy core in place acts as a system of record and for intensive processing functions. Such digital cores can sit parallel to existing cores and handle all channel-related functions to create superlative modern customer experiences, transform the lending function into a flexible engine that can quickly create and reconfigure new products, such as BNPL options for customers; and act as a singular platform that can handle all external APIs with various partners that banks may choose to work with. The addition of this digital core layer on top of core banking allows banks to migrate workflows and data from legacy in a controlled and progressed manner, minimizing risks to banks and customers as well as reducing the possibility of running afoul of regulations. The digital core can be configured in many ways according to bank needs: Newly acquired customers can be moved onto the new core; existing ones are kept on legacy; and the new core can be utilized only for new digital products or there can be a gradual migration of all customers with the legacy core being kept at a bare minimum.

FIGURE 3

Using Two Cores — The Existing and "Parallel Digital" Core to Optimize Open API Transformation



Source: IDC, 2023

Such digital cores serve as powerful tools for incumbent banks to create new digital experiences using open API and provide newly set up challenger banks with the opportunity to start afresh with a modern core stack, which is preset and fully configured to deal with the needs of both today and the future in banking.

Banking as a Service

Open banking, as initially envisioned, is essentially the sharing of basic financial data about customers (typically, transactions and account balance) to third parties via the standardized channel of open API. The sharing of customer data is useful in coming up with a view of an aggregated customer financial standing, with benefits seen by many parties, including the customers themselves, aggregators, credit bureaus, and other banks and financial SPs that seek to get a share of the customers' wallets. Regulations have also stipulated some addition to just data sharing to include payment initiation, in which, similar with Europe regulations on open banking, payment initiation SPs (PISPs) are authorized to make payments on behalf of a customer, initiating payment transfers from the customer's bank account from a third-party provider's app. This PISP framework creates the bridge to banking as a service (BaaS).

BaaS allows the bank to offer its financial products and services within the distribution channels of nonbank third parties. It brings banks to a much larger playing field than open banking, requiring banks to have more mature approaches to technology, innovation, partnerships, and the creation of new business models. With BaaS, the bank goes beyond the sharing of its data; it can now externalize its own products to accelerate go-to-market strategies, establish new revenue channels, and amass a larger customer base.

TABLE 9

Use Cases for BaaS

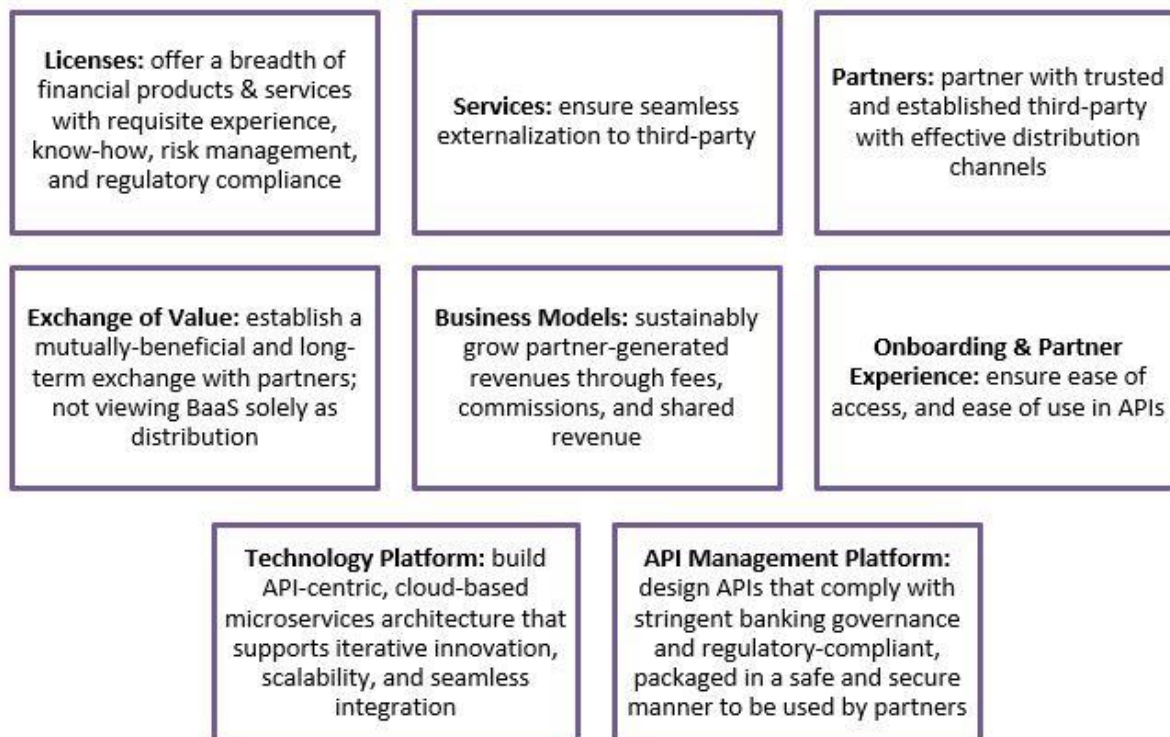
Card Issuance	BNPL	Identity and Onboarding
A bank can issue white-labeled debit/credit cards (physical or virtual) that carry third-party branding, alongside its card servicing, infrastructure, and support channel. The card may enhance the brand's existing loyalty program to increase the utility of its "points" system and offer unique rewards relevant to the user segment.	A bank can provide BNPL services on ecommerce sites/brands in-store, utilizing its capabilities across credit data, decisioning, and collections. Further, it can also offer BNPL providers an added assurance — in real-time basis — that a customer is legitimate and credit-worthy using low-friction methods.	Banks can offer their identity authentication service for an ecommerce transaction, saving the user time to sign up for an account and complete purchase. Further, the bank can embed its onboarding flow from third-party apps (e.g., ewallet or personal budgeting app) to allow seamless account opening relevant to the customer needs.

Source: IDC, 2023

IDC estimates that banks are set to hit as much as 18% of their revenues through BaaS partners. One example is how Goldman Sachs provides white label card issuance for Apple Card, which turns out to be one of the most successful products of the bank. Apple Card users doubled to 6.4 million by May 2021 from a year earlier (Apple, 2023) and it contributed to US\$16 billion in loan balances for Goldman Sachs (CNBC, 2022).

FIGURE 4

Learnings from IDC Found that Successful BaaS Strategy Is Composed of Several Critical Elements



Source: IDC, 2023

Payment as a Service

Payment-as-a-service (PaaS) model refers to the outsourcing of payment technologies stack, from the bank's internal operation to third-party fintech providers. In a PaaS model, the fintech sells their service to banks and businesses, which will then build their own payment operations to meet the consumer needs. Banks and businesses are leveraging the service providers' platform without the burden of systems and infrastructure administration, maintenance, and scaling efforts.

The PaaS model has been evolving over the past few years as fintech providers successfully utilize technology, scale, and expertise to deliver value-added payments infrastructure that are near real time, cost efficient, compliant across multi-jurisdictions, and contain multitudes of features that address the current needs of customers, such as extensive analytics, fraud protection, on-demand reporting, payment routing, and more. Its strengths have attracted businesses to prefer using the services, resulting in the payments value chain being less reliant on traditional banking. Eventually, PaaS clientele will extend to the banking industry as it allows banks to implement new payment features to its customers at speed (i.e., its end-to-end infrastructure does not need to be built from scratch); convenience (i.e., its compliance and maintenance features are built-in); and flexibility (i.e., it is relatively easy to install, scale, or dismantle).

TABLE 10

Use Cases for PaaS

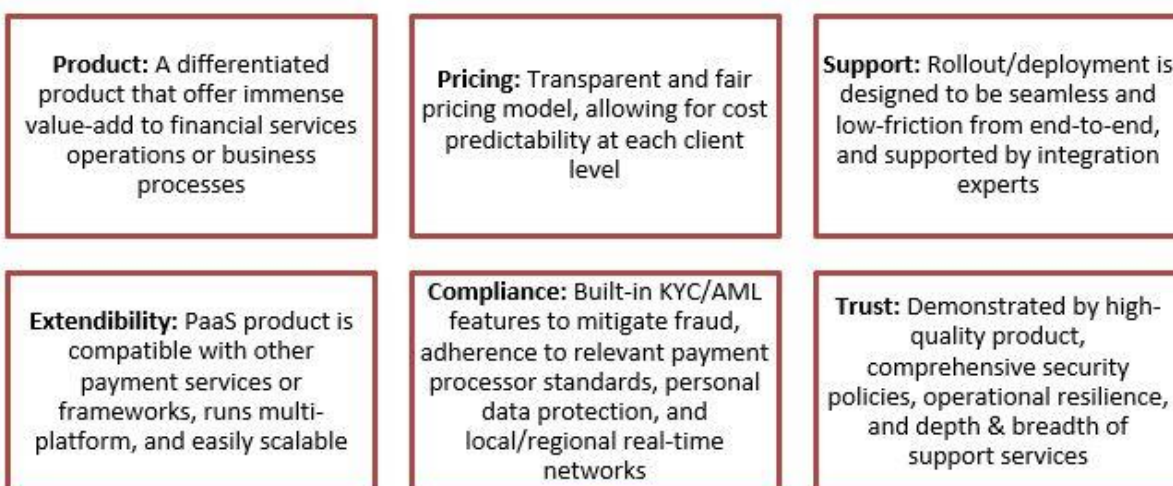
Remittance	Embedded Finance	BNPL
Combining proprietary technology and global expertise, established fintechs can offer low-cost, near-instant cross-border payments that present competitive threat to traditional bank remittance. As the offering matures, it can be productized via API channels to offer remittance service to banks with seamless integration.	Fintechs can abstract away the complexities of meeting global payment compliance frameworks that are often very different and dynamic. Businesses and customers can onboard in minutes and set up products, such as payment acceptance, virtual/physical card, and more through a unified interface.	BNPL providers tout themselves as the "better credit card alternative" that allows merchants to increase order value, checkout rates, and customer loyalty. On top of serving merchant partners in its network, their BNPL service can be extended to the largest ecommerce platform, using identifiers (i.e., assigned virtual bank account) to make cross-platform BNPL journey seamless.

Source: IDC, 2023

Atome Financial is one of the major players in the BNPL market in SEA, with 20 million registered customers across Asia (CNBC, 2021). It is reported that the firm's revenue tripled to US\$184.86 million in FY21 from US\$49.65 million the previous year (Tech in Asia, 2022).

FIGURE 5

Critical Success Factors When Considering PaaS



Source: IDC, 2023

Open Applications

Open banking application or open banking platform refers to a platform in which users can connect their various banking and other personal finance activities. It usually runs by data aggregators that

act on behalf of users to collect user data from FIs to permissioned third parties. There are some use cases of open banking applications, among other aggregation services.

Use Cases for Open Banking Applications

TABLE 11

Use Cases for Open Banking Applications

Aggregation Services	Wealth Management	Debt Management	Increase Access to Credit and Better Credit Scoring
Single user's financial data from various financial institutions are aggregated. It allows users to view their financial information in one platform.	The availability of financial data, such as investment banking and retirement fund, helps users optimize budgeting and savings. It also helps with longer-term financial planning tools and advice in which selected third parties, such as insurtech and wealthtech, can offer their proposition.	As data aggregators relate to various lenders and receive user data, such as loan amount and interest charges, it can be utilized for debt management advice, such as transferring credit card debts to a card with the lowest interest rate.	Loan applications, such as mortgage applications, can be a hassle since they require information from different sources, such as payroll and savings accounts. With aggregated data in open banking platforms, lenders have access to users' holistic financial information, including data that are not commonly used before but useful for credit decision, such as information on rent payment and credit card usage behavior. Users no longer put a lot of effort to manually compile this information and the aggregated data can contribute to more accurate credit scoring.

Source: IDC, 2023

FIGURE 6

To Establish a Successful Open Applications Strategy, Several Critical Elements Need to Be Kept in Mind



Source: IDC, 2023

CONCLUSION

- In the SEA region, successful fintech firms across all pillars (i.e., payments, lending, virtual banks, insurance, wealth) rely on some form of ecosystem-driven partnership with FIs and banks to drive their market growth and product innovation.
- The progression of APIs to open APIs enabled the concept of "open banking," which leverages the availability of large-scale banking data to be accessed, analyzed, and tested through a secure and democratized manner. This allows banks to unlock the value of their data and fintech to enhance their products.
- The adoption of digital core banking is essential to scale and enable interoperability for an open banking ecosystem. There is still a gap in what customers want and what legacy core banking can deliver, pushing banks and financial services to seek strategy toward developing digital core banking.
- BaaS is the natural progression of open banking in which standard connectivity offered by open API is leveraged by banks as a channel to commercialize their infrastructure as a standalone service. Amid the changing competitive landscape, a BaaS model is crucial for the creation of sustainable revenue channel and future client acquisition.
- PaaS is led by fintech firms with differentiated products, which are often significantly cost-efficient, ubiquitous, and more convenient than their counterpart's similar service. Rather than viewing this as a threat, banks and FIs should look for integration opportunities that can leverage their existing offering to serve customers and businesses better.

Key Advice and Investment Priorities for Banks and Financial Institutions

- **Adopt open banking and API platforms that can deliver the sophistication and connectivity needed for the new era.** Banks and FIs need to ensure that API platforms and providers suit their strategic priorities and are supportive of existing and future product lines. Open API and API platforms provide FIs with a future-proof business model to survive and thrive in the world of digitalization.
- **Cloud technology as the base for quick scalability and speed to market.** In responding to market demands, it is imperative for banks/FIs to adopt cloud solutions for both their core and auxiliary operations. On top of supporting more complex computing at scale, cloud technologies also ensure always-updated connectivity to third-party fintechs and services.
- **Invest in deep technology transformation to ensure there are no bottlenecks** to development within the existing technology infrastructure stack. Deep technology, such as AI, ML, and natural language processing (NLP), allows the growth of use cases and variety of data aggregated in the open banking ecosystem.
- **Ensure local expertise is found to guarantee compliance with local regulations and requirements** regarding issues, such as technical and security standards, data standards, and data protection. It is important to convince regulators and consumers that the business model is safe for data sharing and has the necessary measures to prevent frauds. As the level of security increases, the overall trust toward open banking ecosystem is also escalated.

MESSAGE FROM SPONSOR

With ecosystem-driven partnerships as one of the key success factors for banks, fintechs, and other financial services in SEA to accelerate growth and innovation, suitable technology is needed to enable the required capabilities. The availability of a solid open API platform, which allows scalability through cloud technologies and digital core banking, is essential.

The FinCloud Platform by Sarana Pactindo (PAC) is a cloud-based API platform that provides a one-stop shop to access various ecosystem players. The platform is equipped with initial functionalities, such as digital onboarding, digital banking product, digital financial ecosystem connectivity, as well as regulatory compliance. Digital core, apps, regulatory, and payment are the core modules with a variety of supporting modules and third-party connectivity to choose from. It offers various digital products from stash account, group account, collaborative deposit, save now buy later, BNPL, digital lending, channeling, virtual account, emoney, and in-app chat.

FinCloud Platform is flexible, adaptable, and scalable overtime with any system, as the technology is microservices, cloud agnostic, cloud scalability, cloud elasticity, and analytics features based. Additionally, the platform complies with relevant regulations, including the open API standard by Central Bank of Indonesia (Standar Nasional Open API Pembayaran). Fraud detection and cybersecurity mitigation are also part of the crucial features to ensure security and risk management of the platform.

Providing integrated digital banking solutions for FIs is at the core of PAC values. PAC solutions are built within the ecosystem of banks, fintechs, billers, retailers, corporates, as well as other various financial ecosystems. Trusted by more than 30 FIs in Indonesia and overseas, PAC has proven to offer complete and world-class solutions with short implementation time and light pricing design to clients. Its end-to-end solutions also cover all aspects of digital banking application, infrastructure, security, as well as IT operation management.



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