

Making

embedded ↓

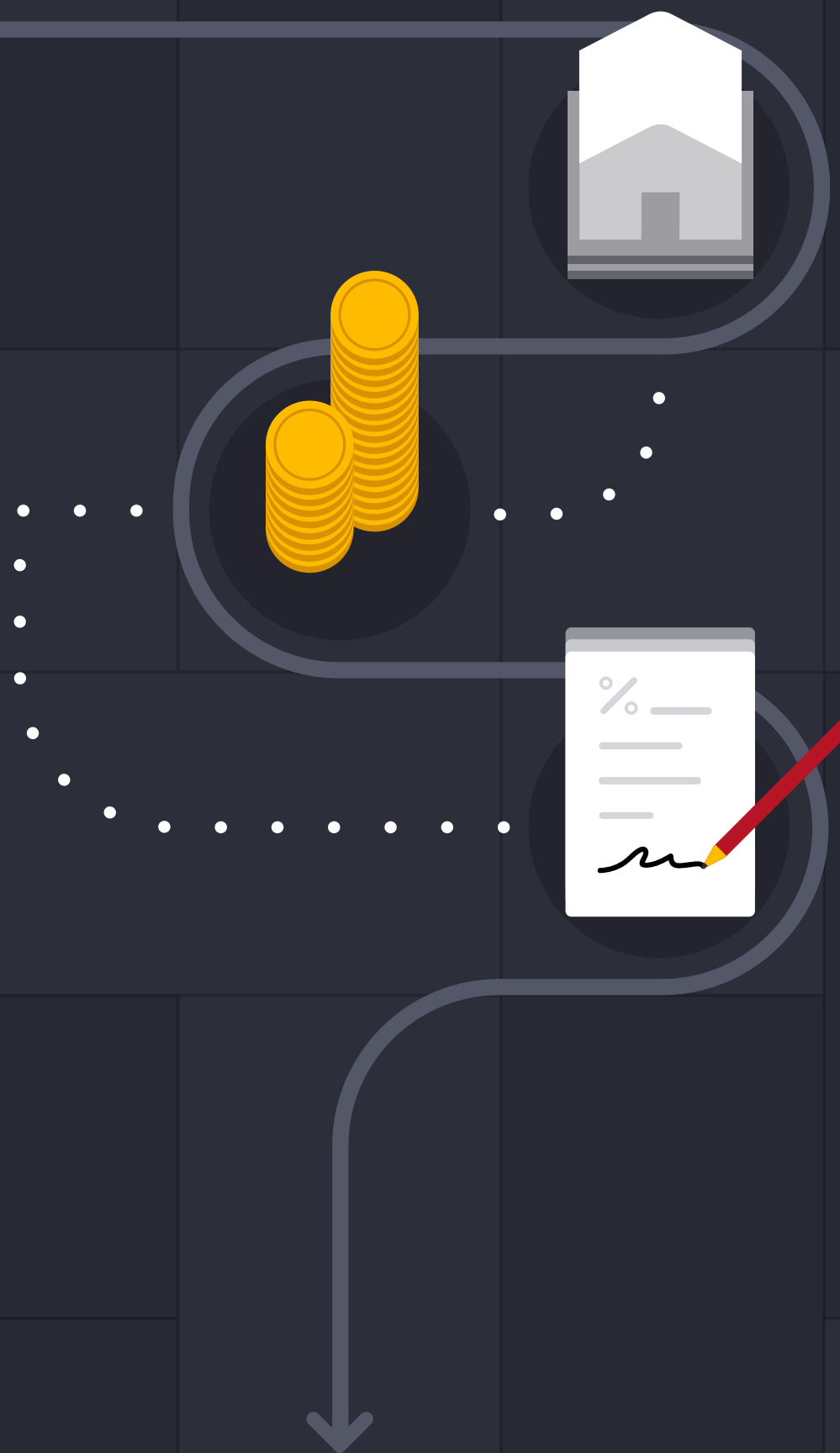
banking work

How to grow your business through Banking as a Service



In association with

Infosys® |  Finacle



Executive Summary

This is the second in a series of business model innovation reports by 11:FS in association with Infosys Finacle.

#1 Developing innovative digital banking business models

- **Banking as a Service (BaaS) is a compelling business model.**

BaaS enables embedded banking, creating new growth and revenue opportunities for banks and digital businesses.

- **Embedded banking takes patience to execute.**

Embedded banking is complex. Banks and brands need to collaborate closely to overcome a series of regulatory, cultural and technical obstacles.

- **Delivering embedded banking needs an ecosystem mindset.**

Banks must adapt to become the optimal embedded banking partner for brands, or risk becoming irrelevant in the BaaS ecosystem. Partnering successfully needs multi-disciplinary teams, a digital culture, effective collaboration processes and a modern, flexible tech stack.

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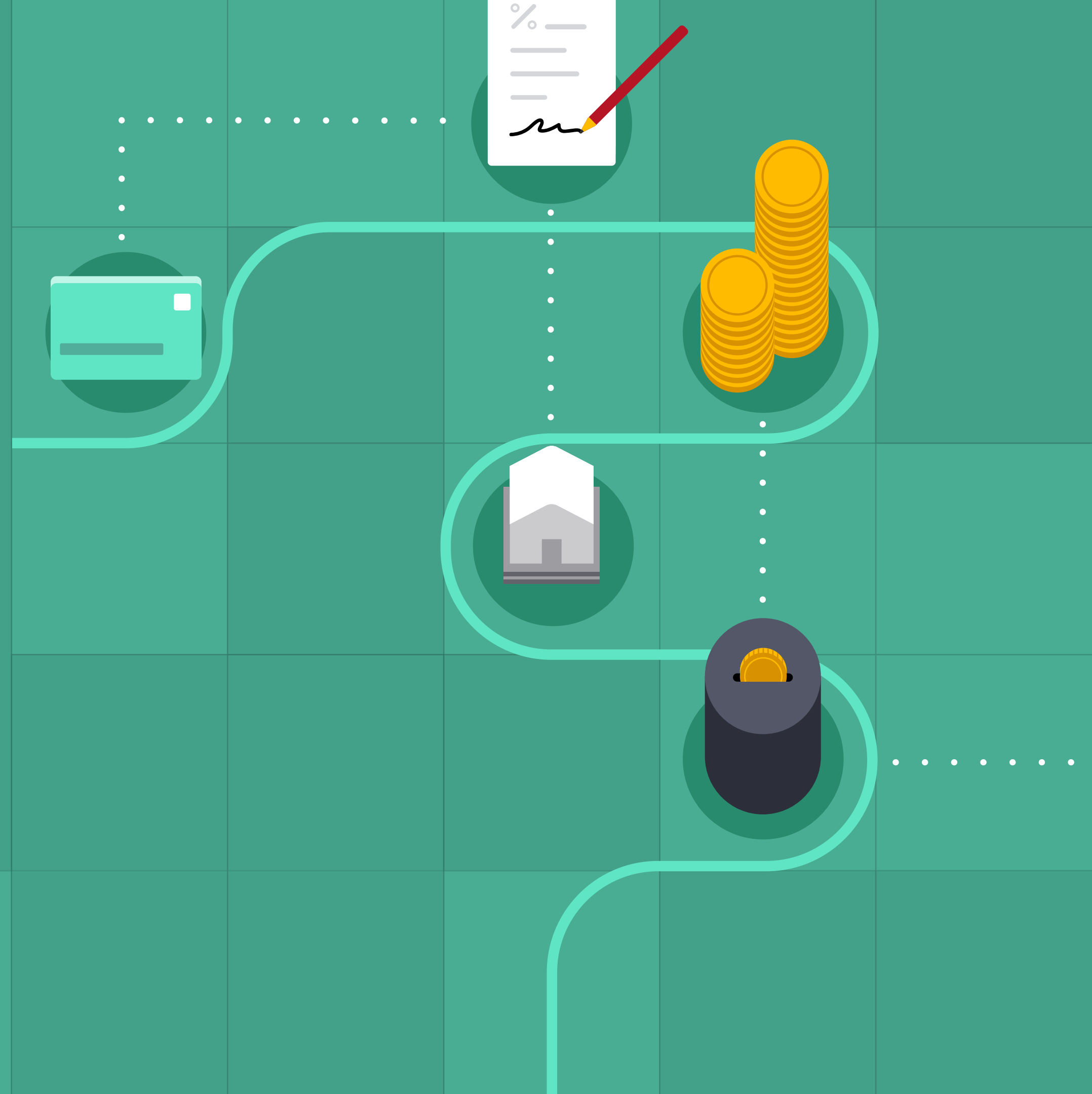


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SITUATION

Banking as a Service is a compelling but challenging business model

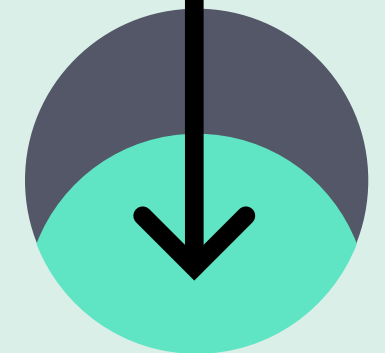
Embedded banking and the BaaS business model offer new growth and revenue opportunities for banks.



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Embedded banking is the
integration of banking into
the customer journey of other
services and experiences at the
point of customer need.



Banking as a Service (BaaS) creates new opportunities for both banks and their partners

- **BaaS enables embedded banking**

BaaS enables any brand to embed banking into its customer experience by picking and choosing modular capabilities offered by banks directly or specialist BaaS providers.

BaaS powers embedded banking: one can't exist without the other.

- **There are numerous opportunities for embedded banking**

Brands across industries and around the world are integrating payments, cards, deposits and lending into their experiences for retail, small business and corporate customers.

- **Digital businesses are reshaping banking by embedding it**

Digital brands are reshaping banking by embedding banking services into customers' contexts and layering intelligent services on top of commoditised financial products, fuelling a long-term restructuring of the industry.

- **BaaS is an attractive business model for banks**

Embedded banking creates wins all around: frictionless contextual banking for customers; greater relevance and customer engagement for brands; and growth for banks at an affordable costs for banks by piggy backing off popular brands.

SITUATION

BaaS enables brands to embed compliant financial services in a modular way



Brands

Definition: Brands with established customer relationships embed banking and payments into the journey for other products and services at the point of customer need.

Role: The brand manages the customer experience. It creates the user interface the customer interacts with and embeds banking into the customer experience at the point of customer need.



BaaS Providers

Definition: BaaS providers offer one or more banking products, such as payments, cards, loans or deposits, as a service through modern API-driven platforms.

Role: BaaS providers partner with regulated banks using APIs to significantly reduce the friction, pace, and cost of embedding financial products into digital experiences and business processes.



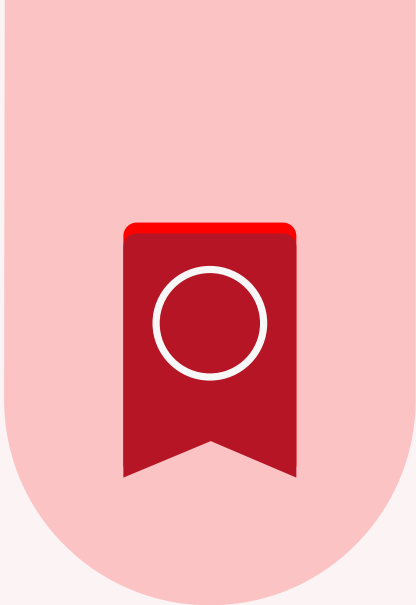
Banks

Definition: Bank licence holders, or ‘sponsor’ banks, offer a range of complete banking processes as a service, typically through APIs, that third parties can embed into their products and services.

Role: Banks enable partner brands to offer financial services by offering their balance sheet and banking products as a service, often through partnerships with a BaaS provider, enabling brands to embed compliant financial services.

Source: IIF:FS. “Banking as a Service: reimagining financial services with modular banking” report

Brands offer embedded financial services at the point of customer need



The digital wallet from Southeast Asia’s ride-hailing leader.

Grab customers can make payments for hailing a ride or ordering food within the Grab app using a wallet linked to their credit or debit card. They can also pay in stores, earn rewards, and send and receive funds instantly.

Registered GrabPay merchants nearly tripled in the year to Q2 2021, with a total payments volume of US\$2.9 billion, up 66% on a year earlier.



Payments, point of sale systems and loans for merchants.

Shopify began with a Buy Now Pay Later (BNPL) option for consumers and a business debit card for merchants, helping merchants get paid immediately. Shopify integrates with Stripe Treasury to offer a business bank account, Shopify Balance, to its merchant customers.

Shopify Capital lent \$324 million Q4 2021, up from \$227 million a year earlier.



The financial services arm of Indian eCommerce giant Flipkart.

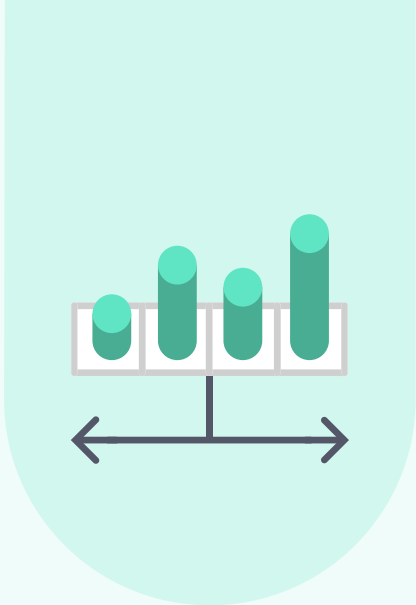
PhonePe help customers book flights, order food and buy groceries, embedding a range of financial services throughout. These include helping customers recharge mobile credit, pay bills, send money, access their bank accounts, buy gold and invest.

It has over 250 million users and more than 25 million small merchants. The market leader in open payments, originates over 40% of India’s UPI payments and powers over 3 billion transactions a month.

Other prominent examples:



BaaS providers connect brands to banks with modern APIs



BaaS technology and compliance provider.

Unit is a US BaaS provider which offers flexible banking APIs and compliance services that power consumer, freelance and business banking propositions. It uses a selection of partner banks including Thread Bank and Blue Ridge Bank.

Unit raised a \$100m series C round in May 2022, valuing the company at over \$1 billion.



BaaS for start-ups and digital businesses.

Founded in 2014, Asian BaaS start-up M2P offers prepaid cards, credit cards, neo-banking, lending, loyalty and reward services. In the past two years, M2P has acquired five other startups to build broader BaaS and SaaS offerings.

As of 2022, M2P works with over 100 banks and 500 fintechs across Asia and North Africa. It claims to serve over 35 million customers across 20 markets.



BaaS for digital business platforms.

Stripe introduced Stripe Treasury in 2020, enabling its partners – such as Shopify – to embed payments and deposits into their own platforms via Stripe’s APIs.

Stripe’s banking partners include Goldman Sachs and Evolve Bank & Trust in the US.

Other prominent examples:

“

There was a mad rush in 2019 and 2020 to start BaaS because the concept makes sense. But, over time, what you're going to see is that platforms will start specialising in key focus areas, and not be all things to all people. Banks will also focus on niche areas where they feel most comfortable and partner with a platform to offer those products.”



Roy Ng
Co-founder & CEO,
Bond, USA

Bank licence holders offer regulated capabilities that partners can embed into their customer journeys



Goldman Sachs

US financial powerhouse with everything to play for.

Goldman Sachs’ collaboration with Apple put it on the map as a BaaS player, using its banking licence, deep industry expertise and modern technology to deliver BaaS capabilities.

Goldman’s Global Transaction Banking offers cloud-based banking infrastructure via APIs for developers to integrate new financial products on top of the platform and help Goldman forge new partnerships.



An innovative Indian bank with a wide range of banking APIs.

ICICI Bank offers extensive APIs for retail and business customers, partners and developers, powering everything from BNPL and WhatsApp payments to digital banks.

The bank offers around 250 APIs through its developer portal, encompassing payments, lending, collections and even trade services like bank guarantees, helping partner companies to co-create quickly and easily.



A German technology company with a banking licence.

Solaris’s embedded finance platform powers digital banks Penta and Tomorrow Bank, and propositions from Samsung Pay, German retailer Otto and Dutch car marketplace CarNext.com. Solaris has its own German banking licence and has coupled regulated activities with clean APIs.

It has raised €400 million in funding since its founding in 2016.

Other prominent examples:



“

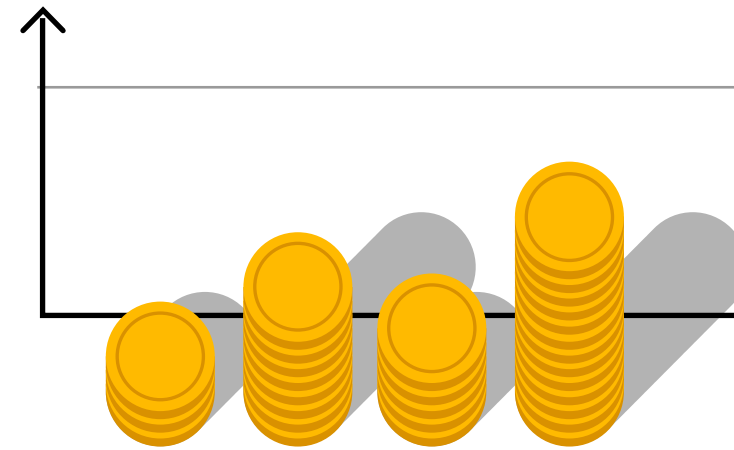
The value BaaS brings to the bank is the ability to scale profitably in the mass market and also provide the financial inclusion which the bank aspires to provide to developing markets around the world.”



Kelvin Tan
Global Lead,
Standard Chartered nexus,
Singapore

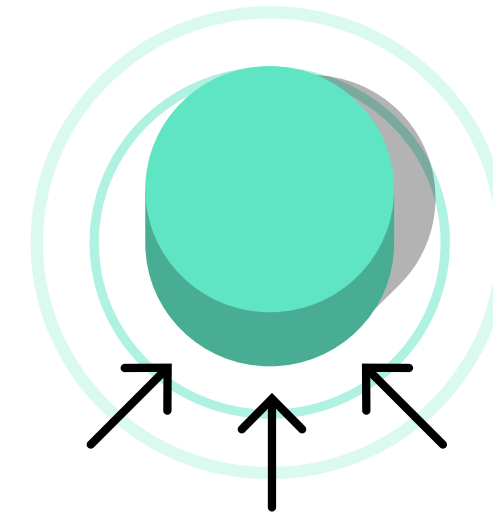
SITUATION

Embedding banking helps brands grow revenue and increase engagement



Grow revenue

- SaaS businesses can earn 2x to 5x their revenue when they embed finance.
- eCommerce merchants embedding lending at checkout can increase conversion by 20% to 30%, increase average order value and increase repeat purchases.
- Shopify's merchant solutions revenues accounted for 74% of its total revenues in 2021.
- Restaurant platform Toast earned 82% of its revenue from financial services in 2021.



Increase engagement

- Tencent's WeChat uses fintech primarily to increase engagement.
- Google in India gains over 2.5 billion monthly customer engagements through its Google Pay open payments services.

Sources: Andreessen Horowitz; RBC Capital Markets; Shopify; Toast; Infosys Finacle; II:FS. "Better banking business models: embedded finance and the path to growth" report

SITUATION

There are numerous opportunities for embedded banking

Many early use cases for embedded banking have focused on retail customers, but high-growth opportunities exist for small, medium and corporate business customers.

	Retail	SME	Corporate
Embedded Payments	<ul style="list-style-type: none">• Prepaid cards• Electronic wallets• Payment initiation• Instant return credit	<ul style="list-style-type: none">• Instant payments• Virtual Cards• Payroll processing	<ul style="list-style-type: none">• Salary processing• Account receivables / payables automation
Embedded lending	<ul style="list-style-type: none">• Buy Now Pay Later (BNPL)• Point of sale (POS) loans• Short-term personal loans	<ul style="list-style-type: none">• Working capital loans• Gig worker loans• Earned-wage access• Payroll advance• Cashflow-based lending	<ul style="list-style-type: none">• Supply-chain financing• Trade finance• SaaS licence financing
Embedded deposits	<ul style="list-style-type: none">• Current accounts• Term and recurring deposits	<ul style="list-style-type: none">• Business accounts• Embedded cash management	<ul style="list-style-type: none">• Business accounts• Embedded cash management• Money market deposits
Embedded insurance	<ul style="list-style-type: none">• Device insurance• Car, home and travel insurance• Fraud protection	<ul style="list-style-type: none">• Business owner’s insurance• Workers’ health and accident insurance	<ul style="list-style-type: none">• Travel insurance for employees;• Embedded logistics insurance

“

We'd been talking about integrating with accounting software providers through open banking. While open banking APIs were effective, they were verticalized journeys.

What if we brought the primary account into that channel and embedded a banking proposition that allowed the technology company to create a sticker proposition and additional ARPU and give the end customers clear value from an embedded, contextualized customer offering?”



































Brian McKenney
Head of Growth and Innovation,
Commercial Banking, HSBC, USA

SITUATION

Brands around the world are embedding banking into their services

Leading brands like Amazon, Apple, Grab, Samsung and Uber are embedding payments, loans, insurance and even deposits directly into their own customer experiences.

By integrating banking capabilities at the point of customer need, brands create new value for customers.

Retail	SME	Corporate
Shopping	Gig economy	Business platform
<div>Flipkart</div> <div>amazonShopee</div> <div>Apple</div>	<div>deliverooGrab</div> <div>EtsyUber</div>	<div>salesforceORACLE NETSUITE</div> <div>SAPAcumatica</div>
Mobility	Marketplace	Supply chain & logistics
<div>gmTESLA</div> <div>zipcarYAMAHA</div>	<div>Squareshopify</div> <div>amazon</div>	<div>SANDVIKTradeDepot</div> <div>flexportCARGOES</div>
Travel	Business platform	Employer
<div>Disney CRUISE LINETUI</div> <div>Booking.com</div>	<div>toastxero</div> <div>udaanTally</div>	<div>workdayZOHOPower</div>

“

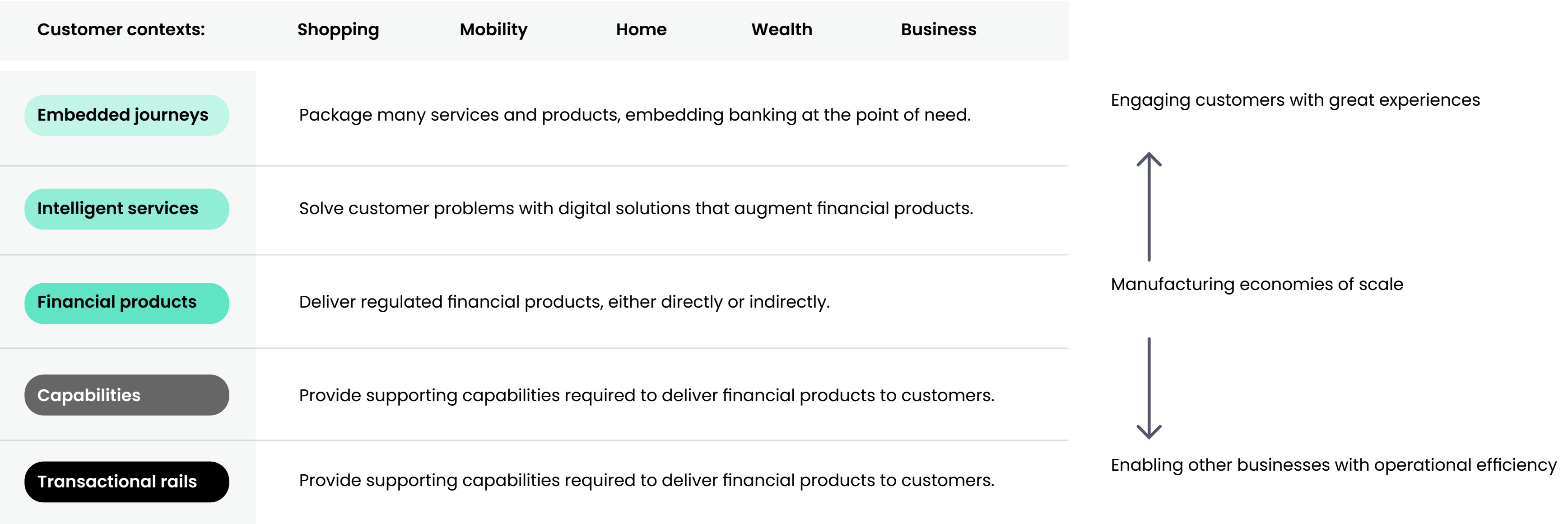
We saw this great demand for having our APIs, whether they're real-time payments, real-time information, or credit notifications, all along the spectrum of 'how do I manage my cash?', 'how do I manage my payments?', 'how do I get more information into my apps?' and 'how do I create a better experience for my customers?'"



Nadya Hijazi
Managing Director & Global
Head of Wholesale Digital
Channels, HSBC, UK






































SITUATION

Digital brands are reshaping the industry by embedding banking into the context of customer journeys



SITUATION

Brands choose modular products and services they want to embed into their customer journeys

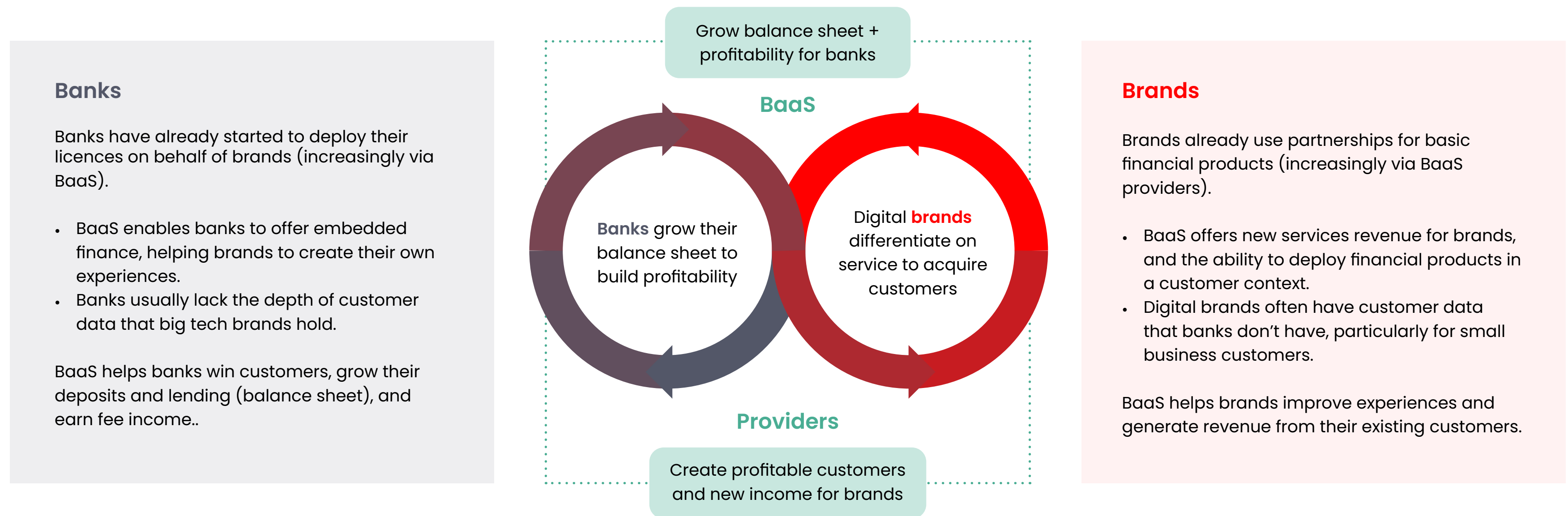
Customer contexts:	Travel	Mobility	Shopping	Home	Wealth	Business			
Embedded journeys	 TripActions	 Grab	Uber	 	 amazon	 bukalapak	 shopify	 xero	 ORACLE NETSUITE
BaaS providers	 treezor	 BOND	 MARQETA	 unit	 VODENO	 SETU	 stripe	 GPS	 M2P
Financial products	 standard chartered	 cross river	 Solaris	 BBVA	 ICICI Bank	 HSBC	 Goldman Sachs		
Capabilities	 onfido	 alloy	 Infosys	 Finacle	 xignite	 riskified	 REFINITIV		
Transactional rolls	 VISA		 NPCI भारतीय राष्ट्रीय भुगतान निगम NATIONAL PAYMENTS CORPORATION OF INDIA		 AM EX	 SWIFT			

Risk, control & compliance

Risk, control & compliance

SITUATION

BaaS offers a compelling business model that uses network effects to acquire customers and grow banks' balance sheets



“

Our clients partner with us. The success of our client partners is Treezor's success. Our business model is that if one of our customers is successful, it creates activities and transactions for us. So we do our best to make our partnerships successful.



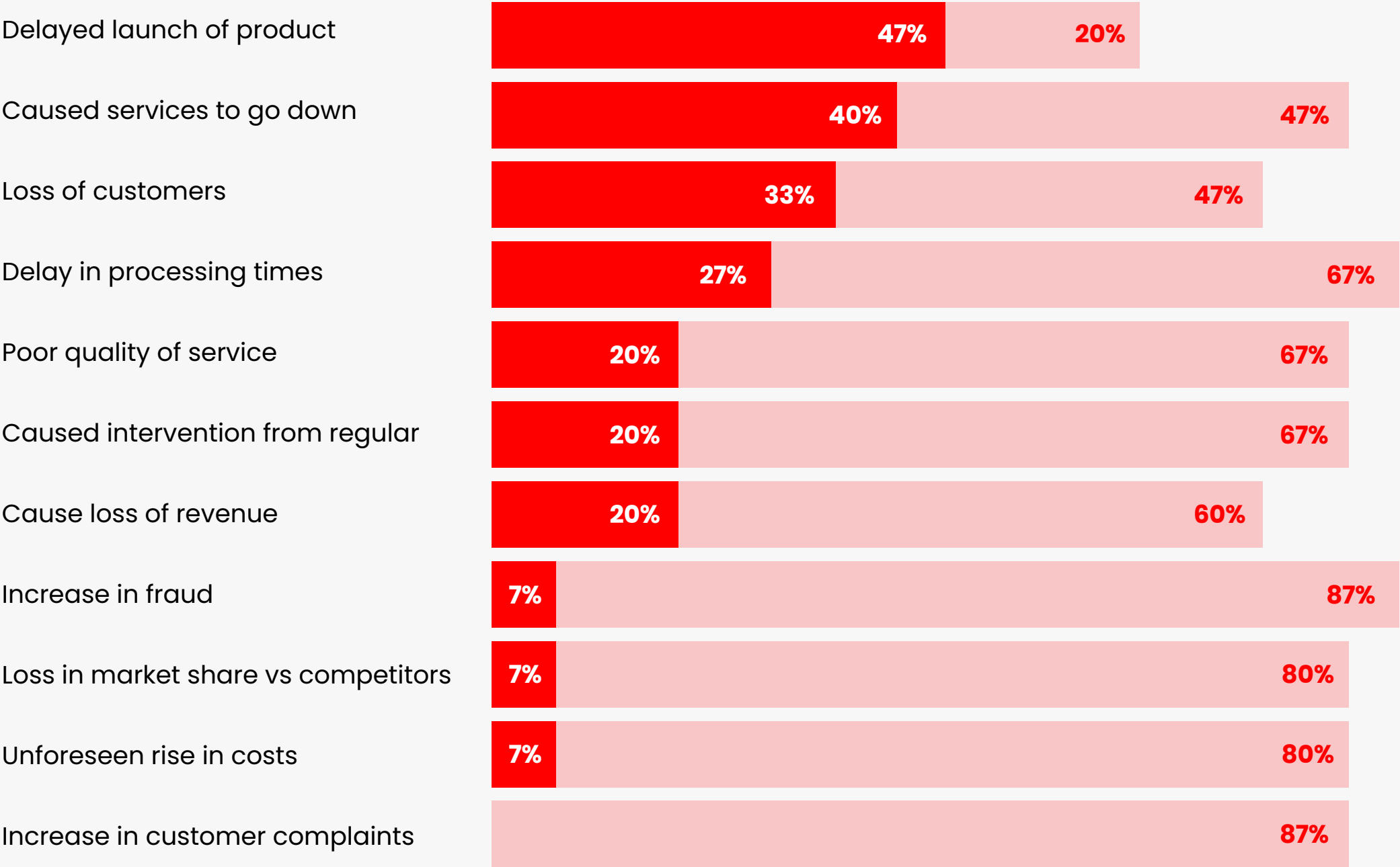
Laure Boutron
Global Head of Marketing
& Communications,
Treezor, France

SITUATION

Many firms
are finding
embedded
banking hard to
execute

Sources: Aite-Novarica Group “Confusion, Cost, and Compliance: The Bifurcation of BaaS and Embedded Banking”; II:FS

To what extent did you experience the following issues with your provider?



SITUATION

Regulators are tightening up the rules on embedded banking business models

Regulators around the world are clarifying and tightening their guidance on embedded banking and BaaS:

- In the US, the Office of the Comptroller of the Currency (OCC) has published a series of bulletins on third-party relationships and is paying close attention to bank-fintech partnerships because of the potential for unexpected risks.
- The OCC found unsafe or unsound risk management practices at Blue Ridge Bank and in August 2022 published an agreement with the bank that obliges the bank to assess and manage the risks posed by third-party fintech relationships, confirm beneficial owners for business entities and ensure it is appropriately staffed with personnel who have requisite expertise, training, skills, and authority. Blue Ridge must now obtain the OCC's 'non-objection' before entering into any new contracts with fintech partners.
- The UK's Financial Conduct Authority (FCA) has warned BNPL firms that they must comply with financial promotion rules.
- The Reserve Bank of India recently introduced tighter guidelines on digital lending that, among other things, prevent third parties like BaaS providers from holding customer data.

Sources: Financial Conduct Authority; Fintech Business Weekly; Reserve Bank of India; Infosys Finacle; 11:FS.

“

There's a common theme that banks are slow. But the banks that moved faster got slapped on the wrist by the regulator.

Speed is not a bad thing, but neither is taking a thoughtful approach. There's a desire to move quickly, but it's heavily regulated.”



Roy Ng
Co-founder & CEO,
Bond, USA

“

Sponsor banks will need to take responsibility and be accountable for the entire life cycle of the customer's financial product without any pass-through account/pool account of any third party. This will require a re-orientation of use cases.”



Sidharth Rath
Managing Director and
CEO, SBM India

ANALYSIS

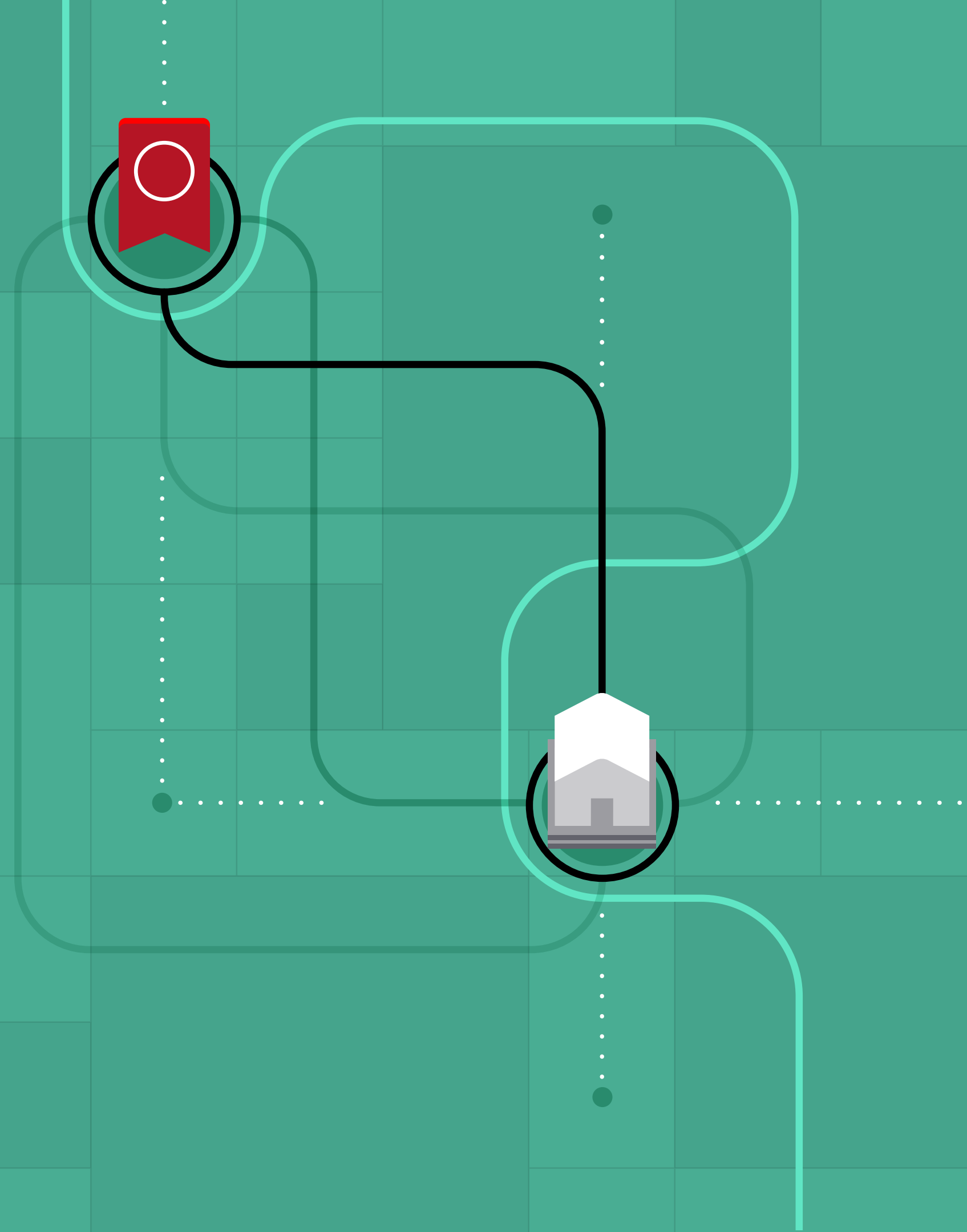
Executing the embedded banking business model successfully is difficult

Delivering embedded banking successfully requires unprecedented collaboration between banks and brands.



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Delivering embedded banking successfully requires banks and their partners to overcome a series of obstacles

01 Context

It takes patience to understand the complexity.

- Risk & regulation
- International scaling

02 Business Model

There are different routes to market.

- Go-to-market
- Pricing

03 Execution

Delivery in a regulated environment is complex.

- People
- Processes
- Data
- Technology

Context:

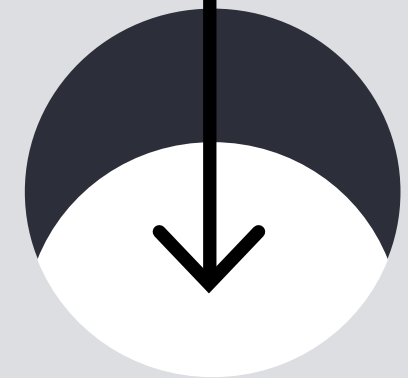
To succeed, all the partners need to understand the context of embedded banking

Risk & Regulation

- Regulatory compliance
- Risk management

International Operations

- The challenges of scaling internationally



Embedding banking into other services makes regulatory compliance much more complicated

Regulation and risk management play crucial roles in keeping customers – and banks – safe:

- Banking is highly regulated for good reason. High operating costs from compliance and risk management are a cost of entry to operate in banking.
- Banks remain responsible for regulatory compliance and reporting, regardless of which brands or BaaS providers they work with, and can't afford to cut corners or move faster than regulators are comfortable with.
- Embedded banking is under increasing scrutiny from regulators like the OCC in the US.
- Some banks and BaaS providers will become more cautious about who they partner with because of the risk of reputational damage from poor choices, such as Evolve Bank's partnership with FTX.



“

Everything is in alignment with our risk and compliance standards, which are in alignment with our banking, regulatory and global standards principles. Working that out with the technology company and the end users is one of the key focal points that need to be solved to do this smartly.”



Brian McKenney
Head of Growth and Innovation,
Commercial Banking, HSBC, USA

“

We’re not a SaaS company where we can dream up a feature, give it to our product owners and engineers, and just go out and start building it. We have to go through a stricter product policy where we have to get sign off from different stakeholders such as financial risk, non-financial risk or regulatory compliance. It does slow you down but ensures compliance.



Layla Qassim
Chief of Staff,
Solaris, Germany

The sheer regulatory and technical complexity of embedding banking takes patience to master

Banking products go hand in hand with a series of underlying capabilities that must, by law, also be embedded into the proposition. Depending on the product, these include:

- Customer authentication
- Know Your Customer (KYC)
- Credit scoring
- Card issuing
- Clearing services
- Debt management, servicing & collections
- Customer operations
- Anti money laundering (AML)
- Sanctions monitoring
- Regulatory reporting

Banks remain responsible for compliance with regulations, and must ensure their partners implement mandated processes, controls and disclosures into customer journeys.

Embedded Journeys	Discover, buy and protect my home	Book travel & accomodation	Set up & run a business	Risk, control & compliance
Intelligent Services	Multi-currency payment cards	Invoice financing	Automated reconcilliation	
Financial Products	Loans	Cards and payments	Deposits	
Capabilities	KYC	Credit scoring	Card issuing	
	Financial crime	Authentication	Customer operations	
Rails	Central banks	Payment networks	Foreign exchange	
			Capital markets	

“

The regulatory piece is getting more and more complex. It is time consuming and requires a great depth of knowledge. Could you cobble together a bunch of third parties? Absolutely. But we will abstract that for you and you won't have to worry about it.”



Layla Qassim
Chief of Staff,
Solaris, Germany

“

The best fintech infrastructure companies focus on abstracting away a lot of the complexities in the financial ecosystem. From the outside you appreciate the simplicity, but it's typically an iceberg-type structure where the top is visible and there's so much behind the scenes.”



Itai Damti
Founder & CEO,
Unit, USA

It's difficult to offer embedded banking internationally when most banks only operate nationally

Embedded banking offers an opportunity to partner with multi-national brands, but most (not all) banks and BaaS providers only operate in a few countries, or just one.

Only licensed banks can lend money and only banks or licensed payment institutions can connect to the underlying transaction rails that run each country's financial system.

Global brands can't launch embedded banking globally unless they partner with multiple banks, or with BaaS providers that have bank partners worldwide.

Even in the EU, where banks can 'passport' their licence into other countries, many brands don't want an IBAN from a different country.

This presents an opportunity for multinational banks, or fast-moving BaaS providers, to partner with global multinational brands.



“

To justify the effort and deployment cost, we need to find a big anchor partner in each of the markets we go into. You need to find markets which are conducive to the BaaS model. You can't have physical onboarding. You need a country with a national ID database, you need the ability to do digital KYC, and you need a network which you can do cash in/cash out.”



Kelvin Tan
Global Lead,
Standard Chartered nexus, Singapore

“

The challenge is the relationship with the regulators and the plumbing into the local infrastructure. Each country is different. For instance, Sweden has a system called BankID and that's how you onboard. Then the payment systems are different in each country too. So there is quite a lot to build with local players. But once you have done that you can offer that speed to market that is so crucial when you're working with brands.”



Wojciech Sobieraj
CEO, Vodeno,
Poland

Business Model:

Embedded banking needs business models that work for all the parties in the value chain

Go-to-market

Banks need a clear go-to-market strategy

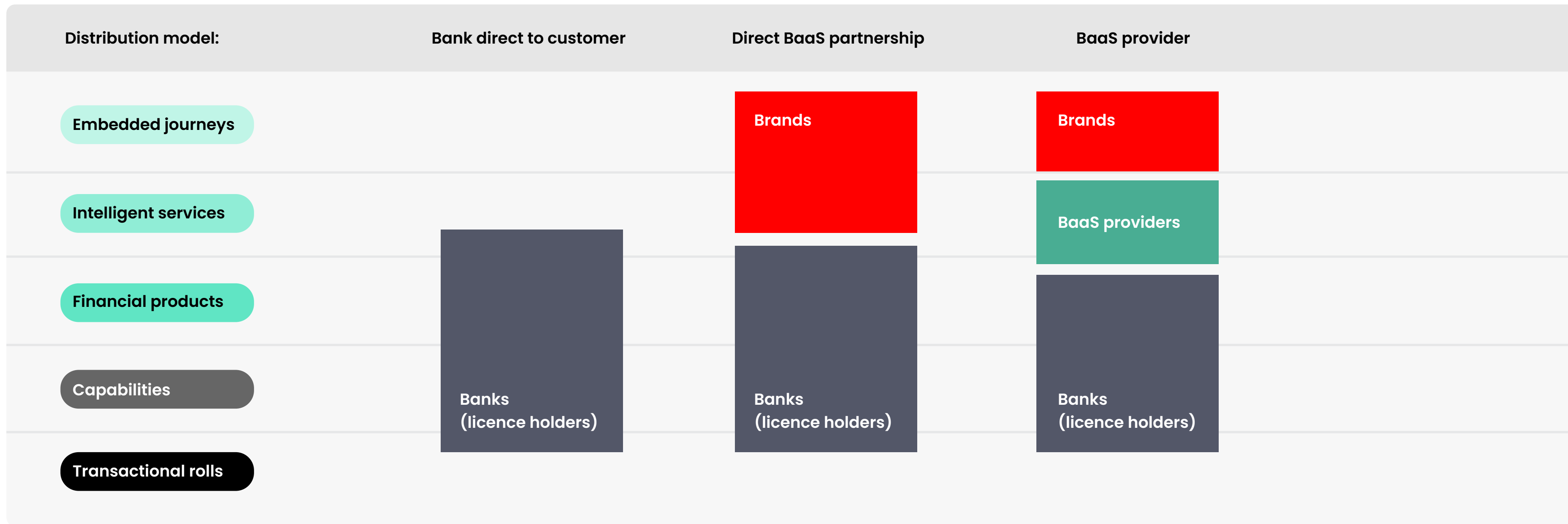
- Embedded banking offers banks two new routes to customers: offer BaaS capabilities directly or partner with a BaaS provider.
- Both routes to market involve trade-offs between time, cost, risk and revenue.

Pricing

Banks need to price BaaS competitively

- Banks and BaaS providers don't price BaaS consistently, making it hard for brands to understand the commercial model.

Embedded banking offers banks two new routes to customers: offer BaaS capabilities directly or partner with a BaaS provider



Both routes to market involve trade-offs between time, cost, risk and revenue

Banks can offer BaaS capabilities directly or partner with a BaaS provider:

- The two routes to market involve different trade offs between time, cost, risk and revenue.
- Brands face similar trade offs between speed to market and flexibility in choosing the banks and BaaS providers they work with.
- As BaaS providers specialise, many banks are likely to partner with several BaaS providers.

	Build BaaS capabilities in-house	Partner with a BaaS provider
Time and effort	<ul style="list-style-type: none">• Slower time to market• More effort and developer time required to build	<ul style="list-style-type: none">• Faster time to market• Less effort and developer time required to partner
Investment costs	<ul style="list-style-type: none">• Higher cost to build	<ul style="list-style-type: none">• Integration costs likely to be comparatively lower
Risk	<ul style="list-style-type: none">• Higher risk of failure• Higher reputational risk• Direct risk management of integrated processes	<ul style="list-style-type: none">• Lower risk of failure with credible BaaS providers• Shared risk management processes with BaaS provider
Partnerships with brands	<ul style="list-style-type: none">• Direct partnerships with brands	<ul style="list-style-type: none">• Partnerships are managed by the BaaS provider
Revenue	<ul style="list-style-type: none">• Bank earns a larger slice of the revenue generated	<ul style="list-style-type: none">• Revenue must be shared with the BaaS provider

BaaS offers new revenue stream opportunities for banks

Banks' primary business model has historically been to earn interest income by attracting deposits and making loans, with further income from fees and commissions.

The business model has been weakened by changing customer behaviour and distribution patterns.

BaaS is an opportunity for banks to broaden their business models, open up new revenue streams, grow their balance sheets and lend at a lower customer acquisition cost.

BaaS also offers new ways to reach underbanked and underserved customers.

Typical BaaS revenue streams

Pay-as-you-go fees

Pay per API call, account, or successful transaction

Subscription fees

Periodic fees, agreed in partnership terms

Shared interest income

Banks and partners combine to share risk and net interest on loans made to partners' customers

Traditional bank white-label revenue streams

Interchange split

Banks offer a percentage of interchange to partners

Interest income

Banks earn net interest on deposit received and loans made to partners' customers

Banks and BaaS providers don't price BaaS consistently, making it hard for brands to understand the commercial model

BaaS pricing is opaque and different banks and BaaS providers price their products differently.

- Some BaaS providers' pricing is publicly available; others only reveal their pricing on request and customise it to each partner.
- Pricing strategies tend to be either modular and standardised, transparent but complex, or customised to the partner.
- Pricing for cards, payments and foreign exchange is becoming more standard; pricing for deposits and loans is often customised in the context of the brand relationship.

Product	Typical pricing structure	Frequency
Platform implementation	Fixed, variable and tiered	One off or monthly
Application	Tiered	Per account
Know Your Customer (KYC)	Tiered	Per API call
Accounts	Tiered	Per user or per transaction
Domestic transfer	Tiered	Per transaction
Cross-border transfer	Tiered, fixed	Per transaction, or
Card provisioning	Fixed	fixed interchange + fee
Transactions	Fixed, variable and tiered	Per card
		Per processing volume, or per processing value, or fixed interchange share, or fee + % of incoming value or volume

“

One of the key pull factors is the added revenue stream to the partner's top line. So the structure we will always have is a partner share. Where that changes a little is on the risk side. With partners that have never done anything balance-sheet related, we would take all the risk and adjust the revenue accordingly.



Layla Qassim
Chief of Staff,
Solaris, Germany

Execution:

Delivering embedded banking propositions tests the ability of organisations to deliver complex digital propositions at scale

People	Processes	Data	Technology
<ul style="list-style-type: none">• <u>Lack of expertise</u>• <u>Cultural misalignment</u>	<ul style="list-style-type: none">• <u>Lack of collaborative product development processes</u>	<ul style="list-style-type: none">• <u>Data protection risks</u>	<ul style="list-style-type: none">• <u>Antiquated banking tech stacks</u>• <u>Embedded banking driving up transaction volumes</u>

Both brands and banks often lack embedded banking expertise

Embedded banking and BaaS are new, so relevant skills and experience are in short supply.

Many executives, at both brands and banks, don't fully understand all the challenges and implications of embedding banking into other services, or what it takes to create and curate new product offerings at scale.

Brand executives often don't fully understand the requirements of risk management and regulatory compliance. They can get frustrated about the time-to-market for new embedded banking offerings.

Many companies have limited experience of partnering with other companies to reach shared goals. Defaulting to unequal or antagonistic vendor-buyer practices can quickly sour relations.

Source: II:FS

Barrier	What it is
Awareness and understanding	Executives championing embedded banking often need to educate other senior executives, risk management and compliance on the opportunity and how to manage risks.
Regulatory understanding	Brands often lack understanding or expertise in the regulatory challenges of BaaS.
Digital talent & skills	Traditional banks often lack the digital talent and skills to execute BaaS effectively with capabilities like partner management, developer portals, APIs, and sandboxes.
Partnerships	Many companies, but particularly traditional banks, have limited experience of partnering with other companies and working together towards shared goals.

“

Brands need support in understanding: ‘what you need to do to make it real?’, ‘What does that regulatory business plan need to look like?’, ‘What level of detail do you need?’, ‘How do you set up a customer contact team?’. All of this stuff that a technology-only partner wouldn’t necessarily be able to bring.”



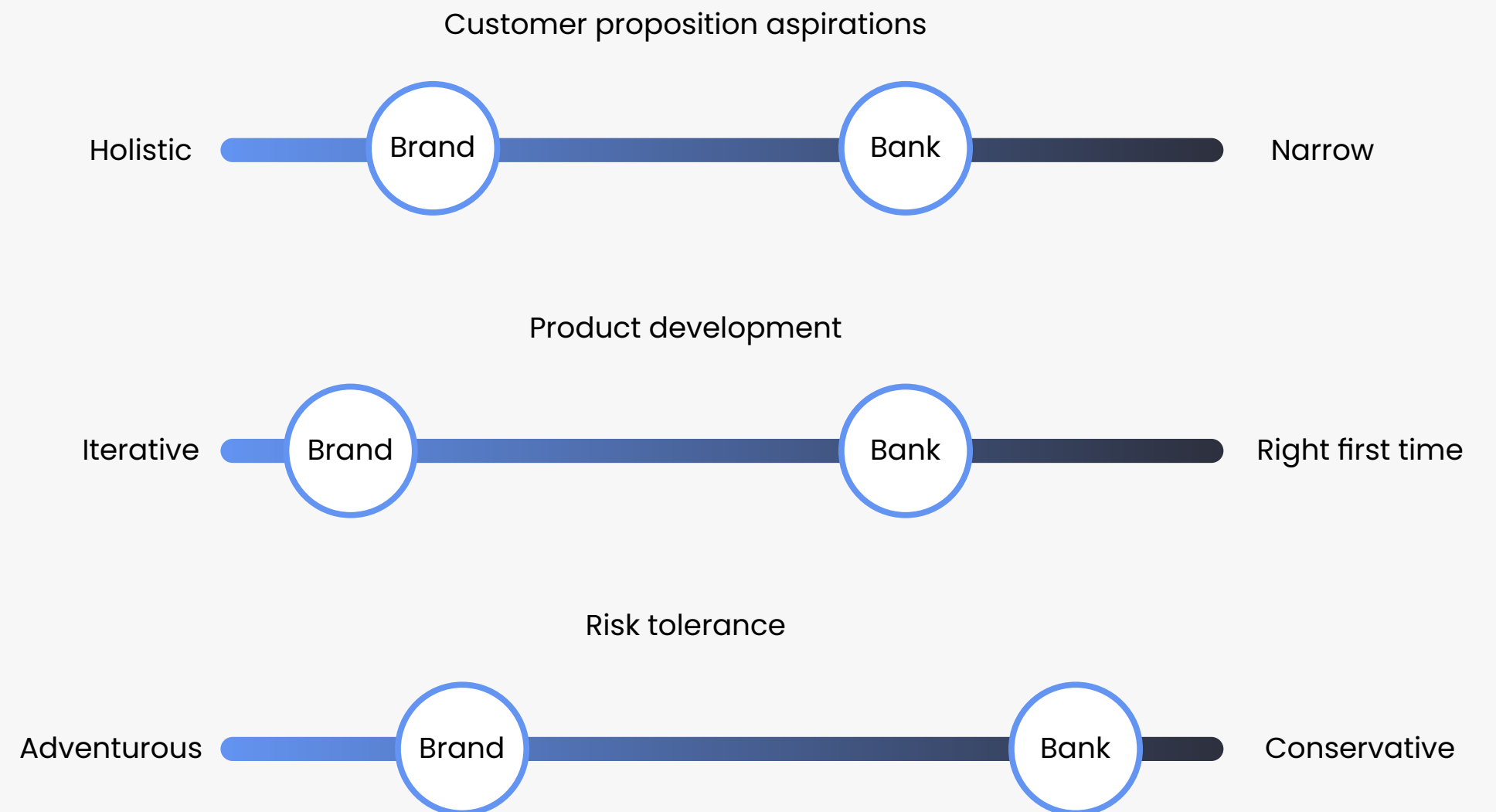
Julia McColl
Chief Product Officer,
Chetwood Financial, UK

“

Most brands are fearful about getting it wrong, so they value having people who know how to create products and meet all of the regulatory requirements while also delivering against customer need. They need that confidence that we know where the lines are.”

There's often a misalignment between partners' cultures

- Banks' risk-averse nature and strong compliance is the antithesis of the fail-fast, experimental nature of most digital brands.
- Brands seeking to embed banking and power new customer propositions often have different aspirations, cultures, ways of working, risk tolerances, success metrics, and growth ambitions than most banks.
- Brands want flexible embedded banking propositions that can be experimented with and iterated on to test customer demand.
- This desire for experimentation conflicts with the product controls and regulations that banks *have to* adhere to.



Source: II:FS

“

Counter-intuitively, compared with the tech which is a fail-fast digital culture, you can't fail with the regulator. That can really put your business at risk. So you have two diametrically opposed cultures that you somehow have to reconcile in house.”



Layla Qassim
Chief of Staff,
Solaris, Germany

“

In building for clients, we think about expansion and competing effectively. But in managing bank relationships, we think about the conservative mindset we need to adopt. It's like playing full offence and full defence in one sport.”

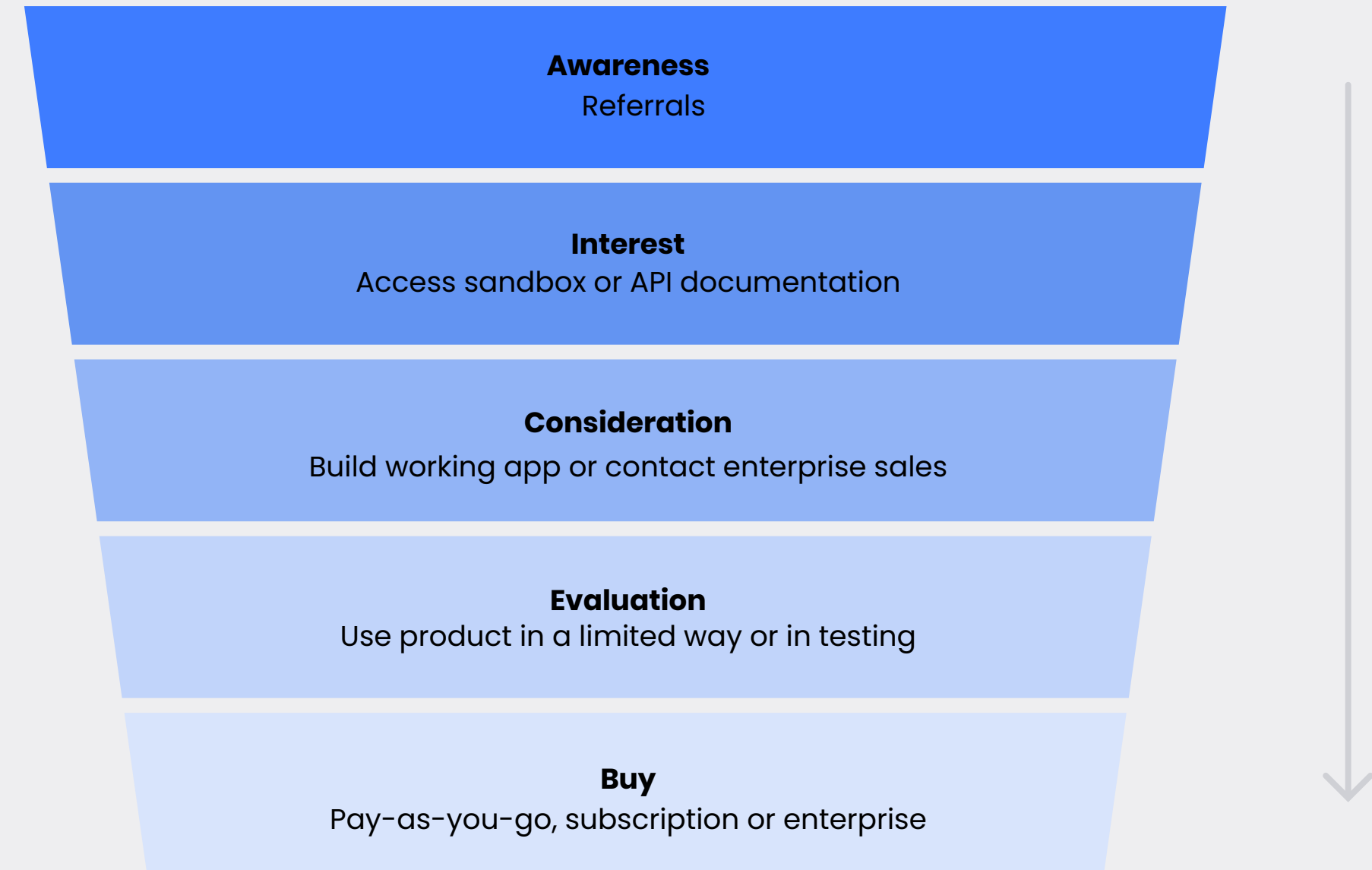


Itai Damti
Founder & CEO,
Unit, USA

Banks and BaaS providers need to be able to bring partner brands on board smoothly and efficiently

Traditional banks aren't used to bringing on new partners quickly, resulting in sales and partnership processes that are too slow, too costly, and too rigid to suit most digital brands.

Working with BaaS providers reduces the time and cost it takes to embed banking into a customer experience as the BaaS provider has already negotiated a partnership deal with the sponsor bank.



Source: II:FS.

“

I don't think small fintechs and retail brands will end up going with any of the big banks in the short term. I don't believe it will be a good fit in terms of partner: the culture; the ways of working; the pace they want to work; their ambitions around how soon they want to go to market. I don't think they would be aligned.”



Julia McColl
Chief Product Officer,
Chetwood Financial, UK

Banks and their partners need new, collaborative product development processes

- Most brands don't want a bank as a service. Instead, the promise of embedded banking is to integrate relevant capabilities into customers' journeys at their point of need.
- To make embedded banking effective, brands, BaaS providers and banks need to work together to design, develop and deliver new propositions and journeys that add value in customers' contexts.
- For example, a merchant or car manufacturer seeking to embed lending into its customer journey needs to redesign that journey to ensure it gathers the information needed for credit scoring, offers finance at relevant points in the journey, and makes appropriate risk warnings to the customer.
- Larger brands will often need a much deeper level of collaboration than small or startup brands. Brands are seeking deeper collaboration in product co-creation, such as Apple's development of a savings account.

Source: II:FS; Infosys Finacle.

	Internal product development	Joint product development
Governance	Single product manager	Joint senior steering group; daily project teams
Customer Jobs to be Done	Single, clear use case relevant to company business model	Single, clear use case relevant to both partners
Road map	Private road map owned by product manager	Open, flexible road maps; willingness to compromise
Testing	Private, with customers	Joint, with partners and customers
Architecture	May operate within a company's firewall	Cloud-based, RESTful APIs, and event streaming
Tooling	Company-specific choices	Modern industry standard tools, e.g. GitHub
Pricing	Defined by product manager	Negotiated between partners

“

The BaaS model relies on combining our product with multiple services. We have to manage expectations from our customers while making sure we can align with their projects and deadlines. We also have to commit to regulatory requirements. Some of our fintech customers would like to expand across Europe and we develop features to accompany them.



Laure Boutron
Global Head of Marketing &
Communications, Treezor, France

“

Who in the chain is determining what the needs of the end customer are? Do banks have the right picture of the customer to determine what their needs are? Some of the consumer businesses understand and target customers a lot better.”



Michael Pierce
SVP, Banking Commercial Director,
FintechOS, Germany

Managing customer data across multiple parties in the value chain increases the data protection risk

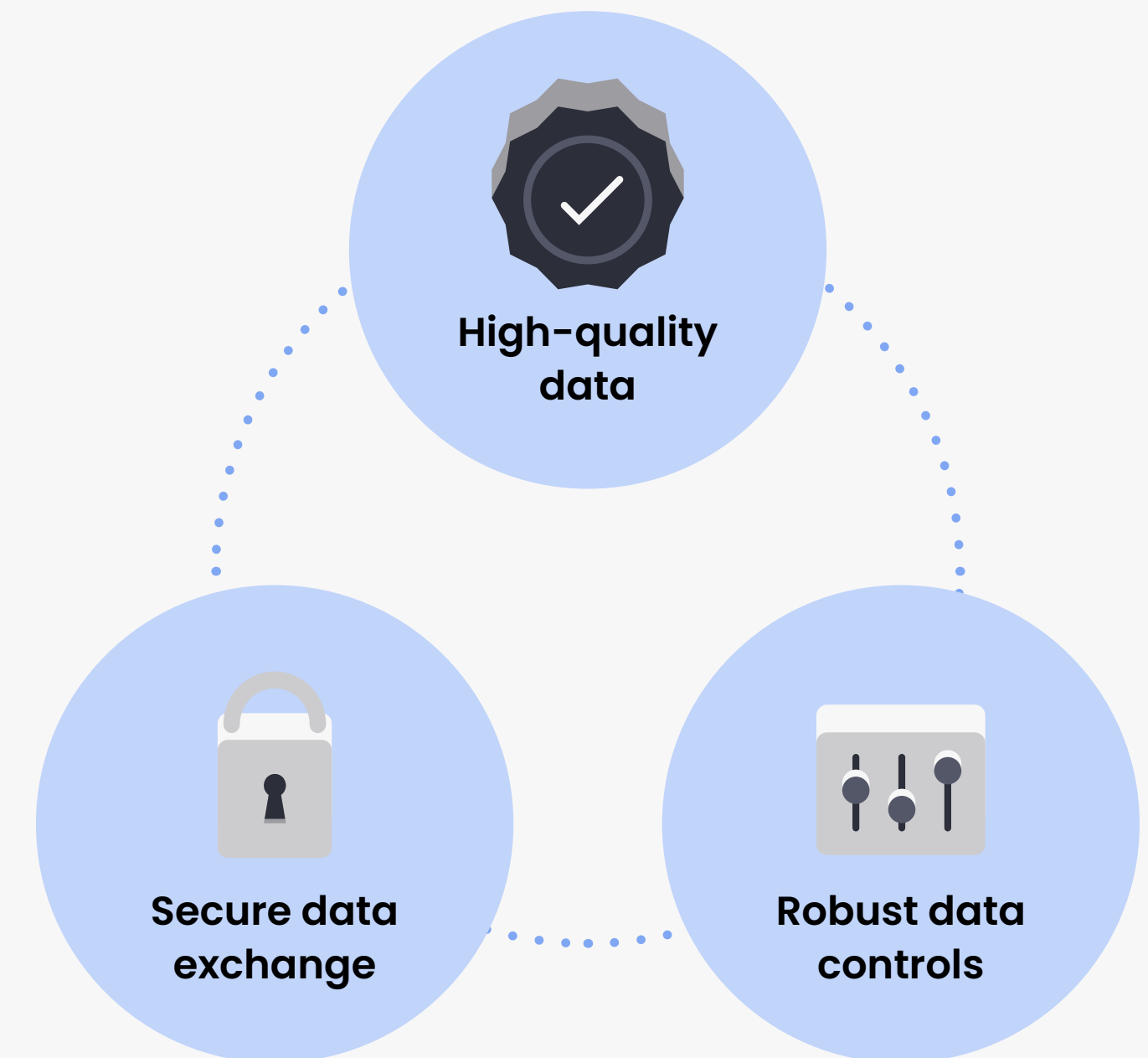
One of the great promises of embedded banking is the opportunity to use the data that brands hold about customers to tailor products and services to their individual needs.

For example, marketplaces hold detailed data about the revenues of businesses that sell on their marketplaces. That data can not only help with credit scoring and lending decisions, it can support propositions like invoice financing or automatic transaction reconciliation.

But sharing data is technically complicated and tightly governed by regulations such as Europe's General Data Protection Regulation (GDPR) and California's Consumer Privacy Act (CCPA). Mistakes are very expensive.

Data regulations are evolving fast. The Reserve Bank of India recently banned BaaS providers from holding customer data.

It takes time for companies to work out what people, processes and technologies are required for safe, effective data sharing — and to put them in place.



“

We have to have the data to make sure we can track it in terms of reporting and AML. As a regulated Electronic Money Institution, we need to track and make sure there's no money laundering or terrorist activity underneath one of our customer's agents. Being part of Societe Generale group helps us ensure world-class compliance.”



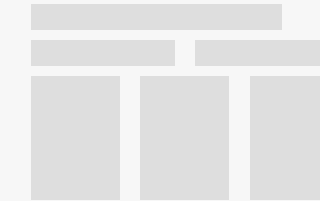
Laure Boutron
Global Head of Marketing
& Communications,
Treezor, France

Most banks' tech architectures weren't built with Banking as a Service in mind

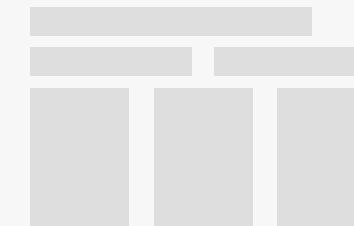
- Banks and their BaaS provider partners often depend on banks' existing technology stacks to deliver Banking as a Service. But these technology architectures weren't built with Banking as a Service in mind.
- BaaS providers have no option but to build on top of banks' existing tech stacks. This limits how much complexity they can eliminate through a modular platform of their own.
- Older, legacy banking platforms rarely have the flexibility to support real-time APIs and typically don't produce event-driven data.
- Banks with big BaaS ambitions will need to accelerate their core modernization to keep pace with their partners' expectations for product innovation.

Traditional architecture

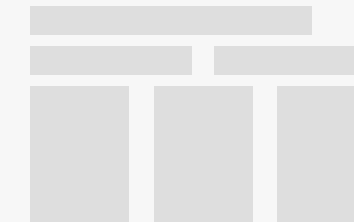
Hard to change
blocks of code



Large org and
tech silos



Large vendors
and bundled
software



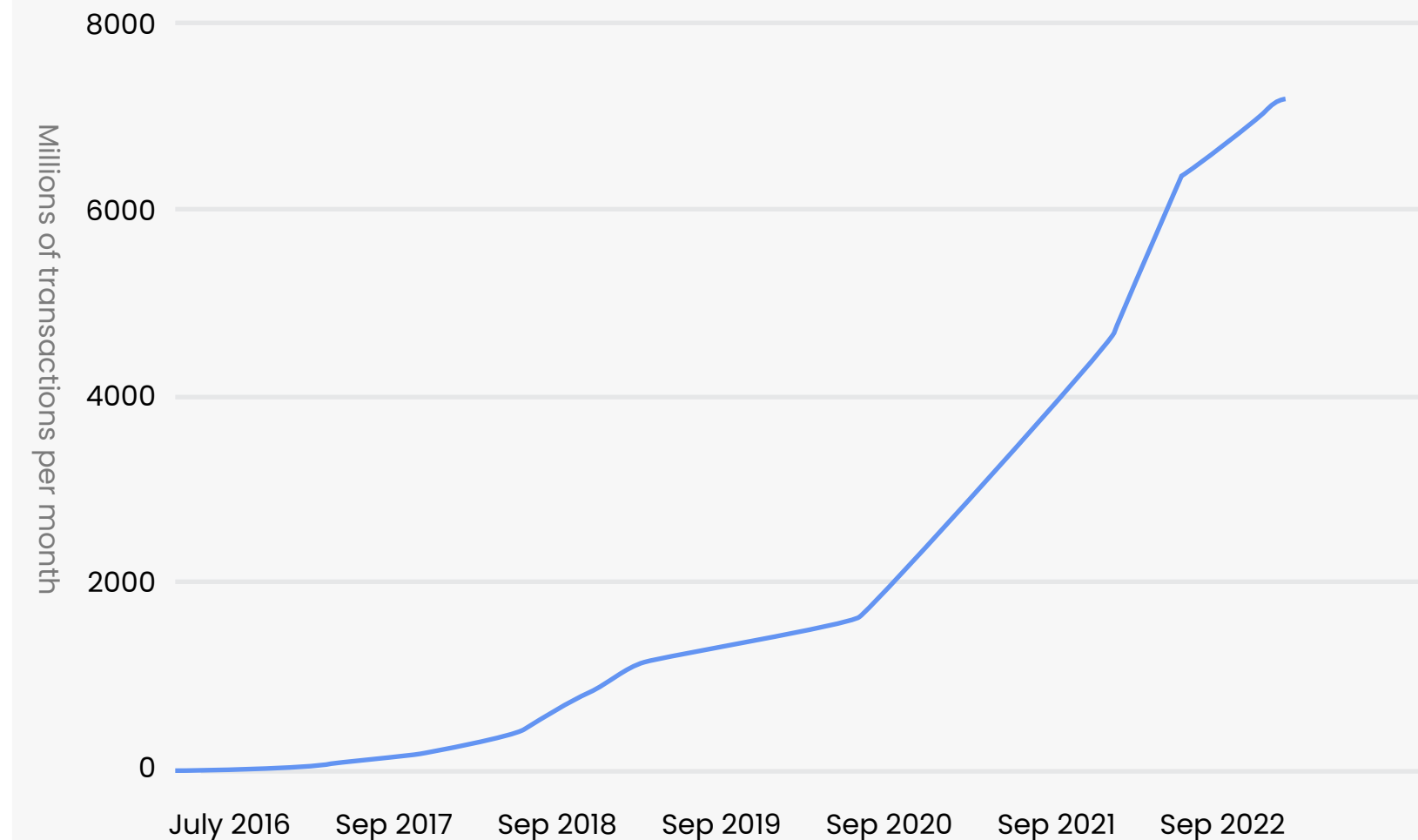
Embedded banking encourages high-volume, low-value transactions, driving up the cost of legacy tech

- The ease of accessing financial services in the context of other customer journeys encourages high-volume, low-value transactions as customers engage more.
- Banks can struggle to cope with the peak volumes generated by brand partners in sectors like retail, gaming and gambling.
- Consider India's open payments as an example. Since launch in 2016, open payments have grown to 6.8 billion transactions a month. More than 85% of these transactions originate in non-banking apps.
- Similarly, BNPL adoption has greatly increased the number, but not the value, of customer loans.
- The growing scale increases the total cost of running operations on outdated systems, as well as testing the resilience of these platforms.

Sources: NPCI; Infosys Finacle.

Growth of open payments transactions in India

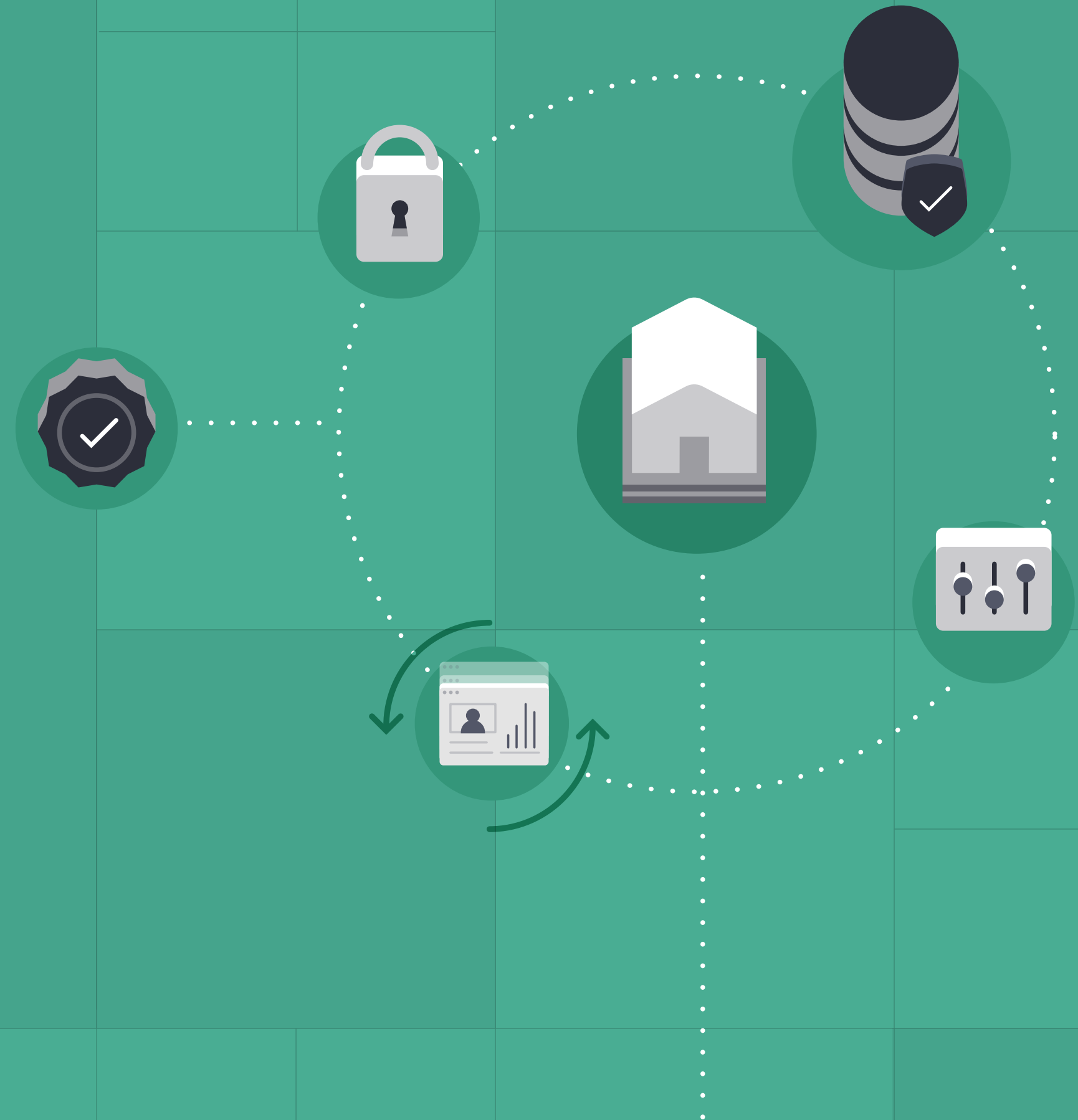
Large Indian banks are experiencing over 100 million API calls on peak days as a result of the growing adoption of embedded payments and banking.



RECOMMENDATIONS

Deliver embedded banking with an ecosystem mindset

Banks must adapt to become the optimal
embedded banking partner for brands.



In association with

Infosys | Finacle

Embedded banking is a fundamentally different business model that requires a truly digital mindset

- **People**

Embrace a digital mindset

- **Process**

Tailor your products and development processes to the partners that you want

- **Data**

Set up the people, processes and technologies for safe, effective data sharing

- **Technology**

Build embedded banking using modern architecture principles

- **Risk & Regulation**

Work with regulators and risk managers, not around them

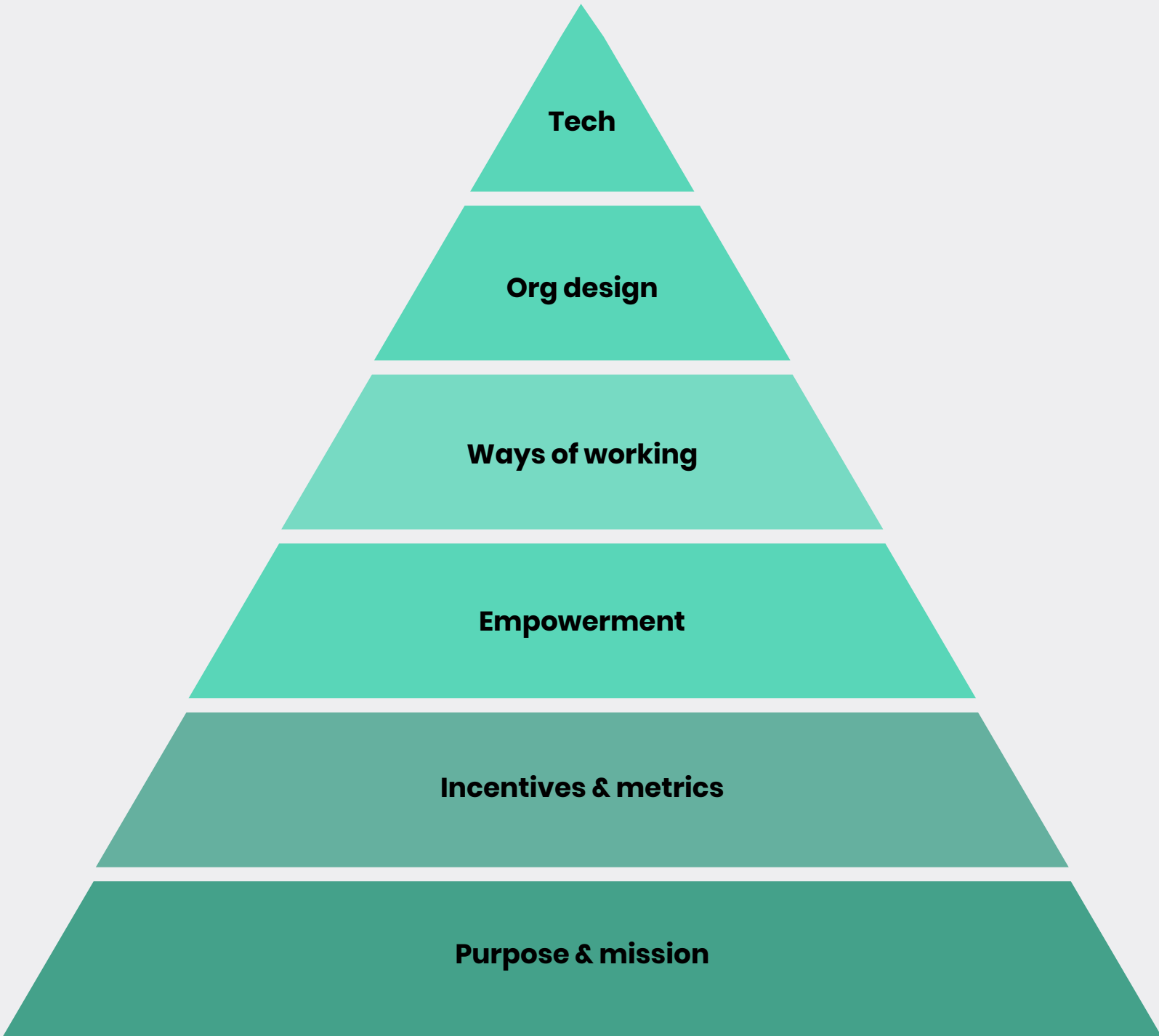
- **Partnerships**

Make it easy for other firms to partner with you

Embrace a digital ecosystem mindset to collaborate effectively

Build a customer-centric culture focused on solving for customer outcomes via partnerships:

- Purpose & mission: Businesses that have clearly defined their customer outcomes create focus on the common goal: the customer. Incentives, metrics and team alignment flow from the purpose and mission.
- Incentives & metrics: Truly digital firms align incentives to customer outcomes regardless of role. Partners building embedded banking must align on shared goals.
- Empowerment: Executing at pace requires pushing as much decision making to the edges as possible, including budgets, compliance and strategy.
- Ways of working: Modern industry-standard tooling (e.g. Slack, Notion) drives productivity when teams are empowered to use them. Shared tooling accelerates and simplifies collaboration between partners.
- Organisation design: Multi-disciplinary teams organised around solving for customer outcomes, both directly and via partnerships.
- Tech: Well-documented APIs, developer portals and sandboxes enable collaboration with partners at scale.



“

The biggest challenge is the mindset change and the cultural change. Is this a cannibalisation risk for an existing business? Not if you have 1% market share; maybe if you have 10%.

Many of the challenges in technology, governance and risk come down to a mindset shift in how a bank should operate in the future compared with how a bank has operated in the past.”



Kelvin Tan
Global Lead,
Standard Chartered nexus, Singapore

“

The cultures also have to blend really well together. There is no framework for this kind of partnership. You have to be able to understand each other’s perspective to a depth that you don’t necessarily have with other types of partnerships.

It’s made us better as an organization. Because it’s bringing new challenges and new ways of thinking.”



Nadya Hijazi
Managing Director & Global Head of
Wholesale Digital Channels, HSBC, UK

Tailor your products and development processes to the partners that you want

For small brands and startups, offer:

- Low cost and simple, flexible commercial terms
- The ability to quickly and easily go to market
- Expertise and help with filling internal knowledge gaps
- Assurance on data security and regulatory compliance

For emerging brands and larger companies, offer:

- Transparency on the product road map and long-term vision
- Stable and reliable service that can be relied upon to scale
- Quick responses to questions or issues as they arise
- Assurance on data security and regulatory compliance

For large brands and corporates, offer:

- Flexibility and openness to closer, more collaborative approach
- Strategic alignment and a shared vision for long-term partnership
- Collaborative development and testing of propositions with partners
- Dedicated teams for co-innovation and integration support

Common foundations for all partners:

- Processes designed for:
- Rapid access to developer portals and sandbox;
 - Well-documented API specifications;
 - API change logs, code samples, easily accessible support;
 - Clearly documented gating processes for production

“

The moment you say ‘Here’s a bunch of APIs, build whatever you want’, you can waste a lot of time building a super-innovative product that the sponsor bank cannot support. You need to work with the bank to understand the risk appetite and which product constructs are the ones that they believe are economically viable and can be distributed at scale.”



Roy Ng
Co-founder & CEO,
Bond, USA

Set up the people, processes and technologies for safe, effective data sharing

Put in place the people, processes and technologies needed for safe and effective sharing of complementary data and analytics that enables new value propositions.

Sources: MIT Center For Information Systems

Research; Sources: Infosys Finacle; 11:FS



High-quality data

Partners need to be able to share and access accurate, complete, and structured data that conforms to industry standards.



Secure data exchange

Ensure that technical infrastructure like API gateways, firewalls, and secure file transfer protocols (SFTPs) is in place to reduce cybersecurity risk. Use an event-driven architecture to publish data. Secure, govern and log API-based interactions with brands to ensure compliance.



Robust data controls


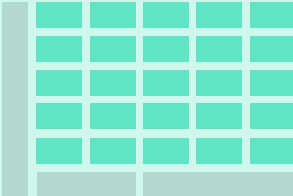
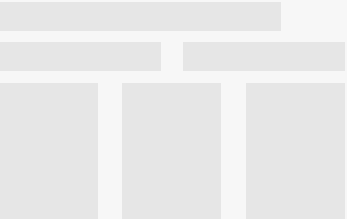
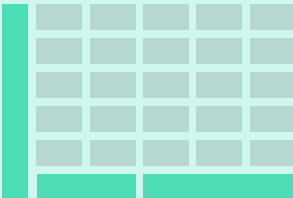
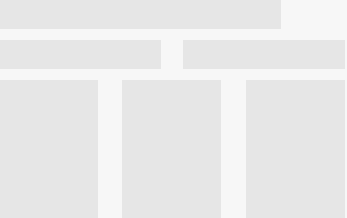
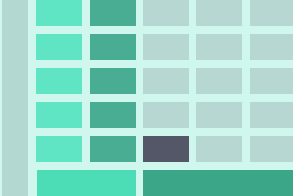
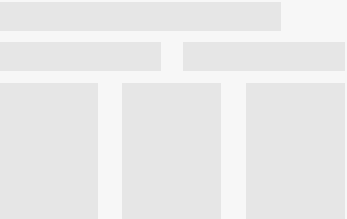
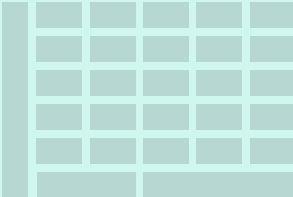
Ensure necessary customer permissions for sharing. Limit data sharing to data required for regulatory reporting (e.g. KYC) and data that supports clear use cases that benefit the customer (e.g. transaction reconciliation, credit scoring). Define responsibility and processes for dealing with leaks or breaches.

Build embedded banking using modern architecture principles

Four fundamentals for a flexible modern technology architecture are needed to support embedded banking:

- 1. **Break monoliths into *primitives*** to reduce the size of services, reduce the size of every change, and reduce the cost and risk of each change.
- 2. **Shift vertical silos into *horizontal*s** to maximize the re-use of capabilities (like digital onboarding, payments and customer data management) across business lines and reduce the complexity of all changes.
- 3. **Embrace cloud-based SaaS components** to take advantage of new specialist providers that have turned cost centres into best-in-class operations.
- 4. **Adopt API lifecycle management** to compose, manage, secure, and govern APIs. Follow industry API standards (such as BIAN, ISO 20022) to unlock partnerships at scale.

Source: IIF:FS. *'Rebuilding financial services from the inside'* report.

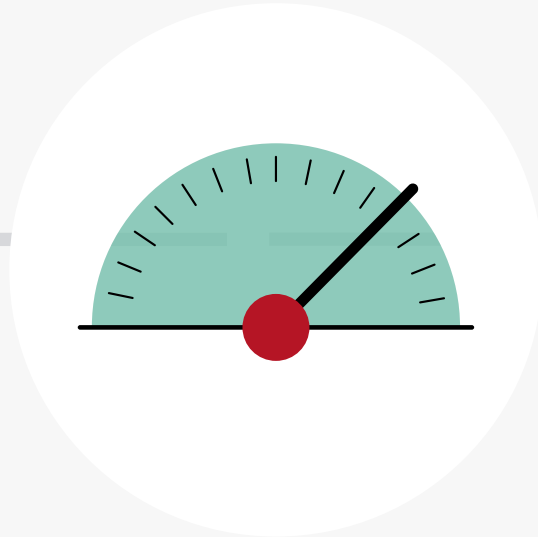
Traditional architecture	Modern, digital architecture
<div>Hard to change blocks of code</div> <div></div>	<div>API-first and microservice primitives on cloud infrastructure</div> <div></div>
<div>Large org and tech silos</div> <div></div>	<div>Layers of horizontal capability on cloud infrastructure</div> <div></div>
<div>Large vendors and bundled software</div> <div></div>	<div>Mix of specialists on cloud infrastructure</div> <div></div>
<div>Point to point connections to partners</div> <div></div>	<div>Open APIs based on industry standards</div> <div></div>

Work with regulators and risk managers, not around them

Regulatory compliance and risk management are crucial, but should not stop banks from delivering BaaS:

- Include risk managers and regulatory compliance experts in embedded banking initiatives from the outset.
- Know exactly what the regulations in your market say and do not say.
- Work with regulators and compliance colleagues to deliver the intent of the regulations.
- Identify appropriate customer protection safeguards to build into embedded banking products and services.
- Test new products and services with customers in a controlled environment, such as a regulatory sandbox.
- Make sure all partners understand the fundamental importance of regulatory compliance.

Source: Infosys Finacle; 11:FS



Governance

Making decisions and acting

Risk management

Identifying and mitigating risk

Compliance

Obeying laws and regulations

“

Our first company value is “compliance inside.” This is why our first hire was a Chief Compliance Officer who was a former regulator and knew what it meant to walk in the regulator’s shoes. It’s a meaningful chunk of our headcount and continues to be a strong focus for the company in 2022.”



Itai Damti
Founder & CEO,
Unit, USA

“

The regulators may not see the value proposition as clearly as fintechs and neobanks. If you can elevate their understanding of what a bank needs to operate then you can build a better ecosystem for both sides. There’s a desire to move quickly, but the industry we’re in is heavily regulated and we all need to appreciate that.”



Marcus Lobendahn
VP Strategic Partnerships,
Bond, USA

Make it easy for other firms to partner with you

Banks, BaaS providers and brands need to work together to deliver better outcomes for end customers. To succeed:

To succeed:

- ✓ Define what partnerships you want. Understand the difference between a vendor-buyer relationship and a mutually-beneficial partnership.
- ✓ Set out your strategy and road map for partners. Help your partners understand your vision for the future and when you plan to get there, ideally by sharing your road map. Build trust and confidence through transparency with your partners.
- ✓ Define your commercial terms clearly. Help your partners understand how you want the commercial relationship to work.
- ✓ Develop clear, flexible pricing models. Help your partners understand how the business model will work as their business scales.
- ✓ Reassure partners about regulatory compliance. Give your partners confidence about data security and regulatory compliance.
- ✓ Provide a single, consistent point of contact. Appoint a dedicated relationship manager for each of your partners to act as a single point of contact and problem solver.
- ✓ Help your partners' developers. Build a developer portal with well-written and well-documented APIs. Create a sandbox with relevant test data. Respond quickly to technical questions.

“

Our model is very much about partnership. Very few people actually just want a technology solution, particularly if they're doing it for the first time. There is just so much more to it than just plugging in an operating platform.”



Julia McColl
Chief Product Officer,
Chetwood Financial, UK

“

It really is a partnership with a joint shared vision, goal, objective and result that you're trying to deliver.”



Brian McKenney
Head of Growth and Innovation, Commercial
Banking, HSBC Platforms, HSBC, USA

THANK YOU

We would like
to thank the
following for
generously
giving their time
to contribute to
this research



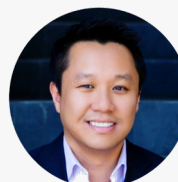
Tom Bentley
Head of Growth, Banking as a Service,
NatWest, UK



Brian McKenney
Head of Growth and Innovation,
Commercial Banking, HSBC Platforms, HSBC, USA



Laure Boutron
Global Head of Marketing &
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Itai Damti
Founder & CEO,
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Michael Pierce
SVP, Banking Commercial Director,
FintechOS, Germany



Mike Fullalove
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FintechOS, UK



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Julia McColl
Chief Product Officer,
Chetwood Financial, UK



Sidharth Rath
Managing Director and CEO,
SBM India



Nadya Hijazi
Managing Director & Global Head
of Wholesale Digital Channels,
Wholesale HSBC, UK

Glossary 1/2

Term	Definition
Anti-money-laundering (AML)	Practices and processes to prevent the laundering of money, i.e. hiding the true origins of the proceeds of crime.
Application Programming Interface (API)	An internet interface for direct computer-to-computer integration that defines interactions between software programs. APIs enable end-to-end customer journeys through the integration of data and digital services from different partners.
BaaS provider	A new breed of product API providers that partner with regulated banks to deliver financial products (such as loans, payments or deposit accounts) through APIs.
Banking as a Service (BaaS)	Banking as a Service is the provision of complete banking processes, such as loans, payments or deposit accounts, as a service using an existing licensed bank’s secure and regulated infrastructure with modern API-driven platforms.
Buy Now Pay Later (BNPL)	Buy Now, Pay Later is the popular name for point-of-sale lending, a form of credit offered at the point of sale.
Digital business platform	A modular technology infrastructure built around business APIs that can be built upon by third parties. A digital business platform orchestrates interactions between a network of people, businesses and assets that it does not necessarily own or control.
Embedded financial services	The integration of financial services into other (non-financial) services and experiences at the point of customer need.
International Bank Account Number (IBAN)	An internationally agreed system of identifying bank accounts across national borders to simplify the communication and processing of cross-border transactions with reduced risk of transcription errors.

Glossary 2/2

Term	Definition
Know Your Customer (KYC)	The processes, technologies and regulations required to verify the identity of a customer, assess their suitability for financial services, and identify any risks involved with maintaining a business relationship.
Platform business model	A digital business that generates revenue by enabling producers and consumers to exchange value on its platform. It sits at the heart of a network of people, businesses and assets that it doesn't necessarily own or control.
Representational State Transfer (REST)	REST is an architectural style and approach to communication used in most modern web services development. It's often used to build APIs that let users connect and interact with cloud services.
Unified Payments Interface (UPI)	An instant payments system developed by the National Payments Corporation of India (NPCI) to enable interbank transactions.
White-label financial services	The provision of financial products and services that are manufactured by one company, and then rebranded and sold by a different company.

How we can help



Digital financial services are only 1% finished.

11:FS is building the next 99%.

11:FS makes financial services businesses truly digital through next-generation propositions.

It delivers UX benchmarking through 11:FS Pulse, a Financial Services Operating System through 11:FS Foundry, research and consulting services through 11:FS Ventures, as well as industry-leading content and events.

11:FS works with challengers across the financial services industry and has researched, designed and built propositions for NatWest, Mox, Grab, and several large Middle Eastern and North American banks.

11fs.com



Infosys Finacle is an industry leader in digital banking solutions. Our cloud-native solutions and SaaS services address the core banking, digital engagement, payments, cash management, wealth management, and treasury requirements of banks globally. We are differentiated by our functionally-rich solutions, composable architecture, and an impeccable track record of delivering value. Our API Connect suite help banks launch and accelerate their banking-as-a-service propositions to unlock embedded finance opportunities at scale.

Today, banks in over 100 countries rely on Finacle to serve more than a billion people and millions of businesses.

edgeverve.com/finacle

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