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FinTech Focus: What is Banking-as-a-Service (BaaS)?

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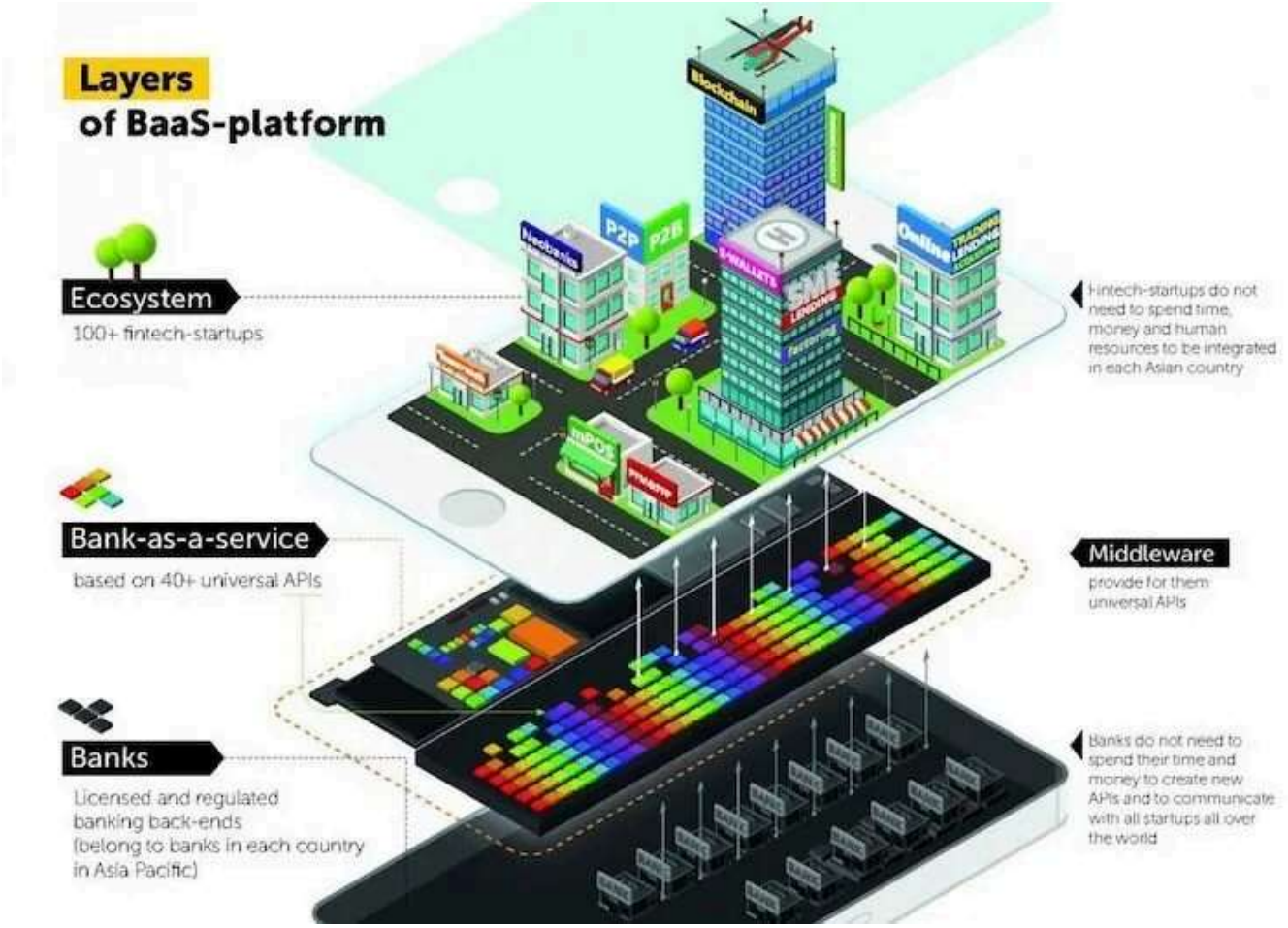


Layers in Banking-as-a-Service (Credit: Forbes)

SUMMARY:

- **Banking-as-a-Service (or BaaS) is a sector in FinTech that is disrupting the delivery of bank products;**
- **BaaS providers are an intermediary between banks and fintech that offer financial services to end users;**
- **Banking-as-a-Service is an ecosystem with multiple components and industry leaders, which varies globally due to regulatory frameworks for data access;**

2019 was a banner year for Banking-as-a-Service (BaaS). The growing sector within FinTech has helped create the neobank movement (e.g. Chime, Monzo, N26). It has also influenced big tech giants (e.g. Apple, Google) into offering their own branded financial services such as Google Checking and the Apple Card. BaaS is about digital-based banking structures that create and deliver financial services through data sharing, optimized process management systems, and specialized innovation.

Helping propel Banking-as-a-Service even further is the rising consumer sentiment favoring FinTech's disruptive impact in the last decade. Capgemini's World Retail Banking Report 2019 shows the public's acceptance of FinTech and big tech companies over traditional banks:

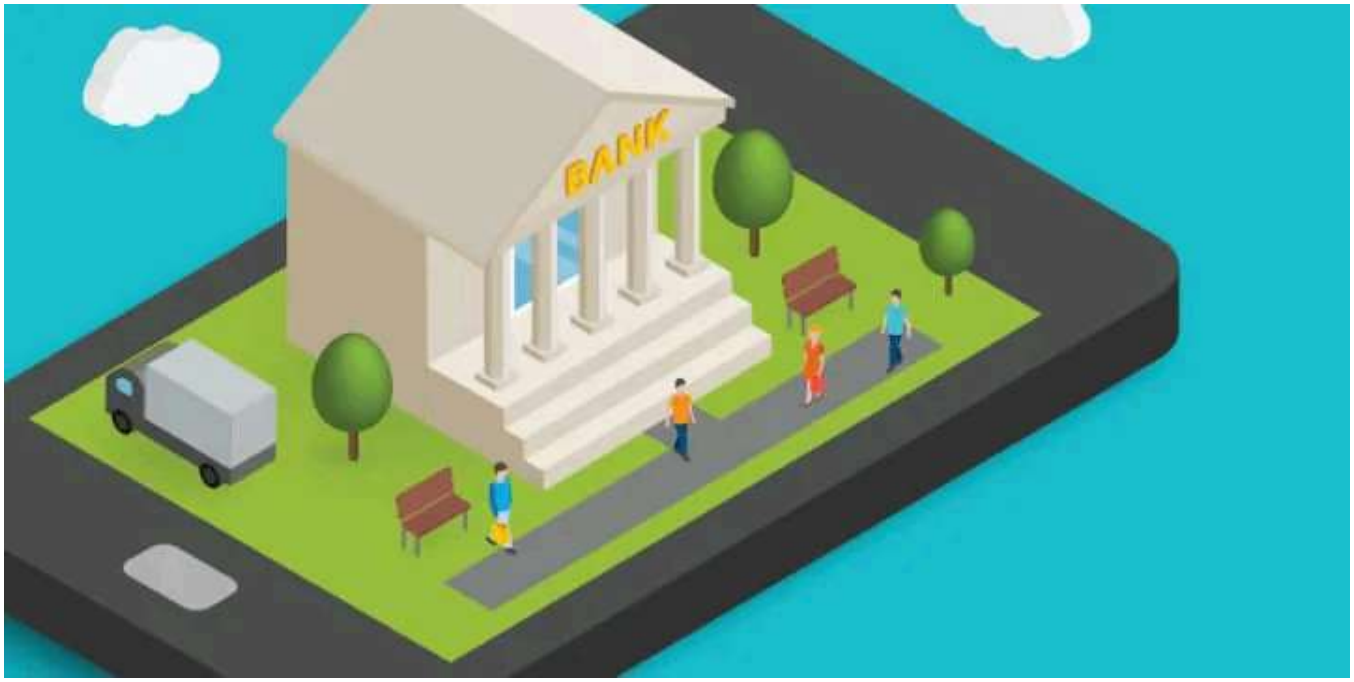
- 75% of tech-savvy consumers use at least one financial product from a big tech company;
- Customers choose non-traditional options for lower fees (70%), user experience (68%), and speed (54%);
- Over 80% of consumers that would switch financial services providers in the next 3 years, use a banking product from a big tech firm or digital bank.

FinTechs have been able to leverage Banking-as-a-Service (which influenced Open Banking in the EU) to offer innovative services and access to underserved market segments globally, such as the "unbanked" and "underbanked", small and medium sized business owners, and immigrants.

With digital banking continuously evolving and pushing established banks towards innovation, BaaS also provided an opportunity for financial institutions to bridge the user experience gap.

What does 2020 hold for the Banking-as-a-Service sector, its top players, global regulatory frameworks, and trends?

The Need for BaaS



Bank on Mobile Device (Credit: Bank NXT)

As fintech firms became known for lower friction and an enhanced customer experience, financial institutions and companies from other industries began exploring how to offer financial services virtually. Regional banks and credit unions struggle to maintain primary deposit relationships and provide similar services due to product silos, decades-old infrastructure, and traditional business models. Partnering with fintechs became a viable (and tested) option to leverage the most innovative tech solutions that consumers were using and a path to stay relevant within the industry.

For companies in search of how to launch a financial service, the path was lengthy and filled with multiple, costly hurdles. Such a venture required Money Service Business (MSB) registration and applying for state-by-state monetary transmission licenses (MTLs) in the US (which may take up to 2 years) — then the startup company would need to find a partner bank. This separate process required applying directly with a bank, who may ask to see large amounts of capital raised before starting their evaluation process (of 12–18 months). This path also required the startup to build out technology in-house (or outsource to a 3rd party) for the user interface and onboarding, regulatory and risk controls (such as Know-Your-Customer), and periodic agency audits or government reporting requirements. With

high upfront costs, investment capital required, and a timeframe of over 1–2 years just to test the market, firms were eager for a faster, low-cost solution.

How Banking-as-a-Service Works

Banking-as-a-Service has become THE dynamic solution in FinTech to digitally deliver a customer-centric, bank platform into the market quickly. BaaS providers have been able to provide a banking infrastructure through APIs (application programming interfaces) that can be implemented and launched in months without monetary licenses (for most use cases) or large rounds of capital. APIs can be visualized as Lego blocks that fit together to form a banking core framework — through a series of API calls a user can be created, and transactions executed. Further customization is then layered on top to set up deposit accounts, debit cards or credit cards, and loans.

Here's a detailed breakdown of the **3 layered, API-based Banking-as-a-Service stack:**

- The bottom level represents the traditional, nationally-chartered financial institution (bank) that partners with the BaaS provider — also known as "Infrastructure-as-a-Service (IaaS) layer."
- The middle represents the "Bank-as-a-Service layer" that maps out banking services customized as an ecosystem for FinTech startups and other companies, to deliver products to end users. This part of the stack sends data back and forth between the bank and FinTech, through the BaaS provider as an intermediary.
- The top layer is the FinTech company that interfaces with the end user — receiving data from customers on transaction requests that it sends to the BaaS layer. The BaaS provider also sends data from the bank to the FinTech as responses to transactions requests.

As the Banking-as-a-Service sector evolves to incorporate a cloud based stack, larger tech companies with banking licenses would be able to remove the layers. A potential example would be Amazon Web Services obtaining financial licensing and becoming a premier IaaS provider that also provides server hardware.

Additionally, banks in this model can develop Banking-as-a-Platform (BaaP) and deliver "FinTech SaaS", allowing companies to directly plug into their core infrastructure for banking products on-demand — without need of a BaaS provider

to be in the middle. The result would be a virtual marketplace for purchasing and launching bank products.

Exploring BaaS platforms

Laptop with BaaS-powered Digital Banking (Credit: Medici)

As a value network, BaaS integrates multiple service components of banking into one holistic process to deliver and process financial products in an effective and timely way. Some of these pieces help:

- manage and deploy the service environment;
- create protocols for customer authentication and information protection;
- confirm compliance with respective data laws and banking regulations (which may require the company or bank partner to have a banking charter or MTLs).

With this technology, digital banks have emerged that improve banking processes and access for specific customer segments. These neobanks (also called challenger banks in the UK) are enabled to compete directly with banks by offering core-banking services without the need to build everything in-house.

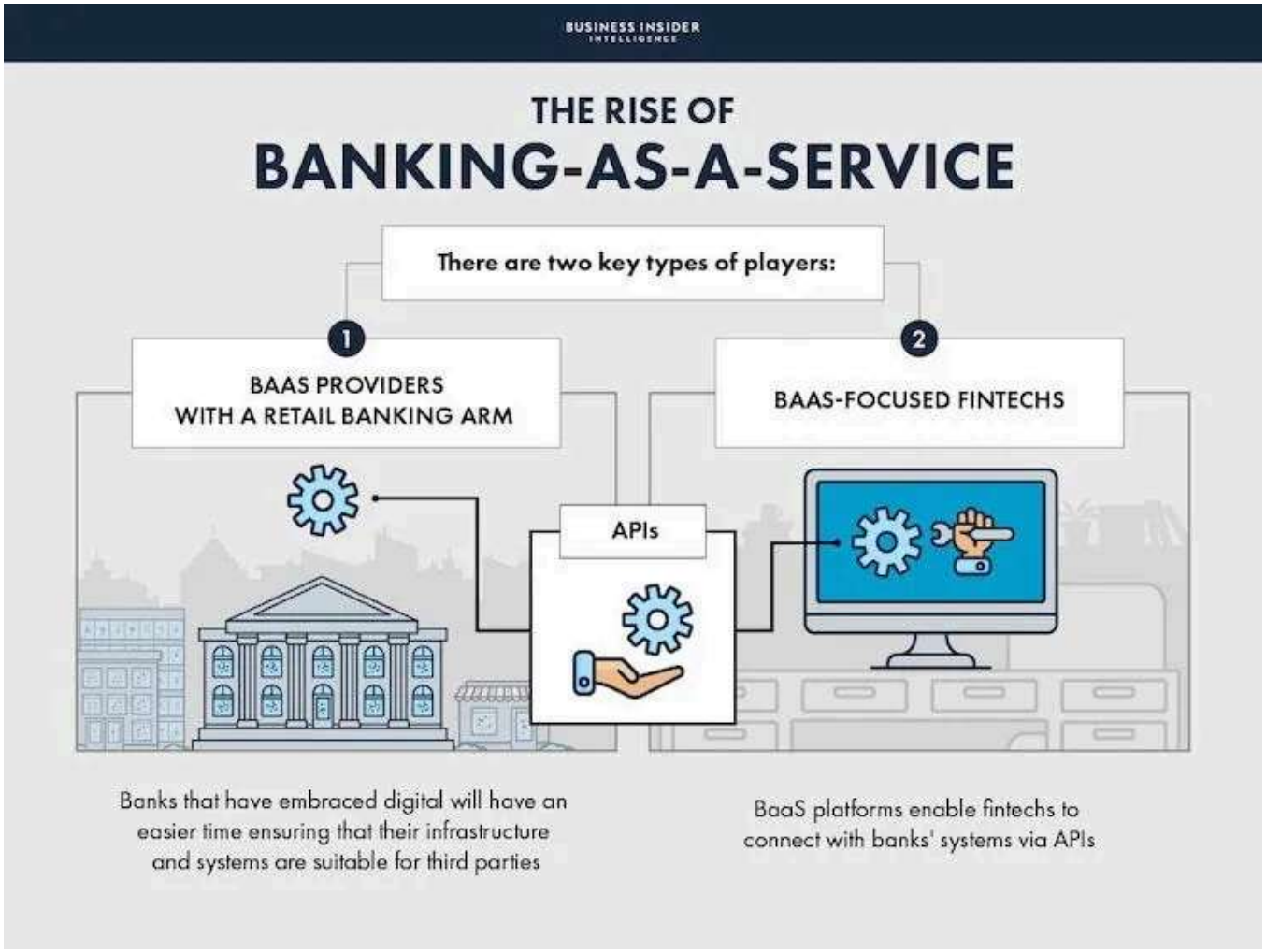
> *BaaS serves as the "plumbing" for these banks and FinTech startups — integrating seamlessly with any existing traditional bank through partnerships, and allowing non-*

> *bank entities to easily and cost-effectively launch new financial products and expand into additional markets.*

As for the customer experience of the end user, there are multiple ways how the bank or FinTech's front-end interface could be displayed:

- **BaaP provider interacts directly as a bank to customers.** The entire user experience of the banking client (including user authentication and other features) would belong to the BaaP. The bank appears as any other bank with a digital presence, delivering banking services seamlessly integrated from a single user interface.
- **White label banking.** The BaaS provider that offers this level of service is only responsible for operating the virtual bank "behind-the-scenes" with their API infrastructure. End users would log-in and interact only with the FinTech's app (no BaaS branding visible). White label banking is designed for companies that have a large pool of existing users, such as well-known retail and online stores, or single-function financial service providers looking to offer additional products. White-label BaaS companies that offer an assortment of products and services compete more effectively than single service firms.

Banking-as-a-Service Companies and Specialties



Banking-as-a-Service Players (Credit: Business Insider)

In the banking-as-a-service ecosystem, there are two types of players:

1. **FinTechs that offer BaaS** functionality to other companies to expand product portfolios quickly — also known as *Pure BaaS providers*;
2. **Traditional banks** that sensed the upcoming trend and opened up their banking capabilities to other FinTech players through APIs. For these *Banks with BaaS*, the banking-as-a-service capabilities helps create a hedge against tech competition and builds deposit share in wider market segments.

From these two players, there are three current areas of focus within the Banking-as-a-Service space:

Delivering a virtual bank — Numerous neobanks (also known as challenger banks) have been able to emerge and have success here. Based on this BaaS specialty, most (if not all) of the technology infrastructure is being distributed through digital core banking providers. This is often referred to as *Bank-in-a-Box*.

- **EXAMPLE:** Some established challenger banks with in-house BaaS expertise have been able to offer their own platforms as partnerships; Starling Bank has offered accounts and payments processing to Raisin, a savings marketplace;
- **PLAYERS:** Starling Bank, Temenos, solarisBank, ClearBank, Fidor Bank, BBVA

Standalone bank accounts and services — B2B clients are responsible for creating the (front-end) user-interface for their customers, while the BaaS provider plugs back-end APIs for full integration. This subset of BaaS is also known as *Accounts-as-a-Service*.

- **EXAMPLE:** Multiple fintech platforms such as Dave, SoFi, and Betterment have launched deposit accounts as an add-on product to their initial core offering — powered by white-label BaaS providers or bank partnerships;
- **PLAYERS:** Top companies and what they offer — Synapse (deposit accounts, loans, card programs, crypto, payments), Cambr (deposit accounts, debit cards, payments), Bankable (digital banking, card programs, e-wallets), Treezor (payments), GreenDot (deposit accounts, card programs, payments).

Upgrading outdated infrastructure of legacy banks — Financial institutions, especially in the US, have grown in size over the last 50 years from multiple acquisitions and consolidations of smaller, regional banks. The long-term effects of this growth have been outdated legacy systems, leaving technology gaps within the larger entity.

- **EXAMPLE:** BaaS providers migrate older tech stacks into efficient banking cores that are all cloud-connected and hosted by third-party providers. Banks who have attempted to take on such an internal digital transformation in the past, have spent millions over 3–5 years without any success.
- **PLAYERS:** 11:FS Foundry

BaaS drives Open Banking

BaaS Open Banking Landscape (Credit: Business Insider)

Around the world, the access and benefits of Banking-as-a-Service fueled the Open Banking. Born from regulation pushing banks to open access of client data to 3rd parties, open banking has spawned the popular independent banking brands we see today such as Revolut, Chime, and Monzo. Even though sharing data openly is now required, financial institutions are still cautious of risk exposure to their customers due to poor external controls and security.

Globally, open banking is in stages of development influenced by a varied regulatory landscape of data access:

- **Europe**: Known as a region to pioneer open-banking, Payment Services Directive (PSD) and its 2nd amendment (PSD2) were landmarks introduced in November 2015. With established standards for an ecosystem of regulation, infrastructure, and authorizations favoring 3rd-parties, there were no early barriers to open banking.
- **Africa**: Due to the critical need for the industry to have widespread, mobile-based reach in underserved and remote areas, national regulation must impact

both telecommunications and financial markets. Nigeria (and other countries in the region) has launched an Open Technology Association to develop API standards for open banking.

- **Asia**: Due to similar fragmentation in jurisdictions, a unified regulatory framework has been difficult to achieve — however, positive changes are on the way. Hong Kong's monetary authority released reporting on open APIs for the development of an open banking ecosystem. Also, Japan has made several revisions to banking laws in 2017 that will require collaboration between banks fintechs using APIs, by end of 2019.

- **Mexico and Latin America**: Recent positive changes are in the works, as Mexico passed FinTech laws requiring banks to create open APIs. In South America, Brazil and Chile have also developed new rules for open banking.

- **United States**: Having multiple agencies highly regulating banking at both state and federal levels, open innovation from non-bank financial service providers has struggled to flourish. The Securities and Exchange Commission (SEC) is the leading agency responsible for the majority of regulatory enforcement, with other responsibilities monitored by the Financial Crimes Enforcement Network (FinCen) and the Office of the Comptroller of the Currency (OCC). Banks have slowly taken the lead in forming independent groups to review revisions for open banking, but have no impulse to make changes quickly.

- **Canada**: The Department of Finance recently launched a separate Advisory Committee on Open Banking to gather information on how to drive necessary changes for growth.

- **Australia**: Despite not having PSD-type regulation, the country has still made strides for banks to open access to accounts and data by February 2020, and debt-type accounts (e.g. personal loans, mortgages, other asset-based financing) by July 2021.

Overall, the United Kingdom (and greater EU), and Australia are early adopters and drivers of approved open banking environments. Due to transparent regulatory conditions allowing 3rd party access of bank data, and clear ownership of an individual's personal information — these regions will continue to lead the pack globally. As of September 2019, there are 143 financial services providers

(monitored by UK's Financial Conduct Authority, aka FCA) registered for open banking.

Despite having an established reputation for financial services innovation, the United States and Asia are considered industry laggards in open banking due to the lack of regulatory guidance and infrastructure for banks to openly work with fintech companies. Once these regions move away from 'reviewing' to 'acting' on open banking initiatives, the global leadership will start to quickly change.

Banking-as-a-Service Trends for 2020

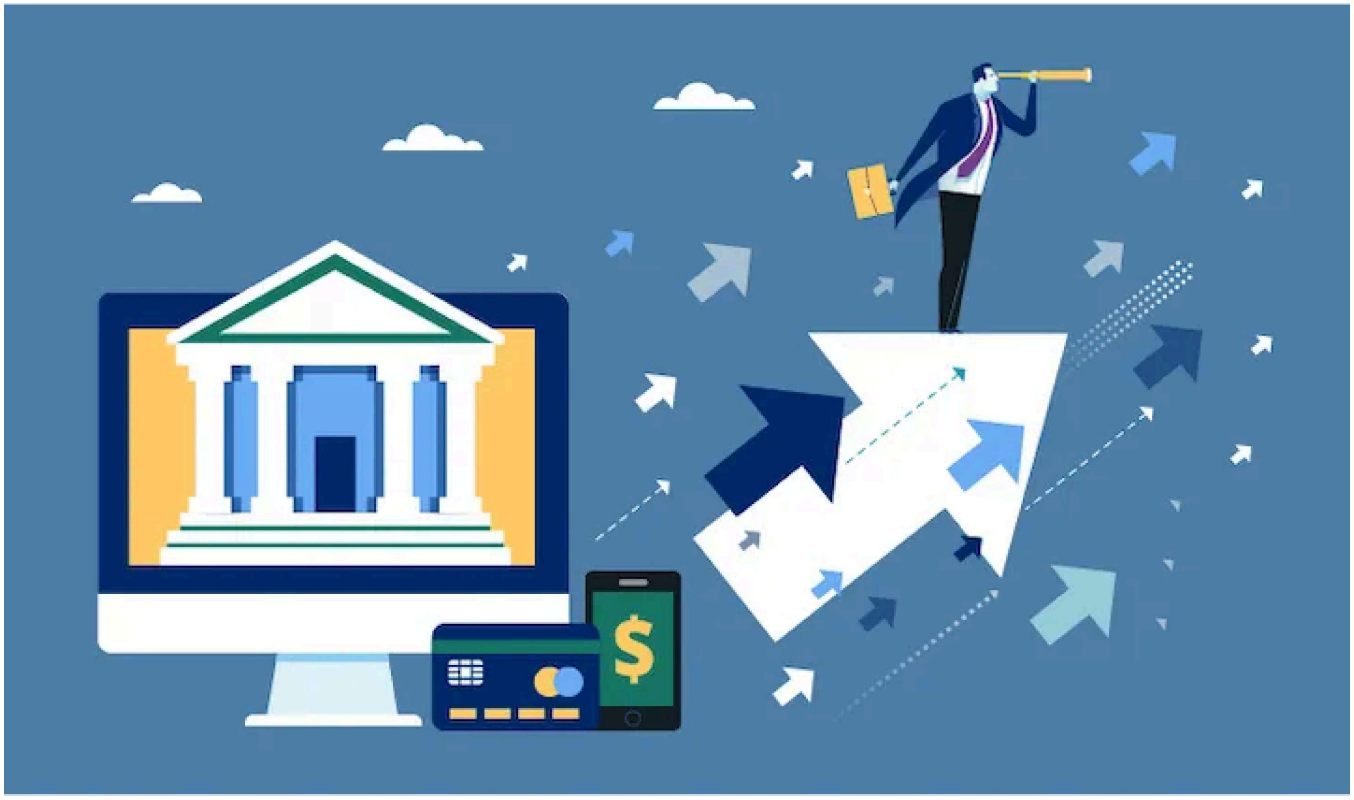
Banking-as-a-Service Trends (Credit: AE Research)

The future of BaaS will be a much more mature, refined, and optimized version of what we see today. The definition of BaaS will be split into multiple subcategories with new market entrants, especially large tech giants that have been standing on the sidelines. In the next few years, the industry will grow to become transparent as firms and regulators will work together to bring all banking services via API.

This enhanced model of banking will push out banking services to apps and other pieces of software. Consumers no longer need to go to a bank OR talk to a person (due to AI-enabled bots) to complete any banking activity. The absence of the "human touch" will dramatically change a primary banking relationship as users can quickly switch their banking to new companies that deliver on individual financial wellness goals, such as long-term wealth and debt management.

Cyber-crime will remain a constant and serious threat in banking. The introduction of added gateways through APIs has increased levels of risk, which require enhanced firewalls and other controls to prevent intrusions. How companies onboard users virtually will be critical in determining secure KYC protocols and authentication standards, while balancing a valuable user experience. Being able to create and protect digital fingerprints that validate an end user quickly without requesting re-entry of personal information and physical ID, will lead to dramatic industry growth and trust.

FUTURE OUTLOOK OF BAAS



From Traditional Banking to Open Banking (Credit: ScienceSoft)

Overall, the Banking-as-a-Service sector will achieve mainstream adoption in the next decade as consumers demand the best from financial services providers.

Players within BaaS will start to overlap as banks become more “FinTech-like” and fintechs build the same banking capabilities from a less regulated landscape. New competition will come from tech giants that have established customer groups who would benefit from the same brand of innovation, but in their financial lives.

Risk and controls will evolve to protect critical customer data, but allow for a smoother process for identity verification across multiple companies and services.

Consumers will consolidate their deposit balances with companies that are able to deliver a full ecosystem of financial services customized and adaptable to their changes in life — regardless if banks, fintechs, tech giants, or some hybrid mix of these firms is delivering the solution. Banking-as-a-Service will continue to make banking widely available to any company capable of delivering valuable services to customer or market segments around the world.

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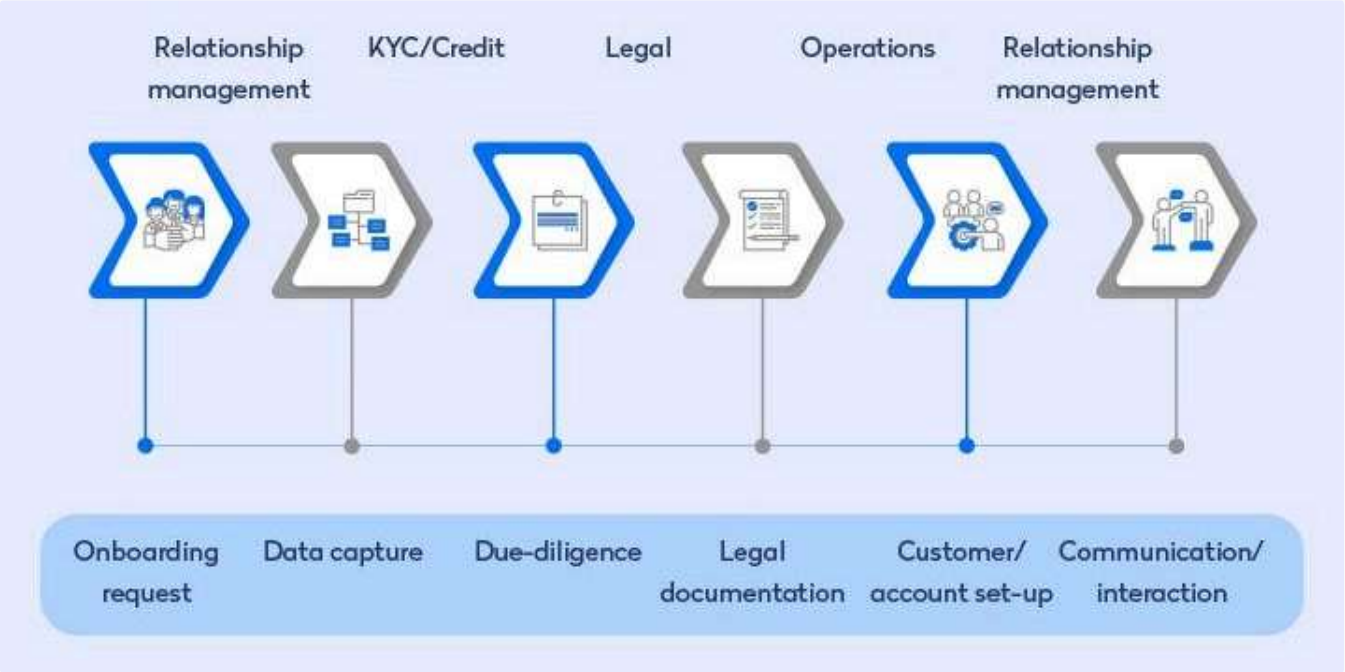

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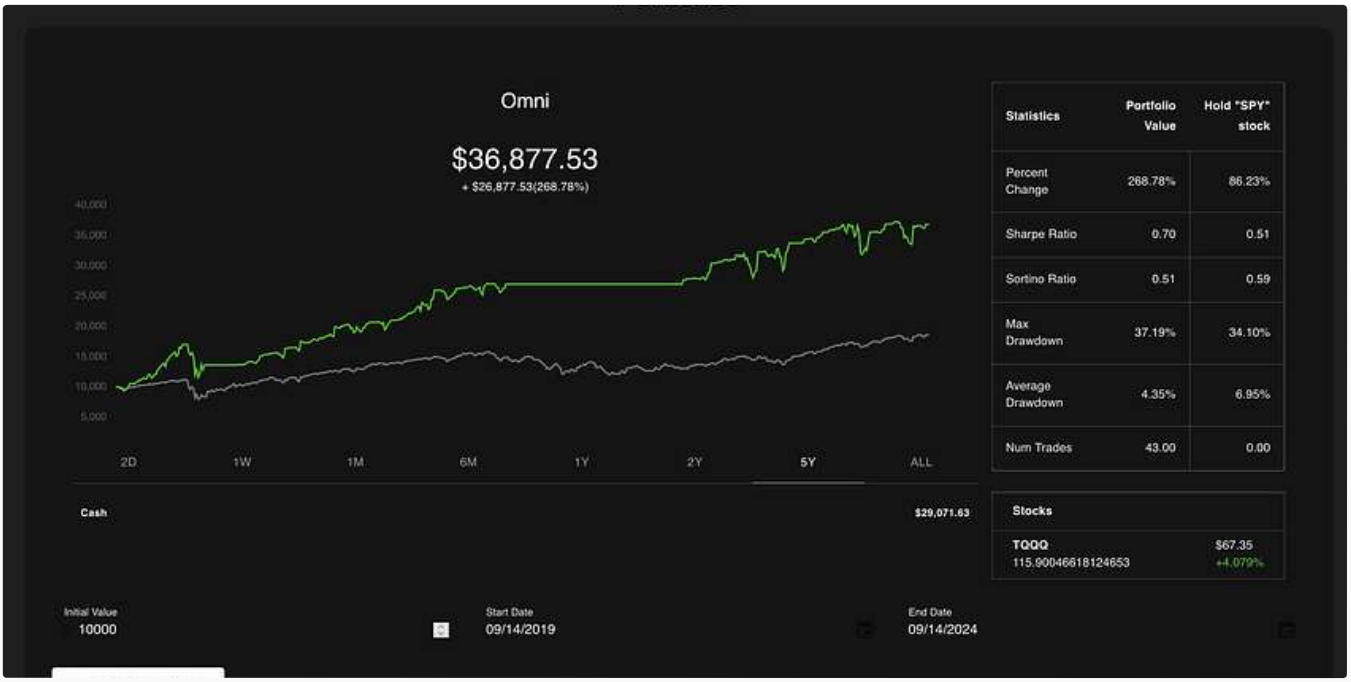

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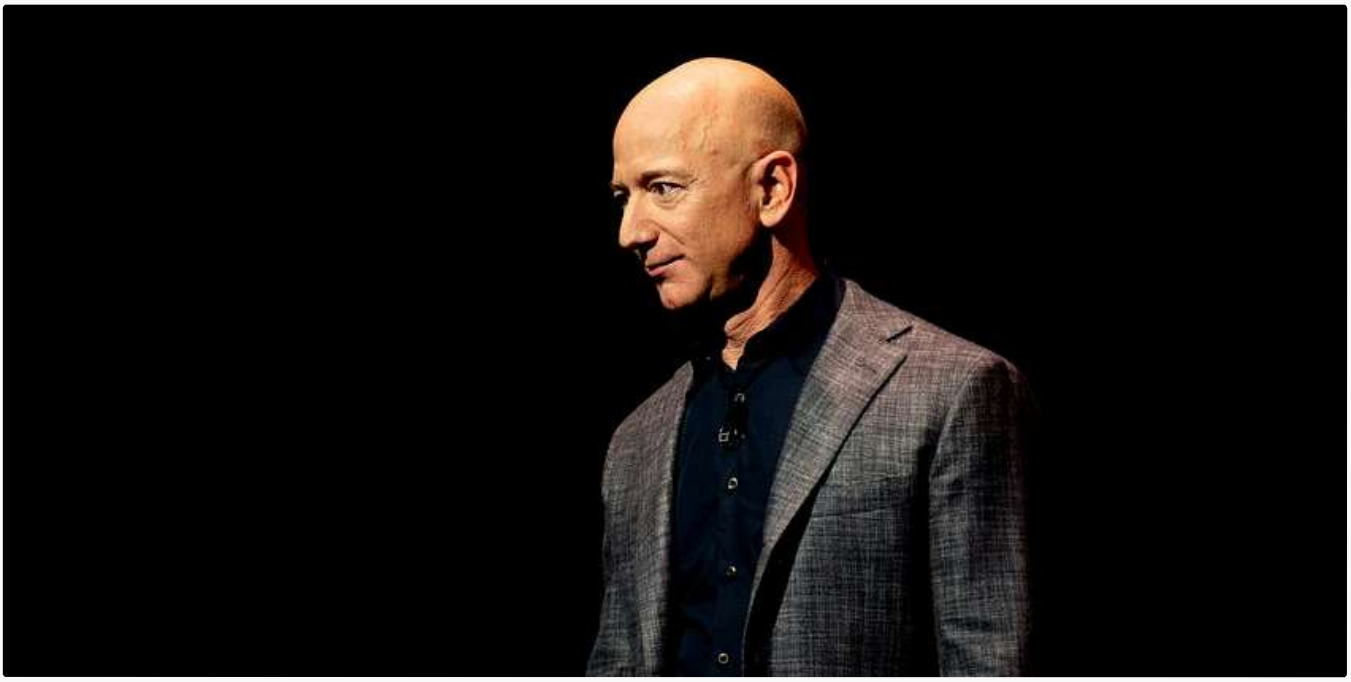

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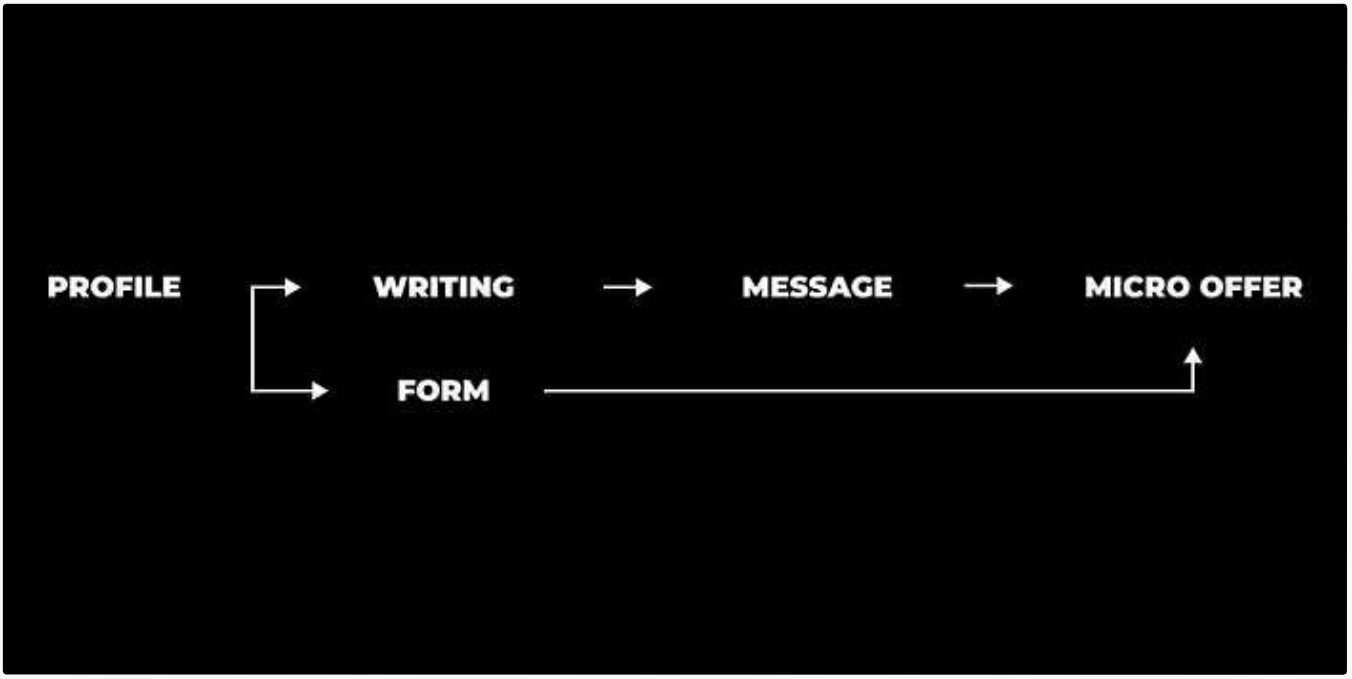

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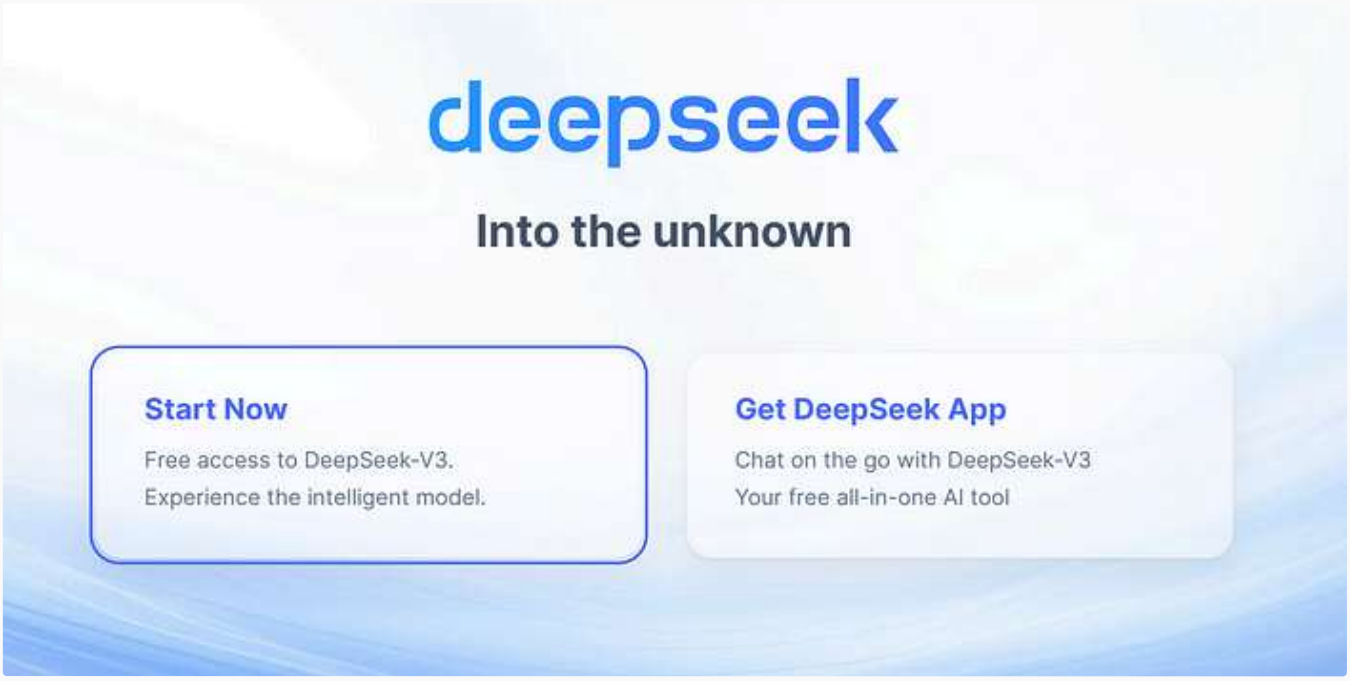

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