Bridging Horizons

Navigating BaaS adoption, risks and governance for financial institutions

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KPMG in Singapore

Contents

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audax Financial Technology is a comprehensive digital banking solutions provider empowering banks and financial institutions to scale and modernise at speed. audax Financial Technology has enabled new business models and revenue streams for Standard Chartered under the SC nexus proposition, becoming the first global bank to provide Banking-as-a-Service in Asia.

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Executive summary

The financial sector is evolving towards a future where Banking-as-a-Service (BaaS) holds significant importance. Total BaaS revenue is set to rise from US$11 billion in 2022 to over US$38 billion in 2027,[1] with a projected global growth rate of 70 percent for BaaS migration in the next three years.[2] It becomes increasingly imperative for banks to not merely adopt but lead in this transformative journey.

BaaS entails financial institutions (FIs) with banking licenses enabling technology and processes that facilitate ecosystem partners to offer white-labelled financial products. This enables ecosystem partners to offer financial products with strong synergy to their core business, and FIs to expand their customer base at much lower acquisition costs.

This paper is tailored for banks and FIs seeking to adapt and implement a BaaS strategy within their organisations. This would help banks and FIs secure market leadership and relevance in an evolving financial landscape. Outlining the pivotal role of BaaS in the financial services sector, this paper highlights the benefits of BaaS implementation which includes returns on equity, enriched cross-selling opportunities, and access to untapped revenue streams.

While the future of BaaS appears promising, its adoption among banks and FIs faces significant hurdles, both externally (including regulatory compliance and reputational risk) and internally (operational readiness as well as risk management framework and controls). This paper aims to shed light on the complexities and challenges inherent in BaaS implementation, offering insights on how FIs can effectively navigate these obstacles to successfully implement BaaS. Furthermore, the paper provides proven case studies to illustrate BaaS implementations, empowering FIs to effectively embrace this transformative approach.

In navigating this dynamic landscape, strategic partnerships play a pivotal role. FIs embarking on their BaaS expedition often find value in collaborating with fintechs, such as audax, for innovation and speed to market. By harnessing the innovative technologies and approaches of partners, FIs gain a roadmap to enable them to bring new financial products and services to market faster. This approach allows FIs to seize emerging opportunities with agility and capitalise on market trends more effectively.

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1. Tetnowski, D. (2022). Banking-as-a-Service: Segment Analysis, Competitor Leaderboard & Market Forecasts 2022-2027 [Review of Banking-as-a-Service: Segment Analysis, Competitor Leaderboard & Market Forecasts 2022-2027]. Juniper Research. https://www.juniperresearch.com/research/fintech-payments/banking/banking-as-a-service-research-report/
2. Finastra. (2022). Banking as a Service Outlook 2022 | Paving the way for Embedded finance [Review of Banking as a Service Outlook 2022 | Paving the way for Embedded finance]. Finastra. https://www.finastra.com/viewpoints/white-paper/baas-global-outlook-2022

BaaS adoption: What BaaS means for financial institutions

Exploring the fundamentals of BaaS, this section delves into BaaS' implications in our increasingly digitised world, its comparison with open banking and embedded finance, as well as applicable use cases for non-FIs.

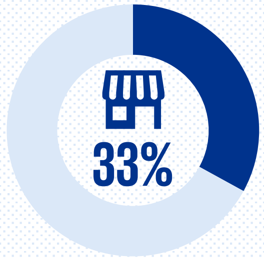
Defining BaaS

The definition and operation of BaaS involves FIs with banking licenses rearranging its business processes and technologies to empower other non-financial businesses with the ability to issue white-labelled financial products and services.

One of the main reasons for FIs to embark on BaaS is because it opens up new distribution channels, with many non-banking ecosystems and platforms, such as e-commerce, telcos, and ride-hailing companies (these are referred to as ecosystem partners in this paper), that can greatly benefit from providing financial services to their customers and business partners.

As a rising enabling technology, BaaS enables mutually beneficial and innovative partnerships for the market: ecosystem partners can leverage BaaS to offer financial products that have a strong synergy with their core business, while FIs can expand their customer base at a fraction of the usual customer acquisition cost. Importantly, ecosystem partners are not required to obtain their own banking license to offer these financial products.

The growth of BaaS is expected to accelerate, demonstrating the collective shift towards innovation and operational efficiency among FIs. From KPMG's industry engagements, it is observed that majority of FI leaders agree that platform-based business models powered by BaaS will provide them with significant advantages, opportunities for expansion and driving profitability.



33% of ecosystem partners who are looking to provide Embedded Finance solution are already in advanced stages of implementing BaaS[3]

3. Rosner, E. (2022). BaaS and embedded finance: a $7 trillion opportunity [Review of BaaS and embedded finance: a $7 trillion opportunity]. IBS Intelligence. https://ibsintelligence.com/blogs/baas-and-embedded-finance-a-7-trillion-opportunity/

Exploring BaaS in comparison to open banking and embedded finance

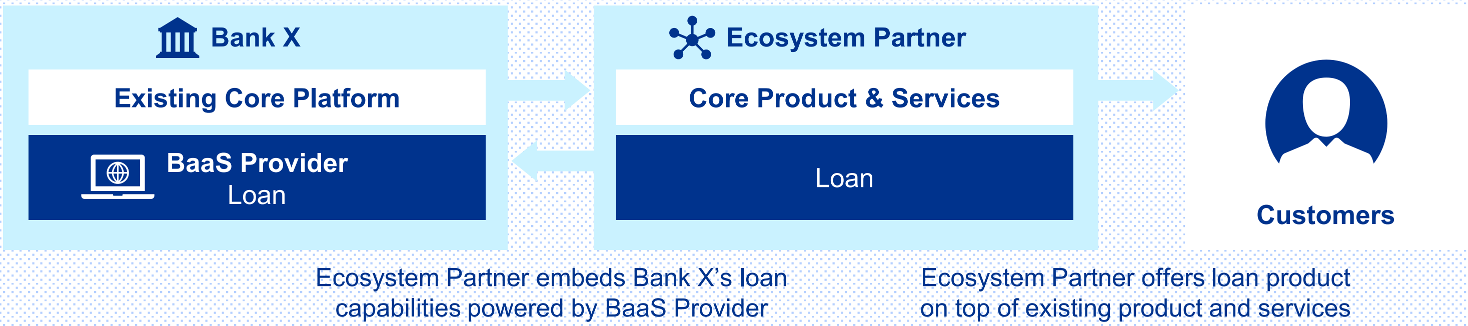
In the constantly evolving landscape of financial services, terms like open banking and embedded finance have emerged alongside BaaS, often intertwined in discussions. Understanding these concepts is essential to navigating the complexities of modern banking ecosystems.

Open banking refers to the regulatory framework that facilitates third-party financial service providers in accessing and utilising customer banking data and services through application programming interfaces (APIs). This empowers customers to grant these providers access to their financial information, including account data and transaction history, electronically and securely. This enables the development of new applications and services that improve financial management, facilitate payments, and enhance customer experiences.

BaaS encompasses the provision of banking services by a licensed financial institution through APIs or other technology interfaces. Unlike open banking, which is a framework and model that primarily focuses on data sharing access, BaaS involves offering a wide range of banking functions, including account management, payments and lending, as modular services that can be integrated into third-party applications. While open banking facilitates access to financial data, BaaS goes a step further by enabling the actual delivery of financial services.

For many situations FIs may consider adopting BaaS capabilities as a more advantageous option to drive new business growth for its ability of rapid deployment. BaaS also serves as the underlying technology and infrastructure powering **embedded finance** offerings. Embedded finance is the seamless integration of financial services, including lending, payments, and savings into non-financial platforms, products, or experiences. By incorporating financial products and services into ecosystem partners' core products and services, these businesses can foster stronger customer loyalty, increase sales conversion rate, and drive additional revenue growth.

BaaS empowers Bank X to white-label financial products through ecosystem partners' platforms



Opportunities enabled for FIs and ecosystem partners

The innovation of BaaS presents a lucrative opportunity for FIs and ecosystem partners to delve deep into as consumers are demanding seamlessly integrated transaction experiences. Given the rapid growth of digital lending alongside a vast unmet financing demand across Asia, it is clear that FIs in the region should embrace and adopt new capabilities to effectively capture market opportunities and maintain competitiveness.

Faced with the imperative to enhance internal efficiencies and curtail operational costs, FIs are increasingly turning to BaaS. This shift comes at a crucial juncture, as highlighted by a KPMG survey indicating that cost management is rated a top concern for banks. The adoption of white-label digital banking tools within the BaaS framework presents a viable solution, potentially reducing the cost-to-income ratio by as much as 20 percent.[4] Consequently, the heightened level of efficiency is likely to prompt FIs to reassess their existing operational models, recognising the compelling benefits of adopting BaaS solutions.

4.KPMG Malaysia. (2022). Customer-centricity in retail banking: Personalisation [Review of Customer-centricity in retail banking: Personalisation]. KPMG. https://assets.kpmg.com/content/dam/kpmg/my/pdf/customer-centricity-in-retail-banking-2.pdf

Benefits for FIs:

New market segments and revenue streams:
Banks equipped to providing white-labelled digital banking solutions can increase conversion rate by up to seven times and doubles the potential return per customer.[5]

Increased upselling and cross-selling:
Seamless integration allows banks to gather customer data for personalised offerings, enhancing retention and driving cross-selling for increased revenue.

Enhanced efficiency and agility:
BaaS capabilities can reduce acquisition, onboarding, and operational costs, resulting in significant savings. It can propel new banking product launch several times faster than traditional model. This agility accelerates time-to-market and reduces resources necessary to bring innovations to market.

Benefits for Ecosystem Partners:
BaaS enablement presents an opportunity for ecosystem partners, with its deployment already yielding significant revenue growth and increasing customer engagement. For example, with the usage of Buy Now, Pay Later (BNPL) increased by three folds, e-commerce retailers can expect the use of BNPL to help increase its conversion rate.[6] Many embedded finance partnerships incorporate revenue-sharing commercial terms, fostering mutually beneficial relationships to go to market with.

Ecosystem partners from across industries have ventured into embedded finance, giving the market many inventive partnerships and hyper-personalised products. To achieve successful adoption and product offering, ecosystem partners must identify customer pain points and product gaps in their offering, so as to engage with tech enabled FIs to offer bespoke financial products and services, producing a differentiated customer experience.

5.KPMG Malaysia. (2022). Customer-centricity in retail banking: Personalisation [Review of Customer-centricity in retail banking: Personalisation]. KPMG. https://assets.kpmg.com/content/dam/kpmg/my/pdf/customer-centricity-in-retail-banking-2.pdf
6.KPMG. (2022). Frontiers in Finance Issue #64 [Review of Frontiers in Finance Issue #64]. KPMG. https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2022/05/frontiers-in-finance.pdf

Innovative BaaS-enabled embedded finance use cases for ecosystem partners:

▶ Healthcare

Healthcare is predicted to accelerate, harnessing technology and data for transaction and engagement [7]

In response to rapidly aging societies in Asia, there is a notable surge in innovations and government initiatives aimed at bolstering efficiency and improving care within the region's healthcare sector.

Embedding payment and **flexible financing** can enable greater accessibility to essential support services and medication.

Streamlining interactions and transactions between market participants and patients will not only promote transparency but also foster greater trust within the patient-provider relationship.

▶ Payment & Fintech

Digital payment continues to attract the highest share of fintech investment globally, with expectations of continuous growth[8]

In the realm of payment services, digitisation and innovative approaches have sparked a revolution in expectations and engagement.

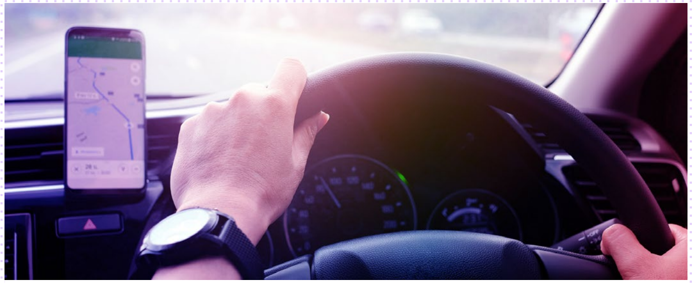
By leveraging the capacity to provide **interest rates** and **credit** alongside core transactional functions, companies can craft a distinctive product experience that resonates with consumers.

Expanding capabilities through strategic partnerships. such as **branded credit cards** with closed-loop loyalty offerings, enables the creation of deeper engaging ecosystems.

7.KPMG International. (2023). Healthcare Horizons [Review of Healthcare Horizons]. KPMG. https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2023/01/healthcare-horizons.pdf
8.KPMG Singapore. (2023). Singapore's AI funding skyrockets, fintech remains resilient amid global funding decline [Review of Singapore's AI funding skyrockets, fintech remains resilient amid global funding decline]. KPMG. https://kpmg.com/sg/en/home/media/press-releases/2024/02/singapore-ai-funding-skyrockets-fintech-remains-resilient.html

Innovative BaaS-enabled embedded finance use cases for ecosystem partners:

▶ Mobility & Hospitality



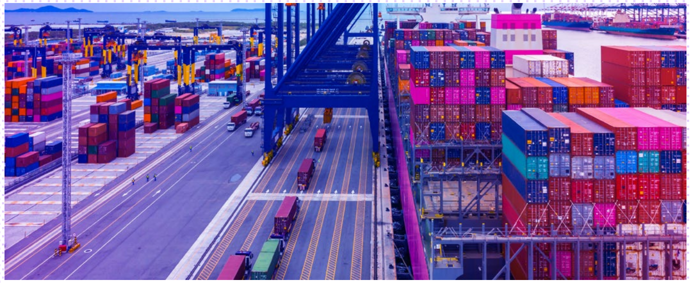
The ride hailing market has significant growth potential with more than 663 million mobile subscribers in Southeast Asia[9]

Asian super apps continue to expand into adjacent sectors and products, such as ride hailing to food delivery, mobility with hospitality.

Streamlined payment and financing capabilities is poised to **increase frequency of financial transactions** conducted on these platforms, ultimately enriching customer experience.

Exploring intricate financial products such as **foreign exchange (FX), deposit services, and cross-border payments** presents an opportunity to drive even greater utilisation of the platform among users.

▶ Logistics



Logistics sector will continue to benefit from the continuous growth of e-commerce in Southeast Asia

The surge in regional e-commerce growth has become the driving force propelling the logistics sector forward, with the continued expansion of manufacturing footprints poised to bolster the industry.

Embracing financial integration stands to bring immense benefits to numerous businesses and their ecosystems.

Efforts to enhance accessibility to financing through streamlining processes, reducing manual inputs, and optimising cash flows for SMEs is crucial. This involves offering solutions such as **credit and financing** options, facilitating **cross-border payments**, and more.

9. KPMG International. (2022). Emerging Giants in Asia Pacific [Review of Emerging Giants in Asia Pacific]. KPMG. https://assets.kpmg.com/content/dam/kpmg/sg/pdf/2022/07/emerging-giants-in-asia-pacific-2022.pdf)

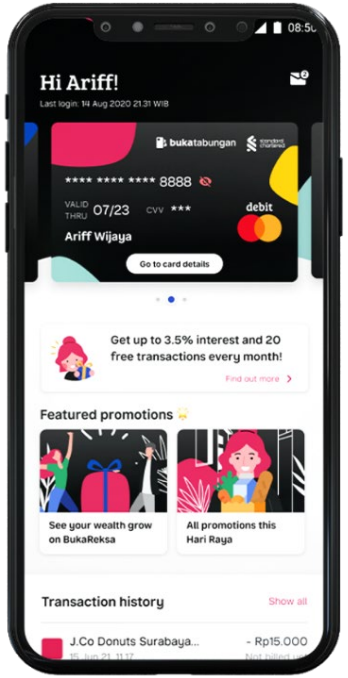
FIs need to have in place the right level of capabilities and technology to support ecosystem partners, to avoid missing opportunities available in the growing market. Different sectors of businesses have their unique solutions and tech ecosystems. As such, FIs will need to have both the technical understanding and capabilities to integrate with the unique setups of these ecosystem partners. It will be beneficial for FIs to assess whether their existing technology stack and capabilities can efficiently go-to-market. Embracing the shift towards BaaS is no longer an option; but a strategic imperative that FIs and the broader market must seize along with the growth of digital financing here in ASEAN.

Powering e-commerce with digital banking services, ecosystem partnerships leveraging BaaS

audax, a digital banking solutions provider, enabled Bukalapak, Indonesia's e-commerce platform, in venturing into digital banking services (BukaTabungan) through an ecosystem partnership with Standard Chartered Bank. This collaboration resulted in a threefold expansion of Standard Chartered Bank's customer base in Indonesia, presenting a significant revenue opportunity arising from this partnership. BukaTabungan's digital banking service combines the reach of Bukalapak's all-commerce platform and the technology of Standard Chartered Bank's BaaS solution to offer digital banking services that are inclusive, easy, and secure to Bukalapak's ecosystem of over 110 million users and 20 million business owners.

With BukaTabungan's Current Account and Savings Account (CASA) services, it became one of the first digital banking services to provide an end-to-end, fully digital Know Your Customer (KYC) / onboarding process. In 2023, BukaTabungan expanded its offerings to include debit cards, as well as lending capabilities that are currently available to specific whitelisted users.

Through BaaS, BukaTabungan was able to (i) attract 98 percent new to bank customers (expanding into new customer segments); (ii) attain 85 percent application approval rate; of which (iii) 97 percent of account openings are done in real time; (iv) implement fast onboarding processes, thus reducing onboarding costs.



Risk and governance considerations for FIs

While BaaS presents a transformative opportunity for banks and FIs to redefine their operating models and embrace digital innovation, there are various risk and governance challenges that FIs must navigate effectively to ensure the success and sustainability of their BaaS initiatives. The combination of KPMG's industry insights alongside reputable BaaS providers can play a crucial role in helping FIs navigate these challenges to embrace digital innovation. In this section, we delineate the critical external and internal risks that FIs can address proactively as they pursue a BaaS strategy to safeguard success in their BaaS journey.

External risks

- Regulatory compliance
- Regulatory requirements
- Business risk
- Third party risk management

Internal risks

- Organisational readiness assessment
- Technology integration
- Operational readiness
- Risk management framework & controls
- Lean governance

Navigating and overcoming external risks

1. Regulatory compliance

Lead time required for BaaS business model approval: Regulators play a pivotal role in shaping the landscape of the financial services sector, particularly for new business models like BaaS. Compliance with regulatory guidelines is crucial for BaaS, as it involves non-FIs offering financial products under a FI's license, necessitating adherence to intricate regulatory frameworks. Key considerations include the secure transfer of financial data between involved parties. Delays in achieving regulatory compliance and approval timelines can disrupt commercial projections, posing a risk to the viability of the entire business proposition.

For example, obtaining regulatory backing for a fully digital straight-through process (STP) is crucial for BaaS success. A customer journey that involves manual touchpoints may impede efficiency and speed, potentially weakening the value proposition of BaaS. Hence, FIs should collaborate with regulators to ensure alignment on approving fully automated processes that enhance transaction efficiency while adhering to regulatory standards. This is particularly important for countries where centralised income validation mechanisms are lacking. In such cases, BaaS platforms can offer multiple options for regulatory compliance, including alternative income estimation models and income document validation.

Understanding regulatory expectations: FIs must possess a comprehensive understanding of regulatory expectations, particularly in key compliance areas such as Know Your Customer (KYC). By aligning their operations with regulatory standards from the outset, FIs can mitigate the risk of non-compliance, thereby fostering trust among customers and regulators proactively.

2. Regulatory requirements

Third-party data and service providers: Given the dependence on timely and reliable data for functions such as onboarding and underwriting, FIs must assess the credibility of third-party data and service providers. Partnering with reputable and compliant third-party providers ensures access to high-quality data essential for BaaS operations while mitigating the risk of data breaches or regulatory violations.

Data sovereignty: Compliance with data sovereignty regulations is paramount in the context of BaaS, where data processing may involve cross-border transactions. FIs must ensure that data handling practices comply with the legal requirements of each jurisdiction in which they operate in, while safeguarding customer data and maintaining trust in the BaaS ecosystem.

3. Business risk assessment

FIs must carefully evaluate the business risks associated with selecting BaaS partners and the commercial models of such arrangements. In a BaaS partnership, customer and data ownership remain with the FIs, but customer touchpoints are through the partner's ecosystem, spanning from onboarding to transaction, and servicing. Hence, if the BaaS partner ceases operations, complications may arise in migrating customer touchpoints. FIs should evaluate BaaS partners based on their reputation and business viability, ensuring robust continuity plans are in place.

4. Third party risk management

In a BaaS arrangement, the financial products are white-labelled under the partner's branding leveraging the FI's license. Consequently, the reputation of the FI becomes closely tied to that of the partner. FIs must conduct due diligence on potential partners, accessing their financial stability, regulatory compliance, data security practices, internal governance, and track record of delivering reliable services. Furthermore, establishing clear contractual agreements and contingency plans for managing potential disruptions or disputes will enhance risk mitigation efforts and safeguard the reputation of all parties involved.

Capability: Integrated protection against third party risks

- **Problem:**
  FIs encountered difficulties in securing a single reliable and secure third-party service provider, leading to potential disruptions in service provision and customer experience.

- **Solution:**
  The audax platform is designed for robust and resilient interaction, enabling seamless integration with multiple third-party service providers. This flexibility allows FI to switch providers as needed based on availability.

- **Result:**
  FIs are enabled with the resilience needed to navigate complex third-party ecosystem in the market. Furthermore, FI can ensure uninterrupted service provision and reinforce its reputation for reliability and adaptability.

Mitigating internal risks and enhancing resilience

Organisational readiness assessment and technology integration pose significant challenges for FIs venturing into BaaS. Recognising the complexities involved, specialist providers offer tailored solutions to address these internal risks, ensuring smooth adoption and operational effectiveness.

1. Organisational readiness assessment

Digital aptitude: Assessing an organisation's readiness and capacity to embrace digital transformation, including the adoption of BaaS, is essential. Several factors should be considered:

- Existing technology infrastructure and its capacity to adapt or scale
- Having the right personnel to lead the digital transformation, including product owners, engineers, and similar roles
- Willingness to embrace change by the organisation
- Risk appetite, as significant transformation can pose challenges

An innovative BaaS solutions provider like audax plays a pivotal role in assisting organisations in mitigating digital aptitude risks by executing the following tasks:

- Design and construct the platform and the necessary processes
- Deploy and maintain the platform
- Address the integration and coexistence of the BaaS platform with the existing ecosystem
- Provide training and prepare the organisation for adopting the BaaS business model

This concentrated effort is instrumental in the success of a BaaS model. It has been observed globally that CEOs are allocating more resources to upskilling in addition to technology investment. Leaders recognise that employees need to be able to adapt to technology to maximise its potential.[10]

Risk appetite: Establishing clear policies regarding an organisation's risk appetite for BaaS model is imperative. This involves defining parameters for credit models, portfolio management, and the related polices to manage risks within acceptable boundaries.

10. Thomas (KPMG), B. (2022). KPMG 2022 CEO Outlook [Review of KPMG 2022 CEO Outlook]. KPMG. https://assets.kpmg.com/content/dam/kpmg/sg/pdf/2022/12/2022-ceo-outlook%20report-sg.pdf

Clarity on commercial strategy: Implementing a strategic approach to commercial considerations while aligning BaaS initiatives with overall business objectives and growth targets is crucial. Senior management must be clear that this is not displacement but an opportunity to build revenue streams and additional engagement channels. Clear communication and alignment across all levels of the organisation are essential to mitigate internal resistance and drive successful BaaS adoption.

Senior management support: Securing buy-in and active support from senior management is critical. It is recommended that a senior leader be appointed as a sponsor for the BaaS integration programme. This ensures that the sponsor takes accountability for:

- Communicating the strategic importance of BaaS across the organisation
- Allocating sufficient budget to support implementation
- Clearing any roadblocks by intervening when necessary to ensure smooth progress
- Driving changes in organisational behaviour that are necessary for adoption and success of BaaS

2. Technology integration

Ensuring seamless integration of BaaS platforms with existing IT systems, applications, and data repositories is essential for operational efficiency, data consistency, and regulatory reporting. FIs must develop robust integration strategies, conduct thorough testing, and implement necessary protocols to facilitate smooth data exchange and workflow automation.

3. Operational readiness

Evaluating the organisation’s operational capabilities, processes, and infrastructure readiness for BaaS integration is crucial. This involves assessing factors such as workflow efficiency, resource allocation, customer service capabilities, and scalability to accommodate potential growth in transaction volumes.

4. Risk management framework & controls (RMF)

Adaptation of RMF: Reviewing and adapting the existing RMF to address the specific risks associated with BaaS operations is essential. This includes updating policies, procedures, and controls to mitigate risks related to data security, compliance, fraud, and operational resilience effectively.

Response agility: Ensuring the RMF can respond promptly to changing market conditions, regulatory requirements, and emerging risks is critical for maintaining a competitive advantage and regulatory compliance. FIs must establish mechanisms for continuous monitoring, assessment, and adjustment of risk management practices to address evolving threats and opportunities proactively.

Appropriate risk management controls: Designing and implementing appropriate risk management controls tailored to the unique characteristics and requirements of BaaS operations is essential. This includes establishing robust information security measures, credit risk assessment frameworks, and operational controls to safeguard customer data, financial assets, and reputation.

5. Lean governance

One of the challenges faced by large organisations is the presence of complex governance committees. This often results in multiple stakeholders being involved in decisions, leading to prolonged decision-making processes. FIs must be mindful of this challenge, as agility and responsiveness are crucial for the success of digital proposition like BaaS.

Establishing a lean governance framework and assigning decision-making accountability to a select group of senior leaders is essential. These leaders should commit to shorter turnaround times for decision-making, fostering agility within the organisation. Clear lines of communication, accountability, and reporting between control functions and business units are necessary to support strategic decision-making and operational excellence.

Capability: Tailored guidance to address regulatory and compliance frameworks, mitigating internal risk

- **Problem:** A large multinational FI sought to implement BaaS but faced challenges in aligning risk and governance processes with this new model. Traditional decision-making structures were too slow to respond to the dynamic market and competitive landscape, hindering the FI's ability to launch BaaS offering.
- **Solution:** audax collaborated with the FI to establish a parallel risk and governance framework tailored specifically for BaaS adoption. This framework enabled quicker decision-making by implementing alternative decision management approaches and policies customised for the target client segment, leveraging on automation and application of artificial intelligence for low-risk decisions.
- **Result:** The FI successfully implemented a discrete risk and governance framework with guidance from audax. Decisions could be reached within ten days, five times faster than before, accelerating the FI's readiness for business launch and positioning them competitively in the BaaS market.

Buy/Build considerations

FIs considering embarking on BaaS have three primary options: building the tech platform in-house, buying a solution from a trusted partner, or choosing a fully integrated solution like audax. Opting to build the platform in-house entails significant costs and time investments. Buying and stitching capabilities from over 50 vendors would incur high costs and the risk of integration and multi-dependencies.

On the other hand, choosing to buy a solution offers several advantages, including cost-effectiveness and speed to market, ease of adoption with a fully integrated and scalable software, as well as low vendor risks with the intellectual property sitting securely within the audax platform.

Buying a tech stack

PROS

- **Rapid adoption:** Quick integration of new capabilities to address immediate needs and market demands.
- **Faster ROI:** Implementation costs spread over time lead to quicker realisation of benefits such as efficiency gains or revenue growth.
- **Expertise:** External providers bring experience and knowledge with leading practices.
- **Agility:** Vendors with specialised developers working within agile development methodologies continuously release new functionality, ensuring constant updates.

Building a tech stack

PROS

- **Control:** FIs can have complete oversight and management of their technology infrastructure, allowing them to customise and optimise their systems according to their unique requirements.
- **Long-term cost efficiency:** While the initial investment may be significant, there are substantial long-term cost-saving opportunities.
- **Tailored solutions:** Offers the distinct advantage of tailoring solutions to precisely match the unique requirements of individual organisations. This alignment ensures that the BaaS platform integrates seamlessly with existing systems, processes, and strategic objectives of banks and FIs.

Buying a tech stack

CONS

- **Technology provider reputation and capabilities:** Requires a technology provider who has successfully implemented an entire BaaS stack that is feature-rich, secure, and quickly deployable. The technology provider also requires experience in integrating with third party service/data providers and deployment in complex bank infrastructure.
- **Hosting strategy:** Consideration has to be made between a Software-as-a-Service (SaaS) or FI hosted deployment strategy and ensure that the technology provider chosen can support that mode of deployment.
- **Platform resilience:** Crucial for ensuring uninterrupted service delivery, even in the face of disruptions, failures, or cyber-attacks.
- **Service levels:** Outlined in the Service Level Agreement (SLA), platform service levels define the quality, availability, and performance of the provider's services. FIs must ensure that SLAs align with their operational requirements and expectations, guaranteeing optimal service delivery and mitigating risks associated with service disruptions.

Building a tech stack

CONS

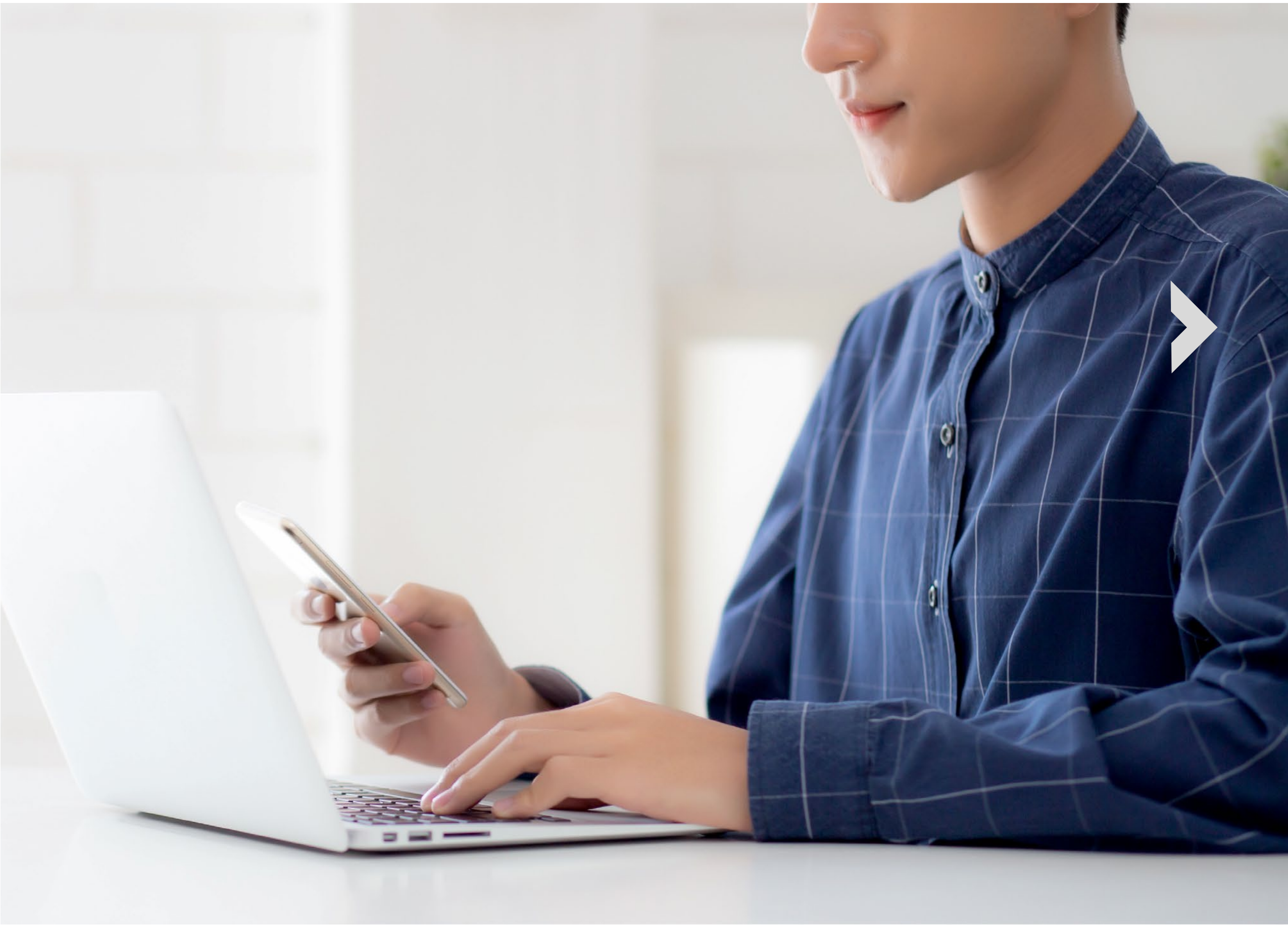
- **Existing team capability and capacity:** Building an entire BaaS platform will involve expertise from different workstreams. FIs need to identify skill gaps and provide necessary training or recruitment support.
- **Resource allocation:** Building in-house solutions requires substantial time, resources, and expenses to address digital and operational requirements, often competing with regular business operations for resources.
- **Cultural barriers:** Internal cultural resistance may hinder the adoption of new technologies and impede innovation.
- **Lead time:** Estimating the lead time required for developing BaaS solutions from scratch and navigating the complexity of integrating with current banking systems typically involves a timeframe of three to four years.
- **Costs factors:**
  a. Developing customised capabilities over time incurs hidden costs.
  b. Building the necessary infrastructure and foundation requires substantial investment.
  c. Inevitable cost overruns during the development process.
  d. Ensuring the new build remains relevant and up to date for the long term is challenging.

Unlocking the potential of BaaS

audax Financial Technology offers comprehensive digital banking solutions, supporting banks and financial institutions to scale and modernise at speed. Leveraging its origins within the Standard Chartered nexus, audax provided the technology stack enabling Standard Chartered Bank to pioneer BaaS in Asia.

Focusing on swift deployment and regulatory compliance, audax provides speed-to-market advantage with its full retail digital banking stack and banking domain expertise. Led by individuals with experience at various financial institutions, audax stands out as a live full stack digital banking platform capable of delivering multiple use cases including BaaS, digital banking and modernisation of incumbent banks.

This paper has highlighted the multiple considerations involved in BaaS implementation and the importance of a capable technology partner. This section demonstrates audax's capabilities in deploying BaaS solutions, emphasising its commitment to helping FIs effectively leverage BaaS to meet market demands.



Capability: Bridging the BaaS gap with innovative, robust, and secure BaaS model integration

- **Problem:** Standard Chartered in Indonesia was exploring ways to further leverage its banking license by extending its retail banking products and services to the digitally savvy yet unbanked population in Indonesia.

- **Solution:** audax enabled 'BukaTabungan', a digital banking service within Bukalapak's platform. This new digital banking service was born from the partnership between Standard Chartered Bank and Bukalapak in Indonesia.

  The transformation was facilitated by audax:
  - **Business model design:** Designed and built a business model tailored to Standard Chartered Bank
  - **Development of the BaaS Platform:**
    - I. *Scalability, speed and reliability:* Built on a cloud-native, core-agnostic, micro-services-based architecture, audax's BaaS platform ensures scalability (millions of records), rapid implementation (in months, not years), and high reliability, offering a superior customer experience. This platform seamlessly coexists with the incumbent's existing technology infrastructure.
    - II. *Bank-grade cyber security and risk controls:* Embedded bank-grade cybersecurity and other risk controls into the BaaS platform, addressing regulatory and organisational compliance requirements without the need for rebuilding controls.
    - III. *Single connector for integration:* Designed a single connector to seamlessly integrate the BaaS platform into the bank's ecosystem, facilitating regulatory reporting, fiduciary obligations, risk management, and internal governance.
    - IV. *Data sovereignty and privacy compliance:* The BaaS platform smoothly addresses data sovereignty and privacy requirements in target markets, ensuring compliance with local regulations.
  - **Risk and governance framework:** audax advised on the design and execution of a risk and governance framework tailored to a digital business model like BaaS. The implementation of this is framework enables agile decision-making, overcoming challenges such as organisational bureaucracy, long lead times, and the need for flexibility in responding to market and customer demands.
  - **Operational readiness assessment**: audax designed a full-scale business impact assessment to ensure the organisation's operational readiness, addressing key factors essential for successful implementation and deployment of the 'BukaTabungan' digital banking service.

- **Results**
  - **Digital account opening journey in as fast as 2.09 minutes** as BukaTabungan's customer verification processes for onboarding can be done via a non-face-to-face channel on the banking app. This is a stark contrast to a typical traditional account opening journey which could, quite possibly, take the customer several hours at a physical branch. Furthermore, creating a fully digital process is bridging the gap and issue of access for those living in more rural areas who may not be near a retail banking branch.
  - **Application approval time ranges from as quick as 30 seconds to a few minutes** after a client submits their application for a new bank account. This resulted in massive time savings and an improved customer experience for customers when comparing the experience with competitors, whose application approval times may range from minutes to an undefined period (for those dependent on non-digital means of identity verification).
  - **The first to roll out a numberless physical and digital debit card in Indonesia.** For added security against fraudulent attempts, BukaTabungan's digital debit cards will only be unmasked with biometric authentication and PINs. BukaTabungan's platform is designed for easy navigation, where transfers and payments can be executed in three clicks.
  - BukaTabungan's digital help centre, and conversational interfaces embedded within the app offer flexible, consistent and immediate customer support, advice and information for users throughout their journey with us.

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