

January, 2024

Navigating the World of Embedded Finance:

A guide for Singaporean
companies to explore
the potential of
embedded finance

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an Atlas Technologies Group Company



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Methodology

For this report, Kapronasia conducted both primary and secondary research on the embedded finance market in Asia-Pacific to obtain the most relevant insights from the industry. Secondary research included, but was not limited to, market intelligence reports and studies by industry experts and professional services networks, white papers, educational materials, media articles, and marketing collateral. Primary research included interviews with relevant players across the ecosystem, including financial institutions, fintechs, and industry experts. All values are in USD unless otherwise noted.

Executive Summary

Embedded finance is revolutionizing industries by seamlessly integrating financial services into non-financial platforms and applications. Singapore, recognized for its robust fintech ecosystem and supportive regulatory framework, is poised at the forefront of this transformation. It is estimated that the global embedded finance market across the entire value chain will rise substantially from \$264 billion in 2021 to \$606 billion by 2025, representing remarkable CAGR growth of 23%. Even more notable is the projection that Asia Pacific will account for \$305 billion, approximately 50% of the 2025 global market value.¹

Asia Pacific, especially Southeast Asia, holds tremendous promise for embedded finance development given the region's young and aspirational population, advanced digital maturity,

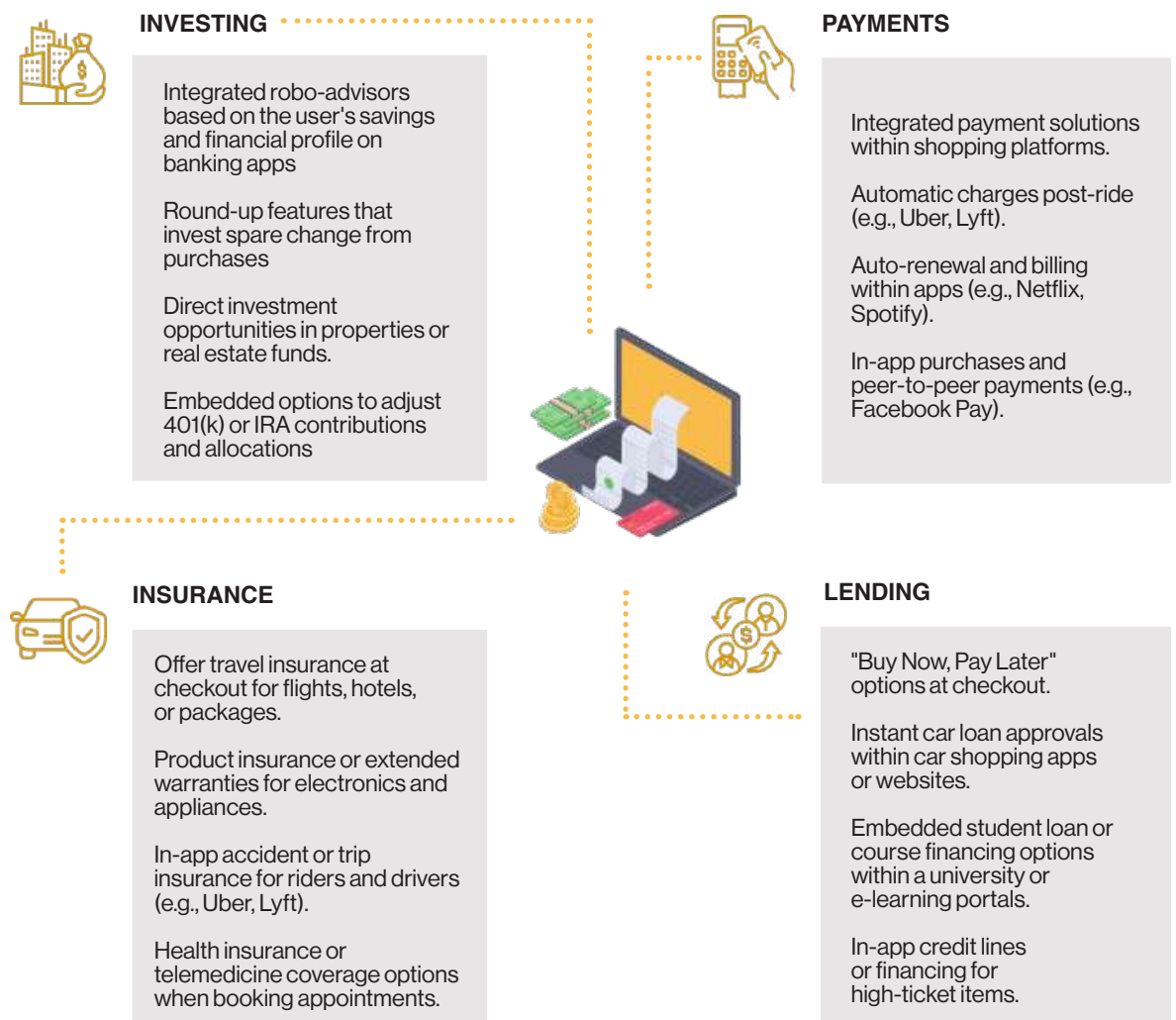
vibrant fintech ecosystem, and receptivity of consumers to digital disruption and new financial services consumption models.

Companies in the region have a valuable opportunity to capitalize on this potential by strategically adopting embedded finance solutions to enhance customer loyalty, streamline processes, reduce costs, and tap into new revenue streams. As an example, a Singaporean construction firm utilizing an embedded finance solution from DOXA, reduced staffing requirements by 30% in its payments group.

¹ Ernst & Young, "How will embedded finance revolutionize industries in Southeast Asia?," 25 September 2023, https://www.ey.com/en_sg/financial-services/how-will-embedded-finance-revolutionize-industries-in-southeast-asia

Figure 1

Overview of Embedded Finance Use Cases



This is all happening in the context of a digital economy that has reshaped consumer expectations. Today's consumers demand a seamless experience from their financial institutions, akin to their favorite entertainment or social media apps. The rise of open banking, coupled with digital advancements, has paved the way for embedded finance, allowing financial services to be integrated into diverse industries, from e-commerce platforms to ride-hailing services. As these opportunities grow, non-financial firms must stay up to date to capitalize on them and meet these changing consumer expectations. However, despite the potential benefits, companies venturing into embedded finance must address challenges like regulatory compliance, cybersecurity, and data protection.

This paper serves as a guide for Singaporean companies to understand and explore the potential of embedded finance in their respective industries. It delves into the intricacies of embedded finance through the examination of four compelling case studies, each representing distinct use cases in lending, investing, payment, and insurance.

These case studies feature notable companies such as DOXA Connex for payments, Goldbell/ Polaris for lending, bolttech for insurance, and DriveWealth for investing. By exploring these real-world examples, the paper aims to demonstrate the tangible advantages of embedded finance for these companies, offering a compelling narrative that showcases its potential.

Furthermore, it discusses the strategic actions that Singaporean non-financial companies should take to navigate the implementation of embedded finance successfully, including selecting the right partners, investing in agile and scalable infrastructure, obtaining buy-in from senior management, complying with local regulations, and addressing cybersecurity risks. Through this holistic approach, we aim to help companies understand not only the opportunities but also the challenges that come with embracing embedded finance. By shedding light on the potential and challenges of embedded finance, this paper offers insights into the growing impact of fintech innovation in Singapore's financial landscape.



Introduction

In today's increasingly digital economy, the concept of embedded finance has emerged as a powerful tool for non-financial companies to enhance their offerings and tap into new revenue streams. Embedded finance refers to the integration of financial services into non-financial platforms, products, or services, enabling seamless financial transactions and creating added value for customers. As Bill Gates aptly stated in 1994, "Banking is necessary, but banks themselves are not." Embedded finance guarantees a smoother banking experience, eliminating the necessity for customers to directly interact with traditional banks.

In short, embedded finance happens when a financial product or access to financial services is provided through the platform of a non-bank/ financial institution. Edmund Ng, Co-Founder of DOXA International, a payments-focused Fintech based in Singapore aptly describes this as "the process where financial services can be pushed from a financial institution to exactly where the client needs the service at point of transaction."

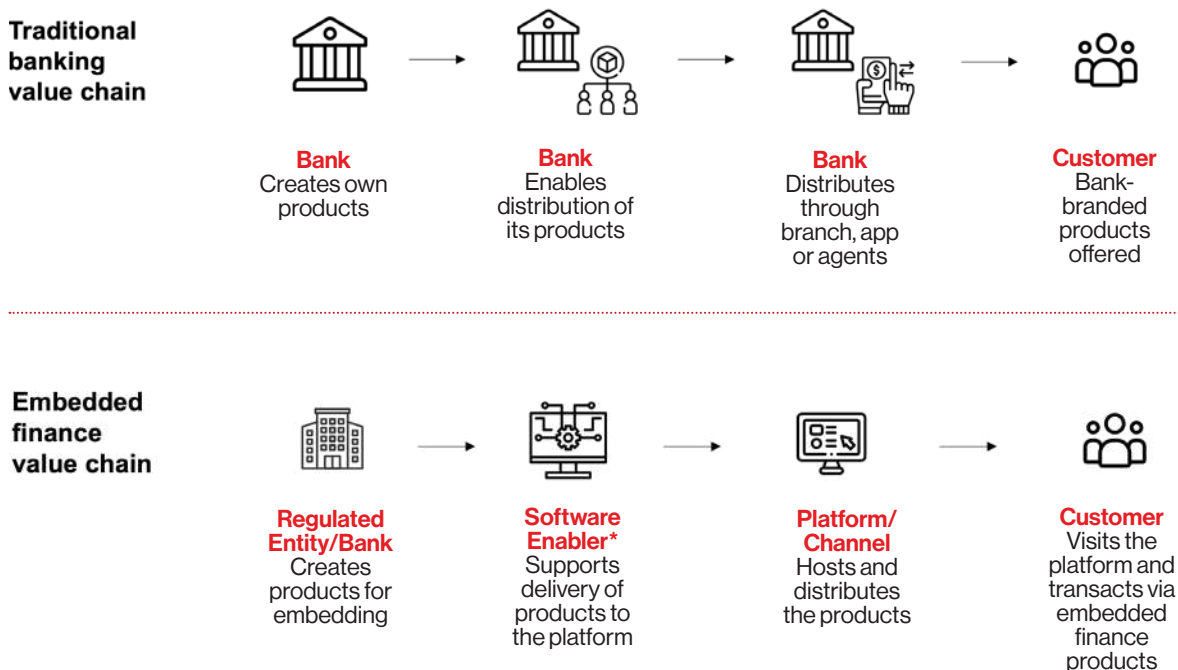
This represents a paradigm shift in the way financial services are delivered. Traditionally, financial services were the domain of banks and financial institutions as standalone products or services.

With the rise of technology and digital platforms, companies from various sectors such as e-commerce, transportation, healthcare, and retail have waded into this space and are placing financial services directly into their offerings. This integration allows customers to access financial services conveniently and seamlessly without the need for traditional banking intermediaries.

Moreover, embedded finance solutions are transcending the mere addition of products to existing value propositions. They now encompass innovative payments and funding solutions that boost sales and harness enhanced data sources to streamline internal processes. From refining processes to more effectively managing cash flow, embedded finance can potentially reshape business operations by deploying various financial solutions to their existing operating models.

Figure 2

The Traditional Banking Value Chain vs. The Embedded Finance Value Chain



*Software Enabler is the fintech in most cases

Empowering Non-Financial Companies: The Versatility Of Embedded Finance Solutions In Asia-Pacific In Today's Digital Age

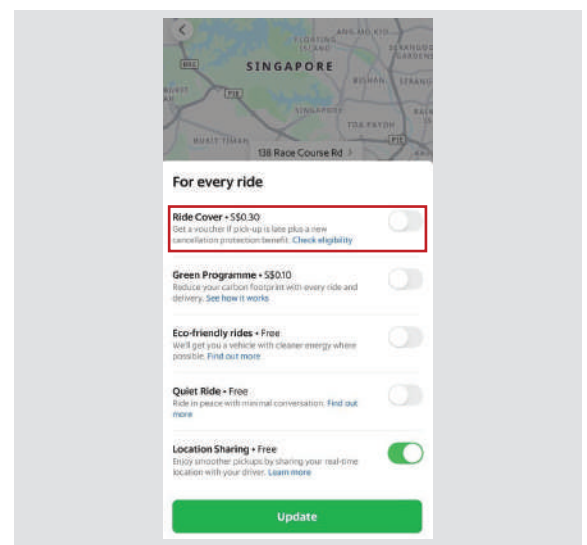
Individuals' expectations are undergoing a profound transformation, in particular, customers are demanding seamless and personalized experiences across their digital interactions not dissimilar to what they get from social media or entertainment platforms like TikTok and Instagram. This shift in consumer behavior is converging with advancements in digital offerings from financial institutions and the rise of open banking – a system that allows financial institutions to securely share customer financial data with third-party providers using APIs. Open banking has become a catalyst for innovation, fostering collaboration between financial institutions and non-financial companies in many countries such as the UK, Singapore, Australia, and enabling the widespread deployment of embedded finance solutions.

The marriage of consumer expectations, digital offerings, and open banking has changed how people interact with money and has given birth to a new era of financial services, where finance is seamlessly embedded into the everyday digital experiences of consumers, catering precisely to their preferences and needs while paving the way for a frictionless and integrated financial journey. From e-commerce platforms offering instant point-of-sale financing options to ride-hailing apps seamlessly integrating mobile payments and insurance services, consumers can now access financial products and services without the need to navigate to or through a standalone banking app.

A great example of embedded finance in action can be seen with insurance on ride-sharing platforms such as Grab in Singapore. In this case, Grab can embed insurance coverage that protects both drivers and passengers during trips and this is clearly displayed on the app when making a booking, eliminating the need for customers to purchase insurance separately from an insurance provider. The insurance coverage activates automatically during the ride and deactivates once the trip ends, ensuring comprehensive protection for all parties involved.

Figure 3

An example of embedded insurance offering on Grab App

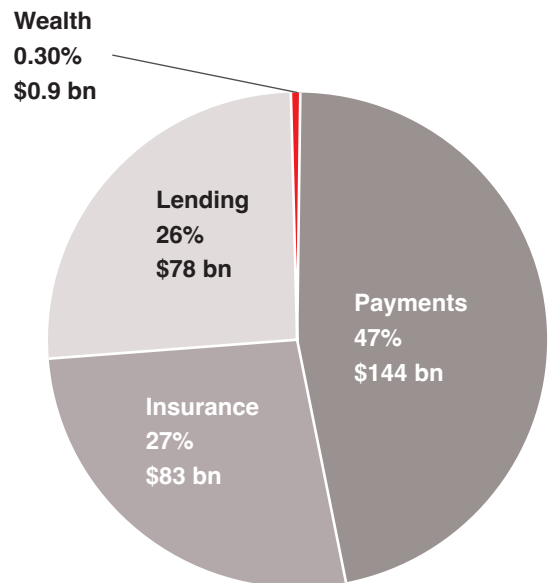


Embedded finance has witnessed something of a surge in recent years, driven by its ability to leverage digital platforms and data to deliver personalized and contextually relevant financial services directly to customers. The forecasted embedded finance revenues for 2025 in APAC region is around US\$305 billion, 47% of which is from payments-related products and services.²

Businesses are increasingly leveraging embedded finance to enhance customer experiences, drive customer loyalty, and create new revenue streams. The deployment of embedded finance solutions can bring numerous benefits to non-financial companies and is being seen in a few ways.

Figure 4

Forecasted Embedded Finance Revenues for 2025 in APAC



APAC: US\$305 billion

Source: EY Knowledge Analysis

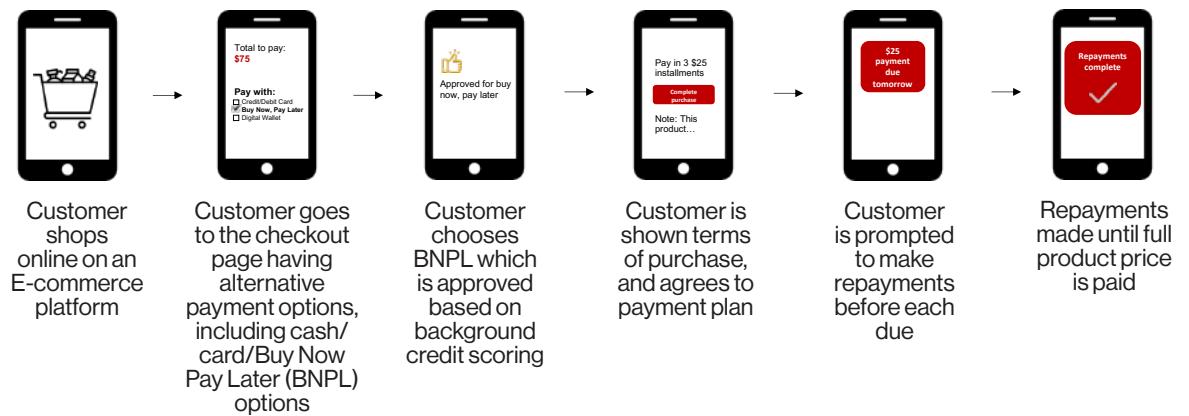
² Ernst & Young, "How will embedded finance revolutionize industries in Southeast Asia?," 25 September 2023, https://www.ey.com/en_sg/financial-services/how-will-embedded-finance-revolutionize-industries-in-southeast-asia



Primarily, embedded finance empowers enterprises to elevate their core offerings through a harmonious financial journey. To illustrate, an e-commerce platform can seamlessly incorporate point-of-sale financing alternatives, enabling customers to finalize purchases without exiting the platform.

Figure 5

High-level Embedded finance customer journey on an e-commerce platform



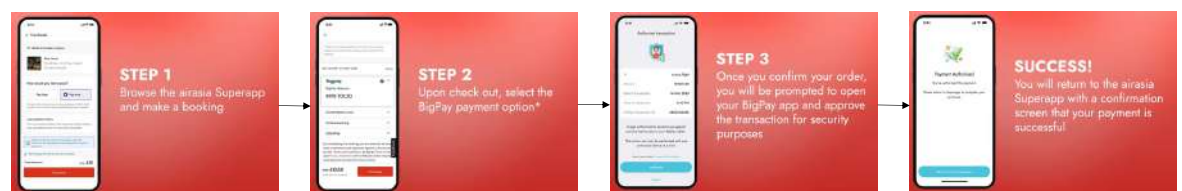
Source: Bain & Company

Firms can use embedded finance to monetize their existing customer base by offering complementary financial services. By leveraging customer data and insights, companies can identify specific financial needs and tailor their offerings, accordingly, thereby driving additional revenue streams. AirAsia, a non-financial company, has ventured into this world with its innovative product, BigPay.

BigPay is the digital financial platform by AirAsia and operates as a user-friendly mobile app designed to provide travelers with convenient and efficient financial services. Through BigPay, AirAsia passengers can not only book flights but also purchase insurance and enjoy various financial features, including instant international money transfers at competitive exchange rates, multi-currency wallets for convenient spending abroad, and real-time transaction tracking. This not only empowers AirAsia travelers with greater control over their finances, making their journey more convenient and cost-effective, but also provides AirAsia with a new stream of revenue.

Figure 6

Embedded Payment on AirAsia SuperApp using BigPay



Source: AirAsia Website

Companies such as Tokopedia in Indonesia harness the vast amounts of data generated from their main business operations, providing insights into customer behavior, preferences, and purchasing patterns. By analyzing this data, Tokopedia can identify the financial needs of its customers. For instance, if a customer frequently browses high-value items but doesn't make a purchase, it could indicate a financial constraint. Recognizing such patterns allows Tokopedia to tailor financial solutions that cater to these specific needs, thereby enhancing their overall value proposition to the customer.

By becoming a one-stop-shop for both their core product and services offerings as well as financial services, companies can increase customer stickiness and reduce the likelihood of customers switching to competitors. When a company offers a wide range of services, including financial solutions, on a single platform without the need to switch, it simplifies the user experience. For instance, if a business owner can purchase products, manage their inventory, and secure supply chain financing all within the same platform, it saves them time and effort, fostering customer loyalty.

Perhaps more observably, companies such as Xero and DOXA are providing embedded finance solutions that offer opportunities for significant cost reduction in both operations and funding. By analyzing transaction patterns and creditworthiness, firms furnish more accessible and affordable financing options, effectively curtailing funding costs.

In addition to cost optimization, embedded finance has the capacity to enhance internal operations by integrating payments into internal accounting systems. This automation has the potential to eliminate manual tasks, such as data entry, reconciliation, and paperwork, that are inherent to traditional accounting methods.

Furthermore, embedded finance augments cash flow management and forecasting. Direct connections between payment systems and internal accounting offer real-time insights into cash inflows and outflows. This equips companies with enhanced financial insights, precise cash flow projections, and proactive working capital management capabilities, thus fortifying operational processes.



The Singaporean Embedded Finance Landscape

Singapore boasts a vibrant fintech ecosystem and this, coupled with a robust regulatory framework supports the growth of embedded finance, ensuring a secure and conducive environment for non-financial companies to offer financial services. The Monetary Authority of Singapore (MAS), the country's central bank and financial regulator, has actively encouraged innovation and collaboration between traditional financial institutions and non-financial companies through various initiatives. With the Asia Pacific's embedded finance industry projected to grow at a compounded annual growth rate of approximately 24% for the next 5 years, Singapore is poised to capture a significant share of this growth.³

The MAS has been particularly proactive in setting up necessary frameworks that encourage experimentation and in driving API development such as supporting regulatory sandbox, with the intention of creating an infrastructure conducive to building new embedded finance solutions. The Payment Services Act, enacted in 2019, provides a comprehensive regulatory framework that covers a wide range of payment activities, including digital payments and e-money issuance. This regulatory clarity and support from MAS, in collaboration with industry associations and leaders, offer a solid foundation for Singaporean non-financial companies to explore and implement embedded finance solutions.

Within this regulatory landscape, data privacy and security are of paramount importance. The Personal Data Protection Act (PDPA) ensures that personal data collected during financial transactions is treated with utmost confidentiality and used responsibly. Compliance with PDPA guidelines fosters trust and confidence among consumers, enabling them to embrace embedded finance solutions with relative peace of mind.

Another driving force behind the growth of embedded finance in Singapore is the collaboration between fintech startups and traditional financial institutions. While fintech brings in technological expertise and innovative solutions, traditional banks have customer trust and regulatory know-how. This synergy is leading to the rapid development and deployment of embedded finance solutions that are both cutting-edge and reliable.

The development of embedded finance is of particular significance for non-financial corporates in Singapore given the country's strong emphasis on digitalization and innovation. Singapore has thus positioned itself as a leading global financial hub and a center for technological advancement. With its robust digital infrastructure, supportive regulatory environment, and highly skilled workforce, Singapore provides an ideal ecosystem for companies to explore and leverage the potential of embedded finance.

³ KPMG, "Embedded Finance: Partnering Platforms for Success," November 2022, <https://assets.kpmg.com/content/dam/kpmg/sg/pdf/2022/11/embedded-finance-partnering-platforms-for-success.pdf>





Embedded Finance Use Cases

There are several financial products that can be deployed via embedded solutions. These can be categorized in many ways, but fundamentally fall into one of four groups: Payments, Lending, Insurance and Investing.

Payments

Embedded payments have become relatively ubiquitous, offering a seamless way to make transactions. Take, for instance, an e-commerce website, where items are added to a purchase cart. When it comes to the time to pay, the process is smooth and hassle-free as the platform integrates multiple payment options, from traditional credit cards to modern cryptocurrencies, allowing customer choice and making the transaction seamless. Historically, these transactions often would have been done off-platform with shoppers either being redirected to an external application or being forced to make the payment manually.

Beyond using Singapore dollar-based payments, some platforms are also integrating loyalty programs, letting users either spend the platform's loyalty points, or those of a separate platform to offset the cost of a purchase. Digital wallets can be integrated into popular apps and enable customers to use hard-earned points right where customers earned them.

For example, SingTel, a large telecommunications company in Singapore has embedded finance into its app such that when customers engage in various activities, such as making digital payments for telco services or participating in partner promotions, they earn loyalty points as an incentive. These loyalty points can then be accumulated and subsequently redeemed to offset the cost of future purchases, such as paying for mobile plans, broadband services, or mobile devices. This effectively reduces their out-of-pocket expenses and often increasing attachment and engagement with the platform.

Perhaps one of the most visible forms of embedded finance lies in Point-of-Sale financing or Buy Now, Pay Later (BNPL). For example, Atome, a Singaporean Fintech, provides funding to allow a customer to split the cost of a large purchase such as a TV or designer shoes into multiple affordable installments. The retailer offers instant financing options at the checkout counter and the loan is effectively completed in-store, and on the spot. The popularity of BNPL among merchants stems from the idea that it has been shown to increase transaction volumes.



Case Study: Revolutionizing B2B Payments through DOXA Connex

The traditional approach to B2B payments and supply chain financing is a rather disjointed and manual process whereby anchor clients, buyers, suppliers, and subcontractors need to align invoicing and payment workflows. These methods often result in inefficiencies, delays, and a lack of transparency, causing a degree of administrative overhead. The absence of a digital ecosystem meant that businesses could not holistically integrate payment and invoicing workflows with their operating systems, impeding their capacity for real-time insights and informed financial decisions.

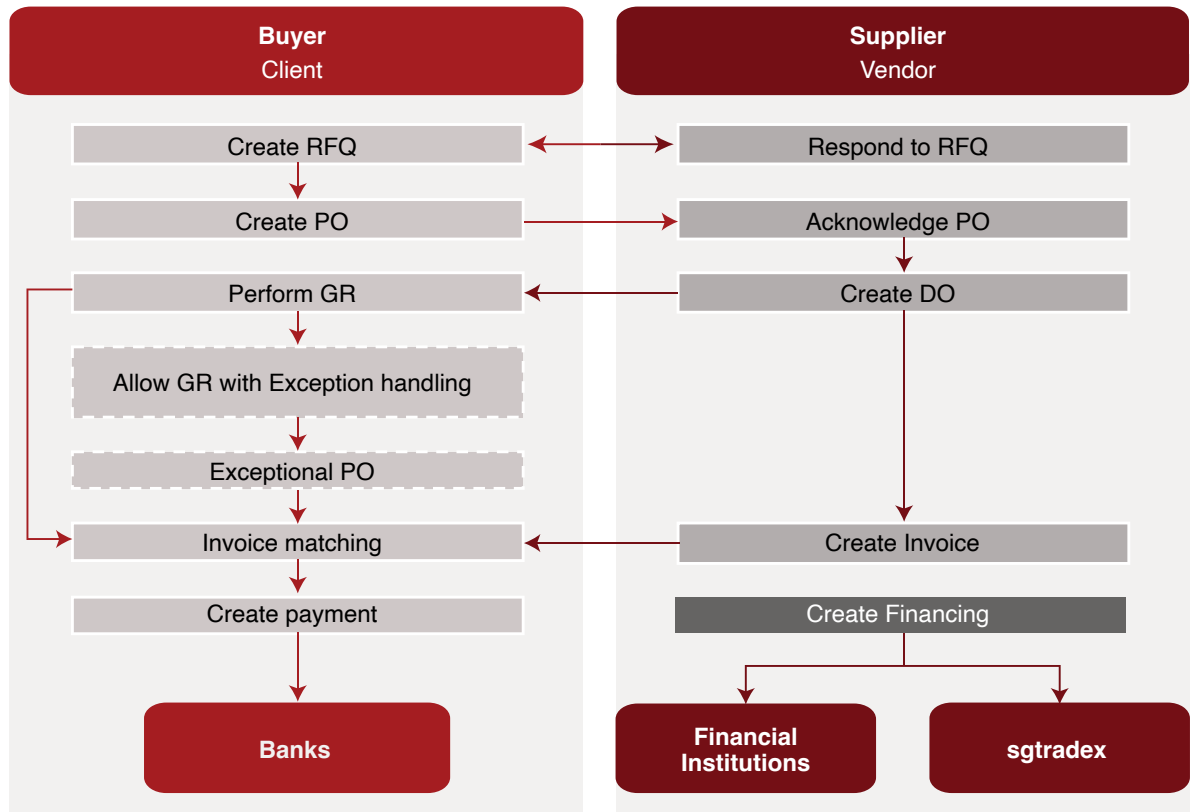
Understanding DOXA Connex

DOXA, a Singapore-based fintech company, serves as a noteworthy exemplar of how embedded finance can solve business issues such as this. DOXA has established an integrated ecosystem for supply chain financing. Their primary objective is to simplify and optimize the payment and financing processes that transpire between buyers, suppliers, and subcontractors.

Their platform, DOXA Connex, is meticulously designed to enhance collaboration, workflow automation, and overall productivity. Through DOXA Connex the company streamlines operations by linking payment and invoicing workflows to clients' operating systems, via the use of APIs.

DOXA Connex's Procure-to-Pay system digitalizes the entire procurement journey, starting with collaborating with suppliers and sending out centralized requests for quotations. Once a quote is accepted, a digital purchase order is generated and confirmed by the supplier. Upon delivery or service completion, the system verifies the order against the supplier's invoice and the goods receipt note. Any discrepancies are flagged, ensuring accurate invoicing. Payments are then made directly through a secure system, with options for direct financing if needed. Integrated logistics features allow for seamless delivery tracking, and the platform provides analytics for users to monitor and optimize their procurement activities.

Figure 7
DOXA Connex's Procure-to-Pay Value Chain



Source: DOXA Connex

Who can embed DOXA's solution?

DOXA Connex has carved a niche for itself by offering tailored solutions that cater to a diverse range of sectors, including construction contractors, real estate developers, and suppliers of various goods and services.

How will Doxa's client benefit from embedding their product?

The digital integration with DOXA's solution streamlines operations and improves efficiency, as exemplified by Singaporean construction firm Kimly, which after starting using DOXA's automated payments solutions has seen a reduction of 30% in man-hours spent on payment operations. Beyond efficiency gains, DOXA Connex's capabilities extend to capturing and analyzing essential spending and

sales data, empowering businesses with valuable insights for informed decision-making. This additional data analysis can help lower the cost of funds for companies as it can demonstrate a company's creditworthiness. By embracing collaborative B2B payments made possible through embedded finance, DOXA demonstrates the viability and benefits of embedding finance via a more streamlined and productive payment process.

However, a few considerations for potential clients would be digital readiness and willingness to collaborate with third-party providers, ability to manage and provide necessary data for optimal platform functionality, and openness to automation.

Lending

Embedded lending has become omnipresent in Singapore's fintech landscape, as non-financial companies integrate lending services into their platforms, providing accessible and personalized credit solutions for consumers and businesses and ultimately, a more seamless lending experience.

Via digital lending, companies can access funding through alternative credit assessment methods, such as analyzing transaction data from e-commerce platforms or assessing the performance of their digital business, thereby expanding access to finance for a broader segment of the population.

Digital lending platforms also facilitate faster loan approvals and disbursements where embedded lending can streamline the application process reducing paperwork and decision-making timeframes, making it more accessible and user-friendly.

Another application of embedded finance is payroll financing which can help address financial challenges faced by employees. Many individuals encounter unexpected expenses between paychecks, such as medical emergencies or urgent home repairs.

With embedded finance, companies such as GetPaid, a Singapore based Fintech, can integrate payroll financing options into their HR systems, making it easy for employees to request early access to their earnings while at the same time increasing employee satisfaction and financial well-being, resulting in increased productivity and reduced turnover rates.

Embedded finance has also made significant strides in enhancing supply chain financing, a critical aspect of modern commerce. Eddie Lee from Pilon, a leading Singaporean fintech, elaborated on this using his company as an example, "we facilitate a dynamic scenario where suppliers' shipments are verified and quality assured by the buyer, enabling suppliers to request early payments."

"We facilitate a dynamic scenario where suppliers' shipments are verified and quality assured by the buyer, enabling suppliers to request early payments."

**– Eddie Lee
Pilon**

This approach empowers companies to strategically optimize their cash flow, benefiting both suppliers and buyers alike. Suppliers have the flexibility to receive immediate payment, bolstering their financial position, while buyers can extend payment terms via Pilon's financing, enhancing their liquidity management. As a result, Pilon becomes the catalyst for companies to become buyers of choice, fostering stronger business relationships.



Case Study: Empowering F&B Merchants: A Dive into Embedded Lending with Goldbell/Polaris and Oddle

Understanding Goldbell/Polaris

Goldbell/Polaris, a Singapore-based Fintech, has introduced a unique 'Revenue Based Financing' program that provides loans to local F&B merchants using embedded finance in collaboration with Oddle, a Food and Beverage (F&B) aggregator. Unlike lending methods which often rely on traditional credit scoring models, these loans are underwritten using revenue data sourced directly from Oddle's merchant portal, offering a more data-driven and accurate assessment of each merchant's financial health.

For lenders like Goldbell/Polaris, this embedded finance solution significantly reduces client acquisition costs, as they gain access to a vast pool of F&B companies through Oddle's extensive network.

Who has embedded Goldbell/Polaris' solution and what are the benefits?

For Oddle, which is the embedder of the solution, this collaboration ensures a frictionless lending experience, where data analytics play a pivotal role in expediting loan approvals, granting merchants quicker financial access. With Oddle's comprehensive datasets, Goldbell/Polaris can address the challenge of scattered data in Singapore's F&B sector. Tan Chun Hao, GM at Goldbell Financial Services emphasized this saying "lenders have much more confidence when they can see hard data sourced directly from a sales platform . We can then quickly provide preapproved in-principal loans more rapidly than traditional means."

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**– Mr Tan Chun Hao
GM, Goldbell Financial Services**

Loan repayment is seamlessly linked to the ecosystem, with Stripe, the payment processing platform used by Oddle, automating repayments directly.

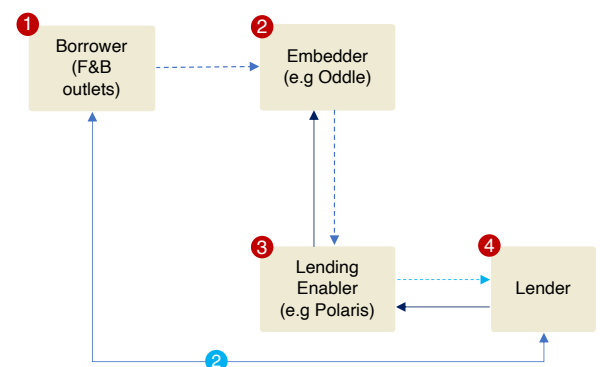
This operational control over repayments, coupled with traditional security measures like director guarantees, instills confidence in lenders while simplifying the entire financing process for merchants.

How does this benefit Oddle's customers?

Oddle's customers, who are smaller F&B merchants, benefit from enhanced access to finance that would have otherwise been difficult to obtain through traditional channels. Moreover, the integration with Stripe automates repayments, simplifying the financing process for merchants. By harnessing the power of embedded finance, Goldbell/Polaris and Oddle have created an innovative and efficient way to empower F&B merchants, unlocking growth opportunities and driving financial inclusion in the vibrant F&B ecosystem.

Figure 8

Embedded Lending – Goldbell/Polaris Value Chain



Loan origination

1. Borrower is offered the opportunity to take a loan – can be from a choice of providers.
2. Borrower interacts with the app with embedded lending
3. Lending enabler initiates and provides data to bank/lender for credit approval (noting that in some cases Polaris can act as both enabler and lender).
4. Borrower's bank and/or data provider relay the data back to the enabler who processes the information and relays it back to the TPP provider.

Loan disbursement/servicing

1. Lender sends cash to Borrower
2. Borrower instructs their bank to make repayment to the lender. (Note that the repayment can also be directly via the payment processor or the Embedder e.g Stripe)



Insurance

Embedded insurance represents another development of the financial sector, reshaping the landscape of policy sales and management. When it comes to insurance coverage, insurance providers or insurtech companies offer two options: off-the-shelf products and customized products. Off-the-shelf products are pre-made insurance packages that can be easily integrated into other platforms, allowing insurance providers to expand their market reach. On the other hand, by utilizing digital platforms and data analytics, insurers have the ability to create tailor-made microinsurance products that specifically cater to the distinct requirements of a particular target audience.

One common use case is ‘microinsurance,’ which often caters to the underserved and economically vulnerable segments of the population, offering them accessible and affordable coverage for specific risks through low-cost premium payments and simplified claims processes. Insurance companies can leverage data from various integrated platforms to expedite the claims process, reducing manual intervention and the risk of errors.

Imagine a street vendor who relies on their daily earnings to support his/her family. In the past, this vendor might have considered insurance unaffordable.

However, with microinsurance embedded into mobile payment platforms, this vendor can now purchase coverage against risks that threaten his/her livelihood, such as accidents or theft.

Travel booking platforms offer a further illustration. As customers plan their vacations, they can opt for embedded travel insurance while booking flights or accommodations, offering travelers peace of mind without the need to navigate multiple websites or paperwork. This level of convenience not only drives insurance uptake but also enhances customer loyalty and trust in the platform.

Finally, embedded finance allows insurers to monitor claims data in real-time, enabling them to identify patterns and trends that inform product improvements and risk assessments. This data-driven approach enhances insurers' ability to respond proactively to emerging risks, ensuring they stay ahead in an ever-evolving insurance landscape.

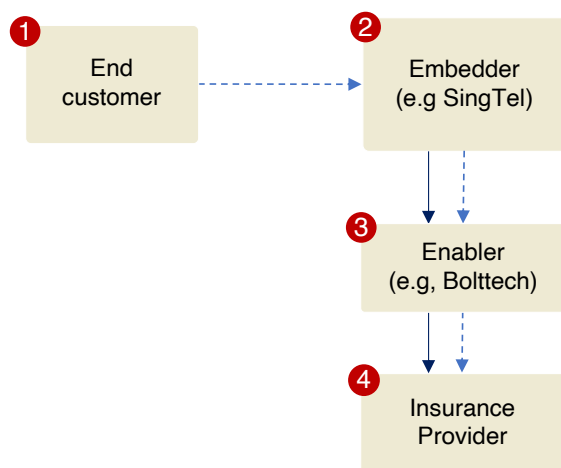
Case Study: Seamless Protection: How bolttech and Singtel Revolutionized Device Insurance

Understanding bolttech

bolttech is a global insurtech provider serving many different segments of the industry. One of their more interesting use-cases involves collaborating with a prominent Asian telecommunications company to offer comprehensive device protection plans. By embedding their insurance services seamlessly within the telco's digital platform, bolttech enables customers to purchase device protection plans effortlessly at the point of purchase.

Figure 9

Embedded Insurance – bolttech Value Chain



Embedded insurance flow

1. User is offered the insurance product via the non-financial, customer-facing interface (Eg: SingTel)
2. The enabler, bolttech, interacts with the insurance provider to request the relevant coverage, eliminating the need for customer's interaction with the insurance provider.
3. The insurance provider uses the data (obtained from a combination of internal data, customer-provided information, third-party data providers, and other relevant sources) for underwriting and actuarial purposes and is responsible for manufacturing and issuing the insurance policy, as well as claims management, regulatory filings, regulatory risks, and compliance risks. Note, this can also be bolttech in some instances

Who is the embedder and how do they benefit?

By partnering with bolttech, Singtel benefits from increased customer satisfaction and reduced churn rates, establishing a competitive edge in the market by offering a value-added service seamlessly integrated into their existing product offerings.

How does this solution benefit the end-customer?

With bolttech's embedded finance solution, customers can enjoy a frictionless experience, conveniently selecting and activating insurance coverage for their newly acquired devices within the telco's ecosystem.

The integration not only simplifies the insurance purchasing process but also enhances customer loyalty as it provides an added layer of security and peace of mind for device owners.

Yen Yen Koh, General Manager for Singapore at bolttech, underscored the flexibility of insurtech by highlighting the capacity to offer "bite-sized" insurance solutions, "even when an array of offerings is available, an automated embedded system can intuitively provide clients with exactly the subset of coverage they require."

“Even when an array of offerings is available, an automated embedded system can intuitively provide clients with exactly the subset of coverage they require.”

**– Yen Yen Koh
General Manager for Singapore
bolttech**

Investment

Singapore is seeing a multi-faceted change in the approach to investments and the advent of embedded finance is one element of this change. From the rise of robo-advisory platforms that offer automated and personalized investment advice to the accessibility of micro-investments, enabling even modest contributions to grow wealth, and the democratization of early-stage venture funding through equity crowdfunding, Singapore is embracing technology to make investments more inclusive, efficient, and empowering.

Although not strictly considered embedded finance solutions directly, robo-advisors such as Stashaway and Endowus have democratized wealth management, making it accessible to investors with varying levels of financial literacy and capital. With lower fees and minimum investment requirements compared to traditional wealth management services, robo-advisors open doors to a wider range of individuals, empowering them to take control of their financial future. Individuals can simply input their financial goals, risk tolerance, and investment horizon into a digital platform. The robo-advisor then crafts a diversified portfolio tailored to their unique needs and automatically rebalances it as market conditions change. This hands-off approach not only saves time but also ensures that investments are aligned with the investor's objectives and risk appetite.

Although robo-advisors are typically a B2C value proposition, providers are starting to provide B2B solutions, either white-labeled and integrated into

corporate employee portals, or through a linked service. This integration can help employees invest their salary immediately as well as provide other options for retirement savings.

Embedded finance has paved the way for micro-investments, where individuals can invest small amounts of money, often as little as a few dollars, into a diversified portfolio of stocks or exchange-traded funds (ETFs). This approach allows even those with modest incomes to start building their investment portfolios.

For instance, an individual who skips their daily coffee purchase and decides to invest the equivalent amount through a micro-investing app, often automatically. Over time, these small contributions accumulate, providing an opportunity for wealth creation and financial growth. Micro-investments not only instill a savings habit but also introduce new generations to the world of investing, fostering a culture of financial responsibility and independence.

Embedded finance has also brought new ways into how businesses can raise capital and how investors participate in early-stage ventures. Equity crowdfunding platforms enable startups and small businesses to access funding from a diverse pool of investors, while also offering individuals an opportunity to invest in promising ventures that align with their interests.

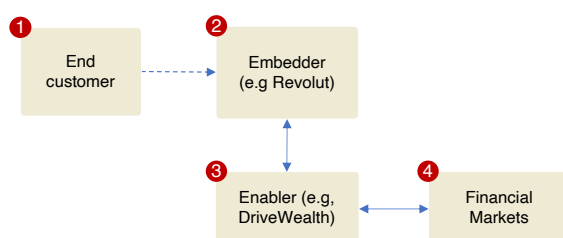
Case Study: Investing for All: DriveWealth's Embedded Approach in Democratizing Finance

Understanding DriveWealth

DriveWealth, a leading global fintech company, is making strides in the realm of micro investing in Singapore by helping individuals buy fractional shares, enabling investors to start building diversified portfolios with very small amounts of capital. This democratization of investing allows individuals in Singapore, regardless of their financial background, to participate in financial markets and access a broad range of investment options.

Figure 10

Embedded Investment – DriveWealth Value Chain



Embedded investment flow

1. User is offered a digital sleeve via the customer-facing interface
2. Entity who is undertaking the embedding into their app provides an additional feature to their app including an investment sleeve.
3. The enabler, in this case DriveWealth, enables the end customer to allocate some funds to financial investments. This can range from very small amounts, a few cents, to large denominations of hundreds of thousands of dollars.
4. The enabler then acts as a securities broker and buys financial securities for the end customer and sends the shares to the digital wallet of the end customer.

Who can embed DriveWealth's solution and how will they benefit?

By leveraging its robust API infrastructure, DriveWealth partners with banks, financial apps, wealth management platforms, and other institutions in Singapore to integrate its micro-investing capabilities seamlessly into their services to enhance their offerings and cater to a broader audience. Offering such micro-investing capabilities can lead to higher customer engagement and retention, as users find more value in a platform that caters to both their spending and investment needs.

Additionally, DriveWealth's robust API infrastructure facilitates seamless integration, enabling embedders to leverage the platform without heavy technical investments.

However, when contemplating such collaborations, SMEs should be clear of their digital strategy and have a deep understanding of their customer base's investment preferences. Beyond the technical aspects such as the necessary IT infrastructure to effectively integrate DriveWealth's API, SMEs must also be cognizant of potential regulatory requirements tied to investment services.

How will embedded investment help the ultimate customer?

Customers, regardless of their financial standing, can participate in the financial markets, breaking down traditional barriers to investing. With the ability to buy fractional shares, customers can build diversified portfolios without needing large amounts of capital. Vic Tham, Head of APAC at DriveWealth underscored the value of this type of collaboration approach stating that, “the ability for customers to allocate small amounts of daily spending into investments democratizes the securities market, fostering access for previously non-investors.”

Additionally, the seamless integration of DriveWealth's platform into familiar apps and services means customers can invest without having to navigate multiple platforms.

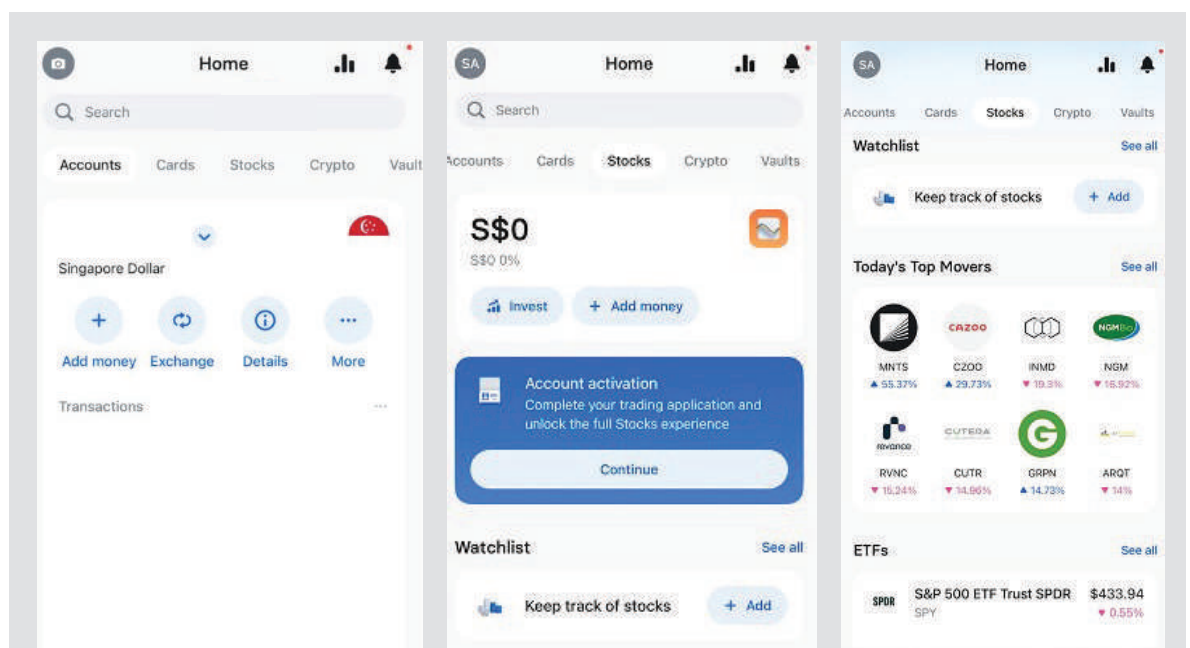
“The ability for customers to allocate small amounts of daily spending into investments democratizes the securities market, fostering access for previously non-investors.”

**– Vic Tham
Head of APAC
DriveWealth**



Figure 11

An example of seamless customer interface for investment on Revolut



Example of a personal finance app offering a seamless customer interface to embedded investing, providing risk disclosure, customer verification and product information through its app interface

Opportunities And Key Considerations – Food For Thought For Singaporean Companies

As we are seeing, embedded finance is an emerging force for non-financial corporates in Singapore, offering a range of opportunities to enhance their operations and customer engagement. By streamlining processes and workflows, enhancing data analytics, and improving customer experiences with seamless and integrated financial services, embedded finance can boost efficiency, productivity, and loyalty. It also widens access to bite-sized and affordable financial services to underserved segments, accelerates processes using integrated data, lowers costs by utilizing existing networks, enables better risk management through real-time monitoring, and democratizes investing.

As the landscape of finance continues to evolve, Singaporean companies would do well to take note of developments in the embedded finance space as activity is well underway in this sphere. There exist numerous opportunities for non-financial companies to proactively deploy embedded solutions and experts across the sector highlight the need to look for integration and the seamless alignment of operations. Mr Ng from DOXA summed up the future of embedded finance by stating that, “every company operating in the B2B space needs to have embedded finance in the future.”

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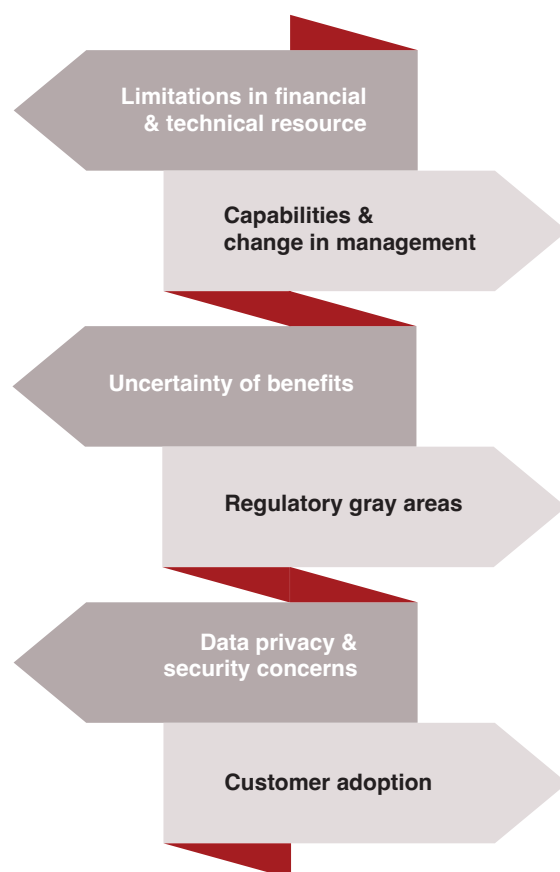
– Mr Ng
DOXA

This is because companies will no longer be supplier/buyer of choice without the more seamless operating processes offered by embedded solutions. Paper invoices simply no longer cut the mustard.

However, non-financial corporates must carefully consider several key challenges that make operationalizing embedded finance solutions challenging for SMEs, including limitations around financial and technical resources, capabilities and change in management, uncertainty of benefits, regulatory gray areas, data privacy when adopting to cloud solutions, security concerns, and customer adoption. A phased approach can help mitigate some of these risks accordingly

Figure 12

Challenges of operationalizing embedded finance solutions





Non-financial companies should have their infrastructure at least at an enterprise-grade so that they are able to effectively integrate into various ecosystems. Non-financial corporates must invest in agile and scalable infrastructure to harmonize diverse technologies and data sources for seamless interactions between the non-financial and financial components. This also allows non-financial companies to benefit more fully from the interaction with the APIs of their partners. For the smaller operator, perhaps without extensive IT budgets, one option might be to use a platform such as Xero which will help to integrate them into the wider embedded ecosystem.

Mr Tham from DriveWealth talked about this seamless integration in the context of saving/investing observing that, “clients want processes to be easy and seamless, so when transactions are conducted, the transfer of funds is immediate and completed without leaving the source app or website.”

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**– Mr Tham,
DriveWealth**

A common theme across the industry is the importance of selecting the right partners for collaboration. As embedded finance involves integrating financial services into existing platforms, Partnering with established financial institutions and fintech companies can provide access to the necessary expertise and regulatory knowledge. By forging strong partnerships, non-financial companies can tap into the experience and resources of their chosen partners, accelerating the development and deployment of embedded finance solutions. Mr Tan, from Goldbell/Polaris went a step further noting the importance of reliable partners with an example in lending, “if a partner wants to embed lending into a platform, it is crucial that when the rubber hits the road, they have the risk appetite they said they had and provide loans reliably.”

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**– Mr Tan
Goldbell/Polaris**

Ms Koh, of bolttech, delved into the operational aspects, **stressing the essential role of obtaining senior management's buy-in throughout the organization when incorporating products into a broader offering.** She emphasized that viewing embedded products solely as an additional product line is insufficient, “all facets of the organization, including user experience, technology, and analytics functions, need to be seamlessly aligned to ensure successful implementation.”

“All facets of the organization, including user experience, technology, and analytics functions, need to be seamlessly aligned to ensure successful implementation.”

**– Ms Koh
bolttech**

Not only does this make the implementation more efficient, but the analytics also going forward can ensure management have appropriate information to decide on the success or failure of a program.

Stuart Watson, Head of Insurance Exchange, at bolttech, **provider articulated the importance of adjacency and relevance with respect to product offerings,** “It is critical that the embedded product should be linked to the core offering, to give it meaning to customers.”

This principle holds substantial weight, as customers often become fatigued by a barrage of supplementary products that may hold little significance for them.

With increased integration and data exchange, embedded finance introduces new cybersecurity risks. Non-financial corporates must prioritize robust cybersecurity measures, such as encryption, multi-factor authentication, and regular security audits, to safeguard customer data and financial transactions. By proactively addressing cybersecurity, corporates protect their reputation and maintain customer trust in the face of evolving cyber threats.

Compliance with financial regulations, such as anti-money laundering (AML), data protection regulations and know-your-customer (KYC) requirements is essential to maintain integrity and protect customers' interests. Robust compliance frameworks not only mitigate legal risks but also instill trust and confidence in customers.

Mr Lee, from Pilon, addressed this regulatory topic saying “We operate in several countries in Asia, each with its own regime, we need to be mindful of all the rulebooks to ensure we do not fall foul of local lending requirements.”

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**– Mr Lee
Pilon**

Transparent data policies, explicit consent mechanisms, and data breach response plans are essential components of a robust data protection strategy. Respecting customer privacy reinforces trust and loyalty, building lasting relationships with the customer base.

Conclusion

The advent of embedded finance is reshaping the financial landscape and changing how non-financial companies engage with their customers. As consumer expectations continue to evolve towards frictionless and personalized experiences, embedded finance emerges as a powerful tool to meet these demands. The fusion of cutting-edge technology, open banking, and innovative regulatory frameworks, as exemplified by Singapore's progressive approach, has paved the way for a new era of financial services integration.

Singapore's vibrant fintech ecosystem, bolstered by the efforts from industry participants, positions the nation at the forefront of the embedded finance movement.⁴ The successful integration of financial services into various industries, from e-commerce to ride-hailing, illustrates the transformative potential of embedded finance to enhance customer experiences, drive loyalty, and unlock new revenue streams.

Notwithstanding the opportunities that abound, as companies embark on their embedded finance journey, it is imperative they address challenges ranging from regulatory compliance and data security to effective partnerships and seamless integration.

Successful implementation requires a strategic approach, with alignment across all facets of the organization, from technology to user experience.

The future of embedded finance holds immense promise. It is work in progress, but is looking to redefine traditional business models, empower consumers with greater financial access and flexibility, and foster innovative collaborations between financial and non-financial entities. By embracing the principles of embedded finance, companies can position themselves as pioneers in a digital economy characterized by personalized, convenient, and integrated financial experiences, ultimately driving sustainable growth and success. As this journey unfolds, it is becoming clear that embedded finance is not just a trend, but a fundamental shift that will shape the future of finance and business for years to come.

⁴ KPMG, "Revolutionise your customer journey: Explore new opportunities with embedded finance." October 2022, <https://kpmg.com/sg/en/home/campaigns/2022/10/embedded-finance-hub.html>.



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The SFA is a cross-industry non-profit organisation. Its purpose is to support the development of the FinTech industry in Singapore and facilitate collaboration among the participants and stakeholders. The SFA is a member-based organisation with over 800+ members. It represents the full range of stakeholders in the FinTech industry, from early-stage innovative companies to large financial players and service providers. To further its purpose, the SFA also partners with institutions and associations from Singapore and globally to cooperate on initiatives relating to the FinTech industry. Well-connected globally, the SFA has signed over 70 international Memorandum of Understanding (MoU) to lay the network for its members and ecosystem.

For further information, visit <https://singaporefintech.org/>.