

## The ecosystem imperative

Embedded finance: customer  
relationships and value web dynamics

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# Executive summary

## Strategic impacts of embedded finance

Embedded finance is becoming an important strategic consideration for financial institutions (FIs). Many innovators, including traditional FIs, fintechs, and third-party service providers, are already investing in and deploying the capabilities required to embed financial services into non-financial offerings; or investing directly in non-financial services providers that already embed some financial products in their ecosystems.<sup>1</sup>

In this report, the second in a series of four on financial services ecosystems, the Institute of International Finance (IIF) and Deloitte Global explore the concept of embedded finance, and how it impacts customer experience. In summary, we find that customer experiences are evolving rapidly as financial products and services become ubiquitous, available for the customer whenever and wherever they need it, and increasingly embedded in non-financial transactions or activities.

This paradigm shift also implies a transformation in the value web of financial products and services. In fact, the emergence of embedded finance models is further evidence that financial services value chains are evolving into non-linear “value webs,” where multiple players are contributing value simultaneously (vs. sequentially) to bring a product to the end consumer. What becomes visible for the consumer is often the service, good, or value proposition they are looking for, while the underlying financial service becomes more transparent (or increasingly frictionless to access). This can also impact how financial services providers are perceived by consumers, as well as on the user experience and availability of options for corporate and retail customers.

### Key concepts and takeaways:

- Embedded finance integrates financial services and products into the digital experience of a non-financial service or good.
- According to recent estimates, by 2030, the market for embedded finance will grow to US\$7.2 trillion.<sup>2</sup>
- Some of the benefits that embedded finance can bring include:
  - improving the user experience;
  - enhancing financial inclusion;
  - enabling better and more tailored offers of products and services;
  - creating new or enhanced revenue streams;
  - reducing FIs’ costs of acquiring new customers; and
  - facilitating scalability.

These benefits are often materialized through partnerships and collaboration.

- Embedded finance also brings some challenges for FIs, including maintaining customers’ trust; supporting customers’ optionality; maintaining consumer protection; achieving interoperability and seamless user experience; and deciding how to optimally deploy it in combination with other key evolutions in the market (e.g., Open Data, Digital ID).
- Embedded finance has not reached its full extent. We expect more development in the business-to-business (B2B) arena, with growing business cases for small-to-medium enterprises; increased deployment of automation and artificial intelligence (AI) in embedded finance use cases that can help consumers make better financial decisions; as well as certain consolidation in the market, driven by the integration of services, and the platformization phenomenon (i.e., the creation of central marketplaces that bring together consumers and multiple service providers).<sup>3</sup>
- Although there are embedded finance use cases emerging across many verticals within financial services (e.g., payments, insurance, credit, and investments), the most mature use cases today lay in payments and insurance. According to the interviews conducted for this research, other areas are still growing, and we will see more maturity in different business cases.

# Overview and context

## What is embedded finance?

Embedded finance integrates financial products and services into the digital experience of a non-financial service or good. According to the World Bank, it can be defined as “the seamless incorporation of financial products or services into non-financial products or services.” It is also known as “contextual banking” as it engages customers in different contexts or journeys where they operate.

In other words, embedded finance can allow customers to access the products and services they want or need, along with the financial services they require, in the same experience or along the same customer journey. And its use cases tend to come with an enhanced user experience, where the financial service is rendered in the most convenient and seamless way to customers, wherever they are (i.e., physically or digitally) and whenever they need it.

While this may sometimes increase the ‘distance’ between certain FIs and their customers, it can also open up new, scale-based profit pools, allows FIs to access new customer bases, and helps them explore exclusive relationships with key marketplaces and service providers.

Embedded finance can reach its full potential when deployed alongside other technologies that allow for a better contextualization and ubiquitous service, such as geolocation, Internet of Things (IoT) (e.g., smart homes, smart cars, smart cities, smart fridges, etc.), AI and machine learning (ML).

This report will cover a number of relevant questions for practitioners, policymakers, and consumers, including: What is embedded finance? Why has embedded finance flourished? How is it manifesting? And, where is the embedded finance trend headed?

## Why has embedded finance flourished?

Often, retail and business financial services are used as a means to an end. They are used by customers who wish to achieve broader lifestyle or business objectives. For instance, people do not apply for a loan because they wish to have a debt obligation; they do so because they want to be able to own a home, drive a car, or get educated (for example), and are unwilling or unable to purchase these goods and services outright. Similarly, consumers avail of insurance because they want to engage in a ‘risky’ activity (e.g., driving) while still having some degree of protection in case of adverse outcomes.

Embedded finance benefits both individual and business customers, and among its main characteristics, we often find the following:



A user experience that makes it easier for customers to access and execute financial services “on the go.”



The ability to integrate financial products at the moment and place of need. In many cases, this means integrating financial services into apps or marketplaces that are accessed every day by consumers and corporations, and where financially-linked decisions are made. This provides “one-stop” solutions to customers.



It can promote financial inclusion, as it offers services that might be needed but not otherwise accessible or known by customers.



It leverages the power of data from platforms, IoT, application programming interfaces (APIs), AI and ML, and partnerships to build better and more tailored products and services.

The idea of embedding financial services in the customer journey is not new. Historical examples include point-of-sale financing that has been offered by car dealerships and big-box retailers for decades, and embedded ‘pay now’ buttons on retail websites. However, the acceleration and digitization of customer journeys due to digitalization, together with the growth of platforms and digital ecosystems, has led to an increase in the number and variety of use cases available.

Super-apps such as WeChat or Alipay in China, and Grab in Southeast Asia, are examples of embedded finance in all-in-one platform environments. Major platforms and marketplaces also offer embedded finance (e.g., Airbnb with Air Cover, and Mercado Libre with Mercado Pago).

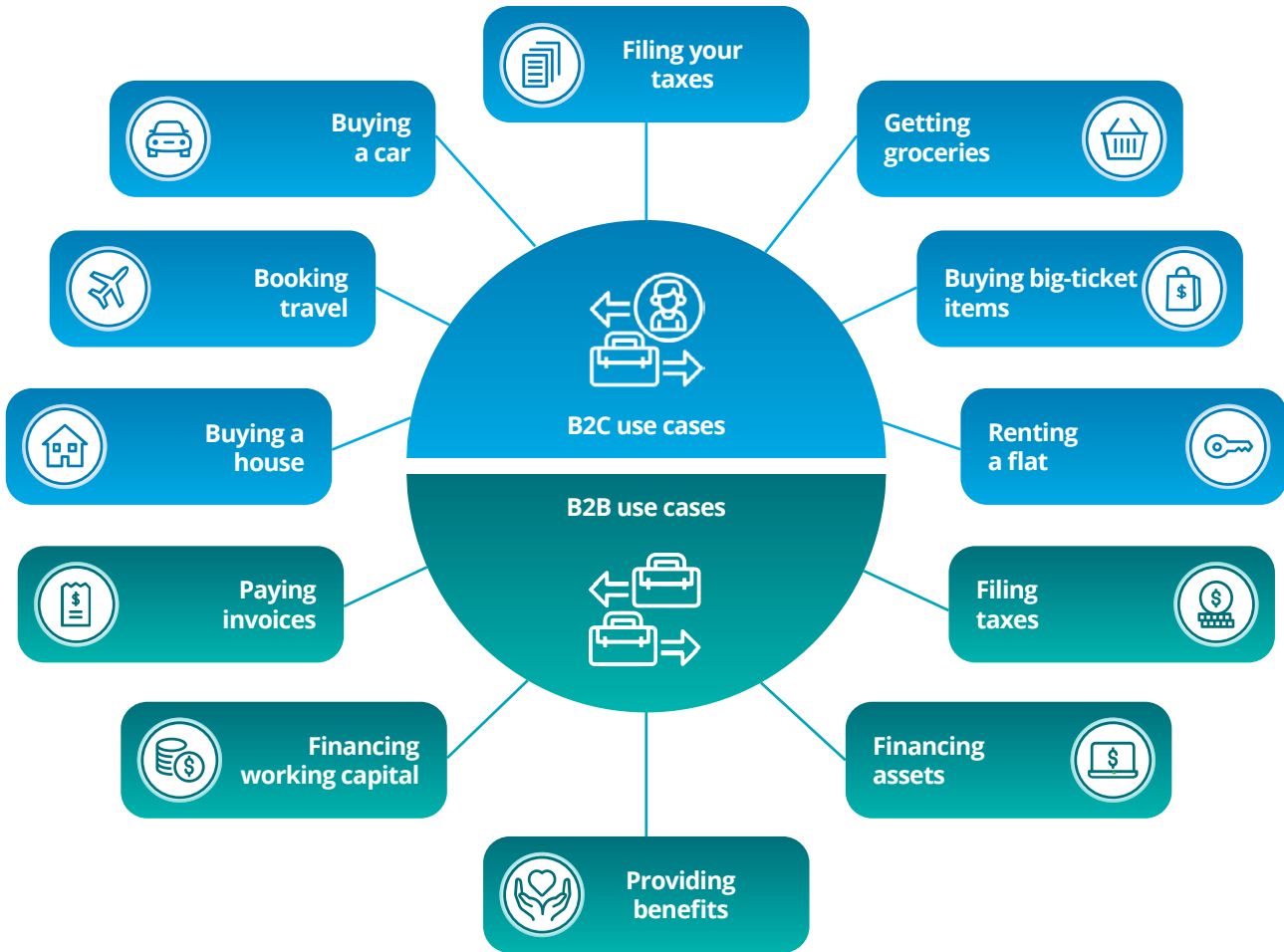
To date, embedded payments are the main use case being deployed in embedded finance. Indeed, a report from Bain Capital in 2022 analyzing the United States embedded finance market stated that “consumer payments account for more than 60% of all embedded finance transactions”.<sup>5</sup>

Insurance is another area where more development has been seen in the last number of years. As well as many others, such as embedded lending, embedded investment, and wealth management, across business-to-customer (B2C) and B2B domains alike.<sup>6</sup>

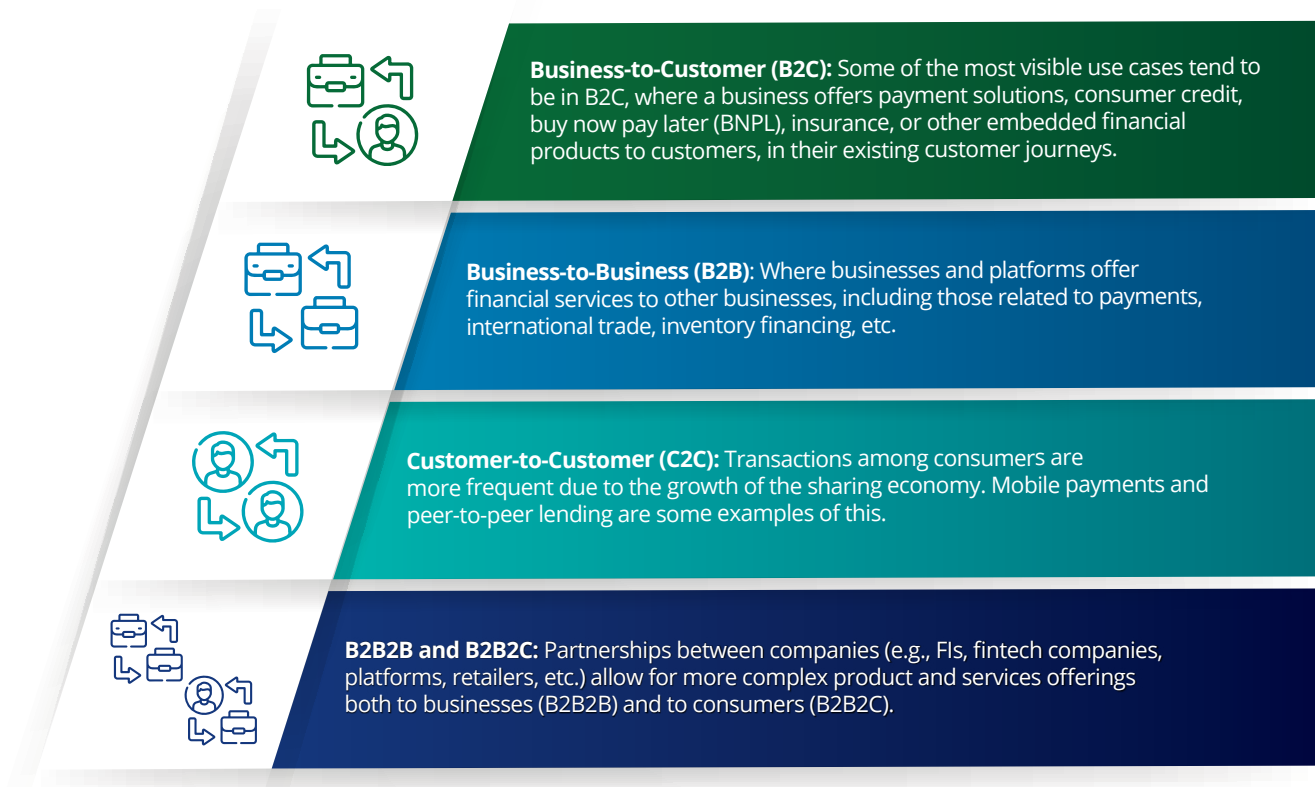
### How is it manifesting?

Embedded finance can act as an enabler for different business models. Indeed, it has been especially useful to help develop many platform economy models (e.g., renting cars and other mobility options, renting houses, buying all kinds of goods, etc.) Figure 1 illustrates this.

Figure 1: Embedded finance as an enabler<sup>7</sup>



We can find embedded finance in different formats depending on who renders the services to whom:



In some cases, we are also witnessing ‘reverse embedding’—FIs looking to have non-financial products and services embedded in their customer journeys, to provide exceptional financial-adjacent experiences to their own customers. For example, DBS Bank’s integrated ecosystem, DBS Marketplace, is a one-stop shop for consumers to access services and deals beyond banking, such as property listings and valuation, flight and hotel bookings, healthcare services and education courses; and Santander Boutique in Portugal offers a marketplace of technology, home appliances, and fashion, amongst others.<sup>8</sup>

Partnerships and other commercial agreements between FIs, non-FIs, digital players, application programming interface (API) providers, and technological capabilities providers are making it possible for additional embedded finance use cases to flourish.<sup>9</sup>

## Value generated: How is embedded finance shifting the value web?

In most embedded finance relationships, you can find the following primary players, whose roles, as well as the value they generally derive from embedded finance, are described below:

- **Fls:** They manufacture the financial product or provide the financial service. These players will often hold the regulatory license to offer these products and services, maintain a balance sheet, and provide the required treasury and risk management functions on behalf of the ecosystem; they can also play a role in orchestrating the embedded finance relationship. Fls increasingly interact with non-financial service providers and can benefit from taking part in embedded finance value web, primarily through the introduction of new revenue streams and efficiency opportunities. In fact, 82% of banks rank embedded finance as an important revenue stream.<sup>10</sup> Therefore, financial institutions interested in taking part in that value creation and capture should analyze the strategic implications of offering embedded finance to their customers and the impact on the Fl's relationship with other relevant actors in the ecosystem as a result.

On top of the financial benefits of embedded finance, Fls could also take advantage of the strategic benefits introduced in the section "Embedded finance's benefits, challenges, and drawbacks" in this report.

- **Customer interfaces:** These are non-Fls, including specific platforms, marketplaces, brands, and other non-financial organizations that provide adjacent, non-financial offerings, and who benefit from having a financial product or service embedded in their customer journeys.

Virtually every company that is not an Fl could embed finance services in their product offering and/or platform, adding potential value at each part of the value web through:

- **Broadening offerings to customers and suppliers:** For example, an e-commerce platform could offer credit to consumers so they can purchase goods on the platform, or offer lending lines so merchants can buy the goods that they then offer to customers through the platform. This addition of financial services and/or tools can drive additional revenue for businesses –it is estimated that Software-as-a-Service (SaaS) businesses that leverage embedded finance can increase revenue per user by 2 to 5x (compared to standalone software subscriptions).<sup>11</sup>
  - **Improving overall customer experience:** Offering frictionless experiences is a differentiator for consumers interested in getting what they need in the easiest way possible. Thus, connecting financial services to the customer journey will likely facilitate business operations and drive better results.
  - **Increasing revenue:** Incorporating financial touchpoints in every step needed in the customer journey could speed up the time for making an offering available to consumers. For example, adding Know-Your-Customer (KYC), creditworthiness assessments, automatic payments from a checking account, and renters' insurance to a lease agreement process could allow the landlord to gain days, or even weeks, which then could be converted into having the property empty for less time.
- **Middleware providers:** They provide the key capability stack—including data, technology (e.g., APIs), operations and processes, and user experience –that allows Fls and customer interfaces to connect their products and services. Sometimes, customer interfaces will establish relationships directly with an Fl, and contract with middleware providers to provide this stack. Other times, customer interfaces will contract directly with middleware providers who distribute financial products and services based on pre-existing relationships with Fls.



The continued advancement in technology, automation, and rapid scaling has enabled cloud-based solutions and digital platforms as well as consumption-based pricing. Additionally, the rise of “API-fication” has allowed distributors to natively embed propositions onto third-party sites, further enabling growth in financial services and products offered “as-a-service.” As such, middleware, and intermediaries such as “banking-as-a-service” (BaaS) orchestrators/providers have continued to enter the market, seeking business opportunities in a growing market:

- **Reaching new verticals:** With the proliferation of SaaS-based business models as well as proven qualitative and quantitative benefits, more industries have started to adopt and employ embedded finance in new and innovative use cases both in B2B and B2C settings.
- **Expanding products/offerings and use cases:** Since the emergence of BaaS, middleware players such as Additiv have been expanding to include and integrate additional financial services products, including wealth management products. Specifically, within embedded wealth, Additiv estimates that there is an addressable market of US\$33 trillion in assets globally that could result in potential value capture for providers of US\$1 trillion given a 10x revenue multiple.<sup>12</sup>
- **Customers:** Embedded finance adoption is predominantly driven by customer demand and consumers are well-positioned to extract the most value out of embedded finance. Some of the ways in which customers could see this are:
  - **Seamless access to financial products and services**, which they have access to ‘in the moment of need.’
  - **Better user experience**, paperless, fully digital, and designed for their convenience.
  - **Faster transaction execution**, for example, Shopify Pay’s seamless shopping experience that saves customer information allows users to securely speed through checkouts, translating into an average checkout-to-order rate of 1.7x higher than transactions without Shopify Pay.<sup>13</sup>

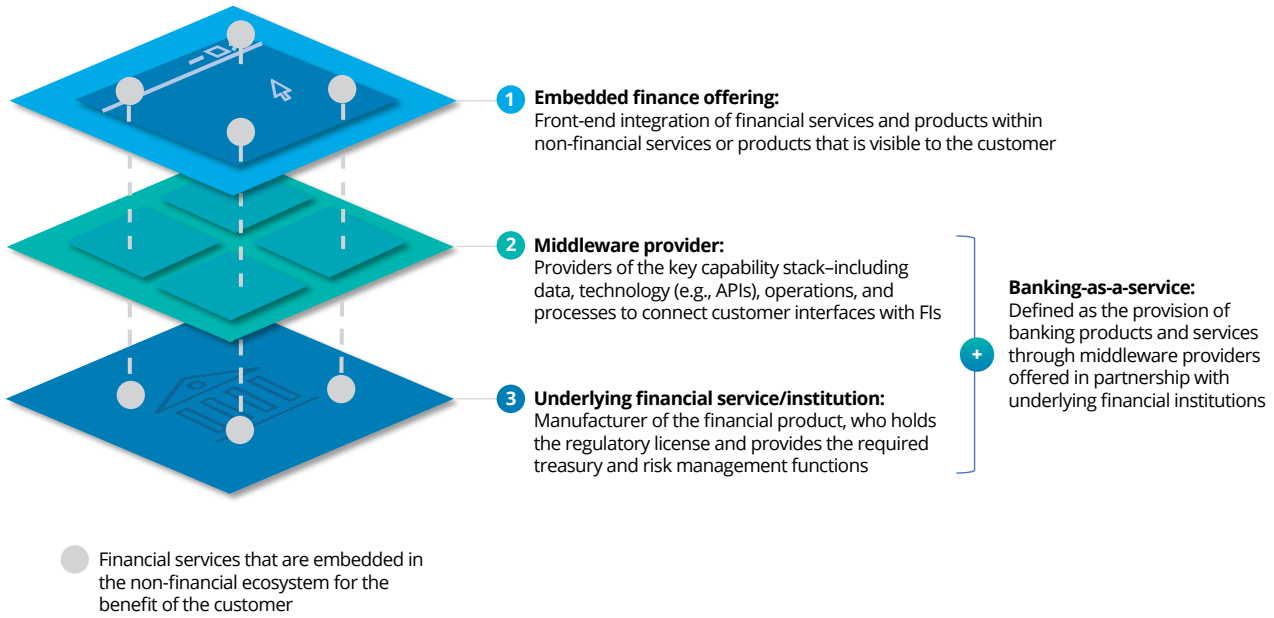
## Embedded finance and adjacent concepts

While embedded finance and BaaS are closely related concepts, they are not exactly the same. According to the World Bank, BaaS can be defined as a “business model in which fintech firms and other third parties that meet a bank’s security, legal, and compliance requirements integrate banking products into their own offerings without obtaining their own banking licenses, allowing them to leverage the bank’s regulatory infrastructure.”<sup>14</sup> Complementarily, the Institute of International Finance (IIF) has also defined BaaS as the “provision by a FI of a cloud-based banking solution enabling other ‘downstream’ FIs to provide banking services without having to develop the core technologies used.”<sup>15</sup>

While embedded finance can be seen as the front-end integration of financial services and products within non-financial services or products, BaaS refers to the back end, the “rails” and the connection with regulation (e.g., rendering anti-money laundering or anti-fraud as a service, regulatory compliance as a service, user interfaces as a service, or even the banking license as a service). Though, there are some definitions of BaaS that can lead to identification with embedded finance (see Figure 2).

Both embedded finance and BaaS are often built on APIs, and in some cases, BaaS is a pre-condition for embedded finance to take place. As mentioned above, different layers of banking services can be provided in an as-a-service format.

Figure 2: Embedded finance<sup>16</sup>



Also, open banking and open finance are adjacent concepts to embedded finance, implying sharing data through standardized and secured interfaces (APIs) with the consent of consumers. The IIF and Deloitte have recently analyzed these dynamics in a previous report, available on [Deloitte.com](https://www.deloitte.com).

# Embedded finance developments

## Embedded finance as a driver to ecosystems

Integrating financial services into digital customer journeys creates an ecosystem where FIs converge with institutions from other sectors, to serve the customer at the point of need. In the words of one executive from a LATAM regional bank, *“ecosystems are about making end-to-end journeys for what people consume.”* Furthermore, an executive we spoke with from an Asian financial services company noted, *“these ecosystems are becoming more common to comply with customer’s desires and frictionless offerings of services.”* In this regard, the chief innovation officer of a global insurance company based in Asia also noted that “boundaries between financial and non-financial activities are blurring, which is challenging for the private sector and also for regulators and supervisors.”

A financial industry executive pointed out that *“embedded offerings have challenges, but the financial industry has shown extreme resilience toward new technologies and many other major challenges.”* In that sense, “embedded finance comes from having a broad vision of what banking means. Banking is not only offering financial services, but also participating and partnering with customers and other companies so that we can improve customers’ day-to-day lives, whether by offering financial services directly, or by offering the infrastructure where transactions take place.” as noted by the partnerships head of a global bank based in Europe.

Embedded finance connects financial and non-financial services in a seamless way. In the words of a chief ecosystem officer of a leading financial group in LATAM, *“organizations are recognizing that they don’t need to be in front of everything, but that they can become the rails or enablers of some other activities from partners...This allows FIs to offer simplicity and velocity in parts of the journey that are heavily regulated and supervised.”* But other institutions have noted how embedded finance can make them less visible to customers, how it can weaken their customer relations, and reduce cross-selling opportunities.

This reality poses strategic decisions for the C-suite. The chief platform officer of a European conglomerate puts it this way: *“FIs need to strategically define which things they are willing to outsource, and which things they shouldn’t or wouldn’t outsource. That means that each institution needs to define which activities are at its core (e.g., credit scoring), and which aren’t its core or specialty (e.g., loyalty programs).”* The chief innovation officer of an insurer based in Asia stated, *“we are seeing the unbundling of financial services and a shrinking of what the FIs are exclusively doing. When you unbundle, you eliminate cross-subsidization and, over time, you will see some sort of specific re-bundling that allows to exploit economies of scale.”*

## What are the key conditions for success considered by the C-suite?

As mentioned in the section entitled *“Value generated: how is embedded finance shifting the value web”* in this report, embedded finance has the potential to drive significant benefits for FIs, non-financial players, and customers alike. Unlike other ecosystems with a greater degree of centralized coordination (e.g., Open Data), embedded finance ecosystems can be thought of as highly decentralized and unique webs of contractual, data-sharing, and value-flow relationships between customers, customer interface(s), middleware providers, and FIs. In other words, there is not one embedded finance ecosystem. Therefore, conditions for success may differ substantially across different offerings.

Nevertheless, through conversations with executives this report concludes that a well-functioning embedded finance ecosystem has at least five critical success conditions:

- **An activities-based policy framework:** Operating within an activities-based policy framework that focuses on overseeing specific types of sensitive financial activity (e.g., lending), as opposed to an entity-based approach alone, can ensure a balance between innovation, consumer protection, and system stability. It allows for some key financial processes (e.g., marketing, underwriting) to happen outside the walls of a traditional FI, while extending the regulatory perimeter to ensure that there are no blind spots for the authorities.
- **'Moment of need' matching:** When done right, embedded finance delivers the right product/service bundle to the customer in the precise moment of need, or at the moment when a key financially linked decision is being made. The ability to embed the product/service as close as possible to that moment requires deep and accurate customer data and continuous analysis to target the right offer at the right time.
- **Systems to build trust:** Customer trust is critical to FIs. This need is only magnified in the context of embedded finance, where consumers are often availing themselves of products and services from non-traditional providers, and where growth-focused distribution activities are separated from risk management-focused activities. These systems include methods for capturing explicit and informed customer consent, assigning, and enforcing liability, and providing recourse for customers.
- **Proper balance of friction:** Embedded finance can promise seamless access to financial services. While this seamlessness can create great experiences for customers, the ease with which customers can access risky products (e.g., lending, investing) could create systemic challenges if left unchecked. It is important that, in building good user experience, financial providers also build opportunities for customers to review and improve their exposures, understand the financial implications of their decisions, and make sensible choices.
- **Common interoperability standards:** Building seamless experiences can require the easy movement of data and funds across multiple intermediaries. A common set of technical standards, technology architectures, and processes can ensure that every player in the value web work together to deliver a unified experience protecting consumers throughout the journey.

When looking specifically into organizational capabilities, financial services executives are mostly looking at four fronts:

## 1. Technology

- Modern and modular data architecture (e.g., based on APIs) to facilitate the transfer of data and value across multiple entities
- Advanced data processing, analytics, and automation capabilities to make real-time product and service decisions about customers

## 2. Governance and risk management

- A sophisticated partnership management function responsible for creating trusted relationships with third parties by aligning interests, flexibly managing service-level agreements, efficiently and fairly managing conflicts, and adhering to ecosystem rules and norms
- Robust third-party risk management and cybersecurity protocols, in order to understand, monitor, and safeguard against potential threats (e.g., API security)
- Enhanced risk management capabilities for FIs, in order to properly assess customers 'at a distance'

### 3. Organizational and process design

- Excellent user experience research and design capabilities, and the ability to share insights across partners in the ecosystem in a secure way.

### 4. Strategy

- **For customer interfaces:** Permission to provide customers with products and services that go beyond the organization's traditional scope of services in a way that will not be perceived as 'overstepping boundaries' by the customer.
- **For FIs:** Strategic decision to think about financial services in a broad view, allowing financial services to be included in everyday customer journeys.

## How to measure success

As shown above, developing new capabilities is important. In doing so, organizations should focus on KPIs that help land the embedded finance imperative for their institutions. We have included some examples that portray how success might be measured by different stakeholders in this section:



#### At the geographical level

At the geographical level, embedded finance can be a driving force behind increased financial access and inclusion, by **further reducing a number of traditional barriers** to access, including limited product knowledge, **time spent on lengthy applications**, and thin files for products like credit and insurance.

In fact, a study by CGAP of thousands of embedded finance customers in Asia concluded that more than 50% of them were able to access certain useful services for the first time.<sup>17</sup> This hints at a second benefit—unlocking additional, latent economic activity that can be lost due to difficulty in accessing a financial product or service. For example, when a customer decides not to make a purchase because they are not easily able to access short-term financing and cannot afford the upfront sticker price, potential economic output is lost. In fact, a study by Dealroom suggests that the total market value of embedded finance could top US\$7 trillion by 2030.<sup>18</sup>



#### At the institutional level

For FIs, embedded finance can give them **access to new, diverse customer pools and greater volumes, at a much lower cost of acquisition** (by some measures, 4x lower than an e-commerce provider and 30x lower than a retailer).<sup>19</sup> For customer interfaces, embedded finance can create new opportunities to drive increased loyalty and customer stickiness, by **keeping customers on their platform and minimizing 'offramps.'** It can also create new pools of revenue—generally, the FI will pay a fee per product/service distributed through its customer interface partner. Additionally, more seamless experiences drive greater customer satisfaction. Finally, for middleware providers, embedded finance can present a new opportunity to drive **greater transaction volumes** through their services.



#### At the customer level

At the customer level, the benefits are clear. Customers can save time and effort when financial products are delivered to them exactly in the moment of need. They can also benefit from the outcomes of increased competition that embedded finance will surely drive, including a greater array of options and lower costs.

# Embedded finance's benefits, challenges, and drawbacks

## Benefits



### Reduces the costs of acquiring new customers for FIs

According to a report by ABN Amro and Dealroom.co, banks and insurers must spend 4x more resources than e-commerce platforms, and 30x more resources than a retailer, to acquire a customer.<sup>20</sup> Embedded finance provides a venue for FIs to appear exactly when and where they are needed by customers, which provides new ways to connect with customers.



### Streamlines customer experience

Customers are looking for easier and faster ways of getting what they need. This applies not only to financial products, but to all interactions customers have with other companies, whether it is mobility, retail, commerce, technology, and even healthcare, customers are requiring features that make their lives easier. Including embedded finance in the mix of products being offered, this gives companies an advantage on this front.



### Enhances partnerships and business creation

Through fintech integrations, SaaS businesses have the potential to increase revenue per customer by 2 to 5x and gain access to new markets.<sup>21</sup>

62% of banks said that they viewed creating new products and services in partnerships with fintech operators within the banking industry as a high priority. Correspondingly, 42% of banks placed that same priority on collaborating with non-banking start-ups to provide new products and services.<sup>22</sup>



### Leverage data to produce rich insights

Acceding to new types of customer data and being able to capture that information to improve the services offered of both the financial and non-financial partners.



### Improve accessibility and scalability

The embedding of financial services within the customer's journey of other services or products can increase the accessibility to financial services in some contexts, as well as their scalability.

## Loss of opportunities for FIs

Having their products embedded in someone else's digital journey implies a significant change in how customers access financial services and how they perceive those services. This means that, in some cases, FIs lose direct relationships with their customers, and thus, also customers' visibility of the problem or particular service that FIs are solving by providing such products and services. By losing that primary relationship, FIs could often risk losing access to data (as relevant data are now accessed by the company or marketplace offering the non-financial products or services), while FIs might lose opportunities to cross sell products and grow customer value.

## Challenges



### Keeping customers' trust

This is especially true in an ecosystem that involves multiple partners, jurisdictions, and regulatory boundaries, leading to uncertainties around responsibilities, reliability, integrity and availability of the services that are attached to the primary product or service required by the consumer.



### Creating interoperability

Enabling the technological and operational capabilities that drive interoperability between organizations from different sectors, with different backgrounds, different regulators, and different expectations, is a non-trivial problem that requires substantial collaboration across the public and private sector.



### Maintaining cybersecurity standards

This also includes maintaining infrastructure and data security levels on an ongoing basis. This should be treated as a priority to avoid a less secure environment being provided to clients as a result of connections made through other services, systems, and platforms.



### Building robust KYC and know-your-machine (KYM) capabilities

With customers, companies, and even machines (i.e., with IoT) all playing a role in embedded finance, ensuring that customers, products, and orders (i.e., payments, transfers, requests for products or services) are compliant, legitimate and accurate, could play a significant role in maintaining customers' trust. Therefore, implementing measures that allow participants to verify the authenticity of the operations and players could be key.<sup>23</sup>



### Enabling consumer protection and choice

This all hinges on disclosure of relevant information. Those involved in transactions must be sufficiently visible to the consumers and comply with local regulatory requirements so they know whom (and how) to contact in case of an inconvenience or error. Additionally, consumers need to know who is in charge of the rails of the operations and be confident in the service provider. Finally, clarifying who bears the risks behind a given product would provide transparency that would be valued by all stakeholders.



### Enhancing user experience

Enhancing the user experience in a way that avoids friction while connecting multiple actors requires strong design and technological capabilities and similar mindsets/strategies by the partners involved. Composability, and thus the ability to build solutions that can be improved by adding new blocks, is necessary.



### Enabling Digital ID protocols

Digital ID can serve as an important foundational capability to create seamless digital experiences. It also helps facilitate simpler and safer processes, and can aid compliance with other processes such as KYC, fraud monitoring, etc. For more detail on Digital ID, please see the Digital ID call-out box in our [previous report](#).



### Revisiting regulatory boundaries

As non-FIs increasingly enter the market and offer financial products and services outside the traditional regulatory boundaries of financial institutions, cross-sector regulators should collaborate to explore activity-based approaches to regulation that observe the principle “*same activity, same risk, same approach*” to protect customer rights.<sup>24</sup>

Innovations in the embedded finance landscape are quickly widening the gap between manufacturing and distribution activities in the financial services space. In fact, the distributor of a financial product that is embedded on such a platform may not have any direct relationship with the underlying manufacturer (i.e., the FI), as this may be fully intermediated by middleware. For example, many well-known BaaS providers offer full-service account opening & management to their clients via one or more underlying bank partners.

Ensuring that this ecosystem functions well, and balances the trade-off between innovation and safety, necessitates two additional responsibilities:



### Consumer protection

As manufacturing and distribution activities diverge, and embedded finance reduces some of the traditional frictions associated with availing oneself of financial services (thereby accelerating consumers' path to purchase), a strong consumer protection framework is fundamental. This is especially important in the case of highly regulated services such as lending, investing, and advice provision. Consumers must still be fully aware of the risks associated with such services and give consent knowingly and explicitly. Additionally, given that many distributors (i.e., customer interfaces) will fall outside of the typical financial services policy framework, regulators should work to increase their visibility into these activities to manage potentially hidden systemic risks (e.g., similar to shadow banking) and avoid regulatory asymmetry between FIs and non-FIs that may be able to offer the same products or services but under asymmetric rules.



### Risk management

The divergence of manufacturing and distribution also implies that key risk management activities performed by FIs (e.g., KYC/AML checks, underwriting, credit risk management) are often happening at arm's length from the customer relationship (held by the customer interface). This underscores the need for actors involved to take a closer look at key processes (e.g., due diligence on customer documentation) to ensure that they are holding customers of their 'embedded' services to the same level of scrutiny as others.



# Developments and trends shaping embedded finance

It is clear that embedded finance has an important role to play in the present and the future of financial services. While we are still early in the development cycle, looking ahead, we expect three developments in the coming years:

## Increased automation of financial decisions

As AI, Open Data and embedded finance advance and converge, we will increasingly witness greater automation of day-to-day financial decisions. As customers become more comfortable with AI tools making decisions (within certain parameters) on their behalf, and Open Data provides these tools with a fuller view of customers' financial picture and key non-financial information, many low-stakes decisions will be automated. For example, at the checkout point embedded in a digital marketplace, AI will recommend the optimal payment card for a transaction, or automatically turn the transaction into an installment loan if the transaction will bring the user's available balance below a set threshold. Later on, autonomous devices—such as vehicles—will embed financial tools (e.g., payments mechanisms, wallets) allowing them to execute pre-set decisions on behalf of their customers (e.g., renew insurance, automatically pay for electrical charging, accept ridesharing fares from other customers when the primary owner is not using the vehicles, and others).

## Greater penetration of B2B market

Today, a significant amount of innovation in embedded finance is occurring in the B2C space. However, we believe the B2B space is primed for the next wave of disruption. Firstly, commercial customers see a disconnect between their own personal banking experiences and their commercial banking experiences; as company representatives are demanding greater innovation. For example, 86% of CFOs believe digitizing accounts receivable and account payable processes is key to driving customer satisfaction.<sup>25</sup> Secondly, especially in the small-to medium enterprises space, key platforms—such as accounting (Xero) and merchant (Shopify, Amazon, Mercado Libre) platforms—are beginning to embed financial services into their offerings. In doing so, they are quickly becoming a “one-stop shop” for business owners and/or finance executives and leveraging massive datasets to provide services like real-time lending. With the proliferation of new B2B embedded finance offerings, the market is expected to continue to grow. To name one example: the embedded B2B payments market is expected to reach US\$2.6 trillion and embedded business lending, US\$1.3 billion, by 2026.<sup>26</sup>

## Scale-based consolidation

In many product and service categories of embedded finance, scale economics of the FIs involved will be critical to success. A simplified, commoditized product shelf, enhanced by some data-driven customization (e.g., dynamic pricing) can service many of the basic needs that customers expect when choosing a convenient, embedded product. It may also be technically difficult to embed more complex products and maintain the same level of streamlined experience. Additionally, given that the FI could be further away from the core customer relationship, its share of the revenue pool may be thin in many categories. Therefore, driving up volume and streamlining costs are imperative. For this reason, we may see the providers of embedded products and services coalesce around a small number of large, scaled players competing on price, simplicity, and speed, although small, specialized competitors may also emerge to fill specific customer needs.

# Conclusion - where are we headed?

The leaders we have spoken to have observed that an increasing number of financial services are being embedded and delivered through non-financial channels across different ecosystems. They conclude that this will have a marked impact on the financial services industry, creating new strategic considerations and risks as FIs make critical business choices about partners and ecosystems.



*FIs need to be right where the financial operation is going on, wherever is needed by the client.*

Chief Digital Solutions Officer for a European G-SIB

Estimates suggest that by 2030, the market for embedded finance (including embedded lending, embedded payments, and embedded insurance) will grow to US\$7.2 trillion.<sup>27</sup>

As embedded finance ecosystems require interacting with other companies and sectors, FIs are rapidly approaching and being approached by potential partners that could complement the offerings whether from the financial services perspective, or from the real economy. Building these relationships is driving FIs to ask for high requirements from potential partners/providers to better protect one of their most valued assets: customer trust.

FIs could play dual roles in the future. In some cases they might end up as orchestrators of embedded finance ecosystems—which allows them to have more control over the risks in the ecosystem, and therefore more control over the consumer trust—and in some cases, they might add value by being one of the many actors within the ecosystem—without needing to be the orchestrators.



*Playing different roles in different ecosystems makes sense, and will keep making sense in the future, as long as FIs can keep the trust of their customers*

*Five years from now, we expect to keep the pace of innovation and engagement with customers, and that can only be the case if we are able to keep customers' trust.*

Executive of a European G-SIB

The future of embedded finance will grow alongside non-financial companies, as these other companies will need to “tie money movement to their primary offering, because it’s easier. It’s easier to use a ride-hailing app than it is to check if you have the cash to pay the taxi driver. And that same principle is going to apply to all businesses” quoted the head of innovation and digital partnerships at a global payments network. Also, the next horizon of embedded finance is already being foreseen by some industry leaders as the intersection of payments and “embedded machines” or the IoT, where machines (cars, gas pumps, refrigerators, etc.) will connect to each other to buy gasoline, groceries, schedule maintenance, etc.

# Deep Dive: Embedded finance across industry verticals

Although this is a relatively nascent space, there are already a significant number of consumer-facing use cases of embedded finance, with innovation occurring rapidly. A fulsome treatment of all these examples could fill a report unto itself. However, a simple way to provide an overarching classification system for this space is to think about the different financial products and services that could be embedded. Below, we list out the major categories of embedded finance, and provide some market examples:



## Payments

Embedded payments products help facilitate the transfer of funds between two parties—generally a customer and a customer interface but can also include peer-to-peer transfers. This is the earliest and most common form of embedded finance and has been around from the early days of e-commerce, serving as a means to allow consumers to use their credit cards to make online purchases. Recently, a few key trends are reshaping this space. Firstly, the experience is becoming more seamless, with self-sovereign payment method storage and natural authentication experiences (e.g., advanced biometrics), reducing the friction involved in paying for goods. Secondly, it is becoming more autonomous, with IoT devices now involved in autonomously making and receiving payments, based on pre-defined business rules and consent (e.g., smart fridges that automatically orders staples). Finally, innovations in the retail market are beginning to extend into B2B—platforms such as Shopify are building digital-first B2B payment experiences, complete with invoicing, customized terms, card-on-file capabilities, payment logic, quoting, and reordering.<sup>28</sup>

### Leading examples:

Checkout-free retail stores (such as Amazon Go and AmazonOne) are an example of fully frictionless embedded payment experiences that is becoming increasingly common, with the number of checkout-free retail stores tripled in 2021 and are set to cross the 10,000 mark by 2027.<sup>29</sup> In the case of Amazon Go, the consumer then visits an Amazon Go retail store, they scan their mobile app, and simply grab the items they wish to purchase before walking out of the store. A system of cameras and sensors determines what they have purchased, and the payment method on file is charged. In the case of Amazon One, consumers store specific details, including payment methods and biometric markers, allowing consumers to identify themselves and make contactless payments through their palms.



## Lending

Embedded lending products provide customers with the means to access financing for purchases at the point of sale. Financing can range from short-term, small dollar retail installment loans (such as BNPL) schemes to large working capital lines of credit. In some cases, merchants may also issue a card product (e.g., a credit card) at the point of sale, using the card to complete the purchase. Compared to traditional forms of credit, embedded lending differs in that typically the underlying credit origination and extension happens in near real-time at the point of sale, instead of asynchronously. Lenders may choose to underwrite these loans based on different data points, including history with the lender or merchant, financial data (e.g., available via Open Banking), soft-pull credit checks, or other means.

### Leading examples:

Apple's 'Pay Later' product automatically integrates into all online and in-app platforms that already accept the Apple Pay® mobile payments solution, allowing customers the ability to take out a small-dollar, zero-interest loans from Apple's in-house lender (Apple Financing LLC) to turn a single payment into four payments spread over six weeks.<sup>30</sup>



## Insurance

Embedded insurance products provide customers with protection over an asset or activity, that is generally underwritten at the point of sale and bundled (if consumers desire) directly into the purchase price of that asset or activity. For example, Wakam provides trip delay and cancellation insurance that can be embedded directly into a travel agency's booking experience.<sup>31</sup> As well, Raiffeisen Austria offers short-term ski accident insurance directly in its payment app, when a lift ticket or ski resort stay ticket is purchased.<sup>32</sup> Often, embedded insurance products are tied to parametric outcomes. For example, in the case of travel, insurers monitor airport arrival and departure statistics to automatically initiate claims on the customer's behalf.

### Leading examples:

As digital advice powered by AI continues to improve, we are also seeing more examples of embedded insurance purchases being recommended, or triggered, autonomously. CoverGenius' Geniebot solution can analyze a consumer's transaction history, and proactively recommend real-time protection on purchases (e.g., cancellation protection on concert tickets).<sup>33</sup>



## Investments and advice

The embedding of investment and advice products is a nascent space, but we are beginning to see early examples emerge—allowing users to view market data or purchase securities directly from third-party, non-broker platforms. Furthermore, with the rise of Generative AI, it’s not hard to imagine a future where an AI-based personal assistant (perhaps one linked to a FI) that ‘follows’ your online and financial activity and is able to provide real-time advice and recommendations. For example, it may recommend an insurance product after you have made a large asset purchase (e.g., a car), or automatically sweep your paycheck into different spending, saving, and investing pools based on your goals and risk tolerance.

### Leading examples:

For example, in early 2023, Twitter announced that it would allow users to view market information on the platform, as well as buy and sell securities linked via the ‘Cashtag’ feature—all made possible through a partnership with broker-dealer eToro.<sup>34</sup>

All the embedded finance examples discussed can take place via business-to-business (B2B) or business-to-consumer (B2C) transactions, as shown in the examples below:

Figure 3: B2B journey example<sup>35</sup>

### B2B example: paying invoices

John is the sole proprietor of WidgetCo, a small business

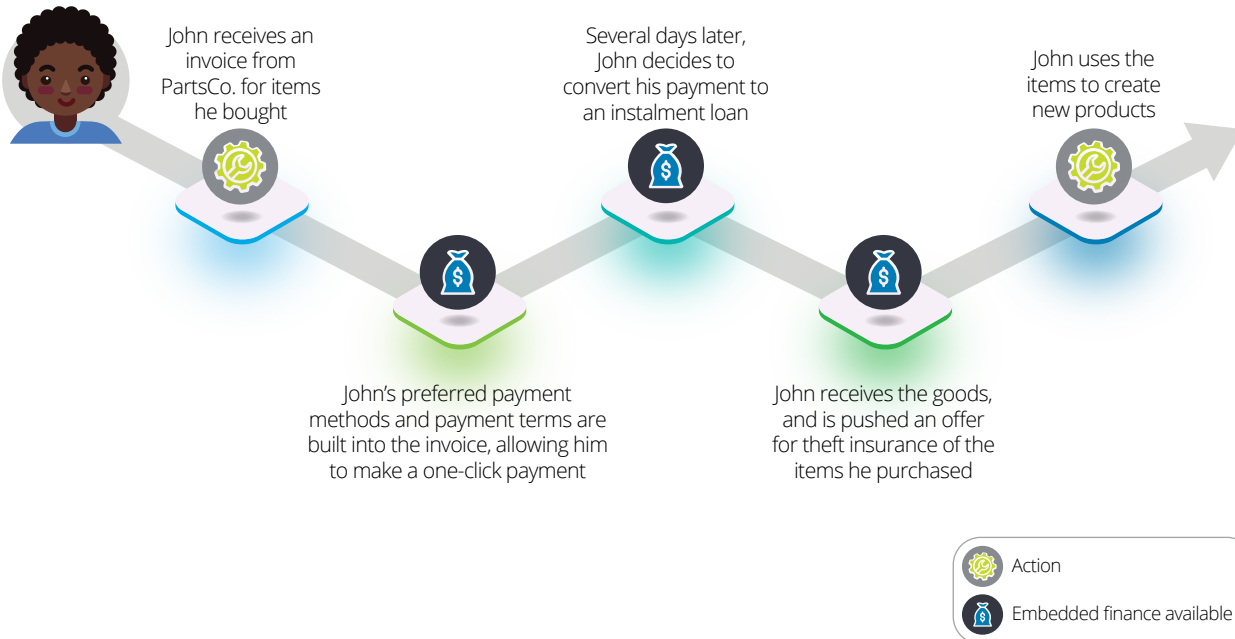
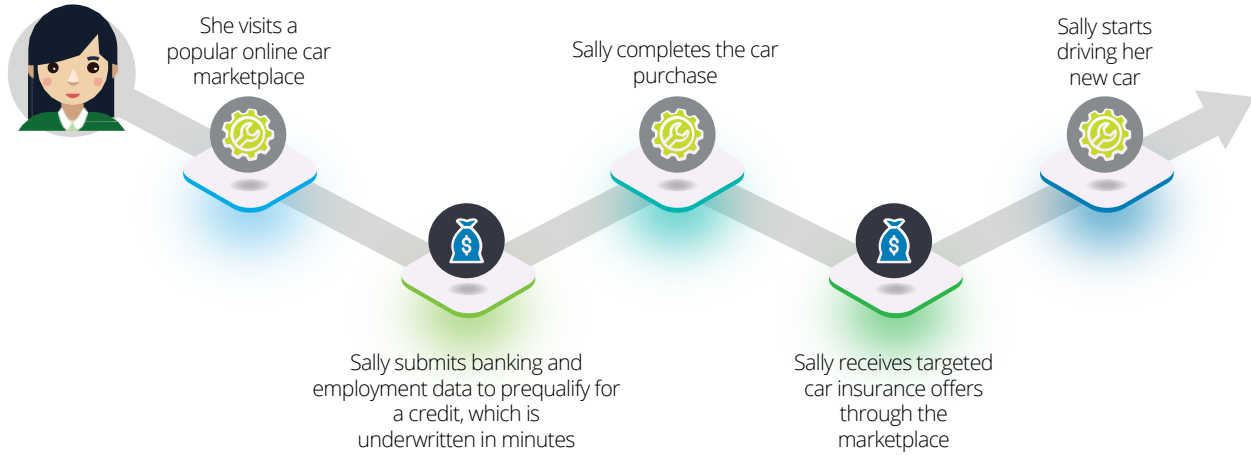




Figure 4: B2C journey example<sup>36</sup>

### B2C example: buying a car

Sally is looking to purchase a car



 Action

 Embedded finance available

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