

## EMBEDDED FINANCE

Transforming  
the future of  
financial services



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## FOREWORD

It is my distinct pleasure to introduce the Arthur D. Little (ADL) "Embedded Finance" Journal, a wide exploration of the evolving world of embedded finance and related topics, brought to you by ADL's Financial Services practice. As we stand at the crossroads of finance and technology, the convergence of emerging regulations, innovative business models, and disruptive technologies is reshaping our industry profoundly.

The financial services landscape is witnessing a paradigm shift where traditional banking is no longer confined to conventional roles. Today, banks are reinventing themselves as facilitators of everyday life, seamlessly integrating financial services into the digital experiences that consumers have come to expect. The emergence of models like banking as a service (BaaS) and banking as a platform (BaaP) reflects this transition, enabling financial institutions to extend their capabilities beyond conventional boundaries and both power a new generation of players (fintechs) and also partner with them to solve real needs at scale.

Embedded finance is at the heart of this transformation. By embedding financial services directly into non-financial environments and journeys — whether through embedded payments that prioritize convenience, micro-savings that pave the way for significant financial inclusion, or even embedded investment and wealth solutions — finance is becoming increasingly an invisible, yet indispensable, component of our daily lives. The seamless nature of these services not only enhances user experience as individuals and business owners but is also driving financial inclusion, democratizing access to sophisticated financial products and services to the underserved, allowing financial services to co-create innovative solutions, and fostering an environment where consistent and sustainable innovation is becoming a necessity for all players.

This diverse collection offers a panoramic view of several transformative trends, such as BaaS, the world of embedded savings, the emergence of B2B BNPL (buy now, pay later), and how AI is supercharging embedded finance, among other related topics.

A critical element driving these transformations is the symbiotic relationship between emerging regulatory frameworks and innovative business models. Initiatives like open banking and open finance are not merely regulatory mandates — they are catalysts that foster a more collaborative and inclusive financial ecosystem. They provide the structure necessary for banks, fintechs, and technology providers to work together, ensuring that innovations in embedded finance are both secure and customer-centric.

Equally important are the technological accelerants propelling these changes. AI is enabling unprecedented levels of personalization, efficiency, and risk management, gradually making financial services so seamlessly integrated that they become virtually invisible. Meanwhile, blockchain technology is ushering in a new era of transparency and security, ensuring that as financial services become more embedded, they remain robust and trustworthy.

As we look forward, the ongoing evolution in embedded finance signals not just a transient trend but a foundational shift in the way we perceive, design, and deliver financial services. The interplay of regulation, innovative business models, and cutting-edge technology is charting a course toward a future where finance is more accessible, secure, and seamlessly integrated into our daily lives.

I invite you to delve into the insights and perspectives captured in this journal. Together, these contributions illuminate the pathways to a future where financial services are not an isolated function, but rather a vibrant, integral part of our digital ecosystem — an ecosystem that is as dynamic and innovative as the world we live in.

We at GFTN will be using these thematic trends as we shape the global conversations on various platforms that bring all three stakeholders — policymakers, financial institutions, and technologists — together in a consensus-based approach.

Sincerely,

**Sopnendu Mohanty**

Group CEO, Global Finance & Technology Network (GFTN)





## BANKING AS A SERVICE

### At the heart of the bank of tomorrow

The financial services ecosystem is being reconfigured around novel clusters of incumbent and new players. Banking as a service (BaaS) is the missing link between legacy players in banking and new disruptors, providing a common platform from which the various players can draw and benefit. In an era of connectivity and open banking, traditional banks must act quickly to transform or else others will fill the space and prohibit traditional banks from using this window of opportunity to compete.

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## THE BAAS OPPORTUNITY

The banking sector is in transition. Historic pressures and the transformational arrival of fintechs mean the financial services marketplace is undergoing significant reconfiguration. This has left many traditional banks with a portfolio of uncompetitive, inadequate, poorly integrated products and services, as well as a static, costly IT legacy infrastructure, making them vulnerable to new entrants with compelling offerings and a flexible cost base.

As a result, banks must develop alternative income streams to replace those being eroded. This is not necessarily easy, especially for smaller banks that lack capital or size to efficiently scale. But it is difficult even for larger institutions that are often held back by a mountain of legacy IT.

BaaS is one way for licensed banks to bridge the gap between where they are and where they need to be. To do so, they can replace their internal processes and legacy systems by sourcing products via BaaS. Alternatively (or additionally), banks can provide non-bank businesses with an end-to-end package of financial processes, operations, and application programming interfaces (APIs) connectivity.

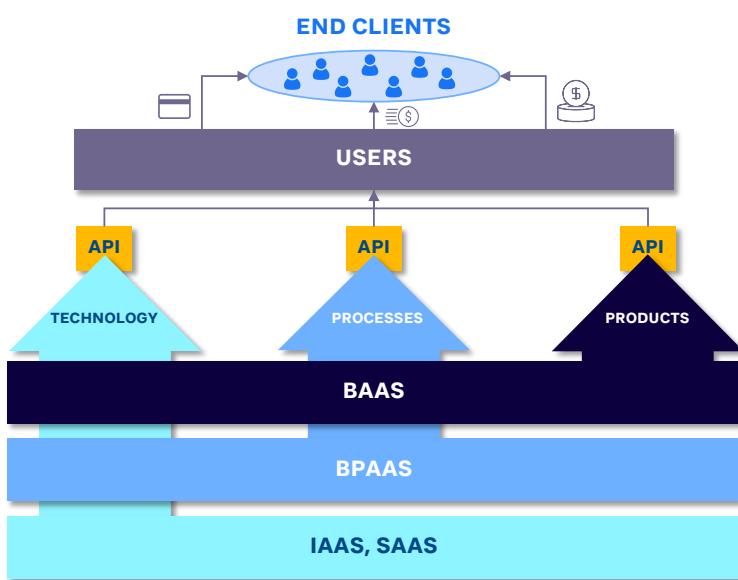
These options can allow non-banks to offer their own branded accounts, debit cards, loans, and payment services to customers, which they could not otherwise do without becoming a bank themselves.

End consumers enjoy a seamless experience with no awareness of a bank's behind-the-scenes involvement, thanks to the use of APIs that act as a technological bridge between the BaaS-providing bank and business users (see Figure 1).

While Internet as a service (IaaS), software as a service (SaaS), and business process as a service (BPaaS) provide technology and processes, BaaS enables banks and non-banks to offer a host of completely new financial products to their end customers. Without having to commit the time and resources to developing all offerings in-house, BaaS-using banks are able to cut time-to-market of new products by as much as 10 times. So, BaaS has a crucial role to play in enabling traditional banks held back by legacy IT to reinvent themselves with a more competitive offering.

For non-banks (like consumer brands or even business process outsourcing players) that use BaaS, it is a simple way to extend and build out their potential customer pool through diversification and improve revenue from cross-selling, while simultaneously deepening their relationship with existing customers and enjoying significant cost savings from new economies of scale. For those users that take the plunge into BaaS early, it is a good way to gain first-mover advantage in a specific revenue pool.

**Figure 1. BaaS as part of “as-a-service” universe**



Source: Arthur D. Little

For banks that use BaaS, new levels of cost reductions open up as they can completely restructure their cost base — reducing the cost base overall and turning the remainder into a much more variable cost. In the case of a digital bank in the EMEA region, for example, overall costs were found to be 50% lower than for traditional banks (according to analysis by Capstone Partners and ADL). Traditional banks can come close to these cost structures by using BaaS. Having such a cost structure would put them at a clear competitive advantage, forcing large incumbent banks to redesign their operating model.

Banks that provide BaaS open up a new income stream with minimal capital expenditure. It also provides a new channel for gathering data from digital transactions and extracting value from that data, something with which banks historically have not excelled. Using BaaS in this way thus enables banks to become two to three times more profitable. Developed alongside a bank's core business, BaaS becomes a solid platform from which it can start to rebuild lackluster market valuations, pleasing investors as a result.

BaaS clearly is far different from traditional outsourcing, which does not involve the use of APIs and is aimed at improving cost efficiency, largely confined to simple or back-office processes.

### The BaaS potential

To date, the BaaS market has remained relatively small and largely the preserve of digital banks and fintechs like Green Dot and Vodeno on the providing side, and digital nonfinancial platforms such as Amazon and Uber among the users (see Figure 2).

However, as their traditional markets and margins come increasingly under threat from disruptors, we believe that BaaS will be the route to salvation for many incumbent banks. There are already signs that BaaS is being adopted by small and midsize banks operating at subscale and, as more do, we expect to see this segment of the market grow at a compound annual growth rate (CAGR) of approximately 25%. That would mean that, by 2025, revenues in Europe from BaaS would stand at US \$60-\$80 billion.

**Figure 2. Four segments of BaaS users**

| SEGMENT                   | EXAMPLES*  | DESCRIPTION   |
|---------------------------|--|---|
| DIGITAL Financial         | Chime<br>TransferWise<br>Monzo                         | <ul style="list-style-type: none"> <li>Often powered by BaaS; most fintechs have introduced card-based payments through it</li> <li>Aim is to scale the business; they seek API-strong BaaS providers with fast delivery</li> </ul>                             |
| DIGITAL Non-financial     | Facebook<br>Amazon<br>E-commerce merchants<br>Uber     | <ul style="list-style-type: none"> <li>Big players look for additional revenue streams and expect real-time, seamless APIs</li> <li>Merchants use BaaS to integrate products required (e.g., payments) and increase sales (e.g., buy now, pay later)</li> </ul> |
| TRADITIONAL Financial     | Raiffeisen Bank International<br>Barclays<br>Bayern LB | <ul style="list-style-type: none"> <li>Demand from incumbent banks expected to increase given cost pressures from digital competitors</li> <li>Can be providers but often lack technical capabilities and thus require a BaaS partner</li> </ul>                |
| Traditional Non-financial | BMW<br>Lufthansa<br>Merchants                          | <ul style="list-style-type: none"> <li>Big players aim for customer loyalty and further revenue streams with BaaS; mainly served via partnerships with banks</li> <li>For physical merchants, see e-commerce merchants above</li> </ul>                         |

\*Illustrative only  
Source: Arthur D. Little

Following this expansion, a secondary growth spurt is likely (with CAGR increasing to 35%-40%), driven by the arrival of larger incumbent banks that have concluded that to remain competitive they, too, need to use BaaS solutions. This new impetus should see BaaS revenues reaching \$300-\$350 billion by 2030, which would amount to about 20%-25% of total European banking income.

At the center of the initial growth will be payments and accounts, since these products can be most easily embedded — as PayPal and Stripe, two of the first-ever digital movers, have shown. This will likely be followed by movement into consumer lending, as products such as “buy now, pay later” gain more traction.

### Who are the BaaS players?

We can categorize providers into four primary segments, differentiated by banking license and breadth of offering (see Figure 3):

- Category 1: license pure players.** These providers are primarily traditional regional banks in the US, typically with weak technology and API capabilities. They provide their license to digital banks or BaaS partners.

**Figure 3. BaaS provider segments**



Source: Arthur D. Little

### — Category 2: modular license and API

**“hybrid” players.** These providers have strong technology, API capabilities, and a banking license, which is how they can offer BaaS.

### — Category 3: modular API tech players.

Because they are focused on a particular area, such as payments or cards and have strong APIs and technology proposition, these are attractive partners for BaaS license providers.

### — Category 4: monolithic BPaaS tech players.

With their focus is on BPaaS, these are the providers of traditional core banking systems that give banks their technology backbone.

Only those in categories 2 and 3 can really be considered modern BaaS providers.

## IMPLEMENTING BAAS

While we see BaaS as the future of banking, the uniqueness of incumbent banks means that each must carefully evaluate whether it would benefit from BaaS — either as a user or a provider — and identify any potential obstacles that might affect implementation.

Some incumbent banks may be hesitant about using BaaS because of concerns about the service robustness of a third-party provider or a loss of independence. For instance, it might be contractually difficult to add new features to a product or to discontinue it. They may also be required to share fees with a technology provider.

However, such concerns are often overstated and are far outweighed by the benefits that come from being able to focus on core capabilities — front office and the management of balance sheet and risk management — because responsibility for non-core areas has been passed to the most competent provider.

The bank of the future, as illustrated in Figure 4, will focus on its core capabilities. The best BaaS partner in the market will provide most products, enabling the bank to deliver the best possible client experience and move to a variable cost model that will reduce overheads significantly.

Lending products are a good starting point for product and service offerings from most incumbent banks since they are generally a core capability. These products also require a full banking license, which means there is less competition than when offering payments for which an electronic money institution (EMI) license suffices.

Of course, banks first must determine whether they can offer BaaS at all. Most banks, for instance, would need to heavily upgrade their APIs (banks often lack the real-time connectivity and seamless APIs that are so essential for BaaS delivery) and improve their outdated systems (their legacy technology is generally monolithic and cannot provide the functionality required to deliver a first-class BaaS product).

If a bank's internal systems, modularity, and connectivity are already strong, or they are willing to improve them, choosing to create an in-house

BaaS solution might be the right choice. However, for most, partnering with an appropriate third-party technology provider that can develop a BaaS offering will be the better option.

Alternatively for those with deeper pockets, rather than working with a tech partner, a bank could acquire one, as did Société Générale when it bought Treezor, a one-stop shop for payments, electronic money management, customer identification, fraud risk management, and other services.

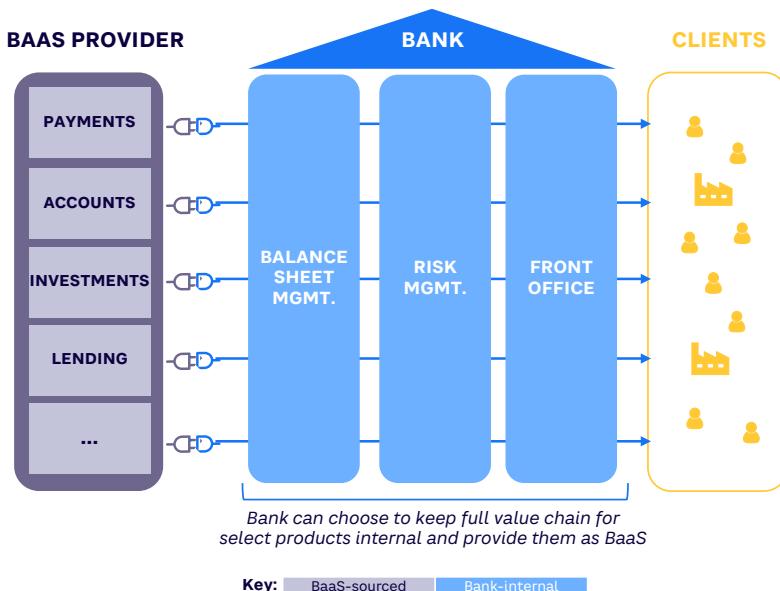
## LENDING PRODUCTS ARE A GOOD STARTING POINT FOR PRODUCT AND SERVICE OFFERINGS

### Finding the right partner and conducting a diligent implementation

Choosing a BaaS provider is something that requires serious thought, as such relationships don't come without risk. There is always the chance, for instance, that a partner may not fulfill its obligations, maintain agreed service levels, or even meet technological expectations. That can be particularly problematic when a bank is committed to a single provider. Therefore, banks must ensure they have the flexibility to move to a more cutting-edge provider or, from the outset, use multiple partners with different strengths in specific capabilities.

To mitigate risks, banks should have strategically flexible contracts that allow for provider switching, a strong compliance control framework, a clear partnership governance model, and a strong API management process, as well as perform rigorous due diligence up front. Running pilot projects to eliminate potential disruptions can also ensure implementation goes as smoothly as possible.

**Figure 4. The bank of the future**



Source: Arthur D. Little

## Two core market options

In terms of market positioning, there are two routes to BaaS success. The first is for a bank to become a global specialist that focuses on high-quality delivery of a narrow range of products and services. A good example is Railsbank, which allows others, both in and outside financial services, to use its EMI license to issue international bank account numbers, receive and send money between accounts, and issue branded credit cards.

The second route is for a bank to turn into a full-scale regional provider with a banking license, able to offer a full spectrum of BaaS products across a restricted geography. An example is Solarisbank, which is focused on Europe because it expects half of the 800 million accounts that are currently held there with incumbent banks to transition over to nontraditional players. Trying to be a regional specialist is unsustainable because of an inability to scale. Similarly, attempting to be a global, full-scale provider is problematic because of the cost and complexity involved.

BAAS HAS THE POTENTIAL TO REIGNITE THE INTEREST OF INVESTORS WHO HAVE BECOME DISINTERESTED

## How BaaS increases value

BaaS has the potential to reignite the interest of investors who have become disinterested in banks' investment potential, a fact reflected in banks' subdued market performance, particularly in Europe. Railsbank, which is now seeking a new funding round that would see it valued at \$1 billion, and Solarisbank, which has quadrupled its valuation in little over a year, have certainly seen the benefits.

However, those looking to follow in these banks' footsteps must ensure they have three components in place:

- 1.** First, have onboard enthusiastic early investors willing to provide strategic advice and fund expansion. In our experience, this is the single biggest predictor of success for startups and challengers.
- 2.** Second, ensure customer acquisition and the seamless integration of products and services are core competencies. These are essential characteristics in the fintech space, and they are equally important when it comes to BaaS.
- 3.** And third, to create value, it's essential to achieve leadership in a specific aspect, such as product or price.

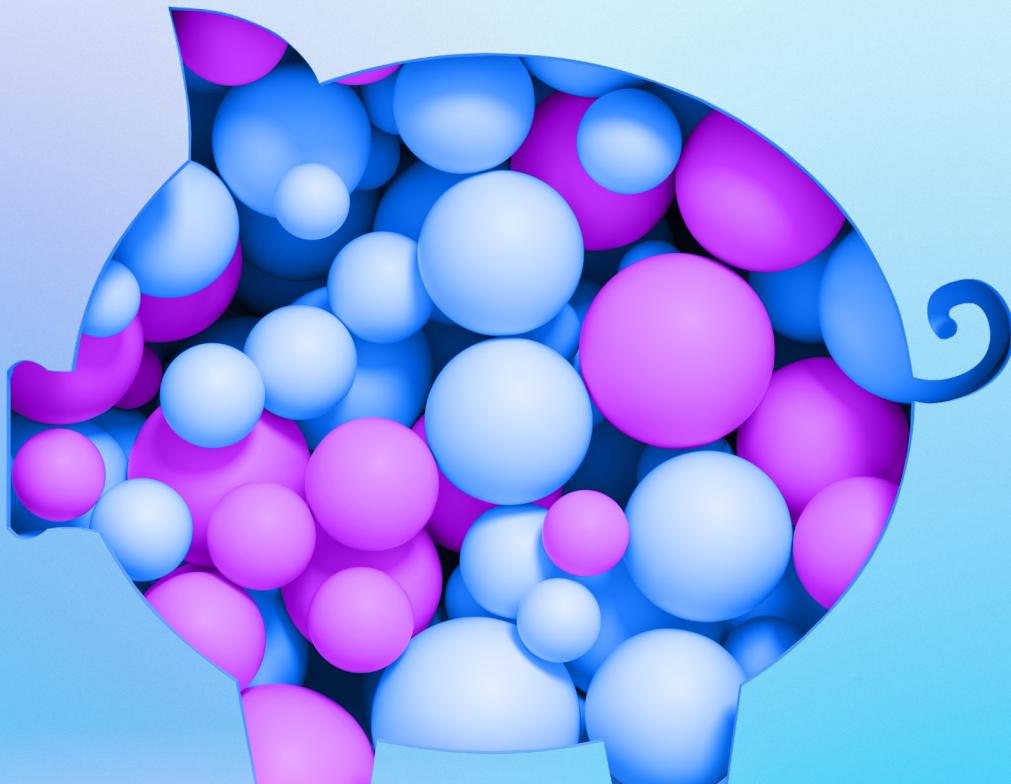
## CONCLUSION

# INSIGHT FOR THE EXECUTIVE

### WE BELIEVE BAAS WILL SOON BE AT THE HEART OF EVERY SUCCESSFUL BANK

The expansion of the “as-a-service” model has the potential to fundamentally change both banks and those looking to offer financial services to their clients. In fact, we believe BaaS will soon be at the heart of every successful bank. While this will involve a fundamental shift in resources, it will allow banks to improve their customer service levels and to strengthen their core capabilities, both of which will be essential for them to protect themselves from the increasing incursions of fintechs and major digital platforms.





## BANKS AS FACILITATORS OF EVERYDAY LIFE

The time is now to engage in “beyond banking” and drive new revenue streams

The future of banking looks increasingly different, with new business models emerging on the back of digitalization, interconnectivity, and the availability and use of rich data. In this Viewpoint, we focus on “beyond banking,” compare it to other open banking-based business models, and point out possible engagement opportunities. We share examples and potential strategies and conclude with questions to help determine the right approach for your institution.

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## THE FUTURE OF BANKING: DIFFERENT FIELD, SAME PLAYERS

In recent years, technology, connectivity, and data have driven fundamental change in the delivery of financial services and will continue to do so. Fintechs have established themselves as important providers of financial services and play an integral role in the wider ecosystem, while digital banks provide more convenient and democratic access to banking services.

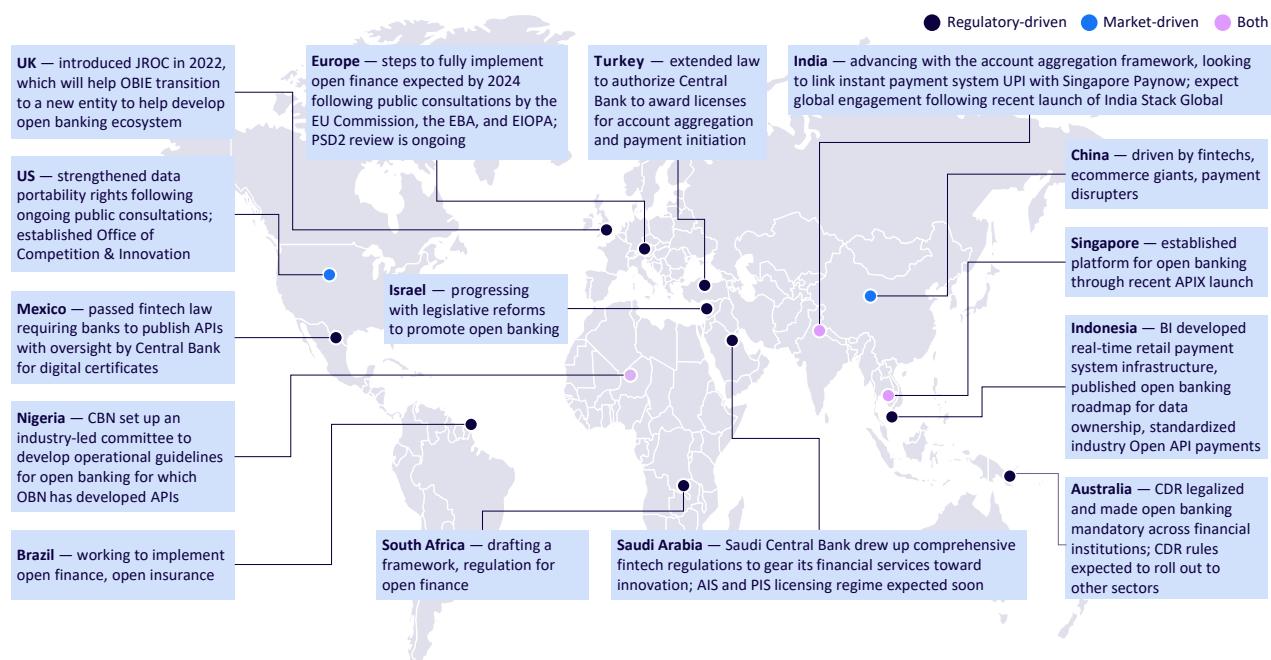
New business models are emerging, spurred by digitalization, interconnectivity, and rich data. These models have introduced many new concepts, such as open banking, embedded finance, platforms, ecosystems, and beyond banking.

We believe that these new business models, which we classify as open banking-based business models, will continue to change the industry in the future. However, we think a dramatic shift in the players' landscape is unlikely. Instead, incumbent banks will adapt and leverage their large customer base, capital base, and systemic significance to remain prominent and relevant.

Incumbent banks seeking to transform themselves by adopting open banking-based business models, or that simply want to ramp up their organization's overall digitalization, now have a window of opportunity:

- Emerging regulation around data, open banking, and open finance have created an opening for banks to extend their business into new products and services beyond banking. As shown in Figure 1, open banking and open finance regulations are being issued in several markets across the globe, establishing regulatory clarity for the business and enabling it. In other markets (e.g., the US and Switzerland), the push is led more by the industry. There are also markets with a hybrid approach, with both regulators and market participants in the driver seat. As open banking and open finance mature, the borders are blurring between regulatory versus market-driven and open banking versus open finance.

**Figure 1. Open banking/open finance landscape**



Notes: JROC = Joint Regulatory Oversight Committee, OBIE = Open Banking Implementation Entity, CBN = Central Bank of Nigeria, OBN = Open Banking Nigeria, EBA = European Banking Authority, EIOPA = European Insurance and Occupational Pensions Authority, PSD2 = Payment Services Directive 2, AIS = Account Information Service, PIS = Payment Initiation Service, UPI = Unified Payments Interface, BI = Bank Indonesia, and CDR = Consumer Data Right  
Source: Arthur D. Little

- The current funding drought and decline in fintech valuations have led to an opportunity for incumbents to leapfrog their own digital transformation by strategically investing in fintech and digital partners. Previously, this was only possible at relatively high prices, which makes the current environment attractive for incumbent banks with sufficient investment capital.

Incumbent banks willing to invest and engage beyond their classic business models will establish themselves as leaders. They will be able to leverage their position to capture the emerging monetization potential from near-term and longer-term trends in consumer behavior, the introduction of nonfinancial services players to financial services, and the increasing depth and breadth of technology.

## INCUMBENT BANKS WILLING TO INVEST WILL ESTABLISH THEMSELVES AS LEADERS

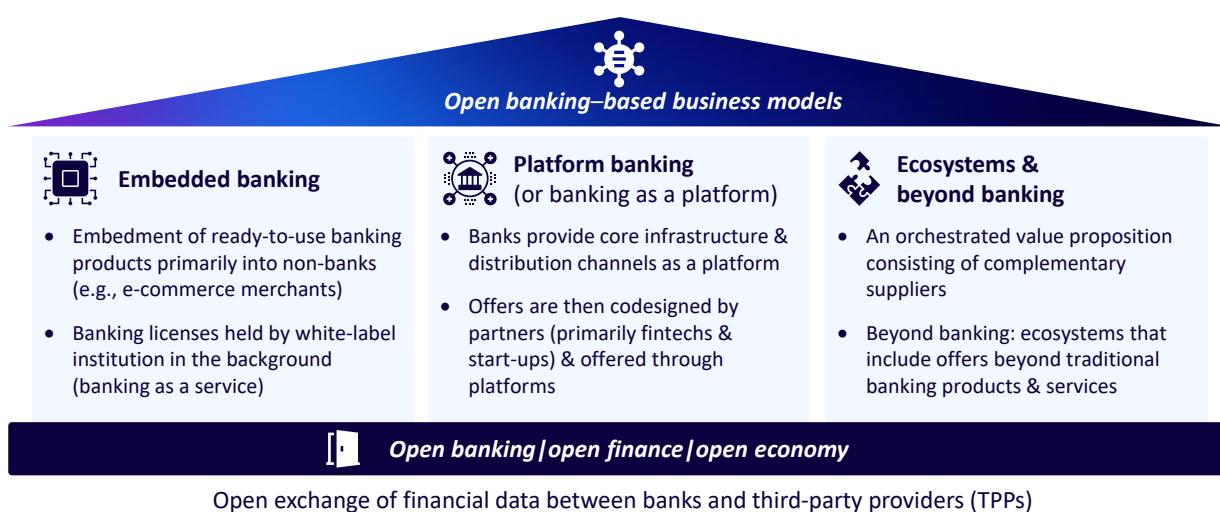
## OPEN BANKING-BASED BUSINESS MODELS: AN OVERVIEW

Before diving deeper into beyond banking and what it entails, we want to define the different open banking-based business models, as we believe the terms are often ambiguously and vaguely used.

Figure 2 provides an overview of these models and shows beyond banking's position within this field. The models share some commonalities, including a new level of interconnectivity and the distribution of products and services across institutions, which are enabled primarily by application programming interface (API) technology and the open exchange of data.

- **Open banking** provides an overall basis for these new methods of banking. At its core, open banking is the exchange of financial data between banking institutions and third-party providers (TPPs). The EU's Second Payment Services Directive regulation (PSD2) has been a key driver, requiring banks to provide account information and payment initiation services to TPPs requiring only client consent. The terms "open finance" and "open economy" expand to applications such as lending (e.g., flow-based lending) and then to broader data sharing and capabilities across industries.

**Figure 2. An overview of open banking-based business models**



Source: Arthur D. Little

- **Embedded banking**, which is one type of embedded finance, refers to the practice of folding banking products and services into other customer transactions, such as e-commerce (think of buy-now-pay-later (BNPL), a type of short-term financing for purchases as an example). Customers benefit from a more seamless experience when the financial service is almost invisibly built into the journey. Banking as a service (BaaS) is a slightly more specific type of embedded banking, where the bank is in the background and invisible to the end customer, typically offering its license, balance sheet, and white-labeled products to the integrating business B2BC business. Arthur D. Little's (ADL's) "[Banking as a Service](#)" Viewpoint provides a deep dive on this topic.
- **Platform banking** has become an integral business model in both financial services and the overall economy. It is important to differentiate among two types of platforms — the latter reflects the purpose applied in this Viewpoint:
  - **Transaction platforms**, such as eBay, are exchange platforms where buyers and sellers meet. The platform's value is inferred from the transaction itself. There are several examples of banks engaging with or hosting these types of platforms, specifically for mortgages (e.g. the Interhyp platform by ING in Germany or key4 by UBS in Switzerland).
  - **Product platforms** (platform banking or banking as a platform). The bank, with its license, tech stack, distribution channels, and client base, serves as a place where third parties can connect to and enrich the offering for the end customer. For example, Starling Bank launched a marketplace for financial products (which can already be argued to be an ecosystem).
- **Ecosystems.** Working with partners, ecosystems orchestrate offerings to achieve new, upgraded value propositions that are superior to and more comprehensive than what the bank can offer alone. Ecosystems are guided by a target value proposition and are usually built around a theme such as housing. The main difference between an ecosystem and platform banking is that the former is more strongly steered by a target value proposition. Therefore, an ecosystem has a more selective choice of partners that are typically more tightly integrated, make strong contributions, and have a distinct voice in the partnership.
- **Beyond banking** grows from an ecosystem that contains offerings that expand from traditional banking products and services and addresses areas such as real estate, transportation, travel, healthcare, and shopping. This definition of beyond banking, while narrow, helps differentiate between the assorted models. But you must view beyond banking comprehensively or you'll miss the point: a bank's ultimate goal should be facilitating the purchase of non-banking products and services to make the transaction smooth and easy for customers — regardless of where they buy it, which may not necessarily be through the bank's own app.

Banks therefore need to take a holistic view of beyond banking by engaging with all the relevant industries and by engaging in embedded banking and its large monetization potential through BaaS and partnerships with players outside the financial sphere.

## BEYOND BANKING: BENEFITS & OPPORTUNITIES

We see three primary benefits for incumbent banks that elect to go beyond banking:

- 1. Holistic value propositions, customer loyalty, and value per customer.** Financial and lifestyle services continue to converge, with financial products embedded into customer lifestyle journeys. Using non-banking products to enrich a bank's existing offerings can create a better, more holistic value proposition that helps them build deeper and more valuable relationships with customers.
- 2. New customer-acquisition opportunities.** Customer acquisition is becoming increasingly difficult as the digital space becomes more "cookie-less," which reduces access to valuable customer data. Banks must reassess standard digital marketing methods that build on cookies to generate new leads and grow their customer base. Beyond banking products can attract new, non-banking customers to the ecosystem.
- 3. New revenue streams.** Beyond banking is advantageous to traditional banks, as their ecosystem partners will open new revenue streams for them.

Banks are especially well-positioned to co-orchestrate a beyond banking offering with a telco or retailer. Banks benefit from customer trust, rich data, and the core services they offer customers. In particular, a bank's access to transaction data, which allows them to infer consumer behavior, is a solid unique selling proposition.

A survey performed by ADL in the Middle East and presented in "[Beyond Banking: Is There an Opportunity for Banks to Go Beyond Banking in the UAE?](#)" confirms banks' strong starting position: a vast majority (61%) of bank customers are ready to turn to their primary bank for a beyond banking proposition. If their primary bank did not meet their needs, then respondents would opt for beyond banking offerings from either retailers or tech companies.

## BIG MOVES FOR SOME BIG NAMES — BUT NOT ALL

Compared to other regions, European banks are behind the curve. A look at the global market shows a number of strong beyond banking case studies featuring well-known incumbents making bold moves. In particular, JPMorgan Chase & Co.'s plan to set up its own full-service travel service has caused quite a stir in the market. The company's Connected Commerce unit is driving the plan, the overarching goal of which is to "serve customers with digital experiences beyond the core financial product." During the first phase, JPMorgan bought a booking system, a luxury travel agency, and a restaurant review company. The bank believes it can capture enough bookings to put it in third place among travel companies in the US by 2025. JPMorgan aims to control the entire buying journey and better position its banking products within it, perhaps following with automobiles and homes soon. Similarly, Capital One Financial Corporation set up its own travel booking service, Capital One Travel.

## ONLY A FEW FINANCIAL INSTITUTIONS HAVE MANAGED TO CREATE GENUINE SUPER APPS

In Asia, DBS Bank is a leading example of leveraging its wide reach of small- and medium-sized enterprises (SMEs) and retail customers and building a marketplace for them. Originally starting around cars (buying, selling, financing, insuring, and value-added services such as roadside assistance), the marketplace now also includes education, home and living, health, property, and travel and leisure. DBS acts as orchestrator, offering a one-stop solution for its customers' needs.

Only a few financial institutions, however, have managed to create genuine super apps that include beyond banking offerings. New super apps have emerged from four potential specialties: ride hailing, delivery, telcos, and marketplaces. In our view, Tinkoff and Alipay are prime examples. Tinkoff sells non-banking products in its super app, as shown in Figure 3. It has transitioned from being a lender to offering a wide range of lifestyle and financial services for business and individuals through its Web interface and mobile app. Note that this was a multiyear evolution for Tinkoff.

There are a number of reasons Europe is lagging behind its peers:

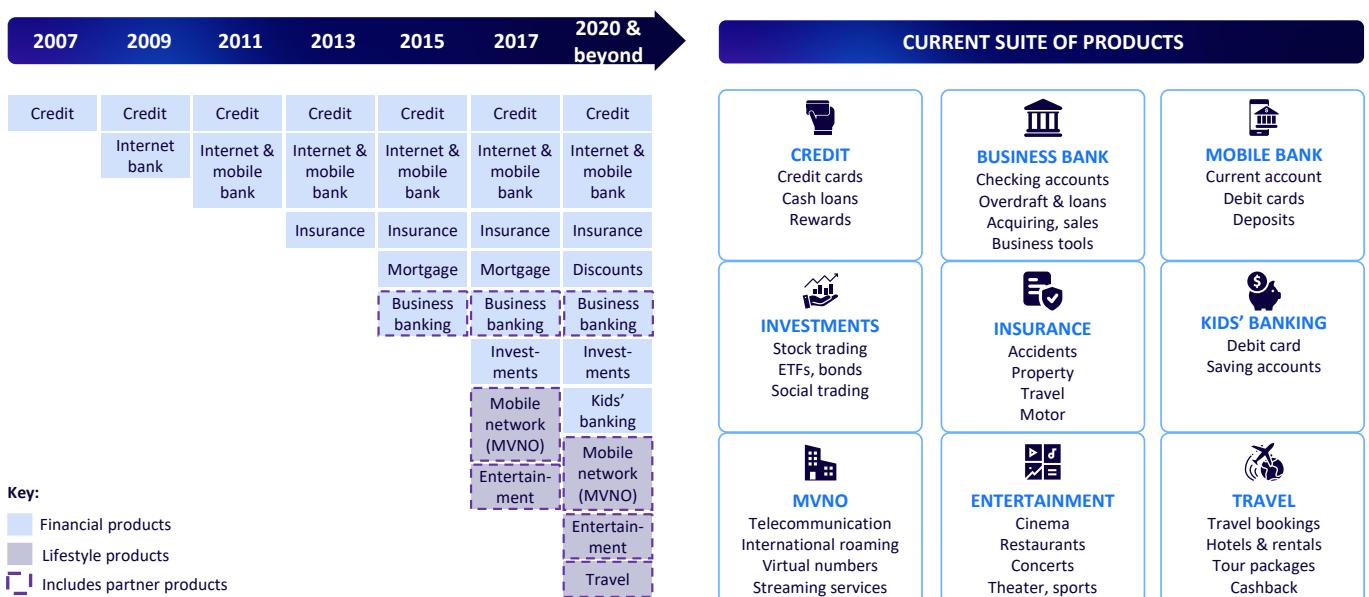
- Reliance on old practices.** Incumbent banks are characterized by a focus on in-house development and a high level of confidentiality; the ecosystem paradigm requires collaboration and data sharing across players and a move away from the practice of doing everything in-house.

— **Inadequate tech capabilities.** Legacy IT infrastructure does not always support the construction and co-orchestration of an ecosystem; modernizing the tech stack and specifically upgrading the connectivity capabilities is often necessary and requires high financial investments.

— **Focus on near banking.** Many banking ecosystems products are currently in the “near banking” stage (i.e., banks offer additional products that are near to their core offering, such as insurances).

— **Lack of long-term focus.** Building and independently managing an ecosystem without a partner requires substantial up-front investments, which can take several years to recoup and thus calls for unwavering attention and a sufficiently long planning horizon. The possibility of failure is always present and creates uncertainty.

**Figure 3. A simplified look at Tinkoff's beyond banking products**



Source: Arthur D. Little, Tinkoff

## BEYOND BANKING IN THE METAVERSE

It would be short-sighted not to look outside the current perimeter for beyond banking opportunities. In fact, we see as much demand for beyond banking in the Metaverse as in the real world.

According to Precedence Research, the global Metaverse market was valued at around US \$40 billion in 2021 and is projected to grow at a CAGR of 50.74% from 2022 to around \$1.6 trillion by 2030. In their article "Banks Compounding Their Interest in the Metaverse," Sanjeev Kumar and WhiteSight describe the widespread desire across industries to sit front row, but fear of missing out is certainly also a driving force for some players.

Banks are among the industries expanding into the Metaverse. Since 2021, there has been an influx of incumbent banks into this new world, starting with JPMorgan and its opening of Onyx, a blockchain platform. HSBC, Standard Chartered, Union Bank of India, Commercial Bank International (CBI), and many others have also started searching for entry points to the Metaverse.

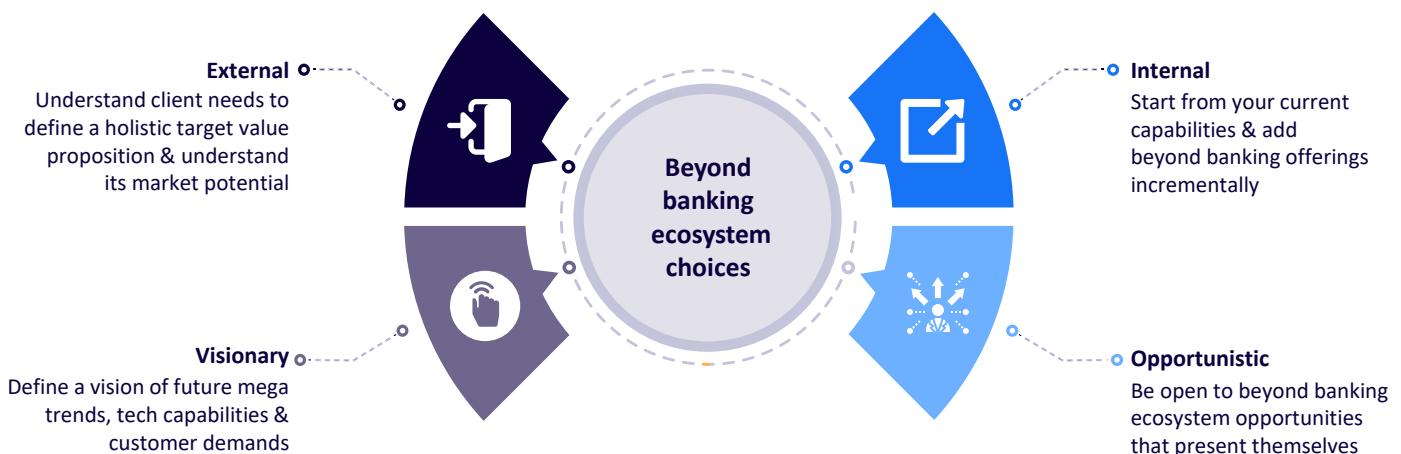
The need for innovative forms of money in this evolving sphere means that banking and the wider financial services sector will be critical to the viability of the new space. And the Metaverse, in return, will offer financial institutions an array of new and traditional ways to expand their operations (e.g., exchanging currencies between different worlds, converting virtual or real-world assets, providing mortgages to buy virtual real estate) for their classic banking products and beyond.

Consider that whatever we do and need in the real-world economy will be replicated in the Metaverse. There will be additional use cases, accompanied by an opportunity and a need to do things differently. Opportunities will not be limited to one type of financial player; organizations of all shapes and sizes will be able to carve out a piece of the Metaverse for themselves.

## TAKING YOUR BANKING STRATEGY BEYOND

We suggest that four perspectives, which interact with each other, should guide and inform the development of a beyond banking strategy (see Figure 4).

**Figure 4. Four approaches to identifying beyond banking offerings**



Source: Arthur D. Little

The four perspectives can be viewed as poles that are not mutually exclusive. Each one needs to converge in a manner that finds the ideal conditions for you. Note that a purely client-driven view with visionary thinking will fail, as it does not consider current realities, while an incremental view with an opportunistic approach will also fail as it lacks the courage and innovation needed to achieve breakthroughs.

- **External perspective.** Develop a clear view of customer demands. Which of those needs are currently not served well? Build a target value proposition to close these gaps. This target value proposition will then guide your beyond banking products and services. Consideration of your own strengths should be kept to a minimum, as they will be examined during the next perspective.
- **Internal perspective.** Start from your focus customer segments (e.g., retail or SME), core offerings, and strengths, and determine which additional beyond banking products and services can be attached to those. We advise thinking in terms of a core offering, a near-core, and a beyond core offering (see Figure 5).

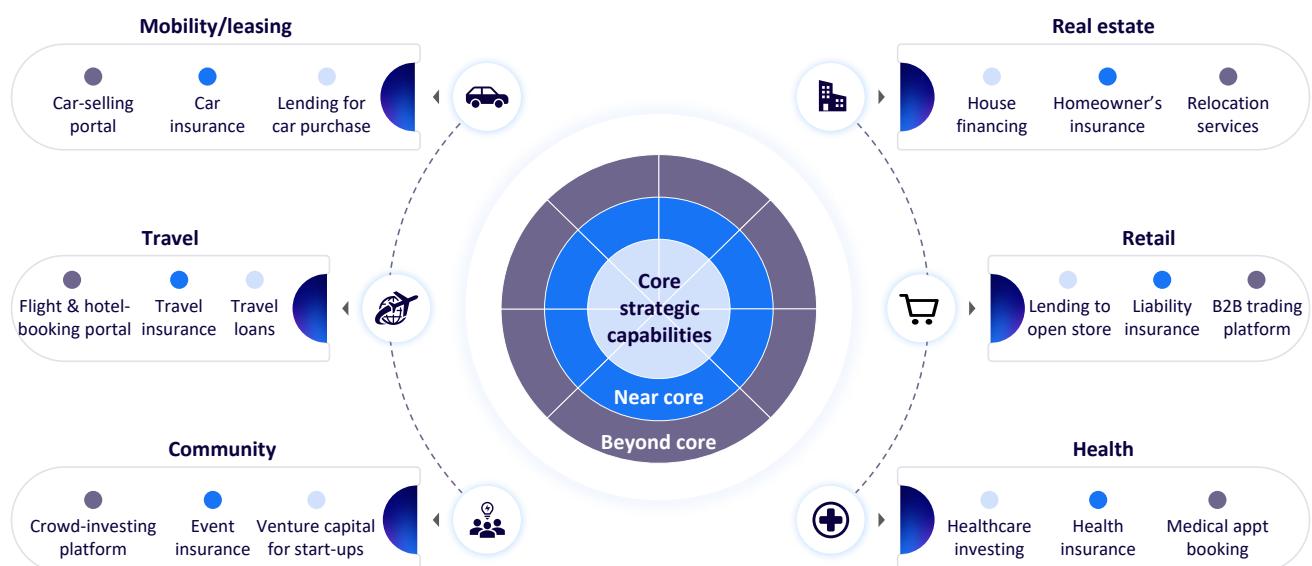
— **Visionary perspective.** Define a future “out of the box” target value proposition and challenge yourself to fulfill it, based on your expectations of medium-term future mega trends, technological capabilities, and customer demands. Remember, clients do not always know what they want until they see it.

— **Opportunistic perspective.** The target value proposition offers guidance and a vision. At the same time, be aware that some opportunities may present themselves to you, and you should remain flexible, seriously review them, and adjust your approach if a sufficiently convincing prospect appears.

Ideally, you should build the business case to validate your financial strategy as soon as possible after you define the first strategic imperatives for your beyond banking strategy. While the future revenue potential is important, the necessary investments to build the ecosystem can be significant, depending on current infrastructure capabilities.

Instead of partnering with providers, a bank can manage its own non-banking offerings in-house. However, this will force the bank to continue its usual operations while trying to manage a product or business unit that encompasses areas outside its core expertise.

**Figure 5. Internal perspectives using core, near-core, and beyond-core logic**



Source: Arthur D. Little

## A HARMONIOUS ECOSYSTEM

Orchestrating an ecosystem has the advantage of maintaining the client relationship and reaping the largest share of the ecosystem's financial benefits. It is a challenging task, especially for incumbent banks, and will require significant up-front investment. A conservative bank might decide to build an ecosystem in a separate legal entity to better establish the open and change culture and capabilities required for this exercise.

**PARTICIPATION IN ONE  
ECOSYSTEM CAN EVEN  
BE CONTINUED ONCE YOU  
LAUNCH ANOTHER ONE**

In our view, independent orchestration is generally too risky for a bank to undertake. Tech giants, telecom providers, and retailers (IKEA has its own bank and is, in fact, an ecosystem orchestrator), which are often already in the middle of peoples' lives, may have an easier time. Therefore, banks are typically well-advised to consider teaming up with players from other industries, which means working with a telecommunication provider, for example, to organize their ecosystems.

Before attempting to orchestrate, participating in an ecosystem first to collect experience and learn to navigate its economy typically increases the probability of success for the co-orchestrator. Participation in one ecosystem can even be continued once you launch another one; these roles are not mutually exclusive.

## CONCLUSION

# USE QUESTIONS TO BUILD A STRATEGY

### YOUR BEST APPROACH DEPENDS ON YOUR STARTING POSITION, CONTEXT, AND GOALS

There is no one-size-fits-all beyond banking strategy. While certain advice applies to all, your best approach depends on your starting position, context, and goals. Answering the questions below can determine your ideal beyond banking strategy:

- 1** What customer segments are your focus?
- 2** What are your customers' biggest pain points?
- 3** What are your core offerings and strengths?
- 4** What beyond banking themes should you pursue?
- 5** Will you work with outside partners or procure the capabilities in-house?
- 6** Do you already have a connection with potential partners?
- 7** Do you have experience establishing partnerships?
- 8** Do you want to orchestrate or co-orchestrate a beyond banking ecosystem?
- 9** Is your tech stack adequate, or will it require upgrades?
- 10** Can your core institution support beyond banking or is a separate entity better?

## EMBEDDED PAYMENTS: CONVENIENCE AT A COST?

Striking the right balance by  
weighing benefits against concerns

In today's fast-paced digital era, convenience has become the holy grail of modern living. From near-instant food delivery to seamless transportation services, technology continuously strives to make our lives easier. One notable advancement in this realm is embedded payments, in which transactions are seamlessly integrated into the user experience. Although embedded payments offer undeniable convenience for both consumers and businesses, it's essential to carefully examine whether this convenience comes at an acceptable cost.

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## THE RISE OF EMBEDDED PAYMENTS

Embedded payments, the seamless embedding of transaction capabilities into everyday digital experiences, have become a ubiquitous part of modern life. To understand their origins and meteoric rise, we need to delve into the not-so-distant past of the digital payments landscape. We can trace embedded payments back to the early days of e-commerce when online marketplaces sought ways to simplify the checkout process. PayPal, founded in 1998, played a pioneering role by allowing users to make payments on various websites using an email address and password. This marked a significant step toward reducing friction in online transactions.

Until recently, the term “integrated payments” (e.g., a payment gateway integrated to an online platform) was used interchangeably with “embedded payments” (e.g., in-app payment using Apple Pay). But this is no longer a valid reflection of reality. While in the case of integrated payments, the payments process is attached to (the experience on) the platform, oftentimes with a different look and feel, embedded payments are fully embedded in the platform’s native customer

journey, becoming increasingly invisible and highly convenient for the end customer (e.g., through stored payment details).

The true catalyst for embedded payments came with the proliferation of smartphones and the app economy. Apple’s App Store, launched in 2008, introduced the concept of in-app purchases, letting users seamlessly buy digital content and services. This model not only revolutionized mobile gaming, but it also set the stage for a new era of embedded payments. Ride-sharing services like Uber and Grab, which emerged in the 2010s, further popularized embedded payments. They eliminated the need for physical cash/credit cards, letting passengers effortlessly pay for rides via their apps. Social media platforms like Facebook and Instagram followed suit, introducing “buy” buttons that let users purchase products featured in ads without leaving the app. This innovation blurred the lines between social networking and e-commerce and gave rise to the concept of “social commerce.”

The growth in embedded payments is a global phenomenon, with some market leaders becoming household names across generations. Table 1 provides a list of notable players in the embedded payments space.

**Table 1. Notable players in embedded payments space**

| Company            | Country of origin | Comments  |
|--------------------|-------------------|---|
| Alipay (Ant Group) | China             | Among most prominent embedded payment platforms in China, offering mobile payments, digital banking & financial services  |
| Braintree (PayPal) | US                | Offers embedded payment solutions designed for mobile & Web applications, making it a preferred choice for businesses looking to integrate seamless payment experiences     |
| Mercado Pago       | Argentina         | Leading payment provider in Latin America, offering online & offline payment solutions, mobile wallets & installment payment options  |
| PayPal             | US                | Globally recognized embedded payment provider, offering a wide range of services, including online payments, money transfers & payment processing for businesses            |
| Paytm              | India             | Popular digital payment & financial services platform in India, offering mobile recharges, bill payments & in-app purchases   |
| Razorpay           | India             | Embedded payments provider in India, offering payment gateway & processing solutions tailored for businesses & start-ups, including in-app payments & e-commerce support    |
| Samsung Pay        | South Korea       | Widely used mobile payment platform, allowing users to make contactless payments through smartphones; compatible with broad range of devices                                |
| Square             | US                | Known for its versatile payment solutions, including card readers for mobile devices, point-of-sale software & e-commerce payment processing                                |
| Stripe             | US/Ireland        | Leading payment processing & commerce solutions provider for Internet businesses of all sizes; combined with payment software Core, offering embedded payments to platforms |
| WeChat Pay         | China             | Integrated within WeChat, dominant player in China’s embedded payment landscape, facilitating in-app payments & money transfers   |
| 2Checkout          | US                | Provides embedded payment platform, enabling businesses to accept payments in multiple currencies & languages, making it a valuable global payment solution                 |

Source: Arthur D. Little

Two mobile phone ecosystem players are in their own category: Google and Apple. Their payment apps facilitate physical and app marketplace payments on mobile platforms, driving traffic, attention, and engagement to their electronic wallets.

## HOW EMBEDDED PAYMENTS RESHAPE COMMERCE

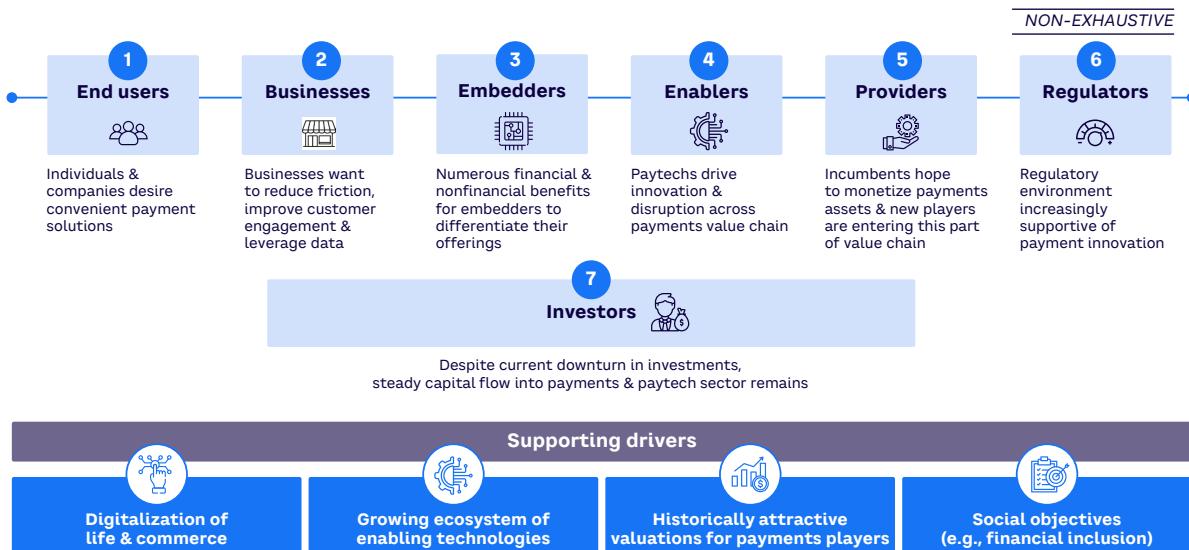
Embedded payments have infiltrated nearly every aspect of our digital lives, from food delivery to streaming-service subscriptions. Indeed, they have become a posterchild for embedded finance, bringing together technology, convenience, and commerce to offer users frictionless payment while fueling the growth of the digital economy. Specifically, as Figure 1 shows, we see seven key growth drivers responsible for the past and future proliferation of embedded payments.

Multiple use cases have emerged and scaled on the back of embedded payments' growing popularity, each impacting the methods of commerce. Some more familiar use cases include:

- E-commerce platforms.** One of the most common use cases is within e-commerce websites and mobile apps. Embedded payments streamline the checkout process, letting customers make purchases without leaving the platform.

- Ride-sharing services.** Ride-sharing apps like Uber and Lyft use embedded payments to automatically charge passengers for their rides, eliminating the need for cash or card transactions.
- Food-delivery apps.** Food-delivery platforms like DoorDash and Grubhub let users pay for their orders seamlessly within the app, enhancing the overall dining experience.
- Subscription services.** Streaming platforms like Netflix and Spotify use embedded payments to handle recurring subscription charges, making it easy for users to access premium content.
- In-app purchases.** Mobile games and apps frequently use embedded payments to give users the option to buy virtual goods, upgrades, or additional content without leaving the app.
- Travel and booking services.** Travel websites and apps use embedded payments to facilitate hotel bookings, flight reservations, and other travel-related transactions, providing a one-stop shop for travelers.
- Social commerce.** Social media platforms like Instagram and Facebook have integrated payment options, letting users purchase products directly through ads and posts.

Figure 1. Key growth drivers for embedded payments



Source: Arthur D. Little

## MULTIPLE USE CASES HAVE EMERGED AND SCALED ON THE BACK OF EMBEDDED PAYMENTS' GROWING POPULARITY

- **Online marketplaces.** Marketplaces like eBay and Etsy use embedded payments to process transactions between buyers and sellers, ensuring a secure and efficient exchange of goods and services.
- **Healthcare payments.** Telemedicine and healthcare apps offer embedded payment solutions to help users easily pay for consultations, prescriptions, and medical services online.
- **Utilities and bill payments.** Utility companies and service providers use embedded payments to make it easy for customers to pay bills, manage accounts, and set up automated recurring payments through their websites and apps.

These diverse use cases highlight the versatility and convenience that embedded payments bring to various industries. Whether it's simplifying e-commerce, enhancing the user experience in mobile apps, or automating recurring payments, embedded payments are reshaping how businesses and consumers interact in the digital age.

## STREAMLINING EVERYDAY TRANSACTIONS

Embedded payments eliminate the need to navigate to separate payment gateways or switch between apps to complete transactions. Whether it's ordering a ride through a ride-sharing app, purchasing products via social media, or paying for services within a software application, embedded payments streamline the process, reducing friction and saving time.

### Consumer-centric convenience

Embedded payments cater to the desires of consumers in an age where time is of the essence. One of the most significant contributions is eliminating the "checkout hassle." Traditional online shopping involved navigating through multiple screens, inputting details like shipping addresses and payment information, and, at times, facing compatibility issues or slowdowns. Embedded payments transform this experience into a single-click affair.

Consider a scenario in which a user is shopping for groceries online. Traditionally, this would involve clicking through a website, adding items to a cart, proceeding to a separate checkout page, and entering payment information. This multistep process created ample opportunities for user fatigue and cart abandonment. Embedded payments allow users to select their items and finalize their purchase seamlessly within the same app or website, minimizing interruptions and transaction abandonment.

The most successful players are able to tie payment convenience to other types of convenience: predefined delivery address, delivery schedule, knowledge of preferred products, predefined shopping lists, predefined destinations, frequently bought products, automatic invoicing address, and email and phone contact selection. Pre-filling eliminates the need to enter repetitive administrative information, and automation reduces the need to search for a request or product.

Embedded payments leverage the familiarity of existing platforms and apps. People already spend a substantial portion of their digital lives within these ecosystems, from social media to ride-sharing apps. The convenience of making payments within these platforms adds to the trust users have established, making the transition from browsing to buying feel like a natural progression. Enhanced security is another benefit: by consolidating transactions within trusted platforms, users are less likely to worry about the safety of their financial data.

## WHEN CUSTOMERS HAVE A SEAMLESS, HASSLE-FREE PAYMENT EXPERIENCE, THEY ARE MORE LIKELY TO RETURN TO THE SAME PLATFORM FOR FUTURE TRANSACTIONS

This instills confidence and reduces the cognitive load associated with managing multiple accounts and payment methods, simplifying the consumer experience.

### **Business-centric convenience**

Embedded payments offer substantial advantages to businesses, including a potential reduction in cart abandonment. Studies from PayPal and Baymard Institute have shown that a convoluted checkout process is a primary driver of cart abandonment. Embedded payments address this issue by streamlining the transaction process, from selection to payment, all within the same digital environment and typically with prestored payment details. Conversely, with traditional payments integration, customers are typically forwarded to a separate payments

front end where they must manually enter their payment details. This not only increases the risk of technical issues during website transfer but also makes it more cumbersome and error-prone for the customer to complete the transaction by correctly entering their payment details.

Embedded payments also contribute to customer loyalty and retention. When customers have a seamless, hassle-free payment experience, they are more likely to return to the same platform for future transactions. This fosters brand loyalty while lowering costs, since retaining existing customers is less expensive than acquiring new ones.

## EMBEDDERS' DELIGHT

A key driver behind the rapid growth of embedded payments is the universal willingness among trusted brands (across sectors) to adopt embedded payments deep inside their customer journeys. This rapid adoption, coupled with constant innovation in the payment arena, allows embedded payments to revolutionize the way businesses and platforms operate in the digital realm.

The commercial and customer benefits of embedding payments are obvious to embedders that have championed this shift in how customers pay and how businesses receive payments. Figure 2 highlights the many benefits of embedded payments.

**Figure 2. Benefits of embedded payments for embedders**

|  |  |  |   |  |
|--|--|--|---|--|
|  <h3>Enhanced user experience</h3> <p>Simplified transaction process reduces friction &amp; eases purchasing process</p>                    |  <h3>Increased conversion rates</h3> <p>Streamlined payment process reduces cart-abandonment rates, driving conversion</p>                    |  <h3>Customer loyalty</h3> <p>Offering convenient, efficient payment experience increases customer trust &amp; loyalty</p>  |  <h3>Competitive advantage</h3> <p>Embedded payments can set platform apart from competitors that still rely on traditional payments integration</p>                         |  <h3>Monetization opportunities</h3> <p>Embedded payments open new avenues for monetization (e.g., transaction fees)</p>  |
|  <h3>Data insights</h3> <p>Embedded payment systems can provide valuable data &amp; insights into user behavior &amp; spending patterns</p> |  <h3>Enhanced security &amp; trust</h3> <p>Embedded payments allow platform to provide secure environment, reducing risk of data breaches</p> |  <h3>Support international reach</h3> <p>Embedded payments often support multiple currencies &amp; payment methods, facilitating transactions from global users</p> |  <h3>Regulatory compliance</h3> <p>Many embedded payment providers take on responsibility of complying with complex payment regulations, relieving platforms from burden</p> |  <h3>Ecosystem development &amp; expansion</h3> <p>As platforms grow, embedded payments can enable expanding platform ecosystems by partnering with other service providers</p> |

Source: Arthur D. Little

## HIDDEN COSTS & MONOPOLISTIC TENDENCIES

The convenience of embedded payments is undeniable, but it's important to acknowledge the potential downsides. One notable concern is the possibility of hidden fees. In the pursuit of seamless transactions, consumers might overlook the fine print, inadvertently subjecting themselves to hidden charges imposed by platforms or payment providers. For instance, booking a flight through a travel app might come with undisclosed service fees or unfavorable foreign exchange rates that only become apparent in the final stages of the transaction.

Security is another concern. Despite their much-touted security advantages, embedded payment systems are not immune to breaches. If a platform's security measures are compromised, the financial information of countless users is at risk. The interconnected nature of embedded payments makes them an attractive target for cybercriminals seeking to exploit vulnerabilities.

Another consideration is the potential for monopolies. As embedded payments become more prevalent, a few dominant platforms could consolidate their control over a sizable portion of online transactions. This power concentration could stifle competition and innovation, leading to reduced choices for consumers and potentially higher costs. For example, certain e-commerce giants not only facilitate transactions, but they also dictate terms to smaller businesses operating on their platforms.

The list of threats and concerns also includes:

- **Legal issues.** Navigating the complex web of international and local payment regulations can be challenging for businesses offering embedded payment solutions, potentially leading to legal issues.
- **Data privacy concerns.** The collection and use of customer data for payment processing can raise concerns about privacy and data protection, especially when not handled transparently.

- **Data monopolization.** Large platforms with embedded payments, such as Amazon, can tie customer interests, preferences, and behavioral data to payments (i.e., actual purchases) and can thereby identify effective conversion rate. This endangers (smaller) competitors that lack this two-fold data and further increases data monopolization.
- **Inadequate fraud protection.** Despite security measures, fraud remains a concern, and users might be vulnerable to unauthorized transactions or identity theft.
- **Impacted user trust.** Users may be hesitant to trust embedded payment systems, especially if they have concerns about the security of their financial data or hidden fees.
- **Technical glitches.** Technical issues, such as system outages or payment failures, can disrupt the user experience and harm a platform's reputation.
- **Dependency on third-party providers.** Embedding payments often means relying on third-party payment processors, which can pose risks if these providers experience downtime, data breaches, or other issues. Moreover, it can negatively impact the consistency of the user experience if customer support by the payment processor is different than the platform's process.
- **Increased cost of integrations and upgrades.** Embedded payments can impact the flexibility of platforms in terms of new integrations and upgrades.
- **Commoditization of "unaligned" payment processors.** The increasing ownership of the payment journey by platforms commoditizes (in-background) classical payment processors and impacts their margins.

## CONCLUSION

# WEIGHING BENEFITS AGAINST CONCERNS

### EMBEDDED PAYMENTS SIMPLIFY TRANSACTIONS, ENHANCE USER EXPERIENCES, AND BOOST BUSINESS REVENUES

Embedded payments are bringing a new level of convenience to our increasingly digital lives. Embedded payments simplify transactions, enhance user experiences, and boost business revenues. Of course, the allure of convenience should not blind us to the potential for hidden fees, security vulnerabilities, and monopolistic tendencies to undermine the benefits. If businesses and users are to fully benefit from embedded payment solutions, the following protocols should all be top of mind for platform owners:

- 1 Platforms offering embedded payments must be diligent** in disclosing all associated fees up front. This transparency lets consumers make informed decisions and builds trust in the platform.
- 2 Robust security protocols must be in place** to safeguard user data; regular security audits, encryption technologies, and authentication measures can go a long way in fortifying the payment ecosystem.
- 3 Governments should monitor and enforce fair competition practices** to prevent monopolistic behaviors. Ensuring a level playing field encourages innovation and prevents a handful of players from gaining undue control over the market.



## FROM MICRO-SAVING TO BIG IMPACT

The world of  
embedded savings



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# EXECUTIVE SUMMARY

## AN UNDERESTIMATED RESOURCE

Embedded finance (EmFi) arguably has been the most hyped financial technology topic of the past two years. Its rise has forced traditional finance to take a back seat to make way for a more integrated and seamless customer experience. The EmFi market size and its many components, including payments, lending, savings, insurance, and investments, is estimated to reach US \$7.2 trillion by 2026.

While EmFi's focus is often on payments and lending, there is a lesser-known side of the trend: embedded savings. Despite the possibilities, which are wide-ranging and largely untapped, embedded savings has yet to receive its share of recognition and attention. In this Report, we aim to shed light on the importance of embedded savings and why it deserves more consideration in the context of EmFi. We will examine:

- How embedded savings differs from other forms of EmFi.
- Categories of embedded savings products.
- Benefits of incorporating embedded savings into an EmFi strategy.
- Real-life use cases that already exist around the world.
- Criteria for selecting the ideal technology partner.

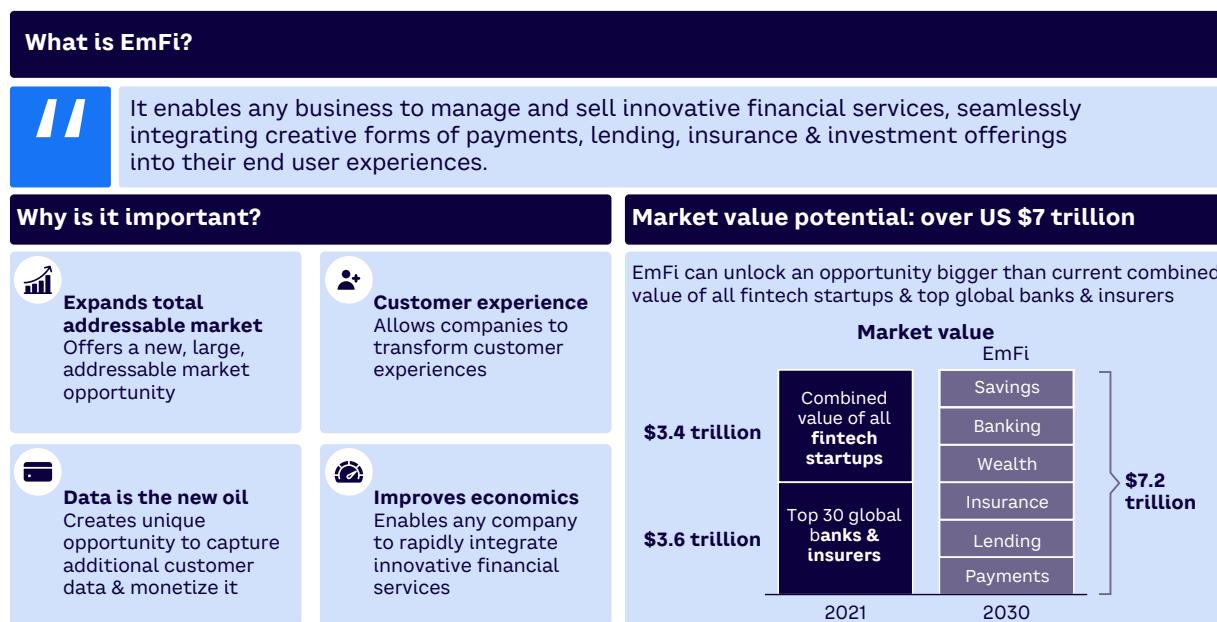
# 1. UNCOVERING THE POTENTIAL OF EMBEDDED SAVINGS

EmFi is essentially the placement of a financial product in a nonfinancial customer experience, journey, or platform (see Figure 1). This concept is transforming the way customers and businesses approach financial services (see Figure 2). The following EmFi components have already gained traction:

- **Embedded banking** — the integration of banking services into nonfinancial products and services. This integration can take various forms, such as card issuance or “know your customer” (KYC) verification integrated into a mobile app or online platform.
- **Embedded payments** — the integration of payment services into nonfinancial products and services. Enabling mobile payments within a ride-sharing app or allowing customers to pay for goods and services through a social media platform are two examples.

- **Embedded lending** — the integration of lending services into nonfinancial products and services. Like embedded payments, this service can take different forms, such as financing options for products or services, or loans within a bundled package. For example, an automobile dealership may offer financing options for customers looking to purchase a car by including lending services in the dealership’s overall offerings.
- **Embedded wealth** — the integration of wealth management services into nonfinancial products and services. This can be accomplished by providing access to investment options, retirement savings plans, and other financial products embedded as part of a broader offering. Wealth management firms aim to offer customers added convenience and value while expanding their revenue streams and reaching new markets.

**Figure 1. About EmFi**



Source: Arthur D. Little, PYMNTS.com

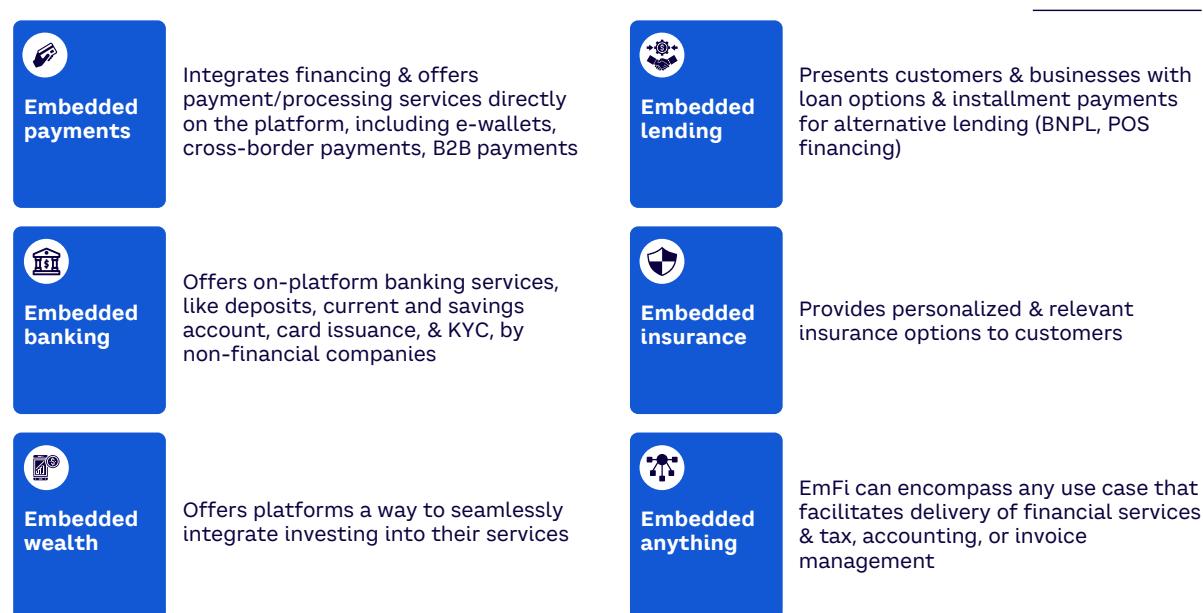
- **Embedded insurance** — the integration of insurance services within nonfinancial products and services. Adding insurance coverage to a product or service or offering insurance products as an additional benefit to customers are two of the many possibilities.
- **Embedded anything** — the integration of financial tools for taxes, accounting, and invoicing into nonfinancial products and services. Examples include embedding tax-preparation services into accounting software or integrating invoicing services into an e-commerce platform.

## EMBEDDED SAVINGS HAS THE POTENTIAL TO DRIVE REVENUE AND GROWTH FOR THE CUSTOMER, EMBEDDER, AND PROVIDER

One aspect of EmFi that remains relatively unexplored is embedded savings: the integration of savings and investment services within nonfinancial products and services. Embedded savings enables customers to easily save small amounts of money — or save and invest — as part of their everyday transactions. The concept of embedded savings is relatively new, and many people are not yet aware of its benefits and applications. Generally, the conversation around EmFi has largely centered on services that drive revenue and growth for businesses, like payments and lending, rather than savings, which promote financial wellness and stability for individuals. However, embedded savings has the potential to drive revenue and growth for the customer, embedder, and provider.

While the established elements of EmFi play a significant role in shaping the future of finance, embedded savings arguably has the most potential to meaningfully change the lives of customers and businesses by making it easier and more convenient to save for a rainy day, a specific future need, or long-term investments.

**Figure 2. Common EmFi offerings**



## 2. WHY TALK ABOUT EMBEDDED SAVINGS NOW?

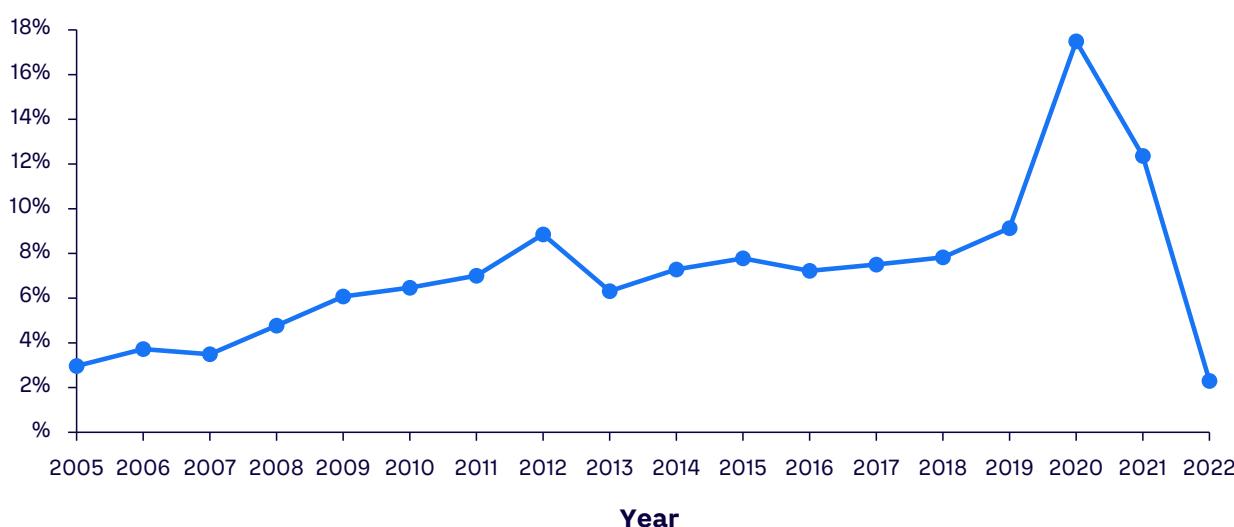
Savings form a crucial foundation for financial activities, including lending, liquidity provision, and investment. A reduction in deposits and savings might force a bank to sell assets or seek other ways to create liquidity. Failing to attract deposits can have dire repercussions on the bottom line, as shown by the failure of Silicon Valley Bank (SVB) in March 2023. Banks do not always view savings as a core aspect of their business strategy, so they may not prioritize promoting this product. Instead, banks will prioritize lending and investment activities, which generate more revenue for them. Savings may be viewed as a peripheral activity that does not align with their primary objectives, and it may not generate enough revenue for banks to justify the cost of managing the accounts. As a result, banks may not be promoting savings as much as they could, even though these accounts are necessary to financial wellness and can help attract and retain customers.

The COVID-19 pandemic impacted many aspects of life, including individuals' saving habits.

The personal savings rate — how much money people save compared to their total disposable income — spiked during the pandemic. In 2020, according to Moody's, the estimated personal savings rate in the US averaged 9%. This was attributed to several factors, including lower expenditures on items such as transport and entertainment, reduced opportunities to spend money due to lockdowns and other restrictions, and for some, additional income from government stimulus and support programs.

By October 2022, the surge in living costs and inflation rates that followed the pandemic quickly reversed the saving trend, causing a drop in the personal savings rate to 2.3% (see Figure 3). However, the rising inflation trend ended near-zero and sub-zero interest rates. The interest rates on savings accounts are tracking the base rates and rising for the first time since 2007–2008, with interest rates of 4%–5% becoming attainable in most localities. In March 2023, four different providers were offering rates over 4% in the UK, according to Bankrate.com.

**Figure 3. Personal savings rate in the US, 2005–2022**



Source: Arthur D. Little, OECD

As prices and interest rates payable on savings are rising, it is not surprising that people have become fussier about their banking products and are open to switching providers in the hopes of beating inflation through their savings. Meeting customers' changing needs has increased demand for innovative solutions to help individuals save and manage their money. Embedded savings is flexible and adaptable, and it should be at the forefront as it offers unique, effective solutions for individuals to automate their savings and achieve their financial goals.

The climate is favorable for developing and launching embedded savings products thanks to both positive and negative undercurrents that impact individuals, businesses, and the world:

- **Changing consumer behavior.** With a growing awareness of the importance of personal finance and saving, customers are seeking solutions that can help them achieve their financial goals with ease. Embedded savings can meet their needs by providing an effortless and automated way to save. It aligns with the idea of holistic wellness, which encompasses physical, mental, and financial well-being, by offering an easy and convenient way to improve one's financial wellness without sacrificing time and energy.
- **Technology breakthroughs.** The availability of infrastructure like banking as a service (BaaS) and open banking has enabled the seamless integration of savings into daily routines, including online shopping, mobile banking, and payments. This allows customers to save unconsciously and presents opportunities for businesses to embed finance solutions in their platforms, which makes saving more convenient and accessible for individuals. Open banking gives customers access to their banking information and services through third-party providers, enabling greater flexibility and choice. These technological advancements create new opportunities for businesses to offer embedded savings solutions and meet the growing demand for convenient savings options.

## EMBEDDED SAVINGS IS FLEXIBLE AND ADAPTABLE AND OFFERS UNIQUE, EFFECTIVE SOLUTIONS FOR INDIVIDUALS TO AUTOMATE THEIR SAVINGS AND ACHIEVE THEIR FINANCIAL GOALS

- **Untapped market potential.** The rise of fintechs and new financial platforms has made it easier for customers to access financial products and services and enjoy better user experiences. These new entrants have successfully attracted large numbers of customers, including younger and tech-savvy ones. By integrating savings and investment options seamlessly into existing platforms, embedded savings solutions can provide a more holistic approach to financial management that is advantageous for customers, which can help drive mainstream adoption of these solutions and lead to a new era of financial wellness.
- **Economic volatility.** Across the globe, the average 30-year-old has witnessed several major financial crises, including the 2008 housing bubble, the 2012 European debt crises, hyperinflation across developing world economies, and the crypto rise and crash. These economic fluctuations have left many customers feeling uncertain about their financial future. Embedded savings can address their concerns and impart a sense of stability by helping them save automatically, regardless of the state of the economy. Customers build a cushion for unpredictable times, maintain their purchasing power, and plan for the future with greater confidence.

**Declining customer trust.** In recent years, trust in traditional banks has been declining, and many customers are turning to alternative brands for their financial needs. For example, Apple has become a major player in the financial industry, starting with facilitation of payments through Apple Pay, followed by issuance of Apple Card with Goldman Sachs that incentivizes its users to transact and engage with the card, and most recently Apple rolled out high-yield savings accounts for its Apple Card users. According to FDIC data, more than 85% of US banks have less than \$1 billion in total assets, which suggests that customers are increasingly seeking out nontraditional financial options. The shift in customer behavior presents both a challenge and an opportunity for traditional banks. Banks can maximize emerging solutions like embedded savings to meet the evolving needs of their customers and build long-term trust and loyalty.

## NOW IS THE PERFECT TIME FOR BUSINESSES TO BUILD SOLUTIONS AROUND EMBEDDED SAVINGS

These factors, along with the drivers shown in Figure 4, highlight why now is the perfect time for businesses to build solutions around embedded savings, which make it easier for individuals to achieve their financial goals.

**Figure 4. EmFi growth drivers**



Source: Arthur D. Little



### 3. EXPLORING THE COMPONENTS OF EMBEDDED SAVINGS

According to a report by the Financial Health Network, people who use automatic savings tools save on average \$217 more per month (equivalent to 7% of an income of \$3,500) than those who do not.

Because embedded savings continues to gain momentum, it is essential to understand its fundamentals. It encompasses a wide array of products and services, from traditional savings accounts to cutting-edge, micro-saving solutions that allow customers to regularly save small amounts of money. Let's delve into the various types of embedded savings and micro-savings and highlight some of the industry leaders that have successfully implemented these state-of-the-art solutions:

- **Automated savings.** This mechanism allows individuals to put money aside without having to actively think about it or make manual transfers. The basis is simple: make saving as effortless as possible. Automating the process may make customers less likely to change or cancel it, and more likely to stick to it. One example is Astra Finance, a US-based fintech, which allows its customers to set up automated transfers between their different accounts.
- **Round-up savings.** This type of micro-saving rounds up transactions to the nearest whole unit and automatically transfers the difference into a savings account. Rounding up is designed to help individuals save small amounts of money regularly; they can accumulate a balance without even realizing it. It makes saving money effortless and convenient. Jar, a fintech based in India, offers its users the opportunity to round up their purchases and invest the amount in safe commodities such as gold.
- **Social savings.** As the name suggests, this approach brings a group of individuals together to save toward a selected common financial goal, harnessing the power of community and

peer pressure to encourage people to save more. By pooling their resources, individuals can achieve their financial goals more easily, as they are able to save more than they would be able to on their own. Nigerian fintech Cowrywise leverages the passion fans have for sports to encourage saving. Customers can use the Cowrywise platform to link their savings account to their favorite football team. Every time the team scores, Cowrywise automatically transfers a monetary incentive into the customer's savings account.

- **Behavioral savings.** This tactic leverages psychology and behavior-change theories to encourage customers to save more, using gamification, social comparison, and nudging strategies to help customers develop healthy savings habits and reach their financial goals. For example, US-based mobile app Capital enables users to customize their savings using the If This Then That (IFTTT) rule. Users can identify specific behaviors, such as checking into a gym or buying coffee, and set up automated transfers for their accounts that are carried out in conjunction with those behaviors.
- **Save now, buy later (SNBL).** This creative new model started in Africa and allows customers to save for desired items in small increments, optimize their cash flow, lock in deals, and avoid borrowing (i.e., buy now, pay later). An SNBL provider teams up with retailers to offer the service to the customer at checkout. As customers hit milestones on the way to saving for the item they want, they earn cash back and rewards from the retailer. FlexPay Technologies, Tunzaa Fintech, and CDcare offer SNBL.

The market is now witnessing the rise of specialized companies dedicated to seamlessly embedding solutions such as those described above into businesses' journeys, providing customers with a new realm of opportunities to achieve financial stability and growth.

## 4. UNLOCKING THE BENEFITS OF MICRO-SAVING

As the trend of micro-saving gains momentum and the number of providers offering embedded savings solutions increases, it becomes evident that this field is ripe for imagination. Merging micro-saving with a business's other offerings can improve the bottom line for both the business and the customers. Some potential benefits are:

- **Increased customer engagement.** Offering micro-saving features can help to increase customer engagement and foster loyalty, as customers are able to save and manage their finances in a way that is convenient and incorporated into their daily lives.
- **Improved financial wellness.** By providing customers with easy and convenient ways to save, businesses can help improve customers' financial wellness and contribute to a more financially stable community.
- **Enhanced customer experience.** Adding micro-saving features to a business's products can create a more seamless and enjoyable customer experience and make it easier for customers to achieve their financial goals and feel more in control of their finances.
- **Increased brand differentiation.** Offering options for micro-saving can set a business apart from its competitors and position it as a leader in financial innovation, which could attract new customers and increase brand recognition.
- **Increased revenue.** Providing customers with a valuable service that supports their financial goals will benefit businesses as well by resulting in new revenue streams and increasing their customer base, and ultimately leading to increased profitability.
- **Improved financial literacy.** Offering micro-saving features can help to improve financial literacy by showing customers the different ways they can harness their spending and encouraging them to make informed financial decisions, which can have a positive impact on their financial futures.

Now that we have a clear understanding of micro-saving, its various components, and the potential benefits it can bring businesses and customers, it's time to explore the specifics of implementing a strategy.

### MERGING MICRO-SAVING WITH A BUSINESS'S OTHER OFFERINGS CAN IMPROVE THE BOTTOM LINE FOR BOTH THE BUSINESS AND THE CUSTOMER

A recent study from the UK found a significant increase in savings participation from the integration of automated savings into payroll, which soared from a mere 1.3% to an impressive 52.6%. This highlights the effectiveness of embedded savings in encouraging individuals to save and take control of their financial well-being. How can businesses effectively incorporate micro-saving into their offerings and maximize this innovative financial service for the benefit of their customers and their brand?

## 5. EMBEDDED SAVINGS USE CASES — FROM LUXURY GOODS TO UTILITIES

Here are several examples of how embedded savings and micro-savings can be folded into businesses across different industries:

- **Luxury goods.** Many people are interested in purchasing luxury items, but it can be a challenging goal to achieve. Micro-saving offers a solution by enabling customers to set aside small amounts of money over time. For instance, a customer could decide to save for a luxury bag and have a designated amount automatically transferred into their savings account each month. This would increase the chance of success as saving would become a regular and automatic part of their routine.
- **Retail.** Retailers can enhance customer loyalty and drive repeat business through a micro-savings program. For example, a clothing retailer can offer a program where customers can automatically set aside a small amount each time they make a purchase. This allows customers to save for a desired item and encourages them to continue shopping at that store. In this way, the micro-saving tool creates loyal, returning customers.
- **Travel.** There are clear applications for the travel industry. Many individuals aspire to travel, but the expense is often too high. Travel companies can support their customers by providing micro-savings plans to fund their travel dreams. Implementing a program where a small amount is automatically saved from each purchase or booking can assist customers in saving for their future travels and benefit the travel company by boosting customer loyalty and generating repeat business.

— **Health and wellness.** A health and wellness company can introduce a savings plan to encourage customers to lead healthier lifestyles through exercise and eating well by offering incentives for reaching predetermined objectives. This assists customers in saving during their journey toward their health and wellness goals while reinforcing positive habits, leading to a healthier lifestyle. To enhance customer engagement, a gym could implement a savings program that rewards members who meet their fitness goals and penalizes those who don't by adjusting the interest or reward paid into the savings account based on a customer's behaviors.

— **Home and car ownership.** Real estate companies can provide a savings program aimed at helping customers accumulate funds for a down payment. This program can be seamlessly integrated with the company's other services, such as mortgage brokerage or property management, to support customers in achieving their homeownership aspirations. Car dealerships can offer similar programs for customers who wish to save for a car purchase by integrating their financing and insurance services. In such scenarios, customers could be offered discounts in buying the adjacent services (i.e., insurance and services) if the payment toward those services is made through the savings program. This not only supports customers in reaching their goals but also strengthens customer loyalty, increases customer conversion, allows the business to close more sales, and prevents the loss of potential customers.

- **Retirement savings.** Financial services and insurance companies can offer micro-savings plans for retirement saving. The plan could be integrated into the company's existing products, such as investment services, and would facilitate saving small amounts and managing retirement funds over time. By automating the process, customers can consistently contribute to their retirement savings goals and gradually grow their nest egg. The convenience and simplicity of this micro-savings plan can encourage customers to prioritize retirement saving and achieve their financial goals.
- **Energy and utilities.** A utility provider can encourage customers to reduce their energy consumption by introducing a micro-savings feature. Whenever the customer saves energy

— through using energy-efficient appliances or turning off unneeded lights, for example — the provider will automatically place the difference between the energy saved and their average usage into a savings account. This creates a tangible incentive for customers to conserve energy; they will see their savings grow with each effort to reduce their energy usage. The utility provider benefits as well, as it can reduce the demand for energy and lower its costs. The provider can also earn revenue from the program, creating a mutually beneficial solution for both parties.

These are just a few examples of how micro-saving can be incorporated into different businesses to improve customer engagement, enhance the customer experience, and achieve specific financial goals for businesses and individuals.

## 6. CHOOSING THE RIGHT TECHNOLOGY PARTNER

An embedded savings program can help a business support its objectives while significantly contributing to its customers' financial wellness and stability. The right technology partner can offer customization options tailored to the business's unique requirements and oversee a smooth and successful implementation. To ensure compatibility between a business and a technology partner, look for a partner that offers the following features:

- **Automated customer savings.** Essential to any embedded savings program, this feature streamlines the savings process for customers, making it effortless and stress-free. By automating, a business can help its customers keep track of their financial progress and empower them to achieve their financial goals. These include recurrent savings, round-up savings, behavioral savings, and others.
- **Regulation-compliant value storage.** It is crucial to ensure that the stored value, which is the balance needed for future transactions, complies with relevant regulations to protect the customers' savings. This ensures the security and protection of their funds, which helps build trust in the business and enhances the overall customer experience. A deep understanding of the regulations for issuing stored value is critical to effectively operate any embedded savings program and provide peace of mind for customers.
- **Goal-based savings.** This option helps customers envision their objectives and build their savings accordingly by enabling them to set a target and track their progress. Customers gain a clear vision of their financial future, which keeps them motivated to save.

— **Bank accounts with data integration.** A comprehensive view of a customer's financial situation and spending habits is essential for effective savings. Bank accounts with data integration offer valuable insights into customer finances. This integration supports informed financial decision-making and drives additional savings to help customers reach their financial goals while giving the business a better understanding of its customers and their financial needs.

Embedded savings is starting to gain more relevance and popularity as more fintechs shift their focus to this underutilized segment of EmFi, and businesses are taking note of the results. This is a good time for businesses to exploit the developing interest in and options for embedded savings to seek out the right partnership.

By collaborating with a fintech provider that offers the features it needs, a business can ensure that its embedded savings program is effective, efficient, and customer-centric. A strong collaboration supports the business's goals and promotes financial wellness and stability for its customers.

There are several fintechs helping businesses develop their ideal embeddable saving programs; these include global companies like Meniga, Dreams Technology, and regional players like Coinscrap in Spain and TWIG in the Gulf Cooperation Council (GCC). Each offers comprehensive platforms that provide what is needed to implement an effective embedded savings program. The accompanying case studies represent trailblazing ideas that utilize EmFi to bring value and revenue to the fintech industry.

## Case studies

### Acorns

Acorns is an Irvine, California, USA-based fintech founded in 2012. The company offers a mobile app that enables users to invest their spare change from everyday purchases into a diversified portfolio of exchange-traded funds (ETFs). The company's unique approach to savings has been a game changer in the financial industry, allowing people to invest small increments with ease. With over 8 million users, Acorns has gained significant recognition for its innovative platform, which also includes personalized investment advice, retirement savings accounts, and educational tools to help users manage their finances effectively.

### Qapital

Qapital is headquartered in Stockholm, Sweden, and operates in the US and Canada. The company was founded in 2012 by a group of financial and technology experts whose goal was to provide a mobile-based platform to help people save money more easily. Qapital has earned attention for its creative approach to savings. Its mobile app offers unique tools designed to help users personalize their experience, like the "Rules" feature, which guides the creation of behavior-based savings criteria, including the use of IFTTT, which work automatically to save money based on specific actions or events.

### N26

N26 is a fintech company operating in Europe and the US. Founded in 2013, it provides mobile-based banking services with a user-centered approach to design. Its commitment to providing modern and convenient banking services has made it a popular choice for customers looking for a hassle-free banking experience. N26 offers various saving automations embedded in its application, such as automated transfers between accounts, with a feature that rounds each transaction up to the nearest euro or dollar and automatically saves the difference. N26's features make saving a seamless part of everyday life, helping users achieve their financial goals.

### Jar

Founded in 2021, Jar is a fintech company operating in India. Jar provides a mobile-based savings platform that enables users to link their bank accounts and automatically invest spare change from each transaction in gold. Saving through gold investing is an attractive option for people looking to diversify their investment portfolio and protect their savings against market fluctuations. By offering a savings solution that allows users to invest in gold, Jar is tapping into a cultural preference and providing a convenient way for people to invest in this valuable asset.

### TWIG

TWIG is a UAE-based fintech founded in 2021. Originally a direct-to-customer mobile app, TWIG's platform offers micro-saving functionalities to drive additional savings such as rounding up, goal-based savings, and artificial intelligence (AI)-based budgeting. The company's product-driven approach prioritizes customer and user experience. With its expansion to include B2B2C solutions and its deep understanding of the Middle East and North Africa's (MENA) savings-related customer needs and behaviors, businesses can now add these saving tools to their own platforms to drive growth and loyalty, while also delivering value to their customers.

### Cashbee

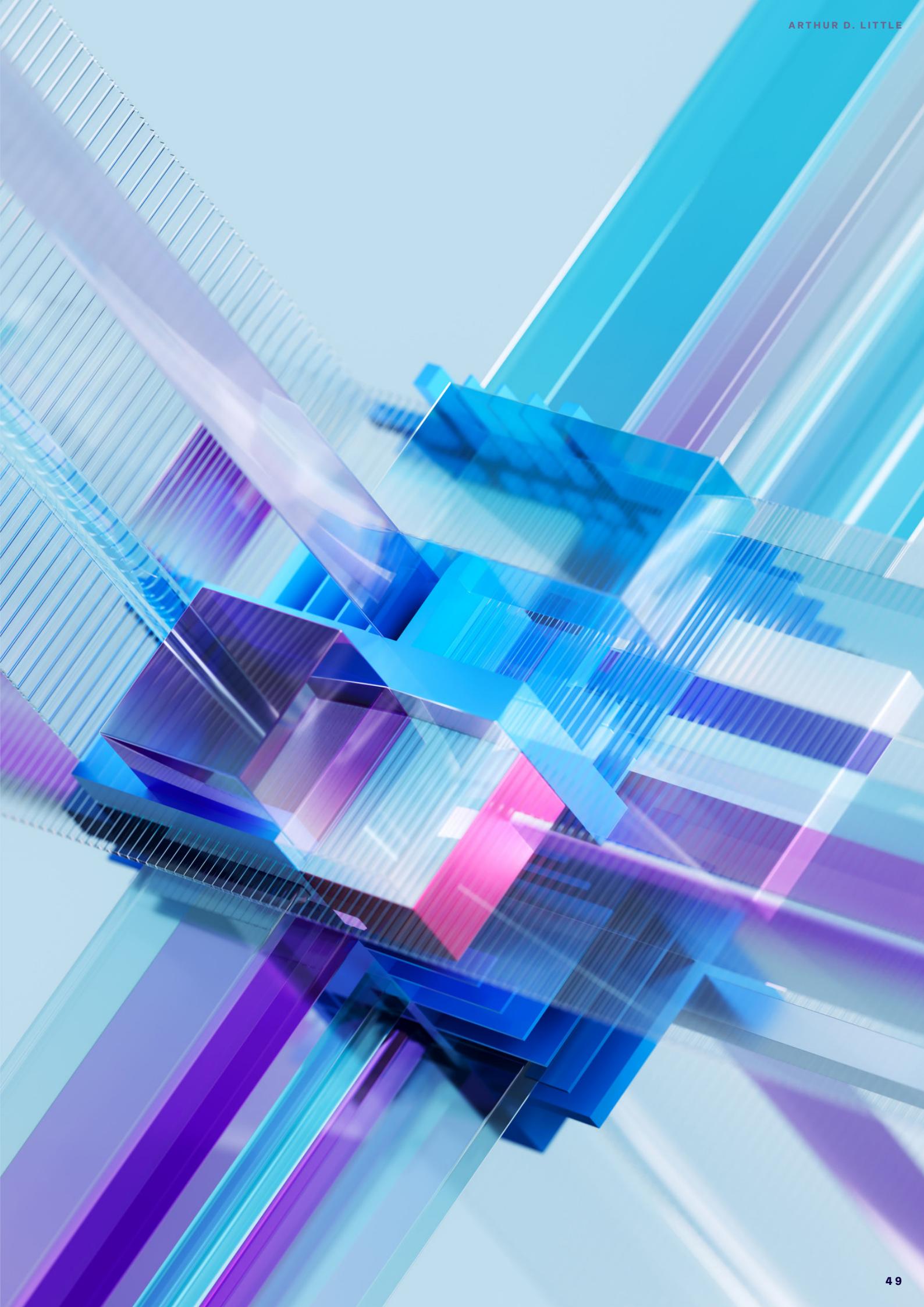
Cashbee, a French mobile application, has multiple savings solutions. Features include automated savings plans with user-determined amounts and frequency, a round-up option, and savings challenges based on setting and meeting targets and earning rewards. Setting goals enables users to track their progress, and cashback rewards are given on purchases made using the app at partner merchants. Cashback rewards can be automatically deposited into Cashbee savings accounts.

**Raisin**

German fintech company Raisin offers an online savings marketplace for customers across Europe. It currently manages more than €28 billion in assets. Raisin enables its “distribution bank” partners to offer their customers a range of third-party savings products from different banks across Europe. In addition, Raisin functions as a marketplace, partly under the brand name “WeltSparen,” where customers can compare and access a wide range of deposit products from banks across Europe. This platform also includes a variety of tools and resources to help customers make informed decisions about their savings, such as a savings calculator and access to expert advice.

**Yolt**

Yolt, a personal finance management app, offers several saving features that include round-up savings and goal setting and tracking. Its unique attributes include smart spending insights, which analyze spending habits and identify areas where users can save money, and a budgeting tracker for setting spending limits and managing finances effectively. Yolt also partners with savings providers to offer its users competitive interest rates on their savings, allowing them to easily compare and switch.



# CONCLUSION

## OPPORTUNITIES FOR ALL

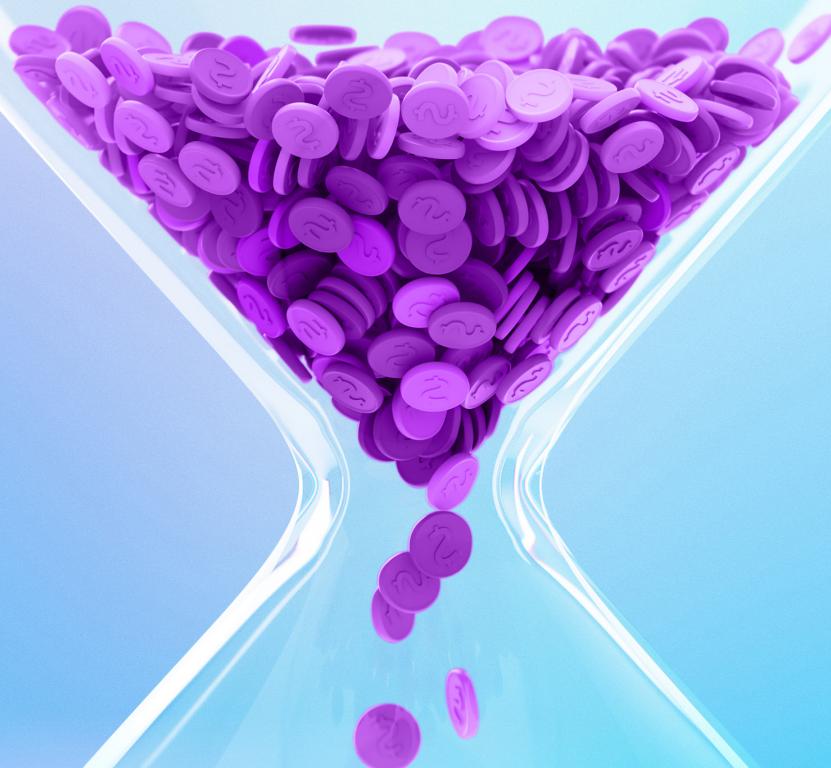
Embedded savings is proving to be an effective approach for businesses that wish to introduce their customers to opportunities to increase their savings. This concept has the potential to transform the financial industry by providing individuals with new ways to save and invest and presenting businesses with new sources of revenue.

While embedded savings can be a great opportunity for businesses, it's essential for them to ensure that their programs are transparent, comply with regulations, and protect the interests of all stakeholders. This includes the customers, retailers, banks, investors, and regulators.

Overall, embedded savings is a win-win situation for businesses and customers alike. By expanding to include these services, businesses can provide their customers with a better customer experience, increase customer loyalty, and earn revenue from new sources. Customers appreciate options to save money in a convenient and accessible way that could result in faster achievement of goals.

In today's fast-paced, technology-driven world, businesses have a unique opportunity to integrate embedded savings into their customer journeys and reap the accompanying benefits. It is time for businesses to make the most of this approach and share with their customers a new way to save and invest.





## EMBEDDED INVESTMENT, EMBEDDED WEALTH

### The evolution, interplay & future promise

Embedded finance is transitioning from being a mere concept to a force that could substantially influence our evolving financial services landscape. Among embedded forms of payments, lending, and insurance, both embedded investments and wealth are expected to play pivotal roles, offering insights into future developments in personal finance. This Viewpoint examines the wider topic of embedded finance from multiple lenses and delves into the origins, evolution, and prospective trajectory of embedded investments and wealth, highlighting the intertwined relationship with embedded savings.

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## ORIGINS & RISE OF EMBEDDED FINANCE

The foundation of embedded finance lies in the marriage between finance and technology. Before the digital revolution, traditional banking and finance were compartmentalized, usually operating in isolation. As technology moved into every facet of our lives, these barriers began to erode. Fintechs began offering banking services, while banks started leveraging technology to expand their scope of service. This convergence laid the foundation of evolving from standalone finance to integrated finance to embedded finance (see Figure 1).

Embedded investments is where accumulated savings are intelligently channeled — not toward spending in the future (we will cover the concept of “save now, buy later” in an upcoming Viewpoint) but rather on creating wealth. Embedded investment platforms take saved funds and direct them into investment avenues, offering returns and increasing wealth. This converts passive savings into active wealth growth, often with minimal input or expertise from the user. The potential for embedded wealth is vast. As of 2022, the global embedded finance market was estimated to reach US \$385 billion by 2029. The subset of embedded investments holds a considerable share of that market opportunity.

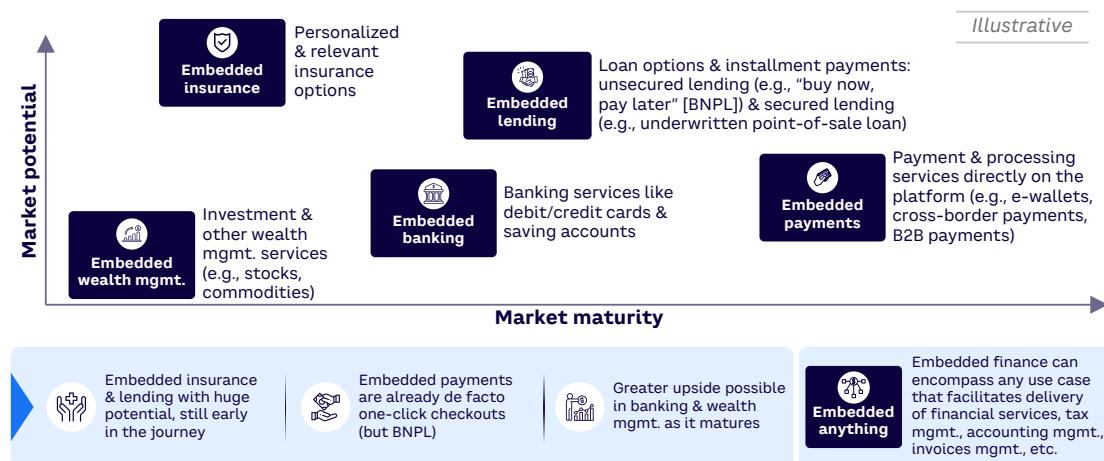
By providing streamlined wealth management tools, this segment attracts not only seasoned investors but also novices, expanding the market base.

## INTERPLAY BETWEEN EMBEDDED SAVINGS & EMBEDDED INVESTMENTS

In a world where finance is intertwined with daily digital experiences, embedded savings is the silent gatherer, while embedded investments is the astute grower, turning pennies into portfolios. Within embedded finance, two facets are proving particularly interesting: embedded savings and embedded investments. Their interplay, though subtle, has the potential to redesign how consumers approach money management, creating a frictionless pathway from saving to investing:

— **Embedded savings** — the gateway to financial prudence. Often likened to digitally enhanced piggy banks, embedded savings platforms give users a way to seamlessly integrate savings mechanisms into their routine digital transactions. The psychology behind it is straightforward: simplifying the act of saving by integrating it into daily activities, reducing decision fatigue and making savings almost involuntary.

**Figure 1. Maturity and market potential of key embedded finance offerings**



Source: Arthur D. Little, Dealroom.co

(In the Viewpoint, “[From Micro-Saving to Big Impact](#),” we shared our perspective on this topic.) At its core, embedded savings is about integrating savings tools within nonfinancial platforms. Imagine you’re purchasing a coffee through a mobile app. The coffee costs \$3.65, but you’re charged \$4. The extra \$0.35 is automatically diverted to a savings account or fund. Such tools take advantage of daily transactions, transforming mundane activities into financial opportunities. This “spare change” strategy is an effortless way to accumulate significant savings over time. Note that one of the pillars supporting embedded savings is behavioral economics. Research shows that the act of saving money, especially when done consciously, can be mentally taxing for individuals. Decision fatigue, a phenomenon in which making decisions becomes harder with the sheer number of choices, comes into play with traditional savings. Embedded savings eliminates the need for such decisions by automating the process.

- **Embedded investments** — turning savings into wealth. Embedded investments leverages the funds you’ve accumulated for wealth generation. Once a savings threshold is reached, these platforms automatically invest the accumulated amount into predefined or personalized investment portfolios, ranging

from conservative bonds to mutual funds or more aggressive stocks. The idea is not just to save, but to make the saved money work for the user, compounding over time.

The key is the seamless flow between embedded savings and embedded investments. The journey from a user’s daily digital activity to saving and, subsequently, to investing is integrated, eliminating the need for active financial planning or management. It’s a passive, yet effective, way to manage and grow one’s finances.

## MAKING MAGIC HAPPEN

### Embedded wealth: The next phase of fintech disruption

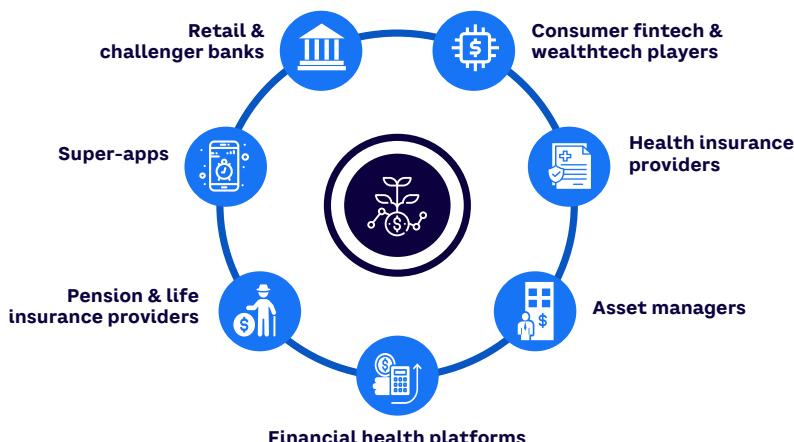
Embedded wealth services can be offered through a wide range of platforms ranging from neobanks to super-apps (see Figure 2). Some of the players growing their embedded wealth services rapidly include traditional and challenger banks, asset managers, and super-apps.

Regardless of the use case and/or the providers, the embedded wealth management market is growing and largely untapped. When facilitated by an established and trusted embedder, it is quicker, easier, and cheaper to offer to an existing customer base.

### From daily activities to wealth accumulation

The magic happens when embedded savings and investments operate in tandem. This combination transforms everyday transactions into wealth-accumulation opportunities. Platforms like Acorns exemplify this. In an example touched on earlier, users spend on routine transactions, the platform rounds up the expenses, and the spare change is invested in diversified portfolios. The user’s journey from spending to investing is frictionless — a seamless financial continuum. There are several embedded savings and investments offerings, each looking to deliver a direct path from daily activities to wealth accumulation (see Figure 3).

**Figure 2. Embedded wealth potential embedders**



Source: Arthur D. Little

**Figure 3. Fintechs offering embedded savings and investment products**

Non-exhaustive

|   |  |  |   |   |   |
|---|--|--|---|---|---|
| <b>1</b><br><br>Acorns rounds up purchases to the nearest dollar & saves the difference; takes those savings & invests them in diversified portfolios, embodying synergy between embedded savings & embedded investments | <b>2</b><br><br>Combines principles of behavioral economics with automation; users can set rules or use roundups for savings; saved amounts can be channeled into investment products offered by platform | <b>3</b><br><br>Allows users to start investing with as little as \$5; its Stock-Back program is particularly innovative: users earn stock pieces as rewards when they shop at certain brands, merging spending with saving/investing | <b>4</b><br><br>Primarily a neobank; offers automatic savings feature where a percentage of every paycheck can be auto-transferred to a savings account; although it leans more toward savings, integration with other platforms paves the way to embedded investments | <b>5</b><br><br>Provides mobile-based savings platform that enables users to link bank accounts & automatically invest spare change from each transaction in gold; saving through gold investing is an attractive option for people looking to diversify investment portfolio & protect savings against market fluctuations | <b>6</b><br><br>Cross-border payment company turned digital bank introduced the "saving jar" concept in 2020 to let users stash excess cash; in 2023, it introduced the concept of "interest" in partnership with BlackRock: users can maximize their saving returns through seamless investment into a portfolio of short-term money-market instruments |
|---|--|--|---|---|---|

Source: Arthur D. Little

**Figure 4. Banks developing or acquiring wealthtech offerings**

Non-exhaustive

|  |   |   |   |   |
|--|---|---|---|---|
| <b>1</b><br><br>Santander & BlackRock agreed to incorporate BlackRock's Aladdin wealth mgmt. services into Santander's platform; move expands range of investment solutions for Santander clients, using BlackRock's established capabilities | <b>2</b><br><br>Acquisition of Nutmeg, a European robo-advisor, was an indication of JP Morgan's ambitions to bring digital wealth mgmt. services to clients; at the time of acquisition, JP Morgan indicated that Nutmeg products would complement those of Chase in the UK | <b>3</b><br><br>Swiss bank partnered with SigFig to offer digital wealth mgmt. services to US-based clients; the two firms agreed to build a joint Advisor Technology Research and Innovation Lab, where the companies will continually collaborate on new wealth mgmt. technology tools | <b>4</b><br><br>Acquisition of E*Trade lets Morgan Stanley clients take advantage of E*Trade's digital offering; acquisition is in line with Morgan Stanley's ambitions to expand wealth mgmt. offering across different channels & segments, expanding scale & breadth | <b>5</b><br><br>UAE-based bank launched CBD Investr app, becoming first bank in region to offer robo-advisory investment solution; developed in partnership with InvestSuite, a leading wealthtech Belgium company |
|--|---|---|---|---|

Source: Arthur D. Little

These types of offerings are not limited to neo/digital banks and/or fintechs. Increasingly, incumbent banks are either partnering with wealthtech platforms and/or developing their own embedded wealth proposition (some through M&A). Also, this phenomenon is global in nature; prominent examples include Santander, JP Morgan, UBS, Morgan Stanley, and CBD, among others (see Figure 4).

## EMBEDDERS' OPPORTUNITY

Most embedders (typically nonfinancial institutions with direct access to customers and the necessary level of trust among their target customers) have been focused on embedding payments, as well as lending and insurance. Few have genuinely focused on the opportunity associated with embedded investments.

There are various paths, encouraging varied thinking:

- 1. Monetization opportunity.** Embedders can harness new revenue streams, either through commissions, subscription fees, or a percentage of assets under management.
- 2. Increased user engagement.** Offering financial services can increase the time a user spends on a platform, leading to higher engagement and potentially more revenue from other channels.
- 3. Value addition.** By providing financial tools, platforms can increase their value proposition, making them indispensable to users.
- 4. Cross-selling opportunities.** Users who adopt embedded wealth tools might be more inclined to use other services offered by the platform, increasing overall revenue.

5. **User data insights.** Access to financial habits can provide invaluable insights into user behavior, which can be leveraged for personalized marketing or service offerings.
6. **Customer retention.** Providing a suite of services, including financial management, can create stickiness, reducing the likelihood of users switching to competitors.
7. **Competitive differentiation.** In a crowded digital marketplace, offering embedded wealth services can set a platform apart from competitors.

Most of the rationale listed above is similar to reasons for embracing the wider topic of embedded finance, but the difference lies in the customer journeys they power — allowing them to unlock embedded wealth and investments opportunities. Examples include:

- **Online shopping.** Platforms like Amazon and Noon could offer investment options based on amounts saved through discounts or allow users to invest their cashback rewards.
- **Social media platforms.** Users on sites like Facebook, Instagram, TikTok, and even LinkedIn could be presented with investment options based on their likes, follows, or online behavior.
- **Travel booking portals.** Users booking flights or hotels could invest amount saved from deals or discounts.
- **Utility bill payments.** Utilities could offer investment suggestions based on monthly savings on utilities.
- **Online subscriptions.** Media platforms like Netflix and Spotify could provide investment options proportionate to subscription fees.
- **E-learning platforms.** Users could be invited to invest in educational savings plans or related financial products.
- **Food delivery apps.** Apps like Deliveroo, Jahez, UberEats, and DoorDash could present investment options based on savings from promotional deals.

## THE GOAL IS TO BLEND FINANCIAL DECISIONS SEAMLESSLY INTO EVERYDAY ONLINE ACTIVITIES

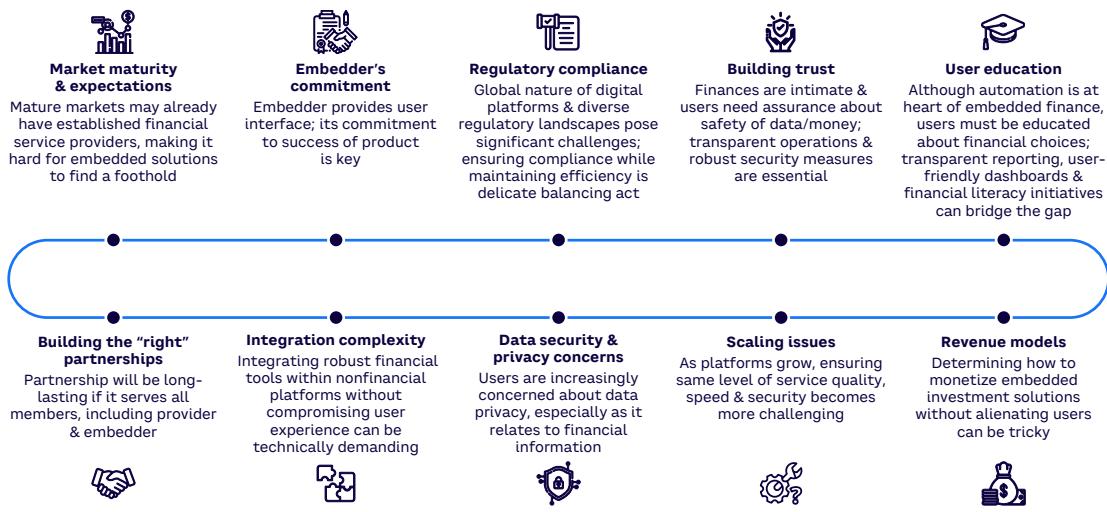
- **Fitness and health apps.** Users reaching fitness goals could be presented with options to “invest” in health insurance or related financial products.
- **Gaming platforms.** Gamers could be presented with real-world investment options based on virtual in-game earnings or achievements.
- **Freelance job portals.** Platforms like Upwork and Fiverr could offer freelancers options to invest part of their earnings directly into diverse financial products.

Almost every online interaction or transaction (and some offline ones) presents an opportunity for embedded wealth services, given the right context and a user-centric approach. The goal is to blend financial decisions seamlessly into everyday online activities, making wealth management intuitive and habitual.

## CHALLENGES & THE ROAD AHEAD

The synergy between embedded savings and investments is compelling, but the path isn’t devoid of hurdles (see Figure 5). Among several challenges, a few showstoppers range from educating and attracting customers, managing technology (data security, scaling, and integration), and building a profitable business model (finding the right partners and designing the right revenue model).

This list may seem daunting, but a number of successful players in the domain like Capital have navigated these challenges by combining behavioral economics with technology to enable goal-oriented savings and investments that resonate with user aspirations. Capital’s success story should serve as an inspiration to new companies entering this space.

**Figure 5. Challenges and road ahead**

Source: Arthur D. Little

## ROLE OF STAKEHOLDERS

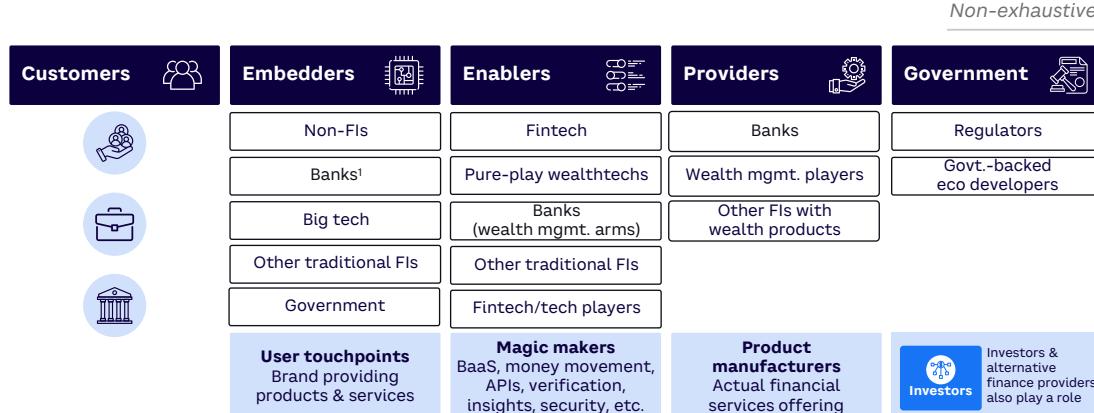
The embedded finance ecosystem comprises a variety of stakeholders, each playing a distinctive and significant role (see Figure 6). To make the magic happen, stakeholders across the value chain must do their part and do it in tandem:

- Customers.** End users stand to gain the most, enjoying seamless financial management and potential wealth accumulation. Their feedback, preferences, and trust shape the industry.
- Embedders.** Platforms that integrate savings and investment tools need to ensure user-centric design, regulatory compliance, and continuous innovation.

**3. Enablers.** As the technology backbone, these companies must ensure robust, secure, and scalable solutions while staying abreast of financial trends and user behaviors. They are the glue that holds everything together.

**4. Banks, traditional wealth managers, and other financial institutions.** Their expertise, established trust, and vast resources make them invaluable. However, they need to adapt, innovate, and collaborate to remain relevant.

**5. Regulators.** These entities must frame guidelines that protect user interests while fostering innovation.

**Figure 6. Embedded wealth participants**

Note: 1) Banks as embedders is a possibility if bank adopts the role of ecosystem provider and/or orchestrator (beyond banking/lifestyle super-app)  
Source: Arthur D. Little

## CONCLUSION

# GLIMPING THE FUTURE

### THE EMBEDDED WEALTH PHENOMENA REFLECT HOW FUTURE DIGITAL INVESTMENT AND WEALTH SERVICES WILL BE CONSUMED

Embedded savings and embedded investments are the dual engines powering the modern consumer's financial journey — one accumulates, the other multiplies, both seamlessly integrate into everyday digital life. With technologies like artificial intelligence, machine learning, and blockchain gaining momentum, we can expect hyper-personalized financial solutions, more diversified investment avenues, and possibly a convergence of embedded finance components into unified platforms. As embedded finance permeates more sectors, we can see scenarios in which smart devices not only facilitate savings but make investment decisions based on behaviors, preferences, and financial goals.

The embedded wealth phenomena reflect how future digital investment and wealth services will be consumed. With a market potential of billions of young, digital-savvy consumers who use their mobile phones for everyday digital financial services, including digital wealth, financial institutions and embedders worldwide should not only take note, but they should also take action.

The journey from the compartmentalized world of traditional finance to the integrated realm of embedded investments and wealth is a testament to the transformative power of rapidly emerging technology. As embedded savings and investments continue to collaborate, they pave the way for a future where financial growth is an integrated aspect of our digital existence. For stakeholders, the message is clear: adapt, collaborate, and innovate to get ready for entwined finance.





## B2B BUY NOW, PAY LATER: A HUGE, EMERGING OPPORTUNITY

Tapping into vast potential  
for banking & business

B2B “buy now, pay later” (BNPL) is emerging as a flexible method for businesses to obtain financing at the point of sale, better manage liquidity, and create an enhanced customer experience. In this Viewpoint, we dive into the benefits and considerations surrounding B2B BNPL, including how it differs from trade credit and factoring as well as its market potential. We also examine competitive dynamics and explore strategic options for banks responding to the opportunity.

### AUTHORS

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## BNPL: A FLEXIBLE, UNDERUSED STRATEGY

BNPL is a type of short-term financing that allows customers to purchase goods and services but pay for them in full later, or over time in installments. BNPL offers convenience and flexibility and drives affordability, making it a popular short-term financing option for retail consumers shopping in both e-commerce and brick-and-mortar modes. However, BNPL is not only relevant for B2C; it is even more important for B2B, where the well-known and much-used trade credit has been firmly established as a deferred payment solution.

In principle, B2B BNPL works in the same manner as B2C BNPL, but the end customer is a company instead of an individual. It is offered by individual suppliers or through marketplaces. Individual suppliers are companies that supply other businesses with their products, such as machinery, office furniture, and so forth. These companies can be found across many industries and in different sizes, from micro-, small-, and medium-sized enterprises (MSMEs) to large corporates. They typically require multichannel BNPL solutions to cover in-person and online sales.

Marketplaces are platforms that connect buyers and sellers of goods or services, typically in a specific industry or across several industries. Their number has grown significantly in the last decade — and because they are digital in nature — they are especially inclined to use digital BNPL solutions. The B2B BNPL process differs depending on the B2B BNPL provider, but it essentially follows the steps outlined in Figure 1.

In principle, suppliers can extend BNPL directly to business customers, especially if a limited number of them are mostly recurring. In many cases, suppliers already do this via trade credit. However, when suppliers have a diverse set of customers, including many first-time buyers, in-house BNPL solutions reach their limits because of suppliers' balance sheet size, underwriting capabilities, and operational capacity. Given that suppliers should aim to achieve BNPL approval rates of 80% and higher, they may find themselves stretched too thin. This is where specialized B2B BNPL providers enter the game.

## MAXIMIZING BENEFITS, MANAGING RISKS

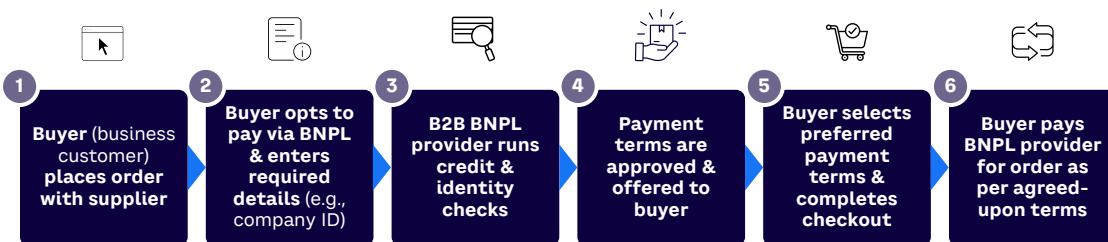
B2B BNPL deserves serious attention and consideration as it addresses two major challenges in the B2B environment:

- 1. Providing financing to businesses at the point of sale** helps reduce the MSME funding gap at the point of need and increases purchasing power.
- 2. More importantly, it allows businesses to manage their liquidity** through the flexible payment terms offered.

B2B BNPL also outshines its sister offering, B2C BNPL, in several ways:

- **The market is substantially bigger.** The B2B market size is roughly five times bigger than the B2C market.

Figure 1. B2B BNPL process



Source: Arthur D. Little

- **The transaction volume is higher than average.** B2B transactions are notably larger than B2C transactions, boosting BNPL providers' revenues.
- **The propensity for repeat business is greater.** Long-term buyer-supplier relationships mean frequent purchases from the same supplier, creating greater opportunities for BNPL.
- **It caters to a vastly underserved market.** B2B BNPL solves critical working capital and liquidity challenges for small businesses.
- **There are opportunities to go global.** B2B BNPL can simplify international trade, tackling currency and cross-border payment hurdles through more standardized credit terms.

Figure 2 summarizes the key growth drivers of B2B BNPL. It shows that various players, including end users, fintechs, regulators, and investors contribute to a fruitful environment for innovation and adoption of B2B BNPL solutions.

While the benefits are evident, it is also important to highlight three main considerations around B2B BNPL that should be addressed by the provider and the embedding supplier: (1) debt burden, (2) transparency, and (3) adverse selection.

### Debt burden

Customers may overuse BNPL and overspend. Unlike B2C, B2B customers are professionals who are generally better equipped to make financing decisions. However, providers should minimize the risk of overspending by employing clear communication, education, and controls so that customers enjoy the value of B2B BNPL without making risky financial decisions.

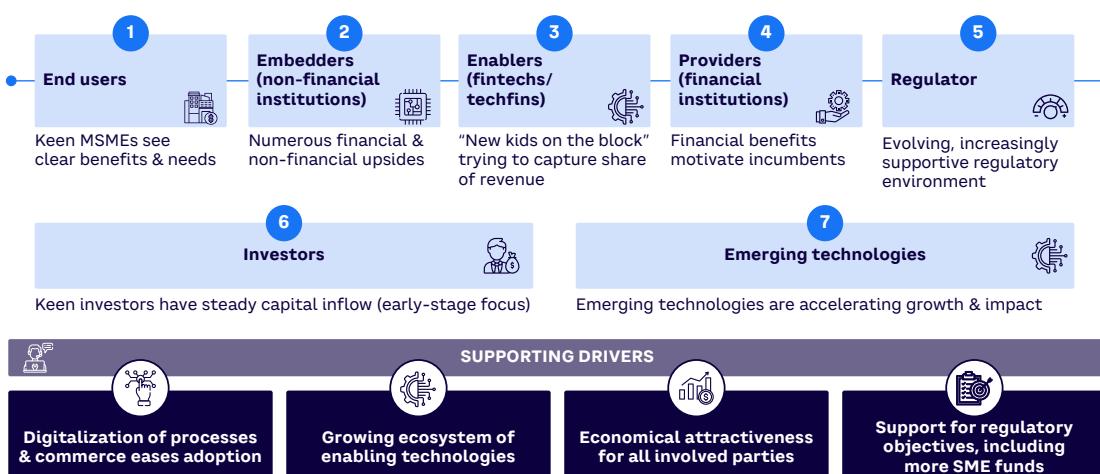
### Transparency

Customers may discover fees later in the process that they were not aware of initially (e.g., late payment fees). Providers should be very transparent about conditions and fee structures; this protects their customers and prevents negative experiences that impact customer satisfaction and lead to churn.

### Adverse selection

From the provider perspective, there is concern that BNPL may attract low-quality borrowers. Thorough credit checks are crucial. Moreover, while this concern may be particularly warranted in B2C BNPL, there is reason to believe that business customers primarily use BNPL for liquidity management rather than to enable purchases they could otherwise not afford.

**Figure 2. Key growth drivers for B2B BNPL**



Source: Arthur D. Little

## THE DIFFERENCES

It is important to point out the differences between B2B BNPL and related supply chain-financing methods. The pay-later version of B2B BNPL is most similar to the well-known legacy trade credit where suppliers offer deferred payment to business customers. However, looking closer, the two methods differ significantly:

- With BNPL, the credit risk and the underwriting are taken over by the BNPL providers who should be more thorough in their assessment.
- Credit decisions, including those for first-time buyers, occur on the spot. For buyers, this also minimizes paperwork, and the credit decisions and terms are much more codified and structured rather than based on relationships.
- BNPL is typically facilitated by a third party and not the supplier directly.
- The supplier gets paid up front by the BNPL provider (minus fees), and efforts around administration and collections are shifted to the BNPL provider.
- BNPL frequently has more flexible and tailororable terms.

While B2B BNPL is typically organized as factoring in the background, it also differs from classic factoring:

- In BNPL, the buyer requests BNPL; the supplier does not decide to sell the claim. Therefore, it is more similar to reverse factoring where the buyer decides to refinance the supplies. However, BNPL is initiated at the point of sale, while reverse factoring happens later (with risk of decline).
- In some factoring arrangements, businesses need to give up control of their customer relationship; in BNPL, that's not required.
- With factoring, the businesses sell their accounts receivable at a discount; in BNPL, the discount is typically lower.

## A HUGE OPPORTUNITY

B2B BNPL's potential is huge, as it taps into the vast B2B commerce space, which was worth approximately US \$120 trillion in 2022 across offline and online channels, according to Activant Capital. Moreover, while B2B sales have trailed B2C in terms of e-commerce share (the area where BNPL is particularly strong), B2B has been catching up and will continue outgrowing the other channels.

Arthur D. Little (ADL) estimates that B2B BNPL will enjoy a high double-digit annual growth rate over the coming years and will capture 15%-20% of the payments in B2B commerce by 2030. Considering the overall growth of B2B commerce in the coming years, this would equal approximately \$25-\$30 trillion BNPL volume and, assuming average BNPL fees of 3%-4% per transaction, a total addressable market between \$700 billion and \$1.3 trillion. Thus, it is fair to call B2B BNPL a "trillion-dollar opportunity" by 2030.

To make these numbers more tangible, let's look closely at a major economy: Germany. According to ECC KÖLN, the B2B market size in that country was \$7.3 billion in 2022. B2B BNPL is particularly strong in the online channel. After excluding sales made via electronic data interchange and sectors where B2B BNPL is less relevant (e.g., construction or defense), the B2B sales by producers and wholesalers via online shops and marketplaces were estimated at \$467 billion in 2022. This amount represents 6.4% of the whole B2B volume and is around five times the size of Germany's B2C online market (estimated at \$92.3 billion in 2022).

Germany's numbers demonstrate the large market size of B2B and the related potential for BNPL providers globally. B2C BNPL has proven successful; however, the sheer potential of B2B is exponentially larger. Business customers, for instance, are already using flexible payment terms like trade credit, which, according to Atradius, takes up 30%-50% of B2B sales, depending on the year of observation.

Figure 3 shows some selected examples of partnerships between merchants and B2B BNPL providers, demonstrating how various industries have adopted the solution.

## AN EMERGING MARKET

There is little doubt that B2B BNPL is in high demand, the addressable market is considerable, and the players are capable, so it's surprising that B2B BNPL is not yet mainstream. There are two key contributing reasons for this:

- 1. The B2B sector generally trails B2C in terms of the adoption speed of new solutions.**

Typically, new solutions appear in the B2C sector first and enjoy widespread adoption there. Over time and with certain delay, business customers increasingly demand the same experience they have become used to as private individuals.

- 2. Several challenges at an industry level are blocking the full potential of B2B BNPL.** In many cases, the challenges arise from the more complex nature of B2B lending due to higher credit limits and the accompanying risk, more complex underwriting decision models, and longer, more diverse payment terms. Figure 4 provides a summary of these challenges.

Providers that can navigate hurdles while offering valuable, secure, and tailored solutions will likely emerge as winners in this rapidly evolving market.

## FINTECHS & FIRST INCUMBENTS ENTERING MARKET

Though still in the nascent stage, the competitive landscape of B2B BNPL is growing rapidly. In addition to fintechs, two incumbent banks in Europe have especially recognized the vast potential and have started offering B2B BNPL:

- Spain-based Banco Santander has launched its B2B BNPL solution in partnership with B2B BNPL fintech Two and leading insurer Allianz SE. Santander finances the up-front payments, Allianz insures the value chain against non-payment risk, and Two acts as the BNPL tech provider. It is a one-stop solution with single API integration and multicurrency support.

**Figure 3. Examples of merchant and BNPL collaboration**

|                             |   |
|-----------------------------|---|
| E-FARM/Mondu                | E-FARM works with Mondu to offer BNPL to B2B customers through online & offline sales channels      |
| Alibaba.com/Billie          | Alibaba.com uses Billie's BNPL solution to enhance payment experiences for B2B customers            |
| Purple Planet Packaging/Two | Purple Planet Packaging introduced a partnership with Two to offer BNPL solution for B2B purchases  |
| Ankorstore/Hokodo           | Ankorstore uses a dedicated solution from Hokodo to offer BNPL to B2B customers                     |
| Amazon Business/Affirm      | Amazon Business works with Affirm to offer B2B customers flexible payment solutions, including BNPL |
| Staples/TreviPay            | The Canadian subsidiary of Staples uses the TreviPay mobile app to offer BNPL to B2B customers      |

Source: Arthur D. Little, company websites

**Figure 4. Industry-level B2B BNPL challenges**

|                               |  |
|-------------------------------|--|
| <b>Customer awareness</b>     | Customers are unaware of B2B BNPL & its benefits among business customers                              |
| <b>Risk assessment</b>        | Risk assessment, including fraud, is more complex, in part due to the unavailability of necessary data |
| <b>Impact of defaults</b>     | The lender's overall health can be impacted more significantly by the absolute impact of defaults      |
| <b>Product structure</b>      | Challenging structure in terms of size & term of exposure (high balance sheet exposure)                |
| <b>Cross-border trade</b>     | Cross-border trade & commerce are complex  |
| <b>Regulatory complexity</b>  | Like B2C BNPL, navigating varying regulations in different regions is complicated                      |
| <b>Technology integration</b> | Merging technology with existing & new business infrastructure can be difficult                        |
| <b>Costs</b>                  | The potential for significant costs around technology, infrastructure & cybersecurity is high          |
| <b>Competition</b>            | Existing & new financial products compete with BNPL solutions  |

Source: Arthur D. Little

2. BNP Paribas and B2B BNPL fintech Hokodo have partnered to launch a new B2B BNPL solution for businesses, which can be easily integrated into existing checkout systems, providing instant buyer approval using real-time credit decision-making.

In addition, there are also embedded lending fintechs, such as credi2, that use a white-label approach to provide banks with the technical capabilities to launch such propositions. Fintechs have also partnered with other fintechs to offer B2B BNPL solutions. For example, the fintech and payment platform Adyen partnered with payment fintech Billie to offer B2B BNPL across Europe. Overall, B2B BNPL has become a competitive and dynamic market where fintechs and banks are collaborating as well as competing to offer the best solution to customers.

From conversations about the market, we know that many incumbent banks are considering entering the field, as they enjoy strong advantages that make the case compelling. Incumbent banks have a strong brand, trust, an established customer base, a license and balance sheet, underwriting capabilities, and market knowledge. Fintechs, on the other hand, often have the required innovative spirit, technology, and agility, along with the connectivity capabilities required to take part in this business.

## HOW CAN BANKS RESPOND TO THIS OPPORTUNITY?

Banks can seize the B2B BNPL opportunity in several ways; the best response will depend on their strategic objectives and capabilities. Below, we summarize some possible ways banks can participate in this attractive market (this is a non-exhaustive list, and banks may pursue multiple strategies simultaneously):

- **Develop in-house capabilities**, potentially working with infrastructure fintech providers. This option grants a bank more control over the solution that can be intricately integrated and tailored within its operations.

However, it will require the highest in-house effort, needs the most time to go-to-market, and carries a significant implementation risk due to the development of new capabilities from scratch.

- **Partner with existing B2B BNPL players.**

The nature of these partnerships can vary based on market conditions, target customer type, and so on. This option requires less effort and investment than building in-house capabilities. Furthermore, it enables the bank to tap into its partner's specialized knowledge and technology, resulting in a solution that aligns with the bank's specific requirements. However, it also brings about fee sharing and a greater reliance on the external partner, causing potential complications should the partnership dissolve.

- **Introduce a banking-as-a-service (BaaS) offering** — which may encompass financial infrastructure, risk management capabilities, license, and balance sheet — to the established BNPL players in the market. This option allows banks to leverage their existing infrastructure and expertise.

- **Acquire ready-to-use solutions** from B2B BNPL start-ups to gain a foothold and technology capabilities. This option will minimize implementation risk and time to market. However, it will require considerable investment, and the solution may not fully fit the bank's specific needs.

Banks may also want to consider introducing a convergence between existing products and BNPL features. For example, they could integrate BNPL as a feature of revenue-based lending products instead of traditional interest payments. Whatever option the bank chooses, it is becoming increasingly obvious that they cannot ignore the vast opportunities and growth in this sector; otherwise, they will be late to the game as they were in the B2C BNPL sector but this time in a remarkably larger market.

## CONCLUSION

# TRILLION-DOLLAR POTENTIAL

THE B2B BNPL MARKET IS  
EXPECTED TO ENJOY HIGH  
DOUBLE-DIGIT ANNUAL GROWTH

In the coming years, the B2B BNPL market is expected to enjoy high double-digit annual growth. By 2030, it is estimated that B2B BNPL will be a trillion-dollar opportunity, capturing 15%-20% of the B2B payments market. There is no doubt that B2B BNPL represents an exceptional opportunity in the embedded finance sector. Its potential to transform B2B transactions and fulfill the unmet needs of millions of MSME players makes it a trend worth watching and participating in for banks and businesses in other sectors pursuing an embedded finance strategy. The time to act is now.





## THE OPEN INSURANCE CONUNDRUM: BRIDGING INNOVATION & REALITY

**Transforming an industry through innovation, collaboration & engagement**

Open insurance — sharing insurer-held data and capabilities within a specialized partner ecosystem — offers benefits to customers and industry players alike. As a key enabler for embedding insurance solutions within product and service purchases, it provides customers greater convenience, flexibility, and personalization. For insurers, it allows for better targeting, efficiency, product/service enhancement, and data accuracy. Yet there are significant barriers hindering progress toward the open insurance model. In this Viewpoint, we examine the building blocks and priorities for overcoming barriers and making open insurance a reality.

### AUTHORS

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## WHY OPEN INSURANCE NEEDS INSURTECHS

Open insurance refers to sharing insurer-held data and capabilities within a specialized ecosystem (see Figure 1). Similar to the banking sector, which is reshaping its field by enabling third-party developers to create new banking and “beyond banking” products and services, open insurance uses application programming interfaces (APIs) to do the same for the insurance industry in all types of insurance (e.g., life, property, auto, health). The reward for insurers will be twofold, as they will:

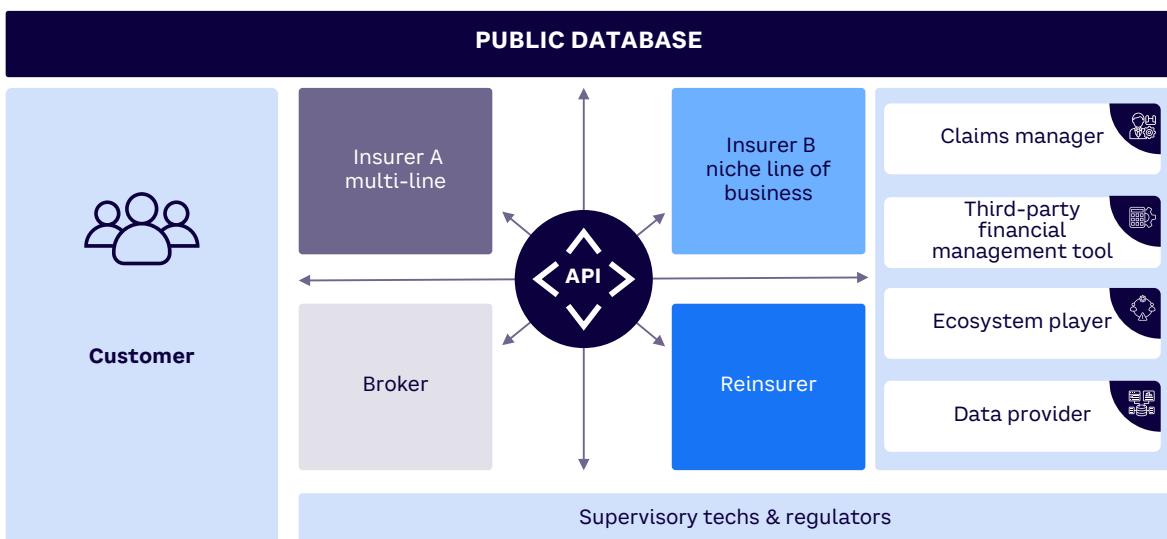
1. Become faster, more targeted, and more embedded in their distribution and product development through open insurance and embedded insurance partnerships.
2. Have access to better data and broader partner ecosystems to enhance their distribution width, underwriting, and claims management.

Both points will improve insurers’ total addressable market, lower their customer-acquisition efforts, reduce their claims cost (including fraud), improve their responsiveness to customers, and increase their capacity to manage risk, which will, as a result, generate more value.

Technology is crucial to making open insurance a reality, and insurtech start-ups, with their agile frameworks and technology-first approach, play a pivotal role: they can prototype, test, deploy, and adapt solutions at a pace traditional insurers find challenging. Moreover, insurtechs are typically able to engage more frequently with customers than the traditional model allows. Collaborating with insurtechs not only brings technological prowess but also creates a fresh perspective on product development and consumer engagement throughout the insurance cycle.

In addition to technology, open insurance requires a strong ecosystem developed around a specific purpose. Insurance is not a standalone product; rather, it exists only when a consumer satisfies an underlying need or want (e.g., obtaining a house or car) that in turn requires safeguarding in the form of insurance. Many options are already well-defined, often with sophisticated digital structures. Open insurance allows companies to tap into these as partners through existing ecosystems. In return, both expand their business opportunities and drive greater efficiency across their business models.

**Figure 1. Open insurance ecosystem**



Source: Arthur D. Little, Dealroom.co

## BENEFITS ACROSS THE VALUE CHAIN

The benefits of open insurance are not just for incumbent or emerging businesses but also for others across the value chain:

- **Insurers.** Incumbent providers stand to benefit across all aspects of the value chain, as open insurance will allow them to broaden their product and service offerings, provide more customized protection, and operate in underwriting and claims management with more accurate data. Moreover, open insurance enables insurers to transition from only selling insurance to embedding the insurance product into the underlying needs of the customers (i.e., corporates or consumers); we refer to this as “embedded insurance.”
- **Customers.** Today’s customers seek greater personalized and relevant experiences. Open insurance promises just that: better engagement, more tailored products, real-time claims processing, and dynamic pricing models. Access to a wider array of services from third-party ecosystem providers ensures a more seamless, closely integrated, customer-need-focused experience for consumers as well as corporates. In addition, insurers will be better able to understand how needs change over time. Customers stand to acquire substantial value.
- **Insurtechs and other third-party providers.** Innovative players will gain permissioned access to the unique capabilities of insurance companies to understand price and carry risk, allowing them to create new and relevant products for customers within a short product development time. These innovators aim to address potential market gaps and enhance and enrich the consumer experience. In doing so, they will add substantial overall value to the value chain.

## TODAY’S CUSTOMERS SEEK GREATER PERSONALIZED AND RELEVANT EXPERIENCES

- **Reinsurers.** Reinsurers may gain significantly from the advent of open insurance by leveraging more precise and dynamic risk models developed from granular data. This supports better underwriting and the creation of innovative reinsurance products tailored to emerging market needs. Enhanced operational efficiencies arise from automated and real-time data exchanges, facilitating smoother claims processes and reporting. Additionally, open insurance ecosystems offer strategic partnerships and global expansion opportunities, enriching reinsurers’ portfolios and revenue streams. The resulting transparency aids in regulatory compliance, leading to a more robust and stable reinsurance market.
- **Regulators.** An open system fosters transparency. Regulators can leverage open insurance to gain a better view of market developments, consumer reactions, and the performance of individual insurance companies. Moreover, open insurance will allow a specific class of insurtechs to develop solutions to enhance the efficiency and effectiveness of regulatory compliance, thus reducing friction and costs in the overall systems. The regulators will be in control of the speed of the required regulatory changes.

## OPEN INSURANCE FUELS EMBEDDED INSURANCE

Open insurance is a catalyst for the growth and evolution of embedded insurance, where insurance is purchased as part of a commercial transaction for another product or service. Embedded insurance opens the way for more innovative, accessible, and personalized insurance solutions. Improved customer experience is a key benefit; customers can use the same channel to arrange insurance at the same time as purchase of the product or service.

The ecosystem nature of open insurance provides an ideal environment for insurers, technology companies, and service providers to collaborate and co-create tailored embedded insurance solutions. For example, travel platforms use customer data shared in open insurance frameworks to offer on-demand products that only activate during travel periods. As another example, car manufacturers with access to driving-behavior data are already collaborating with insurers to provide tailored embedded policies customized specifically for individual driving profiles to improve the customer experience and provide more accurate risk evaluations and pricing models.

Embedded insurance models are also readily scalable, as they can easily integrate into various platforms. For instance, small business platforms offering tailored coverage can take advantage of open insurance principles to provide automated coverage to precisely address individual businesses' specific requirements. The synergy between open insurance and embedded insurance is evident in various sectors, from automotive to travel to e-commerce, where embedded insurance is becoming increasingly prevalent.

## BARRIERS TO GROWTH

Despite its potential, open insurance has been slow to gain momentum. Insurtech as a market lacks strong funding, which is one reason for its modest growth. In addition to the record decline in investment in the insurtech sector, several other factors have contributed to the slow adoption of open insurance:

— **Mixed interest from incumbent insurers.**

Despite the significant benefits mentioned above, open insurance also brings potential threats in the form of increased competition, eroded brand value, and greater dependency on third parties. Many insurers operate on older IT infrastructures that aren't readily compatible with the demands of open insurance. Migrating to new systems is expensive, time-consuming, and fraught with operational risks. Given the significant up-front investment, ROI may not be immediately apparent. Furthermore, open insurance could level the playing field, reducing the competitive edge that larger insurers built over decades. Transitioning to an open model will usually require upskilling and re-skilling staff, restructuring departments, and rethinking business strategies, all of which can slow down the adoption process. And as with any major change, open insurance requires a substantial change of mindset for everyone involved, in what is traditionally a conservative industry. An incumbent's interest and approach will depend on its strategic goals, current capabilities, and vision for the future.

- **Regulatory and data concerns.** Insurance is a heavily regulated industry. Open insurance raises concerns about data protection, consumer rights, and industry stability. Regulators must tread carefully and recognize that the pace of legislative change doesn't always match the speed of technological evolution. Moreover, for the insurer, data breaches in an open insurance environment could have significant repercussions, impacting brand trust and potentially incurring hefty penalties.
- **Lack of standardization.** Open insurance necessitates standard protocols to ensure data compatibility and seamless integrations. Without industry-wide standards, it is hard to roll out protocols, which has led to a fragmented approach across the insurance landscape.
- **Consumer awareness and trust.** Though the industry sees the potential, consumers' current perspective might obscure it. Changing awareness to recognize the value of insurance in an open environment is a slow process.

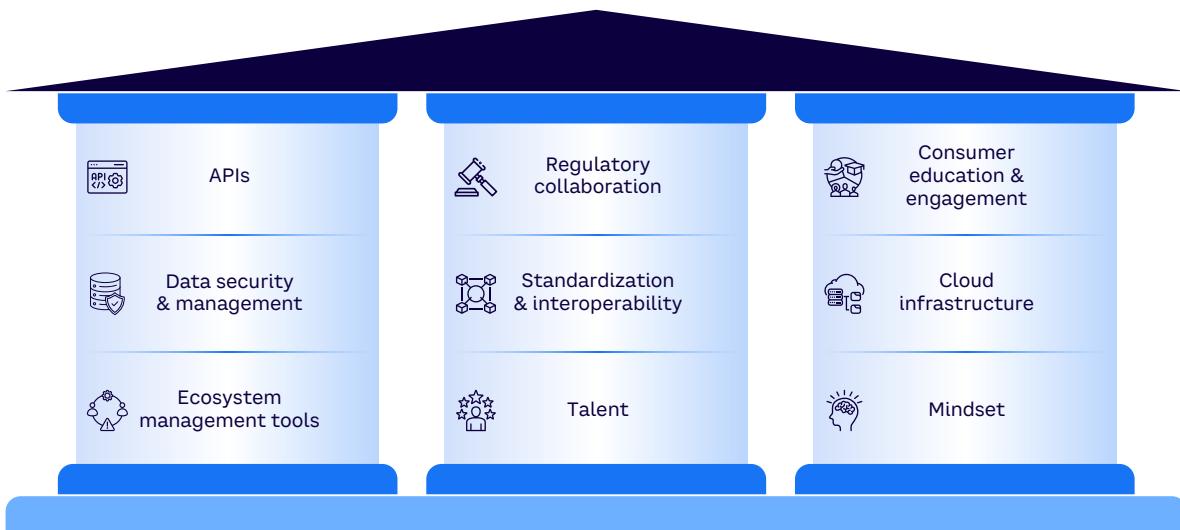
- **Limited ecosystem.** For open insurance to thrive, it needs a robust ecosystem of third-party developers and service providers specializing in specific customer needs. Some of these structures are still in their nascent stages, and many do not currently feature insurers and their ability to de-risk.

## BUILDING BLOCKS FOR PROGRESS

With these barriers to overcome, we cannot expect that the adoption of open insurance will happen overnight. To make progress, a concerted effort will be necessary across insurers, regulators, infrastructure, and service providers. We recognize nine essential building blocks for the industry to pursue (see Figure 2):

1. **APIs** form the center of open insurance, facilitating seamless data exchange among different systems and stakeholders. They enable insurers to integrate their services with third-party platforms for an enhanced customer experience and to foster an interconnected ecosystem for distributing embedded insurance products. Companies need to explore the increasing range of available insurance APIs.

**Figure 2. Building blocks of open insurance**



Source: Arthur D. Little

## WE CANNOT EXPECT THAT THE ADOPTION OF OPEN INSURANCE WILL HAPPEN OVERNIGHT

2. **Data security and management** practices need to be further developed and enhanced. Effective data-security practices protect sensitive customer data and build trust among customers while meeting regulatory requirements. Data protection is more than a technical necessity; it forms the foundation of customer confidence.
3. Key players need to develop and implement better **ecosystem management tools** to oversee and manage all components of an open insurance ecosystem, from coordinating partnerships to tracking performance to ensuring consistent operations. When used effectively, ecosystem management tools can enhance operational efficiency and encourage innovation.
4. Industry players need to seek closer **collaboration with regulatory bodies**. This is essential in a highly regulated market like open insurance. Working in tandem ensures compliance and creates an environment conducive to innovation while shaping policies to protect consumers and simultaneously supporting the expansion of open insurance models.
5. Connected with this, the industry needs to accelerate the development and implementation of **standards and interoperability requirements**, to ensure smooth integration across platforms and stakeholders, allowing systems to communicate and share data efficiently, while services remain reliable and consistent. Strict regulatory compliance requirements are also vital to building customer trust. Adhering to such standards makes products more reliable and trustworthy; open banking regulations in Europe under the revised Payment Services Directive (PSD2) have inspired similar frameworks in insurance to protect customer data while simultaneously encouraging innovation.
6. Key players, especially traditional insurance incumbents, need to invest in the development of new **talent, skills, and experience** in areas like data analysis, cybersecurity, and digital marketing. A talented, adaptable workforce of technically knowledgeable and creative thinkers is key to a successful transition.
7. **Consumer education and engagement** are central to adoption and perhaps one of the most important building blocks of all. Consumers must understand how open insurance works as well as its advantages and risks. An effective consumer-engagement strategy ensures that offerings meet their needs and expectations.
8. A secure and robust **cloud infrastructure** needs to be deployed and adopted. The cloud offers the scalability, flexibility, and efficiency required for efficiently managing massive data sets and complex operations. The cloud also facilitates rapid deployment of new services while offering robust data analytics capabilities and improving collaboration across its ecosystem.
9. Last but not least, the leadership of key insurance players needs to bring about a new **mindset**, one that embraces change, innovation, and customer-centricity. Without this, open insurance will not be able to deliver on its huge potential. Open insurance's viability and successful evolution lie in the interplay among these building blocks. Each one is essential on its own but also contributes to creating an interdependent system that promotes efficiency, innovation, and customer-focused services.

## Open insurance in practice — Zurich Insurance & Swiss Re

Zurich and Swiss Re are both good examples of large insurers that have embraced the principles of open insurance. Zurich proactively engages with insurtechs to cultivate essential capabilities in various domains, including health tech/wellness, wearables, mobility solutions, risk mitigation (e.g., flooding risk, supply chain resiliency), artificial intelligence (AI), digital distribution, and fraud detection. For example, Zurich has teamed up with Sapsheet, a US insurtech firm, deploying its virtual claims technology in Ireland with plans for global expansion. Other examples include partnerships with digital insurance companies such as Jetty (real estate) and MyPolicy (motor insurance)

and collaborations with HealthLogix/HealthInsitie for mobile and Web-based heath solutions. Zurich also partners with AlphaChat, an Estonia-based conversational artificial intelligence company.

Swiss Re embarked on its insurtech journey in 2016, initially investing in a range of insurtechs with both minority and majority stakes, and over time transitioning to strategic partnerships. Notable recent examples include Getsafe in Germany, Acko/Paytm in India, and Klimber Latam Corp in Latin America. Health examples include Shuidi in China, Biovotion in Switzerland, Granular Insurance in the US, and Dacadoo, a Swiss digital health-engagement platform.

## THE KEY ROLES OF VCs & INVESTORS

Transformations of this scale will not happen without adequate investment and funding, and venture capitalists (VCs) and other investors will need to play a critical role. While macroeconomic and geopolitical factors remain key factors in determining levels of investor activity, it is undoubtedly true that success breeds success. There are several ways that investors can help shape the evolution of open insurance in a positive way.

The most obvious investor role is providing the capital required for start-ups and incumbents to research, develop, and implement open insurance solutions. Financial backing will allow companies to hire talent, upgrade infrastructure, and deploy solutions more rapidly. Beyond this, investors can often add considerable value through their expansive networks spanning industries, regions, and expertise. Start-ups can leverage these networks to form partnerships, find clients, and gain regulatory insights. Investors, VCs, and/or corporate venture capitalists (CVCs) can create synergies by fostering relationships between their portfolio companies. For instance, a VC

invested in both data analytics and insurtech start-ups could establish a partnership between them, enhancing the open insurance capabilities of the insurtech. Clear exit strategies, whether executed through acquisitions, mergers, or public offerings, can influence the trajectory of open insurance start-ups. Investors can help shape these strategies to ensure sustained growth and industry impact.

Investors can also add their weight and influence in advocacy for overcoming regulatory hurdles and advancing industry policies conducive to open ecosystem development, either directly or by supporting industry consortiums. Focused action can make a real difference where investors are CVC arms of incumbent insurers or participants across an insurance ecosystem.

Ultimately, investment from reputable VCs and/or the CVC arms of existing insurers serves as a stamp of approval, signaling to the market that the venture and the wider concept have real potential. Validation will, without a doubt, enhance credibility, attracting additional partnerships and customers going forward and leading to a virtuous circle of change and transformation.

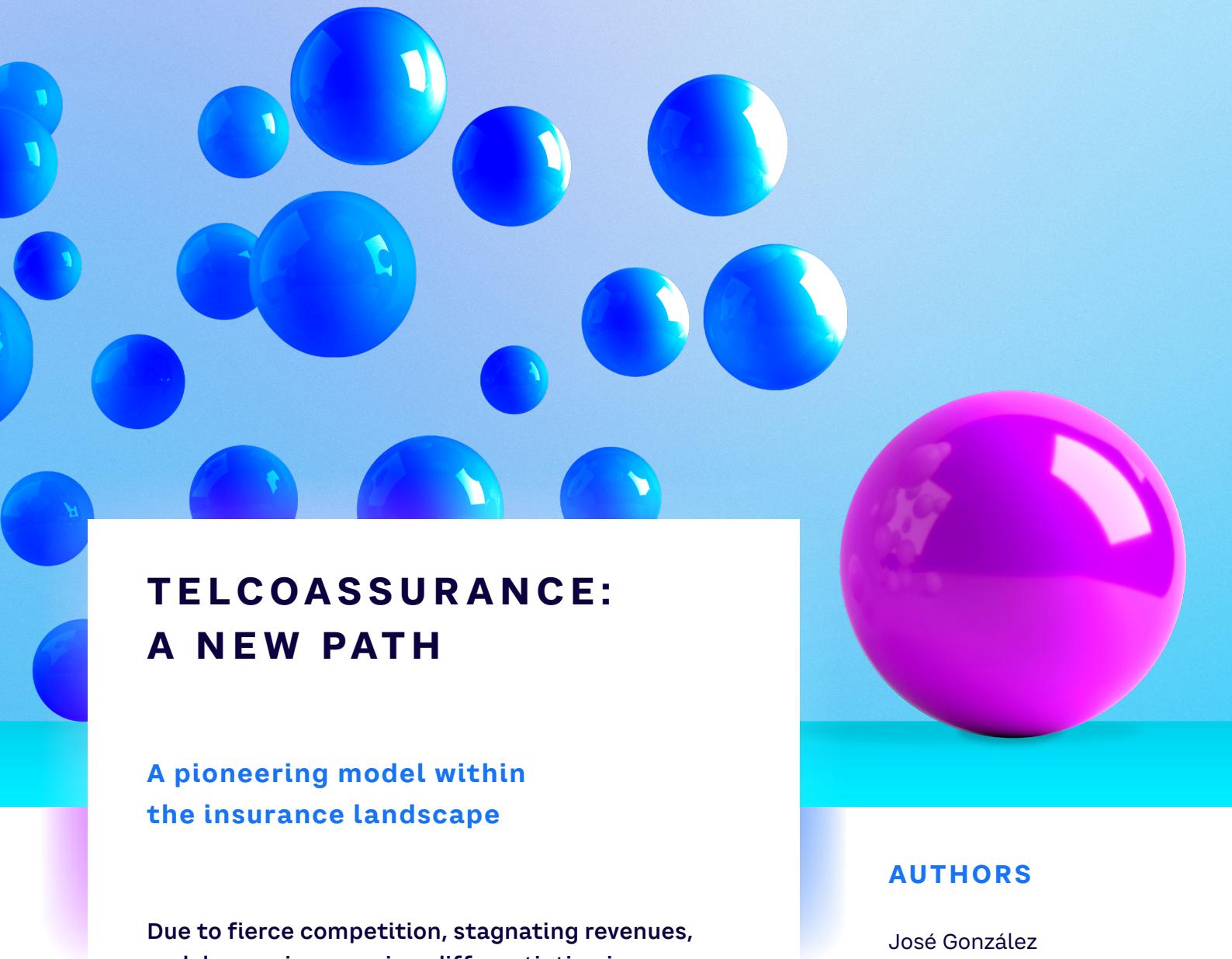
## CONCLUSION

# BRIDGING INNOVATION & REALITY

### OPEN INSURANCE IS NOT MERELY A TREND

Though still in a nascent state, open insurance is not merely a trend — it's here to stay. The benefits are manifold, yet the barriers to realizing these benefits are still very significant. As with most industry transformations, there are no quick solutions, but collectively the key stakeholders can start to bring about the needed shift.

The starting point is to seek wider acceptance of the need for change across the value chain, especially among traditional incumbents who are also the most exposed to the risks involved. Evolving culture and mindset toward one more ambidextrous is fundamental — embrace innovation, creativity, and flexibility while maintaining productivity and operational efficiency. Developing new capabilities/skills and attracting new talent are key to building momentum, as are building flexible business processes and infrastructures to allow for new technologies, market demands, and regulatory shifts. Data is the essential fuel for open insurance, and action to further advance data management infrastructure, standards, regulation, and analytics is a prerequisite for progress. As the line blurs between insurers and tech companies, a collaborative, open, and technology-driven approach will be the hallmark of successful providers. The industry stands at a precipice — its next decisions will determine its evolution for years to come.



## TELCOASSURANCE: A NEW PATH

A pioneering model within  
the insurance landscape

Due to fierce competition, stagnating revenues, and decreasing margins, differentiation is more vital than ever for telecommunications operators. To optimally achieve this goal, tapping into the insurance market presents an attractive opportunity: it's sizable, profitable, and currently immersed in a huge transformation process that telcos can leverage.

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**To fully take advantage of this opportunity, telcos must carefully assess and choose the right model. Arthur D. Little (ADL) has designed such a model (“telcoassurance”) with lessons learned from bancassurance. Our model goes a step further by integrating the unique capabilities of telecommunications operators. After carrying out telcoassurance assignments in multiple regions, we have developed and iteratively refined a proven methodology to build this model from scratch.**

## THE INSURANCE OPPORTUNITY

### Protecting telco customers, increasing EBITDA 5%-10%

In context with stagnating revenues and decreasing margins, telecommunications operators all around the globe are looking for ways to differentiate themselves and generate competitive advantages that make them succeed within this difficult environment.

Tapping the insurance market is an attractive opportunity for reaching these goals, since it has the following qualities, according to ADL analysis:

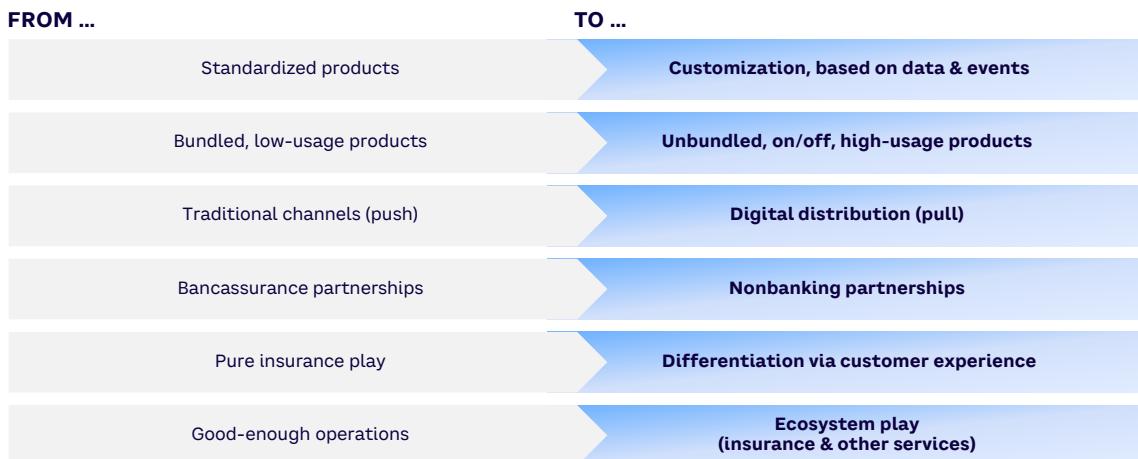
- A sizable market (e.g., in European countries, it is two to three times the size of a telco with 5%-10% GDP).

- Profitable both for insurers (5%-10% PBT over sales) and distributors.
- Anticyclical and has proven to be a lever to increase customer loyalty (churn in banks, for example, is down 20%-30%).

Years ago, having already identified this relevant opportunity, banks began to take advantage of it by partnering with insurers to create a new diversification initiative: bancassurance. These joint business models are currently enjoying the fastest growth and profitability rates within the insurance industry (both for insurers and banks).

Now telcos can also take advantage of the insurance opportunity, as they are becoming the perfect match for insurers. Insurers are now in a huge transformative process (see Figure 1): customers are demanding more digital, transparent, and personalized products; distributors are also pushing for digital end-to-end sales and servicing processes; and new competitors (insurtechs) are receiving billions of dollars to disrupt the insurance market. Telecommunication operators' capabilities are, as stated, a perfect match for insurance needs: they have millions of customers already using telco digital services and channels, are able to customize service offering based on customer data and events, and can build ecosystems such as digital homes or digital small- and medium-sized enterprises (SMEs), where insurance can integrate their offering.

**Figure 1. Insurance undergoing huge transformation that telcos can leverage**



Source: Arthur D. Little

However, although an attractive opportunity, due to their limited knowledge of the insurance market and overall business trends, telecommunications operators might struggle to identify the best way to take advantage of this high-potential opportunity.

ADL, based on its experience and knowledge of both the insurance and telecommunications industry, has designed an optimal model to embark on this journey: telcoassurance. Our model takes lessons learned from the successful experience of bancassurers and improves that already-optimized model by integrating the unique teleco capabilities that can generate competitive advantages within the insurance business.

Learnings from bancassurance include the relevance of “aiming big.” For example, banks such as Spain’s CaixaBank are consistently getting above 25% of their total results from their bancassurance units. This leads to the creation of convenient and competitive value offerings for customers, such as cheaper mortgages bundled with home and life insurance, while building long-term relationships with insurers. Thus, banks have incentives to invest in the new business model and can reach an appropriate return on those investments (e.g., building a new insurance product can take up to nine to 12 months with investments greater than US \$500,000).

## LEARNINGS FROM BANCASSURANCE INCLUDE THE RELEVANCE OF “AIMING BIG”

Like banks seeking new opportunities, telcos can take insurance distribution to the next level by leveraging customer knowledge in various ways. For instance, through adjustments of the timing of an insurance offer (e.g., an SME insurance offer when a customer buys a B2B telco product), selection of the most profitable customers (by using telco data to predict customer profitability), personalization of prices without reducing profitability (e.g., more than 20% expected price reduction in certain insurance products), and simplification of purchasing experience (e.g., from more than 35 questions about buying auto insurance to only one, thanks to existing customer data). Such details of customer knowledge, together with remarkable digital reach (typically more than 20% of customers use telco digital channels monthly), and the massive number of potential customers (all B2C and SME telco customers) set the foundations for a very interesting diversification effort. As a result, this optimized model can generate a 5%-10% EBITDA gain on telcos through distribution commissions and involvement in insurance business profitability.

The aim of this Viewpoint is to present the fundamentals of telcoassurance: beginning with the vision (i.e., ambition and key value levers), continuing with what encompasses its basic structure (i.e., customer as an asset and partnership agreements), outlining a solution, and concluding with an examination of market development. We also outline a case study from our experience in building a pioneering telcoassurance model for a European telco provider.

## THE VISION

### Protecting all customers, from all risks, in all channels

Telcoassurance is an ambitious model with the aim of allowing telecommunications operators to take full advantage of the insurance opportunity (see Figure 2). Most of the operators have already started the journey offering handset insurance to retail customers and, in some cases, cybersecurity insurance to SME customers. These steps are a good starting point, but offer limited potential in terms of EBITDA and customer relevance. The vision in a mature telcoassurance player is bolder, aiming to protect all customer segments and becoming customers' preferred insurance distributor for all their risks.

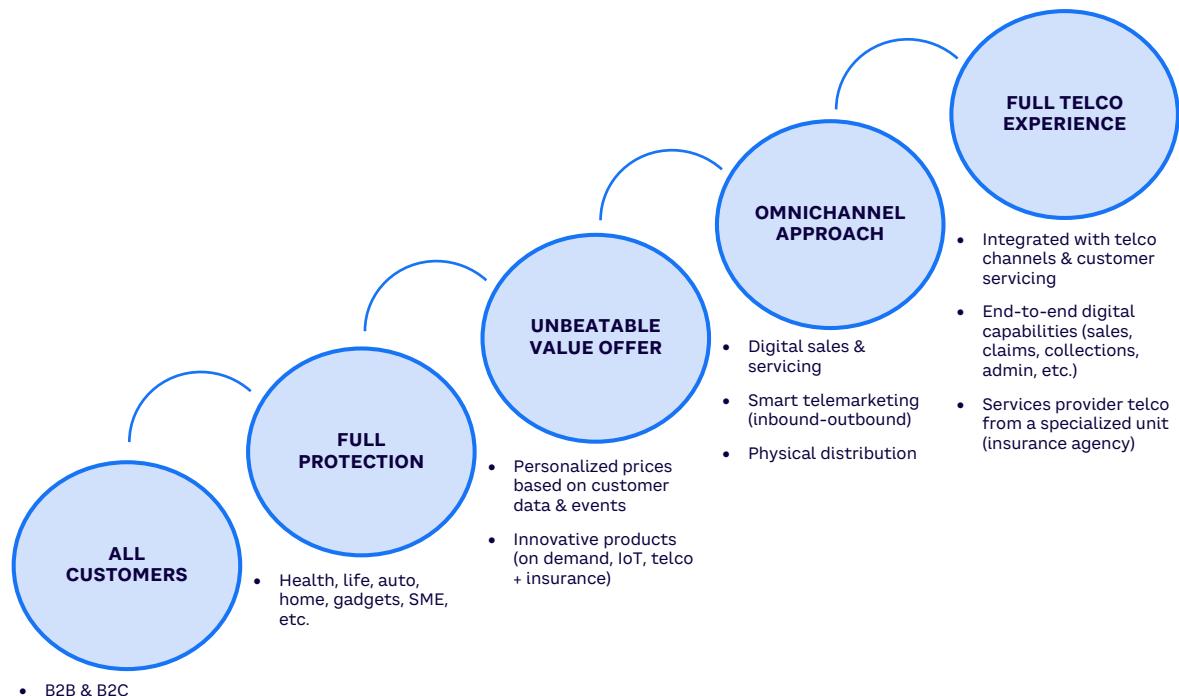
Retail customer needs include protection for their belongings, moving from handset protection to gadget protection (e.g., covering "all screens in the home" to household protection and to car insurance). Telefónica is a good example of this evolution.

Retail needs also include family healthcare, with other telcos offering eHealth and traditional offline health insurance services and family protection with life insurance.

The vision of a preferred insurance distributor requires a full omnichannel approach for sales and servicing. Sales activities are orchestrated to match product and channel capabilities (e.g., handset insurance can easily be sold online, but motor protection sometimes requires the face-to-face or remote assistance of a specialized sales agent).

### THE VISION OF A PREFERRED INSURANCE DISTRIBUTOR REQUIRES A FULL OMNICHANNEL APPROACH FOR SALES AND SERVICING

**Figure 2. Telcoassurance key value levers**



Source: Arthur D. Little

## THE STRUCTURE

### Recognizing “customer” asset

Telcos have relevant competitive advantages around the customer to enter into the insurance business, including:

- **Large customer base** (B2B/B2C) with an established, close relationship. Telcoassurance can leverage the telco brand and its position with the customer being top of mind to develop an insurance business around telco core values (e.g., family care, cost efficiency). This marketing approach must align with core values in order to be considered a legitimate offering from the telco.
- **Tight and recurrent relationship/touchpoints** with the customer, thanks to monthly payments (i.e., bill collection), service usage, and telco app/website activity. Each customer interaction is an opportunity to start a conversation around insurance. Telco commercial strategy needs to select which interactions and insurance products are more suitable for beginning a personalized advisory. Telcos’ relevant digital tools allow for a nonintrusive channel for insurance-related interactions.
- **Different customer data sources** (e.g., socioeconomic, service usage, or geolocation), which are key for developing models (e.g., pricing, purchasing propensity, next best action [NBA]) to boost efficiency and offer a more personalized experience, such as:
  - *Improving sales efficiency* — adjust insurance offers to customers events and identify up-front target customers based on expected profitability. This allows for offering an unbeatable price for selected customers or making the insurance sales process easier and convenient by reducing the number of questions.
  - *Offering excellent customer experience* — application of specific journeys based on customer profile and activity, smart claims management, or fraud detection.

Telcos, however, face two challenges for building data capabilities:

1. Developing a proper legal and compliance data protection framework.
2. Implementing technology capabilities (e.g., business intelligence and data analytics).

Global data protection regulations impact how data can be shared and exploited by partners (i.e., telco and insurer). Nevertheless, anonymization techniques (e.g., hashing, k-anonymization, federated learning) make it possible to build, train, and run joint models, while at the same time complying with applicable regulation.

### THE LEVEL OF COMMITMENT BETWEEN THE TELCO AND THE INSURER WILL GUIDE INSURANCE BUSINESS DEVELOPMENT

#### Building long-term partnership with insurer

The telcoassurance business model integrates a full-protection value offer — an omnichannel approach and telco experience — which requires an incremental level of integration with the telco core business and distribution model. Both partners need to be extremely committed and aligned to guarantee success when building and running the joint business.

Although each deal has its own particularities, based on our experience, the needed commitment and alignment is achieved via specific insurer-telco agreements on duration, product, customer experience, or break-up scenarios, which structure the collaboration. The level of commitment between the telco and the insurer will guide insurance business development.

The highest level of commitment comes from a mutual-exclusivity agreement, which can translate to an exclusive insurance product portfolio and better economic conditions for the distributor.

From an operational model perspective, the insurer will provide all products required by the telco, and the telco will distribute them. The insurer will provide customer care services (e.g., claims management, billing/collection) under the control and guidance of the telco (e.g., service-level agreements [SLAs], key performance indicators [KPIs], penalties). Moreover, for a successful partnership, an adequate governance model needs to be defined, clearly stating responsibilities between companies. Usually, governance models include meetings between insurer and telco senior directors (similar to board meetings for the telcoassurance business) and tactical meetings to jointly develop new insurance products, manage the distribution channels, co-execute joint projects, and supervise the SLA and customer experience.

## THE SOLUTION

### Creating telcoassurance team

Telcoassurance needs its own entity — a telcoassurance team — to ensure coordination between partners and to guarantee that both partners put enough focus on developing the joint business (see Figure 3). We recommend establishing an insurance distributor officer within this entity to mobilize and coordinate the partnership between the telco and the insurer. This person will be in charge of commercial intelligence and customer experience control activities. The telcoassurance team needs to take the form of a legal vehicle to be able to distribute insurance products, which depends on specific national laws and regulations.

**Figure 3. Establishing telcoassurance team to enable OpCos' new insurance business**



Source: Arthur D. Little

## MARKET DEVELOPMENT

### Spain: Frontrunner in market

Spain is a pioneer in the European telco-insurance market, currently with four major telco providers (Telefónica, Orange, Vodafone, and MásMóvil) offering telcoassurance products. With the introduction of 10 new products since 2020, the Spanish telcoassurance market has seen a considerable rise in the quantity and complexity of products offered. All telcoassurance providers currently offer headset insurance, but leverage different models, while also encompassing a wide range of insurance products in both the life and nonlife areas.

Telefónica, the largest telco provider in Spain, utilizes its own insurance company, Telefónica Seguros, to produce customized insurance products in the areas of cyber insurance for enterprises, mobile, and gadgets. In addition, it builds products in the area of home and health insurance in collaboration with other insurance companies.

Orange, on the other hand, leverages cooperation with external insurance providers. It introduced its gadget insurance back in 2014 and has currently partnered up with a Zurich insurance company to expand its insurance products offerings, which now also include home, life insurance, and SME multi-risk protection insurance.

Vodafone and MásMóvil leverage multiple insurance providers, which differ for each telcoassurance product offered. In the case of Vodafone, besides gadget insurance, it currently also offers "connected insurance" for motorbikes and cars as well as cybersecurity solutions. In 2021, MásMóvil introduced telehealth service and medical insurance, offering packages with special video and chat consultation services or access to hospital networks under exclusive conditions.

The current state of the Spanish telco market shows how telco providers can leverage their positions to offer a wide spectrum of insurance products and successfully dip their toes into the larger insurance business and create an additional revenue stream.

## CASE STUDY: EUROPEAN TELCO PROVIDER

We engaged with a European telco provider to build a new insurance service offering, in which the telco is in charge of insurance product distribution and setting customer experience guidelines (i.e., key areas to differentiate its offering), and the insurance partner is responsible for insurance products and services manufacturing as well as handling customer care and servicing (i.e., partnering with the telco regarding customer experience). The telco provider understood that it could replicate the success of banks, learning from the bancassurance business model and enriching it with two relevant competitive advantages of the telco: its vast, unique customer knowledge and the close digital relationship with its customers. We built the partnership in four stages: (1) defining the target business model, (2) selecting the right partner, (3) negotiating the relationship, and (4) launching the business.

**Defining the target business model** began with analysis of the telco provider's internal capacities and how it could contribute to a successful telcoassurance business model, what we called the "Vision Paper." The Vision Paper focused on how to leverage telco distribution channels, how to know which products had the strongest cross-selling potential, how to apply customer knowledge/data, and how to leverage existing customer care platforms and customer touchpoints (e.g., collections or renewals). The initial telcoassurance approach was built based on proven bancassurance best practices and models.

As the next step, we focused on defining the ambition of the new business model, which, without much difficulty, made a crucial impact on the telco provider's midterm EBITDA levels. With this relevant outcome, we determined the most appropriate role for the telco, considering three main alternatives:

1. Telco provider as a lead distributor (easy to set up but with limited P&L impact).
2. Telco provider as a reseller (still limited P&L impact).
3. Telco provider and insurer as partners in building an integrated insurance distribution model (one that enables more comprehensive differentiation and allows the telco to capture more economic value).

Three recommendations were proposed for this stage:

1. Leverage learnings from banks and retailers that were already distributing insurance at a massive scale.
2. Capture key advice from experts within the insurance sector during the analysis.
3. Involve relevant areas of the telco in evaluation and decision making for the target business model (e.g., strategy, marketing, finance).

**Selecting the right partner** requires a CEO-level relationship. The telco provider engaged with CEOs from selected insurance companies to share the telcoassurance Vision Paper and discuss its feasibility and how the insurer would accelerate development. All contacted insurers were eager to present their preliminary perspective to add value to the Vision Paper, according to their experience and own capabilities/assets as well as to develop and present a detailed nonbinding offer with the capabilities and economic model proposed.

Three recommendations were proposed for this stage:

1. Show transparency about actual capabilities and resources the telco company will make available to the business.
2. Clearly present the business vision and requirements.
3. Carry out a structured process to guide insurers to make comparable offers.

**Negotiating the relationship** benefits from having two to three shortlisted insurers to speed up conversations. To begin, focus should be set on achieving a fairly detailed agreement on what the business would look like and what would be the expected contributions of the telco and the insurer, such as a framework agreement detailing corporate structure, economic structure, rights, responsibilities and obligations of each party or branding, along with detailed roles and responsibilities of the team that will launch the business in order to speed up business setup. In the telco provider's case, a specific commercial distribution agreement was created to limit liability and meet regulatory requirements.

Three recommendations were proposed for this stage:

1. Engage with top management of both companies for critical decision-making tasks.

2. Define in detail key aspects of the collaboration (e.g., economic agreement, targeted resources, trade agreement policy).
3. Fully detail business agreements before engaging the legal teams.

**Launching the new business** is always a complex process and usually takes longer than expected. Therefore, it is critical to set up early the team from both parties (telco and insurer) and agree to focus on building the first products to be launched. This includes identification of customer-target needs, lifting of the actual capabilities of each company, assessing speed versus quality of launch or selection of MVP (minimum viable product). The operating model setup and the development of IT capabilities can be adapted to each product (MVP approach). Finally, it is also required to work with regulators (telecommunications and insurance) to build the required legal structure.

Three recommendations were proposed for this stage:

1. Apply a pragmatic approach for launching the business, balancing impact, and ease of release (MVP): choose a product that helps generate a relevant customer base, brings returns in the short term, and is both quickly available and easy to integrate into business dynamics. Also select the proper distribution channel (i.e., readily available, requiring minimal integrations).
2. Define sprints with clear and high-value deliverables.
3. Establish a shared team culture (a telcoassurance team, not just a telco or insurance team). The key for developing the telcoassurance opportunity consists of building an open and reliable partnership from an early stage, based on alignment and a shared vision.

## CONCLUSION

# SEIZING THE OPPORTUNITY

### BANKS ARE LIVING PROOF OF THE RELEVANCE OF INSURANCE OPPORTUNITY

Insurance provides a relevant opportunity for telcos to increase EBITDA and differentiate from their competitors. But capturing this opportunity requires designing a model that fits with the customer demands, the telco capabilities, and the insurers' requirements. From our experience, there are three key elements to succeed:

- 1** A bold vision to become the preferred insurance distributor in all key risk of the customers.
- 2** The development of a tailored partnership with the insurer that incentivize them to invest and develop the required capabilities (e.g., products, data capabilities).
- 3** The selection of the right insurance partner, as capturing the insurance opportunity is a multiyear effort that requires a deep strategic alignment between companies.

Banks are living proof of the relevance of insurance opportunity. Many of them consistently achieve above 25% of their total results from their bancassurance units and enjoy a 20% reduction in customer churn as they cross-sell insurance. Telcos should learn from their experience and adapt their proven business model, creating the telcoassurance approach.

## TESLA INSURANCE

**How much of a game changer is OEM-provided motor insurance?**

Tesla Insurance, the automaker's insurance division, aims to capture a large share of motor insurance among Tesla owners by providing enhanced customer experience compared to traditional motor insurers. In this Viewpoint, we analyze the extent to which OEM-provided motor insurance can be a game changer and disrupt the industry.

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Tesla entered the insurance business with Tesla Insurance in August 2019 and aims to offer 80% of Tesla customers in the US access to car insurance by the end of 2022, as the company reported during their Q1 earnings call. This is a sizeable prize in terms of motor insurance: Tesla sold about 302,000 vehicles in the US market in 2021, and with an average insurance premium on a Tesla vehicle of US \$1,496 per year, this represents a potential premium volume of about \$362 million in 2021. The company sold 310,000 vehicles just in Q1 of 2022, which shows the dynamic growth of this premium pool.

Tesla aims to enhance the customer experience in an accident by providing claims management and collision repair in-house, paid for by the motor coverage from Tesla Insurance. The company's premise is that it has unique access to the data the car generates before, during, and after an accident, as well as to all information any other insurer has available. In addition, Tesla expects to digitize the entire claims management process — from first notification of loss all the way to repair and vehicle return — and thus to significantly enhance and accelerate the customer experience in claims. Finally, the company expects to be able to improve the car as core product by using the information from car accidents; for example, by making engineering changes to cars that would accelerate repair or reduce the cost of frequent repairs.

## MOTOR INSURANCE IS A HIGHLY COMPETITIVE BUSINESS WITH MANY REGULATORY GUARDRAILS

As a result, some expect this disruptive move to change the customer experience and dynamics of motor insurance. Yet there are also voices that caution that motor insurance is a highly competitive business with many regulatory guardrails and that Tesla might find it hard to make money in this business. To better understand the potential implications, we explored three questions:

1. Can an integrated OEM insurer expect to create sustainable competitive advantage in motor insurance?
2. Where can OEM insurers best position themselves in the motor insurance value chain?
3. What would such a move mean for traditional motor insurance companies?

In our thought experiment, we focused on motor insurance operations and did not consider the investment side as a key source of the overall profitability of a motor insurance provider. In essence, we are assuming that the OEM insurer would be able to establish an investment operation equally capable to that of an insurance company.

## IS SUSTAINABLE COMPETITIVE ADVANTAGE POSSIBLE?

Insurance premiums are a function of expected claims, distribution expenses, the cost of managing claims and administration policies, and the cost of required capital. One potential source of sustainable competitive advantage could be better control over all of these costs and/or the ability to better estimate these costs. For our purposes, we assume the OEM insurer would be able to put the required capabilities for pricing, underwriting, claims management, and policy administration in place. We will revisit these assumptions at the end of the Viewpoint.

### Expected claims cost

Claims are the biggest cost element in motor insurance and account for about 65%-70% of the earned premium. Three areas in which the integrated OEM insurer could potentially influence claims cost include:

- 1. Better estimation of accident frequency and severity.** OEM insurers would have privileged and instantaneous access to advanced driver assistance systems (ADAS) and other security measures in cars that traditional insurers have only limited access to. This will be even more true when it becomes more common for OEMs to update/activate ADAS remotely. ADAS-related data has already proven a direct correlation with reduced frequency and severity.

Additionally, data on driving behavior can help identify risky driving behavior in (near) real time and offers the ability to provide drivers with warnings or to intervene directly by limiting vehicle speed, for example. Finally, data on driving behavior and accidents across the entire fleet can contribute to improving the performance of the fleet's ADAS to ensure safe driving and prevent accidents (e.g., by improving AI models).

- 2. Reduced accident repair costs.** Controlling an end-to-end and automated claims process would allow the OEM insurer to reduce key cost items in the repair process, especially the cost of spare parts and the cost of repair in OEM repair shops (e.g., by positioning repair centers for maximum utilization or reducing labor costs by using better diagnostics). Other costs that depend largely on third parties such as for towing would likely be similar to those for traditional insurers.
- 3. Leveraging data to reduce fraud in accidents.** An example of data that can be leveraged is geolocation data, which is key to identifying fraudulent claims, especially when cross-referencing with other data points (e.g., social media posts). The integrated OEM insurer can easily access real-time geolocation information and draw on data analytics to check this data against other data sources to identify potentially fraudulent behavior.

## Distribution expenses

Distribution costs typically represent 12%-15% of earned premiums. Motor insurance is already fairly digitized compared to other insurance types, and some players in Europe sell more than 50% of their business through digital channels, for example in Spain according to the Spanish government's Directorate-General for Insurance and Pension Funds. The integrated OEM insurer could reduce distribution costs by going directly to vehicle owners (e.g., by embedding insurance into the vehicle price or service packages or by using an in-car app as a distribution channel). This approach would likely remove intermediaries (including aggregators) and their commissions for OEM vehicles (at least partially, although some commissions may still be necessary to incentivize vehicle distributors). These effects would help reduce distribution costs when compared to a pure-play insurer. However, the OEM insurer would face the challenge of providing remote advice on the insurance cover each customer would require, as a significant share of customers buying motor insurance through digital channels still require some level of advisory, which is usually provided by agents. And finally, the integrated OEM insurer could increase retention and reduce renewal costs if it manages to enhance the customer experience in the claims process (e.g., due to faster and better quality of repair and/or seamless claims handling).

## Claims management costs

OEM insurers might be able to reduce the costs of administrating policies and claims handling with an end-to-end digitized process using an app as the primary engagement channel, thereby reducing the personnel required for these processes. We found that, excluding commissions and paid claims, 45%-50% of the remaining cost is typically linked to policy serving, claims management, and IT and, within this cost bucket, 60%-65% is cost of personnel.

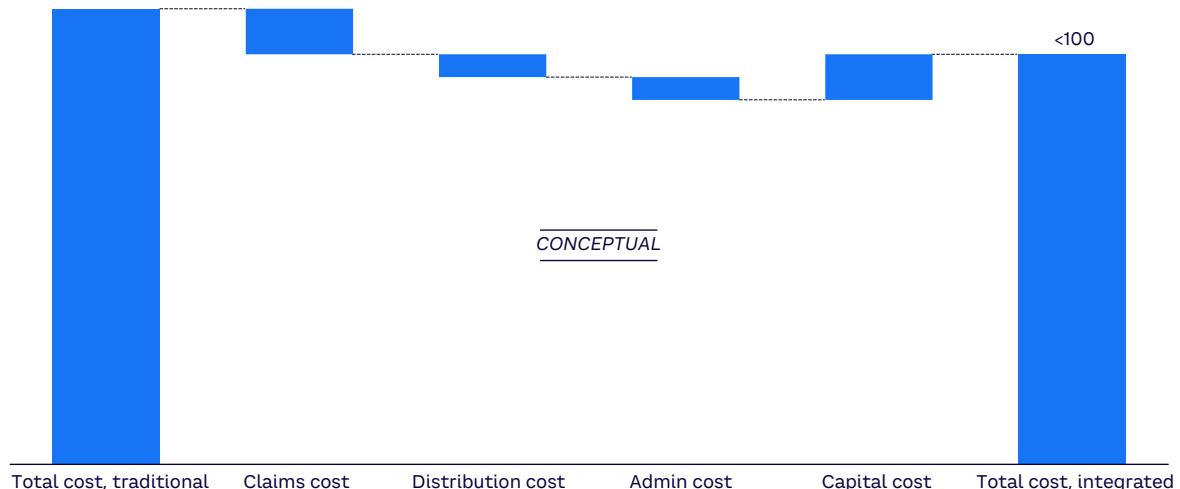
As a monoliner focused on digital distribution, the OEM insurer will also be able to significantly simplify the operating model overall. This same logic also applies to IT operations, as the OEM insurer is not restricted to legacy systems and can build a technology stack and infrastructure that caters specifically to motor insurance and that ties into the OEM's systems. Thus, the integrated insurer can combine customer service for the vehicle as well as the insurance into one integrated offering, possibly enriched with value-adding services. The OEM insurer could likely reduce the cost required to service the insurance policies as well. To be effective, however, the OEM insurer would have to digitize as many interactions as possible with third parties, such as other insurers, traffic authorities, the police, service providers such as tow trucks, and other stakeholders — or else develop work-arounds for interfaces that cannot be quickly digitalized by the third parties.

## Capital costs

Finally, the capital required to run the insurance risks might be higher for the OEM insurer than for a traditional standalone insurer. Drivers of the potentially higher capital requirements compared to a traditional insurer include the much higher concentration of the OEM insurer's portfolio on motor insurance for essentially one car brand as well as a much more concentrated set of risk factors related to parameters such as autonomous driving systems and driving assistants. Reinsurance might provide some mitigation (lending on structures used by various digital insurance companies) and might in turn give reinsurers access to the behavioral data in the underlying portfolios that is otherwise hard for them to generate.

Overall, there is reason to believe the OEM insurer could reduce the overall cost position below that of standalone insurers (see comparison shown in Figure 1). The caveat is that this is likely true only for the vehicles of the OEM. The key is the near-real-time availability of data coming directly from the vehicle to the OEM's systems. The integrated OEM insurer would be able to directly collect a richer data set instead of estimating data indirectly from accident reports, customer apps, or other indirect sources. This data set is a critical input into the pricing and opens new possibilities for more accurate risk selection that directly impact underwriting and renewal models. However, this strategy is not easy to implement, as there are still significant challenges in linking a vehicle's data to risk selection (e.g., different drivers for the same vehicle, driver with risky behavior but no accident history and vice versa, etc.).

**Figure 1. Potential cost implications of OEM insurers**



Source: Arthur D. Little

Overall, the integrated OEM insurer will have access to data that will allow it to more precisely price the risk of individual cars of its own make, putting the OEM insurer in a better risk position than the standalone insurer, from inception of a policy and for its own vehicles. The OEM insurer could also offer “pay when and as you drive” insurance, allowing vehicle owners (retail or fleet) to pay insurance only when their vehicles move and based on how they are being moved.

In addition to cost-related competitive advantage, the OEM insurer could also try to create switching costs by embedding the insurance into the pricing for the vehicle, whether through the purchase price, leasing rates, a mobility subscription charge, or any other pricing scheme. This is especially powerful if it is combined with stronger customer experience along the insurance journey and offers seamless interactivity on par with other leading digital experiences for the brand’s customers.

The net effect of these cost-reducing factors would be an overall reduction in the absolute amount of the insurance premium and very likely a pricing advantage for the OEM insurer at this lower pricing level, particularly if insurance is considered an ancillary product and not a profit-maximizing business.

Moreover, motor insurance operators typically are not large profit generators, and the OEM insurer might use the opportunity to expand into related insurance lines based on its data and data analytics advantage. For example, data on vehicle-charging behavior (e.g., at home vs. other locations) can provide relevant clues for home insurance, especially when combined with data from other sources such as utilities or telcos.

## OEM INSURERS & MOTOR INSURANCE VALUE CHAIN

Generating competitive advantage from lower costs and barriers to switching gives OEM insurers a choice of roles to play across the insurance value chain, depending on their level of commitment. We see three potential high-level models for the OEM-insurer to follow:

- 1. Agent.** OEM insurers would leverage direct access to their customer base and the data they collect to sell insurance products customized to individual parameters, offering value to the insurance carrier from a captive, direct distribution channel, and to customers through a larger pool of mass-customized insurance services. The insurance risk would be outsourced to a third-party primary insurance company that aligns its underwriting very closely to the risk models created by the OEM insurer (this could take the form of a managing general agent).
- 2. Insurer.** OEM insurers would essentially replace insurance carriers along the entire value chain and offer end-to-end insurance services from underwriting/pricing to claims management for the vehicles they produce. This would provide the OEM insurer with the greatest flexibility, but also the highest capital requirements. Reinsurance will provide OEM insurers with a way to manage their exposure, but this comes at a cost as well and will not reduce capital cost sufficiently.

**3. Third-party administrator.** OEM insurers would become the claims manager for a selected group of direct insurance companies that cover its vehicles, building on the advantage of having access to all claims data from the moment of accident. OEM insurers could offer better customer experience for their own vehicles during and in response to the accident, creating substantial hurdles for other insurers to match, while guaranteeing the lowest cost of vehicle handling and repair.

There will, of course, be challenges along the way for integrated OEM insurers in positioning themselves within the motor insurance value chain. For example, the state of digitalization of the motor ecosystem will be of critical importance, and many elements are outside the insurer's control. These include but are not limited to the need for subrogation with other insurance companies, interactions with repair garage networks (which affect quality management and customer experience), interaction and competition among vehicle OEMs, and the difficulty in scaling the business within highly regulated markets and across many different regulatory regimes.

This last point specifically will make it challenging for the OEM insurer to offer insurance coverage across all of its markets to ensure a consistent customer experience. Equal coverage will require fast and global expansion, which is costly due to the licensing requirements and difficult due to the speed and magnitude at which coverage needs to expand.

## WHAT ABOUT TRADITIONAL MOTOR INSURANCE COMPANIES?

In the final part of our thought experiment, we ask the "so what?" question: what can traditional and new insurers learn from the idea of an integrated OEM insurer? In answering this question, we consider reinsurers to be in a fundamentally different position than primary insurers, and primary insurers that compete directly with OEM insurers to have yet a different problem set than primary insurers in markets without OEM insurer operations. Primary insurers might look at problem set shown in Figure 2.

**Figure 2. Impact of costs for OEM insurers**

|                    | Same geography  | Different geographies  |
|--------------------|---|--|
| <b>Compete</b>     | <ul style="list-style-type: none"> <li>Significantly strengthen data capabilities (capture, cleansing, analytics) of traditional insurer.</li> <li>Create switching costs, especially in the customer experience of claims and policy administration.</li> <li>Place open partner ecosystems on top of pure insurance value chain as contrast to closed system of OEM insurer.</li> </ul> | <ul style="list-style-type: none"> <li>Create preemptive barriers to entry for OEM insurer to position a collaborative market entry approach.</li> <li>Establish platforms that enable sharing of data to replace direct input from OEMs.</li> <li>Capture specific customer segments such as SMEs through combined solutions (e.g., fleet &amp; health).</li> </ul> |
| <b>Collaborate</b> | <ul style="list-style-type: none"> <li>Position OEM as agent for the insurance company, either as white-label or open collaboration.</li> <li>Combine data pools for better risk selection.</li> <li>Optimize customer claims experience, including partner ecosystem and value-added services (one network).</li> </ul>  | <ul style="list-style-type: none"> <li>Expand insurance capacity, regulatory licenses, and operating capabilities in geographies covered by OEM.</li> <li>Diversify portfolio in local market beyond own make.</li> <li>Understand local market, including data and insights.</li> <li>Leverage (superior) data analytics from OEM.</li> </ul>                       |

Source: Arthur D. Little

While primary insurance companies have a choice of whether to compete or collaborate, reinsurance companies would have to develop collaborative models with one or more OEM insurers. The natural starting point is the provisioning of reinsurance capacity as well as underwriting and risk selection know-how using the generally broader market view of a reinsurer. The main advantage for the reinsurer is to move much closer to the behavioral aspects of the individual policyholder, gaining access to data points that are usually out of reach. The reinsurer would likely aim to work with several OEMs through some form of a platform to ensure that this view is as broad as the insurance policy portfolio.

A key takeaway from this thought experiment is that the idea of OEM insurers substantially accelerates convergence of mobility and insurance. In particular, the ability to create an enormous pool of driving behavior data, to relate this data to accidents/near misses, and use this information to price insurance contracts, as well as to be able to provide direct feedback in response to driving behaviors through assistance systems and driver nudging — possibly in real time — could be real game changers. The integrated OEM insurer might have an advantage in contracts involving its own make, although it faces substantial challenges in scaling the business to the global audience of its automotive business, and to the vehicles of other OEMs. Hence, collaboration with traditional insurers will likely make more sense than taking a competitive approach.

## COLLABORATION WITH TRADITIONAL INSURERS WILL LIKELY MAKE MORE SENSE THAN TAKING A COMPETITIVE APPROACH

In a market where OEM insurers enter the motor insurance segment, traditional insurers have two options:

1. **Partner with OEM insurers in a complementary manner** to fill each other's gaps and weaknesses (capital requirements, regulatory complexity vs. OEM insurer data, etc.), following to some degree the model of some reinsurers that have already started collaborating with vehicle OEMs (e.g., Swiss Re and Toyota ADAS, Mercedes). These relationships can focus on combining data from a fleet of vehicles with the data from portfolios of motor insurance contracts to provide a more thorough understanding of risks, and therefore more accurate pricing levels. Partners could potentially structure a service for primary insurance companies to help with fleet motor insurance pricing and servicing, leveraging the data and analytics from OEM insurers.

Moreover, such relationships would also fit into the likely development of motor insurance from a B2C business into more of a B2B business. As levels of autonomous driving capabilities in cars continue to increase toward levels 4 and 5, liability begins to shift toward the OEM. Fully and largely autonomous cars will likely incur lower frequency and severity of accidents, and this would in turn reduce claims and therefore premiums, especially if those premiums were charged only as the vehicle is being moved. A very interesting aspect of autonomous vehicles is that they enable new models of shared mobility, which reduces the number of vehicles on the road while also increasing utilization of the individual vehicle drastically. These two effects might have both increasing (cars are utilized more) as well as reducing (less cars on the road overall) impacts on motor insurance.

These effects might also make it attractive for OEMs with sizeable financial services operations related to leasing and car financing to consider offering complete mobility packages to their customers (B2C, B2B, and B2B2C). In such a scenario, primary insurers would provide capacity in a local market, leveraging their regulatory presence and their specific understanding of the local market.

**2. Compete with OEM insurers.** With this option, primary insurers should address two dimensions to avoid being overwhelmed by the threat of OEM insurers. First, insurers should participate in the disruption of motor insurance. Data is the key behind OEM insurers' potential competitive advantage over primary insurers. Improving risk selection by building new ways to acquire data is therefore a must to compete with OEM insurers. Many insurers are already accessing and leveraging new massive customer datasets via partnerships such as bancassurance. Second, primary insurers in direct competition with OEM insurers will likely need to identify key measures that create some level of "inertia" among their customers to keep them from switching. In practice, this will mean working on the customer experience in claims handling as well as finding ways to enhance pricing models to stay competitive in insuring OEM vehicles. Some insurers may even attempt to enter a price war based on existing nationwide presence to slow OEM insurers' growth.

## CONCLUSION

# COMPETITIVE PRESSURE, ACCELERATED CONVERGENCE & STRATEGIC CHOICES

COMPANIES WILL HAVE TO DECIDE WHETHER TO COMPETE OR COLLABORATE IN THIS ALREADY HIGHLY COMPETITIVE INDUSTRY

The rapid convergence of mobility and insurance provides potential opportunities. But along the way, companies will have to decide whether to compete or collaborate in this already highly competitive industry, as well as consider several factors that may have a large impact on their business, including:

- 1 For their own cars, OEM insurers could operate at lower cost levels and increased levels of customer experience than standalone insurers, bringing additional competitive pressure to the industry.
- 2 Expanding the insurance model to all markets with OEM presence will require OEM insurers to enter into partnerships with (re) insurers to optimize capital consumption and time to market.
- 3 The integrated model would accelerate the convergence of insurance and mobility, as the protection services insurance provides is increasingly embedded into the car as a mobility product.
- 4 Insurers will have to consider their response to the OEM insurer competition based on their position in the value chain (primary insurers vs. reinsurers) and their geographic location (core OEM market vs. non-core OEM market).



## FROM TRANSACTIONS TO INTERACTIONS

### The emergence of embedded loyalty

The global loyalty management market is forecast to continue growing rapidly at more than 20% CAGR to the end of the decade. Still, consumer attitudes are constantly changing, requiring ever more sophisticated approaches. Embedded loyalty, in which rewards are integrated into daily experiences and transactions, is an increasingly prevalent solution. In this Viewpoint, we look at what embedded loyalty is all about and how companies can go about introducing it.

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## HOW LOYALTY PROGRAMS ARE EVOLVING

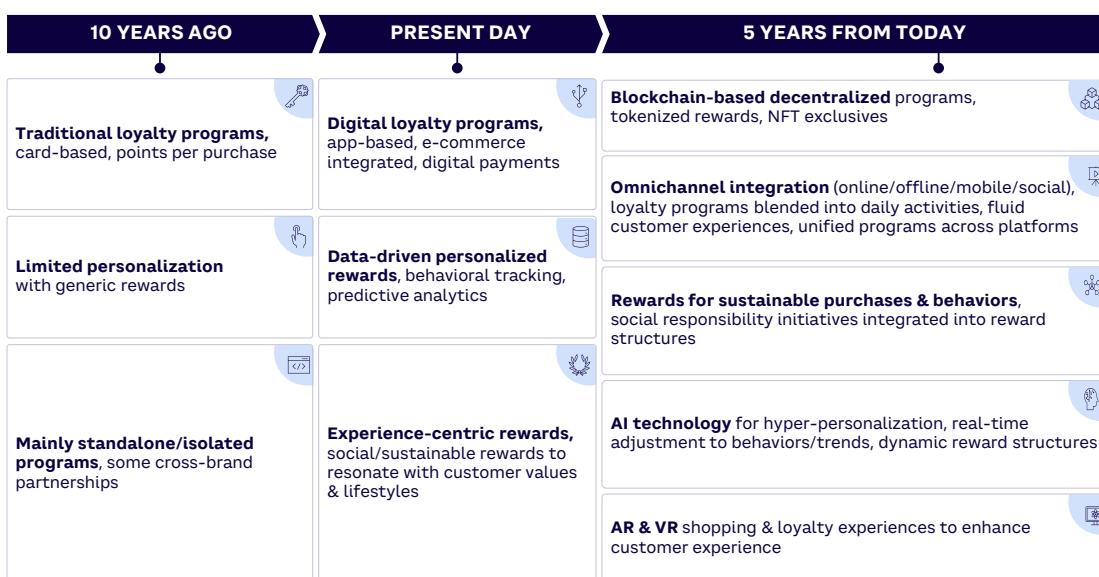
Traditional card-based loyalty programs have been around for many decades. According to Statista, the global loyalty management market was around US \$5.6 billion in 2022 and is forecast to grow at a CAGR of more than 20% to around \$24 billion by the end of the decade. In increasingly competitive customer environments, building brand loyalty makes obvious sense for companies, as well as offering savings and other types of benefit to customers. Loyalty programs seek to increase customer lifetime value (CLV), a key metric that measures the profit generated by customers over their entire relationship with a company, taking into account the frequency of purchases, average transaction values, customer acquisition cost, and customer-retention rate. Through CLV, companies can identify their most valuable customers and target marketing efforts, while using data analytics to reduce churn, provide customer insights, and identify upsell and cross-sell opportunities. The net benefit of a loyalty program can be assessed by comparing all these incremental benefits with the incremental running costs.

## CUSTOMER ATTITUDES AND BUYING BEHAVIORS ARE SHIFTING SIGNIFICANTLY

There are also some strong technological drivers for growth of loyalty programs. Digitalization has greatly enhanced customer convenience and experience, while providing richer customer data for companies. In the coming years, we can expect to see further advances through technologies such as blockchain, augmented reality/virtual reality, omnichannel integration and, of course, artificial intelligence (AI) — see Figure 1.

However, at the same time, customer attitudes and buying behaviors are shifting significantly. For example, recent studies from Zendesk and Hubspot have shown that while 77% of people say they stick with brands that offer loyalty programs, 55% of US and UK consumers indicate that their brand loyalty is beginning to decline. Looking ahead, according to Statista, 60% of US Gen Z online shoppers report diminished brand loyalty.

**Figure 1. Evolution of loyalty and reward programs**



NFT = non-fungible token; AR = augmented reality; VR = virtual reality  
Source: Arthur D. Little

## CUSTOMERS WANT TO FEEL LIKE THEY ARE CONTRIBUTING AND BENEFITING FROM THE SUCCESS OF A PARTICULAR BRAND

In general, customers are increasingly looking for customization. They are vastly aware of social trends and want to be part of a group where they feel they belong. They also expect to have their opinions heard. Consequently, brands need to provide them with benefits and experiences that make them feel special and keep them interested — directly and indirectly. Customers also want to feel like they are contributing and benefiting from the success of a particular brand. Figure 2 summarizes these and other trends shaping the future of loyalty schemes.

These trends are interconnected, and many are mutually reinforcing. Collectively, they could lead to no less than a complete redefinition of what customer engagement is all about.

## WHY EMBEDDED LOYALTY IS INCREASINGLY IMPORTANT

Embedded loyalty is a powerful concept that some believe will be the future of all loyalty schemes. It refers to seamlessly incorporating rewards and experiences into daily experiences and transactions rather than treating them separately. A bank may, for instance, reward customers using its mobile banking app, or retailers may reward customers who purchase products with specific payment methods.

The main distinction between traditional loyalty programs and embedded loyalty is that the customer data collected can enhance personalizing rewards. Traditional loyalty programs often require customers to manually track points before redeeming them, whereas with embedded loyalty, this process becomes streamlined and effortless for both companies and customers. This is in contrast to traditional loyalty programs, which are often standalone systems that require separate registration, tracking, and redemption processes. Table 1 summarizes the differences between embedded loyalty and traditional loyalty schemes.

**Figure 2. Trends shaping the future of loyalty and reward programs**

|   |  |   |   |  |  |
|---|--|---|---|--|--|
|  Rapid adoption of Web3 technologies                         |  Emergence of communities                     |  Convergence with financial services |  Creating ecosystems with loyalty backbone |  Personalization through AI |  Sustainability-focused rewards     |
|  Dynamic reward structures                                   |  Omnichannel presence, including social media |  Instant gratification               |  Increased data security & privacy         |  Subscription-based models  |  Interactive & gamified experiences |
|  Interoperability among different loyalty & rewards programs |  Blurring of the lines with rewards programs  |  Integrated customer-feedback loop   |  Mobile-first approach                     |  Embedded loyalty           |  |

Source: Arthur D. Little

**Table 1. Embedded vs. traditional loyalty schemes**

| FEATURE                        | TRADITIONAL LOYALTY PROGRAMS  | EMBEDDED LOYALTY PROGRAMS   | RELATIVE DIFFERENCE |
|--------------------------------|---|---|---------------------|
| Integration with core services | Often standalone systems; manual input or separate platforms to manage      | Seamlessly integrated into product or service; inherent part of user experience   | High                |
| Ease of use                    | May require separate cards, apps, or processes to participate               | Designed to be frictionless, often requiring no additional steps from the user    | High                |
| Data collection                | Typically collects transactional data, often limited to purchase history    | Gathers comprehensive data, including user behaviors, preferences & interactions  | Moderate to high    |
| Personalization                | Generally broad-based offers; may not be tailored                           | Highly personalized, based on integrated data                                     | Moderate to high    |
| Accessibility                  | Often users have to remember to engage with loyalty program                 | Often automatically engages users as they use core service or product             | High                |
| Reward mechanism               | Often physical (e.g., points, vouchers, products)                           | Can be experiential, digital, or integrated into service (e.g., premium features) | Moderate            |
| Engagement frequency           | Often occurs post-transaction or during specific promotional periods        | Continuous engagement throughout customer journey                                 | High                |
| Technology dependency          | May or may not be technology-driven; physical cards or tokens might be used | Heavily reliant on technology, mainly digital platforms                           | High                |
| Adaptability                   | Slower to adapt or change based on customer feedback or market trends       | Generally more agile, built on digital platforms that allow for quick iterations  | Moderate            |

Source: Arthur D. Little

Embedded loyalty is growing rapidly for several reasons:

- 1. Digital technologies and tools have enabled greatly improved capabilities** to collect and analyze customer information, allowing businesses to provide more targeted, customized rewards to customers, increasing retention and engagement and opening up the possibility of using the data to generate new revenue streams.
- 2. Customers appreciate the convenience offered by a seamless, integrated loyalty scheme**, without the need to enroll or manually redeem rewards.
- 3. Embedded finance opens up the potential for new, mutually beneficial partnerships** between product/service providers, loyalty service specialists, and financial services firms.

Building on the third point, embedded finance (i.e., the integration of financial services into nonfinancial platforms, products, or processes) is already a popular and growing service with customers and embedders alike. Deep integration of loyalty programs with financial products — going beyond just superficial integration such as cobranded credit cards — offers major benefits, for example:

- **Improved customer experience.** Companies that incorporate loyalty programs directly into financial products can offer instantaneous rewards for users and create a frictionless experience for them. Starbucks's mobile app, for example, combines digital wallet and loyalty program functionality so users can load funds onto it, earn points, and then redeem those rewards within one app environment.

- **Increased stickiness.** For example, Uber Cash's digital wallet provides bonus amounts for pre-deposits, encouraging customers to regularly utilize this financial product and extend its daily relevance. As more customers utilize both services simultaneously, Uber sees retention increase.

- **Tailored offers.** By merging financial transaction data with loyalty data, businesses can develop tailored offers. One such example is Apple Card's seamless integration into Apple Wallet and Apple Pay and tiered rewards on purchases within Apple products and services — encouraging spending within its ecosystem and rewarding users who stay within it.

## USERS BECOME MORE ENGAGED WHEN THEY CAN ACCESS AN ARRAY OF SERVICES UNDER ONE LOYALTY UMBRELLA

- **New monetization channels.** Merging loyalty with financial services opens up many monetization channels. Grab, an original ride-hailing app, made the leap into financial services via GrabPay, its mobile wallet service that offers loyalty points when bill payments and mobile recharge payments are made using it, creating an ecosystem where users can both spend and pay within one platform.
- **Increased ecosystem engagement.** Users become more engaged when they can access an array of services under one loyalty umbrella, like Paytm (an Indian digital payment platform) that offers banking, digital wallets, and shopping. Loyalty points earned can then be spent across this ecosystem, providing one-stop shopping for the financial and retail needs of its users.

## EMBEDDED, NEAR-EMBEDDED EXAMPLES

Embedded loyalty is growing across multiple sectors from coffee shops to airlines to retailers. The degree of embeddedness varies, but the direction of travel is toward increasing integration. Tables 2 and 3 provide some illustrative current examples, distinguishing between embedded and what we call “near-embedded” loyalty programs.

## BUILDING AN EMBEDDED LOYALTY PROGRAM

Building and executing an embedded loyalty program requires a strategic approach. Businesses should consider the following key building blocks:

- **Robust data analytics infrastructure.** An effective data analytics infrastructure is essential to collect, analyze, and utilize customer data for greater insight into customers' needs, preferences and behaviors, as well as provide tailored rewards with personalized experiences for their customers.

**Table 2. Embedded loyalty programs**

| SCHEME             | DESCRIPTION   |
|--------------------|---|
| Starbuck Rewards   | As one of the most successful programs, Starbucks customers earn stars for every purchase made using the Starbucks app or a registered Starbucks Card. The mobile app integrates mobile payments, order-ahead functionality & personalized offers, making the experience seamless experience. Program includes multilevel rewards, customized offers & omnichannel presence. Experience makes customers feel appreciated and exclusive. |
| Uber Rewards       | Uber has integrated its loyalty program, Uber Rewards, into its app, allowing users to earn points for every dollar spent on Uber rides and Uber Eats orders. Points can be redeemed for discounts on future rides or orders, making the entire process seamless.   |
| Amazon Prime       | Although not a traditional loyalty program, Prime is a good example of embedded loyalty. Members receive various benefits (e.g., free shipping, access to streaming services & exclusive offers). These benefits are integrated into customer's shopping experience, encouraging loyalty & repeat purchases. While subscription-based, member benefits encourage loyalty and repeat purchases.  |
| Pão de Açúcar Mais | This Brazilian supermarket chain has an app-based loyalty program where customers earn points for every purchase, which can be redeemed for discounts on future purchases.  |
| Yemeksepeti        | Online food-delivery service in Turkey offers a loyalty program where users earn points for every order placed through app or website, which can be redeemed for discounts on future orders. By integrating loyalty mechanism directly into main ordering platform (app/website), it fits the embedded loyalty description.   |

Source: Arthur D. Little

**Table 3. Near-embedded loyalty programs**

| SCHEME                      | DESCRIPTION  |
|-----------------------------|--|
| Sephora<br>Beauty Insider   | Sephora has integrated its Beauty Insider loyalty program into its mobile app & online store. Members earn points for every purchase, which can be redeemed for products, samples & exclusive experiences. The program integrates loyalty into its primary shopping platforms, leaning toward embedded loyalty.  |
| Falabella                   | A retail company in South America, Falabella offers its CMR Points program. Customers earn points by purchasing with their CMR credit card, which can be redeemed for discounts on future purchases in-store or online. Integration of loyalty program with CMR credit card leans toward embedded loyalty; however, it has characteristics of traditional loyalty with point accumulation & redemptions. |
| Flybuys                     | One of Australia's most extensive loyalty programs, Flybuys allows members to earn points on everyday purchases from a range of retail partners. Points can be redeemed for discounts, merchandise & travel. It is more of a traditional loyalty program, but partnerships with diverse retailers & the ability to earn points across multiple platforms add elements of embedded loyalty.               |
| Carrefour MyClub            | French multinational retail corporation offers its MyClub loyalty program where members earn points for every euro spent, which can be redeemed for discounts & vouchers. By integrating loyalty system within its primary shopping experience & using points as the mechanism, it's a mix but leans toward embedded loyalty.  |
| Pick n Pay<br>Smart Shopper | Retail store in South Africa offers Smart Shopper program where customers earn points for every purchase, which can be redeemed for discounts on future purchases. This is similar to Pão de Açúcar's approach, integrating the loyalty system within primary shopping channels, so it leans toward embedded loyalty.  |

Source: Arthur D. Little

- **Strength in partnerships.** Forging strategic alliances with other businesses, financial services providers, and vendors is integral to offering customers additional rewards and benefits from loyalty programs. Doing this can increase their appeal among customers while making programs even more valuable to the bottom line.
- **Integration into customer experience.** Delivering an outstanding customer experience across both online and offline channels is of utmost importance, which includes seamlessly incorporating loyalty programs into daily transactions and interactions to reduce friction.
- **Integrating mobile and digital platforms.** Integrating mobile and digital platforms like mobile apps, online stores, and payment platforms into loyalty programs is vital to making them accessible and user-friendly for customers.
- **Personalization.** Advanced data analytics and/or AI algorithms should be adopted to enable personalization strategies with rewards and incentives tailored specifically for each customer's preferences and behaviors.
- **Flexible and attractive reward offerings.** Customers should be offered flexible rewards that appeal to a broad customer base (e.g., discounts, cashback offers, merchandise sales, or experiences).
- **Merging loyalty, rewards, and financial services.** Embedded loyalty creates greater convergence between loyalty, rewards, and financial services for customers. By capitalizing on existing relationships and data to provide additional value-added services — such as offering mobile app users embedded loyalty incentives when taking out loans or opening savings accounts — embedded loyalty increases customer engagement while simultaneously creating new revenue streams for any business.
- **Adopting cutting-edge technologies like Web3, AI, and others.** Leveraging cutting-edge technologies can enable loyalty programs to become more adaptive, responsive, and tailored toward individual customer needs, improving engagement and retention rates.

## CONCLUSION

# MAKE THE MOVE TOWARD EMBEDDED LOYALTY

LOYALTY PROGRAMS ON THEIR OWN  
CANNOT CHANGE THE FORTUNES OF  
ANY BRAND IN ISOLATION

It is true that loyalty programs on their own cannot change the fortunes of any brand in isolation, with many factors contributing to building brand strength. However, loyalty programs do have a key part to play. They are growing rapidly — and also becoming more competitive as customer trends and behaviors shift. Moving toward embedded loyalty is therefore increasingly important for businesses. To make the move, businesses need to put in place strong data analytics infrastructures and embrace the potential of partnerships with other companies such as financial services providers. In doing so, they can greatly enhance customer experience, improve engagement, build greater loyalty, and generate new revenue streams. If loyalty and reward programs are not an integral part of an organization's customer engagement strategy, they are merely glorified discount programs.



## THE INTERSECTION OF AI & FINANCIAL SERVICES

### How AI is supercharging embedded finance

In our evolving digital landscape, artificial intelligence (AI) is driving innovation across multiple sectors. It has now intersected with embedded finance, which weaves financial services into nonfinancial platforms, enhancing user experiences and streamlining processes. AI has the potential to lift embedded finance to its fullest, offering tools to combat fraud, curate personalized experiences, and manage risks. In this Viewpoint, we shed light on the interplay between AI and embedded finance, sharing current applications, future trajectories, and the manifold challenges.

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Embedded finance, the seamless integration of financial services into nonfinancial platforms, marks a monumental shift in financial services. Its transformative potential is undeniable. The global embedded finance market is projected to reach US \$350 billion by 2025. Its symbiotic integration with AI, another transformative force, is accelerating embedded finance's momentum. While AI's historical contributions to finance, such as algorithmic trading and fraud detection, remain foundational, it is poised to support embedded finance's growth and address some of its challenges.

AI is evolving into the linchpin of the embedded finance revolution, thanks to advancements in generative AI (GenAI), large language models (LLMs), and deep learning. GenAI can create offerings tailored to individual users. LLMs can handle customer queries, manage data, and predict market trends with greater accuracy (see Figure 1).

AI has moved from facilitating to creating, innovating, and shaping finance in real time. Its profound impact on embedded finance is rapidly expanding, and some might argue that we are only beginning this journey.

A plethora of applications already exist, which may predict AI's ability to drive wider adoption of embedded finance:

- **Square**, a financial services platform, leverages machine learning (ML) for underwriting and extending loans to small businesses bypassed by conventional banks.
- E-commerce platform **Shopify** embeds the AI prowess of payment service processor **Stripe**, offering individualized solutions, which amplifies the sales potential for its merchants.
- Retail behemoth **Amazon** relies on AI to dissect data and curate personalized loan offers anchored in sales history.

These examples only scratch the surface. Figure 2 reveals the spread of AI's influence across embedded finance.

AI's potential to expedite and amplify embedded finance cannot be understated. This synergy is not just beneficial; in many respects, it is indispensable.

The essence of embedded finance is its comprehensive integration with nonfinancial platforms, ensuring that users can access and utilize financial services without disrupting their primary engagements. AI elevates this feature; its advanced personalization capabilities discern user needs before they become apparent.

**Figure 1. The multifaceted applications of AI in embedded finance**

| RISK MANAGEMENT  | CUSTOMER JOURNEY  | PERSONALIZATION   | FRAUD DETECTION  |
|--|---|---|--|
|  <p>Intelligent algorithms bolster risk assessment by detecting inconsistencies &amp; preemptively identifying potential challenges; such capabilities can be used in lending &amp; insurance underwriting</p> <p><b>01</b></p> |  <p>AI amplifies value proposition for customers &amp; brings agility to applications, accelerates underwriting &amp; refines credit assessments, culminating in swifter, more favorable decisions; this streamlined experience bolsters customer satisfaction, fostering loyalty</p> <p><b>02</b></p> |  <p>Embedded finance thrives on personalization; AI dissects customer behaviors, enabling services to be tailored to individual needs</p> <p><b>03</b></p> |  <p>AI dissects vast data sets to unearth anomalies; continuous scrutiny of transactional data, coupled with behavioral analytics, fortifies the system against fraudulent activities in real time</p> <p><b>04</b></p> |

Source: Arthur D. Little

**Figure 2. Applications of AI across major embedded finance modalities**

| EMBEDDED PAYMENTS   | EMBEDDED LENDING  | EMBEDDED SAVINGS   | EMBEDDED WEALTH MGMT  | MULTIFACETED SOLUTIONS  |
|---|---|--|---|---|
|  Square<br> PayPal<br> |  affirm<br> Klarna<br> |  acorns<br> chime<br> |  Betterment<br> |    |
| Smooth payment processing, fraud detection & security measures  | Judicious credit underwriting, risk evaluation & prompt loan sanctions  | Bespoke savings strategies & streamlined deposits  | AI-powered robo-advisors to dispense financial advice & automate portfolio governance   | AI across an array of embedded financial services, spanning payments, lending, risk mitigation & holistic personal finance management |

Source: Arthur D. Little

For example, with data analytics, AI could instantly offer a specific financial product, like an installment plan or short-term loan, to a user shopping online for a high-end electronic product.

The world of finance revolves around trust. While traditional financial institutions have built this trust over decades, embedded finance solutions don't have this luxury of time. This is where AI comes to the fore. Its predictive analytics and fraud-detection capabilities verify that financial transactions are secure, transparent, and in the user's best interest. An e-commerce platform offering financial services will gain trust faster if its AI-backed systems demonstrate transparency, minimize errors, and preemptively address user concerns.

Moreover, AI's scalability, especially with advancements like LLMs and GenAI, means it can adapt in tandem as embedded finance grows and diversifies. It can process larger data sets, interact with other systems, handle increasingly complex user queries, and cater to diverse financial needs without needing additional resources.

## EMBEDDED FINANCE: BEFORE & AFTER AI

Embedded finance could substantially accelerate its growth through its marriage to AI, whose wide-ranging applications facilitate its adoption and deepen the intimacy of the user experience. Three broad application categories stand out:

- 1. Smoother customer journeys.** AI can go beyond processing to amplify the value proposition for customers. It brings agility to applications, accelerates underwriting, and refines credit assessments, which culminates in swifter, more accurate decisions. This streamlined experience bolsters customer satisfaction and fosters loyalty. Augmented by AI-powered chatbots, customer support becomes more fluid, queries are promptly addressed, and the reliance on human intervention diminishes, creating an efficient customer experience.

- 2. Improved risk management.** AI has elevated the accuracy of risk assessments, which redefines financial inclusivity, making services accessible to those previously marginalized by conventional financial systems — whether due to demographics, unconventional credit histories, or perceived risk. Realizing the untapped potential in these segments translates to substantial revenue opportunities. AI can also enhance portfolio management and optimization on the side of both the provider and the customer.
- 3. Faster, more accurate fraud detection.** AI can dissect vast data sets to unearth anomalies. Continuous scrutiny of transactional data, coupled with behavioral analytics, fortifies the system against fraud. Given that control around customer acquisition often rests with the embedding entity, this vigilant layer becomes indispensable to mitigate provider-side risks.

Table 1 shows some use cases and illustrates improvements made possible through AI. We see the trend of supercharging embedded finance with AI continuing as new and more innovative use cases emerge in the future (see Figure 3). We anticipate developments in all four categories shown in Figure 3, which may include:

— **Biometric authentication (customer journey).** A commitment to security is paramount, as financial institutions essentially outsource their customer acquisition to embedders. Advanced biometric authentication, powered by AI, stands at the forefront of the shift toward user acquisition through the embedder. This approach, which incorporates facial, fingerprint, voice, and iris recognition, promises a stronger level of security for all financial transactions.

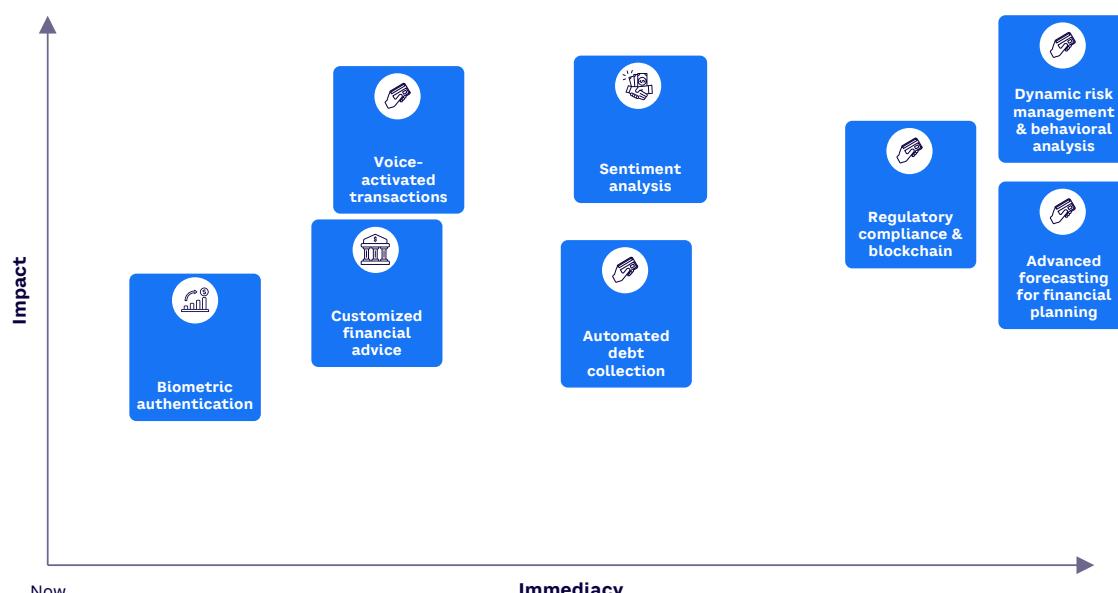
**Table 1. Examples of application differences with and without AI**

| APPLICATION                    | USE CASE                                   | WITHOUT AI   | WITH AI   |
|--------------------------------|--|--|---|
| Smoother customer journeys     | Application auto-fill & screening, KYC/KYB | Complex, time-consuming manual data input, prone to user errors & higher abandonment rates   | Automated pre-population reduces user effort, improves accuracy & converts better; preliminary screening increases efficiency                               |
|                                | Customer service & support                 | Standard chatbot responses lead to potential miscommunication & user frustration             | Advanced LLMs provide informed responses, elevated customer satisfaction & reduced escalations; chatbots use NLP to understand queries & generate responses |
|                                | Insurance claims processing                | Manual, lengthy, error-prone, requires human intermediaries                                  | Organized process facilitates customer interaction, faster claims resolution & more embedded experience   |
|                                | Credit assessment & loan approvals         | Conventional, rule-based approach may result in unnecessary rejections                       | More nuanced, individual assessment of creditworthiness may broaden customer base within acceptable risk levels   |
| Relevant personalization       | Policy & product pricing                   | One-size-fits-all pricing can miss revenue opportunities & misalign with customer value      | Dynamic pricing strategies tailor offerings to individual risk profiles & purchase histories  |
|                                | Savings & investment advice                | Static offerings require user input, potentially deterring less financially savvy users      | Analyzes user habits to offer savings suggestions, nudges & investment strategies & promotes user engagement & loyalty                                      |
|                                | Embedded personal finance shopper          | Basic, static advice based on generic data, lacks real-time context & depth                  | Offers custom, on-the-spot suggestions based on user's immediate context  |
| Improved risk management       | Loan underwriting                          | Static credit-scoring models marginalize high-risk customers                                 | Intelligent models incorporating multiple data sources makes services accessible to those previously marginalized by conventional financial systems         |
|                                | Portfolio risk management                  | Manual portfolio balancing & risk management   | Intelligent risk management tools leverage internal & external data points  |
| More effective fraud detection | Payment processing & transaction analysis  | Basic rule-based systems may fail to catch sophisticated fraudulent activities, posing risks | Identifies intricate patterns & anomalies in real time, reducing fraudulent transactions & enhancing security   |

Source: Arthur D. Little

- **Sentiment analysis in wealthtech (risk management).** AI-driven sentiment analysis harnesses natural language processing (NLP) to extract opinions and emotions from social media and news, offering a predictive edge for market trends and investment strategies. Coupled with LLMs that formulate summaries and reports, this technology is set to revolutionize the wealthtech sector, both within the realm of embedded finance and outside of it.
- **Customized financial advice (personalization).** The traditional paradigms of robo-advisors and financial advisors are poised for a major shift. AI can tailor financial advice to an individual's unique circumstances, including behavior, risk tolerance, income, and spending habits. This transcends the limitations of traditional portfolio approaches.
- **Automated debt collection (risk management).** AI makes error-prone, human-led debt collection organized and efficient. It uses NLP to communicate with debtors and curate feasible payment plans.
- **Regulatory compliance and blockchain (risk management).** AI parses through regulations to pinpoint requirements, ensure adherence, and highlight discrepancies. The increase in blockchain transactions requires scrutiny, which AI can accomplish. Its ability to detect patterns and anomalies plays a pivotal role in combating fraud.
- **Voice-activated transactions (fraud detection).** The integration of audio processing and LLMs transforms how we interact with our finances. As audio-activated transactions become a reality, AI can employ voice biometrics to authenticate and securely verify users.
- **Dynamic risk management and behavioral analysis (risk management).** Real-time risk management is essential. By processing vast amounts of market data, AI can instantly evaluate and offset risk exposures and issue timely alerts for emerging threats. In tandem, AI's behavioral analysis capabilities enhance security and user experience by identifying any deviations in typical user patterns.

**Figure 3. Predicted expansion of AI use cases in embedded finance**



Source: Arthur D. Little

- **Advanced forecasting for financial planning (personalization).** As households grapple with soaring costs, advanced forecasting emerges as a beacon for financial planning. AI offers sophisticated projections for income, expenses, and savings by generating actionable advice. AI's focus on personal finance management prepares users well for their financial futures.

These advancements paint a promising picture for the financial sector, ensuring that services are more efficient, secure, and deeply attuned to individual needs.

### ADDING LLMs IS NOT JUST AN INCREMENTAL STEP, IT'S A LEAP INTO A FUTURE

### EMBEDDED FINANCE'S LLM DIMENSION

Card-issuing platform Marqeta tapped OpenAI's LLM to speed up its launch of embedded finance applications. The result, Marqeta Docs AI chatbot, is a GenAI tool that allows customers to quickly navigate the site. Customers can ask questions and collect information and gain more knowledge of the platform's offerings. The tool also addresses the process of embedding different categories of payment services. Marqeta is an excellent example of how embedded finance and AI are starting to merge and leverage LLMs.

Our exploration of AI's transformative impact includes another evolving dimension: LLMs such as GPT-4. These models bring the potential to drastically elevate embedded finance through their advanced language-generation and comprehension abilities. Established companies, especially those focused on embedded finance, can gain a competitive edge by adding GenAI capabilities to their operational fabric, including:

- **Automated customer service.** LLM-powered chatbots could provide more insightful, contextually aware customer support. Chatbots decode complex user queries with remarkable accuracy, ensuring an efficient and informed transaction. LLMs do more than facilitate transactions: they offer real-time assistance, anticipate user needs, and suggest alternate payment methods.

- **Personalized financial advice.** Personalization is at the heart of modern consumer interaction. LLMs, with their ability to process vast amounts of data and generate human-like language, can offer financial advice that feels truly bespoke. These models can sift through purchase histories and preferences to help users confidently navigate products and services. LLMs support embedded lending with insights into optimal repayment strategies and educate users on proactive loan management, giving them a transparent, manageable experience.

- **Regulatory compliance.** LLMs can further refine this task, simplifying the regulatory process with their aptitude for understanding detailed documents. While final decisions will invariably involve human discretion, LLMs can make the process faster and more robust. In embedded insurance, which often involves numerous policy details, LLMs, especially when coupled with knowledge graphs, can guide users through the intricate clauses, helping them comprehend coverage details.

It's evident that adding LLMs is not just an incremental step. It's a leap into a future where finance isn't just about numbers, it's about delivering a thoughtful, personalized user experience. As embedded finance continues its ascent, harnessing the capabilities of LLMs could be its next big opportunity.

## CHALLENGES & ETHICAL CONSIDERATIONS

As we continue our journey, it's crucial to address the challenges and concerns that inevitably accompany groundbreaking innovations. Despite the benefits, there are some real considerations that consumers and providers need to grapple with:

- **Trust and transparency.** The nature of embedded finance's integration into nonfinancial platforms faces skepticism and intensifies concerns about data privacy and security. Furthermore, fraud has become a pervasive theme, making trust even more critical. In a digital economy, as highlighted by the recent surge in AI-enabled frauds, the onus is on businesses to maintain this trust.
- **Data security in the age of AI.** AI can strengthen cybersecurity, but its power to process vast streams of data instills apprehension. Financial platforms need to articulate their protective measures, especially given the predicted surge in payment-fraud losses, expected to exceed US \$40 billion by 2027.
- **The "black box" dilemma.** AI decision-making can jeopardize trust if those decisions lack transparency; fairness and potential biases are significant concerns, especially when financial decisions are involved.
- **Tackling algorithmic bias.** Bias in AI reflects societal issues; embedded finance's mission to democratize access is undermined if biases persist. Efforts like explainable AI (XAI) can offer transparency.

### — Regulatory, compliance, and legal risks.

The transition from analog to digital brings regulatory challenges. The trend points toward a localized approach to data storage and sharing, which is hard to reconcile with the global nature of the Internet. The emergence of local privacy regimes poses the risk of increased fraud as an unintended consequence. Moreover, standards like the Payment Card Industry Data Security Standards (PCI DSS) add operational burdens.

### — Operational risk.

Operational challenges are exacerbated by the rollout of real-time payments alongside AI tools, which creates an environment conducive to fraud. The continuous evolution of data security demands businesses to adapt, but without clear industry standards, the pathway remains ambiguous.

### — Model risk, including hallucinations.

AI, especially deep learning models, might produce unintended outputs or "hallucinations." Financial decisions are prone to serious risk, as incorrect predictions can lead to significant implications.

### — Reputational risk.

Failure to manage the above can harm a company's image, especially in the sensitive realm of finance. A significant fraud event, caused by AI vulnerabilities, can erode customer trust and impact a company's standing.

As we reflect on the promise of AI, it's clear that the path forward will require balancing innovation with ethics, efficiency with transparency, and capability with responsibility. As embedded finance evolves, championing these values will be essential for widespread acceptance and success.

## RECOMMENDATIONS FOR FINANCIAL SERVICES PROVIDERS & FINTECHS

Financial services providers and fintechs have pivotal roles that give them unique opportunities. Here are several recommendations based on our exploration of embedded finance and the intertwined roles of AI and LLMs:

- **Integrate, don't just incorporate, the technology.** AI is the new financial reality. Financial services providers and fintechs must integrate it holistically, making AI-driven tools and insights intrinsic to their operations. Goals should include refining user experiences, automating processes, and opening new avenues to personalized services. Providers should collaborate with potential embedders to create a more seamless customer experience.
- **Forge meaningful partnerships with AI pioneers.** While financial services expertise is paramount, an in-depth understanding of AI is equally crucial. The realm of AI is vast and complex and relies on the expertise of specialists to support a technically sound and ethically aligned integration, especially given the overall importance of transparency and fairness.
- **Make data security a prime directive.** Today, data is often equated with currency. However, it's more than an asset in the world of embedded finance; it fuels ML models. This data is critical to tailor services and its protection is nonnegotiable. Adequate security thwarts breaches while building trust. Firms must establish robust encryption, stringent access controls, and a commitment to respecting user privacy.

## CONVERGENCE OF AI AND EMBEDDED FINANCE PRESENTS A TRANSFORMATIVE OPPORTUNITY FOR THE FINANCIAL SECTOR

- **Promote transparency and address algorithmic bias.** The black box nature of certain AI models and the potential for algorithmic bias make it vital for financial services providers and fintechs to champion transparency. Investing in XAI will show that every financial decision made by an AI model can be understood, justified, and trusted by the end user.
- **Continual learning and adaptation.** Finance, technology, and user expectations are in a state of flux. Providers should commit to learn and adapt, regularly updating their models in line with new data, trends, and best practices.

The convergence of AI and embedded finance presents a transformative opportunity for the financial sector. Considering these recommendations can position financial services providers and fintechs at the forefront of this revolution, where they can drive innovation while upholding trust, transparency, and ethical standards.

## CONSIDERATIONS FOR EMBEDDERS

It is vital for nonfinancial businesses, or "embedders," to grasp the nuances and opportunities. These businesses stand at the intersection of traditional industries and innovative financial solutions, ready to redefine customer experiences. Embedders must meticulously select their partners, as each offers distinct advantages:

- **Finance is heavily choreographed by regulations.** From data protection to licensing, regulatory norms shape the foundation of financial services. Traditional banks, given their long-standing experience, might appear to have an upper hand. However, innovation and compliance can coexist, provided there's a deep understanding of the environment.
- **Businesses venturing into sectors like healthcare or employment face intense regulatory challenges.** Whether it's adhering to regulations or ensuring compliance, the journey is complicated. The confluence of legal acumen and industry knowledge becomes crucial. Collaborating with industry stalwarts can demystify regulatory complexities.
- **The brilliance of AI isn't limited to enhancing user experiences or predicting trends.** Its prowess in automating compliance processes demonstrates its versatility. By comparing vast data reservoirs against regulatory standards, AI can make compliance fast, accurate, and efficient. Fintech visionaries Plaid and Forter leverage AI to validate transactions swiftly, simultaneously establishing legitimacy and thwarting potential fraud.
- **Embedded finance is filled with possibilities and challenges.** By strategically selecting partners, understanding regulations, and leveraging AI's multifaceted capabilities, embedders can add trust, innovation, and unparalleled customer experiences to their offerings. As the landscape evolves, the fusion of technology, finance, and traditional business promises a future where boundaries blur and possibilities are limitless.

## FUTURE TRENDS & PREDICTIONS

Embedded finance, fueled by AI, has gained enough momentum to place it at the forefront of the next technological revolution. Here's a closer look at some anticipated trajectories and implications:

- **Peak personalization.** AI analyzes user patterns, preferences, and histories and offers financial solutions to meet individual needs. Imagine insurance policies determined by lifestyle choices or investment plans attuned to personal aspirations.
- **Redefined efficiency.** Automation will streamline processes, drive efficiency, and reduce costs. Wait times for loan approvals or dispute resolutions will shrink, while precision soars.
- **Financial inclusivity.** Individuals historically sidelined by rigid conventional banking criteria will have better access and options. Alternative data metrics and innovative business models will make financial inclusivity a reality.
- **Demystified financial algorithms.** XAI will shed light on the intricacies of financial algorithms. Customers will understand the reasons behind the financial decisions they receive, cultivating trust.
- **Future foundations.** AI, LLMs, blockchain, and edge computing will augment embedded finance, offering secure, swift, and scalable solutions. The confluence of these technologies will form the backbone of future financial ecosystems.
- **Strategic collaborations.** Financial giants will forge alliances with fintech and AI innovators, combining traditional wisdom with modern agility to elevate embedded finance solutions.
- **Market dynamics and maturation.** Acquisitions will become commonplace. The race to scale, coupled with access to vast data troves, will determine the victors.

- **Regulatory shifts.** Governments will establish frameworks ensuring data sanctity, algorithmic fairness, and consumer protection. These regulations might also trigger industry consolidations.
- **Power-play dynamics.** The current ecosystem seems harmonious, but banks, fintechs, or colossal tech corporations may emerge as predominant players.
- **Application programming interfaces (APIs).** APIs enable embedded finance's straightforward integrations. Expect a proliferation of robust, secure, and intuitive plug-and-play APIs, anchoring flawless cross-platform functionalities.
- **Open banking.** Embedded finance amplifies open banking, accentuating collaborations, data sharing, and relationships between banks and third-party developers.
- **Sectorial expansion.** The ripple effect of embedded finance won't be confined to traditional sectors. The integration of finance will present myriad opportunities in healthcare, real estate, and education.

## EMBEDDED FINANCE HAS GAINED ENOUGH MOMENTUM TO PLACE IT AT THE FOREFRONT OF THE NEXT TECHNOLOGICAL REVOLUTION

The horizon of embedded finance, pushed further by AI, promises a world where finance isn't just a sector but an integral part of our experiences, incorporated effortlessly into daily lives, decisions, and aspirations. Inclusivity, personalization, and unparalleled user experiences will characterize the future of embedded finance.

## CONCLUSION

# SHAPING THE FUTURE OF FINANCE

### AI COMPLEMENTS EMBEDDED FINANCE AND AMPLIFIES ITS CORE STRENGTHS

Connecting AI and embedded finance is not just an enhancement to accelerate growth — it's a trend poised to redefine the contours of digital financial services. AI complements embedded finance and amplifies its core strengths by:

- 1 Promising a user-centric environment that emphasizes trust and transparency
- 2 Contributing to value-focused personalized products and services
- 3 Automating processes to save time and minimize frustration
- 4 Building trust swiftly by prioritizing security and derailing fraud
- 5 Redefining financial inclusion and improving access to products and services
- 6 Interpreting standards and adhering to regulatory frameworks

AI promises to make embedded finance faster, deeper, and more meaningful. The fusion of these two forces heralds a future where financial services are omnipresent, intuitive, and most importantly, centered around the individual.



# ARTHUR D LITTLE

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