newline™
by Fifth Third

An Introduction to Fintech 2.0

Embedded Finance and the Evolution of Banking as a Service

Contents

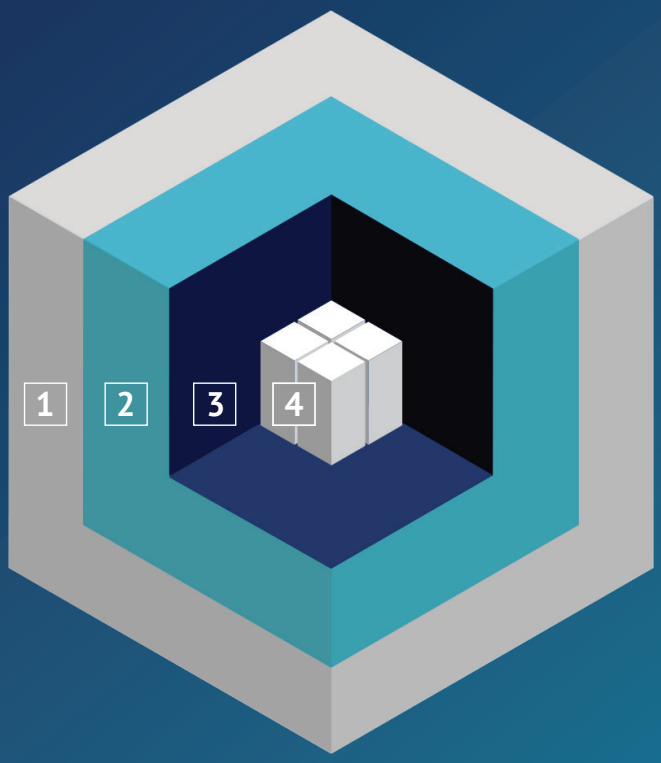
Executive Summary

Over the last half-century, while the world raced toward digitization and automation, financial services were long planted on the sidelines. Composed of a myriad of different verticals and account types, all of which are regulated and operated independently, the industry has been mired in legacy, siloed technology and poor customer experiences.

The emergence of fintech in the last decade, however, has shattered those norms. Vertical business models like Chime, Robinhood and SoFi paved the way, unbundling and digitizing products in specific buckets like banking, lending and brokerage that traditionally have been served by legacy institutions. These early disruptors irrevocably changed expectations around financial services and laid the groundwork for unified, customer-centric experiences.

The future of the industry is even more exciting. The current wave of fintech is fully underway, with embedded finance redefining how consumers and businesses engage with financial services. The convenience of financial products embedded in channels we use on a daily basis is undeniable, and users increasingly skew toward simple, intuitive financial experiences delivered at the point of need. It is difficult to not be bullish on the space: fully integrated financial experiences dictated by the needs of the customer, rather than by some outdated boundary, are firmly within reach.

This future, though, requires a new type of financial infrastructure and bank partnership model that merges customer needs with the industry's legacy architecture. Newline™ by Fifth Third offers a proprietary Synthetic Core that sits horizontally across account types and verticals, enabling impactful, compliant products beyond the limitations of traditional financial siloes. The Core acts as a true operating system, leveraging Synthetic Accounts (SAs) – the modular building blocks of the platform – that map to the underlying regulated custodial accounts and allow builders to create the ideal experience for their end users. And with a vertically integrated, fully owned stack that combines the operating expertise of a leading regional bank with best-in-class technology and product capabilities, builders have direct access to the underlying pipes without layers of unnecessary and expensive middleware. When built from the ground up, scalable and multi-product infrastructure unlocks financial services that truly work for consumers and businesses.



1. CLIENTS **2.** NEWLINE **3.** FIFTH THIRD BANK **4.** EMBEDDED PAYMENT & DEPOSIT SOLUTIONS

Newline™ by Fifth Third combines the operating expertise of a leading regional bank with best-in-class technology and product capabilities that allows builders to create the ideal experience for end users.

Rethinking the Future of Fintech

In 2019, months before the onset of COVID-19 and the economic and social upheaval the pandemic brought with it, Matt Harris from Bain Capital Ventures wrote an influential thought piece on a growing opportunity within fintech: embedded finance.[1] As Matt argued, this fundamental evolution, where builders "use financial technology as an ingredient" rather than as "a primary business model", would soon overtake the Fintech 1.0 model of simply packaging and digitizing narrow business-to-consumer (B2C) use cases like peer-to-peer payments. Discrete, productized offerings, he explained, would give way to ones embedded in fintech and non-fintech software, enabling deeper, more data-rich relationships with end users. A few years (and a global pandemic) later, Matt's article has proven prescient, with embedded finance expanding rapidly across the technology landscape. Uber Money, Shopify, and Klarna are just a few prominent examples redefining how consumers, businesses and institutions interact.

These early successes in embedded finance are the direct result of a step-function improvement in financial infrastructure in recent years. Enablers have sprung up in ACH, payday loans, and practically every other corner of the fintech ecosystem, supporting new, more complex use cases and empowering builders to create engaging, impactful offerings with fewer integrations and at a fraction of the traditional cost.

Fundamentally, the evolution of fintech is really the story of the evolution of fintech infrastructure, with banking and payment enablers leading the way. The history of technology has proven that better consumer and commercial products emerge as better tools are made available for their development, and financial services are no different.

1. "Fintech: The Fourth Platform - Part One," Forbes, Nov. 19, 2019, https://www.forbes.com/sites/matthewharris/2019/11/19/fintech-the-fourth-platform-part-one/?sh=4761bf85cb28.

Historical Fragmentation of Financial Services

This new world of embedded finance – Fintech 2.0 – did not appear overnight. Historically, financial services have been frustratingly fragmented and siloed, rarely catering to the needs and perspectives of customers. The industry was developed piecemeal via a gradually expanding patchwork of rules and frameworks, leading to rigid, independently regulated buckets like banking, brokerage, payments, and insurance. Consequently, industry players, even tech-enabled ones, have surprisingly little knowledge of, or communication with, the financial landscape outside of their own particular siloes.

But while these verticals were never designed to be interoperable, end users don't see those distinctions – to them, it's all just money. Consumers and businesses seeking to manage their money must traditionally attend to an array of financial accounts from a litany of providers and platforms, bearing the burden of administering all the different pieces despite often having little understanding of how they all work. This fundamental mismatch between how the industry is built and how users think about money in the real world is the ultimate source of all complexity and confusion in the space.

Fintech 1.0

In the first wave of fintech in the 2000s and 2010s – the initial attempt to solve these complexities – disruptors and incumbents alike endeavored to use technology to more effectively engage users with their finances. Focused largely on the consumer side (because of the inherent complexity and variability of treasury management, B2B payments, etc.), companies like Wealthfront and Betterment in asset management, Acorns and Stash in micro-investing, Robinhood in trading, SoFi in lending and Chime in banking, all built large user bases by making individual pieces of the financial puzzle more digital and user-friendly.[2] Venture capitalist dollars continued to pour into the industry and whitespace disappeared. However, the noise around these initial successes soon gave way to concern about their long-term viability.

Due to the innate siloing of financial services, any innovation in this first wave of fintech was confined to a single vertical, where players built better user experiences (UX) and user interfaces (UI) on top of specific account types or products. Each company was forced to manage all of the infrastructure themselves, sorting through a web of bank integrations, processors, and compliance requirements and burning through tons of time and capital along the way. Indeed, a lot of these new entries shuttered, and those that survived found themselves with highly rigid tech stacks that made moving horizontally and adding new capabilities incredibly difficult. They faced rising acquisition costs and an uncertain future, with inadequate, inflexible infrastructure at the root of the problem.

Ideally, fintech infrastructure would be ubiquitous, so builders could then focus on what they do best: customer acquisition and creating great, compelling products. Just as Amazon Web Services (AWS) has abstracted the complexity of cloud computing, fintech companies should be able to serve customers without even thinking about the underlying infrastructure.

2. "The Five Waves of Fintech," Bessemer Venture Partners, Mar. 13, 2023, https://www.bvp.com/atlas/the-five-waves-of-fintech.

A Framework for Thinking about Fintech Infrastructure

Despite this obvious need for robust financial infrastructure, builders have struggled to fill this gap. **Fundamentally, there are four key considerations for effective, reliable fintech infrastructure:**

The Evolution of Payments and Banking Infrastructure

Nowhere are these considerations more relevant than in the Banking-as-a-Service (BaaS) space, which has been the main driver behind the ascendancy of fintech infrastructure as a whole. Indeed, BaaS players have been massively influential in the proliferation of neobanks, the rise of the freelancer and gig economies, and the emergence of embedded finance. But, much like fintech in general, banking infrastructure has evolved significantly since its inception.

The first generation of BaaS providers focused entirely on technical integrations into banks and processors, making it possible to plug into the existing financial backbone via APIs. They made it easier for builders to stand up banking solutions and get to market, and Synapse, in particular, demonstrated that there was a real market here. These BaaS 1.0 players had significant issues, though. The tech was flawed and unreliable, especially at scale, and many clients had to go directly to the bank and processor themselves. Available use cases were almost exclusively banking-centric, with limited if any horizontal integration across brokerage and other verticals. Moreover, the economics were completely backwards, with every third-party in the stack acting like a true vendor by charging high monthly minimums and gouging on variable items. Builders who relied on interchange revenue—the bulk of fintech startups, particularly in a low-interest rate environment—could not make those margins work. Most importantly, though, these original BaaS platforms completely disregarded compliance, resulting in a litany of well-publicized issues for several different sponsor banks and platforms. Their approach was simply untenable in a rapidly expanding fintech and technology ecosystem.

Subsequently, the second wave of providers learned from many of these mistakes, deploying solutions with far more client-focused technology and economics. They offered a white-glove approach, a more integrated stack and better pricing. But while many of these platforms developed more robust compliance programs, most of the compliance overhead still fell to builders, and any liability largely remained on the shoulders of the underlying banks. Additionally, these players were still heavily verticalized, with nascent multi-product offerings only available through a loose patchwork of vendors. They did a far better job at aligning incentives with clients, but they struggled to keep up with pace of innovation in the space.

The third generation of payments and banking infrastructure—really fintech-as-a-service rather than just payments or banking—is the culmination of all this investment and excitement. While past iterations of enablers have slowly crept up the stack toward the bank and processor, this next generation of financial infrastructure, with Newline squarely at its center, completes this transition, merging the bank and technology platform and giving builders direct access to the underlying accounts and payment rails. This model is a complete rethinking of payments and banking infrastructure, combining the stability and operating expertise of a financial institution with the engineering quality and product capabilities of a true software provider. With a cohesive, fully owned stack, builders finally have access to scalable economics and complete product flexibility. And crucially, compliance is embedded at the middleware level, helping clients prepare for potential risks or liabilities with KYC/AML or UDAAP. Built from the ground up to operate across banking, payments, brokerage and lending, Newline and this next wave of infrastructure platforms undo the legacy of fragmented financial experiences and establish a reliable foundation for embedded finance.

Product Flexibility: Unlocking the Full Potential of Embedded Finance

The evolution of fintech and financial services is continuous, but the fulfillment of Matt Harris's vision from 2019 and the emergence of truly flexible, multi-product experiences reframe our entire understanding of the industry.

In Fintech 1.0, fintech platforms sold to fintech customers, with winners in the space largely being single-product companies like Chime in banking or Robinhood in brokerage. In this second wave of fintech, though, brands aren't catering solely to fintech customers but to a much wider audience, with builders integrating financial capabilities into existing non-financial apps and experiences that consumers and businesses use on a daily basis. At its core, embedded finance is all about creating accessible, intuitive user experiences and expanding the universe of financial services.

But crucially, in order to build intuitive financial UX, it needs to be built in a customer-centric fashion, which means designing financial UX from the perspective of the end customer and not from the perspective or within the limits of the financial industry. That shift is a significant one in financial services, and it requires unique and innovative solutions.

The Newline Synthetic Core

To solve this mismatch between how people think about money and how the financial services industry actually functions, we need to be able to translate directly between customer objectives and industry infrastructure. The different financial verticals were never meant to map together – if you talk to someone in the banking world, they will have no idea how brokerage works, and vice versa. The difference between how the industry is regulated, and how users use and think about money in the real world is what makes money so hard. In order to build great embedded solutions that are inherently intuitive, you need to be able to bridge that gap.

The key to solving this complexity is a new technology pioneered by the team at Newline: the Synthetic Core.

What is the Synthetic Core?

Put simply, financial accounts are just containers and corresponding ledgers: a group of assets coming into and out of the account, governed by a current balance reflecting the sum of all completed transactions. Regulated, on-core financial accounts, however, which we refer to as "custodial accounts" (CAs), have specific rules about the transactions they can perform, making it incredibly difficult to integrate capabilities across different silos.

Newline's proprietary Synthetic Core overturns these limits, redefining what is possible with financial services. The Core allows fintech companies and their users to move money across account types with full compliance and no changes to the underlying infrastructure. It acts as a hybrid operating system, leveraging an additional ledgering layer on top of the custodial one and enabling a vast array of multi-product use cases beyond the boundaries of outdated, siloed technology.

The foundation of this Synthetic Core is the Newline Synthetic Account. A Newline SA is a container and ledger like any other account, except that:

1. It is objective-driven versus account-driven.
2. Assets and liabilities for the SA reside in one or more custodial accounts and actual transactions take place at the custodial account level.
3. The SA keeps a separate ledger that maps the activity between the customer's behavior within the synthetic layer and the underlying CA. In other words, the CAs still remain the true asset repository and source of truth from a compliance perspective, but the SAs allow customers to interact with those assets around specific objectives, objectives which may involve several CAs.
4. The SA can be programmed to perform tasks within a single custodial account or multiple custodial accounts without breaching regulatory compliance.

Uses for Synthetic Accounts

SAs serve as functional building blocks of Newline's Synthetic Core. SAs are inherently flexible and customizable and include additional properties, such as:

- **Connections to outside accounts and products**

  SAs can be used as containers to house outside financial products/accounts and allow them to interact with the rest of the Newline ecosystem. For example, a customer's mortgage with another institution could be housed within a SA, which could then be programmed to automatically make the mortgage payment each month.

- **Customer data structured into actionable units**

  Because SAs map directly to customer objectives, they provide valuable data about customer intentions. For example, if a customer creates a SA/goal to save for a home down payment, then at the right time the B2B client can step in and help the customer get the right real estate agent, mortgage and homeowners insurance.

SAs are specifically designed to map directly to end customer needs and then to use the capabilities of various CAs to meet those needs. Newline clients can design the ideal user experience for their customers using SAs, choose which CA types they need to perform the tasks for them and let Newline handle the ongoing mapping between the two, as follows:

- **One-to-many**

  Sub-accounting within a single CA means a single CA can be attached to any number of different SAs. For example, a single brokerage account can be subdivided into multiple SAs corresponding to different investment goals for a customer, and each of those can be programmed with its own asset allocation.

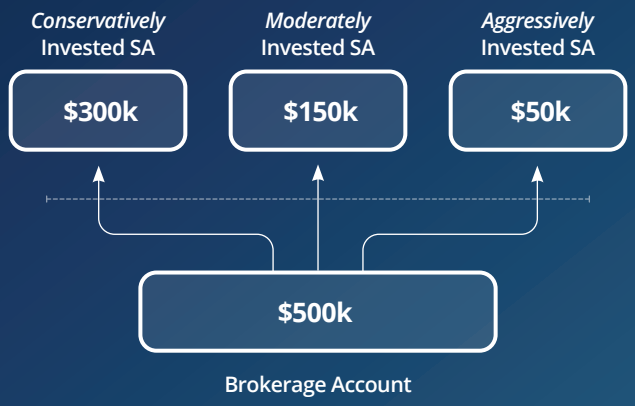
- **Multiple users**

  Combining the capabilities of different types of CAs means a single SA can map to multiple CAs and combine their respective capabilities.

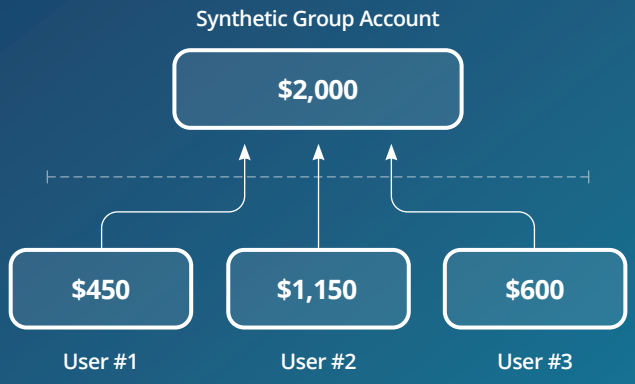
- **Many-to-one**

  Joint and group SAs allows multiple users to have access to a single SA.

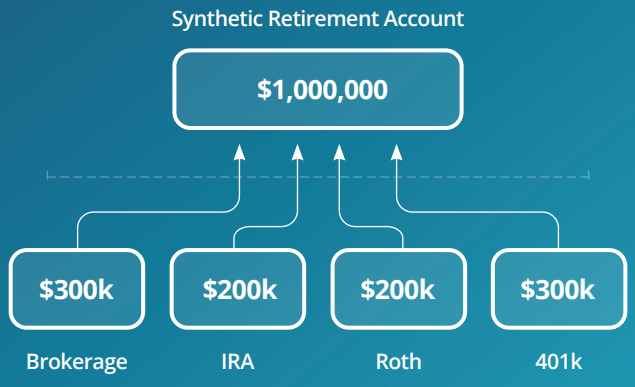
One-to-many

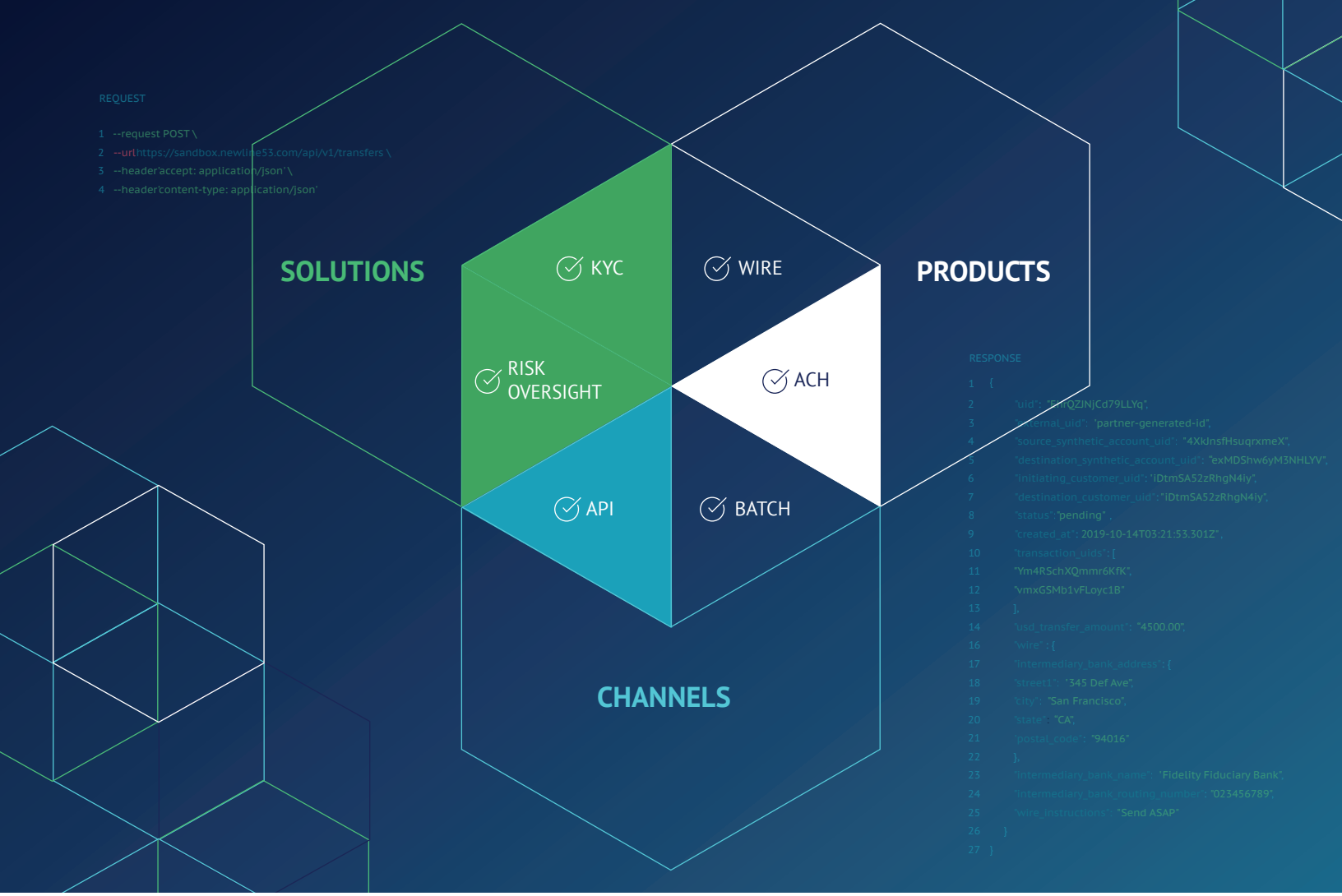


Multiple users



Many-to-one





The Newline Synthetic Core: An Operating System for Embedded Finance

With Synthetic Accounts as the building blocks, the Newline Synthetic Core enables an infinite array of use cases across banking, payments and beyond. Whereas early fintech players worked within the confines of the siloed legacy financial infrastructure, the Core sits above that custodial layer, enabling truly customer-centric experiences.

Indeed, inadequate, inflexible infrastructure has plagued financial services for decades. Even early fintech winners like Chime and SoFi had no choice but to build the infrastructure and integrations themselves, resulting in rigid, vertical tech stacks and leaving themselves vulnerable to new, more nimble startups. Financial user experiences were fragmented and confusing, with the burden of managing these different rules and frameworks falling to the customer themselves.

Newline's Synthetic Core is the operating system that abstracts away these complexities and unlocks the potential of embedded finance. Just as iOS has allowed developers to easily create an ecosystem of apps and solutions, Newline's Core gives builders out-of-the-box tools to create an endless array of financial tools and services – the use cases are only limited by the creativity of builders and developers. With Newline at the forefront, the momentum behind embedded finance seems unstoppable as brands and platforms increasingly look to monetize financial services and better serve their customers.

The Next Evolution of Embedded Finance

In September 2022, with his vision of Fintech 2.0 well underway, Matt Harris and his Bain colleagues released another piece – this time a reflection on the progress of embedded finance and where the movement is headed.[3] In it, the authors argue that while "embedded finance will play a fundamental role in shifting how [customers] interact with their finances … it will also change whom customers trust to interact with." In this new world of financial services, the engagement and trust of customers is no longer tied solely to regulated, siloed institutions: it now extends to technology platforms and software providers as well. As the report explains, "building a successful embedded finance proposition will require a fundamental rethinking of the capabilities needed."

Within this context, the authors opine briefly on how the future of embedded finance will unfold, arguing that to succeed, builders will "need to choose partners carefully – institutions that truly meet their needs and enablers with a razor-sharp focus on fulfilling their requirements." But this assertion is half-baked.

A world where builders only have to make one choice – where the institution is the enabler – is the next, perhaps final evolution of embedded finance. Developer-friendly, full-stack platforms like Newline make this world possible, combining the best of a bank and a technology platform and unlocking a whole new universe of customer-centric financial experiences.

Ultimately, this world we are building toward, a world of seamless interoperability across verticals and asset classes, is a complete overhaul of traditional financial services. A significant gap still exists between today and this future, and, despite the gravity of the embedded finance movement, the transition will be gradual and continuous. Effective infrastructure will be critical to bridging this gap, but collaboration across the fintech ecosystem – between builders, customers and regulators – is paramount to creating the future of inclusive, impactful financial experiences we all are looking for.

→ Learn more at Newline53.com

3. "Embedded Finance: What It Takes to Prosper in the New Value Chain," Bain Capital Ventures, Sep. 12, 2022, https://www.bain.com/insights/embedded-finance/.