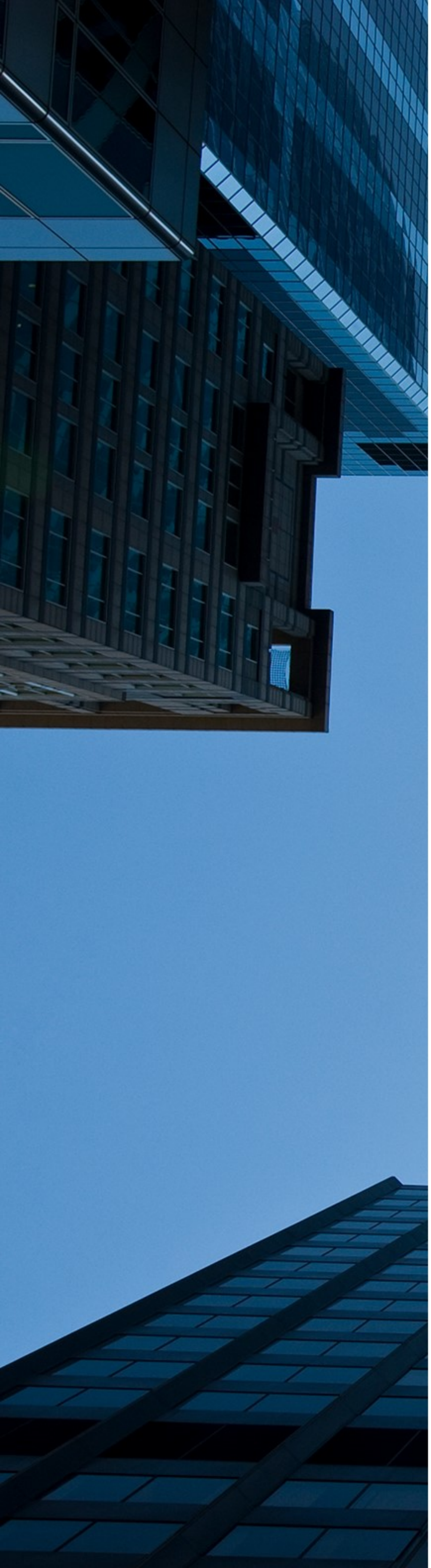

Aite Novarica

DECEMBER 2022

THE BENEFITS OF FINTECH ENABLEMENT

NEW STRATEGIES FOR SCALABLE INNOVATION

PREPARED FOR:

fintechOS

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INTRODUCTION

The pace of change in financial services is accelerating due to the growth in new digital channels, technological capabilities, and a growing array of vendors and financial institutions (FIs). No corner of financial services today is untouched by these shifts. As a result, there are now major growth opportunities. Financial organizations that can innovate and offer smarter, better, faster financial products and services that are contextually relevant to both consumers and business customers will achieve greater differentiation and revenue growth. The ability to rapidly innovate and iterate is fast becoming a competitive differentiator. However, the demand for innovation poses a significant resource management challenge, one made worse by FIs' ongoing reliance on legacy architecture and an extremely competitive market for technical staff.

This research paper, sponsored by FintechOS, provides an overview of the challenges organizations face in delivering innovative financial products and services in today's market and introduces the concept of fintech enablement—an infrastructure approach that enables scalable change using existing legacy infrastructure while providing clear pathways to future modernization. Fintech enablement platforms offer a way for FIs to accelerate and future-proof their approach to innovation.

FIS ARE STRUGGLING TO KEEP UP WITH THE PACE OF CHANGE

Ever since the outset of online banking in the late 1990s, customer expectations for financial services have evolved at an accelerating pace. Customers' willingness to use new products and services provided by a growing array of financial service organizations have become mainstream in all markets.

While segments from consumer lending to commercial insurance to wealth management have their dynamics and market idiosyncrasies, they face the same broad-level trends fueling this shift in customer expectations and feeding the need for FIs to adapt and innovate continually. These universal drivers of change are outlined in Table A.

TABLE A: DRIVERS OF INNOVATION AND CHANGE

DRIVER	IMPLICATIONS
New digital customer journeys give FIs an improved way to acquire and service clients and prospects.	Customer acquisition has long been one of the biggest challenges in financial services. Historically, friction has been high, challenging customers and FIs alike. Embedded finance and digital channels are creating new routes to market for financial services and opening the door to nontraditional organizations. These pathways present FIs with fresh opportunities to remove friction from their customer journeys, as well as innovate offerings, growing new revenue streams.
Personalization and contextual relevance are increasingly effective with end users.	The growing use of personalization in digital services across many industries and in daily life means that customers are primed to respond to hyper-targeted offers and solutions relevant to their particular context. These can range from personalized offers related to an individual's life stage to the specific details of an individual business payment. Personalization helps to improve customer conversion rates and deepen relationships when used effectively. The growth of embedded financial services is further fueling the shift to contextual relevance, challenging traditional FIs to keep up to remain competitive.

DRIVER	IMPLICATIONS
Real-time and data-rich services provide new benefits and capabilities.	The development of new technologies, such as real-time payments and data-rich messaging formats like ISO20022, gives customers access to a greater-than-ever range of reporting and analytics on their real-time financial positioning. Moreover, this access is being broadened by the potential for further innovations in forecasting and “recommended next steps” capabilities. Data is also becoming ever more interconnected through APIs and open banking initiatives. Customers increasingly expect to be able to access their financial services data, and even initiate transactions, in a range of third-party platforms. These include personal financial management (PFM) tools for consumers and back-office commercial accounting and enterprise resource planning (ERP) systems for businesses. As a result, FIs must find ways to aggregate, access, and leverage disparate data, as well as integrate with an ever-growing number of third-party products and services.
Product and provider diversification is increasing competition in all segments.	No corner of financial services has been untouched by new market entrants. These new entrants—including neobanks, emerging fintechs, and nontraditional players such as e-retailers, telecoms, and equipment manufacturers—increase the range of options available to end users. Additionally, product diversification is increasing. End users face a growing array of available products and services, ranging from new payment tools to more targeted or uniquely structured insurance or investment products. Increasing levels of competition will only fuel further diversification and choice. Even where emerging fintechs or other organizations hold a small market share, they frequently take a more advanced approach to the customer experience, setting the bar higher for all FIs. As a result, FIs are driven to diversify and differentiate their offerings.

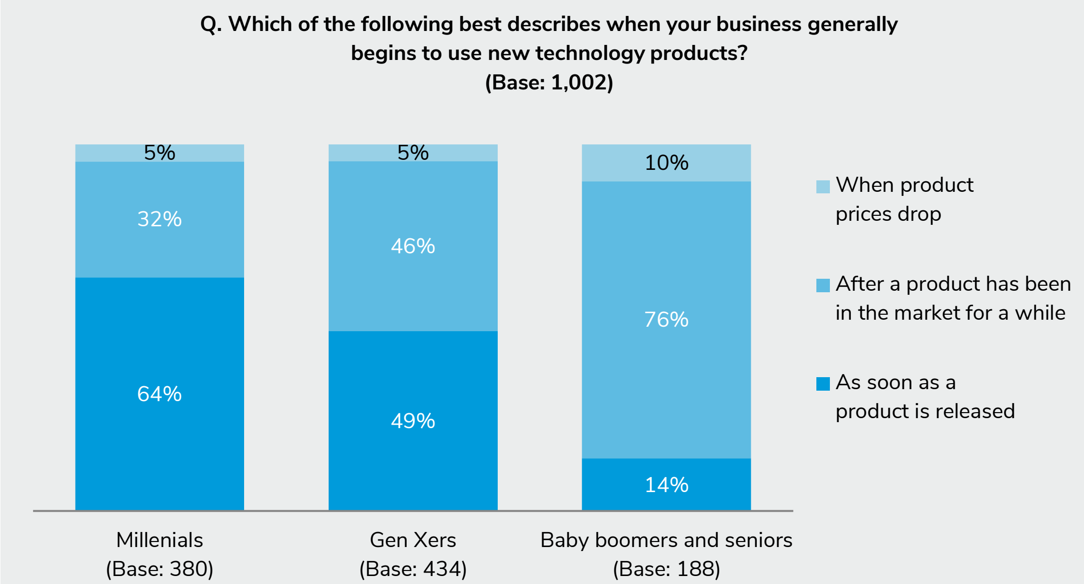
DRIVER	IMPLICATIONS
Regulatory activity is opening the path for further competition in financial services.	All regions have seen intense activity from financial service regulators in recent years. This includes pushing the development of new technologies, such as real-time payments and open banking across the U.K. and Europe. The U.S. is also facing significant pressure from organizations like the Consumer Finance Protection Bureau (CFPB) focused on compliance and security considerations. Many of these regulators aim to increase market access safely for new entrants and increase overall levels of competition, while ensuring market safety and stability. While existing FIs have no choice but to comply with regulatory prerogatives, they nonetheless must find a competitive differentiator to help offset the often-significant compliance costs.
Market volatility is increasing the willingness to try new financial products and services.	The COVID-19 pandemic accelerated existing trends toward newer, more advanced financial products and services. Many consumers and organizations suddenly needed remote access to digital financial services and tools during the pandemic lockdowns, and this experience only broadened their willingness to work with new providers and payment tools. Future market volatility, such as inflation or economic slowdowns, will likewise drive many end users to seek out new solutions and companies that can better meet their immediate needs.

Source: Aite-Novarica Group

A GENERATIONAL SHIFT IN CUSTOMER EXPECTATIONS

As with many areas of technology, generational differences are emerging in end-user willingness to try new technologies and services. This trend is apparent even in end-user segments that have historically taken a more conservative approach to financial services. For instance, in a recent survey of U.S. small and midsize businesses (SMBs) segmented by the age demographic of the business's primary financial decision-maker, 64% of millennial-run businesses said they use new technology as soon as a new product is released. In contrast, only 14% of baby boomer- and senior-run businesses reported the same openness to adopting new technology right away. These statistics are shown in Figure 1.

FIGURE 1: MILLENNIAL-RUN SMBS ARE HIGHLY INTERESTED IN NEW TECHNOLOGY



Source: Aite-Novarica Group survey of 1,002 U.S. small-business financial decision-makers, Q3 2021

Aite-Novarica Group research underlines this insight, indicating that 70% of millennial-run SMBs currently partner with a nonbank fintech company for some form of financial service capability. This compares to only 30% of boomer- and senior-run SMBs reporting that they are currently work with a nonbank fintech provider.[1]

While the use of new technology and openness to working with fintech vendors is increasing in all age brackets, the scale of the generational difference suggests these trends run deep and will have a profound impact on the financial services landscape long term. The appetite for newer, more innovative, and more personalized services across the financial services space will only keep growing. Banks and other financial service organizations need to think beyond individual point solutions and focus on creating the infrastructure that will enable them to develop new solutions efficiently and effectively in the long term.

While the differences between generations are stark, Aite-Novarica Group notes that all client segments contain a mix of clientele at different levels of interest in new technology. This suggests that while innovation is crucial, particularly in newer digital channels, other channels cannot be ignored as they still cater to critical clients. This

[1] See Aite-Novarica Group's report Small-Business Banking and Millennials: Banking on Change, December 2021.

means financial organizations need to focus on an omnichannel environment, with innovation happening at all levels.

FIS HAVE SEVERAL PATHS TO INNOVATION—AND NONE ARE EASY

FIs face pressure to innovate and launch new products and services across all their lines of business. This inevitably creates significant hurdles as resources are limited or even scarce. And even where financial resources for investment and development are strong, sourcing technology talent remains a major pinch point for all FIs, creating challenges.

Internal Development Risks Creating a Technical Debt

Internal development has historically been the default option for many FIs, particularly at larger Tier-1 institutions with the resources to dedicate to these initiatives. This route was largely driven by a lack of vendor or technology options in the market, and a need for integration into existing wider FI legacy infrastructure. As a result, most innovation tended to come from larger FIs capable of driving significant resources into technology and service development.

Outside of tier one FIs, many other financial organizations have historically remained reliant on their legacy vendors, and in turn have accrued their own technical debt over time as their legacy technology stacks have grown over time. For these organizations, they often remain reliant on their core providers, and with limited resources face significant struggles to innovate.

While the vendor and partner situation has changed in recent years, many FIs still prefer to pursue a policy of internal development. Many of the largest banks and FIs are quick to point out to clients and investors their significant investments in research and development (R&D). Such resource-intensive development, however, remains out of reach for many FIs and lacks scalability.

With the pace of change moving so quickly across product and service categories, many FIs risk expending significant time and money into capabilities that may not prove successful in the longer term. Historic FI development cycles are notoriously slow. Building on top of existing legacy architecture means many FIs face a never-ending need for integration into an increasingly complex technology environment. As services and products have built up over the years, integrating new capabilities into this technology mishmash remains a challenge, which is only becoming harder over time.

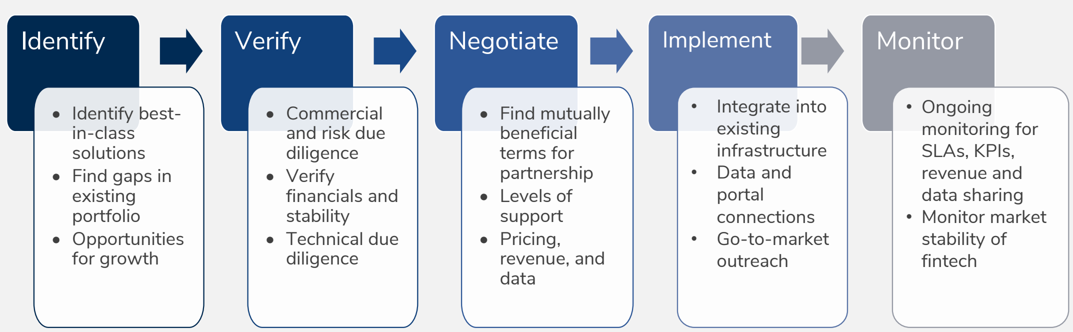
As technology becomes increasingly interconnected, data-driven, and cloud-based, internal development of new financial capabilities and services risks leading banks and other FIs to create their own new technical debt. Bespoke solutions risk becoming the next form of legacy platform that does not integrate or pare as well with other emerging technologies and services.

External Partners Bring Scalability—and Their Own Challenges

Recent years have seen an explosion in the number of technology vendors and potential partners across the financial services space, an expansion driven by high levels of investment in emerging high-growth companies alongside the rising prevalence and acceptance of cloud and "as-a-service" capabilities. Established FIs and other potential financial organizations now have an increasing range of options for expanding their capabilities and integrating into a wider ecosystem of technology and tools. While this brings innovation within closer reach for many organizations, it also presents challenges in managing these partnerships and maintaining access to best-in-class providers. As a result, many FIs now face an infrastructure gap, and connecting all these new components and capabilities remains challenging.

Openness to partnership in financial services is undoubtedly growing. However, managing these ecosystem relationships remains an intensive and multistep process (Figure 2). Identifying, verifying, negotiating, implementing, and monitoring these fintech partnerships is easier said than done, and many organizations still lack the internal skill set and processes to manage these partnerships efficiently.

FIGURE 2: THE FINTECH PARTNERSHIP PROCESS



Source: Aite-Novarica Group

Due to complexity, cost, and a lack of internal resources, most FIs tend to rely on a small handful of vendor partners to help overhaul their existing technology or to build out new capabilities. Although this eases the fintech partnership process, it also leaves organizations reliant on these partners, potentially limiting their access to best-in-class capabilities and providers. These challenges can be compounded by contractual legal and commercial agreements in place, particularly when working with some of the larger fintech vendors active today.

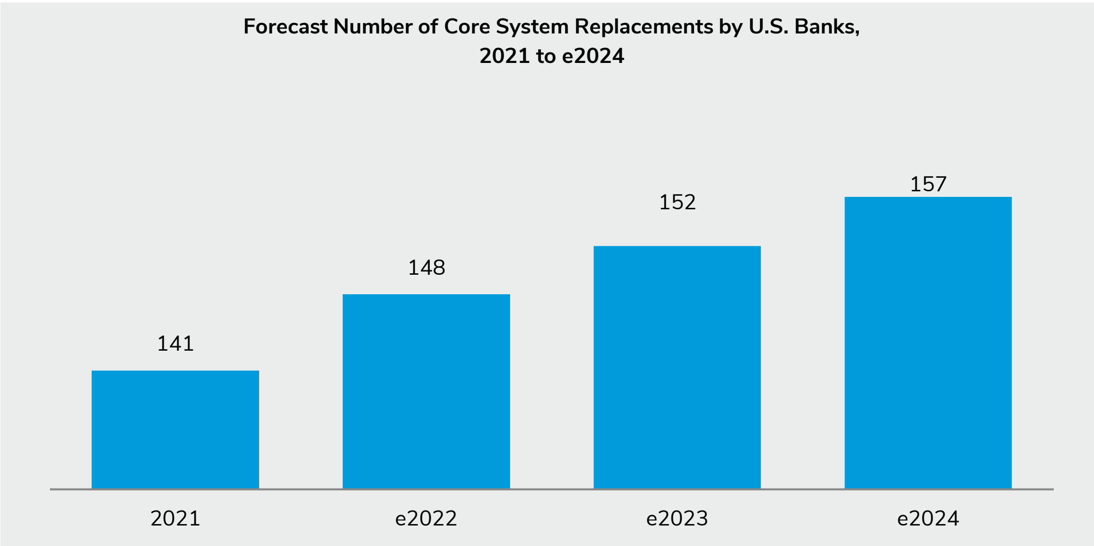
CORE REPLACEMENT IS NOT A SILVER BULLET TO FIXING INNOVATION CHALLENGES

The challenges of legacy architecture mean that a growing number of FIs are now focusing on core replacement as a key component in their broader modernization and innovation strategies. However, the actual process of core modernization remains extremely complex and is one of the most complicated technology investments an FI can make.

A GROWING FOCUS ON CORE MODERNIZATION

Modern, forward-looking core platforms can provide higher degrees of flexibility, greater security, and a more unified experience than a legacy architecture developed over many years. As a result, fueled by the changes in customer expectations outlined above, the number of core system replacements continues to rise year-on-year (Figure 3).

FIGURE 3: FORECAST NUMBER OF CORE SYSTEM REPLACEMENTS BY U.S. BANKS



Source: Aite-Novarica Group estimates with input from leading technology providers

Approaches to Core Modernization

When modernizing their organization's core, FIs have three primary strategies:

- **Full rip-and-replace of existing core infrastructure:** Big-bang approaches to core replacement can effectively deploy new modern capabilities but are intensive, resource-heavy projects with very high levels of risk. This includes the potential for projects to spiral out in cost and timescale and as threats to service levels for existing clients.
- **Greenfield launch:** Typically involving cloud-based platforms, these rollouts involve FIs running a greenfield tech stack that operates parallel to existing bank infrastructure. New clients are onboarded into the greenfield core, while older clients are later migrated to the new platform. This approach can lead to significant disruption for existing clients and requires a costly doubling of resources due to running parallel operations.
- **Wrap-around, or core-hollowing:** This approach typically uses containerized systems, or a microservices approach, to deploy modern capabilities piece by piece, with the option of outright core replacement at some point. While risks are reduced, this approach requires supporting a viable legacy core system for several years, lengthening the time for the overall core modernization process. Additionally, FIs must prioritize areas for modernization, and they incur risks due to significant customization, creating new forms of legacy technology problems.

CORE MODERNIZATION IS NOT A COMPLETE SOLUTION TO INNOVATION

While the "build the bank" mindset is an inescapable necessity for any financial institution, core modernization risks draw attention and resources away from increasingly critical new product and service deployments and innovations. Much like the legacy infrastructure it is intended to replace, FI core modernization programs are unique in their implementation and prone to significant challenges—even outright failures. McKinsey has reported that only 30% of core banking system transformations are successful in fully migrating ledgers and products to a new system.[2] This is due to a

[2] Raphael Friese, Harald Kube, Sebastian Schöbl, and Henning Soller, "How to Get Core Banking Transformation Right: Eight Mistakes to Avoid," McKinsey Digital, February 17, 2022, accessed November 1, 2022, https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/tech-forward/how-to-get-a-core-banking-transformation-right-eight-mistakes-to-avoid.

combination of operational and design challenges in deploying these systems, including looking at modernization as a technological rather than organizational exercise.

In particular, core modernization programs that inadequately plan for connectivity and interoperability across the bank stack lower their efficiency and effectiveness in driving innovation. This notably includes connectivity to increasingly important third-party fintech ecosystems, as well as the critical customer engagement layers that all FIs rely on. The customer engagement layer is becoming increasingly important as new forms of embedded finance take root, creating new customer journeys and avenues for growth among FIs.

Ignoring core modernization is not a realistic option for most FIs today as the demands on their legacy infrastructure continue to grow. The real question, then, is not how best to replace their core and eventually begin to innovate but how to innovate now and at scale in a fashion that can operate alongside broader FI infrastructure initiatives.

A FINTECH ENABLEMENT STRATEGY PROVIDES A SCALABLE PATH TO INNOVATION

FIs are having to choose between broader initiatives, such as core transformation, and innovating new products and services to support business growth. This risks creating significant inefficiencies and an unduly complex modernization journey. Rather than making a forced choice, FIs need to find a better balance that gives them the scope to innovate and iterate at speed while leveraging existing infrastructure and paving new pathways to further modernization.

The solution is fintech enablement. A fintech enablement platform is technology infrastructure that acts as an operating system to enable rapid and efficient innovation of digital products and services. Fintech enablement platforms are designed to reduce the complexity and accelerate the launch, servicing, and expansion of financial solutions and new customer journeys. They include prebuilt and modifiable components that can be quickly deployed in a more agile and responsive method than most traditional development cycles. Key components of a fintech enablement platform include:

- Product definitions and components in critical product areas such as lending, savings, mortgages, insurance, payments, and embedded finance
- Data models that sit on top of existing data sources, such as legacy core, open banking, etc.
- The ability to create customer journeys that make use of embedded automation and streamline both workflows and the customer experience
- Software-as-a-Service (SaaS) ecosystem connectors that can be orchestrated into customer journeys and bring external innovation into the mix
- Self-use tools that allow nontechnical staff to create, service, and update solutions (e.g., low-code/no-code)

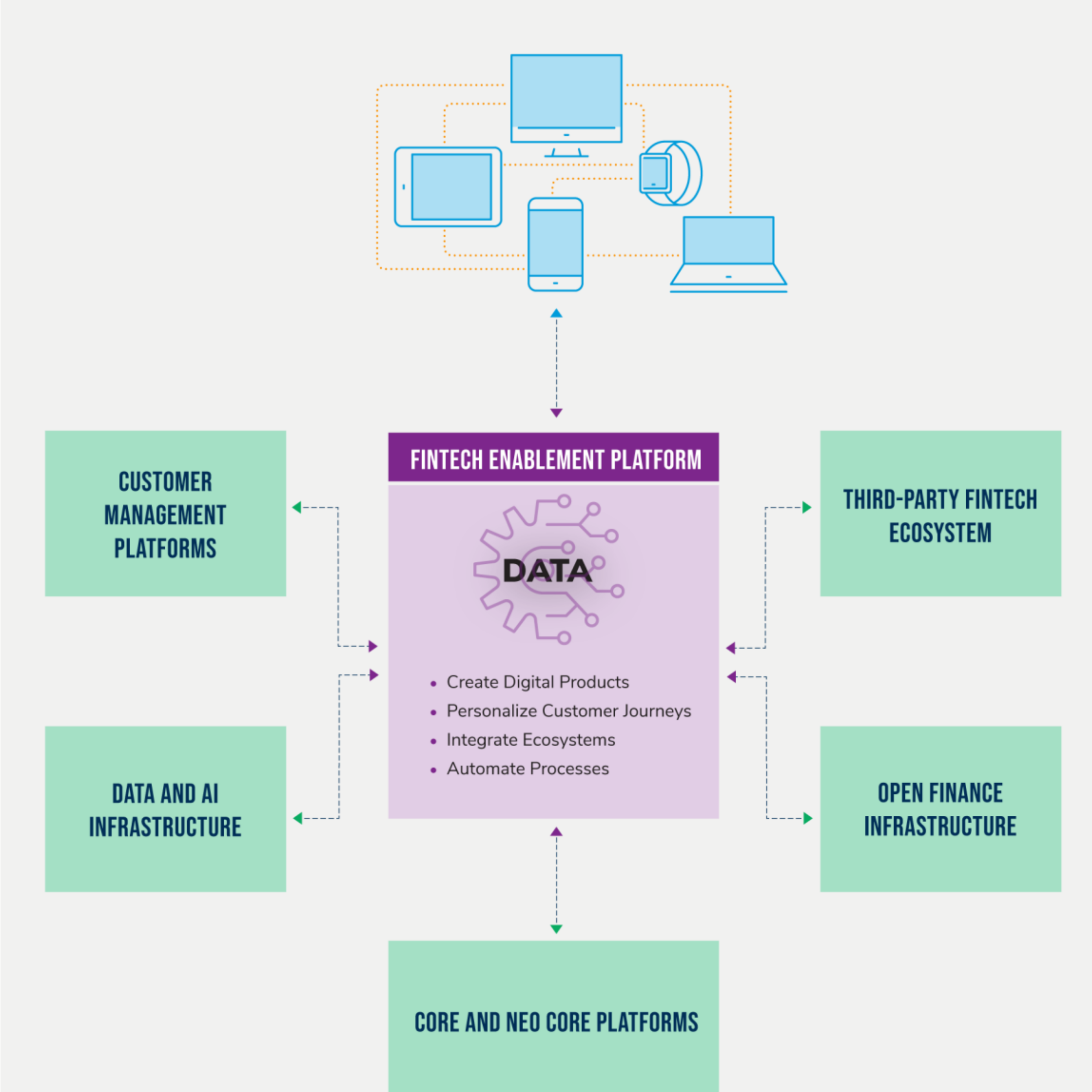
The growth of new cloud-based composable architecture platforms, including the expanding availability of containerized and modular deployment options, means that FIs now have greater ability to launch the tools they need to drive innovation and new customer journeys themselves. This gives FIs more freedom than traditional reliance on third-party partners while reducing the potential risk of creating new forms of technical debt.

Crucial to the successful use of fintech enablement are platforms that can provide the security assurances and compatibility FIs require in their broader infrastructure. Plug-and-play solutions from third-party vendors and emerging fintechs can often lead to due diligence problems in terms of legal and technical compliance. These risks can be reduced when FIs have the tools to develop and manage innovations and new customer journeys themselves.

The recent growth of no- and low-code capabilities further adds to the potential benefits of fintech enablement platforms. This empowers less technically adept staff who have a better understanding of the market, and their own FI customer needs to handle both development and a more iterative flexible design approach.

Figure 4 provides a conceptual outline of what a fintech enablement platform could look like within an FI or other organization. Aite-Novarica Group notes this includes connectivity into the broader open finance space, showing how versatile fintech enablement can be as open banking initiatives give way to other financial sectors like wealth, pensions, and so on.

FIGURE 4: OVERVIEW OF A FINTECH ENABLEMENT PLATFORM APPROACH



Source: Aite-Novarica Group

EMBEDDED FINANCE MEANS FIS NEED NEW TOOLS TO SHAPE CUSTOMER JOURNEYS

A fintech enablement platform is typically a cloud-driven API solution that sits between core infrastructure and front-end engagement layers. A successful platform provides the tools necessary to build out innovation in flexible and agile ways that can use, but is not reliant on, existing infrastructure.

The growth of open banking and embedded finance is furthering FIs' need to be able to shape unique customer journeys with a host of potential partners. In a world of embedded finance, any business can serve as the front-end engagement layer driving new experiences—and ultimately sales—in financial services. For instance, while payments in the background of ridesharing apps have become common, more recent experiences like building out a loan or insurance package for consumers booking travel, or commercial lending tied into business-to-business (B2B) supplier networks, are expanding opportunities to generate new customer journeys.

Banks that are overly reliant on their existing technology partners will struggle to keep up with the demands and potential opportunities of embedded banking. Fintech enablement provides banks and FIs with the capacity to manage and develop these new channels more efficiently and, over time, at increasing scale.

Fintech Enablement Helps Break Down FI Product and Technology Silos

Despite much of the industry's talk about breaking down silos between business lines and becoming more customer-centric, many FIs continue to hold a strong cultural and operational split between their lines of business, as well as their technology teams. Seeing new technology as something done to the business rather than for the business remains an all-too-common perspective.

Fintech enablement gives significantly more control to business teams, allowing them to stay close to the design and development process, increasing speed to market. This aids in overall agility for the FI, facilitates innovation, and helps provide a much more customer-centric approach to the products and services on offer.

BANKS NEED A SCALABLE PATH TO ONGOING MODERNIZATION

Innovation has become key to staying competitive. To enable innovation, FIs need tools that can help them adapt their offerings efficiently and at speed. A fintech enablement platform is not an alternative to broader core modernization initiatives. Rather, it creates an environment where FIs can use composable architecture to innovate and develop new customer journeys independently.

Strategies such as greenfield parallel deployments that do not leverage the existing technology infrastructure operated by FIs can be hugely wasteful exercises over time. In those circumstances, process duplication and repetition risks result in a messy situation with poor customer outcomes and an expensive modernization journey. By using a fintech enablement platform, FIs can leverage the technology they already have and add on capabilities in a lighter and more flexible way.

FIs Need to Be Ready for Rapid Market Shifts

Fintech enablement platforms provide FIs with the nimbleness needed to react quickly to changing market conditions. In practice, this means that FIs can choose their own modernization path and priority areas. Individual point solutions, new services, or new customer journeys can be initiated at an FI's own pace and limit the risk of focusing on the wrong areas, should market conditions change after initial scoping takes place.

Many organizations that did not place enough focus on their digital banking and onboarding capabilities were caught flat-footed when the COVID-19 pandemic led to a rapid shift in customer needs and expectations. Banks and other organizations that had invested in their digital banking and onboarding capabilities saw significant market gains, while others scrambled to partner with emerging fintechs or find immediate short-term solutions.

Fintech enablement provides FIs with the capabilities to modernize, innovate, and manage their products and customer journeys in a more rapid and dexterous way. As the need for speed increases, the ability of FIs to adapt their capabilities and services with minimal reliance on third-party partners will only grow in importance, providing a clear competitive advantage.

CONCLUSION

- Customer expectations are changing rapidly, driven by growing demand for personalization, contextualization, and greater ease of use across the financial services landscape. As a result, FIs need to consider how they can better target customers who increasingly expect to be met where they are.
- Younger people tend to have more openness to new technology and financial service capabilities. This generational shift in attitudes is driving an increasing pace of change. However, older channels are still important, and FIs must contend with innovation in a true omnichannel environment.
- Banks recognize they need to modernize, but the path to modernization remains complex, particularly as services, channels, and financial products continue to diversify. Single point solutions bolted onto legacy infrastructure are increasingly untenable. Banks and other FIs must beware of creating new technical debt as they seek to deliver innovation.
- Many FIs are struggling with where to focus their strategic modernization efforts—back-office and core capabilities vs. more tactical front-end and point solutions. This leads to a significant use of FI resources and major inefficiencies. FIs need to consider strategies that modernize their infrastructure while also efficiently delivering on innovation.
- Core replacement, while important, is not a silver bullet to most FI challenges, as the modernization process can be hugely disruptive and expensive and leaves FIs reliant on core providers. Banks and other organizations should seek solutions that can work with existing infrastructure while also providing a path to innovation.
- A fintech enablement platform with composable infrastructure that enables nontechnical staff to drive innovation and new customer journeys should be considered by financial organizations regardless of where they are on their modernization road map. These solutions can help drive long-term, scalable innovation.

ABOUT FINTECHOS

FintechOS is the global leader in fintech enablement, with a mission to make fintech innovation available to every company. The FintechOS platform simplifies and accelerates the launching, servicing, and expansion of financial products and services, helping businesses recognize value up to 5 to 10 times sooner than with other approaches: with FintechOS, companies can get up and running with new financial solutions in as little as 12 weeks.

Unlike others, FintechOS breaks data free from the core, enabling the creation of personalized and differentiated products and customer journeys at scale. FintechOS connects with any ecosystem tech or service—financial and nonfinancial—and can plug anywhere in the tech stack, working with existing and legacy tech that companies want to keep.

A global employer co-headquartered in London and New York, FintechOS customers range from globally strategic companies like Groupe Société Générale, Admiral Group, and BPCE Oney, to game-changing players like Vibrant, eMag, and Howden. Its partners include both niche consulting agencies and global consulting firms and systems integrators, including Deloitte, EY, and PWC.

ABOUT AITE-NOVARICA GROUP

Aite-Novarica Group is an advisory firm providing mission-critical insights on technology, regulations, strategy, and operations to hundreds of banks, insurers, payments providers, and investment firms—as well as the technology and service providers that support them. Comprising former senior technology, strategy, and operations executives as well as experienced researchers and consultants, our experts provide actionable advice to our client base, leveraging deep insights developed via our extensive network of clients and other industry contacts.

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