

MAY 2020

FinXTech[®]

INTELLIGENCE REPORT



APIs

NEW OPPORTUNITIES FOR
REVENUE AND EFFICIENCY

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Dear Reader,

Three years ago, *Bank Director* magazine featured a story titled “The API Effect.” The story explained how banks could earn revenue by using application programming interfaces, or APIs, passageways between software systems that facilitate the transfer of data.

The article offered a prediction: APIs would be so prevalent in five years that banks that were not leveraging them to connect with partners and customers would be like banks that didn’t offer mobile banking applications in 2017.

Today, the banking industry is on a fast track to proving that hypothesis.

Banks are hurtling headlong into the digital revolution—a response, in no small part, to the Covid-19 pandemic. The social distancing measures enacted to contain the virus have forced banks to operate without branches, paper and physical proximity to customers.

Banks are expected to provide up-to-the-minute information, even as the world is changing by the hour. They’re grappling with ideas about what it means to be a bank and how to serve customers in these challenging times.

APIs make it possible for customers to open and fund new accounts instantly and remotely. As a corollary, they help banks bring in deposits when people can’t visit a branch. The technology pulls data from mobile applications, ATMs, call centers and chat conversations into systems that use it to send timely and topical messages to customers. APIs also enable capabilities like real-time Bank Secrecy Act checks — an invaluable tool for banks struggling to process the onslaught of Paycheck Protection Program loans provided by the Small Business Administration to stem the tide of losses from the coronavirus crisis.

Those capabilities will still be important when the crisis is over. But by then, thanks to the surge in API adoption, they’ll also be table stakes for banks that want to remain competitive.

In short, there’s never been a better time to explore what APIs can do for your bank, which is the purpose of this report.

Best,



Amber Buker
Program Director, FinXTech Connect

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BankSouth Holding Co. seems like a quintessential community bank. It operates six branches and 10 mortgage origination offices throughout its northern Georgia footprint, stretching from Atlanta to the Atlantic Ocean. “No one understands your needs like a local bank where decisions aren’t run up to the corporate office,” advertises the \$718 million bank’s homepage. One is left with the impression of a high-touch, not high-tech bank.

Nothing could be further from the truth. BankSouth proves that technology and community banking are anything but mutually exclusive. It’s one of a growing number of smaller banks fighting their way to the front of the digital banking revolution.

In 2018, BankSouth did something few banks do: When the time came to renew its contract with its core provider, it decided to make a change. The bank had implemented several new technologies to streamline the customer experience, but none of them worked as expected. Its core provider didn’t offer the connectivity needed for the tools to work properly. So BankSouth’s staff resorted to manual processes to bridge the gap, defeating the purpose of the technology in the first place.

After years of workarounds, BankSouth had enough. It could buy all the software in the world, its leaders realized, but the software wouldn’t work unless it communicated effectively with the core. “The bank decided that an ounce of integration was worth a pound of new functionality,” says Keith Sebade, chief strategic officer at BankSouth. That’s why connectivity took a top spot on the bank’s wish list when it shopped for a new core.

The pitch from Jack Henry & Associates resonated most because it put integration center stage, recalls Sebade. Jack Henry’s team described its products as best in class, but they also recognized that banks want flexibility to work with other third-party vendors. The solution? Application programming interfaces, or APIs, neatly packaged into its jXchange program, enabling software programs to exchange information. That sealed the deal.

Swapping cores is a herculean task for any bank, but BankSouth felt compelled to undertake it. Yes, it could have continued working around its core’s antiquated infrastructure, but the Greensboro, Georgia-based bank wasn’t only interested in solving immediate problems. It also wanted to avoid making compromises in the future, playing catch-up and missing opportunities because its systems weren’t compatible.

The APIs bundled into Jack Henry’s jXchange program checked all the boxes. BankSouth used the program to integrate its online banking and loan documents. Next, it intends to use jXchange to offer better online account opening and mobile experiences.

When the bank is done catching up, what will it do with its API infrastructure? The short answer is anything it wants. APIs make it possible for banks to work with whoever they want, however they want and whenever they want. They make banks future-proof.

Getting Started with API Strategy

APIs sound complicated, but they are simple. They are passageways that facilitate the exchange of data between software systems. Want to download a large batch of data from the Federal Deposit Insurance Corp.? You'll need to access its API. Want to connect your bank's mobile app to the core? An API will do the trick. This isn't novel technology; it's been around for decades. But in the internet and mobile computing age, APIs are no longer optional.

The simplest type of API is a "read-only" API. These power open banking in the United Kingdom, as well as screen-scraping programs in the United States. Read-only APIs pull data from one system into another. They're a one-way street, so they have fewer implications for banks than their counterparts, "read-write" APIs.

Read-write APIs enable the bidirectional exchange of data between systems. They make it possible for a bank's online account opening solutions to write to the core, for example, automatically booking new account data into the system of record. This process can have far-reaching implications, opening doors to more efficient operations, better customer experiences and new revenue lines. To conceptualize those opportunities, it helps to examine the common themes that have driven API adoption throughout the banking industry.

Banks rely on APIs for internal efficiencies. So-called internal APIs garner scant attention from customers and the press, but their role is crucial. They free a bank's data by linking it to

internal operating systems. APIs can connect a bank's system of record, for example, with its loan origination system and its customer relationship management tool to eliminate repetitive data entry.

Internal APIs also provide banks with the technical building blocks they need to bring new products and applications to market. Banks that interconnect their corporate banking offerings can offer a simpler, single sign-in suite of treasury products that all communicate with each other, for example. An even simpler application of internal APIs can power the "find your nearest branch" function within a bank's mobile app.

APIs remove barriers to experimentation as well. Banks that leverage APIs are well-positioned to incorporate third-party solutions quickly, and it's easier for external technologists to build solutions from scratch. API-enabled banks may make for more attractive acquisition targets, too, or more attractive partners for commercial opportunities like point-of-sale financing.

Finally, some banks rely on APIs to bolster their reputations. APIs aid partnerships with fintechs and corporations that can elevate a bank's status. Hackathons and accelerators offer convenient press opportunities. A tech-forward culture can boost morale within the bank and serve as a magnet for new talent. Perhaps most importantly, investing in transformation technology like APIs signals to a bank's stakeholders — customers, employees and investors — that it's preparing for the future.

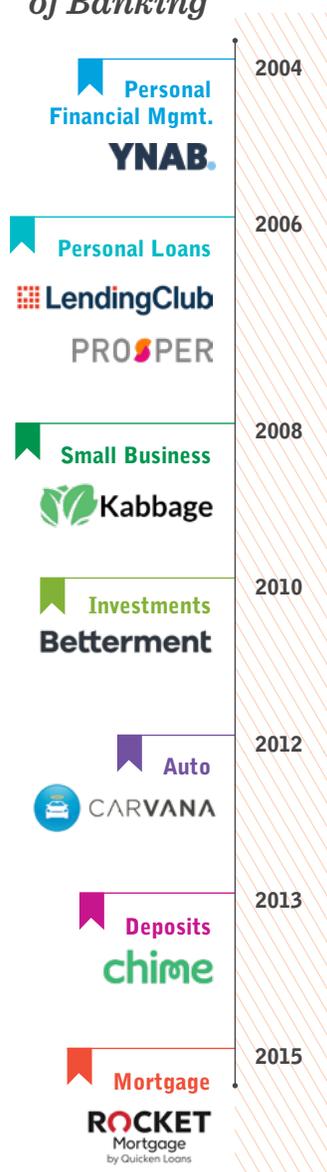
Read-Only vs. Read-Write APIs



Market Trends Driving API Adoption

The proliferation of APIs couldn't come at a better time for the banking industry. Customers expect banks to provide a quality digital experience. The only way to do that is to leverage APIs. Beyond this, there are five important market trends driving banks' adoption of APIs.

The Unbundling of Banking



1. Core Contract Renewals

The average bank has just 2.5 years left on its core contract, according to Cornerstone Advisors. The implication is that a wave of banks will soon decide whether to stick with their current provider or follow BankSouth's lead and go elsewhere.

It's rare for banks to leave their core provider, but the renewal window provides a convenient opportunity to do so — or to negotiate for API access. Not enough banks take advantage of this opportunity, says Raj Patel, co-founder of MANTL, a digital account-opening solution that reads and writes to the core.

"If you're a bank, you need access to your core systems for yourself and also to provide to a third party," Patel says. "That has to come from your core provider, and too many banks in the country today do not have an agreement with their core for that access."

Few banks take advantage of full core connectivity because they're focused instead on triage, addressing a multitude of immediate issues. Bank leaders typically negotiate a scope of work for a single project to optimize costs, according to Patel. When they do that, they miss the bigger picture of API access, which he says will become increasingly critical.

A base connectivity layer, or middleware, is "one of those things that you will have to add in the next 10 years if you don't already have it," Patel says. "The real question is, can you negotiate good products and access up front — or are you going to get hit by it in the back end?"

2. Re-Bundling of Banking

Fintechs spent the early 2000s wooing bank customers with standalone solutions that, little by little, carved away chunks of the customer relationship once served by traditional depository institutions. This came to be known as unbundling.

Fast forward to today and unbundling has given way to re-bundling.

Single-product fintechs are maturing into one-stop-shops, adding new products and traditional banking services to increase utility and stickiness. Banks also stand to benefit from re-bundling by providing new offerings that can reclaim the engagement they lost.

New York-based fintech Narmi offers a case in point. Its flagship digital banking product provides all the meat-and-potato capabilities one would expect from mobile and online banking. What's special about Narmi are the added benefits it delivers through APIs.

Narmi uses APIs to aggregate transactions from a customer's various accounts — checking and savings accounts, credit cards, mortgages, etc. — regardless of where those accounts are held. This gives customers a holistic view of their finances as well as the ability to use Narmi's budgeting tool. APIs can also connect customers with companies like Lemonade to access hassle-free insurance or BillShark to cancel unwanted subscriptions and negotiate lower bills.

To help banks find fintechs that are already plugged into the ecosystem, Narmi offers a fintech marketplace. The open API infrastructure means it can easily incorporate any services a bank wants to bundle into its digital banking experience. Some of those services even provide new revenue for banks. Narmi reports that one fintech on its platform generates thousands of dollars per month in revenue for a bank user.

In short, through API providers like Narmi, banks can bundle their services with other third-party solutions. Doing so can create new revenue opportunities for banks, while simplifying the financial landscape for customers.

The Re-Bundling of Banking



3. Embedded Finance

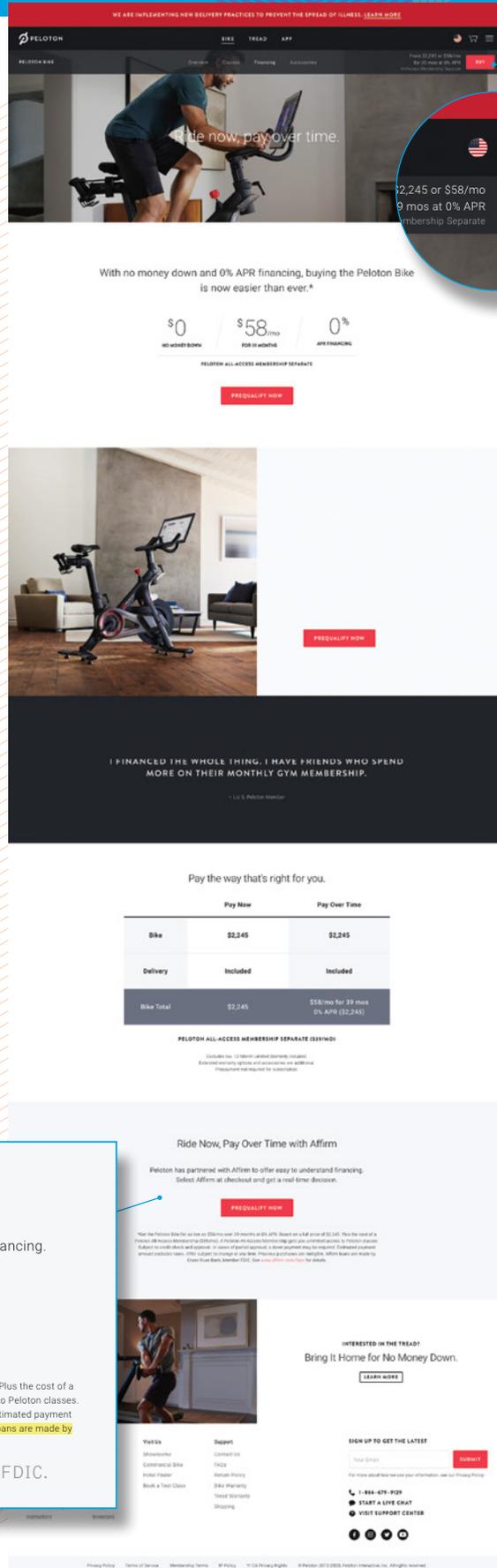
APIs create opportunities around point-of-sale financing, e-commerce and other embedded financial experiences. Ravi Balasubramanian, co-founder and CEO of Sandbox Banking, which provides a universal adaptor for bank systems, points to the exercise bike from Peloton Interactive.

Pelotons are expensive, so the company gives customers access to installment financing. The loans are made through Affirm, but they're backed by Cross River Bank, a \$2 billion bank in Fort Lee, New Jersey.

Why does Cross River, as opposed to any other bank, originate these loans? "If my wife was going to buy a Peloton, why wouldn't the financing just be provided by the bank we bank at?" Balasubramanian asks. The only reason, he says, is that their bank doesn't have the APIs it needs for real-time communication between all the parties involved.

In another example, a South American bank relies on APIs to complete payments for ships traversing the Panama Canal. The bank is a client of the U.S.-based API provider OpenLegacy. Hans Otharsson, OpenLegacy's customer success officer, explains that the bank created an app for captains to pay tariffs and duty fees without leaving the ship.

"It's almost like putting a teller on board," Otharsson says. "That was a line of business that [the bank] never even thought about. Now they're looking at how they can take that to airports. It's a whole new revenue stream for them."



Ecommerce and Embedded Finance Source: Peloton.com

Ride Now, Pay Over Time with Affirm

Peloton has partnered with Affirm to offer easy to understand financing. Select Affirm at checkout and get a real-time decision.

PREQUALIFY NOW

*Get the Peloton Bike for as low as \$58/mo over 39-months at 0% APR. Based on a full price of \$2,245. Plus the cost of a Peloton All-Access Membership (\$39/mo). A Peloton All-Access Membership gets you unlimited access to Peloton classes. Subject to credit check and approval. In cases of partial approval, a down payment may be required. Estimated payment amount excludes taxes. Offer subject to change at any time. Previous purchases are ineligible. **Affirm loans are made by Cross River Bank, Member FDIC.** See www.affirm.com/faqs for details.

Affirm loans are made by Cross River Bank, Member FDIC.

4. Data Governance and Ownership

PNC Financial Services Group made headlines recently when it prohibited customers from connecting their accounts to Venmo, a peer-to-peer payments company.

Venmo collects customers' login credentials and uses them to access those customers' bank accounts through a combination of screen-scraping technology and APIs. PNC said it was concerned about Venmo's data security — or, more accurately, about the data security of Plaid, an API aggregator used by Venmo. Instead, PNC urged customers to use Zelle, a competing payments platform established by the country's biggest banks and embedded in PNC's app.

Customers revolted, inundating PNC with complaints about their inability to access Venmo.

The moral of this story is less about PNC than it is about Venmo. The world of apps that connect to banks — willingly or unwillingly — will continue to grow, as will the need for banks to build API strategies that address data privacy, sharing and consent.

Outside the private sector, regulators are crafting guidance around section 1033 of the Dodd-Frank Act, which codifies the idea that customers own their data. Meanwhile, the California Consumer Privacy Act went into effect in January 2020, creating onerous requirements for banks holding the data of California residents.

To comply with these new rules and regulations, as well as to serve customers in the ways they want to be served, banks will need APIs.

Customers React to PNC



5. Banking as a Service

While APIs are powering a re-bundling of products and the opening of new markets, they're also helping banks make the most of their most valuable assets — their charters and access to payment rails — by partnering with fintechs to provide Banking as a Service (BaaS).

BaaS refers to the provision of financial products and services to nonbanks that, in turn, provide financial products and services to end users. The model presents new revenue streams that banks can access simply by doing what they do best — managing balance sheets, risk and compliance. But it also takes a healthy dose of technology to make these arrangements work.

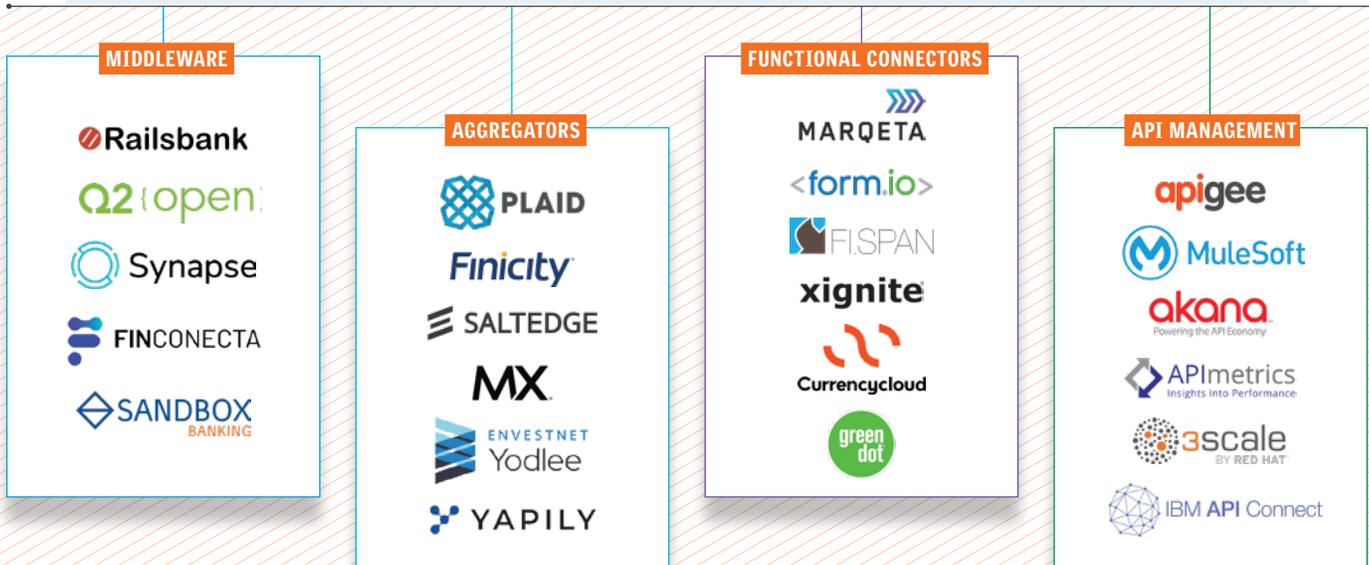
BaaS providers like Cross River Bank have constructed API stacks to support partners, which include household fintech names like Affirm, Stripe and Visa. Other banks pursue a wholesale BaaS strategy, wherein fintechs like Cambr, which is backed by Q2 Open, provide banks with the APIs they need to deliver BaaS and help recruit fintech clients.

Regardless of how the program is constructed, BaaS is a potentially lucrative business line that's only available to banks that embrace APIs.

API PROVIDER LANDSCAPE

There are several ways for banks to implement APIs. Some will work with their cores to access the necessary connectivity. Ready-made APIs from fintech providers can quickly address the most common connectivity requirements. For more complex use cases — like large banks running on old mainframes — the line from systems of record to end users could be longer, with several providers along the path.

Understanding the landscape of API providers can help banks get a firmer grasp on the technology and start conceptualizing the scale and design of their potential API project.



Middleware

Middleware can have different meanings in the API context. For the purposes of this report, it refers to a separate technology layer that lives between a bank's core systems and its front-end development tools.

Aggregators

Aggregators use APIs to pull data from financial institutions and other enterprises, aggregate it, then make it available to their customers via other APIs. This eliminates redundancies. Instead of connecting to each bank's API separately by inking deals with individual institutions, one only needs to connect to the API aggregator. A well-known company in this space is Plaid, which announced in January 2020 that it will be acquired by Visa.

Functional Connectors

Many companies offer APIs for specific products a bank might want to use. The APIs from San Francisco-based fintech Xignite, for example, pull financial market data feeds into a bank's research tools. Similarly, Form.io provides banks with a set of APIs designed to feed data pulled from complex forms and applications into a bank's systems.

API Management

API management gateways help banks control the traffic and security of their APIs. Banks that run BaaS programs or offer public-facing APIs are among the most frequent users of this technology. Gateways reduce the workload on a bank's servers for tasks like caching, security, logging and auditing. Gateways also aid traffic management — authentication and routing requests that can be tricky to manage in times of high usage.

CORE PROVIDER API OFFERINGS

fiserv.

Communicator Advantage

FIS

Code Connect

jack henry
& ASSOCIATES INC.

jXchange

PURE BAAS PROVIDERS

BankMobile

BBVA
Open Platform

cross river

The Bancorp Bank

BANKS W/BAAS SERVICES

RADIUS BANK

SuttonBank
Old-fashioned Innovation

EVOLVE
bank & trust

Lincoln SAVINGS BANK

FRONT END

HYDROGEN

UNQORK

BACK END

OpenLegacy

boomi

talend

software AG
Freedom as a Service

BaaS

The Banking-as-a-Service category of APIs is a crowded field with multiple players. It can be broken down into two groups — pure BaaS providers and retail banks with BaaS services. Pure BaaS providers typically offer their own, internally developed APIs to BaaS clients, while retail banks that provide BaaS services are often smaller community banks leveraging internal APIs and fintech partners to build a BaaS offering.

Front End

Front-end developer tools rely on APIs to consume data from middleware to power online and mobile applications.

Back End

Back-end technology providers standardize a bank’s data and build APIs that expose the bank’s systems. Once that is done, the back-end APIs can be integrated with middleware to funnel data into front-end applications.

Core Provider Products

Major core providers offer products that provide a base layer of connectivity to the system of record and allow for the exchange of data between the core and third-party solutions. These products reduce the need to create custom interfaces for each tool a bank wants to use.

CASE STUDY



Curt Queyrouze,
president,
TAB Bank



Kent Llewelyn,
CIO/CTO,
TAB Bank

“You don’t have to do it the way we did it. But I do think that you’ve got to have that key individual that can put this stuff together.”

Kent Llewelyn

Curt Queyrouze has fought to liberate data ever since he was a young lender. When a bank he previously worked at implemented new technology in the 1990s to enhance its commercial credit offerings, he shared it with business borrowers to illustrate how the bank interpreted their companies’ financial statements. Queyrouze was reprimanded for doing so — the software was proprietary. But he believed then, and still believes today, that data plays a crucial role in the relationship between a bank and its customers.

Queyrouze never lost sight of that. As president of \$880 million TAB Bank Holdings in Ogden, Utah, he’s helping the bank make data accessible through APIs. The story of how they’re doing so serves as a roadmap for other banks.

TAB’s API journey started with its core, which the bank realized was holding its data hostage. The first step to “freeing the hostages” was investing in a new data platform, Queyrouze says. He enlisted Kent Llewelyn, the bank’s chief information and chief technology officer, to lead the project.

Llewelyn was an ideal choice to bridge TAB’s legacy systems with more modern infrastructure. He started working right out of high school for the U.S. division of Teleperformance, a global leader in business process outsourcing. Within two years, he was promoted to IT director. After that, he helped government agencies prepare for Y2K. He also posts memes on Facebook and plays Call of Duty, a popular online video game.

TAB’s technological infrastructure looked like most other banks when Llewelyn and his team got to work. Its data was dispersed throughout siloed systems, requiring employees to log into multiple programs to see it all. There was no way to aggregate the data or share it with others. The first step to build their new platform was to centralize the bank’s data. TAB did so by normalizing it and then collecting it in a data lake — a centralized repository — where it could be accessed by APIs.

TAB worked with fintechs to provide some of the foundational technology. This included implementing a gateway from Mulesoft, which serves as a point of control over APIs by determining which traffic is authorized to access back-end services. But the heavy lifting for the bank centered on developing an overarching API strategy — figuring out which APIs were needed, to expose to what data, in what format and how it would all be made accessible.

TAB knew it needed to build its API program on common standards to promote adoption by the developer community. As a starting point, Llewelyn looked to the European Union’s revised payment services directive, or PSD2, which requires financial institutions to make their data accessible to third-party developers. The problem with PSD2, however, is that it focused on open banking use cases that need only “read” data access. This meant that TAB had to create “read-write” APIs that allow for inserting, updating, deleting and otherwise manipulating data.

All of TAB’s APIs talk to the same “process layer,” similar to an enterprise service bus that enables communication between software applications. What makes TAB’s process layer unique is the APIs that feed into it. Each one presents a different “experience layer” that can be customized to suit the needs of a vendor or BaaS client.

In 2020, TAB plans to take its API initiatives one step further by rolling out its own open-banking sandbox. It’s building a generic open-banking API that third-party technology



companies and other banks can use to build and test new financial products. They simply register for the service, receive their API keys and start constructing apps. If sandbox customers decide to partner more closely with the bank, it's as easy as plugging the solution into TAB's infrastructure.

Launching a sandbox should build industry buzz around TAB and cement its reputation as an innovative bank. More importantly, the bank anticipates its sandbox will bring new business partners and ideas to light. Ultimately, Queyrouze wants TAB to become a "ninja of the plug-and-play infrastructure." By leveraging their strengths as an API-strong enterprise, he says, the bank "can take advantage of anything out there."

Since TAB was born on the internet and doesn't have to maintain a burdensome branch network, it has capital available to invest in technology. It has already allocated millions of dollars to its API-led initiatives. This amounts to a "shoestring budget for what we're pulling off," says Queyrouze, who credits the bank's success to Llewelyn and his team.

Constructing a team that can accomplish this is no small feat. "To think you're going to go out — especially in this market — and find all of the right resources and people, and that they'll be local within your area is a tall task," Llewelyn says. The bank outsources some of its coding and programming projects, which allows its team to expand and contract as needed.

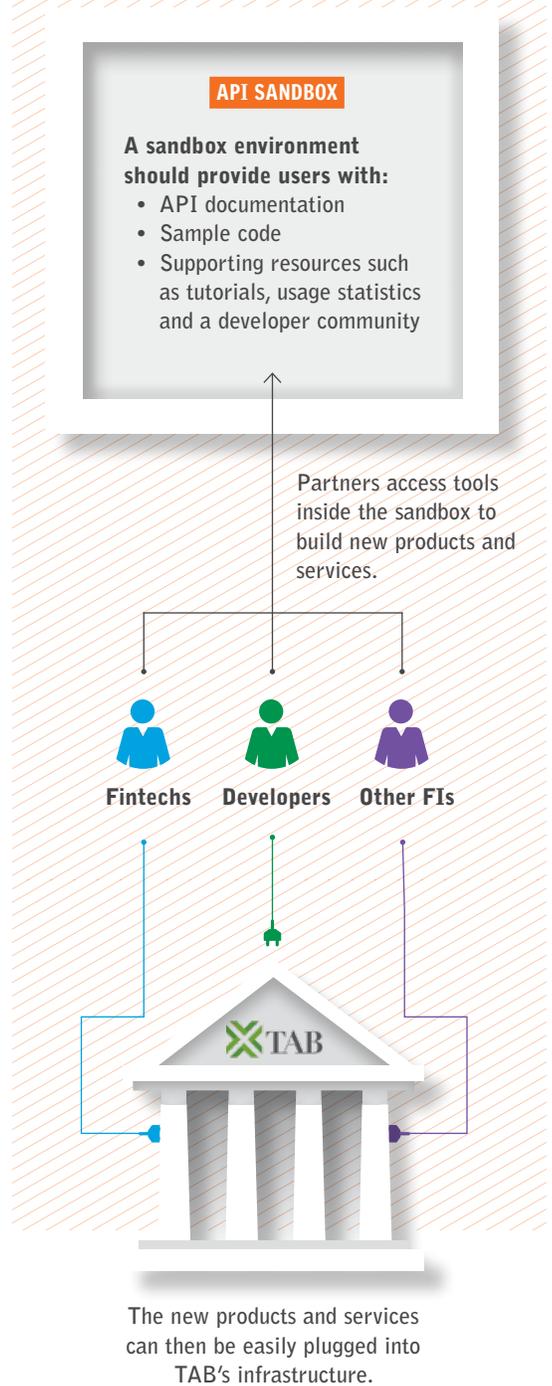
"You don't have to do it the way we did it," Llewelyn says. "But you've got to have that key individual that can put this stuff together." Project managers, development managers and solution architects at the bank help Llewelyn oversee remote resources, making it possible to do more than the team could by limiting itself to local talent.

Over the last several years, TAB has come to rely more and more on its API infrastructure and data platform, which is slowly becoming the new system of record for some operations. Decreasing the bank's reliance on its core systems today will make it easier for it to upgrade to systems with higher computing power down the road.

In the meantime, APIs have made it possible for TAB to migrate off a popular loan platform by building itself an onboarding solution that's better suited for niche offerings, like working capital loans. APIs have also enabled the bank to take advantage of BaaS and other new business models like sponsoring loans from fintech partners.

What TAB Bank has been able to accomplish in the last five years is impressive. "The first step is to lean into tech," Queyrouze says. He advocates that banks become active participants in banking technology circles, noting that his team "leaned heavily on a lot of smart people that don't work at TAB Bank" to build its infrastructure. "You can't get to know those smart people unless you're out there talking to them."

The Sandbox Model



NEXT STEPS

A bank's API strategy should always be focused on how APIs can solve its most pressing business issues and respond to its biggest opportunities. Once a bank's needs are prioritized and a specific use case for APIs is identified, the scope of the project should become clearer.

Does it require a one-off integration? Should a more-formal relationship be established with one of the core's API gateways? Or do the bank's business objectives require a more complex modernization process?

Whatever the size of the project, there are important questions a bank should answer before embarking on it.

QUESTIONS TO ASK



Who should be the business sponsor for the project?

This should be someone with subject matter expertise in the area the API project will focus on. The project will need dedicated attention; it can't be a side project.



How will leadership create a shared vision of the bank's API strategy across the organization?

Providing a common vision of the future the bank wants to create with APIs will help win buy-in. Banks should educate stakeholders about the benefits of current API projects and the long-term advantages of building API competencies.



What are the important day-to-day priorities that move the needle?

These will look different for each project, but the idea is to keep an eye on big-picture priorities the bank needs to accomplish at every stage. Earning buy-in, recruiting talent, vetting providers and forming partnerships are just a few competencies a bank will need to build a successful program.



How will the bank maintain proper oversight of the program?

Banks must always be prepared to answer questions from regulators about their APIs. Who has access to what? What security and other oversight measures are being taken to secure data?



What are some additional ways the bank can take advantage of the technology being put in place for this project?

One key to deploying APIs as an organization is keeping an open mind about how those tools could be tweaked or transplanted to other areas of the bank to maximize returns.

In the early 2000s, leading internet companies like Salesforce, eBay and Expedia implemented business strategies that were dependent upon APIs. These companies used APIs to improve their operations, engage innovators that enhanced their products and infiltrate new markets. Today, those companies owe significant portions of their revenue to API-based business lines. Salesforce generates 50% of its revenue from APIs, according to research from Celent. That number is 60% for eBay and 90% for Expedia.

Each of these companies use APIs differently, and effectively, to grow.

There is no one-size-fits-all approach to formulating an API strategy. Finding your bank's unique path to modernizing and monetizing with APIs is part of the challenge, and part of the fun. Because, in the end, APIs just represent optionality. They give banks boundless options for accomplishing their goals.



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