Platform Economics Are Disrupting The Banking Industry

Adapt And Succeed By Adopting A Balanced Platform Strategy

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Project Director:
Andrew Magarie,
Senior Market Impact Consultant

Contributing Research:
Forrester's Application
Development research group

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Executive Summary

As customers embrace online banking and new digital disruptors, banks must ramp up their digital transformation efforts or face irrelevance.[1] However, for too many, digital transformation is seen as a series of one-off projects that are delivered late and over budget, creating a spiraling technical debt that limits updates and cripples long-term value. To break this vicious cycle of late and over-budget project deliveries, and empower digital transformation at scale, banks must invest in banking development platforms that enable the development of fast and flexible services.

A banking development platform should be quick to update, simple to maintain, secure by design, and easy to extend. An essential, but often overlooked key to success is how these development platforms are designed and architected. While conventional thinking dictates that internally-developed platforms deliver greater flexibility at lower costs, actual results from transformation efforts show otherwise. Technology decision makers must abandon the traditional "buy versus build" mentality, and instead adopt a "buy, build, extend, and assemble" approach to creating a banking development platform that takes full advantage of the benefits of commercial components where possible.

In March 2018, Avoka commissioned Forrester Consulting to evaluate the challenges that bankers and technology decision makers face when building customer-facing applications and services. Forrester conducted an online survey with 210 business and technology decision makers who are responsible for decisions regarding the development of customer-facing applications/services or developers working directly on these systems to explore this topic.

KEY FINDINGS

› **Poor architecture and technology choices often lead to missed deadlines and blown budgets.** Technology decision makers at banks are under pressure to deliver high-quality software quickly. Unfortunately, our survey shows that most projects take longer than expected and are over budget. And projects that take longer than expected are less likely to be updated frequently. So, who is the main culprit for blown timelines and budgets? Poor architecture and technology decisions.

› **Development teams should question the "business as usual" approach to building applications.** The most common way banks build applications today are by using internally developed components. However, our study shows that over-budget projects are more likely to use internal components, and that issues with quality, TCO, and customer experience were most likely to occur when internal assets were mandated by management, rather than selected as a best fit for the project.

› **A modern banking development platform takes advantage of the benefits of smartly used commercial components.** Today commercial services, platforms, and frameworks are more modular, and can be consumed and integrated as needed — helping banks reduce complexity and development time for common capabilities and allowing developers to focus on the truly differentiating features and user experience of their applications.

Technology decision makers must abandon the traditional "buy versus build" mentality, and instead adopt a "buy, build, extend, and assemble" approach to creating a banking development platform that takes full advantage of the benefits of commercial components where possible.

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Platform Economics Are Disrupting The Banking Industry, While Development Teams Struggle To Adapt

The banking industry is in a period of unprecedented innovation, driven by shifting customer behavior. Online banking is now the most used channel in the U.S. and smartphone use has eclipsed branch banking (see Figure 1).[2] The rise of digital channels enables new entrants to disrupt traditional banks by directly engaging "digital first" customers. At the same time, regulators are promoting increased competition and industry transparency. As a result, over three quarters of banks are working to digitally transform themselves.[3]

But banks are reacting at different speeds (see Figure 2). While leaders embrace digital transformation across their entire organization, too many banks continue to tackle transformation efforts as a series of one-off, check-the-box projects. This creates a chaotic delivery process that seldom results in a good return on investment. Many banking executives still think of being digital as having individual touchpoints or technologies rather than thinking strategically about how it can deliver new sources of customer value, improve customer experience across multiple touchpoints, and increase operational agility.
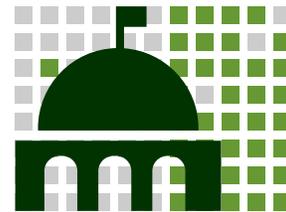
Figure 2

The current state of digital transformation for banks

8% Already finished

55% Currently working on transformation program

26% Planning to start in 2018 at the latest

11% No known plans
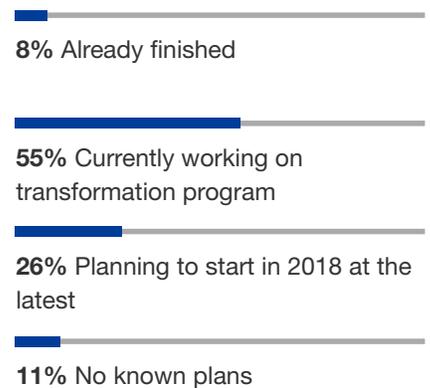
Base: 107 global financial services decision makers
Source: Forrester's Q3 2016 Global Financial Services Architecture Online Survey

Figure 1

Banking channels used by US adults at least monthly

43% Branch banking

73% Online banking

14%

7%

19%

20%

2%

20%

4%

46% Smartphone banking

13% None of these
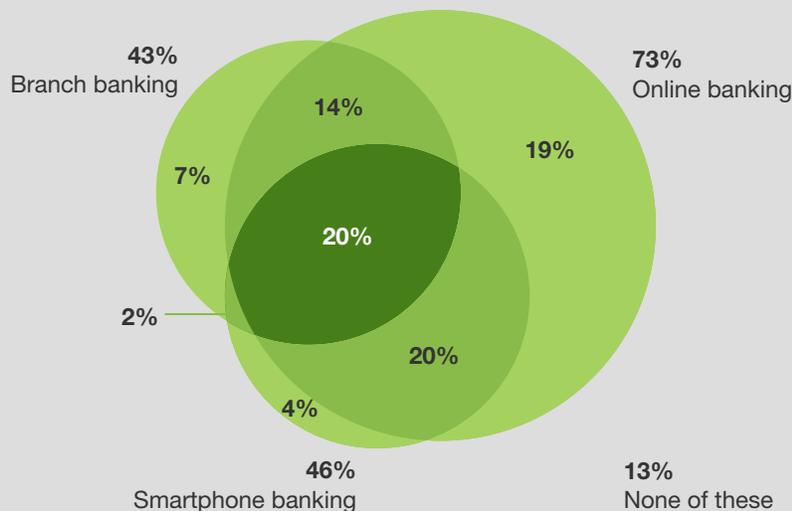
Base: 4,507 US online adults (18+)
Note: Percentages may not total 100 because of rounding.
Source: Forrester Data Consumer Technographics® North American Financial Services Survey. Q1 2017 (US)

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Technology decision makers also have an important role to play in a whole-organization approach to digital transformation (see Figure 3). They must: 1) build up their digital capabilities to respond to changes faster; 2) digitize key customer journeys; 3) build a single view of the customer; 4) streamline business processes; and 5) deliver open APIs that make it easier to build new customer services and products, especially as open-banking services challenge banks to act as both trusted stewards of customer data while seizing first-mover opportunities that new APIs and services offer.

To support digital transformation at scale, we find that technology decision makers at leading banks embrace a platform approach that: favors customer experience over vertical integration; promotes faster integration of suppliers and partners; and makes APIs broadly available to increase reach and customer value. The result is *banking development platforms* that: 1) enable the development of fast and flexible services and 2) strongly decouple business logic from data.

Figure 3

A banking development platform is required to support digital transformation at scale
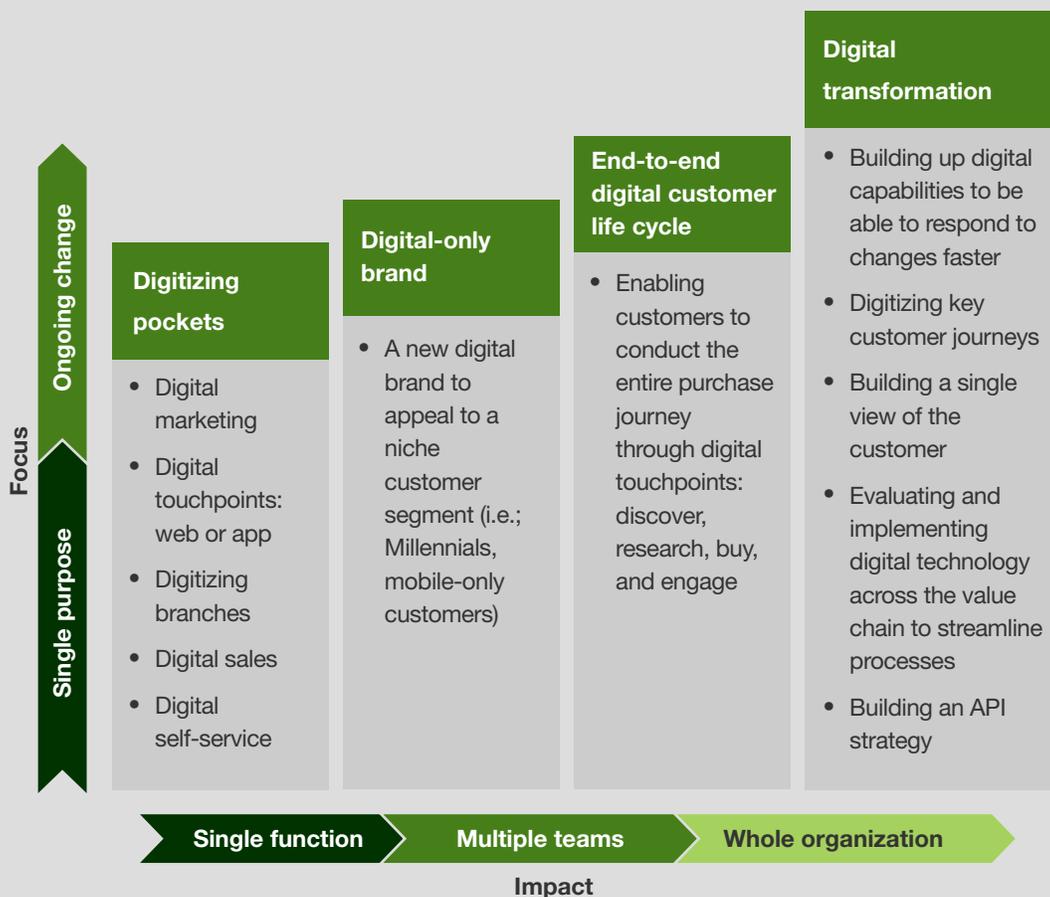
Source: "State Of Digital Banking, 2018," Forrester Research, Inc., February 7, 2018

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These platforms are built on a combination of commercial and internally built platforms, frameworks, and services that are assembled and extended to engage customers with convenient products and services at their point of need.
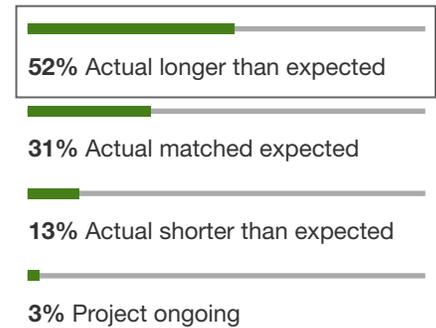
But creating a modern banking development platform is no simple feat. To investigate how ready banks are to take advantage of platform economics and deliver their platforms, we investigated the current state of customer-facing application development at banks and financial services firms. We surveyed 210 decision makers responsible for application development, or developers at enterprise banking and financial services firms in the US, Canada, France, Germany, and the UK. We asked survey participants about the dynamics of the largest customer-facing projects that they have worked on in the past five years. For the most part these are large, transformational projects: 61% percent of the projects referenced in this study employed 100 or more full-time employees, and over a quarter of the projects employed 500 or more (see Figure 4).

What we found is not comforting. Today's customer-facing systems are not quickly updated; they cost more than expected to build and incur technical debt that increases maintenance costs over time. We also found that business stakeholders also feel the heat when it comes to digital transformation — and they want technology leaders to deliver faster responses. The survey shows that:

› **Most projects take longer than expected.** Development teams are often bullish when it comes to how fast they think they can complete customer-facing projects, but those expectations often do not match reality (see Figure 5). Forty-two percent of respondents in our survey estimated that their project would take less than six months to complete, but only 26% of projects were actually completed that fast. Similarly, only 32% thought their project would take more than a year to complete, when in actuality almost half of all projects did. The bottom line is that development teams aren't delivering customer-facing applications and services that are quick to update.

Figure 5

"How long was this project expected to take when it started? How long did it actually take?"

52% Actual longer than expected

31% Actual matched expected

13% Actual shorter than expected

3% Project ongoing

Base: 210 decision makers in US, Canada, France, Germany or UK at companies 2500+ employees
Source: A commissioned study conducted by Forrester Consulting on behalf of Avoka, March 2018

Figure 4

"In terms of number of full-time employees, what was the largest customer-facing project you worked on in the past five years?"
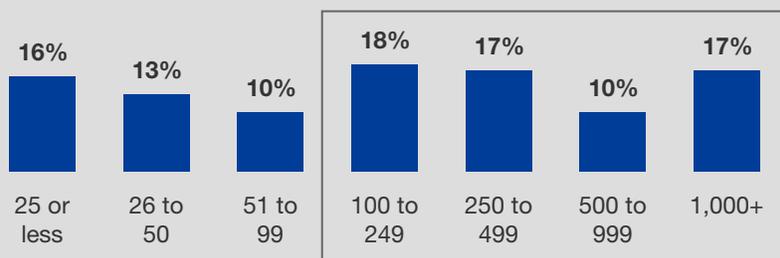
25 or less	26 to 50	51 to 99	100 to 249	250 to 499	500 to 999	1,000+
16%	13%	10%	18%	17%	10%	17%

Base: 210 decision makers in US, Canada, France, Germany or UK at companies 2500+ employees
Source: A commissioned study conducted by Forrester Consulting on behalf of Avoka, March 2018

Respondents use these largest projects as the basis for their survey answers in this report

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> › **A miss on speed is usually coupled with a blown budget.**
> While development teams at banks frequently miss their delivery
> dates, they almost always miss on budget. Our survey shows that
> just 12% of these projects are on or under budget, and nearly
> half (45%) were over budget by at least 25%. Delivery speed and
> budget performance are correlated — only 3% of projects that
> went over the expected time were on or under budget.

Without a banking development platform, it's hard to evolve the
current mess of customer facing projects into a bank-wide high
velocity, on-time, on budget digital transformation.

**THE SNOWBALL EFFECT: CURRENT APPROACHES TO
APPLICATION DELIVERY CREATE SPIRALING TECHNICAL
DEBT**

Software applications and services gain value when they are first
delivered, but they increase in value when they quickly evolve
to meet customer needs and deliver a differentiated customer
experience. To keep generating value from digital services and meet
the changing expectations of "digital first" customers, developers
need to create banking development platforms that are quick to
update and easy to extend.

Unfortunately, our survey shows that customer-facing projects with
problematic initial releases tend to devolve over time, resulting in
software that is less likely to be updated as mounting technical
debt forces teams to spend most of their time fixing defects and
managing dependencies. On average, one-third of customer-facing
software releases are updated only once a year or less. It's even
worse for projects that take longer than expected: Closer to half
(42%) are infrequently updated (see Figure 6).

Breaking out of the "late and over-budget" status quo is a top
priority for technology decision makers that development teams at
banks face. Without overhauling the approach, new projects will
mirror current ones; expect more technical debt to pile up instead of
increasing value over time.

**42% of respondents
estimated their project
would take less than
six months – only 26%
were done that fast.**

**Projects with problematic first releases tend to
get even worse over time, resulting in software
that is less likely to be updated.**

5

Figure 6

"On average, how often did your team release new versions of the project into a production environment?"

2%	34%	26%	24%	10%	3%
Never made it to production/ Don't know	Once a year or less	Two to three times a year	Once a quarter	Every two to three weeks	Weekly or more frequently
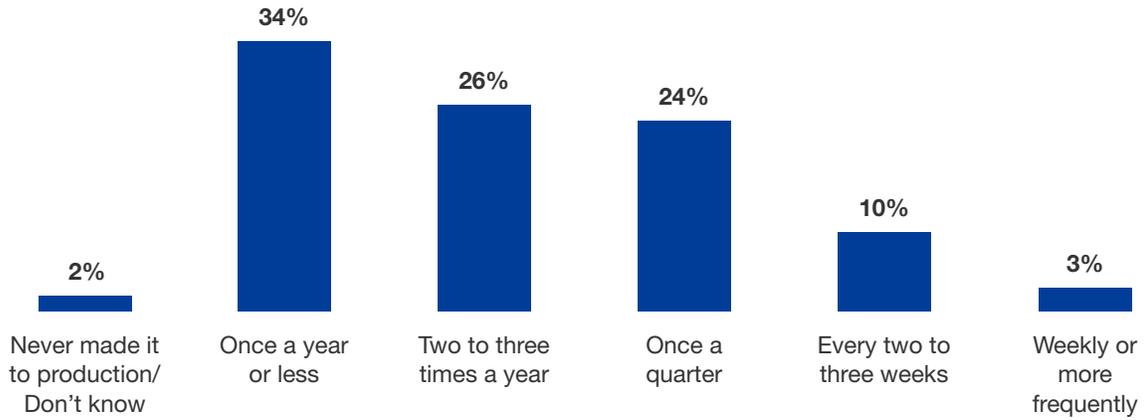
Projects that <u>take longer than expected </u>are *less* likely to be updated frequently: *42% are updated once a year or less*

Late Projects Suffer From Inflexible Technologies And Poor Decision Making

To understand why customer-facing application projects often go off the rails, we asked survey respondents to assess the factors that led to late delivery and blown budgets. Our survey found a few key culprits:

› **Teams are allotting the right amount of time and resources to projects . . .** Over three-quarters of survey respondents said they allotted either the right amount of time and staff, or more than enough time and staff, to the individual activities of software development — designing business processes, deploying infrastructure, and so on (see Figure 7.1).

› **. . . but poor technology and architecture decisions derail them.** Survey respondents commonly cited architecture challenges that impacted application delivery, including cross-project dependencies (57%), architecture and performance challenges that resulted in significant rework (43%), and corporate technology standards that limit development (31%). The way that banks choose to architect and construct their customer facing applications are a primary cause of release delays and project dissatisfaction. In particular, too many cross-project dependencies, poor performance, and use of corporate standard components and frameworks limited what teams could deliver. (see Figure 7.2).

› **Business stakeholders and compliance challenges also sap velocity.** Business stakeholders also create on-time delivery challenges that slow down development projects. Forty-four percent of respondents said that changing business priorities during development made it difficult to meet business' expectations, and 42% said that external teams like compliance, risk, operations, or the executive team, also slowed the project down (see Figure 7.3). Projects that took longer than expected were most likely to not have enough staff allocated to handle the resulting scope changes.

This survey data drives us to conclude that at large banks today development teams are not well positioned to take advantage of platform economics as most customer-facing projects are late, over budget, and not frequently updated after their initial release. And once a project gets into this trap, it tends to get worse over time, not better. To get out of this trap and support a firmwide digital transformation, technology decision makers must make a significant shift in how they build customer-facing systems.

At large banks today, development teams are not well positioned to take advantage of platform economics as most customer-facing projects are late, over budget, and not frequently updated after their initial release.

Figure 7.1

Developers estimate they have enough staff and time to meet goals for individual development activities

■ The right amount of time was allotted/Actual effort was lower than estimated
■ The right amount of staff were staffed/We had more staff than needed

	Time	Staff
Responding to scope changes as the application evolved	77%	74%
Testing and quality assurance	77%	74%
Working with stakeholders to define requirements	78%	78%
Designing business processes and coding business logic	82%	81%
Fixing defects and reducing technical debt	82%	82%
Deploying basic infrastructure and coding system logic	81%	81%
Ongoing maintenance once the software was delivered into production	83%	82%
Designing and building the customer UI/UX	84%	81%

Figure 7.2

Poor technology and architectural decisions impede delivery speed and reduce business satisfaction*

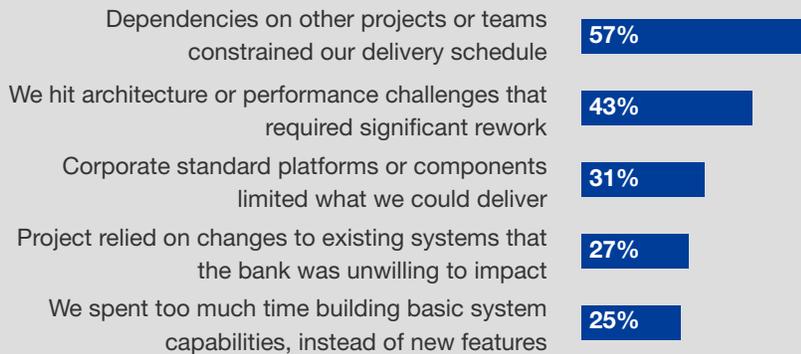|	
Dependencies on other projects or teams constrained our delivery schedule	57%
We hit architecture or performance challenges that required significant rework	43%
Corporate standard platforms or components limited what we could deliver	31%
Project relied on changes to existing systems that the bank was unwilling to impact	27%
We spent too much time building basic system capabilities, instead of new features	25%

Figure 7.3

Business challenges further compound speed issues with delivery†

"What business challenges made it difficult to meet the expectations of your business stakeholders?"
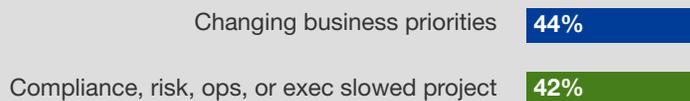
Changing business priorities	44%
Compliance, risk, ops, or exec slowed project	42%

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Platform Economics Point The Way Toward Banking Development Platforms

Getting beyond the poor technology and architecture decisions that cause projects to be late and over budget is a necessary shift for technology decision makers. Doing so requires a more consistent and rigorous approach to architecture. A banking development platform should be quick to update, simple to maintain, secure by design, and easy to extend. One key shift technology decision makers must make is an evolution in how services and platform components are sourced.

It's a common line of thought that it's better and cheaper to build platforms primarily from internally built components and frameworks. Decision makers think that this approach substantially lowers software licensing costs and gives development teams the ultimate flexibility and control over the projects they deliver. If true, then it should follow that there is a correlation between the re-use of internally developed platforms, components, and services and on-time, on-budget project delivery. But when we examine how development teams build customer-facing applications today, we have to question that commonly accepted premise:

› **Many types of common components, frameworks, and platforms are used.** Firms often build new applications today using combinations of common components from internal, commercial, and open source services and platforms (see Figure 8).

› **Internally built services, APIs, and platforms are currently leveraged the most . . .** Of the different types of common components, banks most often re-use internally built services, APIs, and microservices (40%) — or they build custom apps on an internally developed platform or common components (39%). Survey respondents cited a wide range of benefits, including complete control and better business-specific capability.

› **. . . but the total cost of ownership of an internal "build" approach is usually higher.** Almost two-thirds (64%) of respondents agreed that the total cost of ownership was *higher* than commercial or open source alternatives, and projects that went 25% or more over budget were *more likely to re-use* internal components.[4] Issues with quality, TCO, and customer experience were most likely to occur when internal assets were mandated by management, rather than selected as a best fit for the project. And it's not just cost that's a problem, almost two thirds of survey respondents also thought that internal components constrained their ability to deliver a great customer experience.

Projects that went 25% or more over budget were more likely to re-use internal components.

Figure 8

"For this project, which of the following describes the development and delivery approach(es) your team used?"
(Select all that apply)

40% Reused internally built services, APIs, and/or microservices

39% Built a custom application on an internally developed platform or common components

33% Built a custom application on top of open source framework/project

33% Built a custom application on top of a commercial industry-specific platform

31% Built a custom application on top of a commercial technology platform/framework

31% Built a completely new custom application

31% Used a software-as-a-service (SaaS) provider

21% Reused commercial third-party services, APIs, and/or microservices

21% Bought a commercial application

20% Contracted with a managed service provider

Base: 210 decision makers responsible for application development or developers at banking and financial services firms in the US, Canada, France, Germany or UK with 2,500 or more employees
Source: A commissioned study conducted by Forrester Consulting on behalf of Avoka

CREATING A MODERN BANKING DEVELOPMENT PLATFORM REQUIRES A NEW APPROACH

The first thing that technology decision makers need to do is rid themselves of the "build versus buy" mindset. It's increasingly an anachronism of the days when monolithic, tightly coupled applications were a "take it or leave it" deal. As cloud-native technologies take hold and "as-a-service" options multiply, industry-specific services once available only in expensive, monolithic applications are now available as customizable APIs or injectable into custom apps via SDKs. Today commercial services, platforms, and frameworks are more modular, and can be consumed and integrated as needed.

ADOPT A "BUY, BUILD, EXTEND, AND ASSEMBLE" APPROACH

In place of the "build versus buy" approach, we recommend a "buy, build, extend, and assemble" approach to creating a banking development platform. Here's how technology decision makers should approach its creation (See Figure 9):

› **Buy non-unique platforms, services, and components with high customer value.** If every bank needs a certain capability, then why incur a longer development cycle and higher TCO by building it internally? When a capability or customer journey fills a common need, there will be platform vendors that step up to make APIs and services available. Sourcing third party components and platforms in this case helps technology decision makers reduce technical debt and maintenance costs by spreading the cost of research and development across many industry players.

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Figure 9

Adopt a "Buy, Build, Extend and Assemble" approach to creating a modern banking development platform

How much do customers value it?

Buy commercial platforms and sevices

Extend commercial platforms to accelerate delivery

Assemble and expose services, APIs and SDKs

Outsource Adopt open source

Build services that are unique to the bank

How much does it differentiate the bank?
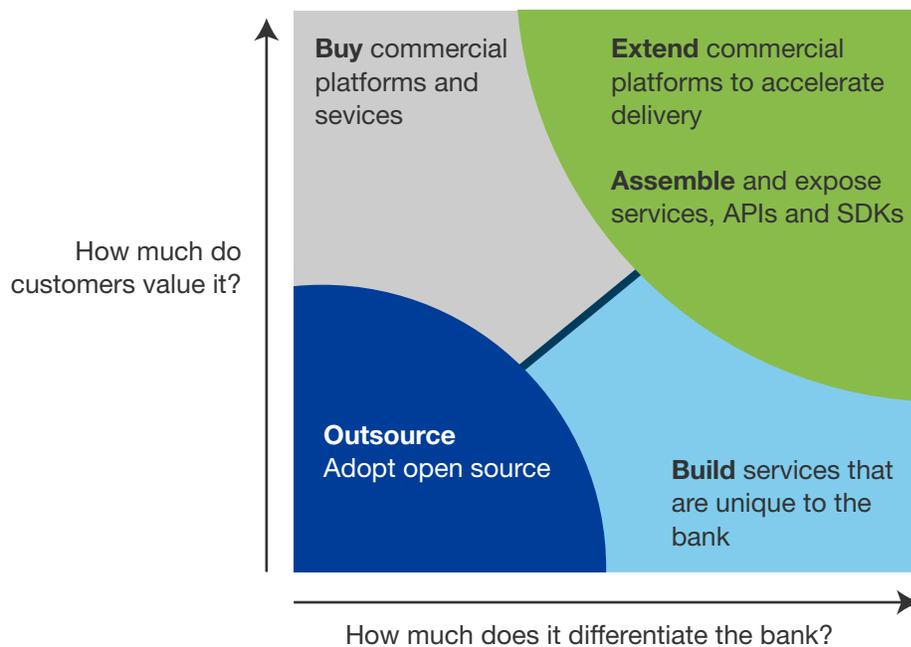
Source: A commissioned study conducted by Forrester Consulting on behalf of Avoka

› **Build services that are truly unique.** When there is a service, component or algorithm that is unique and drives business value it makes sense to build and maintain it internally. Decision makers should focus limited development talent on the secret formula that defines competitive value. But it's important to understand that without addressing the technology and architectural issues seen above in current customer-facing projects, it will take more effort to build unique services and keep the technical debt to manageable levels. Make sure that it's worth the increased TCO to do so.

› **Extend commercial services to quickly differentiate customer experiences.** The position of compromise between build and buy is to extend commercial platforms to developers to give them the control to customize user experience, create the user interfaces they need, and to do so at speed, while spreading the cost of core platform infrastructure among many institutions. Extending commercial platforms by customizing them allows banks to differentiate the experiences that customers value, at speed, without having to write and maintain basic components and lower-level infrastructure.

› **Assemble services and components into a modern banking development platform.** Expect a modern banking development platform to evolve as a combination of components that are bought, built, and extended. The proportions of each type of component and service will vary from bank to bank, based on a need for speed, level of developer skill, intensity of customer focus, and the state of each firm's current architecture.

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›   **Minimize what doesn't provide customer value or differentiate.**
    In cases where teams are maintaining services and components that
    don't differentiate or provide customer value, look to outsource where
    possible; or at least use lower-cost technologies and open source
    frameworks with an eye toward freeing up resources and capital for the
   "buy, build, extend, and assemble" decisions detailed above.

PUSH COMMERCIAL-COMPONENT SOURCING UP THE STACK

The second thing technology decision makers must do is take a
holistic approach to sourcing commercial and open source platforms,
frameworks, and components. Our survey data indicates that's not the
case today, as many large customer-facing projects today demonstrate:

›   **A focus on low-level infrastructure that minimizes the business
    benefits of commercial platform components.** Respondents tend to
    re-use commercial components, frameworks, and services most at the
    deepest levels of application architectures, at core (43%), data (46%), or
    application infrastructure levels (44%) (see Figure 10). That's not bad, but
    it's also not differentiating or designed to drive high-customer value.

›   **Low adoption at the business process level impedes rapid assembly
    of platform services.** Lower adoption of commercial platforms and
    services for domain-specific business processes (34%) and industry-
    specific business processes (28%) indicate that development teams
    spend a lot of time building code at these levels of their banking
    development architecture. This has the potential to impact release
    velocity and drive up maintenance costs as teams write more code and
    take on the technical debt that comes with it.

Figure 10

"In what parts of your project's architecture did you employ third-party platforms, services, or common components?"

46% Data access infrastructure

44% Application platform infrastructure

43% Core system infrastructure

34% Business process definition and management

32% Domain-specific business process

29% As part of application UX/UI

28% Industry-specific business process

7% We did not employ third-party platforms, services, or common components
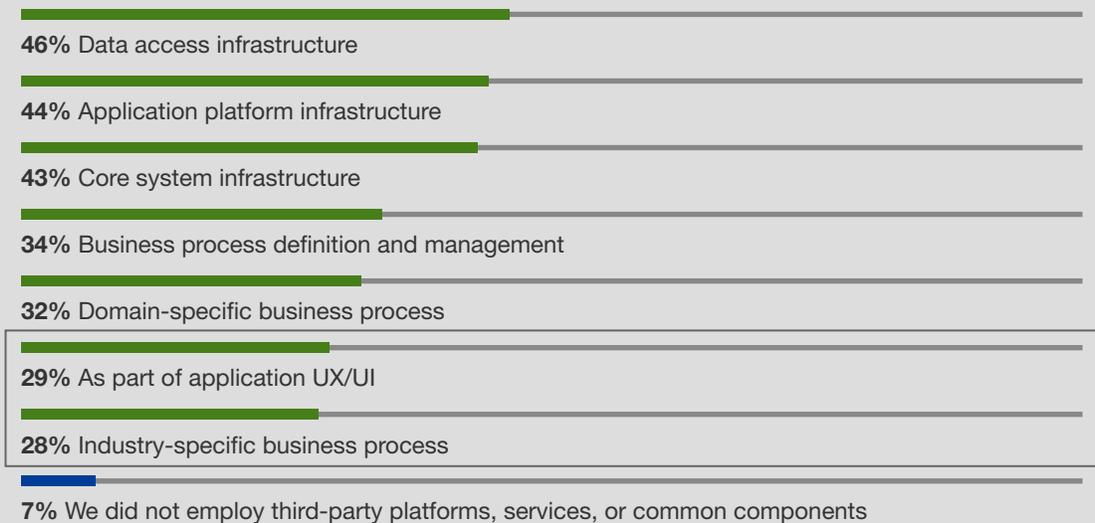
Base: 189 decision makers in US, Canada, France, Germany, or UK at companies with 2,500 or more employees
Source: A commissioned study conducted by Forrester Consulting on behalf of Avoka, March 2018

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Key Recommendations

Forrester's in-depth survey of the challenges that decision makers and developers face when building customer-facing solutions, in the application development for banking and financial services, highlights the need to support firmwide digital transformations. Without significant changes to technology and architecture decision making, there is little reason to believe that efforts to modernize their banking development platforms will shift the current status quo from where most projects are delivered late and over budget. To improve the likelihood of success, technology decision makers should:

Modernize their development banking platform architecture. Technology decision makers must focus on architecture investments that enable digital transformation, including digitizing key customer journeys, creating a single view of the customer, and enabling APIs that can be used in many channels by many products and services. These investments include looser coupling of applications and services, reducing dependencies across projects and an early focus on performance.

Replace "buy versus build" with a "buy, build, extend, and assemble" approach. Technical decision makers should start creating their banking development platform by asking: 1) what services and frameworks can be acquired in a cost-effective way and 2) which platforms can be extended and then assembled into effective customer-facing experiences. Adopting a "buy, build, extend, and assemble" mindset helps ensure that teams don't get trapped by package applications they can't extend and update, while also ensuring teams don't get overwhelmed by large custom systems that are expensive to maintain, hard to modernize, and riddled with technical debt.

Source re-usable platform services higher up the infrastructure stack. The increase in velocity and reduced maintenance burden of re-usable platform services should not be confined solely to the lowest infrastructure levels of banking applications. Modern, cloud-native services that support customer onboarding and other customer-facing business processes can help developers maintain less code and get to market faster by letting them focus on composition, configuration, and assembly of services instead of building basic system functionality.

Focus custom development on unique services that differentiate. The capability to custom build unique services and applications will be critical for banks, but large organizations don't get faster overnight and technical debt doesn't just disappear on its own. As individual development teams improve their delivery velocity, it makes sense to focus their efforts on the services that most uniquely define your firm, and that can't be sourced from external partners in a cost-effective way.

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Benchmark re-usable services to verify their costs and benefits. Don't just assume that internally built platforms, frameworks, and components return a positive investment. It can be expensive for a single firm to develop and maintain reusable assets, especially as systems transform from traditional to cloud-native architectures. As teams modernize applications, assess whether it's time to shift from standardized, internally built platforms and components to commercial and open source alternatives that are built to take advantage of the cloud-native technologies and topologies. Adopt benchmarks for platform services (internal and commercially sourced) that look at maintenance costs, ease of extension, and levels of adoption by internal teams and external integration partners.

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Appendix A: Methodology

In this study, Forrester conducted an online survey of 210 banking and financial services firms in the US, UK, Canada, France, and Germany to evaluate challenges that their firms face in building customer-facing applications today. Survey participants included business and technology decision makers who are responsible for decisions regarding the development of customer-facing applications/systems, or developers working directly on these systems The study was completed in March 2018.

Appendix B: Demographics/Data

LOCATION

CA **2%**
UK **16%**
DE **15%**
FR **18%**
US **48%**

COMPANY SIZE

- **15%** 2,500 to 4,999 employees
- **36%** 5,000 to 9,999 employees
- **27%** 10,000 to 29,999 employees
- **22%** 30,000 or more employees

DEPARTMENT

Department	
IT	**64%**
Application development	**17%**
Wealth management/ private banking	**5%**
Retail banking	**5%**
Investment	**4%**
Risk management/GRC	**1%**
Digital	**1%**
Card services	**1%**
Merchant services line of business	**1%**

JOB FUNCTION

Job Function	
Application development	**45%**
CIO/Office of the CIO/CTO	**36%**
PMO/project or program office	**9%**
Product management	**5%**
Enterprise architect	**5%**

TITLE

Title	
C-level executive	20%
Executive vice president	11%
Director	24%
Vice president/ SVP	17%
Project manager	18%
Full-time practitioner	10%

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LEVEL OF RESPONSIBILITY:
Developing customer-facing applications or systems

59%
I am the final decision maker regarding the development of customer-facing applications/systems.

29%
I am part of a team making decisions regarding the development of customer-facing applications/systems.

6%
I influence decisions regarding the development of customer-facing applications/systems.

7%
I am a developer or work directly on developing customer-facing applications/systems.

Base: 210 decision makers responsible for application development or developers at banking and financial services firms in the US, Canada, France, Germany or UK with 2,500 or more employees
Source: A commissioned study conducted by Forrester Consulting on behalf of Avoka, March 2018

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

"Faster Software Delivery Will Accelerate Digital Transformation," Forrester Research, Inc., April 12, 2018.

"Digital Banking Application Trends For 2018," Forrester Research, Inc., September 7, 2017.

"The Path To Digital Transformation In High Speed Financial Services," Forrester Research, Inc., December 27, 2016.

"Brief: Trends In Digital Banking Applications For 2017," Forrester Research, Inc., August 19, 2016.

Appendix D: Endnotes

[1] Source: "Digital Banking Application Trends For 2018," Forrester Research, Inc., September 7, 2017.

[2] Source: "State Of Digital Banking, 2018," Forrester Research, Inc., February 7, 2018.

[3] In Forrester's Q3 2016 Global Financial Services Architecture Online Survey, 81% of respondents indicated that they were or would be working on a digital transformation program by 2018.

[4] Source: A commissioned study conducted by Forrester Consulting on behalf of Avoka.

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