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COMPETING
IN THE NEW ERA

**FIND VALUE
IN OPEN BANKING
ECOSYSTEMS**

THE NEXT CHAPTER IN
**WINNING IN THE
DIGITAL ECONOMY**

APIs UNLOCK OPEN PLATFORM VALUE

Banks globally have started to acknowledge Open Banking as a critical influence on their digital transformations, with a majority of them already having invested in Open Banking-related initiatives. Open Banking's aim to give consumers more compelling value propositions is likely to accelerate the shift towards a platform economy in banking. This is where banks master the art of inbound and outbound trade across a mutually-beneficial ecosystem of partners to benefit their customers, strengthen their competitive position and grow revenue.

In a prior chapter of our Winning in the Digital Economy series entitled, "A New Era: Open Platform Banking", we explored how traditional banking models can potentially evolve into various platform business models to capture more value. No matter which platform business model a bank decides to adopt, the creation of a collaborative ecosystem will be the key to unlock the benefits in a platform play.

Building such a competitive ecosystem requires a strategic approach. While platform banking is still in its infancy, many forward-thinking banks are starting to take the first steps by establishing their own developer portals and sandboxes. A developer portal and a sandbox environment allow banks to offer an open, yet secure and controlled, environment to external third parties to interact with the bank's and customers' data to generate innovative products and services. Banks that get this right, and eventually evolve to support a marketplace model, will significantly strengthen their outbound Open Banking trading positions with early API dominance and an efficient ecosystem.

Key to this is a bank's API developer environment. The extent to which a platform play can be successful depends to a significant degree on the breadth of APIs offered by each player. Many banks are taking steps to engage and support developers through a collaborative ecosystem of resources, communities, hackathons and meet-ups, and they are starting the journey towards offering non-mandatory APIs.

However, the level of preparedness differs across geographies and type of financial institution.

Accenture conducted a research effort to assess the extent to which banks support developers with appropriate environments to nurture the use of APIs in new services. This paper evaluates the relative maturity of global banks across three essential open platform pillars:

DEVELOPER PORTALS, the channel environment and experience for developers to interact with certain bank and customer data.

API OFFERINGS, the types of banking products and services being exposed as APIs for developers to consume and develop applications.

DEVELOPER ECOSYSTEMS, the adoption of Open Banking across a developer community.

Additionally, references to best practices from both within and outside of the financial services industry illustrate how banks can drive platform success in the Open Banking era.

TABLE OF CONTENTS

THE BIG PICTURE: HOW FINANCIAL SERVICES PLATFORMS COMPARE

Successful examples of platform economies from across industries demonstrate that a range of technical and organizational capabilities are required for both the producer (supply side) and the consumer (demand side) of a platform to generate a network effect. On the supply side, a bank operates its own banking platforms and developer portals to distribute banking services. On the demand side, a bank creates a successful ecosystem of developers that embrace the offerings and, therefore, develop a network of ecosystem partners and third-party developers. Today, only a handful of challenger banks (such as Starling Bank in the UK) are playing both the supply- and the demand-side economics well.

Our research used four categories of foundational capabilities to assess the current state of financial services platforms: developer portals usability, developer experience, API offerings and ecosystem engagement levels (Figure 1).
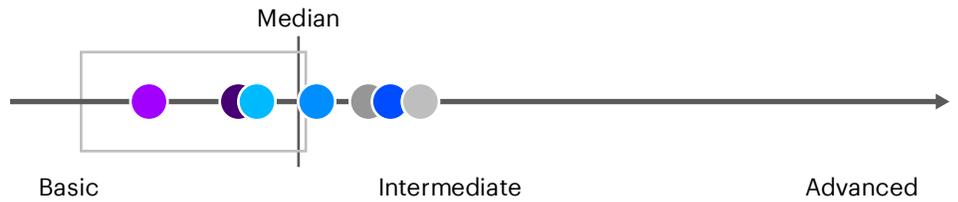
FIGURE 1. Four foundation capabilities of Open Banking platforms

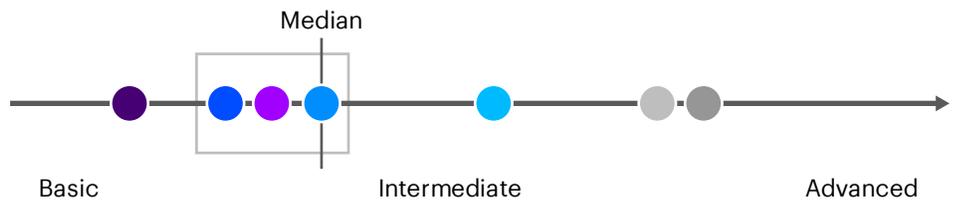| DEVELOPER PORTAL USABILITY	DEVELOPER EXPERIENCE	OFFERINGS	ECOSYSTEM ENGAGEMENT
Sandbox, Developer Portal	Information Architecture	Total Number of Open APIs	Early Sign Ups
Onboarding/ Registration	Quick-Start Guides	Services Enabled (Core vs. Value-Added)	Developer Outreach Programs
Usage and Pricing Plan	API Documentation	Segment/ Geographical Coverage	Community Experience
	Developer Toolkit, Troubleshooting Guides		
	Developer Support		

Comparing the maturity across our sample set of financial institutions shows that global card services and global financial institutions offer the most differentiated capabilities across all four capability categories (Figure 2). Banks in southern Europe standout in their platform usability and ecosystem engagement abilities; this explains the relatively higher maturity of developers in these regions. Western Europe banks make a distinction in their API offerings, often including a number of APIs that deliver value-added services.

PLATFORM USABILITY

Median

Basic   Intermediate   Advanced

API OFFERING

Median

Basic   Intermediate   Advanced

ECOSYSTEM ENGAGEMENT

Median

Basic   Intermediate   Advanced

DEVELOPER EXPERIENCE

Median

Basic   Intermediate   Advanced
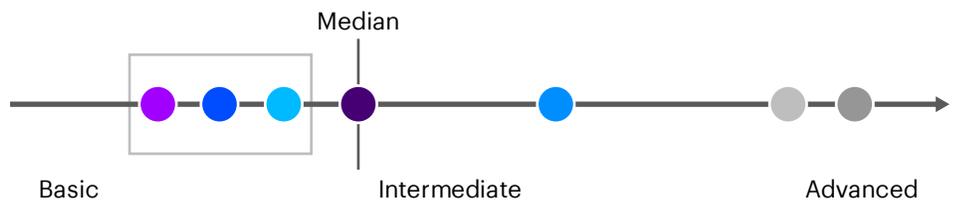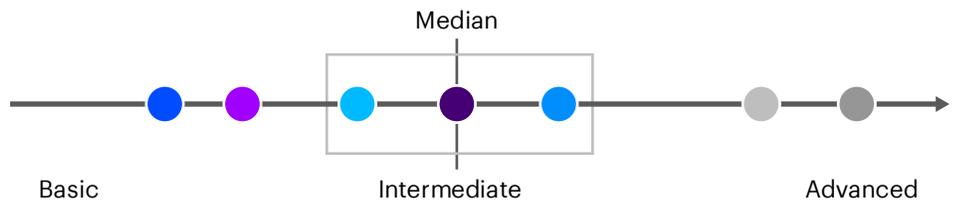
- UK High Street Banks
- UK Challenger Banks
- Southern Europe FIs
- Western Europe FIs
- Nordic FIs
- Global Card Services
- Global FIs
- Range of value for more players

DEVELOPER PORTAL: USABILITY DRIVES API ADOPTION

The usability of a developer portal and sandbox primarily drives the adoption of APIs in a platform. At a minimum, developers expect simple access, straightforward usage policies and an easy plug-and-play experience before investing in app development. Financial services providers that fail to get these basics right may lose potential partners to competing platforms.

Our research indicates that while 80 percent of the financial institutions assessed offer a developer portal and sandbox for external developers, their relative usability varies widely (Figure 3).

Banks in the early stages of their Open Banking journey generally offer a static information page and basic sandbox capabilities, seeking a balanced approach towards the openness of their platforms. In contrast, financial services providers higher up on the maturity curve offer a globally-accessible developer portal alongside a more advanced sandbox with multiple environments (test, pre-production and production) and instant registration capabilities. The developer portals of Visa®, Mastercard® and Spanish bank BBVA offer great examples of where developers can get started swiftly.

Another key indicator of platform usability is the transparency of usage and pricing policies. A clear access and pricing plan helps external developers predict the cost associated with their level of access and, thus, determine the sustainability of their API business models. Post compliance, competitive pricing of APIs and data will be a distinguishing factor and revenue stream for financial services providers in the API-driven world. Based on our research, European banks that offer only mandatory APIs have basic terms of use in place without comprehensive pricing information. This can be attributed to the fact that both PSD2 and other Open Banking mandates regulate APIs to be free of cost. In contrast, more digital-savvy competitors (such as BBVA) that have already made APIs available beyond those mandated by regulations are presenting various approaches for usage and pricing.

We evaluated platform usability across more than 50 criteria, blending the assessment into an Accenture Developer Portal Index scored on a scale of zero (least usable) to 10 (most user-friendly) and presenting it across three essential categories:

- **Platforms and environments offered,** including the interfaces offered to external developers (such as app store, developer portal, white-label platform and so forth) and the environments available to users (such as sandbox, pre-production, live and such).

- **Ease of access,** including the speed of registration process, authentication or security protocol, and availability of free test resources.

- **Usage policy,** comprising the assessment of terms of use for sandbox resources, including pricing guidelines.

Established API-based business operators in other industries that use APIs as a major source of revenue have a plethora of mature pricing policies that financial services providers can embrace going forward. For example, Amazon® allows developers to pay only for what they use based on whether they are the end user or are providing a service.

Consider that Amazon Web Services (AWS) reported $17.46 billion in 2017.[1] Facebook® aims to accelerate value creation in their platform through a revenue-sharing pricing model that has paid out nearly $10 billion to developers over the past 10 years.[2]

FIGURE 3. Comparison of financial services platforms usability by geography

PLATFORM USABILITY

Legend: Platforms & Environments Offered | Ease of Access | Usage Policy

Categories (top to bottom): Global FIs, Global Card Services, Nordics FIs, Western Europe FIs, Southern Europe FIs, UK Challenger Banks, UK High Street Banks

X-axis: 0, 4, 8, 12, 16, 20
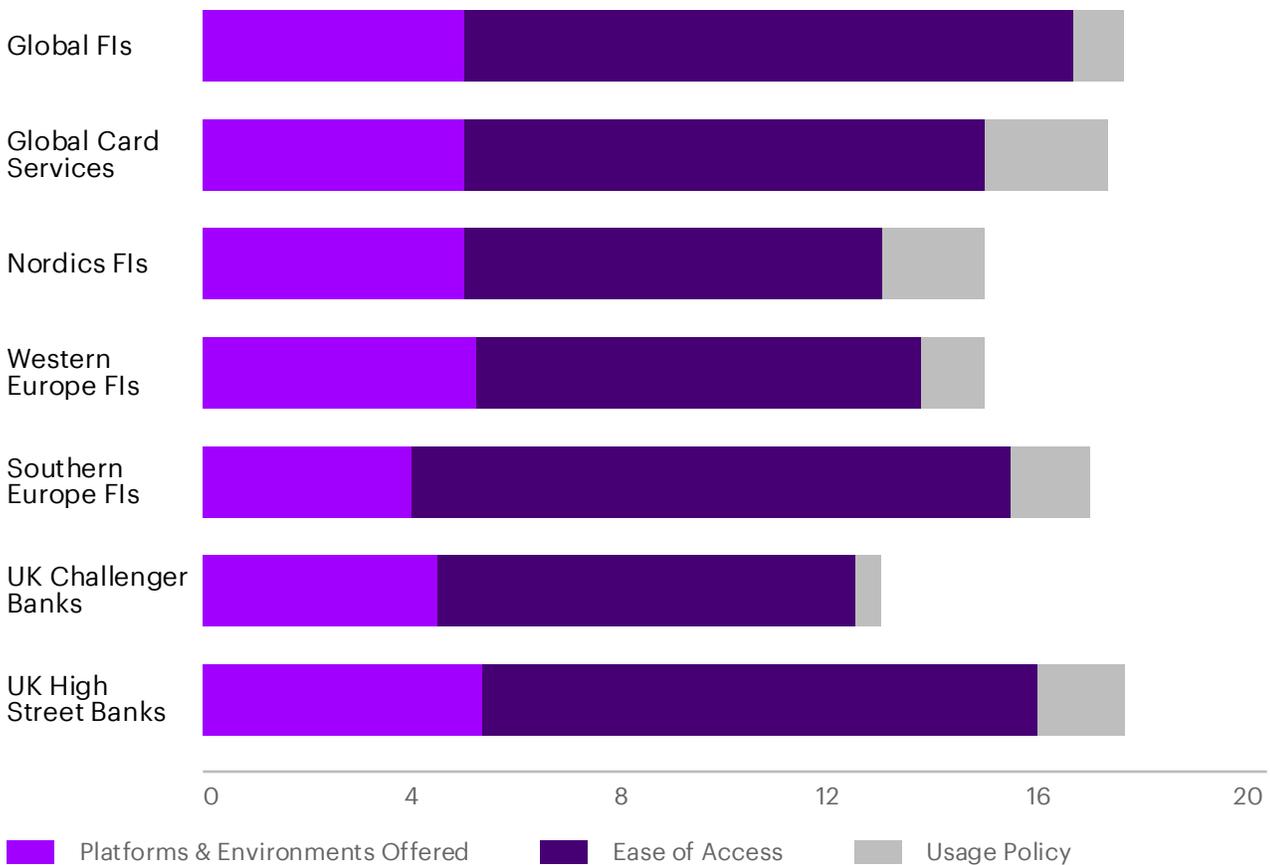
DEVELOPER PORTAL:
A GREAT ONE FUELS ENGAGEMENT

Besides usability, most advanced financial services platform providers see developer experience as a key strategic priority to drive adoption of their outbound Open Banking services. The developer experience within the developer portal of global card services and global financial institutions clearly stands out, followed by that offered by Southern European banks (Figure 4).

As the Open Banking era kicks off and banks start publishing more APIs in their platforms, they will need to strike a balance between publishing enough information for developers to reduce friction and organizing that information in an easy-to-navigate way. Some leading developer portals achieve this by using multi-layer information architecture with a separate landing page, dedicated API catalog segmentation or categorization of API products for easy discovery and detailed documentation for developers. Payment solution provider Stripe offers developer-customized documentation to simplify developer experiences even further.[3] Another best practice in enhancing developer experience is using visuals, such as sandbox and API demos, or showcasing real-world applications of certain APIs.

Besides documentation and demonstrations, developers also need sample code, tool kits, test data, and test consoles they can use to experiment with open APIs. The majority of the developer portals and sandboxes assessed in our research offer such capabilities to varying extents. Capital One® sets a great example by offering a full range of DevOps, Dev Tools and frameworks that enable developers to work more efficiently with its APIs.

A look at developer experiences across digital-native platforms, such as Amazon, Facebook and Google, confirms the importance of continuous evolution of the developer experience. Financial services providers must consider how developer needs may change and become more complex over time. As API offerings mature, more comprehensive API lifecycle documentation, version control, release notes, backward compatibility, analytics, performance and security will likely become the key asks from developers. Finally, organizations need to ensure they have the internal capability to support a growing developer community.

To compare developer experience across financial services platforms, we assessed more than 30 criteria, blending the assessment into an Accenture Developer Portal Index scored on a scale of zero (least usable) to 10 (most user-friendly) and presenting it across four key categories:

- **Interface experience**

- **Information architecture**

- **API documentation**

- **Developer support**

DEVELOPER EXPERIENCE

| | Interface Experience | Information Architecture | API Documentation | Developers Support |
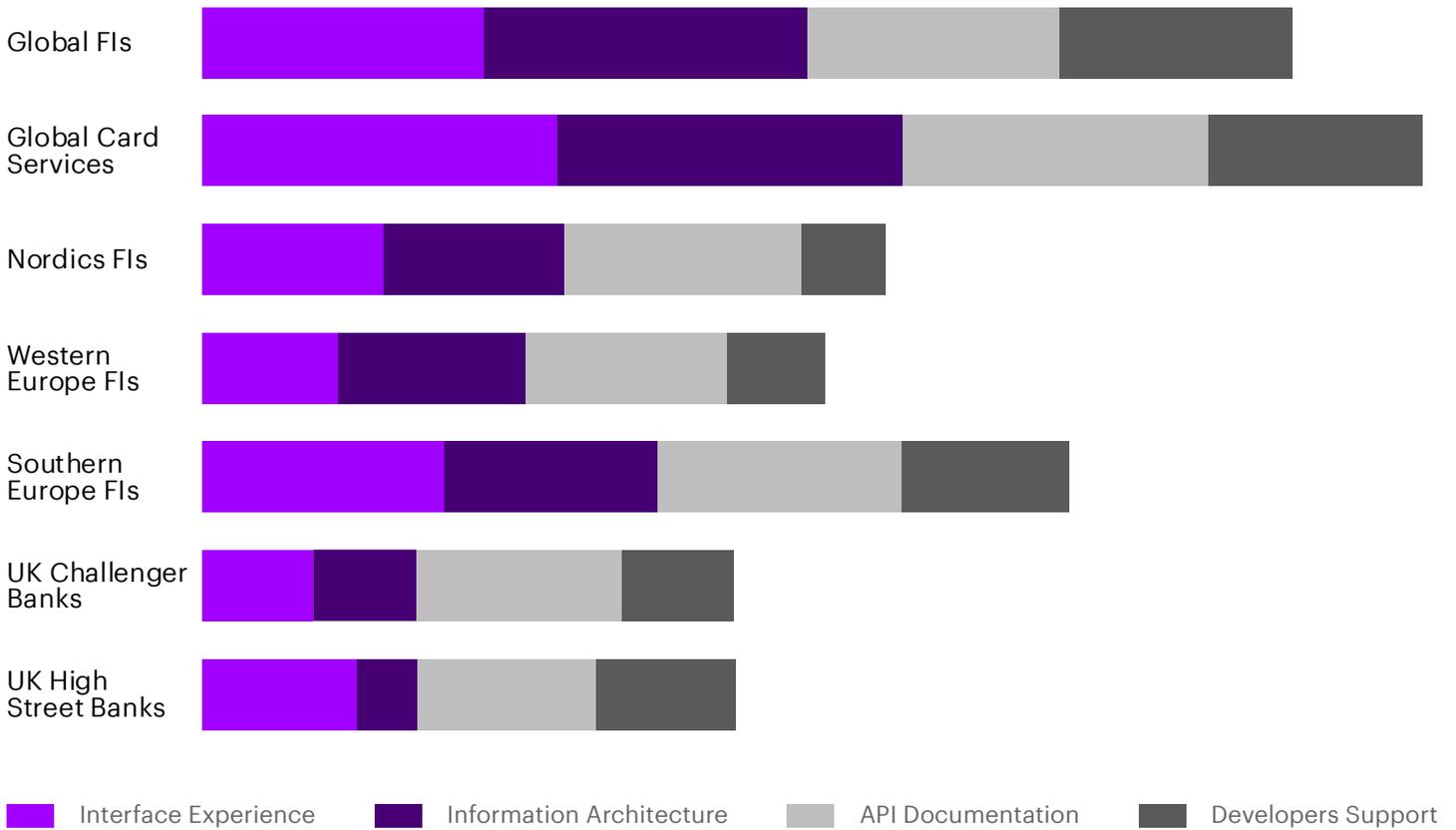
API OFFERINGS:
THE MORE, THE MERRIER

The number and type of APIs offered are significant in providing developers with a choice to develop innovative services. We have seen significant disparity of API offerings across different types of financial institutions today.

The majority of incumbent European banks simply offer those APIs required to comply with PSD2 mandates. Very few are moving into value-add APIs. The story is altogether different for fintechs and challenger banks. Their broad API offerings indicate a strategy of building one core product (such as a current account or payments) and drawing on the power of a platform to give their customers access to a full suite of services from other providers. Monzo and Starling are two UK challenger banks that focus on building the best current account while offering their customers the best products and services from across the market.

The banking industry's use of such strategies to move towards a platform economy will lead to unbundling of services. Thus, it is becoming increasingly important for incumbent banks to consider which services they enable via APIs. As expected, account information and payment initiation APIs have been the key focus in meeting regulatory imperatives, but we are starting to see expansion into identity, fraud and security offerings. Non-financial services platforms, such as Amazon, can offer upwards of 100 APIs for third-party consumption. Also, card services like Visa and Mastercard offer at least 25 API products that enable core business services to access advanced data insights.

Table 1 displays the most common types of APIs offered by various financial institutions globally. For example, product data is widely offered by high street banks in the UK. This is primarily due to recent order requirements issued by the country's Competition and Markets Authority. Still, there are few, if any, non-mandatory APIs (such as data insight). Conversely, Nordic banks offer little in the way of product data, but significantly more variation in the types of payment APIs.

NON-FINANCIAL SERVICES PLATFORMS CAN OFFER UPWARDS OF

100APIs
for third-party consumption

TABLE 1. API offerings comparison of financial services platforms by geography

Geography	Product Data	Accounts and Transactions	Payments	Customer Reference	Fraud/ Security	Data insight
UK High Street Bank	Current Accounts Lending Products	Customer's Current Accounts Account Balance Account Transactions	Single Immediate Payment			
UK Challenger Banks	Cards Data	Customer's Accounts & Cards Account Balance Account Transactions Direct Debits/ Mandates Annotate Transactions	Execute Domestic Payment Schedule a Payment Get Payment Orders	Customer Address Contact		
Southern Europe	Cards Data Loans Data	Customer's Accounts (personal & business) Customer's Products (Cards, loans, insurance) Account Activity/ Transactions	Prepare Payments Execute Payments Get Payees	Customer		Payment Statistics
Western Europe	Cards Data	Customer's Accounts/ Credit products Transactions/ Account Statements SEPA Mandates/ Direct Debits Batch Direct Debits Processing Orders List of Invoices	Internal Transfers SEPA Credit Transfer Batch Transfer Schedule Payments TAB Payments iDEAL Payments	Customer Address Onboarding & KYC	Authentication	
Noridcs		Accounts	Make Payment Payment Status Revoke Payment Refund Payment			
Global Financial Institutes	Credit Offers	Accounts/Cards Transactions List of Invoices Billing Arrangements	Payments Refunds Disputes Pay with Points	Identity	Authorise Verify with Bank Account	Retail Location Insight Rewards
Card Services	FX Rates Cards Data Card Eligibility Data	Card Transactions Transaction Alerts Transaction Controls Account Updator	Payment Gateway Services Payment/Account Validation Checkout Service Payment Processing Preauthorised Payment Cancel Payment	Customer	Token/ Authentication Fraud Inquiry Travel Notification Fraud Scoring Lost & Stolen List Spend Control/ Alert	Merchant Insight Market Insight Business Data Solutions Merchants Data Supplier Matching Service

High API offering   Low to moderate API offering   No API offering

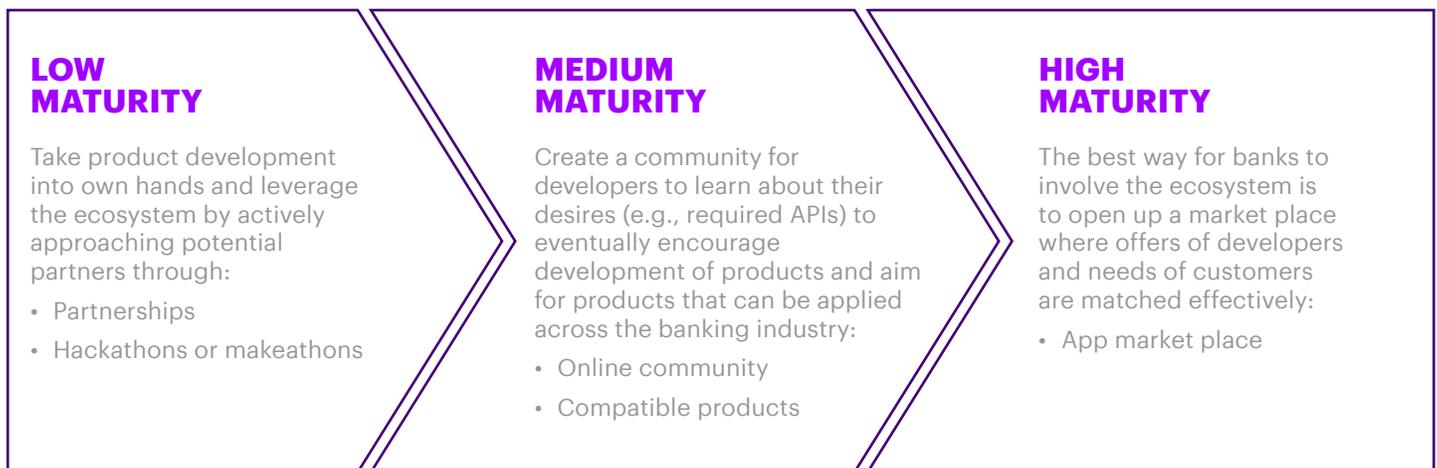# DEVELOPER ECOSYSTEMS: GO LARGE AND COLLABORATIVE

Another key success factor for open platform banking is how well enabling ecosystems are nurtured and developed. In a broader sense, an ecosystem can be defined as a network of developers from different organizations who work together to deliver key value propositions to customers. The bigger and more collaborative the ecosystem, the greater the network effects, and the more competitive and attractive the platform will be for customers.

Based on our experience, an ecosystem can thrive across three different stages of maturity as shown in Figure 5. Within each stage, success depends on identifying and retaining the right execution partners: developers, fintechs, other banks and investors.

In the early stage of platform development, ad-hoc hackathons or pilot programmers can help attract API consumers. As the platform matures, building and retaining an active ecosystem

require organizational capabilities. Facebook and Amazon, which have millions of developers worldwide using their APIs, have dedicated developer relations teams that serve as the public face of the platform to their developer community. These teams ensure that necessary features are in place for developers to build great products using their platform. Google and Amazon also advance their developer community maturity by clearly segmenting their platform journeys under three categories: build application, grow business and earn revenue.

FIGURE 5. Stages of platform ecosystem maturity

LOW MATURITY

Take product development into own hands and leverage the ecosystem by actively approaching potential partners through:

• Partnerships

• Hackathons or makeathons

MEDIUM MATURITY

Create a community for developers to learn about their desires (e.g., required APIs) to eventually encourage development of products and aim for products that can be applied across the banking industry:

• Online community

• Compatible products

HIGH MATURITY

The best way for banks to involve the ecosystem is to open up a market place where offers of developers and needs of customers are matched effectively:

• App market place

Some of the best ecosystem initiatives undertaken by leading non-financial services platform providers are shown in Table 2.

Many banks, particularly those in Europe, are actively taking steps to engage, support and cultivate developers. German fintech bank Fidor has an online forum for its API developers to welcome new participants, encourage discussions, exchange new product ideas and share feedback about its APIs.[4] It lets Fidor identify its most useful APIs and areas for future improvement.

In 2016, Barclays hosted over 1,000 participants at the largest hackathon in financial services history which enabled the bank to rapidly collaborate and innovate with the fintech community.[5] RBS also organizes regular hackathons to create a developer ecosystem. BBVA organized a platform summit in 2017 in Stockholm focused on the design and management of API platforms[6] and Deutsche Bank sponsors Pirate Summit to introduce its APIs to more than 1,200 participants from early-stage startups, investors and corporates.[7]

Visa hosts regular developer meet-ups as a way to gain exposure for its platform strategy and give developers an opportunity to showcase their innovations.[8]

Based on our research findings, ecosystem engagement initiatives of global banks and card services are ahead of other financial institutions. However, Southern European and Nordic banks are rapidly catching up.

TABLE 2. Ecosystem engagement initiatives by established platforms

Platform	Geographical reach	Conferences	Partner programs	Community
AMAZON	Worldwide. Over 1 million customers in 190 countries.	AWS Summit and conferences.	AWS Certification Program provides training and certification for three types of partner: architect, developer, and sysops administrator.	Video and webinar guides to launching a first project; e-books on developing an app; online training curriculum; developer forum community blogs.
FACEBOOK	Worldwide Over 80 percent of Facebook developers are based outside the US.	F8 - Annual two-day developer conference.	Facebook's Preferred Marketing Developer Program (PMD) certifies developers. Facebook showcases them in a directory, allowing any business to search and find developers to help them build apps, tools, and features using Facebook's APIs.	Case studies; Facebook developer groups; videos; newsletters; social media channels; Developer Circles FBstart program.
SPOTIFY	Worldwide	None	None	Application showcase newsletters; blog; social media channels; hackathons.
TICKETMASTER	UK, North America, Europe, Australia and New Zealand.	None	Certified Partner program lets developers access Ticketmaster's Ticketing System.	Tech blog; global hackathons app; showcases; social media channels.

GOVERNANCE IS INVALUABLE TO MANAGING INHERENT RISKS

Opening up their models to external parties will naturally create risk for banks. To mitigate that risk and protect the ecosystem, an appropriately rigid platform governance model is invaluable. Banks must consider how to protect internal environments, customer information and banking systems, without discouraging collaborative development. One way to do so is by choosing the right partners. Banks should apply advanced analytics to identify which potential partners are producing the most successful outcomes on their platforms.

Partnerships can also help allay intellectual property concerns. As external partners start to import certain bank data to build their solutions, the distinction between bank products and third-party products will blur. Customers may come to associate negative experiences of third-party products with the bank itself. That will only become more likely as more services are created and offered through the bank's platform. Partnerships will give banks closer control of both the quality of external solutions offered and how a bank's intellectual property is linked to them. Where there are no partnerships in place, banks must precisely define the rules for external use of their intellectual property.

Banks must also consider accessibility. Because platform banking is a predominantly digital proposition, banks should consider how best to enable customers who are less digitally active to take full advantage of the benefits of Open Banking. This could prove a major point of differentiation for banks that produce innovative solutions.

Furthermore, the industry must ensure interoperability of the various open API standards emerging across Europe—from the Berlin Group's single standard for API access to bank accounts to Convenient Access to Payment Services' (CAPS') pan-European PSD2 standards (Table 3). As yet, there is no agreement on technical standards for PSD2-mandated APIs within the European Banking Authority's Regulatory Technical Standards. Detailed and harmonized standards for Access to Accounts (XS2A) are necessary to avoid competition between multiple technical standards and to ensure maximum interoperability and reach. The success of Open Banking largely rests on this interoperability; without it, the industry risks creating a fragmented set of Open Banking ecosystems.

TABLE 3. European Open Banking standardization initiatives

Initiative	Geography	Summary
THE BERLIN GROUP	Germany, Western Europe	The Berlin Group's goal is to develop a pan-European single standard for API access to bank accounts. They are developing an interoperable API standard offering operational rules and implementation guidelines with detailed data definitions, message modelling and information flows. The Berlin Group standards for NextGenPSD2 Access to Accounts (XS2A) were published in Q1 2018.
STET	France	STET, a European payments processer has developed a PSD2 compliant API standard which enables TPP's to securely access payment accounts. The API utilizes ISO20022 elements for structuring the data to be exchanged between TPPs and Banks. Stet publicly released its API specifications in July 2017.
OPEN BANKING	UK	Open Banking is the UK bank-funded entity which is mandated by the UK Competition and Markets Authority to provide new ways for customers to share their financial data with third-party providers. Open Banking has released an API specification for accounts and transaction information and payments initiation. The Open Banking delivery as per the CMA Order was delivered in Q1 2018.
CAPS	Nordics, Western Europe	The CAPS initiative is a large multi-national and cross-industry discussion platform for industry practitioners aimed at defining pan-European PSD2 standards—to cover the technical, business and operational issues posed by PSD2. CAPS published a second white paper in September 2016.[9]

FIVE STEPS BANKS SHOULD TAKE TODAY

The divergence of attitudes towards open platform banking models across Europe signals a wider need for differentiation in the emerging banking environment. The variety of key elements to platform development success—usability, API offerings and developer experience—underscores the fact that a one-size-fits-all approach is not available. Different types of institution are likely to see different benefits and drawbacks from engaging in the open economy. Nevertheless, this economy is set to see an explosion of Open Banking APIs from financial institutions in the years ahead.

So, what are the five key steps banks should take today to expose developer-friendly APIs?

- **Seek out best practices** from outside the financial services industry, especially in API distribution, API platform management, documentation and customer onboarding.
- **Develop a strategy** to identify and distribute open APIs for each client segment (retail, corporate, SMEs and so forth).
- **Identify the value** in going beyond compliance and driving differentiation in your Open Banking APIs.
- **Introduce transparency** in pricing and commercialize new revenue models for open API consumption.
- **Accelerate network effects** in Open Banking by delivering innovation through a platform, notwithstanding the lack of an API standard, and treat third-party developers as a customer class in its own right.

Ultimately, successful partnership ecosystems and the adoption of open API standardization initiatives will be key. That's how banks will drive success in this new era of open platforms. Accenture's comprehensive services can help banks envision, design, launch, inspire, grow and optimize their scalable API developer ecosystem. Connect with us to plan your open platform strategy.

ENDNOTES

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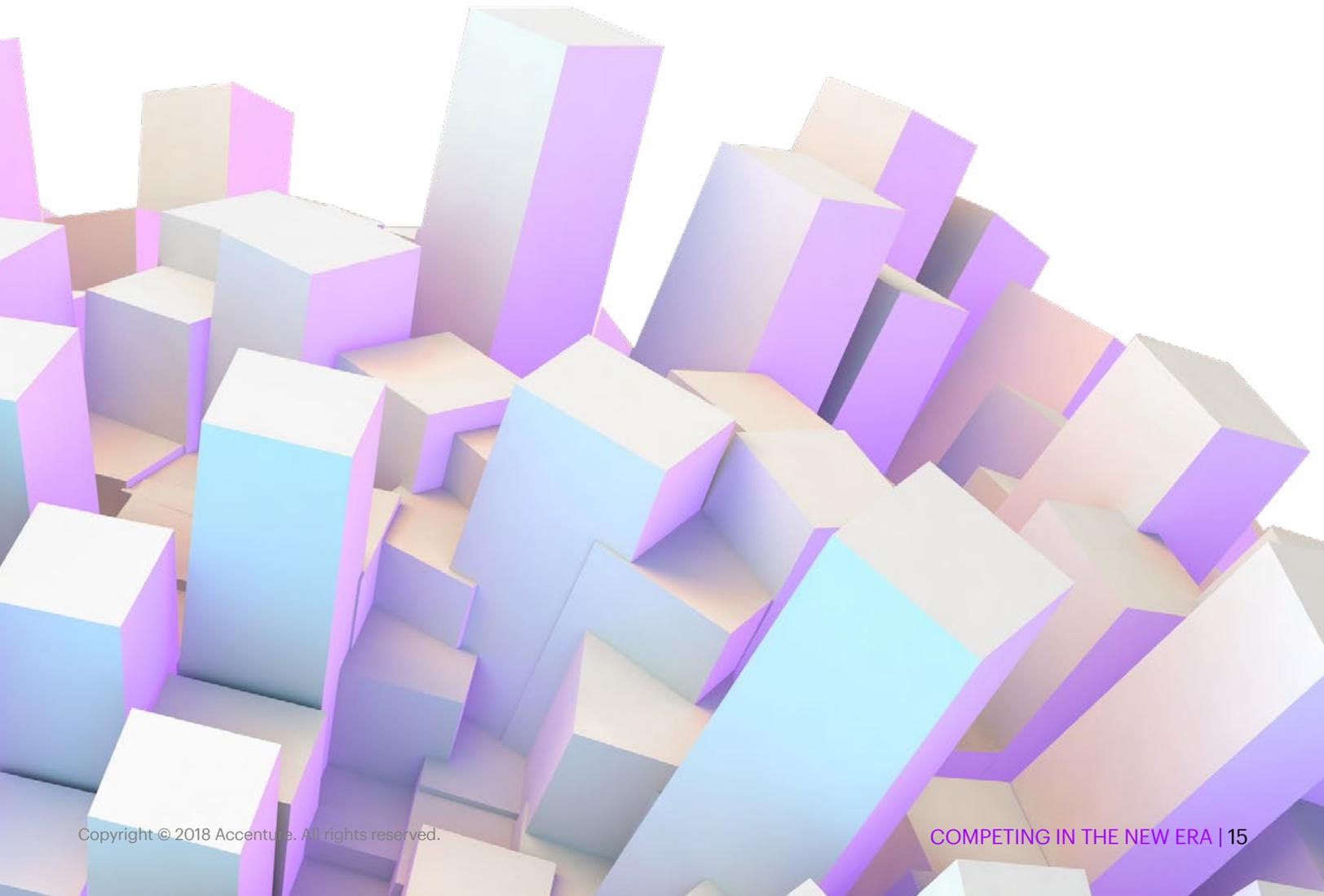
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RESEARCH METHODOLOGY

Accenture performed online research between May 2017 and March 2018 to analyze the evolution of developer portals and sandboxes of financial institutions. The team selected a sample of 19 global financial institutions across traditional banks, challenger banks, fintechs and payment services. For the purpose of this paper, the results have been aggregated and categorized across financial institutions in U.K., Western Europe, Southern Europe, Nordics, Global Financial Institutions and Card Services.

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