



# PSD2 and Open Banking

Using regulation to kick-start the transformation of banking



It's not just about technology. It goes far beyond that. It is even the approach we take to our business. It is how we partner, how **we create the flexibility** that speaks to the **real-world needs** of our customers. That is the **transformation** that is afoot.

**Satya Nadella**  
CEO, Microsoft

Speaking at Ignite 2015



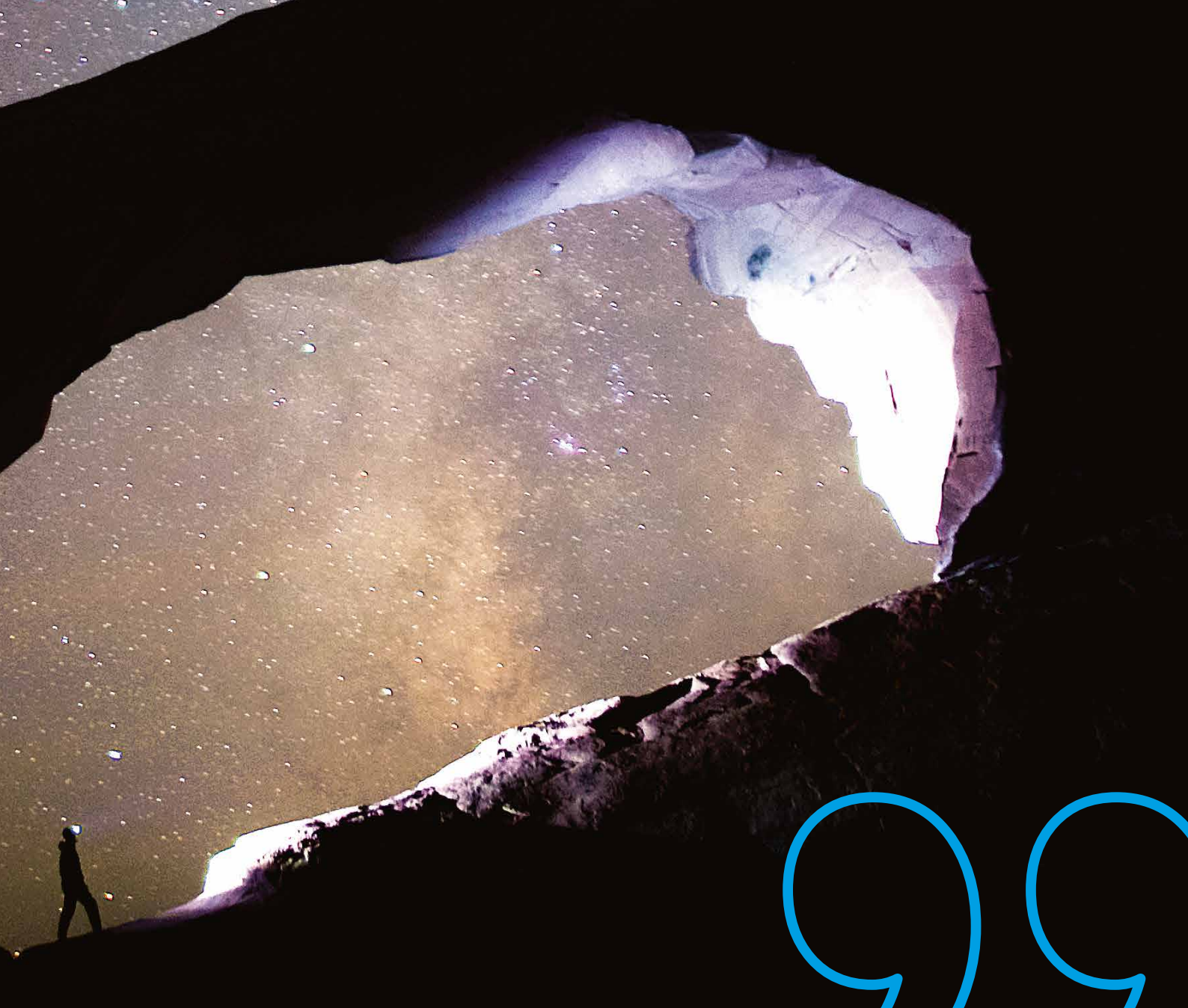
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# Abstract

**THERE ARE ALREADY** many documents available that describe the history and mechanisms of the Second Payment Services Directive (PSD2). This paper does not aim to repeat these. Instead we aim to explore the risks, opportunities and technological implications this brings for banks, payments schemes, fintechs, consumers and merchants.

We explore where opportunities for innovation may develop in the short, medium and long term and how PSD2 and Open Banking initiatives can act as a catalyst to digital transformation in banking. This paper then looks at how Microsoft solutions are positioned to help organisations looking to meet or exceed regulatory needs, and establish a core platform that builds on existing investment and adds flexibility to meet future change, growth and partnership opportunities. In addition, it shows how banks can respond to their PSD2 obligations through actionable APIs that Microsoft has created with Accenture and Avanade, accessible via a sandbox described later in the document.



The ultimate goal is the provision of **a single experience for customers** through one interface – one seamless end-to-end journey to the desired customer outcome.

# Is this the start of real transformation in banking?

LIKE IT OR NOT, PSD2 and the UK Open Banking Standard are kick-starting a financial services revolution that will connect consumers, third party applications and banks in new ways. **This is a revolution** starting with regulatory-driven application programming interfaces (APIs) and evolving naturally into banks' participation in a broader API economy. Whilst PSD2 regulation mandates this base API level for compliance across all banks in 2018, **more progressive organisations will use this as a catalyst to talk at board level about disruptive digital transformation.** They will assess the new challenges and opportunities presented by traditional competitors, fintech start-ups as well as new market entrants from other sectors, such as big tech companies – who all seek to own part or all of a consumer journey.



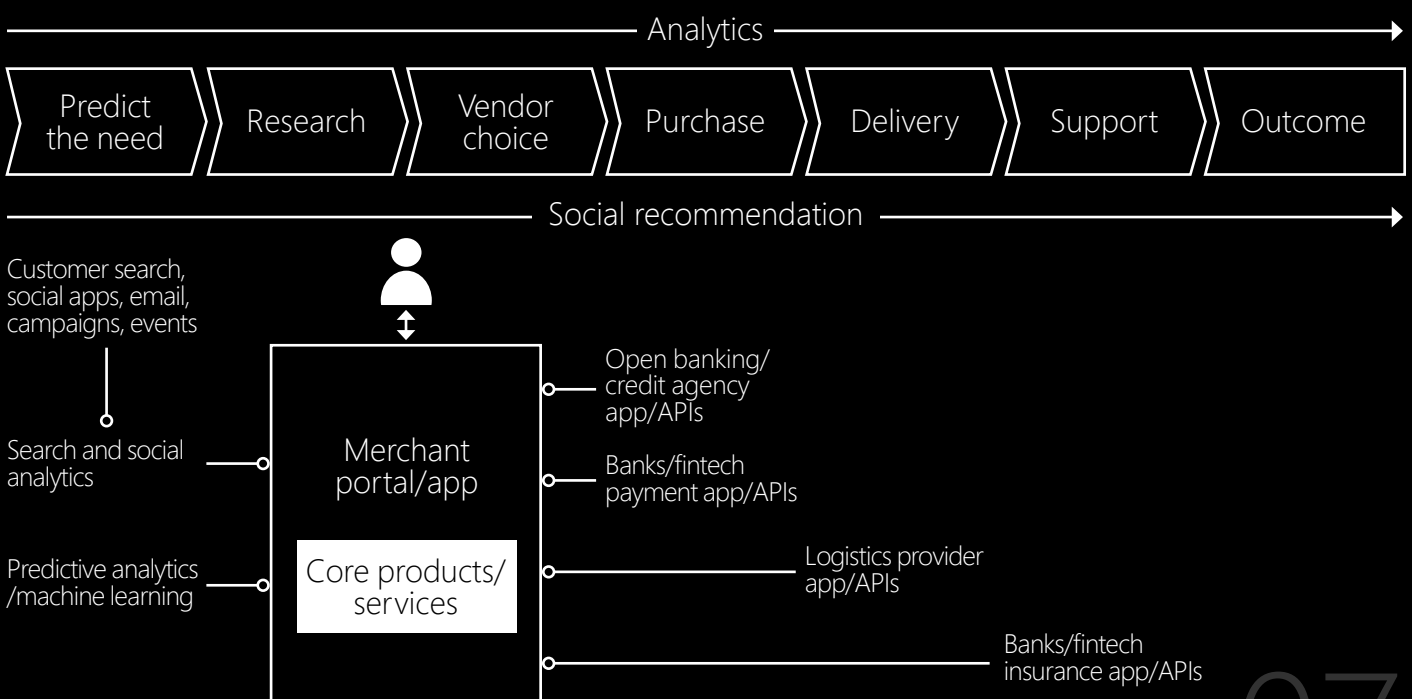
## Redefining the customer experience

- This first wave of PSD2 and Open Banking regulated APIs are designed as a small step to increase competition and innovation in the financial services industry. But it isn't difficult to imagine these APIs being used in creative ways, combining services from different vendors and markets to form a single customer journey to a desired outcome. The customer experience would be defined by the purchasing context. Take the example of a car purchase: frequent car repairs, high fuel costs, imminent lease term expiry or other factors prompt or predict a need for a new car.
- Responding to the prompt, APIs facilitate research across multiple vendors, ask social channels for recommendations, secure a loan or credit check, check availability and place an order – all from a single app.

The ultimate goal here is the provision of a single experience for customers through one interface that combines the best of third party prediction, recommendation, analytics, payment, product choice, delivery and ongoing support services into one seamless end-to-end journey to the desired customer outcome – in which payment or purchase is a fundamental component.

## A seamless API journey

Multiple actors currently participate in the delivery of an outcome, but the ultimate goal is a seamless journey connected by APIs



However, whilst APIs enable this, these new inter- and cross-domain partnerships could easily push many current common banking touchpoints to be invisibly integrated as part of the experience. The movement of money from one account to another could become nothing more than a behind-the-scenes transaction, with the bank in danger of being relegated to a bit-part in the overall journey.

Further, **many other money management tasks will inevitably be automated through artificial intelligence** (AI) or trusted digital agents such as Cortana, Alexa or Siri, which automatically synchronise the functionality of a variety of apps from a diverse range of vendors. In this event, the most successful agent and apps are likely to be chosen for ease of use and quality of insight, rather than brand and trust.

Banks are therefore ushered into a new battleground of integrated service, with the winners claiming the right to be a customer's preferred digital point of entry into banking services. The customer experience differentiators will be based on insightful prediction of customer need, seamless integration, breadth of connectivity and assistive AI to support full lifecycle customer journeys.

All this will take some time to materialise, but elements of the new landscape will appear in the short term. And whilst customer experience has always been a distinguishing feature for many banks, their competition has only really ever been other banks. PSD2 and Open Banking regulation accelerates the introduction of an API economy, expanding that playing field beyond traditional banking institutions and allowing recognised leaders in experience management to compete, setting the bar for customer experience far higher, and increasing every year.

**So, intelligent money management systems will automatically move funds between current and savings accounts, or even between banks, based on real-time interest rate optimisation algorithms. And third parties will provide the hands-on experience of handling everyday interactions. In this world, how will banks create and maintain customer loyalty with their current channels and data feeds, which are so under threat?**





This paper is our view on the answers to these questions – in three parts.

1

Introduce current regulation implications and immediate impacts

2

Articulate a position on the possible broader impact APIs will have on financial services

3

How Microsoft's hybrid integration and intelligence capabilities built on a trusted cloud will help your organisation stay relevant in this rapidly changing digital world

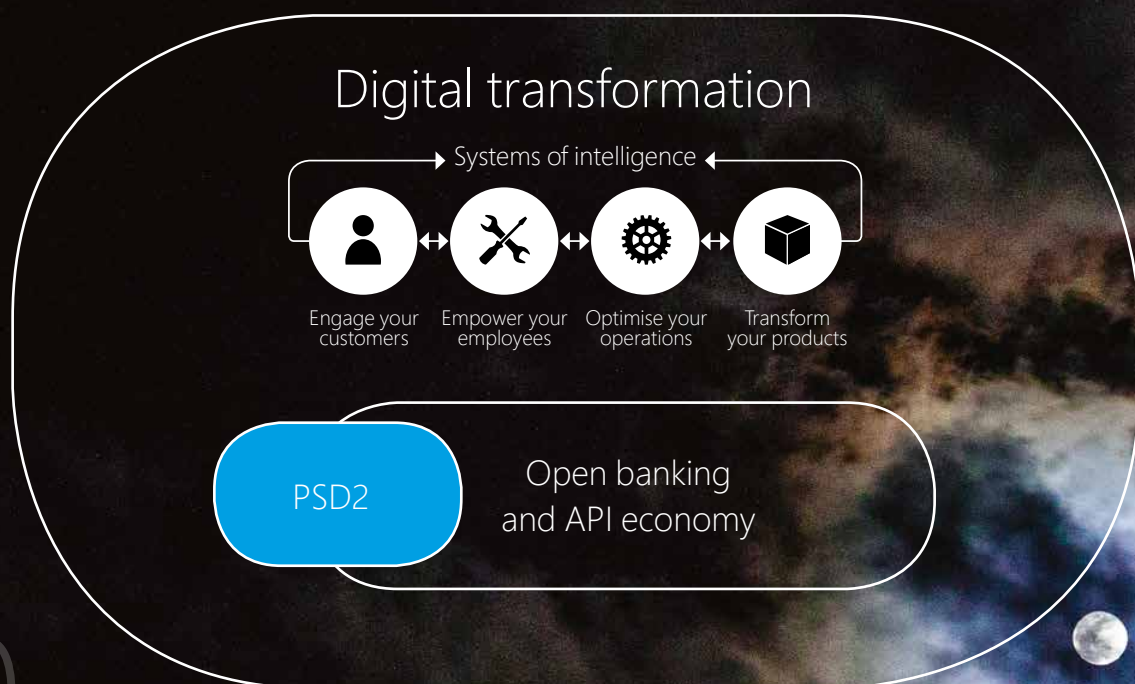
# Is this a banking revolution?

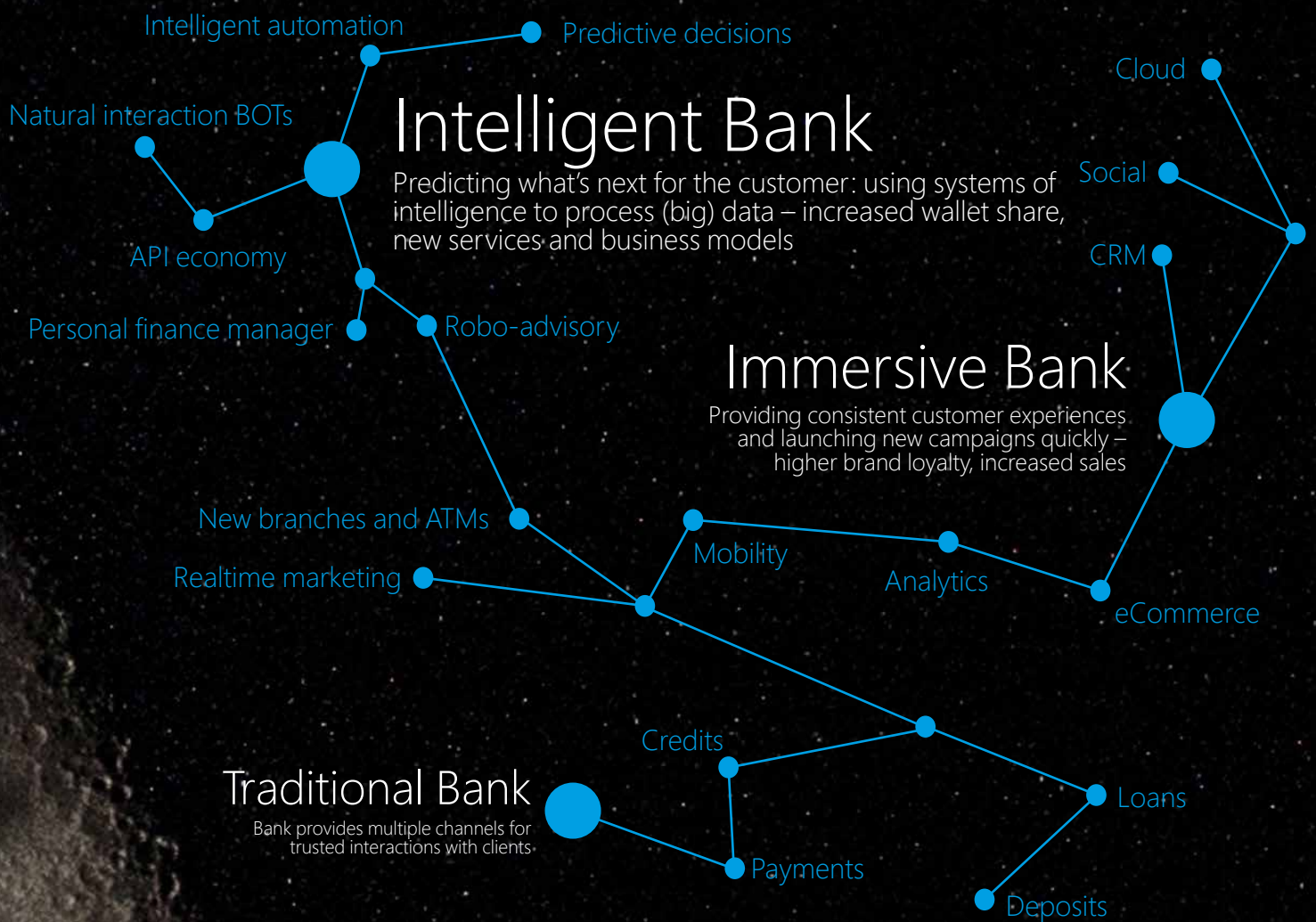
THE EUROPEAN COMMISSION has reviewed and modernised its Payment Services Directive (PSD), to a new package of legislative measures on payment services – PSD2. Its main objectives are to drive increased efficiency, competition and security whilst encouraging lower prices for payments.

At the same time, the UK Competition and Markets Authority (CMA) is driving Open Banking initiatives to increase competition, encourage new entrants and disrupt the status quo and create a new playground for new business models. [The CMA is ordering several UK high street banks to 'open up'](#) and adopt new open banking principles.

## PSD2: catalyst for transformation

For many PSD2 is the starting point for digital transformation





Therefore, Open Banking and PSD2 are acting as a catalyst to incumbents and new entrants as the start of a new data revolution – cementing the customer at the heart of everything they do. In the future if a customer wants to switch accounts, a particular product or their bank (or perhaps we should say service provider), they may be able to with a simple click, or a trusted AI-based digital assistant may even have already done it for them. **It's no longer about loyalty, it's about what works best for the individual consumer**, who will ask how smart can 'I' be with my money?

Is this only a Europe-centric concern? No, whilst PSD2 in Europe and Open Banking in the UK is paving the way for new business models and standards, **this is the enforced start of a digital transformation of all banking and financial services** that reaches more broadly than the relatively narrow scope of this new regulation. Perhaps further regulation will be necessary, perhaps competition will force continued innovation.

Either way, **greater accessibility to banking data and services and new market entrants will make it essential for banks to consider new approaches** to transform products, optimise operations, empower employees and engage customers to stay competitive – and while Europe is forced by regulation to move, the rest of the world will have to follow to maintain parity.

**The future of banking is agile, collaborative, 'exposed' and designed to encourage new business models – using 'systems of intelligence' in this transformation.** Two concepts and choices emerge here – **the bank as a marketplace** and **banking as a platform**. Common to both is an intelligent and connected ecosystem in which integration is the core component and where an API-enabled platform and marketplace is the key strategic consideration. And vitally, access to customer data drives higher level analytic and predictive services that create a competitive edge of intelligent customer insight and robo-advisory services.

Marketplace banking offers complementary third party financial services products alongside a bank's core product, for example a current account. The bank curates a number of trusted third party providers to provide a more rounded set of financial services and offers these as either white labelled or perhaps as co-branded products. The key here is **well-defined APIs to enable ease and richness of integration** with the third parties.

In comparison, the banking as a platform concept creates a framework in which a bank creates an open set of APIs (perhaps monetised) for any third party to build products and services from these – and of which the bank ultimately has little control. The PSD2 AISP (account information service providers) model of open access to transaction data and third party aggregator portals is a clear example of this. **The depth and breadth of the banking platform opportunity is driven by the scope and access of APIs provided**, and by the level of uptake among third parties and fintechs.

**Access to customer data drives higher level analytic and predictive services that create a competitive edge of intelligent customer insight and robo-advisory services.**



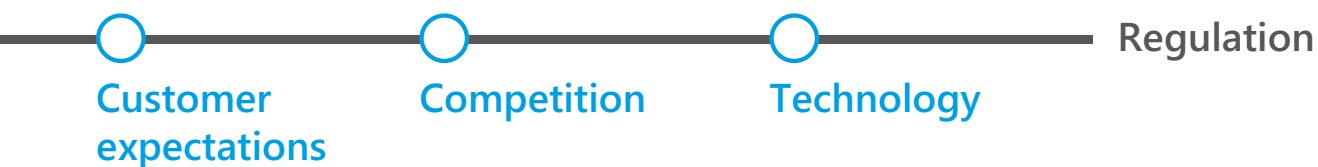
Certainly, of the two, **banking as a platform** has the potential to offer the end consumer the broadest set of capabilities, but does come with some lack of **centralised control of quality**. (Read more about the API economy in the *Empowering the Digital Bank* white paper from Microsoft).

The answer, at least in the short term, is likely to be not one or the other, but a **combination**. Banks will choose to strengthen products in which they excel today and consider offering these services to others to white label and consume and gain value through scale. In parallel, banks or fintechs may choose to curate best-of-breed products from their own offerings and those of third parties – providing combinations that are compelling and unique. In either scenario, the bank that is most flexible to consume or offer products or services through APIs has the advantage.



# So, what is driving this?

WE SEE **THREE FACTORS** at play, forcing this inevitable change, and regulators acting as a catalyst to encourage this.



## Customer expectations

Customer expectations change rapidly and will continue to do so. **Millennials and early adopters across generations are at the forefront here, expecting full service digital banking, being far from loyal to high street banking brands – and trusting tech brands to provide better service.**

More than ever a customer's choice of bank is influenced by ease of digital access and ease of integration with higher level services, as much as it is with rates or premium account features or branch locations. Banking is fast becoming just one step in the way of getting the 'stuff' you need. Banks need to adapt and adjust to this new attitude to maintain market share. (Find out more about banking disruption at [www.millennialdisruptionindex.com](http://www.millennialdisruptionindex.com))

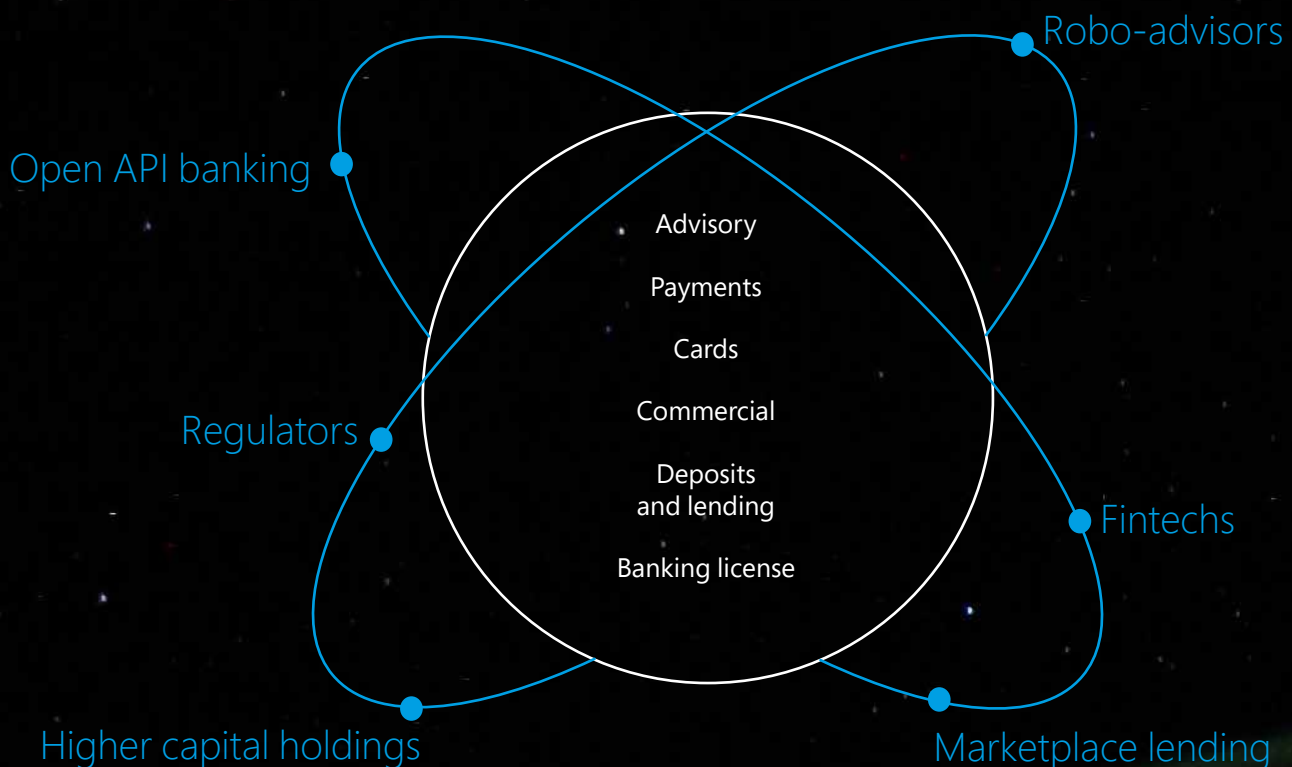
Although, this new model disfranchises the traditional card model, existing debit/credit card and PSD2 payment models will co-exist. According to a survey on PSD2 conducted by Accenture in 2016, more than 50 percent of consumers will use a PISP (payment initiation service provider) product that is secure and offers extensive retail options. One in three debit card payments and one in ten credit card payments are expected to move to PISP by 2020.

## Competition

Today's high street banks have evolved numerous layers of organisation, process and technology designed to maintain stability and minimise risk. When all around you behave similarly, this status quo is maintained. However, these rules will not be followed by new banking entrants without the legacy, fintechs that specialise or don't fall under the same regulatory scrutiny, and disruptive entrants from other markets.

As most of this new competition will struggle to compete directly on price, agility and customer focus are the two factors most likely to disrupt – and this may well be attractive enough to make significant shifts in market share.

# Regulators, competitors, and customer expectations are driving change



## Technology

The checklist of potentially game-changing technologies continues to grow and drive customer expectations – AI, bots, bitcoin/blockchain, biometrics, big data, predictive analytics and Internet of things (IoT) are just some of the technologies promising to change the art of the possible. Regardless of the technology, easing customer journeys, automating the tedious, providing just-in-time and access-anywhere information and services are the promise of the new normal today. Before long, even this list will become commonplace or obsolete and replaced by new innovation capturing the attention of fintechs and consumers alike. Ultimately, it is the flexibility to rapidly experiment with, adapt to and adopt emerging technologies that will allow for continued relevance in the marketplace. Uber is a case in point, bringing established technologies together to connect buyers and sellers via a marketplace which focuses on a great mobile experience, where payment is an integral but largely invisible by-product.

## Regulatory change

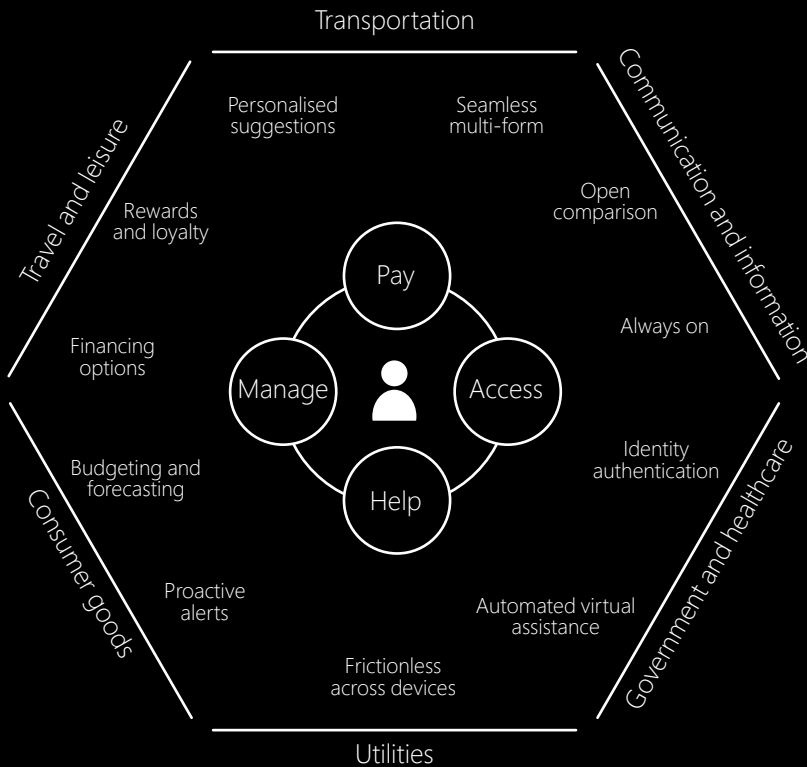
The old regulatory barriers that had kept competitors at bay no longer seem to work. Some bank competitors have emerged that simply do not care about regulation and have intentionally sought to thwart it – bitcoin, and the payment ecosystem that has built up around it, a perfect example. Others, such as the large (and growing) accredited investor community, offer the ability to loan money to individual borrowers through marketplace lending platforms. Rather than coming to the banks' aid with new types of protection, regulators have thus far encouraged competitors, with measures such as PSD2, Open Banking, and the US Office of the Comptroller of the Currency's proposed fintech charter. Unbundling of banking services has become yet another tool for the prudential regulator to employ in combating moral hazard.





# Improving customer lifestyles

**Banks can become a lifestyle empowerment partner to their customers rather than a transactional friction**



- Be the best at enabling customers to pay, access accounts, services, manage their money and get help and support.
- Maintain trust and be the first for service, be it digital or physical.
- Create new and more open approaches to innovation and partnering.
- Banking as-a-platform by connecting and exploiting a broader range of digital solutions.
- Going further in helping the customer to get more value from their money and relationship with you.
- Look for new value opportunities for customers and for the business.

## So, what is the opportunity presented by all this threat of change and potential disintermediation?

The bank that is most embedded in Facebook, Skype, Xbox, WhatsApp, Auto Trader, JustGiving and others, that facilitates these scenario-based customer journeys, will establish first mover advantage, mindshare and scale.

This 'presence' will soon be matched by others and the progression will be to banks that can automatically create value chains personalised to the customer's buying requirement. Imagine this as an emerging real-time spot market, in which multiple potential suppliers transparently bid for a link in the chain to meet your specific needs.

Banks will play different roles, as they do today, but those that act in the 'Intel inside' or 'powered by Visa' role in this new distribution model will retain some brand presence, access to data and the ability to aggregate and serve additional value. As customers come back to their traditional banking channels for higher touch services such as wealth advice, taxation or mortgages, this insight will enrich the customer experience and brand value and so diminish the threat of disintermediation.

Maintaining access to data will become critical to participate in the largely untapped channel of access to personal financial data. The huge wealth of deep insight into customer behaviour that can be gained through analysis of spending history, financial health and financial products owned could be a lucrative source of income for those controlling access to it. There are of course enormous privacy issues to overcome before this becomes a widespread reality, but **recognition of and preparation for this potential future can only be a smart move.**



The PSD2 and Open Banking framework can be enhanced to create new business models and revenue streams. The scenarios for innovation and growth in banking and capital markets are multiple:

- Banks can become aggregators for consumers with multiple relationships
- Banks can boost customer acquisition and reduce attrition by becoming one-stop shops
- Crowdsourcing of new products will let banks meet the needs of a fragmented market
- Smaller banks can offer their customers access to a wider range of products
- Integration of products from incubator and accelerator programs will be easier
- Banks will be able to access external data sets for added consumer insight
- Banks can open up new revenue streams by selling access to their own data
- New revenue streams will arise from selling access to a bank's core systems
- Banks can access data at the point of origination to improve risk analysis and inform credit decisions (e.g. in agriculture, banks could partner across the value chain with farmers to see their usage of pesticides, fuel, water etc. to anticipate drought and effect on yields, which would impact loan serviceability)
- In wealth management, many small pools of wealth are left unserved due to the high cost. Aggregators could provide efficient models in a B2B market for IFAs to connect these customers with low cost advice and improved returns.

All of this will require **sophisticated orchestration, authentication and verification** done automatically, and at speed.

This already happens today in the advertising market, where ads are actioned on a spot market in real-time.

## Core capabilities to compete

A new set of capabilities are required to compete in this new environment and whilst API creation and management are a central component, it is clear that end-to-end connectivity, analytics and more are part of the larger view that needs to be considered.

There are a set of supporting technologies, as part of a broader API ecosystem, that are essential for connectivity, scalability, security, management and intelligence, which create an initial platform. But equally important are the tools, processes and mindset needed to evolve the platform at the new pace required to maintain currency in a highly competitive market.

These capabilities are also the building blocks on which other foundational technologies that are driving digital transformation initiatives build – such as:



IoT

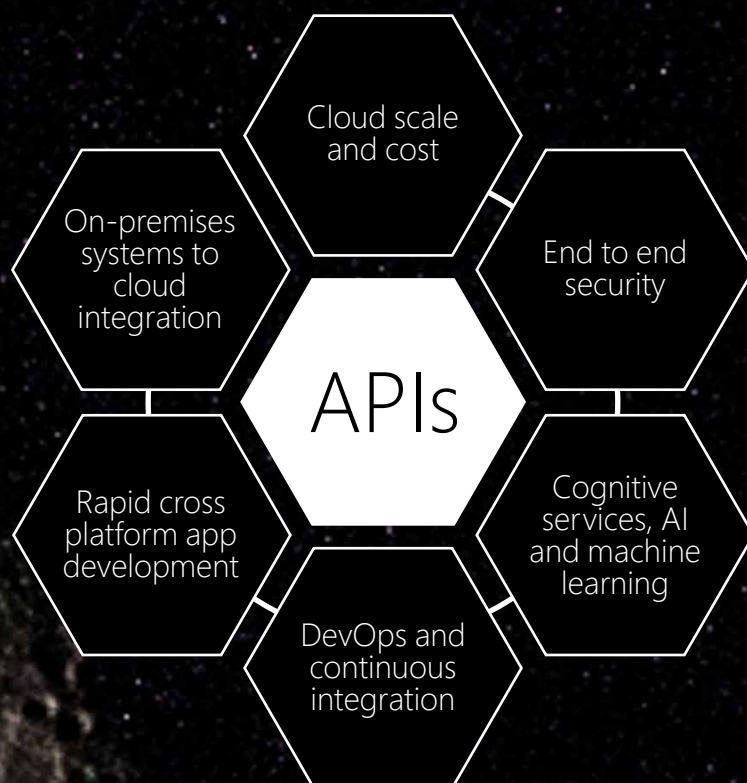


Big data analytics



Blockchain

## Additional capabilities are needed to stay competitive





# Foundations for the future

**FOR MICROSOFT, OPEN BANKING** is far from just exposing and consuming APIs. It is the creation of new business models and transformative products – for which business vision, design-led thinking, customer insight and rapid end-to-end solution provision is what will ultimately differentiate. We encourage our customers to look beyond API toolset capabilities and consider the bigger picture.

The industry and technology skills and expertise of our Microsoft Services team, combined with Azure cloud services helps banks to establish a foundation of regulatory compliance and then create differentiation by building capabilities such as analytics, machine learning and AI. [These technologies drive new customer insight, bring life to existing application investments and allow banks to open new channels and new ways of meeting their customers on their terms.](#)



## CLOUD

Microsoft Azure is the platform that supports your open banking strategy

The identity, analytic, compute, database, mobile, networking, storage and web services provided in the cloud by Microsoft Azure, coupled with connectivity to your existing data systems through our hybrid integration offerings, create a unique platform of technologies that allows you to focus more on the swift creation of customer value than technology plumbing.



## OPEN

Get full value from the open source investments that you already know

Our ever-growing support for open source technologies gives maximum portability and value from your existing investments. Azure supports a broad selection of operating systems, programming languages, frameworks, databases, and devices, so you can use the tools and open source technologies you already know and trust and extend to the cloud – or bring Azure capabilities to your datacenter with Azure Stack.



## TRUST

Security and privacy are built in, and a priority at every step

Ninety percent of Fortune 500 companies trust the Microsoft Cloud and so can you. Azure helps protect your assets through a rigorous methodology and focus on security, privacy, compliance and transparency. The Azure cloud offers a comprehensive compliance coverage with 50 compliance offerings.



## FLEXIBILITY

Adoption at a pace that is right for you

A cloud services model negates the need for large capital expense that stands up the infrastructure and minimises your operational overhead and ongoing costs by leveraging a hybrid cloud service and a pay as you go model respectively.

# The technologies of transformation



## Microsoft Azure API Management

Microsoft Azure API Management helps organisations publish APIs to external, partner and internal developers to unlock the potential of their data and services. Businesses can extend their operations as a digital platform, creating new channels, finding new customers and driving deeper engagement with existing ones. API Management provides the core competencies to ensure a successful API programme through developer engagement, business insights, analytics, security and protection.



## App Service

App Service is the platform-as-a-service capability offered by Microsoft Azure. Organisations can create web and mobile apps for any platform or device, integrate their apps with other solutions using out-of-the-box connectors, and automate business processes with orchestration features. As a single integrated service, App Service lets you compose various components – websites, mobile app back ends, APIs and business processes – into a single solution.



## Microsoft Azure Hybrid Integration

Seamlessly and securely connect APIs such as PSD2 or Open Banking to on-premises assets, unlocking existing investments, and also gain rich insights into cloud and on-premises assets through tools such as Operational Management Suite and Power BI.



### Azure ExpressRoute

Use Azure ExpressRoute to create private connections between Azure data centres and infrastructure on your premises or in a colocation environment. ExpressRoute connections don't go over the public Internet. They offer more reliability, faster speeds, and lower latencies than typical Internet connections.

### Microsoft Integration

Visually create cloud based integrations and workflows using Azure Logic Apps. Automate business processes, connecting to applications, data and devices anywhere, through our large eco-system of connectors. Seamlessly connect to other Azure services, such as Machine Learning, Cognitive Services, Power BI and Azure Data Lake. Azure Logic Apps scale automatically, are highly available and provide rich analytics. The power of Microsoft BizTalk Server is also available for complex, on-premises centric integration scenarios.

### Azure Active Directory

Azure Active Directory is Microsoft's response to enterprise scale identity and access management needs for the cloud. It is a comprehensive identity and access management cloud solution that provides a robust set of capabilities to manage users and groups and helps secure access to on-premises and cloud applications, including Microsoft Azure and many non-Microsoft SaaS applications. It offers a broad set of features including end-user self service, multi-factor authentication and integration with on-premise Active Directory or other authentication directories.



Your consumers can log in to all your applications through **fully customisable experiences** by using their existing social accounts or by creating new credentials.

### Azure Active Directory B2C

Complementary to this is Azure Active Directory B2C – a highly available and global identity management service for consumer-facing applications that scales to hundreds of millions of identities and can be easily integrated across mobile and web platforms. Your consumers can log in to all your applications through fully customisable experiences by using their existing social accounts or by creating new credentials.

### Microsoft Cognitive Services

Microsoft Cognitive Services builds powerful intelligence into your applications to enable natural and contextual interactions that augment users' experiences using the power of machine-based intelligence. Tap into an ever-growing collection of powerful artificial intelligence algorithms for vision, speech, language, and knowledge that allow your apps to process natural language, evaluate sentiment and topics, and learn how to recognise what users want, process spoken language in your applications or incorporate state-of-the-art image processing algorithms to moderate content automatically and build more personalised apps by returning smart insights about faces, images and emotions.

### Azure Machine Learning

Or incorporate Azure Machine Learning as a fully managed cloud service that enables you to easily build, deploy, and share predictive analytics solutions. Azure Machine Learning is a cloud predictive analytics service that makes it possible to quickly create and deploy predictive models as analytics solutions from best-in-class algorithms and a simple drag-and-drop interface.



## Visual Studio Enterprise

Visual Studio Enterprise is our integrated, end-to-end solution for app development teams of any size with demanding quality and scale needs. It incorporates the comprehensive tools and services needed for designing, building and managing complex enterprise applications. Visual Studio is optimised for enterprise-class application development and now includes Xamarin features for Android, iOS and Windows app development.

## Visual Studio Team Services

Use Visual Studio Team Services to track and manage all your great ideas on kanban or scrum boards with agile tools. Collaborate as they turn into code with unlimited Git or Team Foundation Version Control repos and delight your customers with every deployment using hosted builds and automated release pipelines. Automate and simplify your Azure deployments by using built-in tasks and templates to set up CI and CD to an Azure web app, VM, container, Xamarin Test Cloud, HockeyApp and more.

## Application Development

Create web apps, mobile apps and chat bots for any platform or device, seamlessly integrating with existing apps, APIs and services through Logic Apps and API Management.

**Building apps for the cloud and mobile devices has never been easier.**

# The trusted cloud

MICROSOFT UNDERSTANDS that for you to realise the benefits of the cloud, you must be willing to entrust your cloud provider with one of your most valuable assets – your data. If you invest in a cloud service, you must be able to trust that your customer data is safe, that the privacy of your data is protected, and that you retain ownership of and control over your data – that it will only be used in a way that is consistent with your expectations.

Microsoft strives to earn your trust in Microsoft Azure. Our long experience running online services has involved extensive investment in foundational technology that builds security and privacy into the development process. Over time, we've developed industry-leading security measures and privacy policies, and participated in international compliance programs with independent verification of how we measure up.



**Microsoft makes security and privacy a priority at every step, from code development through incident response.**

Microsoft has leveraged its decades-long experience building enterprise software and running some of the world's largest online services to create a robust set of security technologies and practices. These help ensure that Azure infrastructure is resilient to attack, safeguards user access to the Azure environment, and helps keep customer data secure through encrypted communications as well as threat management and mitigation practices, including regular penetration testing.

We strive to be transparent in our privacy practices, offer you meaningful privacy choices, and responsibly manage the data we store and process. One measure of our commitment to the privacy of customer data is our adoption of the world's first code of practice for cloud privacy, ISO/IEC 27018.

Microsoft Azure is built on the premise for you to control your own customer data in the cloud, you require visibility into that data. You must know where it is stored. You must also know, through clearly stated and readily available policies and procedures, how we help secure your customer data, who can access it, and under what circumstances. And don't take our word for it: you can review the third-party audits and certifications that confirm that we meet the standards we set.

For more information,  
visit [www.microsoft.com/trustcenter](https://www.microsoft.com/trustcenter)



# Case studi

BANKS ACROSS EUROPE have adopted Azure API management and integration technology for use in these areas. They have found that our cloud-first approach has been fast and low cost to implement. This agility and cost benefit, aligned to our flexible on-premises integration capabilities, is crucial for banks that need to address the PSD2 deadlines. Some of these banks are willing to be a private reference.

Please contact [rpeers@microsoft.com](mailto:rpeers@microsoft.com) for introductions.

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# Avanade and Accenture's Azure API Management Accelerator

AVANADE AND ACCENTURE have partnered together to create a unique API management accelerator, hosted on Microsoft Azure. The accelerator will enable financial services firms to fast-track their Open API led innovation and provides them with the ability to market-test new value propositions and engage with innovative fintechs and partners via a marketplace model.



The Azure API management accelerator is a self-contained, virtual environment that provides a secure space for market testing, digital innovation and ecosystem activation. It provides a single entry interface for multiple user groups ranging from internal stakeholders and developers to external third parties. The Azure API sandbox is intended to accelerate the technical compliance of upcoming regulations including PSD2.

## Features of the accelerator include:

- **A set of pre-configured APIs** with associated workflows to engage with Account Information Service Providers (AISPs) and Payment Initiation Service Providers (PISPs) to satisfy the core Open Banking and PSD2 technical requirements.
- **The ability to manage and monitor API usage** analytics and performance dashboards in real time.
- **Registration management**, onboarding, and development of applications against an API catalogue.
- **An environment to easily market test new value propositions**, enable validation sessions and assess the viability of new customer journeys.
- **The ability to bring the proposition to life** and prove that the proposition is attractive enough to customers to drive acquisition, retention and share of wallet.
- **An easy to use interface** with plug and play components that integrate in to the Azure ecosystem which allow rapid deployment of a working prototype.
- **Easily scalable cloud-based API infrastructure** enables rapid expansion and negates the need for upfront capital expenditure.

In addition to implementing the Azure API management accelerator, Accenture and Avanade have proven experience in supporting financial services firms to define their API strategy, architecture, security impact, ecosystem activation, API monetisation and operating model.

## About Microsoft

Microsoft (Nasdaq "MSFT" @Microsoft) is the leading platform and productivity company for the mobile-first, cloud-first world, and its mission is to empower every person and every organization on the planet to achieve more. Learn more at [www.microsoft.com](http://www.microsoft.com).

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## About Avanade

Avanade is the leading provider of innovative digital and cloud services, business solutions and designed experiences delivered through the power of people and the Microsoft ecosystem. Our professionals combine technology, business and industry expertise to build and deploy solutions to realize results for our clients and their customers. Avanade has 29,000 digitally connected people across 23 countries, bringing clients the best thinking through a collaborative culture that honours diversity and reflects the communities in which we operate. Majority owned by Accenture, Avanade was founded in 2000 by Accenture LLP and Microsoft Corporation. Learn more at [www.avanade.com](http://www.avanade.com).

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## About Accenture

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions – underpinned by the world's largest delivery network – Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 401,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Learn more at [www.accenture.com](http://www.accenture.com).

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