The future of banking is open

How to seize the Open Banking opportunity

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Foreword

It is more than half a year since the UK's Open Banking experiment began, and yet, on the surface, very little has changed in the retail banking landscape. In fact, if you were to bring up the topic at a dinner party, you would mostly likely be met with blank stares or apathy.

However, atop the glass towers of the country's largest banks and within the Shoreditch offices of FinTechs, executives are discussing Open Banking as a hugely important strategic issue due to its power potentially to both disrupt and create new opportunity.

By conducting interviews with executives and Open Banking leads at the country's most influential financial services organisations and FinTechs, combined with a survey of over 1,000 retail and SME customers, we have distilled the key insights in the Open Banking space.

In our report we cover why Open Banking matters and how the banking landscape may change going forward. We also size the market for potential revenue opportunies, and outline how firms could respond to capitalise on the opportunity and address the disruptive threat head on.

Jonathan Turner
Open Banking Leader
PwC

A message from the Open Data Institute

At the Open Data Institute, we work with companies and governments to build an open, trustworthy data ecosystem, where people can get value from data and its impacts do no harm. We are proud therefore to have partnered with PwC Strategy& on this report which takes insights from current market players and outlines key actions to seize the opportunity and benefit Open Banking brings for businesses and consumers.

We are more aware than ever before of the importance and value of data about us, and how it is shared and used. This not only applies to financial services, but across a wide range of sectors from utilities to retail to transport. Whilst the value of this data is not disputed, questions around who has access to it and for what purpose have become ever more relevant, both for us as consumers but also for those organisations that have access to data.

Open Banking touches on all of these important themes. A thriving community of innovators is ready to translate our transactional statement data into valuable tools to help us manage our finances better, to find new and better services more easily, and to connect our banking data to other services in housing, travel, health and utilities.

As such, Open Banking has the potential to radically transform the way in which we engage in banking services, receive money and make payments. It is likely to cause significant disruption to how consumers (personal and particularly small businesses) think about banking, who should provide banking services, who will inform and guide us, how, when and why will we allow organisations that are not our banks to have access to our financial data. Could this even change the composition of the traditional banking institutional landscape? Some think this could be the catalyst behind a revolution in how we perceive personal and SME banking.

Finally, Open Banking has trust and consent at its heart the exchange of data will be for services that add value and it is that which will drive the adoption of new products and services.

We hope you find this report insightful and useful and please do get in touch.

David Beardmore
Commercial Director
Open Data Institute

Executive summary

Our clients are treating Open Banking regulation as a critically important strategic topic that cannot be ignored due to the size of the opportunity and the potentially disruptive impact it could have on the financial services landscape.

Consistent with wider social shifts towards transparency, data standards and sharing, Open Banking is an enabler for increased competition, innovation and customer centricity.

The UK is at the forefront of Open Banking innovation globally, with the Competition and Markets Authority (CMA) mandating that from January 2018, the nine largest current account providers must offer standardised application programming interfaces (APIs) for current accounts to Account Information Service Providers (AISPs) and payments for Payment Initiation Service Providers (PISPs).

By providing access to this data to third parties, Open Banking levels the playing field between traditional incumbent financial services providers and new disruptors. Incumbents are at risk of falling behind more technology enabled peers as well as new market entrants, such as FinTechs. They are challenged by the potential entry into financial services by prominent players in other industries, in particular technology giants who may now be encouraged to innovate in areas like payments.

While many customers' concerns about security and privacy currently outweigh the perceived benefits, there is already a large target market for Open Banking solutions. We estimate that Open Banking has the potential to create a revenue opportunity of at least £7.2bn by 2022 across retail and SME markets. Examples of the numerous use cases enabled by open API data include account aggregation, better financial management, credit scoring thin-file customers, and integrated lending and accounting platforms for SMEs.

Over time more innovative propositions should completely change how financial services are delivered and integrated into everyday experiences. Our analysis also suggests that companies should target affluent, young, urban populations as an initial customer market although this will grow and widen as propositions mature.

Companies need to ensure that they have a compelling vision of how they will stand out in a highly competitive and transparent environment. It is not feasible to chase all the potential Open Banking opportunities, so firms will need to focus on developing differentiated propositions and capabilities. They will need to make choices about addressing capability gaps through acquisition, partnering or operating as part of an ecosystem of providers.

Regardless of positioning, there are some common characteristics we believe are required to succeed in an Open Banking environment which include: a customer centric operating model, strong data analytics capabilities, integrated and secure technology platforms as well as an agile and open working culture.

Although the future is uncertain, companies cannot afford to wait and see how it unfolds. A strategic approach to Open Banking is critical if companies want to be confident of success.

What is Open Banking and why does it matter?

Whatever the motivation and the mechanism for its introduction and despite the potential pitfalls, the application of Open Banking principles could significantly change the shape of banking for the better.

The UK banking market is due for transformation

The UK has long been recognised as a global leader in banking. The industry plays a critical role domestically, enabling the day-to-day flow of money and management of risk that are essential for individuals and businesses. It is also the most internationally competitive industry in the UK, providing the greatest trade surplus of any exporting industry. As outlined in our thought leadership piece for The City UK, *'A Vision for a Transformed World-Leading Industry'* [1], the UK has a mature and sophisticated banking market with leading Banks, FinTechs and Regulators. However, with fundamental technological, demographic, societal and political changes underway, the industry needs to transform itself in order to effectively serve society and remain globally relevant.

The industry faces a number of challenges. These include the fact that banking still suffers from a poor reputation and relatively low levels of trust[2] when compared to other industries. Many of the incumbents are still struggling to modernise their IT platforms and to embrace digital in a way that fundamentally changes the cost base and the way customers are served. There are also growing service gaps in the industry, with 16m people trapped in the finance advice gap[3].

In the face of these challenges, Open Banking provides an opportunity to open up the banking industry, ignite innovation to tackle some of these issues and radically enhance the public's interaction and experience with the financial services industry. As we highlighted in our recent report *'Who are you calling a challenger?'* [4], a wave of new challenger banks have entered the market with these opportunities at the heart of their propositions. However, increased competition is no longer the only objective of Open Banking.

Open Banking provides an opportunity to open up the banking industry, ignite innovation and enhance the public's experience with the financial services industry.

Source: [1]www.pwc.co.uk/FutureofFRPS
[2]2018 Edelman Trust Barometer
[3]2015 Financial Advice Review
[4]www.pwc.co.uk/Challenger-Banks

Open Banking regulation has evolved from the original intent

The UK started introducing an Open Banking Standard in 2016 to make the banking sector work harder for the benefit of consumers. The implementation of the standard was guided by recommendations from the Open Banking Working Group, made up of banks and industry groups and co-chaired by the Open Data Institute and Barclays. It had a focus on how data could be used to “help people to transact, save, borrow, lend and invest their money”. The standard’s framework sets out how to develop a set of standards, tools, techniques and processes that will stimulate competition and innovation in the country’s financial sector.

While the UK was developing Open Banking, the European Parliament adopted the revised payment services directive (PSD2) to make it easier, faster, and less expensive for customers to pay for goods and services, by promoting innovation (especially by third-party providers). PSD2 acknowledges the rise of payment-related FinTechs and aims to create a level playing field for all payment service providers while ensuring enhanced security and strong customer protection. PSD2 requires all payment account providers across the EU to provide third-party access. While this does not require an open standard, PSD2 does provide the legal framework within which the Open Banking standard in the UK and future efforts at creating other national Open Banking standards in Europe will have to operate.

The common theme within these initiatives is the recognition that individual customers have the right to provide third parties with access to their financial data. This is usually done in the name of increased competition, accelerating technology development of new products and services, reducing fraud and bringing more people into a financially inclusive environment.

Figure 1: Open Banking timeline (2013-2020)

2013

Revised PSD2 proposal
(EU, July 2013)
- Proposal for a revised PSD2 published by the European Commission
- Recommended that Payment Account Providers to allow third parties with appropriate consent to share account information and initiate payments

Fingleton Report
(UK, September 2014)
- Report published by The Open Data Institute and Fingleton Associates
- Recommended that banks create standardised APIs accessible to third parties

2015

PSD2 text published
(UK, January 2016)
- Publication of the final text in the Official Journal of the EU
- Member states required to apply majority of provisions within 2 years

Open Banking Standards
(UK, February 2016)
- Initial set of guidelines published by HM Treasury
- Outlines how Open Banking data should be created, shared and used
- Objective to enable the creation of an Open Banking data ecosystem

2017

PSD2 deadline
(EU, January 2018)
- Requires all payment service providers (PSP) to allow open data access to customer account and payment services to 3rd parties
- Applies to all payments where one PSP is in the EEA

CMA 9 deadline
(UK, January 2018)
- 9 largest UK current account providers to open API for current accounts
- Only FCA approved businesses will be provided access to open APIs
- Customers will have to opt-in to share data

2019

PSD2 RTS deadline
(EU, September 2019)
- Prohibits access of data beyond that explicitly authorised by customers
- Screen scraping techniques will be banned
- Strong customer authentication required for electronic payments

2020

Source: Payments UK, PwC Strategy&

Although the initial objectives of the Open Banking standards were to increase competition in banking and increase current account switching, the intent is continuingly evolving with a broader focus on areas including: reduced overdraft fees, improved customer service, greater control of data and increased financial inclusion.

Figure 2: Additional expectations of Open Banking standards

Source: PwC Strategy&

Whilst there is little argument that the UK leads the way in Open Banking (figure 3), it is by no means doing so alone. Many other countries are looking carefully at the UK experience to understand how a local implementation might benefit from some of the issues experienced during the UK's preparation and 'soft launch' in January 2018. There are many informal networks around the world, which link regulators, FinTechs and banks to facilitate the sharing of information from one market to another.

Countries around the world are at various stages of maturity in implementing Open Banking. The UK leads as the only country to have legislated and built a development framework to support the regulations, enabling it to be advanced in bringing new products and services to market as a result. However, a number of other countries are progressing rapidly towards their own development of Open Banking. In a second group sit the EU, Australia and Mexico, which have taken significant steps in legislation and implementation. Canada, Hong Kong, India, Japan, New Zealand, Singapore, and the US are all making progress in preparing their respective markets for Open Banking initiatives.

One danger in any international shift in thinking, such as Open Banking, is that technology overtakes the original intention. The 'core technology' here is open APIs and they feature in all the international programmes, even when an explicit 'Open Banking' label is not applied. In a post-PSD2 environment, the primary responsibility for security risks will lie with payment service providers. Vulnerability to data security breaches may increase in line with the number of partners interacting via the APIs.

The new EU General Data Protection Regulation (GDPR) requires protecting customer data privacy as well as capturing and evidencing customer consent, with potentially steep penalties for breaches. Payment service providers must therefore ensure that comprehensive security measures are in place to protect the confidentiality and integrity of customers' security credentials, assets and data.

Figure 3: Global Open Banking league table

	Country	Initiatives
Group 1	UK	• The CMA set a deadline of January 2018 for the UK's 9 largest current account providers to Open APIs for current accounts • Banks will also be impacted by additional PSD2 Regulatory Technical Standards regulation in September 2019 that bans screen scraping
Group 2	EU	• Western European countries (e.g. Italy) are adopting the Berlin Group standard (Germany's API standards for compliance with PSD2) • In Germany, current account APIs are already being used for processes such as onboarding and credit scoring (e.g. Fidor) • Nordic banks, due to operations across the region, are waiting for a regional API standard
	Australia	• The recommendations published in December 2017 for the Australian Treasury gives customers a right to direct that the information they already share with their bank be safely shared with others they trust • Open Banking is part of the 'Consumer Data Right' in Australia, a more general right being created for consumers to control their data, including who can have it and who can use it, with Banking the first sector to which this right is to be applied
	Mexico	• Mexico's law regulating Financial Technology Institutions ('The FinTech Law') became effective in March 2018, permitting Open Banking and also giving FinTechs greater regulatory certainty around crowdfunding, payment methods and cryptocurrencies • The Mexican authorities have looked carefully at the UK experience and applied a number of features of the UK framework, including the customer consent model and a regulatory sandbox
Group 3	USA	• The payments association, NACHA (National Automated Clearinghouse Association), has spearheaded efforts with their API standardisation programme announced in 2017 built around '16 API Use Cases That Will Transform the Financial Services Industry', grouped around: fraud & risk reduction, data sharing and payment access • It is unclear yet whether the US will introduce an open API standard which would allow customers to choose services to which they want to give access to their banking
	Japan	• In May 2017, the Amended Banking Act decided to introduce a registration system for 'Third Party Providers (TPPs)' and to announce policies for collaboration between banks and TPPs with the Japanese government expecting more than 100 banks to open APIs in the next few years • Individual banks are launching their own efforts to enable secure access to its data from its online banking systems from third-party applications – e.g. the Mitsubishi UFJ Financial Group (MUFG) is reportedly examining such opportunities
	Singapore	• The Monetary Authority of Singapore (MAS) is focused on a commercially driven rather than a regulatory driven approach to Open Banking, working with many banks opening up APIs as part of their ongoing developments • For example, Singapore's largest bank, DBS Group Holdings, recently launched a platform enabling third-party developers to access more than 150 APIs to integrate functionality into their own services, like real-time payments
	Hong Kong	• The Hong Kong Monetary Authority (HKMA) published its draft Open API framework in January 2018 marking the start of a public consultation outlining its intentions to move towards a 'New Era of Smart Banking'
	New Zealand	• New Zealand is developing their Open Banking framework predominately through the voluntary cooperation of its major financial services players, led by a forward-looking payments association
	India	• There is no centrally directed policy but a number of API-driven initiatives have been introduced (e.g. Unified Payment Interface – an account to account payments system) to increase competition and act as a catalyst for Open Banking
	Canada	• The Canadian government launched an Open Banking review in February 2018 to explore the benefits and risks associated providing third parties access to customer data

Source: Open Data Institute

There is a wider societal shift towards transparency and API-based data sharing

The regulatory initiatives mentioned above share common underlying infrastructure of open APIs, a proven technology that can help provide access to open data (such as a list of products that a bank provides) and secure shared access to private data (such as a list of the transactions in an individual's bank statements), and surrounding policy, legal and governance structures to create trust, develop standards, monitor progress and guide the initiative towards the desired outcome.

Open Banking is part of a wider trend of giving citizens and customers more control over data, and revitalising existing sectors through the use of modern technologies, processes and business models. This trend is emerging as countries around the world continue to debate and discover what the current age of data abundance means for society. It can be seen in other sectors such as public services, transport, and retail.

Technology enabled businesses, such as Amazon, are frequently used as the exemplars of the new economy. They have reached massive global scale through new business models enabled by software and data. Amazon has an internal mandate that all data must be made available through an API to other parts of their organisation[5]. The move encouraged partnership across the company, as teams had to understand each other's needs in order to build useful APIs. Opening these APIs up to external developers led to a greater understanding of the needs of both the market and end-users, enabling the company to make better strategic decisions about new products.

But more traditional organisations are making significant use of data too. Public transport services are a forerunner in this field with organisations around the world publishing data and seeing better services for travellers as a result. Transport for London estimate that they are generating annual economic benefits and savings of up to £130m a year through their own data programme[6].

Moreover, the international Open Data Charter has been adopted by 52 governments and is endorsed by 42 non-state organisations such as the Web Foundation, the Open Data Institute and IBM. All of these organisations are publishing data as openly as possible and creating conditions for that data to be used by citizens, customers and creators to make better decisions and build new services.

Source: [5] Amazon
[6] Transport for London

Figure 4: Non-financial services API case studies

	Transport for London	***Uber – driver APIs***	***Travel industry***
API provider	Transport for London	Uber	British Airways Hilton Hotels
API user examples	CityMapper Google Maps	Sears Auto Centre Activehours	SkyScanner Booking.com
Use case	• All public data is **released free of charge for developers to use** • Mobile apps use the feed to **develop integrated transport and navigation tools**	• App developers use API to develop **income management and tax tools** • **Driving activity data** used to develop reward apps	• **Aggregators** use APIs from airlines, hotels, etc. to compare offerings • Combining APIs can facilitate the sale of **package deals**
Benefits	• TfL **save cost** developing customer apps in-house • Customer benefit from **innovative applications**	• **Driver experience** improved without Uber incurring **additional cost** • Drivers access benefits that are not normally received by **contractors**	• Travel companies receive **higher customer traffic** through aggregator platforms • Increased **price competition** in the market

Source: PwC Strategy&

How will the banking landscape change?

Propositions will be deployed in waves, with increasingly innovative use cases appearing

While the new regulation and technologies create an environment in which innovation can flourish, the creative nature of solution development means it is impossible to predict the full range of propositions which might appear. Nevertheless, there is already a long list of propositions which may be developed and enhanced across both retail and SME banking should the appetite and scope of Open Banking continue to expand. After analysis of propositions in the market as well as discussions with banks, FinTechs and industry regulatory groups, we have identified five broad categories of propositions: aggregation platforms, process improvement, advice and analytics tools, enhanced banking product offerings and enhanced non-banking product offerings.

Figure 5: Potential Open Banking proposition categories

Proposition	Description	Example use case
Aggregation platforms	Aggregation platforms provide a single view of customer financials across multiple providers, as well as recommendations on product choices	Managing bank account, credit cards, loans and savings products from different providers in a single application
Process improvement	Integration and automation of administrative activities	Using account APIs to automatically verify identity, salary, deposit origin and income as part of mortgage approval process
Advice and analytics tools	Insight and recommendations based on open data	Using data analytics on account transaction data to identify spending patterns to help people budget and manage their savings
Enhanced banking product offerings	Tailored products based on customer data & improved functionality from automation	Creating customised holiday loan products based on flight and hotel bookings and anticipated spend
Enhanced non-banking product offerings	Compare and purchase of non-FS products through Open Banking platforms in an easy integrated way	Automatically managing utility bills through accessing transaction data and comparing to market rates to identify discounts

Source: PwC Strategy&

“Responding to Open Banking is a non-negotiable”

(CEO, UK Retail Bank)

Figure 6: Potential Open Banking enabled propositions (non-exhaustive)

Proposition type	Example propositions	Key focus	Description
Aggregation platforms	Aggregation platform	Retail, SME	Single view of customer financials across multiple providers
	Wealth management platforms	Retail	Single platform to manage multiple wealth management accounts
	Line of credit dashboards	SME	Consolidated view of multiple lines of credit
Process improvement	Credit scoring	Retail, SME	Higher quantity and quality of credit rating information
	Identity verification and KYC	Retail, SME	Simple verification capability for FS and non-FS products and users
	International remittance services	SME	Simple and fast transfer of money internationally
	Dynamic payroll	Retail, SME	Automation of the payroll process for businesses
	Loyalty programmes	Retail, SME	Automated management of loyalty and discount programmes
Advice and analysis tools	Money management	Retail, SME	Advice to customers in how they can save/spend more effectively
	Marketplace	Retail, SME	Platform allowing product comparisons between third parties
Enhanced banking product offerings	Bespoke lending	Retail, SME	Analysis of spending data to enable provision of customised loans
	Overdraft decoupling	Retail	Identification of overdraft data to drive product recommendations
	Micro savings and deposits	Retail, SME	Tool to enable saving small amounts from available deposits
	Cash flow management	Retail, SME	Automated management of cash balances and future cash flows
Enhanced non-banking product offerings	Utilities management	Retail	Analysis of customer utility bills to drive product recommendations
	Integrated accounting, audit and tax services	SME	Management of business accounts (e.g. invoice management)
	Tax and estate planning	Retail	Integration of advice and management tools for personal finance
	Property management	Retail, SME	Advice on and management of property assets

Relatively easy to develop, existing players

More complex propositions, low penetration

Key: Retail focussed SME focussed Selected opportunities

Source: PwC Strategy&

Figure 7: AISP and PISP providers

Firm	#FTE	Years active	Category
bud.	75-100	3	Aggregation platform (21%)
Consents Online	15-30	1	Aggregation platform (21%)
Emma	5-10	1	Aggregation platform (21%)
bean	0-5	2	Aggregation platform (21%)
ClearScore	100-150	4	Process improvement (32%)
CreDec	75-100	22	Process improvement (32%)
TrueLayer	15-30	2	Process improvement (32%)
Credit Data Research	15-30	5	Process improvement (32%)
Credit Kudos	5-10	2	Process improvement (32%)
Flux	5-10	2	Process improvement (32%)
intuit	8,300	26	Advice & analysis tools (37%)
evestor	30	3	Advice & analysis tools (37%)
Funding Exchange	30	4	Advice & analysis tools (37%)
fundingoptions	30	7	Advice & analysis tools (37%)
Bizfitech	30	3	Advice & analysis tools (37%)
Fractal Labs	15	4	Advice & analysis tools (37%)
moneybox	15	3	Advice & analysis tools (37%)
iwoca	150-200	6	Enhanced product offering (11%)
Safety Net Credit	100-150	7	Enhanced product offering (11%)

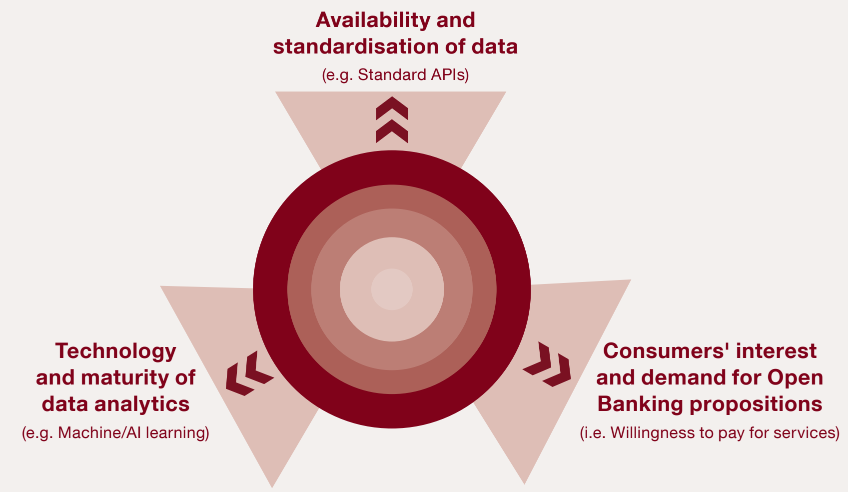
Source: FCA, Crunchbase, UK Companies House, company websites

We analysed all AISP and PISP providers currently registered to the FCA at May 2018 and categorised them in our framework.

New propositions are likely to be developed and deployed in waves, with progressive levels of creativity and value to customers. We envisage three such waves, driven by the availability of different forms of open data, which will expand as the technology, security arrangements and customer acceptance of data sharing mature.

At present, with only current account data available via API, propositions are predominately focusing on improving solutions to known Financial Services issues. Many of these propositions are already available via screen scraping. We anticipate that the second wave will focus on creating new financial services propositions that address gaps in products and services – where solutions are not currently available in the market.

Figure 8: Enablers of Open Banking proposition development



Source: PwC Strategy&

In the third wave open data structures are likely to become more commonplace in other industries, and this will accelerate if Open Banking proves successful. This will provide the opportunity for the development of propositions that not only improve financial services, but enable and enhance a broader range of life management services by leveraging AI (e.g. a digital assistant that automatically manages tasks such as food delivery and tax payments, utilities bills).

Open Banking can be used to create value in a number of different ways

Questions still remain around how banks and FinTechs will generate value from propositions and no dominant model has been developed yet. It is clear, however, that Open Banking could provide three distinct value opportunities: revenue, cost and valuation.

Figure 9: Initial Open Banking value opportunities

Revenue	**Pay for use:** upfront fee or a subscription based model for services	**Commission model:** commission fee charged for recommended 3rd party services	**Advertising:** use mobile platforms to advertise other services (both internal and external)	**Sell data:** sell aggregated data and trend analysis
Cost	**Opex reduction:** use more efficient 3rd party services in place of internal operations to lower cost to serve		**Capex reduction:** reduce technology change spend by using 3rd parties and developer communities to develop customer applications	
Valuation	**Market share:** maximise customer acquisition and retention to drive a higher equity valuation through offering products for free or at heavily discounted rates compared to incumbents			

Source: PwC Strategy&

Market players are responding in different ways to the opportunities and threats

Most financial services firms recognise the disruptive potential of Open Banking, and cite it as being a key strategic priority to be addressed. Although currently only the CMA9 are forced to implement Open Banking standards, a far broader group needs to respond to other related regulation like GDPR and PSD2, and indeed are considering how best to use APIs.

In order to build out an understanding of how the banking landscape could change in the future we interviewed a wide range of industry leaders to understand how players will react to Open Banking.

CMA9 Banks

Large banks are treating Open Banking as an important programme, both for regulatory compliance and strategic reasons. Executives we interviewed discussed deploying offensive and defensive strategies.

Offensive: Open Banking is seen as a key factor within banks' digital strategies. Banks appreciate that they have strong brands and are trusted to look after customers' money, identities and data. They already have large established customer bases, and see Open Banking as a way of enriching the functionality and experiences that they can offer. This would typically be through better use of analytics and personalisation, combining data already held by the bank with data gathered from other institutions and sources. In this way, banks hope to provide more relevant products and services to their existing customers, and to increase their market share by attracting new customers. Banks who recognise that they lack the agility, speed or innovation of competing start-ups, can complement their offerings through partnerships with FinTechs who can add value to the bank's customers as part of a controlled and trusted ecosystem.

Defensive: Most large banks recognise that Open Banking may lead to a weakening of their relationships with customers. It is highly plausible that customers will increasingly engage directly with well-designed 3rd party applications and use this as the interface to an array of banking products and services from multiple providers. Taken to an extreme, banks may ultimately become undifferentiated utilities with lower returns. Banks are reacting by seeking to enhance the customer centricity of their products and platforms and retain relevance to customers. If they are able to keep pace with the innovation and usability of new competitor offerings, most customers will likely continue to use banks for the majority of their financial services.

Banks are also concerned that customers may be exposed to a range of threats associated with security and data loss. Even if an incident is not caused by the bank, there is a likelihood that they will suffer collateral damage to their reputation, and may be expected to help remedy the issue which will incur cost. Many banks therefore feel it important that they help educate customers about the risks of data sharing; ensure that the APIs are used to increase security and safety, not decrease it. They also plan to rigorously validate that firms are appropriately authorised to access their APIs.

Mid-sized banks and building societies

Mid-sized banks and building societies are generally waiting to see how the CMA9 respond, what new competitors emerge and how customers respond to new Open Banking offerings. While they have similar concerns to the big institutions about the risk of disruption and disintermediation, they are often constrained in their ability to treat this as a top strategic priority. They do not have the same pressing regulatory imperative to re-architect their systems, and do not have the budget to invest in adventurous Open Banking propositions.

Furthermore these organisations appreciate that they are typically not as nimble as smaller technology-centric firms, and are concerned by a risk of falling behind. They have therefore starting developing propositions and partnerships to offer the functionality which will be seen as hygiene factors in future. Although the mid-sized banks and building societies see the potential to use Open Banking to leap-frog their competition (for example by rapidly extending their geographic reach or product offering) they are not yet willing to take significant risk to pursue this.

Specialist lenders

Perhaps due to the scope of the first wave of Open Banking regulation that emphasises current accounts, specialist lenders have been slower to respond to Open Banking. Progressive companies do however recognise that better sharing of data could result in a rethink of their distribution models. Better integration with marketplaces, aggregators and comparison sites means being able to increase the speed with which product variants can be introduced and presented to a wide audience.

The ability to analyse rich data used for pricing specialised risks could transform the way they operate. It is expected that specialist lenders will pay more attention as the sharing of banking data matures and expands, and in particular if an array of new lending propositions is introduced by FinTechs.

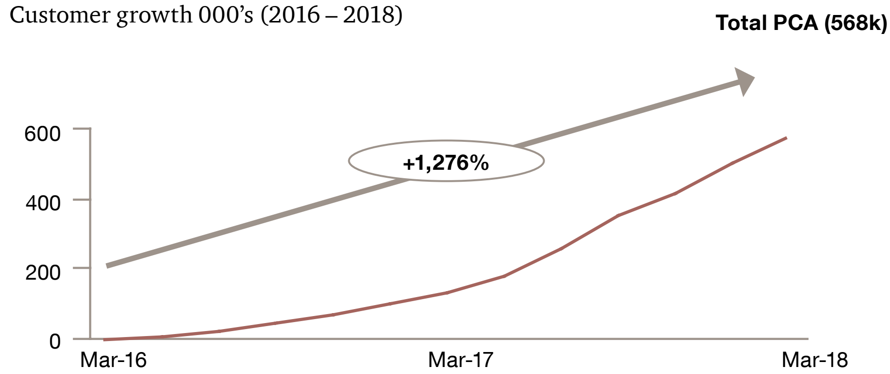
Digital-only banks

Open Banking is a core concept for many digital banks, who have built their systems with customer-centricity, partnerships and continuous innovation in mind, and whose platforms have modern, modular architectures that lend themselves to API-based sharing. Although the digital-only banks are not mandated to implement the same standard APIs as the CMA9, some have voluntarily adopted the use of open APIs and many have already developed bespoke open APIs that offer extended functionality. These are offered to developer communities and customers to encourage creation of relevant new propositions, and digital banks have also looked to form partnerships with other providers to extend their usefulness to customers. While the digital-only banks do not need Open Banking to succeed, in many respects they are seen as the natural champions for it, with positively predisposed customers.

Evidence of the potential success of digital-only banks is already forming, with an impressive uptake of financial services offerings by customers and an increase in the number of application for banking licences by these players.

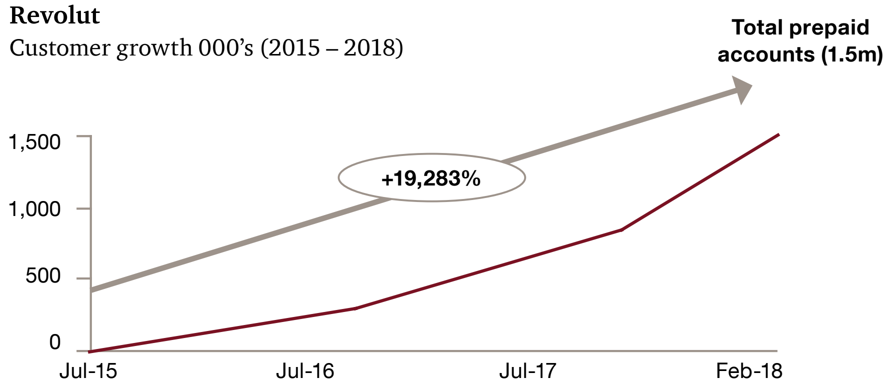
Figure 10: Monzo and Revolut customer growth (000's, 2015/16-2018)

Monzo digital bank
Customer growth 000's (2016 – 2018)



Source: PwC Strategy&

Revolut
Customer growth 000's (2015 – 2018)

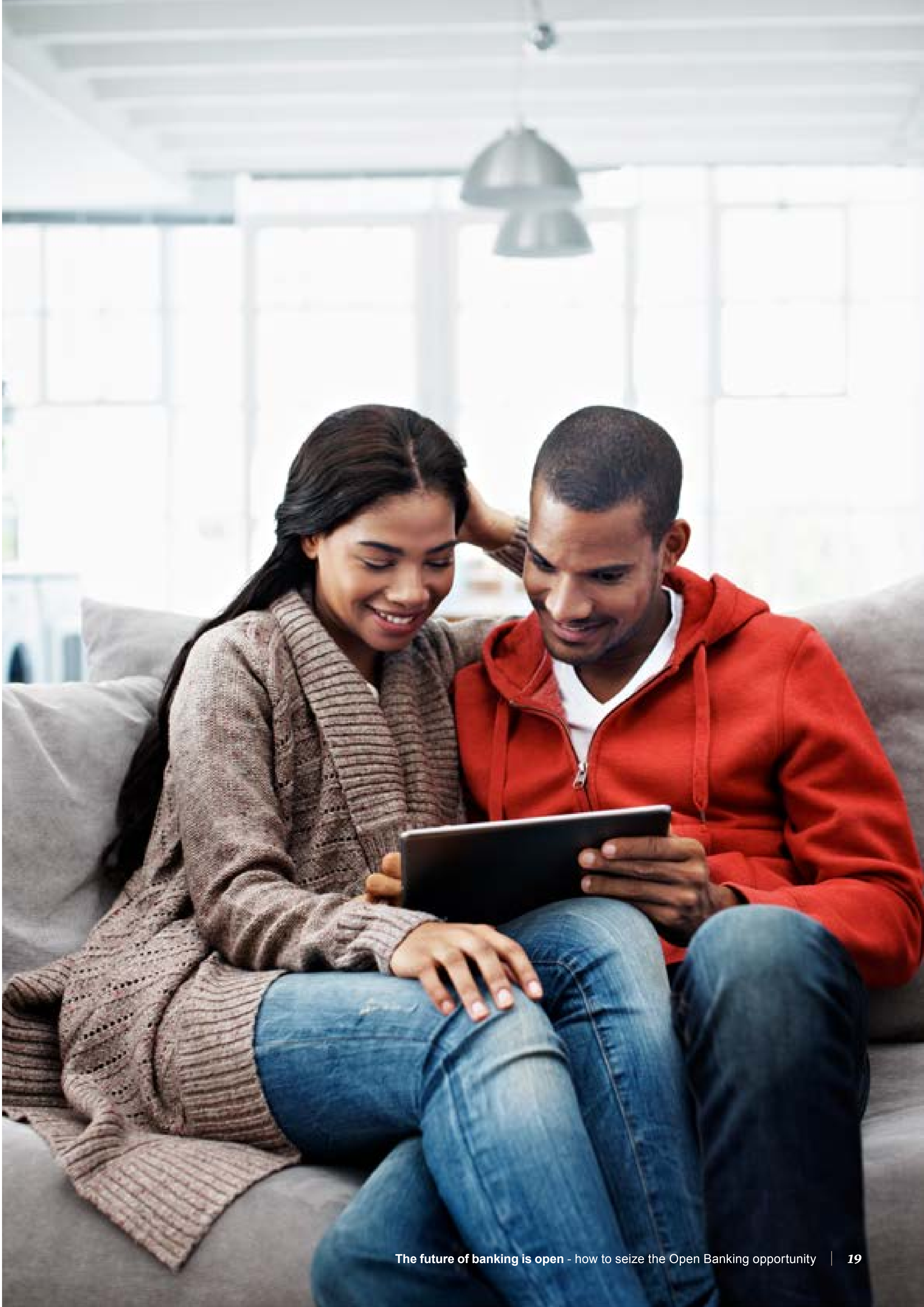


Source: Monzo, Revolut

Figure 11: New UK Digital banks (banking licence issue date, 2015-2018)

			Revolut
		Monzo	N 26
		Tandem Bank	Marcus
	B	Fidor Bank	IAm Bank
Atom Bank	Starling Bank	Civilised Bank	Lintel Bank
OakNorth Bank	Clear Bank	Chetwood	Fire
2015	2016	2017/18	Planned/Pending

Source: Bank of England, FinTech Futures



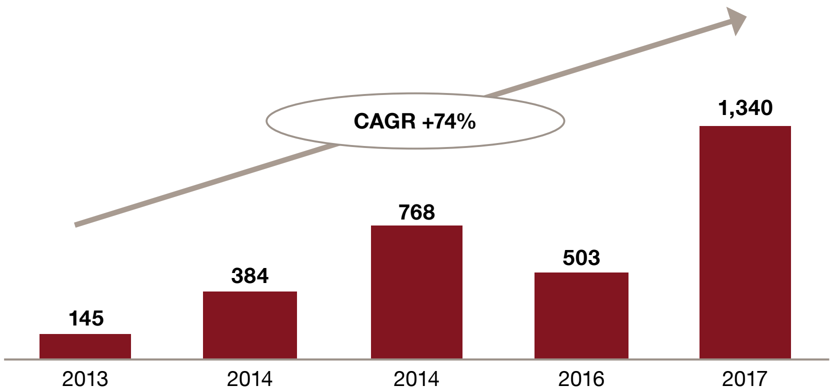
FinTech service providers

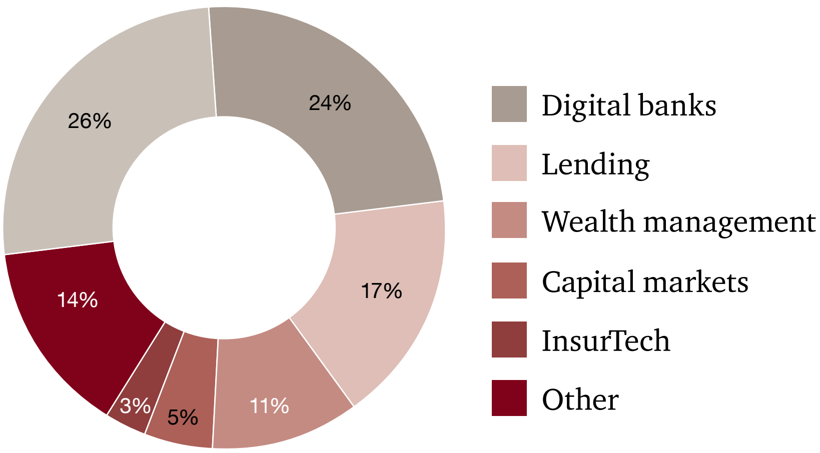
FinTech service providers have been eagerly awaiting Open Banking. While most successful FinTechs are recognised for their ability to develop and deliver useful applications, many struggle due to a limited customer base. As FinTechs are intrinsically focused on providing financial solutions, access to financial data is critical for them to create new solutions and to prove their value to prospective users. Many firms have therefore resorted to screen scraping, but they fear this deters more customer from using their service.

Open Banking therefore addresses many of their challenges. Although most FinTechs stress that they don't need Open Banking to be successful, it does provide an opportunity for providers to rapidly scale up their customer bases – partly by offering customers a low-commitment and low-risk means of trying them out, but also by being present on marketplaces which could attract a large customer base (e.g. if offered by an incumbent bank). In addition, Open Banking provides standardised data which providers can run through machine learning algorithms to develop richer insight. Critically, this data can be shared in a secure way that should ease concerns about the ability to use data safely.

This new opportunity has coincided with an increased level of investment in the UK venture capital space, particularly in payments start-ups and digital banks.

Figure 12: Venture capitalist investment raised by UK FinTech (£millions, 2013-2017); investment by type %, 2017)





Source: London and Partners, CB Insights, Innovate Finance

Payments providers

Traditional payment schemes and systems are already facing significant change due to the shift towards digital and mobile payments; the emergence of cryptocurrencies and associated ledger technology; and increased customer expectations about the speed, cost and flexibility of payments. Open Banking adds further potential to disrupt incumbents by enabling payment initiation from 3rd parties. With the ability to directly transact account to account in near real-time, the use of traditional debit and credit cards are potentially under threat. However, incumbent payment providers are already reacting by enhancing their offerings to increase speed and reduce cost, emphasising valuable features already embedded in their models (e.g. chargebacks and dispute resolution) and developing supplemental propositions such as identity and age verification.

Credit reference agencies (CRAs)

As firms whose business models are based on the effective analysis of customer data, credit reference agencies are particularly aware and interested in Open Banking developments. On the one hand, Open Banking could present a significant threat. With more widespread access to transaction data from multiple sources, it seems credible that other organisations (e.g. banks, lenders or FinTechs) should be able to develop new solutions to replace the scoring currently carried out by the CRAs. On the other hand, the fact that the CRAs have ambitious plans and are moving rapidly to develop more sophisticated offerings based on AI and Open Banking suggests that they might actually be beneficiaries of the shift. By marrying an even more sophisticated understanding of customers (based on existing and new sources of data) with a comprehensive view of offerings in the market, the CRAs can extend their scope and effectively match solutions to individuals.

Financial advisors

There is a long history of companies providing automated solutions to help individuals and companies to manage their finances better. These range from online personal finance management tools that help people categorise their spending, set behavioural goals and track their financial activity with easy to use dashboards; to cloud-based software packages that integrate functionality for business management, payments, cash and credit management, accounting, and management information. In many cases these tools already have direct links to users' bank accounts, with customers entering their banking login credentials into the 3rd party solution. Open Banking will help these solution providers by simplifying the development effort needed to integrate with banks, improve security and ultimately to enhance their functionality. However, the fact that it is easier to integrate with banks will mean that others can increasingly do the same. This opens up the possibility of existing players or new competitors entering the space to try become customers' preferred provider of financial management solutions.

Comparison sites

Product comparison sites have developed an influential position in customers' decision making journeys as they enable individuals to survey the market for new products, compare providers' offerings and make informed decisions about the relative features and benefits (e.g. BillMonitor in the telecoms industry). At present these sites ask users to enter personal data about their own financial position, behaviour and needs, and use this to filter a list of products available in the market. Open Banking provides the opportunity to gather more accurate and comprehensive customer data with far less effort, and also allows 3rd parties to gather up-to-date information about the products available from major financial services providers. It is therefore likely that Open Banking would help to enhance, streamline and accelerate the way comparison sites work. The challenge for these firms is that other parties should be able to replicate similar analysis using Open Banking data, potentially challenging the comparison sites' unique selling point.

Technology giants

Many executives at incumbent financial services providers expressed concern about the potential entry of technology giants into the financial services space. With investment power, a proven ability to innovate at pace and release sophisticated new products, and a reputation for really understanding what customers want, technology companies seem well positioned to enter the market. They have large existing customer bases, unparalleled reach and brand strength, and customers who regularly share significant amounts of personal data with them.

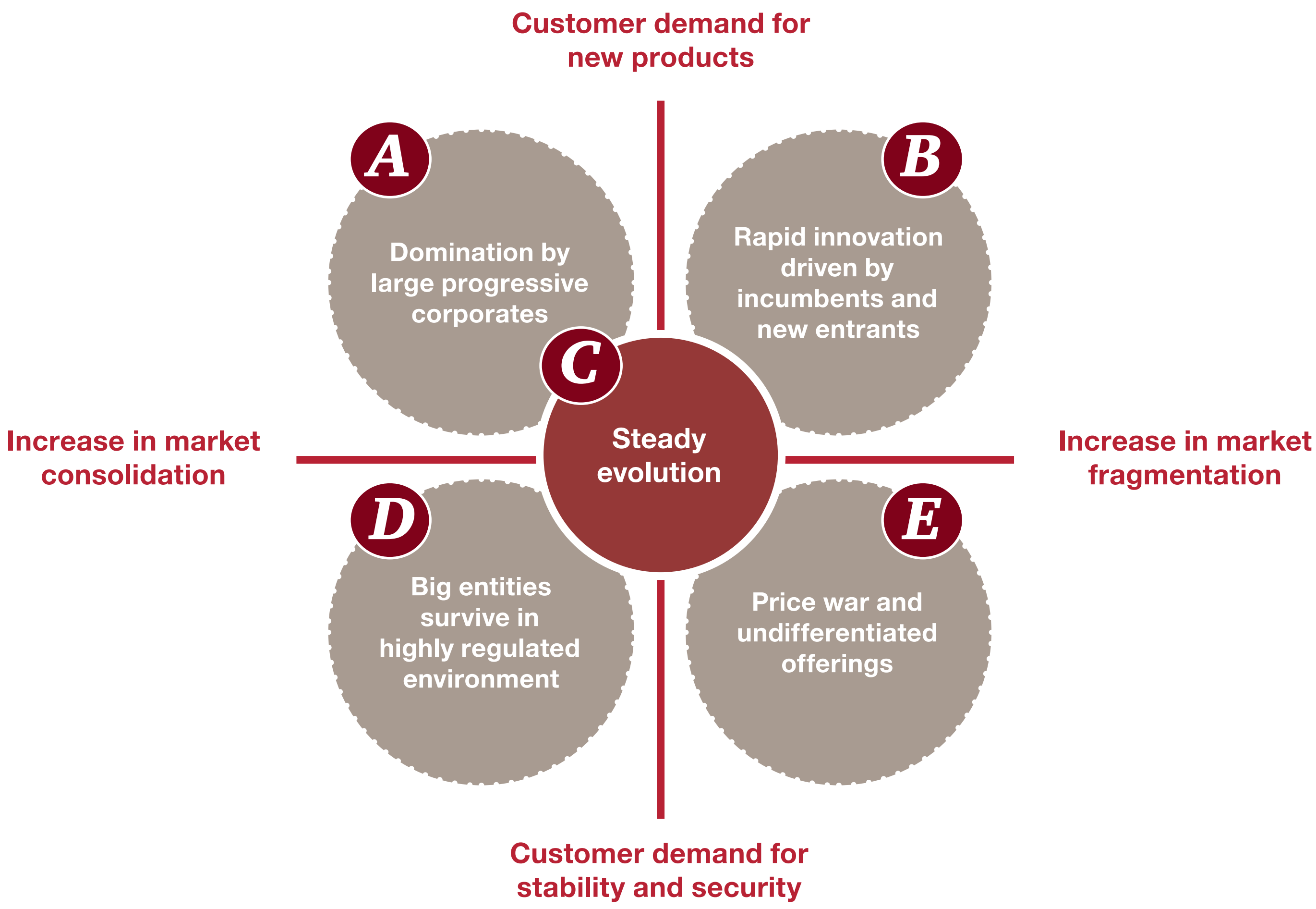
However, technology giants may not wish to be burdened with the regulatory expectations of being a fully licensed bank, especially when operating in multiple jurisdictions internationally and as of yet none have been authorised as a PISP or AISP. Technology companies are therefore more likely to choose specific sections of the value chain to disrupt, for example payments. Some technology companies will choose to partner with banks, to offer integrated solutions that utilise their scale and platform technology, whilst allowing the bank to focus on services (i.e. risk management, compliance) that they are better placed to deliver.

Figure 13: Open Banking key threats and opportunities (non-exhaustive)

	Key threats	Example opportunities
Banks	Falling **behind more technologically advanced competitors** (new and existing)	Develop **greater customer understanding** and increase market share
Building societies	Loss of **customers to incumbent banks or new players due to new propositions** that better meet changing customer needs	Offer existing customer base **better functionality** and attract a **wider pool of customers**
Payment providers	**Reduced use of debit and credit cards** as customers shift to PISPs	Become part of the **core payments infrastructure** for Open Banking participants
Credit reference agencies	Open data enables **superior credit scoring** that reduces need for CRAs	Utilise open data to supplement existing capabilities and **improve their services and increase usage**
Digital banks	Incumbent banks develop **equivalent digital platforms** and customer mistrust hinders adoption	Become **the platform of choice** due to **first mover advantage and superior customer engagement**
FinTechs	**Increased competition** due to the emergence of more 3rd party providers	Significantly **increase customer base** through access to integrated platforms and market places

Source: PwC Strategy&

Figure 14: Potential Open Banking scenarios



Source: PwC Strategy&

A number of different scenarios may emerge with different groups benefiting

Open Banking could lead to a number of market scenarios impacting profitability and competition:

A **Domination by large progressive corporates:**
Corporates invest heavily in new digital platforms and marketing initiatives, developing innovative products and fairer pricing whilst leveraging their large customer base.

B **Rapid innovation driven by incumbents and new entrants:**
FinTechs take discrete parts of value chain, driving banks to innovate through new propositions and revenue streams underpinned by updated infrastructure.

C **Steady evolution:**
Large banks continue to dominate the value chain due to their large deposit base, customer trust, and account switching inertia, with some innovation and fairer pricing through FinTech offerings.

D **Big entities survive in highly regulated environment:**
Apprehension over new regulatory changes leads both FinTechs and banks to wait before implementing new propositions with some FinTechs failing.

E **Price war and undifferentiated offerings:**
Better data sharing and inclusion leads to banking products being treated as ‘utilities’ and a race to the bottom on price with limited innovation.

Open Banking could drive benefits for the industry as a whole but may have unintended consequences

There are a number of possible outcomes, with Open Banking potentially driving significant benefits in the areas of data sharing, financial accessibility, bank infrastructure, product innovation and pricing. Equally, there is a risk of unintended consequences, with potentially harmful consequences.

Figure 15: Potential benefits and unintended consequences of Open Banking

	Potential benefits		Unintended consequences
Data sharing	**Removal of manual data entry** with data sharing only undertaken with regulator **approved 3rd parties**	⟷	Increased number of **data breaches, fraud and phishing**
Financial accessibility	**Wider choice of providers and easier access to short-term credit,** with improved financial planning and insight tools	⟷	**Increased exclusion** as low credit quality customers are more easily identified and some customers are technically excluded
Bank infrastructure	**Updated banking infrastructure** and enhanced data management	⟷	**Persistent lack of clarity** over regulation leading to **delayed implementation and uptake**
Product innnovation	**Development of new propositions** given the availability of customer data to approved FinTechs	⟷	**Increased capital/funding issues** due to deposits moving rapidly between different banks and countries (i.e. cash sweeping)
Pricing	**Competitive pricing and value for money** given a larger number of providers	⟷	**Reduced ability to price for bundle products** and price wars due to **commoditised products and providers**

Source: PwC Strategy&

Regulators need to ensure sufficient speed of progress while protecting customers

In order for Open Banking to succeed, regulators need to ensure implementation progresses at a good pace and that the scope is widened beyond current accounts and the CMA9. Opening up other retail and SME products such as credit cards and savings products are the logical next step and would enhance propositions that focus on providing an aggregated view of a customer's financial life. In addition, any entities covered by PSD2 are likely to come into scope.

However, protecting customer data should remain the main priority and regulators should carefully monitor data usage and security protocols. A major data breach could significantly impact Open Banking customer uptake. Regulators need to ensure that customers receive adequate value of service in exchange for the data they share through Open Banking.

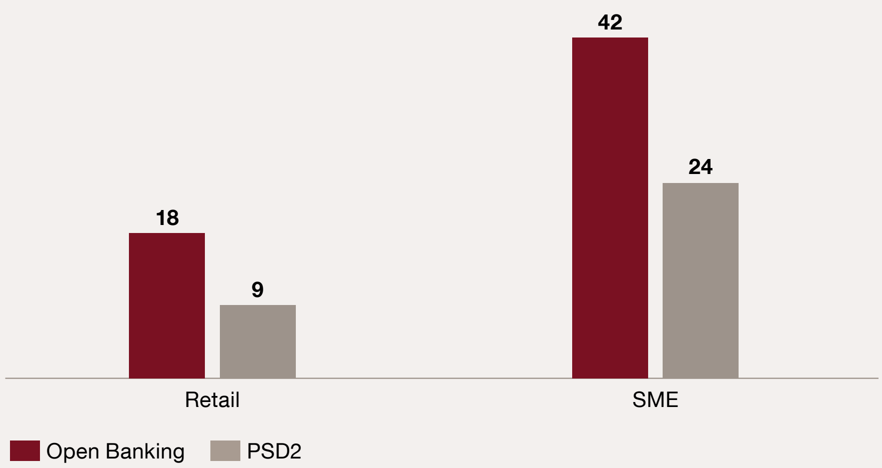
There is also a risk that Open Banking leads to financial exclusion, as those with poor spending habits or those that refuse to opt-in are charged higher prices or even rejected as potential customers.

What will it mean for customers and what is the size of the opportunity?

Current awareness is low but is significantly higher for SMEs than retail customers

Following its launch on 13 January 2018, customer awareness of Open Banking has remained relatively low amongst retail customers, with only 18% aware of its meaning. However, 42% of SMEs are already aware of Open Banking.

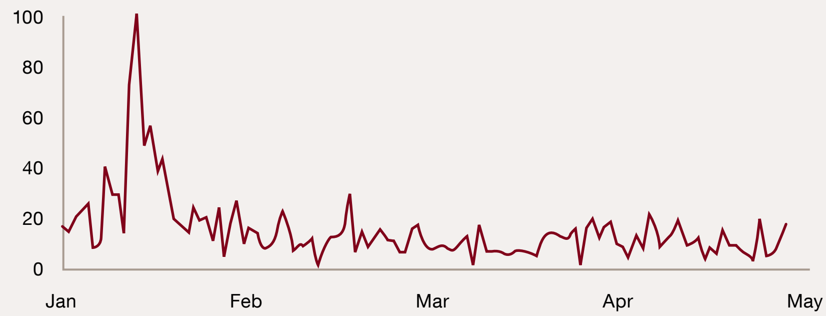
Figure 16: Customers aware of the meaning of Open Banking/PSD2 (% of customers surveyed, 2018)



Source: PwC Research

In addition, after an initial surge in public searches upon launch, interest in Open Banking and has trailed off in recent months.

Figure 17: UK search data for term "Open Banking" (Google search trends, Jan-May 2018)*



Source: Google

*Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

"For Open Banking to succeed providers need to persuade customers that there is a valid reason to give up their information"

(Head of Strategy, UK Credit Reference Agency)

Low awareness of Open Banking and PSD2 has been driven by a number of factors, including:

1 *Low press coverage*

On the day before the launch of Open Banking the BBC hailed Open Banking as "A fundamental change to the way people can bank, manage and spend their money in the digital world is under way".

However, due to a perceived lack of progress, Open Banking and PSD2 have not received a great deal of press coverage since then.

Perhaps understandably there has been a more challenging tone to the coverage that has appeared, which has focused on the potential unintended consequences of Open Banking.

2 *A lack of marketing by banks*

As yet Open Banking is not a focus of banks' marketing efforts. Given the continuing uncertainty around elements of the regulation, banks have concerns about promoting data sharing and where liability lies. For those that are beginning to speak to customers, much of the dialogue is within communications about ramping up existing products. Banks will become much more vocal once they have a strong proposition to offer customers.

3 *Few disruptive propositions have been developed so far*

Only 24 AISPs and 5 PISPs had been approved with the FCA as at the beginning of May 2018. This is not surprising given that since the 'soft launch' of Open Banking there still appears to be uncertainty over who needs to get an AISP or PISP licence and how these licences may change in the future. It appears many developers are waiting to understand if they can simply partner with registered organisations such as OpenWrks and bypass the need to do it themselves. PISP registration, in particular, has been slow given the inevitable lag between when APIs become available, and the time needed to build and register new propositions before releasing them to customers.

"Open Banking? I think I'll keep my door shut"

(The Guardian)

"We are not pursuing PISP accreditation yet as it's so up in the air what it means"

(CEO, UK Digital Bank)

"Fraud fears over 'Open Banking' revolution"

(The Times)

"There is still ambiguity over who needs to get an AISP licence"

(CEO, UK Open Banking FinTech)

"Open Banking' revolution will leave account holders at mercy of 'hackers and thieves', banks warn"

(The Telegraph)

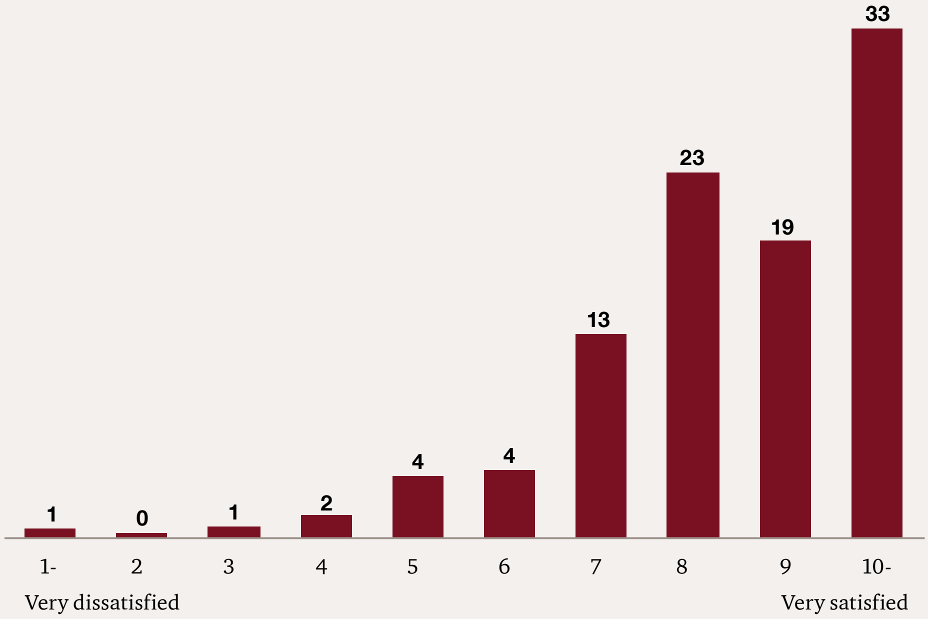
"Open Banking is overrated right now, but underrated in the long term – there is no pressing urgency to do anything right now, the market posture is to wait and see"

(Head of Digital Strategy, UK Challenger Bank)

Satisfaction with incumbents and data security concerns create headwinds for new players

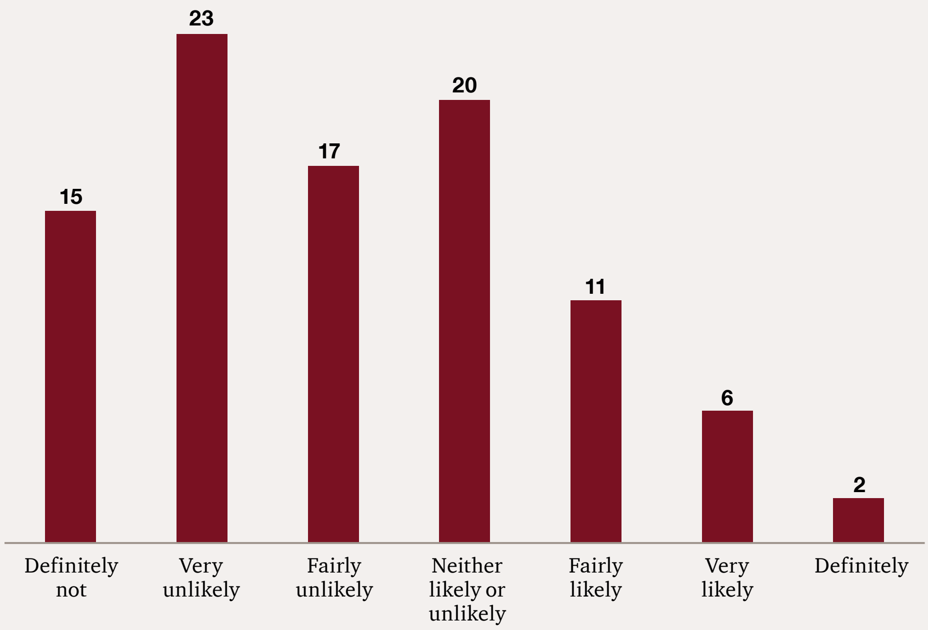
Although Open Banking was initiated on the premise that the concentrated banking landscape was not providing enough choice for customers and by inference that incumbents could get away with poor service, there are a high number of customers who seem to be satisfied with their existing banks and are not looking to switch providers in the near future.

Figure 18: Customers' satisfaction with their main current account provider, and likelihood to switch (% of customers surveyed, 2018)



Excludes 0.2% of respondents who did not know

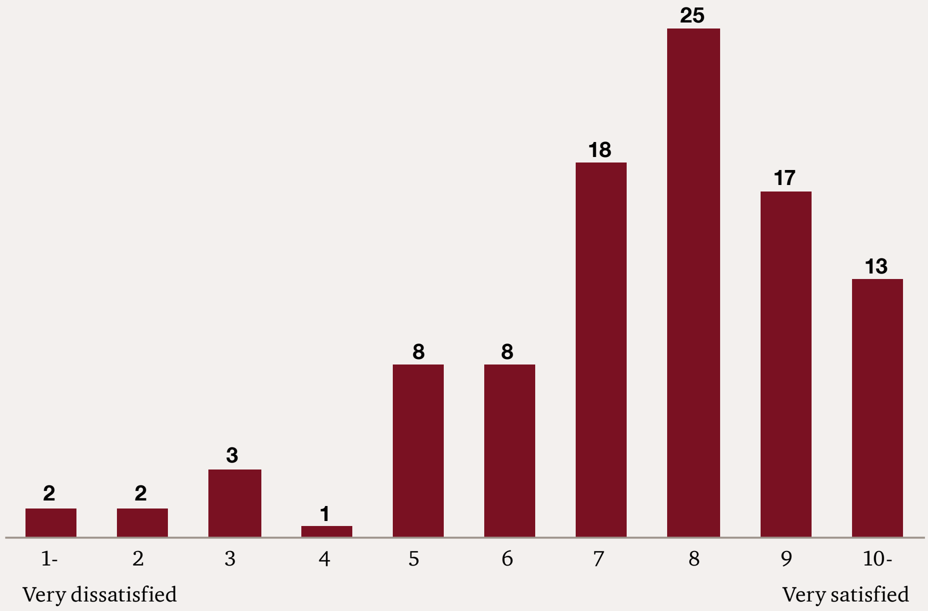
Source: PwC Research



Excludes 6% of respondents who did not know

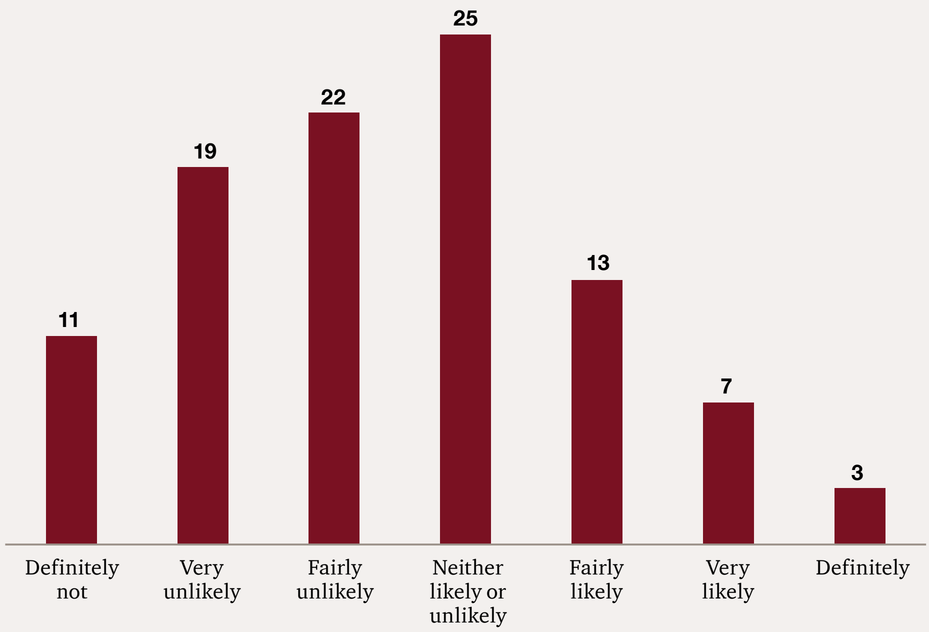
Source: PwC Research

Figure 19: SMEs' satisfaction with their main business current account provider, and likelihood to switch (% of SMEs surveyed, 2018)



Excludes 1% of respondents who did not know & 4% of respondents who said N/A

Source: PwC Research



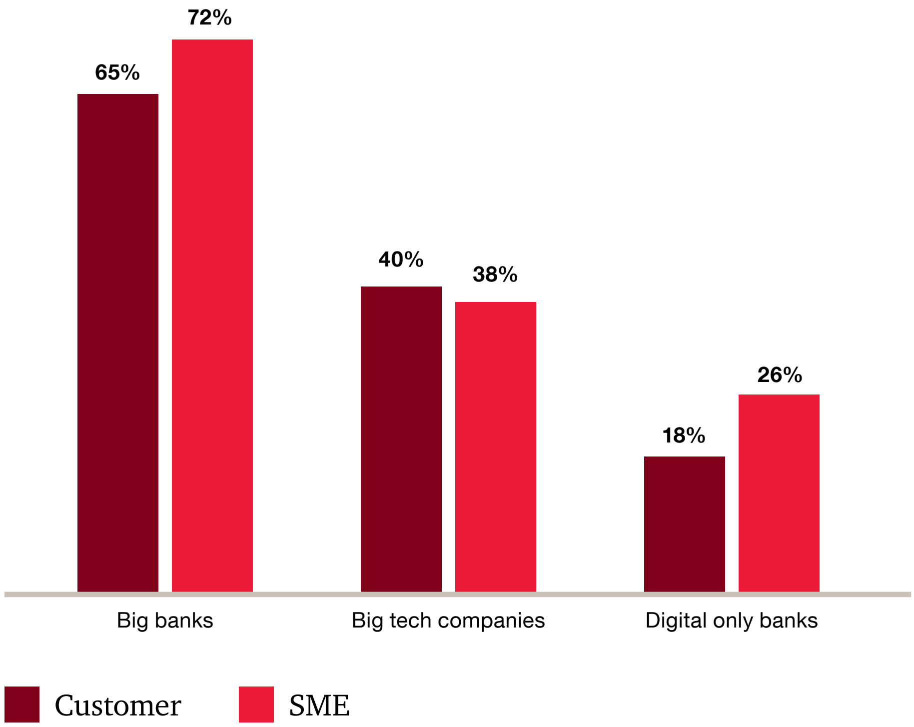
Source: PwC Research

Moreover, customers and SMEs generally prefer incumbent banks to manage their financial products over challenger banks, digital banks and technology companies. This trend to favour larger incumbents is also in part due to low awareness of FinTech offerings, for example 69% of SMEs surveyed were unable to name any digital start-ups or FinTechs.

It appears that incumbent banks maintain a trust advantage for data protection for certain propositions and as long as none of the major retail providers suffers a data breach, this may continue for some time.

Figure 20: Customer & SME consideration of different providers

Average net brand consideration for financial products / services



Source: PwC Research

Figure 21: Customers comments on the concept of Open Banking (2018)

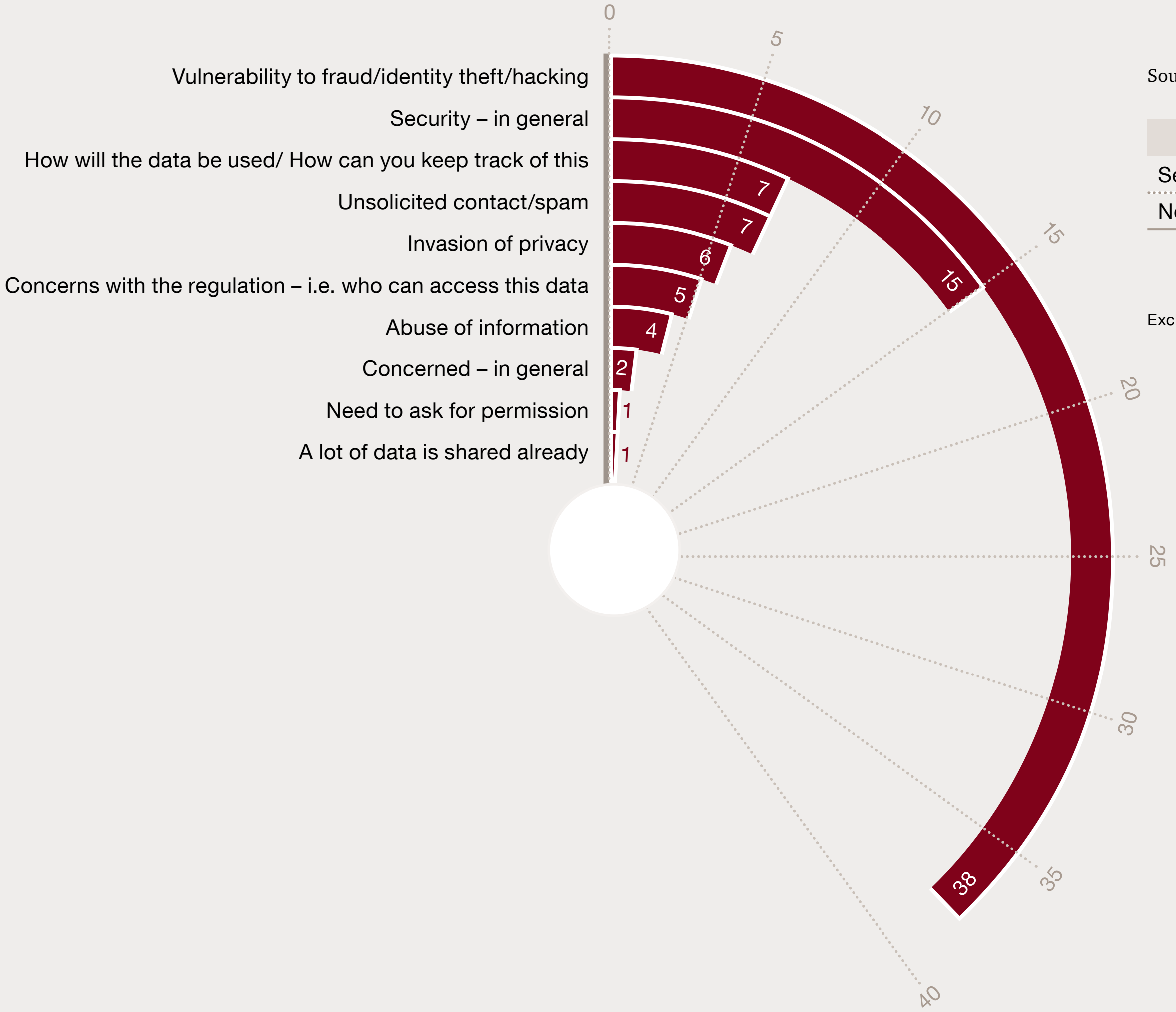
"I think it sounds like a good idea. However, I would want to ***find out more detail*** *in the terms and conditions regarding* ***what information is shared and how it is stored"***

"Not for me. I am quite satisfied with one bank having my details and I think a lot of people will also think that. ***I'd worry it wasn't safe"***

Source: PwC Research

For those that are familiar with the concept of Open Banking, the risks of data management, fraud and loss of privacy are a major concern for both customers and SMEs.

Figure 22: Customer spontaneous concerns to Open Banking data sharing (% of Customers surveyed, 2018)

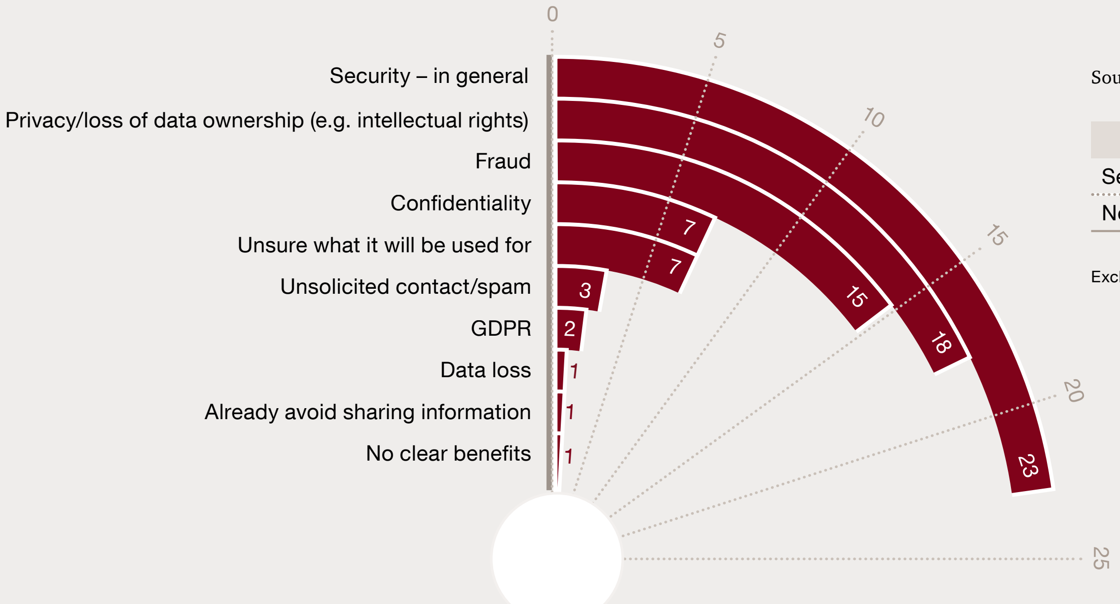


Source: PwC Research survey

Net%	
Security	48%
No concerns	3%

Excludes 26% who did not know

Figure 23: SME spontaneous concerns to Open Banking data sharing (% of SMEs surveyed, 2018)



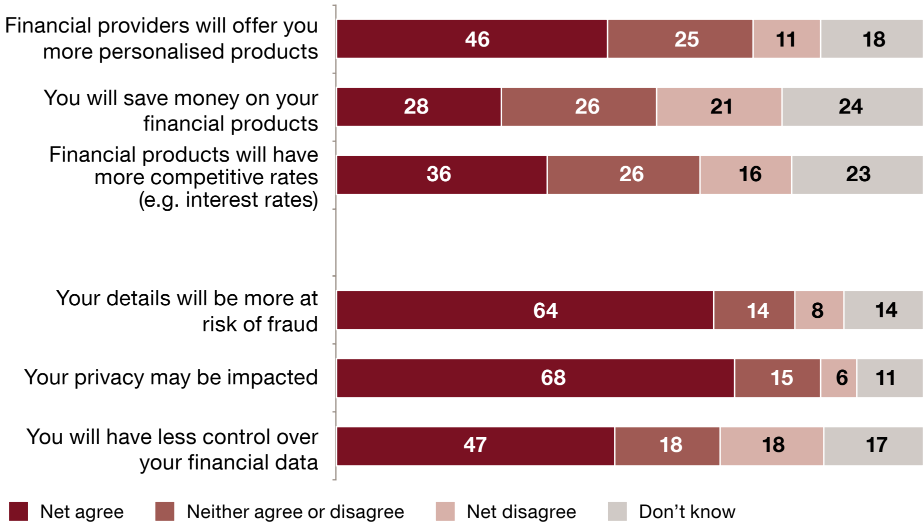
Source: PwC Research survey

Net%	
Security	54%
No concerns	7%

Excludes 29% who did not know

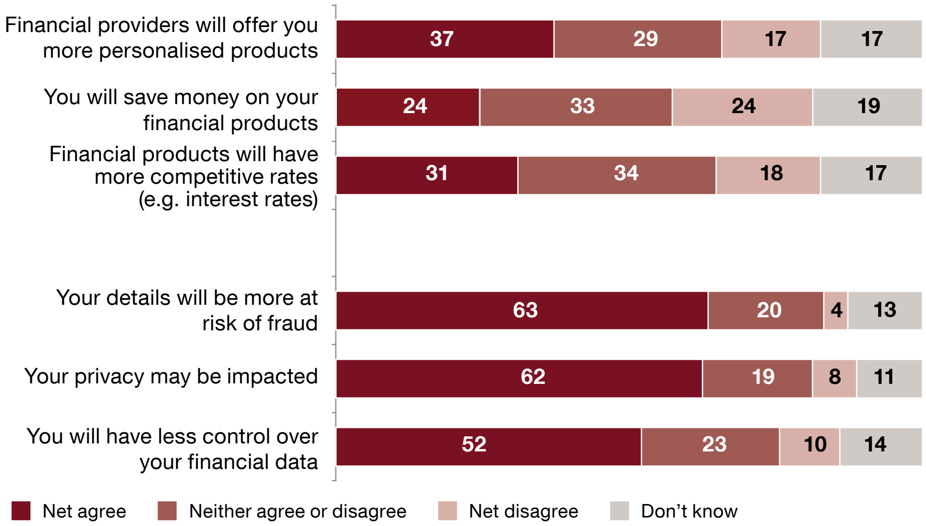
This low awareness and hesitation to share data manifests itself most clearly when customers and SMEs are then asked what they believe Open Banking actually means. A large proportion of both customers and SMEs believe that Open Banking could mean more personalised products with the benefits of saving money on existing products as well as on new ones. However, a greater proportion believe that Open Banking is a potential security issue with increased opportunities for fraud, invasion of privacy and loss of control over financial data. There is also a large proportion who are unsure on the implications of Open Banking.

Figure 24: Customers who agree that Open Banking means… (% of customers surveyed, 2018)



Source: PwC Research

Figure 25: SMEs who agree that Open Banking means… (% of SMEs surveyed, 2018)

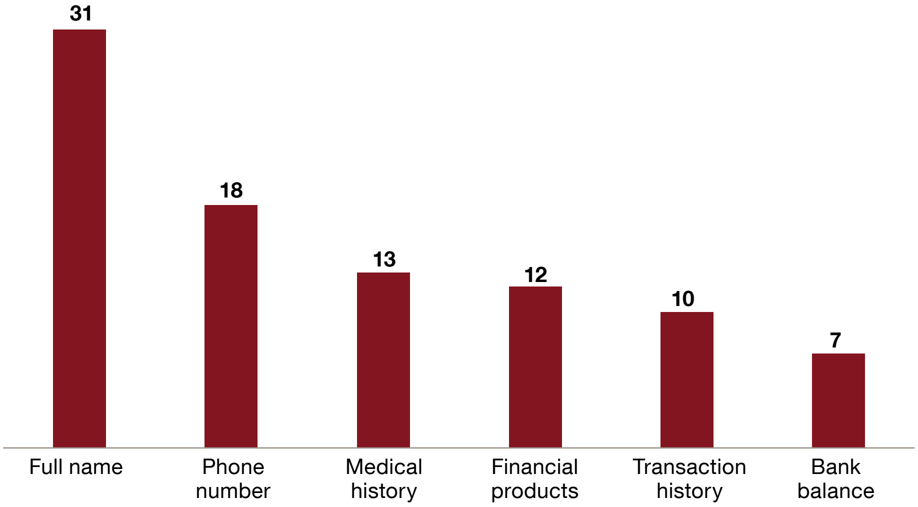


Source: PwC Research

"Customers' trust has driven the big banks' dominance and it will continue to do so, it is just the type of trust we have that has changed"
(CEO UK FinTech)

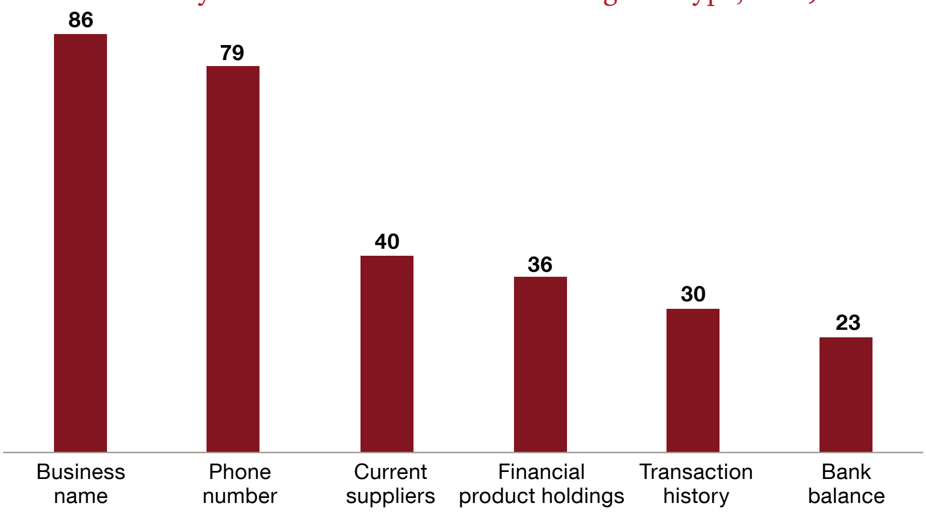
Although customers are used to sharing data in modern society to gain access to certain digital services, financial data provides detailed insight into people's day to day lives which makes it very personal. In fact, our survey showed that people are more willing to share medical data than some forms of financial data. SMEs, however, are much more willing to share information about their businesses.

Figure 26: Customers willingness to share personal information (% of customers surveyed who were not averse to sharing data type, 2018)



Source: PwC Research

Figure 27: SMEs willingness to share business information (% of customers surveyed who were not averse to sharing data type, 2018)



Source: PwC Research

In the face of this current low awareness and hesitation on the part of customers, all of our interviewees agree that until there is a meaningful proposition that grabs people's attention, customers cannot be expected to know (or care) about specific banking regulations or the technology architecture that links different systems.

"General awareness of Open Banking is low and there is a lot of reticence around sharing data. Until a meaningful proposition is developed no one will care"

(Head of Digital Strategy, UK Challenger Bank)

"It took Amazon and Ebay to come along before it was worth customers undertaking e-banking payments. Until customers see the types of services that could be developed using Open Banking, they will not be willing to share data"

(Head of UK Open Banking FinTech)

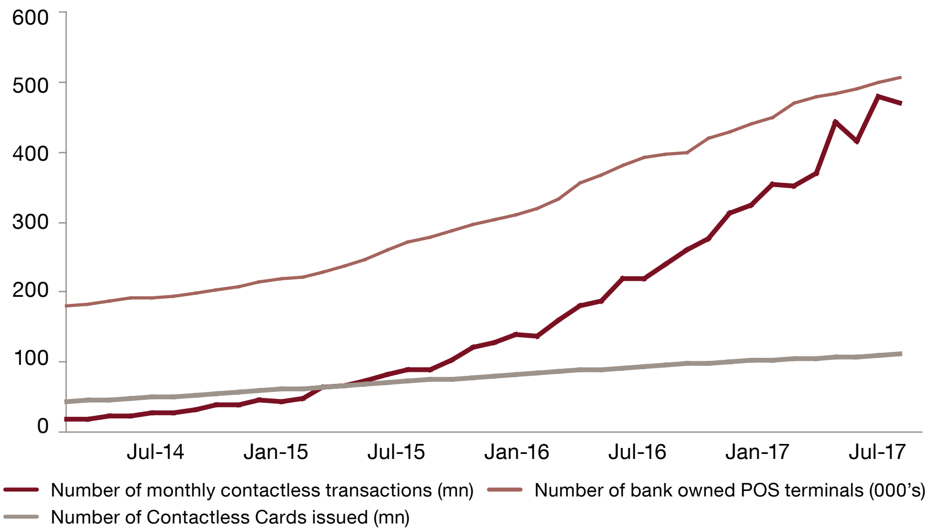
Similar challenges have been overcome before in adjacent industries

This lack of awareness and appetite is not unique and need not be too concerning. As one digital bank executive claimed, customers do not need to be aware of Open Banking to enjoy the benefits of the propositions which it enables. Moreover, examples of successful banking technology deployments have shown that a slow start can often be followed by a rapid exponential uptake.

For example, although contactless cards have been in circulation since 2007, contactless payment usage was low until as recently as 2015, but now accounts for ~40% of all card payments. Similar to Open Banking, customers were initially reluctant to use contactless due to security concerns. However, uptake was accelerated by merchant adoption of contactless Point of Sale platforms and in particular through the accelerated adoption of contactless payment for public transport. For example Transport for London's investment in a contactless programme, which has resulted in more than 2 million journeys being made every day using contactless, accounting for 40% of all pay-as-you-go journeys.

What initially seemed like a marginal benefit to customers (saving a few seconds for a small transaction) has been enough to drive massive adoption and has outweighed security concerns. With Open Banking, a similar trigger that enhances usability could accelerate uptake. This is likely to be a strong use case where the benefits outweigh any potential security concerns.

Figure 28: Number of contactless cards, contactless transaction usage and bank owned PoS terminals in the UK (millions, 2014-2017)



Source: UK Finance, The UK Cards Association

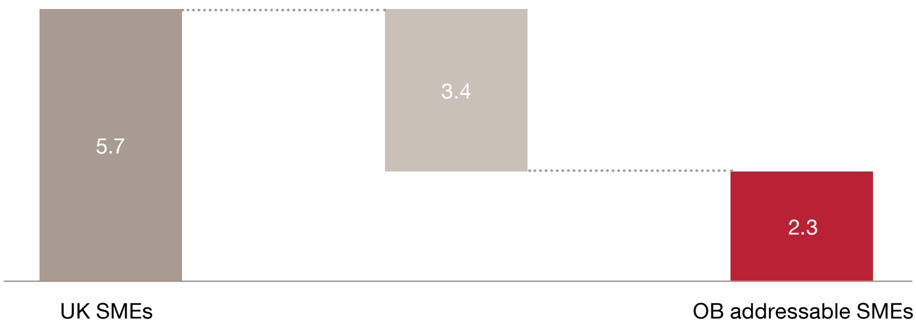
Uptake will vary across SMEs and retail customers over the next five years

SME uptake of Open Banking is expected to be significant

Currently, SMEs have a greater awareness of the meaning and a better understanding of the potential effects of Open Banking than retail customers. A total of 40% of surveyed SMEs indicated that they would not be averse to sharing financial transaction data if offered by their business current account providers. As a result 2.3m SMEs are expected to comprise the addressable market by the end of 2018. Of this addressable base, 60% of SMEs believe that Open Banking will have an effect on their day-to-day business banking activities.

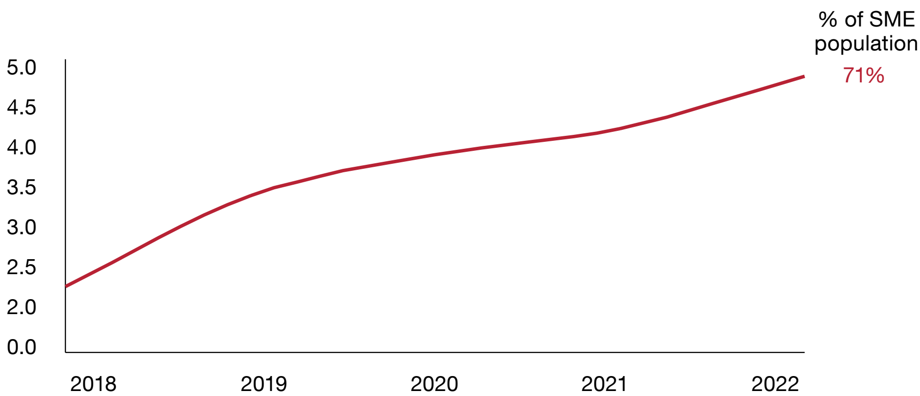
SME adoption of Open Banking is expected to grow in line with the scale and benefits associated with the propositions, akin to the rise of other new technologies. Given relatively high awareness and excitement around Open Banking for SMEs, the initial rate of adoption is expected to be steep. As initial enthusiasm subsides and there is latency before propositions realise their full potential, SME adoption is expected to slow before increasing again. The number of SMEs that have adopted Open Banking by 2022 is expected to reach 4.8m, representing 71% of total UK SMEs.

Figure 29: Open Banking addressable SME market (millions, 2018-22)



Source: PwC Strategy&, PwC Research

Figure 30: Forecast growth of addressable SME market (millions, 2018-2022)



Source: ONS, PwC SME OB survey, PwC Strategy&

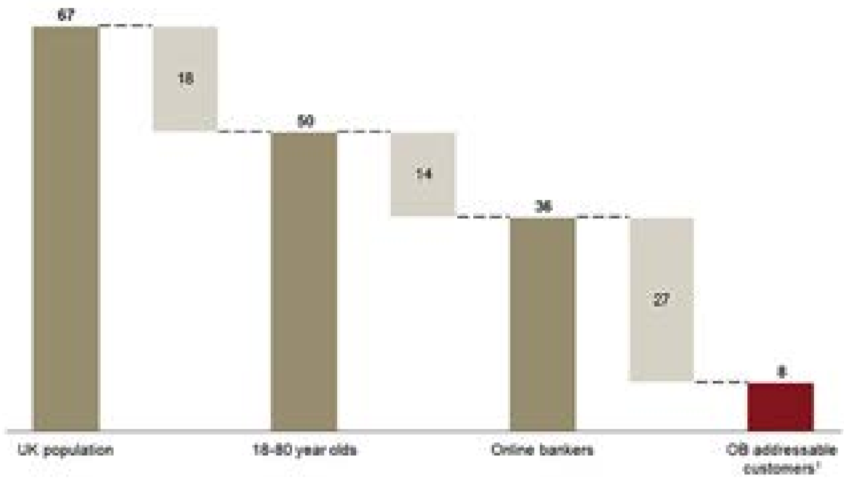
Retail customer uptake of Open Banking is expected to scale over the next five years

While retail customers have a lower awareness of Open Banking than SMEs, they still represent a significant addressable customer base. A total of 23% of survey respondents indicated that they would not be averse to sharing a range of personal financial data. Controlling for individuals that do not bank online, which were excluded from the survey, results in an addressable market of 16% of the total UK adult population (8.1m retail customers).

Willingness to share data is significantly higher with younger people, who comprise the majority of the Open Banking addressable retail customer base. This appears to be somewhat aligned with the current views of financial services industry.

However, in contrast to the industry view, older people still constitute a sizeable proportion of the addressable retail customer base, with Open Banking expected to impact all demographics.

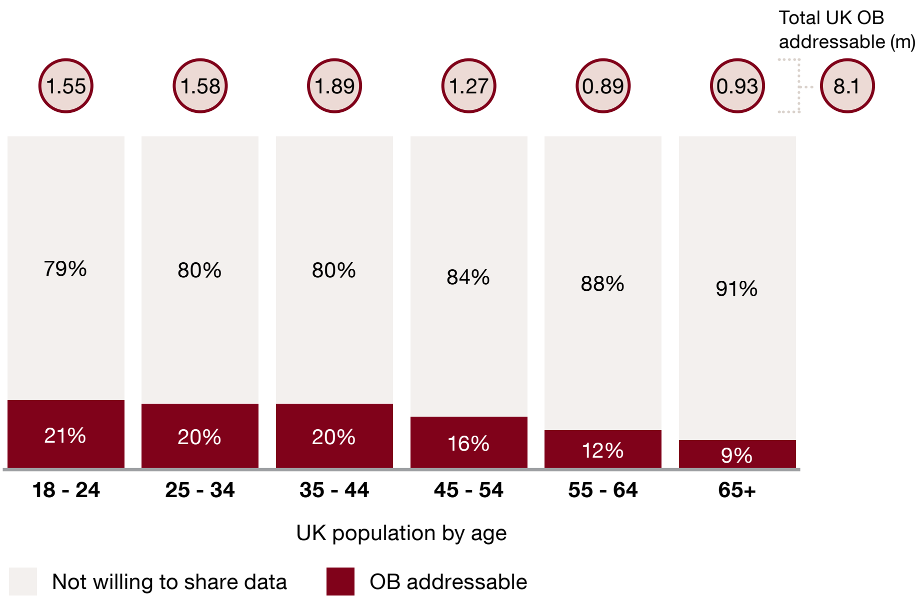
Figure 31: Open Banking addressable retail customers (millions, 2018)



Source: PwC Strategy&, PwC Research

"Certain generations will simply not engage with Open Banking… Millennials and Centennials are much more willing to share data and trust institutions with data. These are the segments that banks will have to fight for."
(Head of Risk Solutions, Major UK Retail Bank)

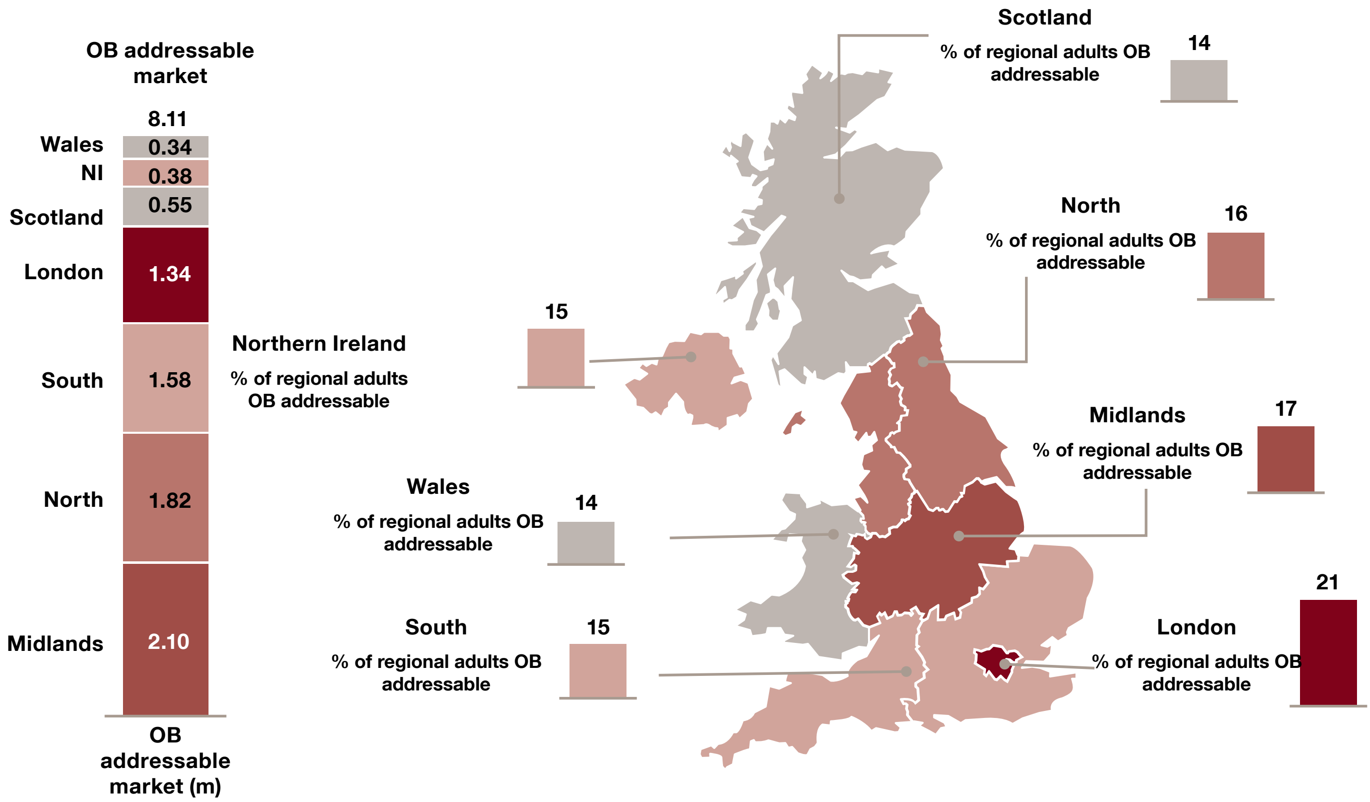
Figure 32: Open Banking addressable retail customers by age (%, 2018)



Source: PwC Strategy&, PwC Research

Similarly, the impact is expected to be equally pervasive across different regions of the UK. Whilst London is expected to have the highest participation rate, there is a widespread distribution of addressable retail customers.

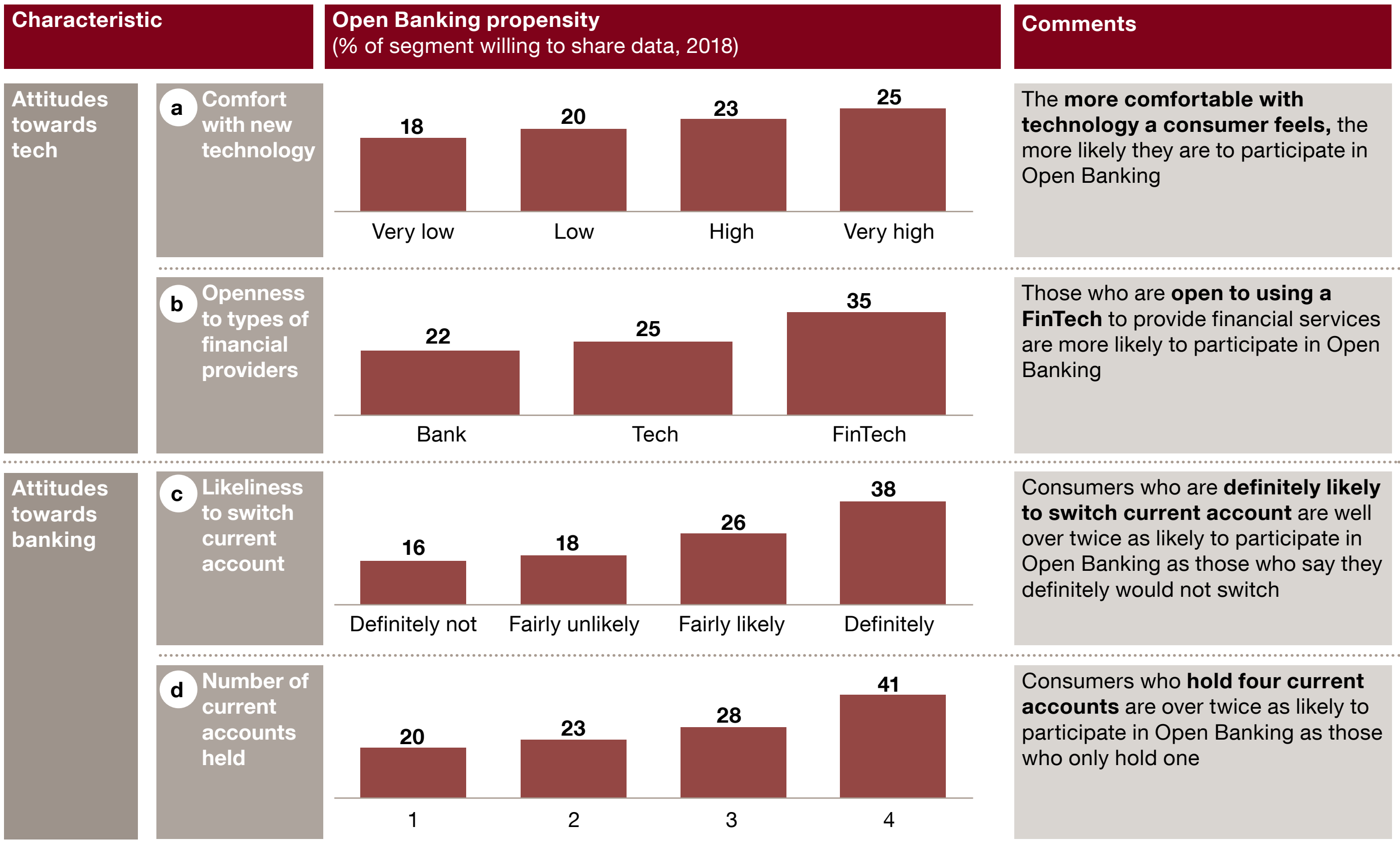
Figure 33: Open Banking addressable retail customers by location (2018)



Source: PwC Strategy&, PwC Research

The likelihood of participating in Open Banking varies depending on attitudes towards technology and banking. Comfort with new technology and openness to using FinTechs are strong indicators of a willingness to participate in Open Banking. Likeliness to switch current account and the extent of multi-banking also correlates with a greater willingness to share data.

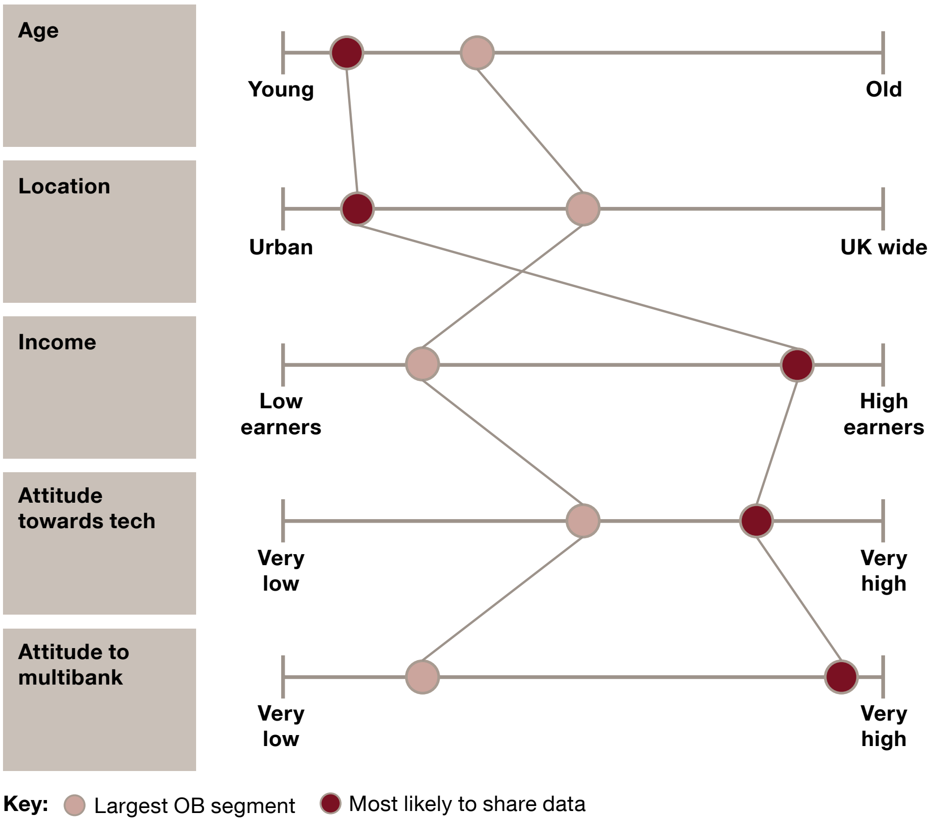
Figure 34: Open Banking addressable retail customers key characteristics (2018)



Source: PwC Strategy&, PwC Research

However, in contrast to those individuals most willing to share data, the majority of the addressable retail customer base are not as comfortable with new technology and are less likely to have multiple current accounts. Lower income earners also represent a large segment of the addressable base despite likelihood of adopting Open Banking being greatest with higher income earners. As a result, developing a broad range of propositions that target a variety of retail customers will be critical to capturing the addressable retail customer base.

Figure 35: Open Banking addressable retail customers base overview (2018)



Source: PwC Strategy&

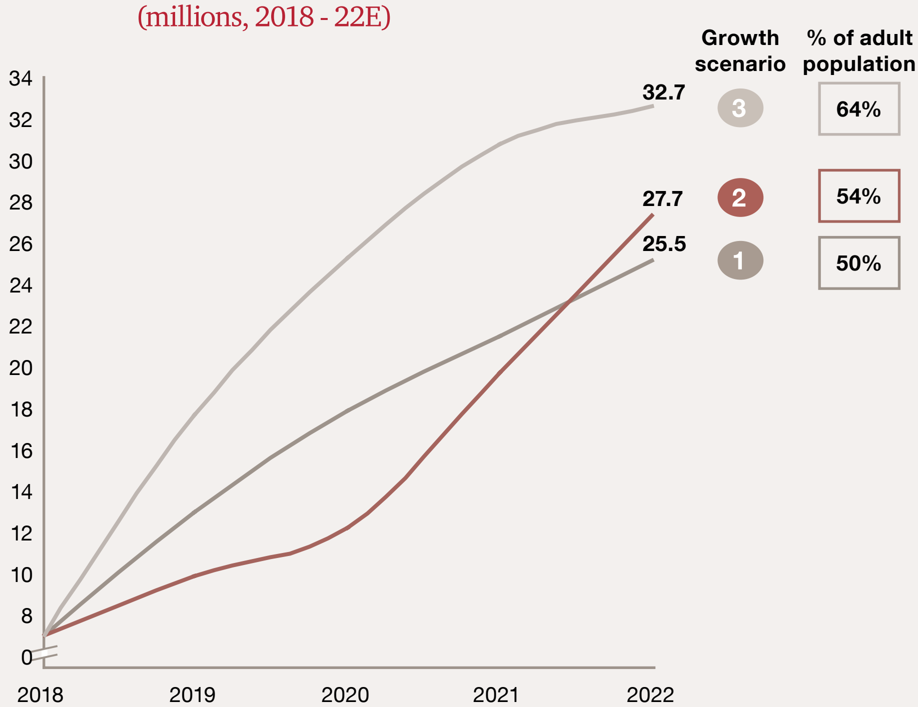
Similar to the adoption of other new technologies, growth in uptake for retail customers will likely be heavily influenced by the benefits created from new Open Banking enabled propositions. Three previous technology adoption growth cases, that have a range of similarities to Open Banking, have been used to forecast future scenarios:

1. **European social networking (steady adoption):** Adoption of social network reflects customers' willingness to share personal data online, comfort with a new platform and desire for a personalised service.

2. **UK contactless cards (late adoption):** Adoption of Contactless cards reflects customers' willingness to share financial data, comfort with increased risk of fraud and desire for convenient products and services. Importantly, contactless cards also reflect the latency associated from benefits of a new technology as the adoption rate increases over time with the number of use cases (e.g. London Underground contactless card acceptance).

3. **Tablet computers (early adoption):** Adoption of tablets reflects customers' comfort with new technology and demand for convenient, user-friendly products and services. It also demonstrates the impact of slowing proposition innovation, as uptake plateaus following rapid initial growth.

Figure 36: Open Banking addressable retail customers growth scenarios (millions, 2018 - 22E)



Source: PwC Strategy&

The UK Open Banking addressable retail customer base is expected to increase from 8.1m in 2018 to between 25.5 – 32.7m in 2022

As a result, over the next five years the number of addressable retail customers in the UK is expected to increase from 8.1m in 2018 to between 25.5 – 32.7m in 2022.

The path that Open Banking retail customer uptake follows will depend to a great extent on customers' perception of value derived from sharing data. The ability of incumbent and new players to create innovative and value adding propositions will fundamentally influence perceptions, and drive growth in customer uptake.

"Customer reactions and expectations are a very powerful driver for Open Banking"
(CEO, UK Digital Bank)

Open Banking has the potential to create a revenue opportunity of at least £7.2bn by 2022

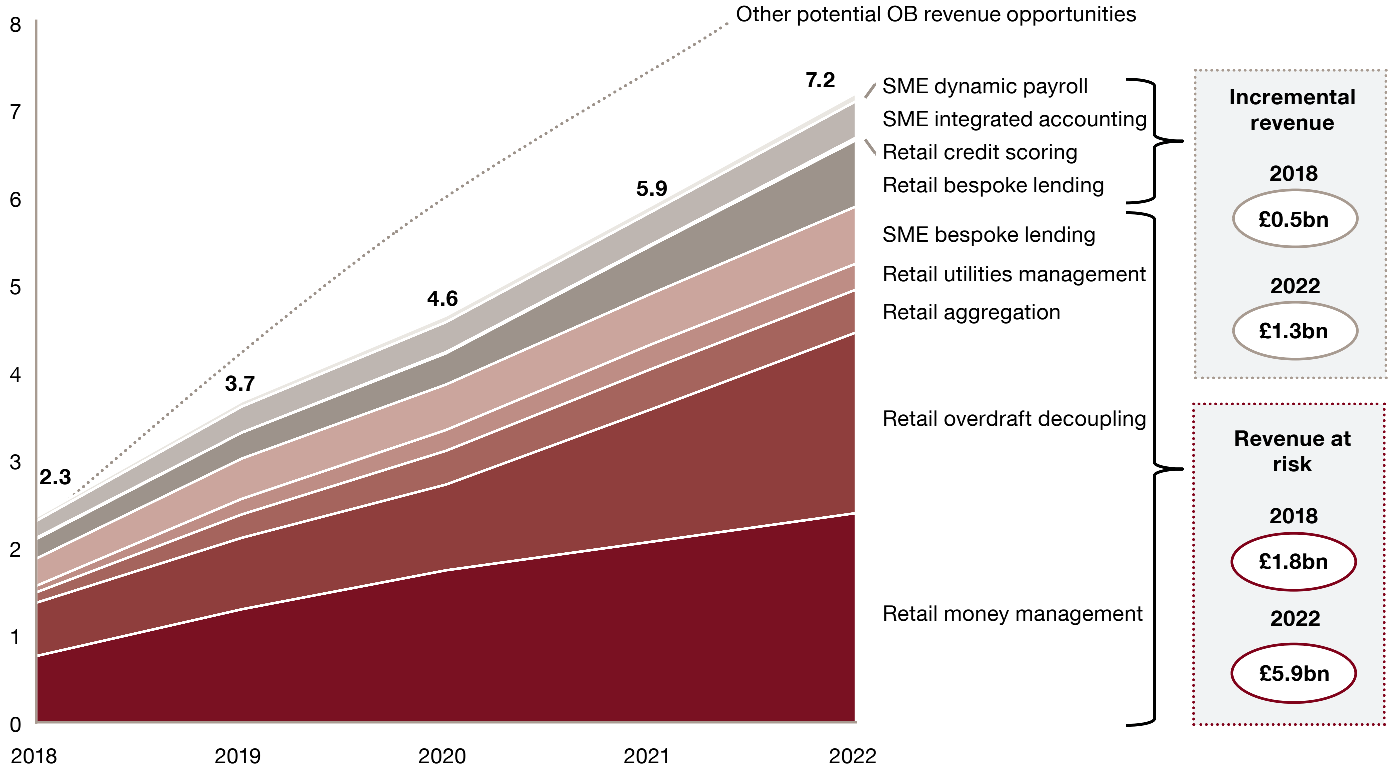
Across a range of selected SME and retail customer propositions, there is a potential revenue opportunity of £2.3bn by the end of 2018. This represents £1.8bn of revenue at risk (i.e. existing financial services revenue that might be taken by new or existing players) for incumbents and £0.5bn of new incremental revenue opportunities. By 2022, based on the expectations for SME and retail customer adoption, it is forecast that the total revenue of the selected propositions will reach £7.2bn. Incremental revenue is expected to represent £1.3bn with the remaining £5.9bn representing revenue at risk for incumbents.

Retail money management represents the largest Open Banking opportunity with £2.4bn in revenue by 2022. Holistic, tailored investment solutions are expected to become the new normal as new and existing players leverage the greater amount of information available on clients. Retail overdraft decoupling is also anticipated to become a significant opportunity with £2.1bn in revenue by 2022. New entrants are expected to threaten existing bank overdraft revenues by leveraging transactional data to automatically identify opportunities to offer customer lower cost alternatives.

Alternatives to existing price comparison platforms are anticipated to be the fastest growing opportunities with CAGR of 42% over 2018-22. Aggregation of different financial product holdings and increased transparency over standing orders and direct debits will enable new entrants to offer tailored price comparisons to retail customers. Switching from existing price comparison platforms to an Open Banking enabled proposition is expected to be high given the reduction in effort on behalf of the customer.

Furthermore, other Open Banking enabled propositions that have not been quantified are likely to materialise over the foreseeable future. The total impact of these opportunities on the financial services landscape could significantly surpass £7.2bn.

Figure 37: Open Banking forecast revenue opportunities (£billions, 2018-22E)



Source: PwC Strategy&

How should firms respond?

Firms should focus on a few differentiating capabilities

The size and potential impact of Open Banking means that firms cannot afford to ignore the topic. Incumbent organisations need to understand how their current business models are threatened and have a plan to defend or improve their positioning. Ambitious competitors who recognise the potential to increase their customer relevance, add value and grow their presence have to be decisive about how they are going to compete in an increasingly crowded space.

Inherent uncertainty about how the future will unfold – in terms of customer uptake, regulatory evolution, competitor actions, and unexpected innovations – make it infeasible for companies to chase all the possible Open Banking opportunities. They need strategies that will help them prepare for the future, guiding decision making about their future business models and operating models. They need to be clear about which customers to target and what propositions to offer; where to invest and what to build; who to work with and hire; and above all how to develop the agility to cope with future change. Companies that fail to respond strategically will certainly risk missing out on new opportunities, and may face more fundamental challenges to their future viability.

PwC Strategy&'s unique approach to strategy, 'Capability-driven Strategy'[7] provides a proven framework for developing practical strategies. This emphasises the need for coherence between a company's unique value proposition, capabilities, and fit of products and services. Successful companies have a clear vision of who they want to be, aligning their strategic direction to the capabilities that make them unique.

Within an Open Banking environment, the capability-driven approach is more relevant than ever, with participants competing in a far more targeted way. Customers will increasingly seek best-of-breed solutions, be able to assemble a portfolio of products and services from different providers, and will no longer require providers to offer end-to-end solutions or a full set of banking products. It is therefore critical that firms make choices about how they will differentiate themselves, link their propositions to their chosen way to play, and focus on building the essential capabilities to support this. Non-essential capabilities and complementary offerings can be sourced and assembled from partnerships and open marketplaces.

Source: [7]PwC Strategy& 'The Essential Advantage: How to Win with a Capabilities-Driven Strategy'

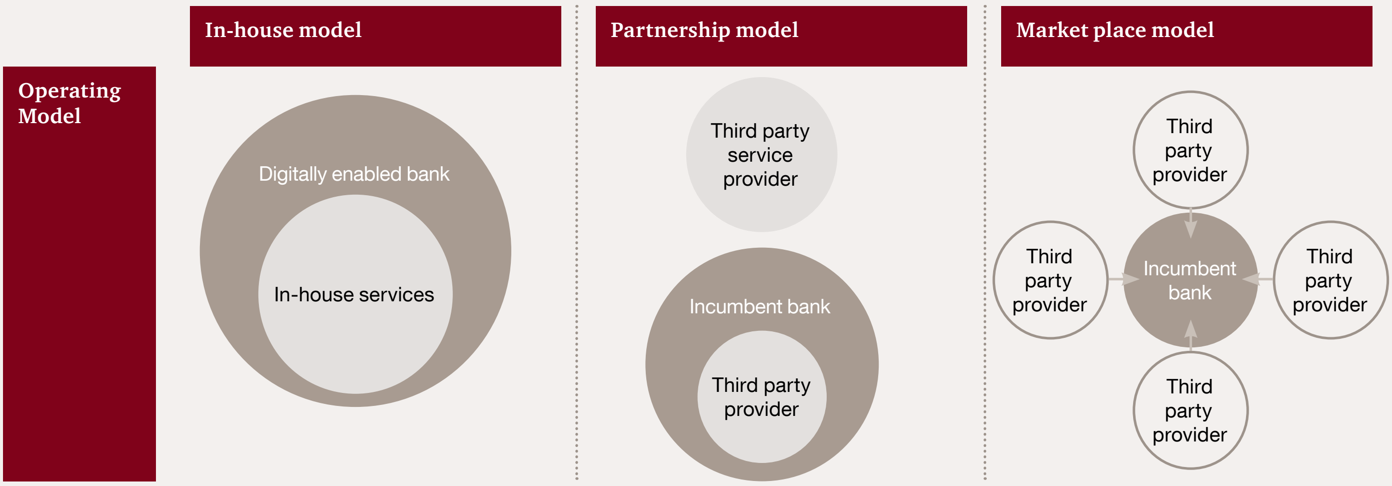
"This is a market evolution not a market standard"
(CEO, UK FinTech)

Companies could adopt a number of partnership models

With a shift towards more modular solutions, firms have important choices on how open they will be in working with partners and other external parties. From our PSD2 survey, we identified that '92% of banks state that partnerships with non-banks will be highly important or important in future' and that '71% of banks agree or fully agree that partners/collaboration will be required to keep up with the pace of innovation'.

There are three archetypes of models which firms are adopting: in-house, partnership and market place.

Figure 38: Future potential partnership models



Source: PwC Strategy&

In-house model

Under this model, firms continue to provide full end-to-end service in-house. Firms would ensure their digital offering and associated capabilities are compelling by expanding organically and replicating innovation in the market (where this is valued by customers), or by acquiring FinTechs or other disruptive players. The firm would encourage customers to remain on own-brand platforms and the organisation would only provide the minimal open APIs required by regulation.

Partnership model

Under this model, firms would select specific 3rd party providers to collaborate with (e.g. FinTechs, software solution providers or industry utilities). The firm would assess potential partners to ensure they are trustworthy, secure and would add value to their customers. Partners may be limited from working with direct competitors through exclusivity agreements. Firms would form 'ecosystems' with their partners and provide service propositions to customers that use the combined capability of the group. Customers would be encouraged to use solutions from others members of the ecosystems, and closed APIs would be used so partners can significantly enhance and differentiate their offerings.

Marketplace model

Under this model, some firms would become 'hubs' of capital and customer data, providing open marketplaces for propositions. Firms embracing this model would develop multiple open APIs for developer communities to accelerate innovation. 3rd party providers would not enter into exclusive partnerships but could provide services to customers on multiple marketplaces. Customers would be able to access functionality and services from multiple solution providers and would play an active role in selecting which products, features and services they wish to use. They would also decide which application to use as their primary interface. In this 'best API wins' model, all other participants risk becoming utilities, not engaging directly with customers, but relying on the strength of their brand and the competitiveness of their specialist product offerings to remain relevant.

Regardless of their positioning, successful firms will have some common characteristics

The choices that companies make about their future positioning and the way they will engage with other external parties should determine the capabilities they build. With multiple credible ways to play and strategic stances, there isn't a one-size-fits-all approach. Regardless of how the landscape evolves, however, the companies that succeed will have certain common characteristics:

1. They will be truly **customer centric**, using deep insight about what their customers really value to drive product development, design of channels and experience, and pricing.

2. They will be outstanding at **data analytics**, not only as the basis for decision making and proposition design, but embedded in products to provide tailored experiences, real time risk management and dynamic pricing.

3. They will be excellent at **building exciting and secure technology** solutions that allow for new functionality to be developed and deployed rapidly, and enable safe and easy integration with internal and external systems.

4. They will be **agile** and able to adapt to a rapidly changing environment, with mechanisms to screen what is happening in the market, assess changing customer preferences and re-orient the business to remain relevant.

5. They will be skilled at working with other companies in a complex ecosystem of **partnerships and marketplaces**, to provide seamless offerings that integrate the best services available on the market to their customers.

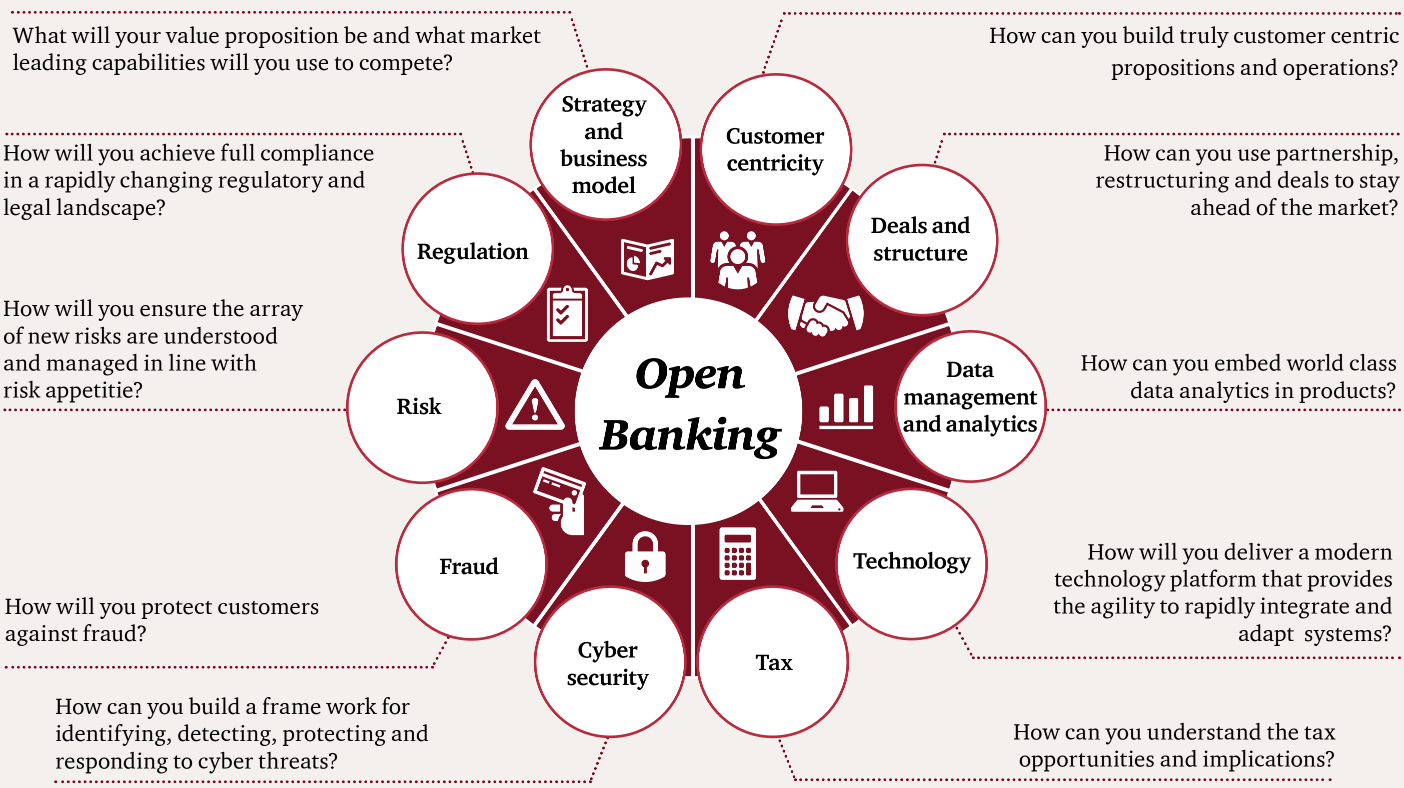
Developing these attributes will not be straightforward for many established organisations, with quite radical changes needed to their skills, culture and ways of working; as well as to the technology platforms which underpin their digital offerings.

Firms need to address a number of important areas to be confident of success

In order to prepare for Open Banking and be confident that they are taking the right actions to position themselves for success, participants will need to address a number of diverse questions. These start with strategic topics, including what the company's value proposition will be, what capabilities to develop, how to embed customer centricity and develop value adding products, and how to organise and leverage external capabilities (whether through partnership or acquisition). They include important themes relating to technology, including how to build and embed differentiating capabilities like data analytics and AI; and how to architect and develop modular platforms that facilitate integration and the deployment of innovative new functionality.

Companies need to be clear on how they will manage cyber security to keep customers, systems and data safe, and how they will safeguard customers against fraud. They will have to make sure that their approach to assessing and managing risk is relevant and practical; assure themselves that they can stay abreast of the changing regulatory and legal expectations; and make sure business model choices are informed by a proper understanding of the tax implications.

Figure 39: Key Open Banking questions for firms to address



Source: PwC Strategy&

While the future is unpredictable, there are many practical steps that firms can take immediately. Forming a deliberate and definitive view on the questions above will enable companies to embark on the Open Banking journey with confidence, equipped to make crucial decisions about which capabilities to build in order to compete, regardless of the eventual scope, timeframe or uptake of Open Banking.

Our team

We hope that you have found our report to be interesting and useful. For more information, please visit **www.pwc.co.uk/openbanking** or if you would like to discuss any of the issues raised, please feel free to contact one of the authors listed below.

Jonathan Turner
Partner – PwC, Open Banking Leader
M: +44 (0) 7739 591553
E: jonathan.v.turner@pwc.com

Martin Roets
Director – Strategy&, Financial Services
M: +44 (0) 7900 163394
E: martin.roets@pwc.com

James Cousins
Senior Manager – Strategy&, Financial Services
M: +44 (0) 7455 001300
E: james.r.cousins@pwc.com

David Beardmore
Commercial Director – Open Data Institute
M: +44 (0) 7718 186861
E: david.beardmore@theodi.org

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Industry interviews

PwC conducted 25 interviews with executive and Open Banking leads at banks, technology firms, payment providers, FinTechs, regulators and industry bodies. PwC Research also surveyed over 1,000 retail banking and SME customers from across the UK.

Our gratitude goes to all those who kindly participated.

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