The Future of Retail Banking Report

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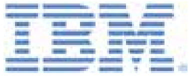

Forewords

It's banking, but not as you know it.

In a few years, our largest banks may not really be banks at all. To do banking you need a licence and you are subject to regulation. Not all see the trade off as worth it – regulation is expensive and limiting – yet there remains money in deposit taking for now. However, banking is evolving from being our money repository to our money manager. It isn't happening overnight, but what customers want and the services that will be provided in future are definitely in transition. The evolutionary process of payments efficiency and shared information is continuing to advance but is there a revolution to come?

Banking evolution comes from market innovation and regulatory change. Credit cards, ATMs, and online banking came from technology; faster payments, improved disclosure and customer protection from government. Today, applications which can access our financial data for improved services intertwine with government mandates on open banking and data protection. For some it's an opportunity, others a threat – brilliant new products for improved lives, or a Pandora's Box with the loss of privacy and money at stake? Will the winners be new providers or established banks?

Since 1879, the London Institute of Banking & Finance has been involved in educating those handling money so they are competent and aware of their responsibilities. From paper to electrons and from deposits to payments, our role hasn't changed and we are proud to continue working with the industry on the critical educational needs for those delivering banking's future financial service professionally and safely.

We are delighted to support this timely and revealing report.

Pete Hahn
Dean, Henry Grunfeld Professor of Banking ,
The London Institute of Banking & Finance (LIBF)

This is the second consecutive year of Marketforce's retail banking survey. Yet again we find an industry braced for disruption and feverishly innovating ahead of next year's game-changing regulations.

Our report provides a snapshot of the industry on the brink of the EU-wide PSD2 and the UK's open banking reforms, which will open the door to new competition and threaten incumbents with disintermediation. Like photographs taken on the brink of war, it's a report that could, in a few short years, be a historical document, capturing a time before the competitive battleground changed the banking landscape forever.

It is too early to identify winners. But it's clear that technology alone will not be enough: adding more digital won't win this war, not when the competition already has you outgunned. With tech titans readying to leverage the open banking agenda to quickly gain ground, incumbents must play to their strengths: an existing reputation for trust, a proven track record with the regulators and an understanding of customers' financial needs. To this, they must add bold vision and a willingness to collaborate to fuel innovation on behalf of the customer.

Our research shows this is still a work in progress. We surveyed 225 senior banking executives across Europe in October 2017 to understand their readiness for the challenges, and opportunities, ahead. We hope you find the results as interesting as we did.

Juliet Knight
Director, Marketforce

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Introduction

The bank of the future may be many things – but it may not be a bank. Some customers already have an appetite to trust their finances to innovative new entrants with smart budgeting and money management tools. And there's a host of companies eyeing the banking space, from FinTech start-ups to challenger banks to tech giants.

Incumbent banks must work hard to prove their relevance in a changing world. Regulators are about to force massive disruption, in the form of the revised Payments Services Directive (PSD2) and the open banking reforms. This is reform enabled by technological change, which, via open Application Programming Interfaces (API) allows new entrants to plug into incumbents' systems to access customer and account data, levelling the playing field, powering innovation and fuelling disintermediation. Open APIs are also the digital glue that allows unparalleled collaboration within and between organisations and even across industries, creating platform businesses that transcend traditional industry boundaries: the bank of the future as a platform.

PSD2 and open banking are not the only challenges ahead. Banks must also contend with new data protection laws, low growth macro-economic conditions, Brexit uncertainty and changing customer expectations for seamless 24/7 interactions across multiple channels. They must find new talent to equip the workforce for the future: AI and automation will change or eliminate many roles but create others that may be in short supply as companies scramble to keep pace with new technologies and changing customer behaviours. Banks must be ever-vigilant for fraud and cybercrime as a hyperconnected world creates new vulnerabilities and new threats. And, looming ever closer, is the competitive threat posed by the tech giants, which may well leverage open banking to launch Uber-style disruption.

Banks have a range of choices to survive this series of shockwaves: specialisation, a retreat to utility-type banking services or capitalise on their trusted reputations to act as partner of choice to help customers navigate a changing world. There are big decisions but one thing is clear: the face of the bank of the future will belong to the bold.

Chapter 1:

The Rise of Open Banking

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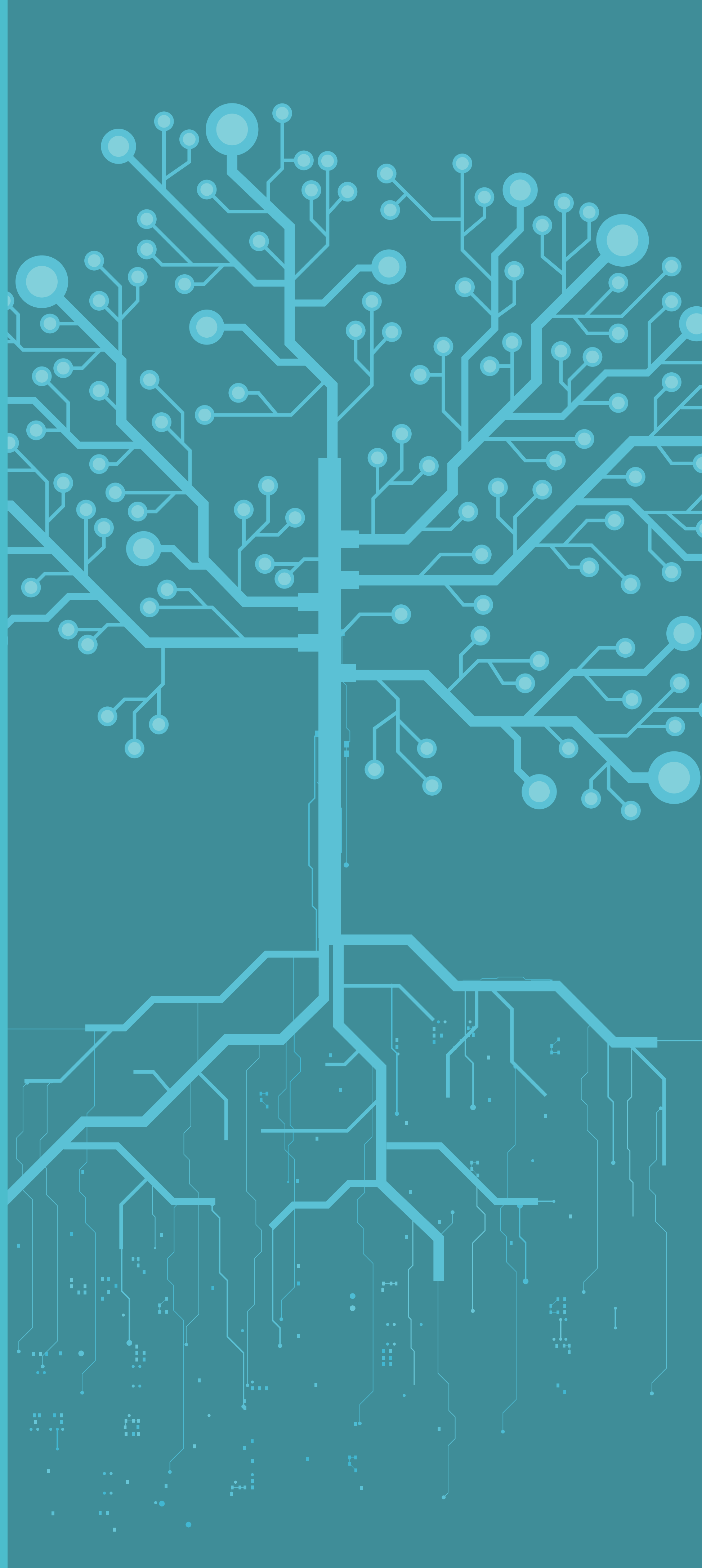


The Rise of Open Banking

Over the past decade, regulators have sought to redress the perceived greed and recklessness that were judged to have caused the financial crisis. Since 2008 the mood has been for ever more scrutiny and ever tighter constraints on operating models. Until now.

The Revised Payment Services Directive (PSD2), which is due to come into force in January 2018, will encourage banks and FinTech companies to innovate, experiment and move in new directions. It is set to be a catalyst for profound change in retail banking. And, while this is an EU directive, it has spurred initiatives around our interconnected world, from Canada to Singapore.

PSD2 is a leveller: incumbents will no longer hold the winning hand when it comes to customer data and payments. By forcing banks to grant third-party providers (TPPs) access to a customer's account information and initiate payments on the customer's behalf, PSD2 puts all the cards on the table. This opens the door for TPPs to use customer account information to provide value-added services or give customers a seamless payment experience direct from their bank accounts. By creating a level playing field for all payment services providers, PSD2 will increase competition and foster innovation. This is good news for the customer, and for FinTech innovators, but the jury is still out on whether it will be good news for banks, which risk losing a direct relationship with the customer and valuable opportunities to cross-sell products.

In the UK, this risk is magnified by the Competition and Markets Authority's (CMA) Open Banking initiative, which mandates the nine largest banks in the country to provide access to banking data via a standard API so that personal and small business customers can manage their accounts with multiple providers through a single digital app. This will fuel the process of disintermediation and the unravelling of established banking value chains. With all their accounts in one place, customers will be able to better manage funds across accounts to avoid overdraft charges or even switch to another provider to get a better deal. One survey of UK bankers found 73 per cent expect open banking to diminish the advantage of existing customer relationships and make it more difficult for banks to cross-sell[1].

What is an API?

The enabling technology of PSD2 is the application programming interface (API), often described as the "digital glue" that allows different software applications, both within and between organisations, to share data for a specific purpose without exposing the rest of the application. This allows organisations to open some of their data and functionality to third party developers, who can then use that data to write new applications and tools.

There are three types of APIs: private APIs that are used to reduce friction and enhance operational efficiency; partner APIs that banks grant to specific third-party partners to expand product lines and channels; and finally, Open APIs, that make business data available to third parties that may not have any formal relationship with the bank. This is more of a leap for many banks, anxious about security and reputation, yet it's a proven way to fast-track innovation and connectivity. Just ask Amazon, Facebook, AirBnB and Netflix, which leverage open APIs to build out their functionality and scale quickly across so many platforms and territories.

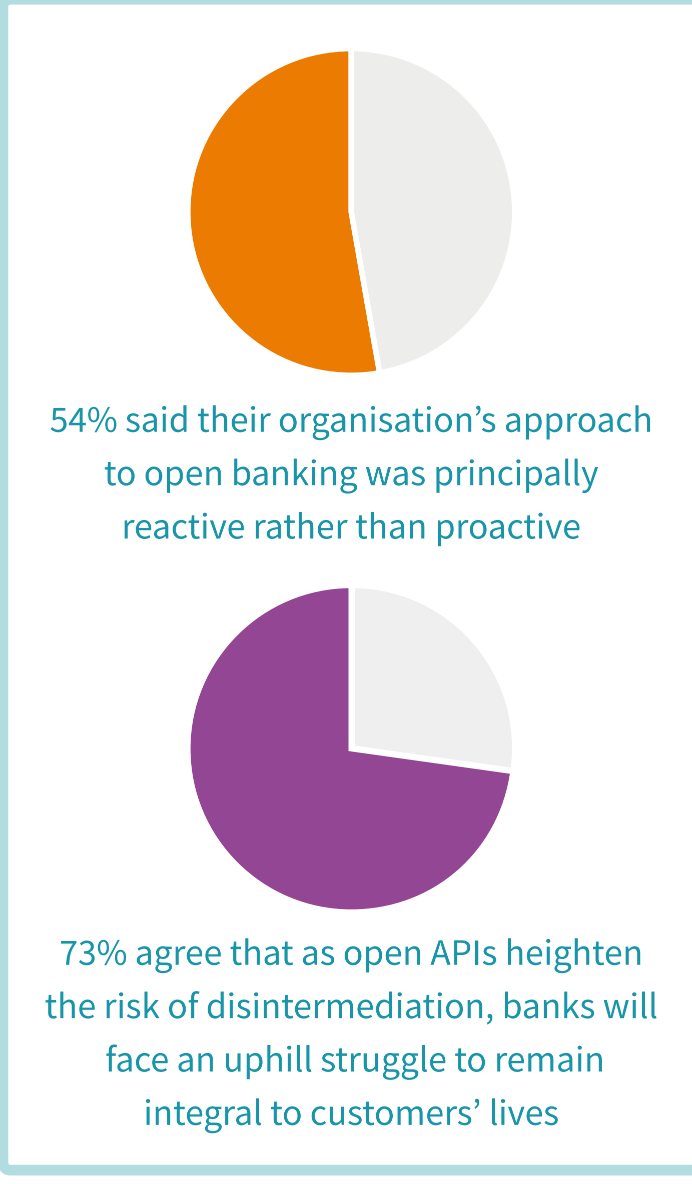
Embracing this technology presents an opportunity for banks to act as a springboard for innovative new services and products, developed by third parties but loved by their customers.

[1] *The Role of Analytics in the New Banking Age, Earnix/Marketforce 2017*

Platform banking – combatting the disintermediation threat

Banks now stand at a crossroads. They must either find ways to play a central role in the customer's daily life in order maintain cross-selling opportunities or they must accept a new role, as a white-label utility provider of banking services, with little, if any, direct interaction with the end customer and the associated downsides of lower margins and negligible cross-selling opportunities. In this context, our survey gives serious cause for concern: more than half of our respondents (54 per cent) said their organisation's approach to open banking was principally reactive rather than proactive.

73 per cent of our respondents agree that, as open APIs heighten the risk of disintermediation, banks will face an uphill struggle to remain integral to customers' lives. To stay relevant, banks must be prepared to share data and work in new ways to deliver powerful propositions that add real meaning and value to customers on a daily basis. Worryingly, however, there are indications that some banks are resistant to the idea of sharing data with third parties that want to access their APIs: in October 2017, the European Commission launched a probe to find out whether banks are deliberately preventing non-bank competitors from gaining access to customer account data, with anti-trust officials conducting unannounced inspections of institutions in the Netherlands and Poland.



Banks that want to maintain their position at the top of the value chain must leverage API integration to develop banking portals that draw in services and propositions from a range of third party innovators that customers find they cannot live without. It's banking as a platform, and it's the coming mega-trend that will change how we bank forever.

The power of collaboration

Digital leaders, from Amazon and Apple to Salesforce and Twitter, frequently connect with innovative firms outside of their organisation to deliver attractive services to their customers. Rather than compete with existing retailers, Amazon chose to enable them, launching Marketplace, a fixed-price retail platform that allows third-party vendors to access billing, marketing, distribution, and customer relationship management systems. In doing so, Amazon created an ecosystem of retailers who are wholly integrated into its fulfilment process – and the end result is more choice for customers, backed by an Amazon gold standard customer experience. Open APIs underpin this kind of win-win digital collaboration, accelerating innovation and the rapid build out of new services. Amazon, Apple, Facebook, Google and Microsoft, for example, all offer open APIs to allow developers to integrate with their voice-activated digital assistants.

Some banks have already, irrespective of any regulatory pressure, placed open APIs at the heart of their strategy in order to deliver the very best service to their customer. German online challenger bank Fidor, which was acquired by French banking group BPCE in July 2017, uses open APIs so that developers can create their own apps that plug into Fidor's systems. It means Fidor's internal systems or investment priorities never act as a brake on innovation that could improve the customer experience, be it new services to deal in foreign currencies and precious metals or tapping into Nutmeg's wealth management software. In October 2017, Fidor added further functionality with the launch of FinanceBay, an online marketplace which connects curated FinTech, InsurTech and TradeTech offerings from the wider ecosystem so customers can easily browse financial products and access convenient tools to better manage their finances. According to Fidor Bank CEO Matthias Kroner, API banking is "critical": "If you want to deliver the richest and most value-added service, you need to open up[2]."

Numerous of the mobile-first neobanks are, of course, already making good use of the app economy. In 2015 Monzo published an API that enables any Monzo customer to download and play with their own data; there are now dozens of tools, from mobile dashboards to maps, built by enthusiasts. More recently, Raisin, a one-stop-shop open market for savings products giving customers the best interest rates in Europe, developed its own API, allowing banks to plug into the app and act as distribution partners. Mobile bank N26 was the first distribution partner to use the Raisin solution to integrate savings offers into its online banking platform.

Some traditional players have also taken significant steps. In May 2017 Spanish bank BBVA announced it was making eight of its APIs commercially available to companies, startups, and developers worldwide, so that customer data can be integrated into third party products and services. Prior to launch, more than 1500 developers and companies registered to collaborate on the initiative. Companies will be able to use individual data sets to build personalised services with customer permission, and some anonymous, aggregated data sets will also be commercially available. The aim is to build a suite of new value-added services and improved user experiences, such as seamless loan origination whereby an API is integrated into the checkout process so that a customer can finance a purchase at point of sale with a BBVA loan.

In the Nordic region, Nordea has launched what it hopes will be the "go-to-hub" for banking APIs in the region. It has set up a bespoke site where developers can experiment with two open APIs, one a payments initiation API for integration with third-party web services and one an account information API. Within 24 hours of going live, the site had registered 130 expressions of interest from third-party developers.

Banks that are not already exploring collaborative ventures need to act fast: 92 per cent of our respondents think it will be critical for banks to embrace open APIs and the associated opportunities to improve their customer offerings through partnerships if they are to survive beyond the next ten years. Indeed, 55 per cent expect that within the next 2 years it will have become a strategic imperative for banks to embrace the partnership opportunities flowing from open APIs, rising to 93 per cent within 5 years.

92% of our respondents think it will be critical for banks to embrace open APIs and the associated opportunities to improve their customer offerings through partnerships if they are to survive beyond the next ten years.

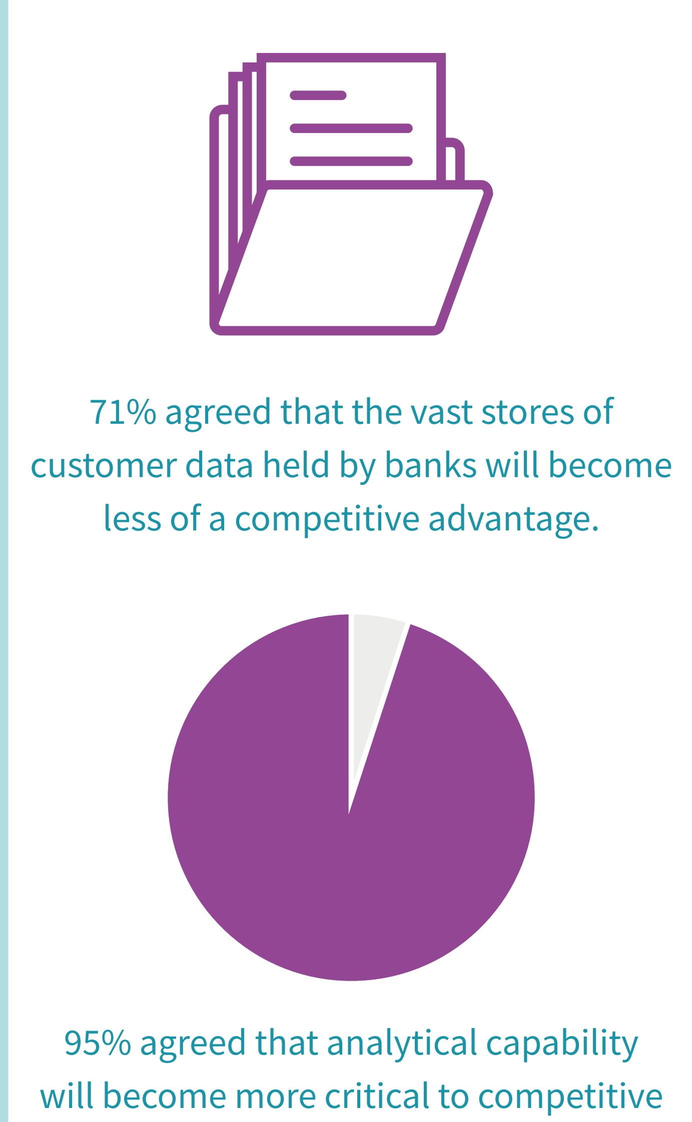
[2] *The Future of the Digital-only bank, www.mx.com*

Staying relevant – analytical advantage

The collaborative platform banking model isn't just about adding more services for the sake of it. It's about knowing your customers and making their lives better, day in, day out. This comes down to sweating customer data so it yields insights that add real value, not just in how they manage their finances but in how customers manage their lives.

Right now, incumbents have a head start because they hold vast treasuries of customer data. The era of open banking, which makes it easy for customers to give third parties access to that data, and the General Data Protection Regulation, which gives them the right to deny storage of it, explains why 71 per cent of our respondents believe this headstart will now be eroded. Instead the advantage will lie with those that can use the data of the newly empowered customer to generate meaningful insights and deliver compelling new products and services – thereby gaining access to yet more data to further rocket fuel their proposition.

Virtually all (95 per cent) our respondents agreed that analytical capability will become more critical to competitive advantage in banking once consumers can more easily pick and choose who can hold and access data about them. This presents a challenge for incumbents, whose sophistication in analytics is generally weaker than that of either FinTech new entrants or, for that matter, the digital titans, such as Amazon and Google, who seem likely to be eyeing the platform banking space.



New risks

Another competitive advantage for banks that could come under threat due to open APIs is trust. Banks may have been under fire for the decade following the financial crisis but when it comes to security they remain a trusted partner in the eyes of most customers. According to one global study, 93 per cent of customers trust banks to keep their money safe[3] while another found 83 per cent of customers trust their bank with their data[4], far ahead of trust levels in other organisations – and that includes potential new rivals in the form of alternative payment providers (49 per cent), e-commerce firms (29 per cent), social networking sites (nine per cent) and FinTech firms (six per cent).

The resilience of customer trust in the wake of the financial crisis is one of the industry's most valuable assets, putting clear blue water between too-big-to-fail incumbents and unproven challengers. Indeed, with just months to go until PSD2 is due to come into force, surveys suggest it is consumer trust that will cushion incumbents from the sharper edges of open banking's competitive Thunderdome: according to one survey, two-thirds of consumers in the UK said they won't share their personal financial data with third-party providers and more than half said they will never change their existing banking habits and adopt open banking[5].

This trust advantage is, perhaps, the banking industry's most potent weapon when it comes to protecting its market share. Yet there are valid worries that open APIs now jeopardise this: our report last year found that nine out of ten banking executives believe open APIs will increase the risk of banks' security defences being breached[6]. These fears are shared by the a significant proportion of this year's cohort, with 46 per cent agreeing that banks are significantly underprepared for the increased security challenges posed by open APIs.

There are also worries that open APIs, by introducing third parties into the customer journey, will give rise to increased fraud. The Canadian Bankers Association (CBA) has pointed to the potential impact of open APIs on banking fraud risk, including possible account takeover by third parties and the challenges of managing fraud once banks lose direct access to customer transaction and device data. Our respondents agree: 69 per cent believe that, as open APIs facilitate the disintermediation of banks by unregulated players, it will become more difficult for the industry as a whole to prevent banking fraud.

The CBA also emphasises the need to ensure that third parties given access to personal data are accountable, face reviews and audits once data is received, and that there are consistent standards and obligations among participants. The industry clearly fears the introduction of unregulated third parties introducing vulnerabilities into the payments chain, putting customers and hard-earned reputations at risk: only 36 per cent of our respondents expect currently-unregulated third parties accessing customer accounts via open APIs to be brought within the scope of financial services regulation within two years.

46% believe banks are significantly underprepared for the increased security challenges posed by open APIs

36% expect currently-unregulated third parties accessing customer accounts via open APIs to be brought within the scope of financial services regulation within 2 years

69% believe that as open APIs facilitate the disintermediation of banks by unregulated players, it will become more difficult for the industry as a whole to prevent banking fraud

[3] *Global Consumer Banking Survey, 2016, EY*
[4] *The Currency of Trust, report by Capgemini, 2017*
[5] *Open Banking Survey, Accenture UK, October 2017*
[6] *The Future of Retail Banking 2016, Marketforce*

Banking laggards could miss API profits boost

55% think APIs will have a positive effect on their organisations' profitability

Although open APIs pose a number of threats, from fierce new competition, potential disintermediation and weakened security, our respondents remain optimistic that new opportunities will outweigh these downsides: on balance, over half (55 per cent) think APIs will have a positive effect on their organisations' profitability.

Yet, at time of writing, with a little over two months to go, it seems the industry is still scrambling to be PSD2-ready: three-quarters of our respondents think fewer than half of banks will be ready for the February 2018 deadline. Some commentators suggest the deadline is likely to be extended to 2019, as the European Banking Association's Regulatory Technical Standards (RTS) have not yet been adopted by the EU Commission. Incumbent banks must hope they are right.

Salesforce Viewpoint

The banking industry stands on the cusp of unprecedented change. Incumbent banks have never faced anything as disruptive as Open Banking and PSD2: it's not just another set of regulations and it's not about compliance-as-usual.

Open Banking and PSD2 will open the "data safebox" of the banks potentially putting at risk their most valuable assets: their relationships with their customers. Analysis suggests that a significant portion of UK banking customers are willing, in some cases even extremely so, to share banking data with other banks and even non-financial technology companies. Interestingly that percentage almost doubles for those premier/ affluent customers.

This is much more than "API-ification", or a levelling of the playing field for new entrants – or even keeping pace with yet another disruptive technology. The implications represent a massive shift in the FinServ Ecosystem and what it means to be a bank. There are big decisions ahead.

Incumbent banks need to decide whether to be a commodity player, providing back-end utility services behind an aggregated portal run by a FinTech or any company playing a Third Party Provider role that disintermediates them, or whether to play the disruptors at their own game and seek to retain customer engagement, creating new kinds of added value services and customer experiences by orchestrating a portfolio of third-party products and services.

Open banking and PSD2 open a new world of revenue-generating opportunities for those banks that can create compelling data-driven propositions and partner with the best of FinTech to deliver smart money management tools and other rewards. Indeed, in stretching to meet customer needs, banks could find they move outside their financial services comfort zone. This represents profound change in the customer relationship, from one that is purely transactional towards something much more like a partnership. In the future, banking will not be about providing loans or other financial products but rather stitching together third party offers to create a compelling ecosystem in which the bank is increasingly woven into the fabric of a customer's daily life.

Banks have talked about customer-centricity for years. Post-PSD2 they will need to deliver on their promises or they will lose ownership of the customer relationship. Banks must act now and invest in best-in-class customer engagement and relationship management solutions that can engage customers in new ways and leverage the opportunities that PSD2 and Open Banking may bring.

Salesforce, the global CRM leader, enables companies to connect to their customers in a whole new way. With its innovative Customer Success Platform, Salesforce sets the global standard for customer relationship management, engagement, and intelligence by integrating sales, service, marketing, community, analytics, IoT, and app development in a trusted cloud for businesses of every size and industry.

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Chapter 2:

Bank of the Future

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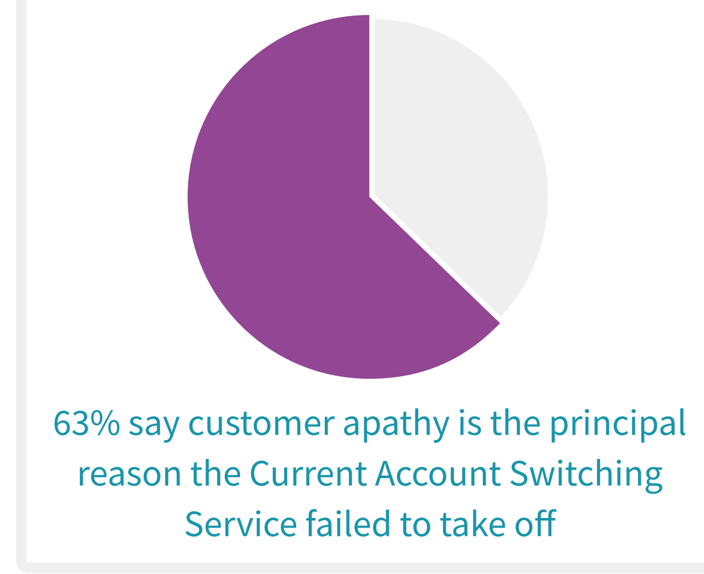
Bank of the Future

Most people have a longer relationship with their bank than their spouse: account holders typically stay put for 17 years while the average British marriage lasts just 11 years and six months. And it tends to be a family affair: almost three in five 18 to 24-year-olds bank where their parents do – and a fifth of people never move from the account they have as a youngster[7]. This customer inertia has helped today's big banks become, well, big: in 2010 the four biggest banks in the UK held 77 per cent share of the current account market.

Regulators judged this level of market concentration was bad for customers and in 2013 the Bank of England introduced new rules that simplified the process for acquiring a banking licence and lowered the capital requirements for new bank entrants. The result? Within three years of the new rules, officials had approved 14 new banks and 20 more were in talks.

UK regulators also created the Current Account Switching Service (CASS) in 2013 to enliven competition and reduce inertia by making switching easier; however, uptake remains worryingly low, with just 4.2 million switches since the launch, representing just six per cent of the more than 70 million active current accounts in the UK[8]. On average just three per cent of UK current account holders move banks a year, with many of those customers switching between the big four, which still retain well over 70 per cent of the current account market. Our respondents feel CASS has done little to end the problem at the heart of the matter, with 63 per cent pointing to customer apathy as the very reason the service has failed to take off.



63% say customer apathy is the principal reason the Current Account Switching Service failed to take off

This is despite the fact the Competition & Markets Authority investigation concluded "a substantial proportion of customers are paying above-average prices for below-average service quality" and that 90 per cent would gain financially by switching to a cheaper product, with annual savings ranging from £92 to £564 depending on usage and type of account[9]. While there are several reasons customers don't switch, principal among them is that over half think it will be a hassle to switch. Over half also do not incur any direct charges and thus are unlikely to see any differentiation between products[10].

Indeed many customers believe their "free" current account is good value – not recognising that if they stray into the red the charges can be very high. The UK Competitions and Markets Authority investigation had considered mandating an end to free-if-in-credit banking but ultimately decided to take no action on this issue, much to the disappointment of many new market entrants. However, the UK Financial Conduct Authority has signalled its intention to look at how banks cross-subsidise the cost of current accounts as part of its strategic review of retail banking, which is due to report in the middle of 2018.

[7] *Statistics from the Payments Council, 2013*
[8] *Sources: CMA Final Report 2016; Who are You Calling a Challenger? Report by PwC; BACs press release October 2017*
[9] *Retail Banking Market Investigation, CMA, 2016*
[10] *Retail Banking Market Investigation, CMA, 2016*

The end of the cross-subsidisation model?

Banks cover the costs of fee-free current accounts through a combination of approaches: paying low rates of interest on balances in credit; charging (often high) overdraft charges and other ancillary charges; and cross-selling higher margin products. Irrespective of any regulatory action, this cross-subsidisation model may soon run out of steam.

The customer behaviours that sustained cross-subsidisation are disappearing in a digital world. As was observed in last year's report, growing use of search engines to choose financial products is diminishing the influence of a customer's own bank, resulting in a more fragmented financial services market[11]. Quite simply, today's connected customers are more informed about their choices – and are prepared to shop around for a better deal on home insurance or investment products.

New regulation seeks to encourage this pick-and-mix approach. First, the open banking agenda could see banks cede control of the customer interface to third parties, reducing the scope to up-sell to subsidise low-margin current accounts.

Second, new platforms set up as Account Information Service Providers (AISPs) under PSD2 will add value to their customers by pointing to better deals, nudging those paying high overdraft charges or receiving little interest on large account balances into action. There's a clear consumer appetite for such services, one survey asked consumers to pick between two ideal banking scenarios and found the majority preferred to bank with multiple providers to get the best offers rather than stick with a single bank[12].

The dying days of "free-if-in-credit"

These trends mean the cross-subsidisation model is on borrowed time. Our surveyed banks certainly expect to overhaul their pricing and value models over the next decade: more than half (63 per cent) expect to see the end of free-if-in-credit banking within the next five years, rising to 80 per cent in ten years.

63% expect to see the end of free-if-in-credit banking within the next five years

However, the jury is out in terms of the benefits of this for the customer. On the one hand, free current accounts can stifle competition by making it difficult for new entrants to compete on price and they allow banks to exploit customers' behavioural biases, leading to higher prices on the other products they offer. On the other hand, it can be argued that the "free-if-in credit" pricing model is actually the product of competition and that it would be a pyrrhic victory for many customers to have to start paying for a service they currently receive free of charge.

[11]*In The Future of Retail Banking 2016, nine out of ten expected increased use of search engines to research products to result in a more fragmented financial services market in which customers will have relationships with a wider variety of institutions.*
[12]*PwC/YouGov, January 2017*

53% think the end of free-if-in-credit accounts would be beneficial for customers

Our respondents are split on this issue: just over half (53 per cent) think the end of free-if-in-credit accounts would be beneficial for customers, 28 per cent think the effect would be negative and 19 per cent believe it would make no difference to the majority of consumers.

Expanding consumer choice

What is undoubtedly of benefit to consumers, however, is choice - and that choice is expanding exponentially. New mobile-first entrants with innovative customer-focused solutions are showing customers new ways to manage their finances, be it friction-free savings with Plum or smarter budgeting with SimpleBank. And these new contenders are already making headway: one 2016 report found half of banking customers around the world were already using the products or services of at least one FinTech firm[13].

Exposure to FinTech will reshape customer expectations of what is possible in financial services and that banks can meet the customer service bar set by the digital titans – Google, Amazon, Facebook and Apple (GAFA). SimpleBank can onboard customers in three minutes, provides fee-free banking along with smart budgeting tools and an automatic saving feature to help customers meet their financial goals. Starling Bank is also designed to give customers control of their finances, with real-time updates on spending and analytics to help customers understand their spending habits. And like GAFA, the digital-only entrants prize customer feedback and constant iteration to keep the offer fresh, relevant and, eventually, make it indispensable to daily life: Atom Bank, for example, uses the Reevoo customer feedback platform to ask specific questions about the experiences it provides to ensure it understands what really matters to customers, while Monzo issues new functionality and modifies its existing service almost every day in direct response to how it is being used and what customers say about it. Indeed, when it comes to disruptive innovation in banking, surveys show it is GAFA and FinTech start-ups that are expected to take the lead, with just one third backing the innovation credentials of existing banks[14].

[13]*World FinTech Report 2017 (WFTR), Capgemini, LinkedIn and Efma*
[14]*Research by Efma/Infosys in 2017, found just 34% expect traditional banks to be a significant threat in terms of disruptive innovation.*

Incumbents recognise the threat posed by these customer-obsessed start-ups: on average our respondents expect digital new entrants to have taken a 21 per cent market share in their country in just five years' time. This percentage might be higher were it not for a recognition among both incumbents and fintechs that the future relationship between them is often likely to be one of collaboration rather than hand-to-hand combat for market share. As the World Economic Forum found in its 2016 report[15], many fintechs that originally aimed to take market share from incumbents have shifted to building partnerships as they have struggled with scale and customer adoption. Retail FX platform, Transferwise, for example, originally branded itself as an alternative to high bank fees but in recent years has begun to work with select banks to expand its customer base, while New York–based neobank Moven and Canada's TD Bank have partnered to integrate Moven's mobile financial-management tools with TD's Internet-banking platform in Canada.

The threat of GAFA

But there is one looming competitive threat that keeps bankers awake at night. Many fear the intentions of the tech giants (Google, Apple, Facebook and Amazon, or GAFA), which, given their size, their vast treasuries of customer data and a proven capacity to innovate at speed could quickly capture significant market share. One survey of UK consumers revealed that more than a third (36%) would consider switching to GAFA companies if they were to offer retail banking services (rising to half among 25 - 34 year olds), of whom 41 per cent cited GAFA's capacity to offer better technology and 40 per cent the potential for more innovative products and services[16].

Among our respondents, 83 per cent expect Amazon - which they see as the strongest contender among the GAFA digital titans – to hit the banking mainstream within the next ten years, and 66 per cent expect this to happen within the next five years. Google, comes in a close second, with 83 per cent foreseeing it achieving mainstream banking success within a 10 year timeframe and 62 per cent within five years.

How soon do you expect GAFA to achieve mainstream banking success in your country?	Within five years	Within 10 years
Amazon	66%	83%
Google	62%	83%
Apple	58%	78%
Facebook	48%	65%

[15]*Beyond Fintech: How the Successes and Failures of New Entrants are Reshaping the Financial System, World Economic Forum, August 2016.*
[16]*Research: Retail Banking IT, Peru Consulting*

Amazon in banking

Amazon, the online retail juggernaut, has the kind of customer reach banks can only dream of: four out of every US$10 spent online in the US is with Amazon, giving it a 43 per cent share of e-commerce[17]. What's more, a huge number of those customers are happy to sign up to a subscription service, Amazon Prime, paying a monthly fee that not only generates subscription revenues for the NASDAQ-quoted heavyweight but also converts those customers into high spenders: with an estimated 90 million subscribers, almost two-thirds of households in the US are now Amazon Prime members and they spend on average nearly US$1,300 a year compared to US$700 for non-Prime shoppers[18].

Amazon is not a bank - but many believe it is starting to look like one. With Amazon Pay, the e-commerce giant introduced an easy and secure way for consumers to make frictionless, one-click online payments and for merchants to accept them. Amazon has now built out this capability to allow customers to make convenient payments in-store, having ordered ahead using the Amazon app. This new service, Amazon Pay Places, was launched in summer 2017, with the restaurant chain TGI Fridays the first merchant to accept the payment option. As the service is rolled out, consumers will be alerted to a retailer's participation as soon as they enter the store, encouraging them to build on their existing habit of using the Amazon app for purchases.

Amazon Top Up (or Amazon Cash as it is called in the US) gives customers the opportunity to add cash to their Amazon accounts – including topping up at selected bricks-and-mortar stores - and the ability to earn rewards on their balance, essentially giving these users a banking account.

In addition to consumer payments and deposits, Amazon has a thriving SME lending business. The firm paid out over US$1 billion in small loans in the last year. Amazon said in June 2017 that its Amazon Lending service had surpassed a total US$3 billion in loans across the US, UK, Europe and Japan, serving over 20,000 small businesses, more than 50 per cent of which end up taking a second loan. Privy to much of the sales of these businesses, Amazon is ideally placed to judge the credit risk[19].

Given the vast reams of data it similarly amasses on its consumer customer base, Amazon would be equally well placed to lend in that market. It therefore seems inevitable that Amazon will eventually offer revolving credit lines for Prime members, of which take-up could be rapid as the voice-activated payments market expands, given the company's dominant position in the smart speaker space.

Amazon is capital-rich and has already shown a willingness to take risk outside its core business: witness its summer 2017 US$13.7 billion acquisition of grocery retailer Whole Foods, the award-winning original content from Amazon Studios and its cloud-based computing business, Amazon Web Services, which provides services to dozens of finance companies. The early months of 2017 saw the rumour mills alive with chatter that Amazon might be about to acquire US bank Capital One. Nine months on and no deal has been announced but few doubt that Amazon will make further inroads into the banking space, and its ultimate impact could be an Uber-style disruption.

Google, Apple and Facebook in payments

Like Amazon, Google, Apple and Facebook have all moved into the payments space.

Google's signature style of balancing impactful innovation with continuous iterations has been at work with the development of its payments service. First came Google Wallet, which now essentially functions as a peer-to-peer payment system[20], then Android Pay[21], which allows a

[17]*https://www.forbes.com/sites/shephyken/2017/06/17/sixty-four-percent-of-u-s-households-have-amazon-prime/#1377b5104586*
[18]*Consumer Intelligence Research Partners (CIRP), October 2017*
[19]*Business Wire, 2017*
[20]*https://gizmodo.com/android-pay-vs-google-wallet-whats-the-difference-1707696252*
[21]*http://www.techadvisor.co.uk/feature/google-android/android-pay-guide-what-is-android-pay-which-banks-support-android-pay-3614541/*

user to add payment cards and make in-app and tap-to-pay payments, and now Pay with Google, which enables users to pay with any card they have on file with Google, rather than just those saved to Android Pay[22]. The company is also beta testing Purchases on Google, an innovation that enables advertisers to highlight their shopping ads with a blue "Buy on Google" button. This will make it easier for consumers to buy products directly from mobile search ads by giving them the option to use their linked Google Wallet. It's also worth noting that internet giant Baidu, often known as China's Google, in August 2017 got the greenlight for its joint venture with Citic Bank to launch an AI-powered online bank, aiBank - a signal of what Google could do in the banking space if it were to be so minded. Baidu has also been offering its own investment funds for some time, including a RMB 3 million big-data based mutual fund, which sold out within 3 days of launch in 2014.

Apple already lets you use your iPhone as a bank card on the high street. The technology giant has also added the ability to pay money to friends using iMessage so that users don't need to bother with sort codes or account numbers. And Apple's person-to-person payment doesn't just put your money in your bank account; it allows you to hold it on your "Apple Card" for future spending.

Facebook first began processing payments in 2007 for game players and advertisers. Today, it enables users in the US to send peer-to-peer payments over the Messenger app[23], which has over 1.3 billion users globally. The social media titan looks set to expand its payments services to Europe in the near future – late in 2016 it acquired an e-money licence in Ireland[24]. It is also building out the payments options available, having added the ability to send money within a group, which facilitates the splitting of restaurants bills, for example[25]. And through a partnership with Transferwise, Facebook now provides international money transfers.

GAFA post PSD2

The threat posed by GAFA will only become more potent post-PSD2. It's likely that every member of the GAFA group will set up as a Payment Initiation Service Provider, allowing them to handle their own payment processing and avoid the fees they currently pay to card acquirers. And these hugely successful platform businesses are also well-placed to set up as AISPs, using open APIs to plug into the banks' customer data stores in order to provide portals that allow customers to access all their banking and financial accounts in one place.

This represents an existential-level threat to the banks. The GAFA firms have unparalleled user numbers, vast data stores, powerful brands and the technological know-how – including cloud computing, AI and advanced analytics - to leverage all of this into the kind of innovative propositions of which customers just can't get enough. Quite simply, a bank that isn't worried is one that hasn't fully understood the threat.

There is a very real risk of today's banks becoming the dumb pipes that provide the back-end infrastructure to the consumer-facing Banks of Amazon, Google, Apple or Facebook. And, typically, GAFA are homing in on the profitable end of the pipe: according to research by McKinsey, it's the distribution side of banking that generates the bulk of the profits, with an ROE of 20 per cent compared to an ROE of just 4.4 per cent for the core business of financing and lending[26]. Those that have not already developed a strategy to combat this threat may already be too late.

[22]*https://techcrunch.com/2017/10/23/pay-with-google-goes-live-allowing-mobile-users-to-pay-with-any-card-on-file-not-just-those-in-android-pay/*
[23]*https://www.bigcommerce.co.uk/ecommerce-answers/what-are-facebook-payments/*
[24]*http://uk.businessinsider.com/facebook-quietly-secures-an-e-money-license-in-ireland-2016-12*
[25]*https://www.forbes.com/sites/kathleenchaykowski/2017/04/11/messenger-debuts-group-payments/#73d3cd273a80*

Specialisation – the way ahead?

It will be hard for banks to compete with the tech titans for the customer's attention. Google, Apple and Amazon are ranked as the three leading brands in the world. Even the lowest placed of the quadruplet, Facebook, comes in at number nine, ahead of ICBC of China, Wells Fargo and China Construction Bank, the only banks to make the top 20[27]. When it comes to brand recognition and customer engagement, today's high street banks are no match for the power of GAFA.

It might be smarter for incumbent banks to avoid a head-to-head fight altogether. And it seems the industry is losing an appetite for big brand banking: last year 64 per cent of our respondents forecast that, as customers increasingly expect services tailored to their specific needs, most banks will launch niche subsidiaries[28].

80% believe that within five years the majority banks will be forced to specialise in serving more specific needs and market segments in order to remain profitable

New entrants certainly see the sense of this: Monzo focuses on Millennials, Shawbrook and CivilisedBank on SMEs and Hampden & Co on the mass affluent. Incumbents are also launching their own niche offers: Unicredit has launched buddybank for smartphone users, Santander's digital bank is called Open Bank, BNP Paribas' call to Millennials is Hello bank! while ING's money app Yolt allows customers to view all their UK accounts and credit cards in one place. And in October 2017, banking behemoth JPMorgan Chase launched its own Millennial-focused app-only bank, Finn, which comes with smart budgeting tools, autosaving features and the ability to use emojis to rate transactions and purchases bought using the app.

Such niche subsidiaries are a way for large players, with cumbersome infrastructure and conservative attitudes, to innovate with products and service without putting the whole brand on the line. They are also a way to carve out profitable niches to act as a buffer against disintermediation: according to this year's survey findings, four out of five bankers (80 per cent) believe that within five years the majority of banks will be forced to specialise in serving more specific needs and market segments in order to remain profitable. 64 per cent believe this will be true among the large retail banks specifically, rising to 93 per cent when considering a ten year time frame. Only by specialising will banks be able to deliver the kind of customer-obsessed innovation that powers GAFA – and it is this that will enable them to punch above their weight in the coming battle for the customer interface.

[26]*In Remaking the Bank for An Ecosystem World, October 2017, McKinsey reports that "manufacturing"—the core businesses of financing and lending that pivot off the bank's balance sheet—generated 53.0 percent of industry revenues, but only 35.0 percent of profits, with an ROE of 4.4 percent. "Distribution," on the other hand—the origination and sales side of banking—produced 47 percent of revenues and 65 percent of profits, with an ROE of 20 percent.*
[27]*Top 500 global brands, Brand Finance, 2017*
[28]*The Future of Retail Banking 2016*

Infosys Finacle Viewpoint

Disruption moves fast. And banks still acclimatising to the pace of our smartphone, app-addicted world, need to brace themselves for a further acceleration. Google, Apple, Facebook and Amazon have a devastating talent for disruption, leveraging data know-how and brand-smarts to rapidly build platform businesses that transcend industry boundaries. Meanwhile, social media and the tech giants of the east are a phenomenon of their own device - from messaging apps to mobile payments, from livestreaming to on-demand transport, China's WeChat and Alibaba are deeply integrated in the daily lives of the people of China and are already making strides towards the west.

Incumbent banks need to think like these tech titans in order to create an effective response. This means looking at the customer and working out how to make their life better, healthier and wealthier. It's not about selling a current account, mortgage or savings account; it's about supporting the customer to manage their money better, to move house with minimum fuss or to enjoy their retirement. Banking is no longer about financial products; it's about journeys, and supporting the customer every step of the way. It's not a different set of processes; it's a different mindset.

This will be a challenge for many incumbents. Finacle research states about one in ten banks have fully embraced the innovation agenda, and are preparing to wow their customers by acting as distributors of best-in-class Fintech solutions. These front runners are more than ready to compete against their tech giant peers, be it GAFA or WeChat. Others are moving in the right direction but risk being overtaken by a tidal wave of disruption post-PSD2. And then although a minority, there are a significant number of banks adopting the myopic view of simply being "more digital" in the way they approach their customers, failing to realise the bigger picture their competition is moving towards - it's not about channels, it's about creating ecosystems that customers find they can't live without.

The good news is that you don't need to spend huge amounts of money to make solid gains. Banks simply need to get going with thought-through initiatives, constantly experiment, be willing to fail fast and learn from mistakes, learn from wins, pilot everything and get real-world feedback. It will take bold leadership, talented people and an appetite for innovation and improvement. Some will get there, many won't. There will be big winners, and big losers – some household names will disappear in the next five years. Those that survive will be the Banks of the Future, banks that will look very different from the banks of today. And we think that's a good thing.

Finacle is the industry-leading universal banking solution from EdgeVerve Systems, a wholly owned subsidiary of Infosys. The solution helps financial institutions develop deeper connections with stakeholders, power continuous innovation and accelerate growth in the digital world. Today, Finacle is the choice of banks across 94 countries and serves over 848 million customers – estimated to be nearly 16.5 percent of the world's adult banked population.

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Chapter 3:

The Next Phase of the Technology Revolution

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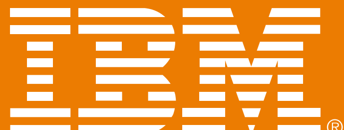


The Next Phase of the Technology Revolution

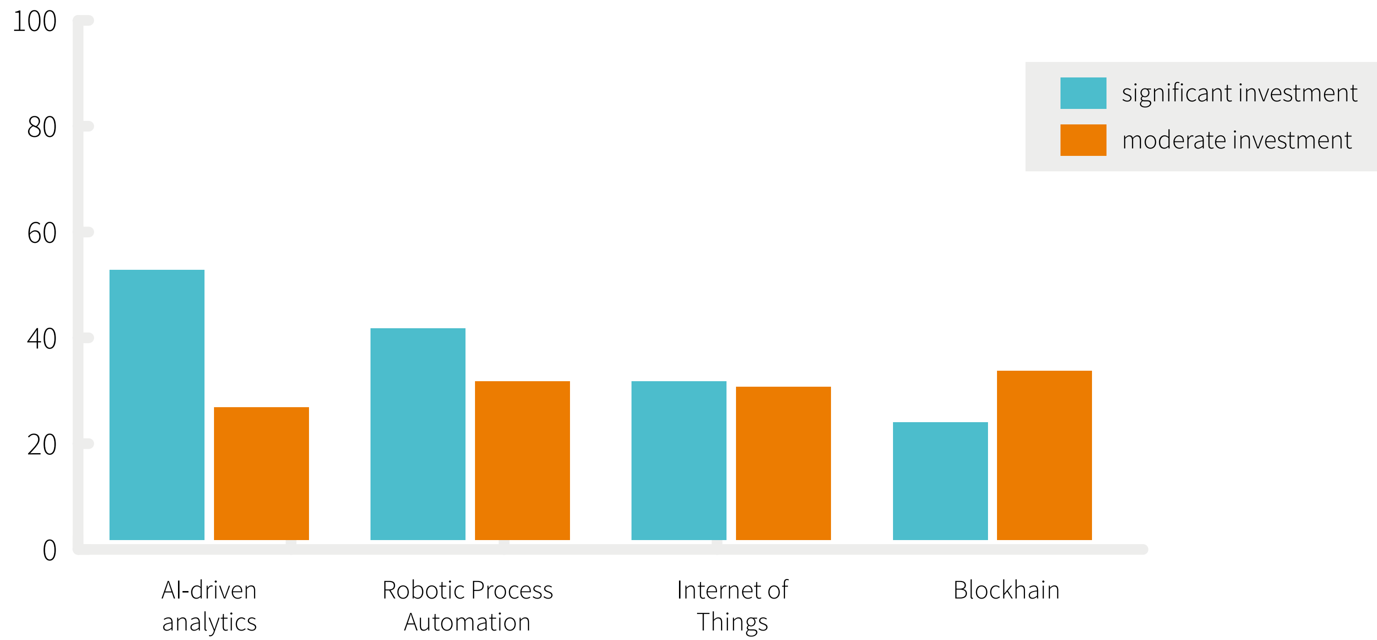
The last 30 years have seen rapid technological change. From the birth of the World Wide Web in 1990 to the mass adoption of smartphones and cloud computing to the global babble of social media, today's world is faster, richer and more connected than at any time in human history. Yet today we stand on the precipice of a technological revolution far greater than any in living memory. What has become known as the 4th Industrial Revolution (4IR) promises to transform society, and banking with it.

4IR – also referred to as Industry 4.0 – is characterised by the blurring of cyber, physical and biological networks to create intelligent and autonomous systems. It portends man and machine working alongside each other and machines talking to machines (M2M) to continuously refine their operations without human input. Some of the precursors of those concepts are here today: consider virtual personal assistants such as Siri or Alexa, deep learning algorithms and self-driving cars.

As 4IR starts to takes hold in banking, four main technologies will drive change – artificial intelligence (AI), robotics process automation (RPA), the Internet of Things (IoT) and blockchain. Each technology has its own disruptive potential. Combined, their effect will be to change not just the face or composition of the banking industry but its very role and utility.

As the deployment of these technologies goes mainstream, they will act as an accelerant to further innovation and disruption. Indeed, if we were to fast forward another 20 years we may not even be able to recognise the bank of the future, as smart machines, making inferences and predictions based on previously incalculable data sets, set course for previously unimaginable destinations: in one study 93 per cent of senior executives forecast that machine learning will enable organisations to identify currently unimagined diversification and partnership opportunities[29].

The level of investment expected to be made in each of the following technologies over the next 3 years:



[29]*The Future of Customer Analytics: the Path to Improved ROI, Sopra Steria/Marketforce, 2017*

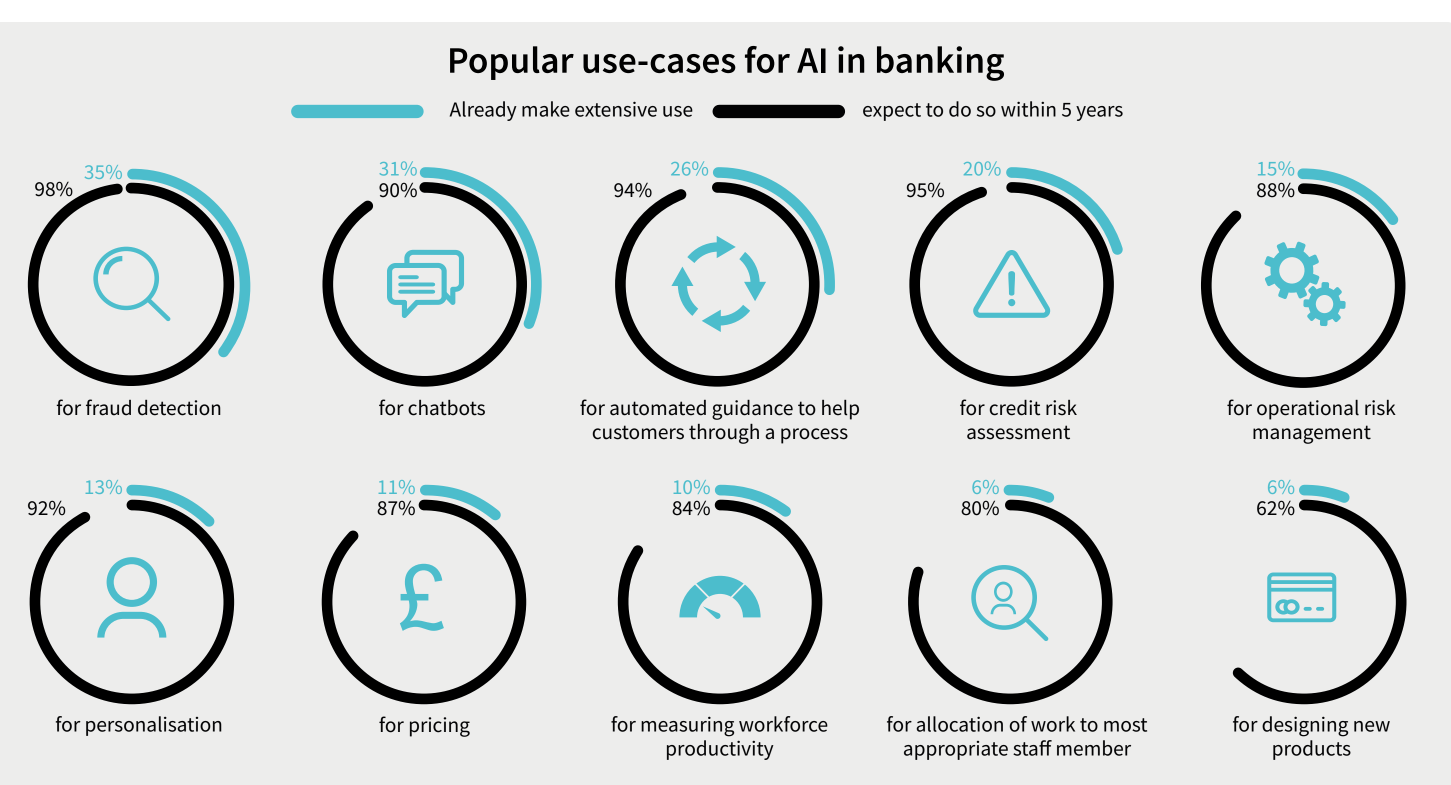
Artificial Intelligence: smarter, faster

Artificial Intelligence – computing systems that can engage in human-like thought processes such as learning, reasoning and self-correction - is no longer science fiction; it's 2017 reality. Customers today routinely interact with AI-powered agents, be they virtual assistants or chatbots that smooth our retail experiences, acting as a gateway to further acceptance of smart machines in the fabric of daily life. Behind the scenes, the algorithms are increasingly crunching through vast data sets – faster than any human could match – to generate unprecedented insights that drive better decision making, be it identifying attempted frauds faster, spotting a previously unknown credit risk or anticipating a customer's future requirements to iron out service wrinkles and improve cross-selling.

Frontrunners are already reporting impressive results. To cut down on loan-servicing mistakes, JP Morgan launched its COIN (contract intelligence) programme. This machine learning technology is used to review and interpret commercial loan agreements and is capable of cutting an estimated 360,000 hours of human work done by lawyers and financial loan officers. Meanwhile, RBS has adopted a cognitive chat bot, powered by IBM Watson Conversation, with the aim to help customers quickly and simply with their queries and problems[30].

Over half (51 per cent) of our respondents say their organisation will be making significant investment in AI-driven analytics in the next three years – more than in any of the other disruptive technologies.

For now, the main uses of AI-driven analytics are fraud detection (35 per cent), to guide customers through a process (26 per cent) and credit assessment (20 per cent). In just five years, however, the technology is expected to be mainstream, with the overwhelming majority using AI-driven analytics to help customers self-serve, improve pricing and personalisation, measure workforce productivity and allocate work. 62 per cent even expect to use AI to design new products within five years.



[30]*Case study cited by McKinsey https://www.mckinsey.com/industries/financial-services/our-insights/analytics-in-banking-time-to-realize-the-value*

As smart machines hit their stride, learning and self-correcting as they're exposed to more and more of the business, the compelling cost benefits and superior customer experience will open up clear blue water between the AI-haves and have-nots. Indeed, the race to capitalise on AI-powered learnings means many bankers believe this technology will become critical within a decade: one survey found seven out of ten bankers think machine learning will become the most powerful way to win the banking customer over the next five years and 86 per cent believe intelligent, self-improving algorithms will be the core of banking services by 2025[31].

Our survey shows AI-driven analytics as likely to be the most disruptive technology in banking in the next five years.

What technology will have the biggest impact in the next five years?	
AI-driven analytics	30%
Blockchain	30%
Internet of Things	24%
Robotic Process Automation	15%

What technology will have the biggest impact in the next ten years?	
Robotic Process Automation	37%
Internet of Things	28%
Blockchain	19%
AI-driven analytics	16%

The (software) robots are coming

Taking a longer-term view across a 10-year timeframe, our survey indicates Robotic Process Automation is the technology set to most fundamentally disrupt banking.

It is not new to make bleak assessments about the impact of automation on jobs. One study suggests about half of all the activities people are paid to do in the world's workforce could potentially be automated by adapting currently demonstrated technologies – that's equivalent to almost US$15 trillion in wages[32]. However, many believe automation won't displace humans from the workforce but free them from repetitive tasks to focus on higher value jobs that require human judgment and empathy.

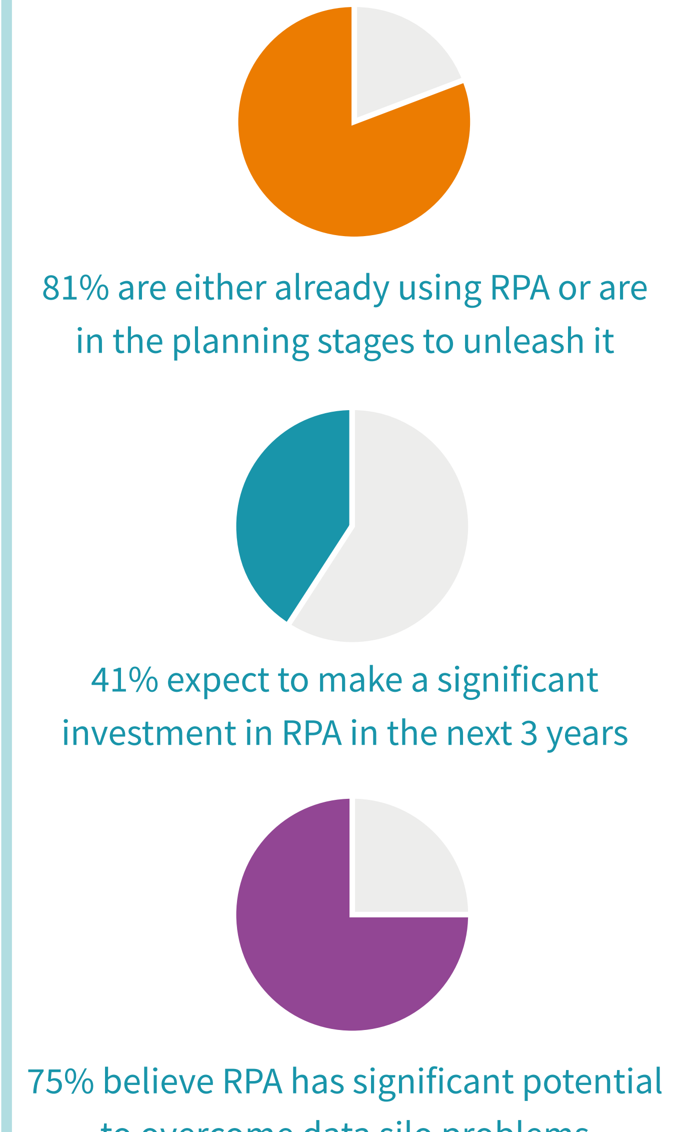
RPA will be at the forefront of this workplace revolution. RPA doesn't involve humanoid robots but rather computer software that organisations configure to capture and interpret the actions of existing business process applications, such as compliance checks or customer support. Once the "robot software" understands these, it can take over the running of them – and it does so more far more quickly, accurately and tirelessly than any human. Studies by the London School of Economics suggest RPA can deliver a potential return on investment of between 30 and 200 per cent - and that's just in the first year[33]. Savings on this scale will prove hard to resist: last year Deloitte found while only nine per cent of surveyed companies had implemented RPA, almost 74 per cent planned to investigate the technology in the next 12 months[34].

[31] *The Role of Analytics in the New Banking Age, Earnix/Marketforce, February 2017*
[31] *McKinsey Global Institute, January 2017*
[33] *Leslie Willcocks, professor of technology, work, and globalization at the London School of Economics' department of management. Source: McKinsey.com, December 2016*
[34] *The Robots are Here: meet your digital workforce, Deloitte, 2016*

Banks, with their intensive data-inputting and compliance requirements, are ripe for this kind of automation. Investment banking giant BNY Mellon has reported that RPA has delivered 100 per cent accuracy in account-closure validations across five systems and an 88 percent improvement in processing times, while its "funds transfer bots", by reducing the time employees spend processing payments and resolving data errors, are alone responsible for US$300,000 in annual savings.

Many industry observers predict RPA will trigger a fundamental shift in banks' operating models in by 2019. In fact, it is estimated that process automation will change up to 25% of work in banking[35].

Banks are investing accordingly: 81 per cent of those we surveyed are either already using RPA or are in the planning stages to unleash it. 41 per cent expect their organisation to make a significant investment in RPA in the next three years. And they expect the impact to be transformative across many areas of operation. Perhaps most significantly, 85 per cent agreed RPA will bring about a step change in lifting the data re-inputting burden caused by legacy systems. Accordingly, 75 per cent believe it has significant potential to overcome data silo problems.



Percentage who think RPA has significant potential across different functions	
Cutting operational costs	87%
Automatic transfer of data between incompatible systems, thus eliminating the need for repetitive manual inputting	85%
Decreasing response times to customers	83%
Lifting the administrative burden on customer experience agents	79%
Overcoming data silo problems	75%

[35] *IBM, 2016 https://www.ibm.com/blogs/insights-on-business/business-process-services/2016/10/11/banking-rpa/*

Indeed, the bottom-line benefits are expected to be so material that RPA will nullify the business case for business process outsourcing. With these tools 65 per cent less expensive than full-time employees, over half of our surveyed banks expect to significantly reduce BPO within the next three years, rising to 68 per cent in five years[36]. More than nine out of ten (92 per cent) expect that, as RPA drives down administrative costs, call centres will be increasingly located onshore.

And RPA isn't just a back-office workhorse, displacing humans from the workplace. In common with other reports, our findings predict RPA to augment rather than replace the human worker, with 82 per cent believing the technology will enable call centre staff to much better engage with customers.

Blockchain: experimenting with a potential game-changer

Blockchain is similarly set to be an operational game-changer, having been described as the most significant technological development for the financial services since the Internet[37]. A digitally-distributed ledger that allows users to record, process and verify transactions, blockchain is expected to streamline the back office, slashing transfer times to seconds rather than days and saving billions in settlement, regulatory and cross-border payment costs.

20% are already using blockchain in pilot projects; a further **41%** are at the planning stage

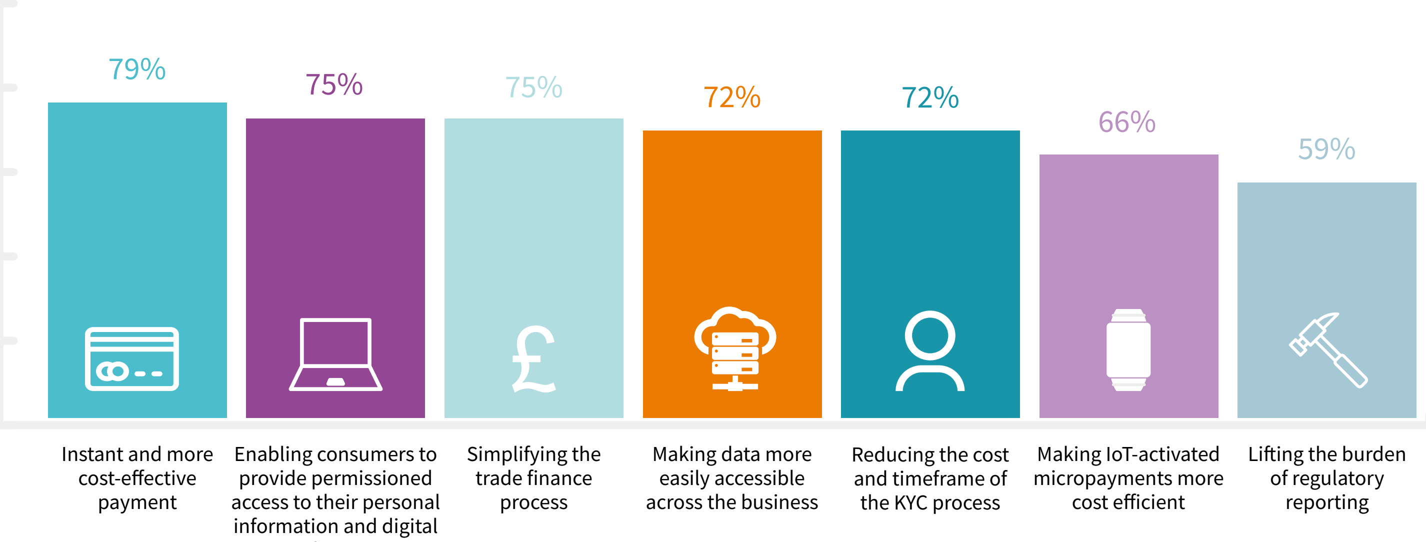
59% expect to make only moderate or minimal investment in blockchain over the next 3 years

Last year, over half our respondents admitted they didn't know anything about blockchain. Twelve months on and we find our 2017 cohort is engaging with this game-changing technology: one-in-five are already using blockchain in pilot projects and a further 41 per cent are at the planning stage.

Investment in blockchain is still cautious, however, with 59 per cent expecting only moderate or minimal levels of investment over the next three years, compared with just 22 per expecting their organisation to invest significantly.

[36] *Finance and Accounting Outsourcing Annual Report, Everest Group, 2014*
[37] *The Future of Retail Financial Services – A Global Study of Senior Insurance and Banking Executive by Cognizant, Marketforce and Pegasystems*

While our surveyed banks may be pacing their investment, there's clear consensus that blockchain technology could streamline and improve many aspects of their operations. A substantial majority of respondents think it offers significant potential for each of the following use cases:



In May 2017, Santander announced it had started a pilot programme among 6,000 staff to use blockchain to record international payments, and might start rolling out the service to customers in 2018. Its aim is to make the transfer of money faster, more accurate and more transparent. Santander estimates that the technology may eventually allow banks to settle an estimated annual US$26 trillion of international transactions almost instantaneously. That compares with settlement times of days under the current systems used by banks. Our research supports this, with 80 per cent of our respondents expecting blockchain to significantly increase the speed and efficiency of payments.

80% expect blockchain to significantly increase the speed and efficiency of payments

The potential of permissioned access to an immutable ledger

The fact that distributed ledgers are immutable and can be accessed on a permissioned basis means data can be transferred quickly and securely, answering many of the security and regulatory conundrums that shadow this brave new digital world. In May 2017, UAE retail banking giant Emirates NBD launched the pilot phase of an initiative titled 'Cheque Chain', which leverages blockchain's immutability to reduce cheque fraud. The initial phase will see unique QR (Quick Response) codes on every leaf of a cheque book, which will be used to register each cheque on to the bank's blockchain. This will allow the bank to validate a cheque's authenticity at all times, with access to its source even after the cheque is received and cleared. In this way, the bank will be able to establish the authenticity of a cheque and validate it without any manual intervention, saving time and reducing risk.

Meanwhile leading Dutch bank ABN AMRO has launched a pilot to explore how the blockchain application "Torch" can allow parties involved in a mortgage transaction to seamlessly record and exchange information. The bank is also developing proofs of concept around how the blockchain could remove uncertainties in the estimation of collateral values.

Over three quarters of our respondents believe distributed ledger technology has significant potential to enable consumers to provide permissioned access to their personal information, while 73 per cent see the technology as a way to make data more easily accessible across the business, unplugging bottlenecks in the new data economy to improve operational performance and deliver better customer experiences. And increasingly onerous regulatory requirements could also be lightened, with 59 per cent of our respondents backing blockchain to deliver a step change in regulatory reporting.

80% agree that blockchain-based smart contracts between importers and exporters could dispense with the need for trade finance altogether

59% believe smart contracts held on blockchain could make IoT-activated micropayments more cost efficient

It's when blockchain is combined with smart contracts that the technology delivers its most transformative results. By removing the need for a trusted third party, blockchain could revolutionise trade finance: four out of five of our respondents (80 per cent) agree that blockchain-based smart contracts between importers and exporters could dispense with the need for trade finance altogether. Already eight banks have become founding members of we.trade, a digital platform that utilises both distributed ledger technology and smart contracts for managing, tracking and protecting trade transactions between SMEs.

67% believe smart contracts held on blockchain could make IoT-activated micropayments more cost efficient

Another Dutch banking heavyweight, Rabobank, has partnered with Nexuslab, the Swiss blockchain startup programme powered by Startupbootcamp Fintech. Rabobank is looking at blockchain applications in four fields, one of which is micropayments via the Internet of Things (IoT). Some commentators predict that more transactions could eventually pass through connected devices, such as smart fridges, connected cars and wearables, than through smartphones. With Visa and Mastercard creating much of the underlying infrastructure, this market is beginning to take shape. In our survey last year, 81 per cent agreed that, as the number of transactions triggered automatically by smart devices continues to grow, the current approach to interchange fees will become unsustainable. Blockchain may well be the way ahead: two-thirds of our cohort believe smart contracts held on blockchain could make IoT-activated micropayments more cost efficient.

Internet of Things – a data bonanza?

Five years ago, organisations were scrambling to understand how IoT, with its network of smart devices and embedded sensors generating unimaginable volumes of data, might present opportunities. So rapid are today's innovation cycles, however, that today we find just one in five of our organisations expect to make significant investments in IoT technology over the next three years, with the hype now focused instead on AI and automation.

Increasingly, organisations understand that it is not the amount of data you capture that matters; it what you do with it. But this isn't the only reason that banks are pacing their investments: a number of issues, from security[38] to pricing points, privacy fears and a lack of standardisation, have meant that take-up of connected devices has been slower than expected[39].

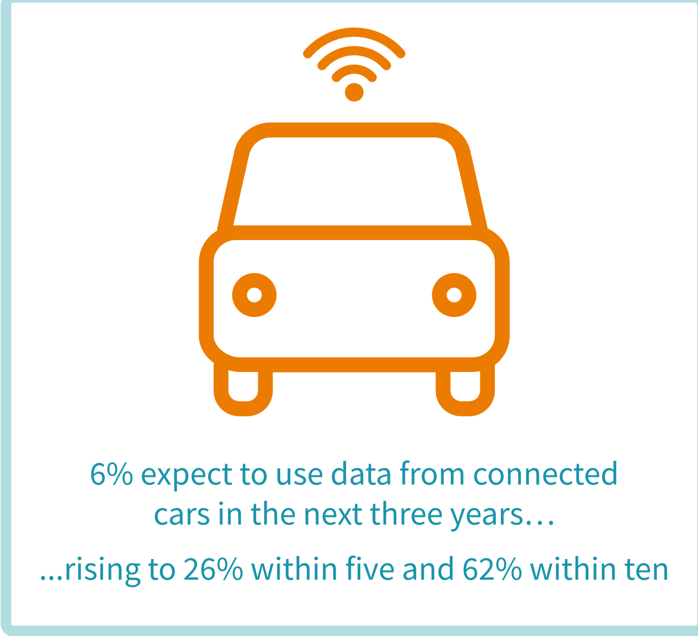
Even so, there's no doubt that a hyperconnected world could yield a data bonanza for banks, providing real-time insights not just into a customer's spending habits but where they go, how they behave and what matters most to them. This data can be used to generate a highly granular understanding of a customer to improve credit assessments, fraud detection and generate powerful new and personalised offers that add real value to daily life. Indeed, as banks hoover up more data about their customers on a minute-by-minute basis, there's the potential to step outside banking and offer services to help customers manage their lives, not just their finances, more effectively.

Among our respondents, it is wearables that are seen as the greatest potential data bonanza in the next decade. Wearables have a clear tap-and-go payments function, creating secure yet frictionless experiences for customers on the go: in 2015 MasterCard made the first biometrically authenticated wearable payment using a customer's heartbeat using the Nymi Band, a wearable wristband that can track the wearer's unique electrocardiogram to deliver continuous authentication experiences. But beyond payments, there are many more use cases for wearables. Smart Glasses, for example, can be used by bank tellers to automatically identify and tag objects in real time, providing frontline staff with additional checks to quickly identify fraudulent activity, such as the presentation of a fake cheque, while fitness trackers, such as Fitbits and Jawbones, are opening up a new realm of information for information-hungry lenders keen to explore the correlation between conscientious exercise habits and good financial discipline[40]. Wearables can also yield up the geolocation data that banks need to add value at point of payment, through real-time, personalised offers. This potential is not lost on our surveyed cohort: half expect to use data from wearable devices for personalisation, fraud detection or credit assessment within five years and 83 per cent within ten.

[38]*A survey across a variety of industries by James Brehm & Associates found 64 per cent saw security as a barrier to IoT growth.*
[39]*Internet of Things Business Index 2017, The Economist Intelligence Unit*
[40]*Big Data: Credit Where Credit's Due, Financial Times, 4 February 2015*

Data from smart homes will see slower take-up. Adoption of smart home kit has fallen short of expectations, with customers deterred by costs and privacy issues. However, the astonishing success of Amazon's compellingly priced Echo and Echo Dot speakers, which can act as a hub to connect smart home gadgets, could be the gateway to a smarter future. While many consumers just use Echo to play music, their growing familiarity with the convenience of voice-assisted technology could prompt further investment in gadgets and appliances that smooth out the petty inconveniences of life. This could generate huge reams of useful data for banks, be it anticipating a customer's future needs – a loan to replace a broken appliance – or identity checks for anti-fraud purposes. While just 13 per cent of our respondents expect their organisation to use data from smart homes in the next three years, this rises to 51 per cent within five years and 72 per cent within ten years.

Take-up of data from connected cars – those that have access to the Internet and a variety of sensors that allows them to send and receive signals, sense the physical environment and interact with other vehicles or entities – is expected to be slower still. There are currently about 100 million connected vehicles around the world, and their numbers are growing every year as auto-makers respond to regulatory rules for safer driver systems and customer demand for 24/7 seamless connectivity. And the growth forecasts are spectacular: PwC is predicting that this number will reach 470 million in 2025; Business Insider Intelligence believes it will be 293 million by that time, while the consulting firm Gartner estimates that there will be 250 million connected cars in just two years.



6% expect to use data from connected cars in the next three years…

...rising to 26% within five and 62% within ten

For now, this embedded connectivity is limited by drive-by-wire services and is used for on-the-go access to music, traffic alerts and navigation. Yet this is just the beginning: General Motors has combined its OnStar communication system with IBM's AI-platform Watson to create OnStar Go, which learns the driver's preferences and habits to make time in the car more productive and enjoyable, including by providing location-based restaurant recommendations, locating fuel stations, handling automated payments and placing and paying for coffee orders.

Despite the rapid development of the technology, our surveyed bankers expect their organisations to be slow to adopt the connected car as a new data source: just six per cent expect to use data from connected cars in the next three years, 26 per cent within five and 62 per cent within ten. Given the ubiquity of the car in daily life, and the potential of cars equipped with automated payment capabilities, this could leave banks blindsided to an important new source of data.

More than eight out of ten (81%) of our respondents report it's a struggle for their organisation to handle unstructured data

The issues for many banks is that, in moving to take advantage of new IoT data sources, they would be inviting massive unstructured data growth. Many are struggling to make use of their existing data sets, never mind the torrent of machine-to-machine data, much of it difficult-to-interpret, unstructured images and audio. More than eight out of ten (81 per cent) of our respondents report it's a struggle for their organisation to handle unstructured data while in another survey of banking executives, three-quarters (76 per cent) agreed that most banks lack the analytical capability to take full advantage of new data sources[41].

55% are already experimenting with machine learning to handle their unstructured data… a further 22% plan to do so in the next two years

The good news is that another new technology offers a shortcut to overcoming the unstructured data challenge: over half of our surveyed banks are already experimenting with machine learning to handle their unstructured data and a further 22 per cent plan to use it for this purpose within the next two years.

Towards a better life for all

Like the industrial revolutions that preceded it, 4IR will bring upheaval, dislocation and disruption. It will also deliver a giant leap forward in productivity and growth and power astonishing advances in, among others, health care, agriculture, transportation and clean energy. Banks should invest now to optimise their operations so they can make the most of new opportunities as they emerge and support their customers in a changing world. These changes will be profound and companies, lawmakers and society at large should now engage in meaningful debate about not only how to manage the potential risks of unchecked AI or mass automation but also how to leverage the power of these game-changing technologies to make life better for all.

[41] *The Role of Analytics in the New Banking Age, Earnix, February 2017*

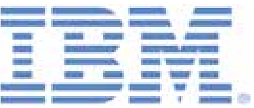
IBM Viewpoint

We often think of Industry 4.0 as relevant only to manufacturing and supply chain industries, but many of the transformation drivers of this trend also strongly resonate in IBM's work with global banks to help transform their cost base and position for a new digital future. We are working on many bank initiatives to reduce cost and increase efficiency through deployment of Robotic Process Automation (RPA), increasing the effectiveness of client communication with AI, our work in blockchain is world renowned, and IOT is beginning to have an increasingly larger impact in retail banking and insurance. But it is when these 4 forces align into single initiatives that the impact can be fully appreciated. A example of this is the industry-leading We.Trade initiative led by a consortium of 8 major European banks to revolutionise SME trade finance.

Many small- and medium-sized businesses (SMEs), for example, struggle to access affordable trade financing, which constrains their ability to engage in international trade. With 57 per cent of trade finance requests by SMEs rejected, this trade finance gap acts as a drag on growth and jobs. A solution is set to emerge early next year: IBM and a group of banks, including Deutsche Bank, HSBC, KBC, Natixis, Rabobank, Société Générale, Santander and UniCredit, are building a cross-border trade finance platform – known as We.Trade - using blockchain-based smart contracts based on the Hyperledger Fabric technology.

The project has involved end customers from the beginning, using their feedback to inform the concept development and improve solution design. The technology will track goods and automatically release payments as they move across Europe, with the blockchain technology facilitating complete transparency and trust to SME's and Banks, meaning that Banks are now in a more informed position to offer credit facilities. We.Trade has the potential to revolutionise trade finance, which remains a cumbersome process that leaves companies waiting weeks before they are paid for their goods. The system will use smart contracts — a way of encoding a process on to a blockchain system — to track all events from order to shipment to receipt and automatically transfer money as the goods transit across Europe and trade conditions are met. By reducing paperwork and bringing trust to SME Trade, the system could encourage more SME Trade across Europe with the certainty of receipt of goods for buyers and of payment for sellers. Uncertainty about the identity of unknown counterparties is removed – all clients on we.trade will be KYC-checked by their We.Trade bank and banks get the benefit of helping clients grow and prosper through increasing international trade, with the potential to access new revenue streams by offering additional trade services in the future.

And this is just the start of the journey. New technologies are creating previously unimaginable opportunities for consumers and businesses. Imagine how supply chains could be optimised and shipping risks reduced when embedded IoT sensors track and monitor goods every step of the way. Imagine deploying AI and machine learning to the outputs of those sensors, applying advanced algorithms that can identify previously unseen patterns and make accurate predictions about best next steps. Imagine how Social Scoring could increase the quality of goods and services. These technologies, working together, will reshape our world and further underline how Industry 4.0 will have an impact on the Banking Industry. We.trade launches next year. We're ready…are you?



The right technology is essential in keeping up with a rapidly changing financial services landscape. IBM is a global cloud platform and cognitive solutions company, at the forefront of technological innovation. Our capabilities in data, analytics, cloud, mobile, social and security have helped the UK evolve to become one of the world's most digitally advanced nations.

www-935.ibm.com/industries/uk-en/banking

Chapter 4:

Digital Experience

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Digital Experience

When you take on a Goliath, as David found, sometimes it's what you haven't got that counts. New entrants in banking may not have the market share, the capital nor the infrastructure of the incumbents – but this makes them agile, unencumbered by legacy systems and free to cherry pick their customer base. Like David, they can pick their weapon of choice and use it to deadly effect to slay a much bigger opponent. And when it comes to banking, that weapon is the digital experience.

It is here that new entrants have the advantage. Without cumbersome legacy systems, they can design a digital experience that truly puts the customers first – without having to work around product silos, unwieldy back-office processing or a "that's not how we do things" mindset. They have a blank sheet of paper, the freedom to innovate, experiment and obsess over what really matters to the customer – and the end result is refreshingly different.

Take Atom Bank, for example – the first challenger bank to be granted a UK licence and also the first bank in the UK to offer customers the possibility of completing the entire application and approval process for taking out mortgages from their smartphones. Atom allows customers to log into their accounts using face and voice biometrics, which is usually reserved for the development of video games. It's a trailblazing approach to customer experience management from a company that is not afraid to 'think outside the box.' In February 2017, Atom displaced First Direct as the UK's most recommended bank[42].

Onboarding: make it easy, make it fast

The genius of digital-only banks is their ability to spot the pain points in the customer experience and not only eliminate them but to turn them into truly joyful moments. Onboarding is one such pain point: one study found that 40 per cent of consumers abandon retail bank on-boarding process when applying for a new product or service, citing the length of time involved or the amount of personal information required[43].

Already battling entrenched customer inertia, digital-only challengers are highly incentivised to make sure would-be customers have no reasons to drop-off mid-application.

Tic:Toc – a mortgage in minutes

Buying a house is one of the biggest financial decisions most people ever make – and one of the most stressful. When it comes to leveraging the power of digital to transform an often painful and lengthy process, Australian FinTech Tic:Toc has it covered. Tic:Toc, backed by Bendigo and Adelaide Bank, is a complete online mortgage solution that uses a digital decisioning system to assess and approve online applications in real-time, offering eligible customers full home loan approval in just 22 minutes compared to 22 days, including mortgage document production and delivery upon approval.

And because the 100 per cent digital solution saves costs, it can offer customers competitive interest rates and no application, settlement or valuation fees. It seems it's a solution customers have been waiting for: in its first month, over 25,613 people visited the Tic:Toc website and 11,730 began applications on the platform.

[42]BDRC Continental's survey of 15,000 consumers
[43]The Battle to On-Board, Signicat, 2016

Their apps are not just highly engaging, intuitive and, in the case of Monzo, fluent in emoji, but they also put a premium on the customer's time. Mobile-first digital brands Monzo, Atom Bank and Starling Bank can onboard customers in a matter of minutes while Safety Net Credit can carry out not only onboarding and but also credit assessment so quickly as to have the monies in the customer's account within 15 minutes.

This acceleration in onboarding has left incumbents scrambling to catch up. Although one in three of our respondents say their organisation can onboard a new customer for a new account in less than ten minutes, 19 per cent take over 24 hours.

Perhaps more alarmingly, over a third of our respondents (39 per cent) cannot onboard entirely on digital channels, causing friction and frustration for new customers – although 85 per cent of those that can't intend to be able to do so within the next 12 months. This is essential investment: one study of banking customers found 55 per cent would be more likely to apply for a financial product if the process was 100 per cent online[44]. And of course, onboarding doesn't finish when the customer has got confirmation. Banks must follow through and make sure all Know Your Customer (KYC) and Anti Money Laundering (AML) checks have been completed and the account is fully activated: that's what successful onboarding looks like to the customer.

KYC and AML pain points – the potential of facial recognition and biometrics

Banks will point to the KYC and AML requirements as major obstacles to frictionless onboarding, especially in those countries that require customers to present identity papers in person or via post. The inconvenience of this creates opportunities for customers to pull the plug on potential purchases: one survey of UK consumers found over half would buy additional services if paper-based identity was not needed[45]. Yet, even to this problem, technology now offers a solution.

Challengers have been able to deliver the security and comply with KYC and AML requirements by making full use of smartphone capabilities, particularly facial recognition via the camera, to match customers to their presented identity papers. Monzo, for example, uses a photograph of the customer's passport or driving licence and matches it to a video selfie.

[44]The Battle to On-Board, Signicat, 2016
[45]Signicat, 2016

Identity goes digital

A further innovation is a move towards freeing proof of identity from the ties of offline sources like driving licences and passports – the real game-changer for verification would be establishing standardised, online identities. An example of this in fledgling form can be seen in the Gov.UK Verify initiative, which has already formed a partnership with a number of banks, services and startups. Other startups such as OneName and ShoCard are creating centralised services that allow companies to outsource verification activity using blockchain technology.

75% expect the majority of the adult population in their country to have a digital identity upon which banks can rely for the purposes of KYC within five years

A number of countries have national electronic identification initiatives well underway. In Sweden, for example, BankID, developed by a group of leading banks, is an electronic identity document, comparable to passports, drivers' licences and other physical identity documents, that allows companies, banks, organisations and government agencies to authenticate and conclude agreements with individuals over the Internet. It now has 7.5 million active users, who use it for online and mobile banking, e-commerce, tax declaration and signing legally-binding contracts.

Such initiatives are expected to gain traction: three quarters of our cohort (75 per cent) expect the majority of the adult population in their country to have a digital identity upon which banks can rely for the purposes of KYC within 5 years. This, combined with open APIs that accelerate credit assessments by enabling customers to give lenders read-only access to their online banking, will enable swifter onboarding across the industry.

A seamless experience across channels?

Where paper documents are required, the customer's onboarding inevitably becomes an omnichannel process, with a visit to the branch often required. And, even where onboarding is entirely online, customers may hop between channels to get the job done and they expect their bank to keep up: one study found 46 per cent of people use multiple screens sequentially when managing their finances online, moving between smartphone, PC and tablet[46]. Indeed, six out of ten UK consumers believe it's important to be able to switch easily between different ways of interacting with a bank[47].

Banks need to ensure a frictionless hand-off between channels to ensure a seamless experience but too often this doesn't happen: last year we found that customers at 85 per cent of our surveyed banks could not always start an interaction on one channel and complete it on another without having to restart the process while seven out of ten said that having to re-input data when moving between between channels was a significant cause of customer dissatisfaction.

[46]Google, 2012
[47]EY

This omni-channel deficit was a cause for concern last year, respondents recognising they would need to invest in channel integration to remain competitive over a five-year time frame, and it is still a cause for concern this year. In 2016, two-thirds of our respondents expected to spend at least a fifth of their 2017 IT budget on achieving omnichannel integration but this spend has not delivered a surge in omnichannel readiness: the proportion of respondents that claim to be fully integrated stands at just ten per cent. This compares with five per cent of banks having made that claim in survey research conducted by Marketforce in 2016.

However, our respondents remain hopeful that full omnichannel integration is within touching distance: we find 17 per cent are optimistic that their organisation will achieve it in the next year. Only time will tell if this optimism is justified.

The digital-banking interface – make it personal

Today's digital consumers not only demand ease and speed; they also crave personalisation. From Amazon's shopping recommendations to Netflix's curated play lists, customers increasingly expect the world to reflect their tastes and preferences. They expect the brands they do business with to personalise their offerings and are willing to pay to satisfy their craving for personalised experiences: one in five say they would be prepared to pay a 20 per cent premium for personalised products or services and 22 per cent would be happy to share some data in return for a more personalised customer service or product[48].

Only 20% automatically adapt their online banking interface on the basis of individual customer habits

Again we see new entrants leading the way. Atom Bank customers, for example, can choose their own brand logo and colour palette, and can even customise the bank's name – perhaps making it Janet's Bank, or John's Bank. This is more than just window-dressing: it's a way of visually underscoring that every customer is unique.

However, the real gains come when the interface demonstrates true understanding of the customer, learning with every interaction how and when they like to use the app in order to push relevant content and guidance at the right time to make the experience as intuitive and relevant as possible. Worryingly, only 20 per cent of our respondents said their organisation's online banking interface adapts automatically on the basis of individual customer habits. This leaves too many banks offering an off-the-shelf experience when the competition is already bespoke.

[48]*Made to Order: The rise of mass personalisation*, Deloitte, 2015

Online advertising – less is more, unless it's personal

A failure to personalise is nowhere more obvious, nor more irritating, than when it comes to online advertising.

Online advertising is the trade-off we all – grudgingly - accept for free content on the Internet. Yet there's an increasing backlash against online ads, which not only interrupt the digital journey but are seen as increasingly sinister, not only stalking customers across the Internet but also implicated in fraud, malware attacks and even attempts to influence the US election.

Customers are increasingly taking matters into their own hands, abandoning sites that take too long to load because of heavy ad content or deploying ad-blocking technology to shut out disruptive or annoying ads. Tolerance levels are higher for personalised ads, however: studies show three-quarters of consumers would prefer to see fewer but more personalised ads[49]. Even so, there's a balance to be struck: one in five consumers say they find personalised advertising 'creepy or intrusive'[50].

Given this, banks that use their digital interface to cross-sell products need to tread with caution. The right ad, at the right time and place, can be a powerful marketing tool: if a customer suddenly starts spending on baby clothes and nursery furniture then an advert suggesting a child savings account or a loan for a bigger car could be a welcome prompt. Studies show that customers respond better to offers that are personalised, timely and relevant, in some cases generating ten times the response rate of traditional cross-sell offers made by the same bank. But pushing a product that's irrelevant only underscores how little they truly know their customer.

And timing matters: customers use online banking for speed and convenience – a quick balance check, sending a payment to a friend – and anything that detracts from that, such as having to shut down a pop-up ad for home insurance, should be jettisoned. Our respondents back this: 85 per cent agree that pushing adverts at customers before they can access their account online is counter-productive unless the adverts are highly personalised.

Some of our surveyed banks are clearly only too alive to this hazard, choosing not to advertise on their digital banking interface (22 per cent). Among the remainder that do, 43 percent tailor advertisements to the individual customer but only a fifth (21 per cent) use a wide variety of both internal and external data sources to do so. Yet, when advanced analytics are applied to big data sets, they can uncover previously unsuspected patterns, as well as considerably reducing the risk of erroneous conclusions. When Dutch health insurer Agis, for example, deployed real-time website personalisation to improve the relevance of content for each visitor, it achieved a 24 per cent uplift in conversion.

As banks square up to an array of digitally-savvy competitors, they will live or die by the quality of their digital experience. Seamless, highly personal and designed around the customer's habits and preferences, the bank of the future will value the customer's time as much as their finances: onboarding in minutes, eliminating potential pain points or irrelevant adverts from the user experience and making every moment count. Banks will need to invest in the digital experience or find themselves at risk of being overtaken in the race to winning the customer.

85% agree that pushing adverts at customers before they can access their account online is counter-productive unless the adverts are highly personalised

Only **21%** use a wide variety of online data sources to tailor in-app ads to the individual customer

[49]Adlucent, 2016
[50]Adobe Digital Insights 2016

Appway Viewpoint

First impressions count. And, in the era of open banking, first interactions matter more than ever before. Customer expectations have been shaped by the frictionless, intuitive experiences offered by the digital giants like Amazon; convenience with the swipe of a smartphone, individual product recommendations, compelling pricing, and one-click ordering set the standard for modern online experiences. All of this, in your pocket, 24/7.

Of course, opening an account, taking out a loan, and investing for the future is more complicated than buying a book. Customers have questions that they want answered immediately through an app or in the branch. There are also significant regulatory and security steps that must be completed.

Despite these challenges, digital solutions can deliver an Amazon-like shopping experience for banking customers by reducing client onboarding from multiple days to a matter of minutes. This can only be achieved with software that takes customers by the hand and guides them toward the products that best match their individual needs and expectations. This is achieved by asking questions that are relevant at the right time. Customers avoid question overload, and banks benefit from gathering data incrementally. With each interaction, advanced analytics allow banks to better understand individuals and anticipate their needs, and then guide them to the products and services that add immediate value to their lives.

Such experiences need to be personal, secure, and frictionless across all channels. When done right, onboarding happens discreetly in the background, so customers can focus on what they really want: the products and services that fulfill their financial needs and make their lives better.

Appway®

Appway builds software for today, and innovates for the technology of the future. With over ten years of industry experience, Appway guides the leading financial institutions, both big and small, as they build sustainable and scalable solutions that quickly adapt to changing conditions. Headquartered in Switzerland with offices around the globe, Appway's award-winning software suite serves over 420,000 users worldwide. More than 225 institutions rely on Appway to improve internal efficiencies, engage customers across all channels, and keep ahead of regulations.

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Chapter 5:

Channel Innovation

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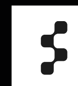


SAPIENT CONSULTING™

Channel Innovation

It is not so very long ago there was only one way to bank: in person, in branch. By the 1990s, people were signing up for the convenience and speed of telephone banking and there were new ways to access money, from ATMs to cashback services at supermarkets. Then came digital: 1997 saw Nationwide open the first online banking service and a decade later, the iPhone launched and banking went mobile. The first mobile banking apps were launched in 2010 and their adoption exceeded all forecasts: banking apps are today used by almost four in ten of the UK adult population, who clocked up 159 customer logins every second in 2016, accounting for 61 per cent of channel interactions to access current account services[51].

Other digital channels include text alerts to help customers manage their finances: 14 such texts were sent every second in 2016, up 18 per cent on the year before. Web and video chat services are also on the rise: in 2016 there were 130,000 customer contacts using video chat, up 92 per cent, and 4.4 million customer contacts were made using web chat – that's 510 every hour – up 24 per cent from 2015.

77% think that by 2027 the branch will no longer be integral to competitive advantage

Over the decades, channels have risen and fallen in popularity – but none have disappeared. Branch visits may be down 32 per cent since 2011 and closures continue, but banks are re-investing in key locations, investing in video-chat services, self-serve kiosks and meeting areas with an emphasis on the personal touch, while mobile branches drive out to reach underserved communities in rural areas. Barclays Bank has gone further: it installs "Eagle Labs" in under-used areas of branches or behind main banking halls where members of the community can improve their digital skills or budding entrepreneurs can use 3D printers and laser-cutters to make their own prototypes. It's branch banking re-invented. But while branches will remain a part of the mix for incumbent banks - which must serve all customers, from the digital-natives of Generation Z to the pre-WWII Silent Generation – their relevance will decline: 77 per cent of our surveyed bankers think that by 2027 the branch will no longer be integral to their organisation's competitive advantage.

Multi-channel: a winning strategy

While some challenger banks have hitched their fortunes to mobile, with the likes of Monzo and Starling Bank offering just one channel for the connected customer, most banks are determined to offer customers a full range of channels.

Customers, it seems, like a choice. They want to check their balance on a mobile app, pay their bills online and speak to an adviser about a loan – and they want all of this available 24/7 and all at the same time. One study found 63 per cent of UK consumers believe it's important to be able to switch easily between different ways of interacting with a bank[52] – and that means no clumsy hand offs between webchat and contact centre, no need to repeat the same information or be stuck in a queue in a branch.

[51] *An app-etite for banking, BBA report, 2017*
[52] *EY*

And while digital can help customers self-serve, offering the convenience and speed they crave, it seems the human touch is still essential: one global study found that while 88 per cent of consumers would go online first to research a new product or service, nearly 60 per cent would then want to visit a branch or call a real person to complete the purchase or get advice, with 55 per cent saying it's important to speak to a person at their bank and 44 per cent saying they would not trust a bank without branches[53]. Other research shows that, when customers rank banks for a great experience, it is both the quality of the channel experience and the mix of channels that matters[54].

71% believe offering multiple channels rather than focusing on just one will prove to be a more successful strategy in five years' time

Customers like to take advantage of increased channel choice to be in frequent contact with their bank. Data shows that customer interactions with their bank are on the rise, up from 2.3 times per month in 2011 to 3.5 times in 2016 and forecast to hit 6.3 times a month by 2021[55]. More channel choice seems to lead to more interactions – and this is good news for banks seeking opportunities to impress and engage customers. Our cohort of banks remain committed to a multi-channel customer experience, with more than seven out of ten believing this will prove to be a more successful strategy than focusing on just one channel in five years' time.

Hey Alexa, pay my gas bill

Banks may have mastered the art of the app – but new channels are emerging that banks can't afford to ignore. Perhaps most significant is the smart speaker with built-in smart assistant functionality, such as Amazon's Echo or Google's Home, which have proven a hit with consumers. In 2017, 60.5 million U.S. users will use one of these assistants at least once per month - that's over a quarter (27.5 per cent) of smartphone users, or nearly one in five Americans[56]. It's the Amazon family of speakers that dominates this space, accounting for 75 per cent of the US market, with more than 15 million devices sold[57].

38% expect to be in a position to offer smart speakers as a channel within three years

While for now most consumers use their smart speakers to listen to music or set an alarm, the tech giants are betting that this will increase consumer comfort with voice-activated intuitive control of their environment and act as a gateway to shopping, banking or control of smart home kit.

[53]*The Relevance Challenge, Report by EY, 2016*
[54]*Research by Bain & Co in 2015 found that among US banks, 70% of the difference in channel experience scores between the average bank and the top performer was down to the quality of the experience, and the mix of channels accounted for the other 30%.*
[55]*CACI figures for the BBA, 2017*
[56]*Emarketer, April 2017*
[57]*Figures from Consumer Intelligence Research Partners http://fortune.com/2017/09/18/amazon-sells-15m-echos/*

79% expect that within five years more banking transactions will be initiated via voice-controlled, intelligent personal assistants than by typing instructions into a mobile app or online banking website

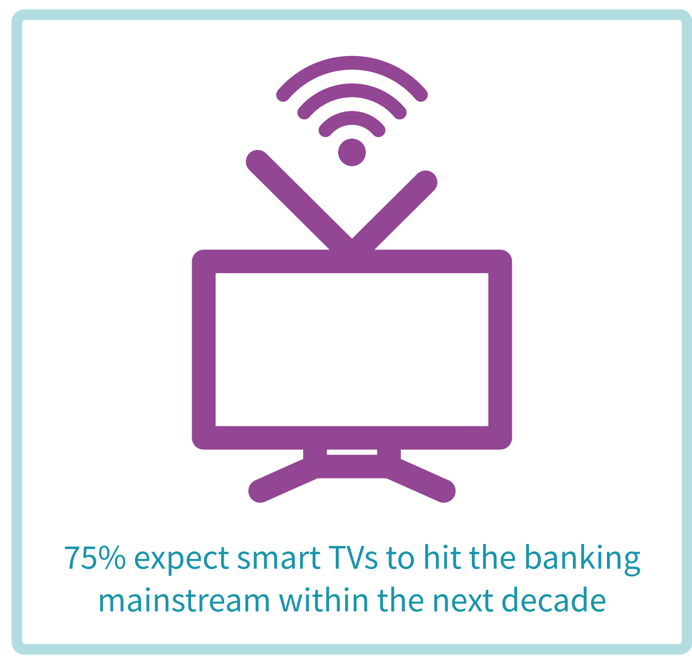
Our respondents agree with the tech giants: seven out of ten expect smart speakers to become mainstream for the delivery of banking services within five years, and they are putting money on it, with almost four out of ten (38 per cent) expecting to be in a position to offer this channel within three years.

The convenience of this channel is expected to prove compelling: almost four out of five (79 per cent) of our respondents expect that within just five years more banking transactions will be initiated via voice-controlled, intelligent personal assistants than by typing instructions into a mobile app or online banking website.

Armchair banking

Smart TVs, which can connect to the Internet to access a range of services such as video streaming, games and apps, are also gaining ground, driven by consumer appetite for streaming services like Netflix and Amazon Prime. Studies show 38 per cent of households in the UK now own a smart TV, and that one-in-five adults had used them to connect to the Internet in 2016[58].

Five years ago, a number of banks were trialling Smart TVs as a banking channel, with the likes of Russian Standard Bank and Spain's BBVA developing apps for Samsung's Smart TVs. Since then, the advice from security experts is for customers not to use smart TVs for banking, shopping or even internet searches until the security is more robust. While this has stalled progress, the device remains on the banking industry's radar: when Westpac of New Zealand was developing its multi-channel digital banking programme, Westpac One, it included smart TVs among the channels across which customers would be able to enjoy a consistent and seamless experience.



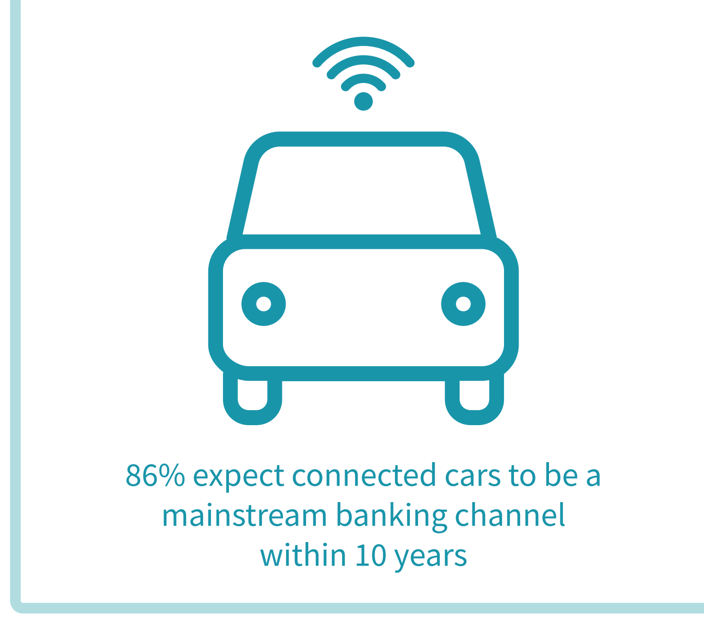
75% expect smart TVs to hit the banking mainstream within the next decade

[58]*Sources: Statista.com; ONS 2016*

As security concerns are addressed, banks see these devices, the nexus of the household, as a potentially key channel for managing financial services: three-quarters of our respondents expect smart TVs to hit the banking mainstream within the next decade – and 58 per cent foresee this happening within the next 5 years – while 15 per cent expect their organisation to offer smart TVs as a channel within two years, rising to 27 per cent within three.

Drive-by banking

There is stronger backing still for connected cars to become a banking channel. Commentators predict that what we know as automobile connectivity today will seem like child's play in a couple of decades. Currently, this connectivity consists of little more than basic services related to road safety. But in a few years, cars will truly be autonomous with the kind of hyper-connectivity we already enjoy in our smartphones: from consuming and sharing digital and audiovisual content to making contactless payments. Certainly purchases that are closely related to car travel – from petrol to tolls to parking – are expected to be automatically triggered as the car connects to other connected devices. A number of pioneering companies are taking advantage of this new way of doing business. In the UK, Jaguar drivers can get fuel without leaving the car, thanks to Apple Pay and PayPal, while Visa and Honda are experimenting with a connected car that allows for in-car payments for both fuel and parking.



86% expect connected cars to be a mainstream banking channel within 10 years

Eighty-six per cent of our respondents expect connected cars to hit the mainstream as a banking channel within 10 years and more than half (55 per cent) believe this will happen in five years. And investment is coming to match these ambitions: almost a quarter (23 per cent) plan to offer banking services via connected cars within two years, rising to 48 per cent within five years.

I think, therefore I bank

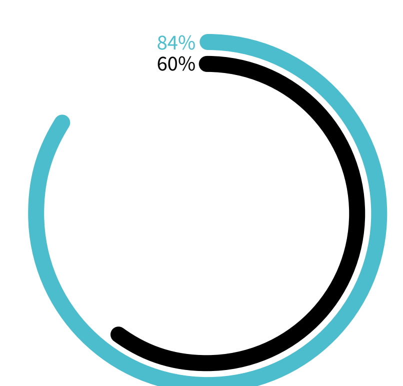
As the fabric of daily life – from wearable devices to TVs and cars – becomes smart, consumers will increasingly have the world at their fingertips when it comes to connecting with their bank. And not just at their fingertips: as we have seen, this world will be increasingly touchless, as smart gadgets interpret voice and gesture to follow our commands, using biometrics for seamless security checks. By 2020, Gartner predicts that zero-touch user interfaces will be available on 2 billion devices and IoT endpoints[59]. And why stop there? More than a quarter, 26 per cent, of our respondents expect that by 2027 we will see banking transactions triggered by thought alone.

Open banking: managing the devolved customer relationship

The open banking agenda will see banks cede control of the customer relationship. Almost nine out of ten (89 per cent) of respondents to a 2016 survey expected the majority of their Millennial customers to be using new services that give them integrated access to all their accounts across multiple banking providers within three years of PSD2's implementation[60].

This doesn't leave banks much time to prepare for a massive shift in how customers interface with their finances. Customer experience is vital to retain market share – yet in the era of open banking that experience could be jeopardised by the actions of a third party. Little wonder 84 per cent of our respondents believe management of third-party relationships via open APIs will become a critical aspect of channel strategy in a post-PSD2 world.

Yet our findings show this critical issue isn't getting the attention it warrants. Worryingly, just nine per cent of our respondents have a well-developed strategy while three out of five have not even started developing a proactive strategy to manage customer experience once their bank's services are accessed via third parties using open APIs. With months to go until PSD2 hits, this issue should become a matter of urgency – or banks will put at risk hard-earned gains in customer experience and trust.



84% believe management of third-party relationships via open APIs will become a critical aspect of channel strategy in a post-PSD2 world…

…but 60% have not even started to develop a proactive strategy to manage customer experience once their bank's services are accessed via third parties using open APIs

[59] *Gartner Inc, December 2016*

[60] *The Role of Analytics in the New Banking Age, a 2017 report by Earnix and Marketforce in association with the London Institute of Banking and Finance*

Sapient Consulting Viewpoint

The ways that customers interact with their banks has undergone a massive shift in a few short years: branch visits and telephone banking are in terminal decline as customers embrace the convenience of digital access. Yet even the web channel is considered as legacy now, as mobile apps increasingly dominate the customer interaction points.

Further change is coming. Intelligent, voice-activated solutions are expected to rapidly become mainstream as customers look to enjoy friction-free, personalised and intuitive experiences based on a collective eco-system of smart devices and data-driven insights.

Some pioneering banks are using PSD2 and open banking as a catalyst for huge innovation and internal transformation to build the bank of the future. These front runners have begun changing the bank to become customer-centric via a customer-first principle, versus the traditional bank-first principle. This means breaking down organisational silos to deliver customer journeys based on the needs of the customer and changing all internal processes and tools to ensure the journey is delivered as quickly as possible.

Along with internal transformation, some banks have also setup innovation (or disruption) labs based on modern engineering practices and tools that allow for fast-paced development and rollout of customer experiences that embed traditional products and services. An example would be the home buying journey where, rather than selling a mortgage, the bank engages with its customers to 'buy a home' which includes finding a home with a third party, pre-approving a mortgage product as well as home protection insurance and all the other services of moving and setting up a new home. This is made possible by the bank partnering with third parties (estate agents, removal companies, utility/telephone companies etc.) and facilitating this process via automatic APIs (application programming interfaces) so that the customer journey is seamless and personalised for each customer.

These frontrunners face the same legacy infrastructure challenges as other banks but are set apart by their ambition: they have the calibre of leadership and vision to find solutions and make them work that would not be out of place in a leading technology firm. Rather than boards dominated by accountants, risk managers and lawyers, the bank of the future will draw on the talents of technologists, futurists, behavioural scientists and ethnographers. The difference between the winners and losers over the next ten years won't just be a technology-deficit; it will be a deficit of imagination, a failure to grasp that banking is not about products and channels anymore, but about being a trusted partner to the customer – not just at point of sale, but at every step of life's journey.

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Chapter 6:

The Future Customer Relationship

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The Future Customer Relationship

The customer relationship is up for grabs. Regulators are determined to give customers a better deal by forcing competition and innovation on an industry that for decades has been able to coast, relying on customer inertia and high barriers to entry to sustain market share. As this comes to an end with PSD2 and open banking initiatives, regulators will prise open the big retail banks' grip and give new entrants the tools to woo disaffected customers.

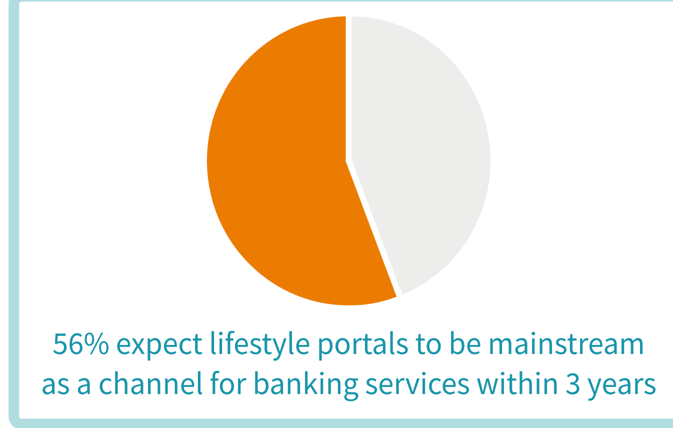
Yet even before PSD2 and the Open Banking agenda hit, customers have been quietly reshaping how they interact with their financial services providers. Limited uptake of the Current Account Switching Service shouldn't be mistaken for loyalty to existing banking providers: not only are more than half already using products or services from FinTech firms but only 16 per cent of customers say they are likely to purchase another product from their bank[61] .

Interactions with Fintech are giving customers a taste for new ways of managing their finances: they are being encouraged to think about transparency, fairness and easier budgeting as integral to the banking experience – be it "safe to spend" alerts, AI-powered analysis of spending habits or real-time account data so customers don't drift into overdraft or accrue charges. This is a new type of relationship – and it's revolutionising how consumers think about banking. Untainted by past mis-selling scandals, new entrants have been careful to position themselves as trusted partners offering simply-priced products and smart tools that put customers in control. This is in sharp contrast to traditional banks that not only penalise customers for their mistakes but profit from them: after all, analysis shows overdraft fees account for roughly a third of bank revenues per current account[62].

Customers now know there's a better way to manage their money and, even before regulation intervened, they were using the digital revolution to take back control. This trend will only accelerate once PSD2 and open banking initiatives bite.

Reinventing the bank: time to step up

Customer empowerment will take another leap forward as services emerge that allow them to manage their growing portfolio of financial service providers in a single portal. This will give customers increased control, better visibility of costs and benefits, and facilitate easy switching to get the best deal. And why stop at banking? Imagine the convenience of being able to access all your personal affairs, from utility bills to health records, from retail loyalty cards to travel cards, in a single portal?



56% expect lifestyle portals to be mainstream as a channel for banking services within 3 years

[61]*World Retail Banking Report 2016, Capgemini/Efma*
[62]*How to flourish in an uncertain future, Deloitte, 2017*

Our respondents expect the impact of these developments to be felt quickly in banking. Over half (56 per cent) expect online lifestyle portals through which consumers are able to manage every aspect of their lives to become mainstream for the delivery of banking services within three years and 86 per cent expect this to happen within five years.

These lifestyle portals will reinvent banking as we know it. Rather than accepting disintermediation and a slide towards obsolescence in a post-PSD2 world, banks should welcome this opportunity to get closer to every aspect of their customers' lives. Instead of being pulled in at the point of transaction and stepping back the moment the banking part of a transaction completes, banks should step forward with additional services and support that add real value to the customer.

When a customer moves house, for example, they don't just need a mortgage: they need legal services, movers, cleaning services, utility connections, insurance, change-of-address alerts… and more. Bundling these services into one user-friendly experience may sound like a radical step: many will fear a dilution of core banking services that risks the bank's reputation. Yet we no longer live in a world where banking services require decades of know-how and customer data: technology has reduced what were once core-banking functions to mere utility services the front-end of which can be delivered by any start-up with an open API and a cognitive-computing platform.

Besides, it's clear that such industry-centric concerns don't trouble the digital trailblazers. Amazon, for example, didn't stop at flogging books but went on to confound rivals with highly successful moves into cloud services, logistics, media and entertainment, consumer electronics and even bricks-and-mortar retailing and lending. Alibaba is not just a vast e-commerce company but also offerings asset management, lending and payments, along with B2B and ride-hailing services. By blurring traditional industry boundaries, digital innovators can insert themselves into multiple customer journeys, making them privy to vast amounts of behavioural and financial data, which they are remarkably adept at converting into compelling customer propositions.

Social media giants in Asia are already showing just how potent this threat is. Chinese technology giant Tencent has developed its WeChat platform, which boasts 800 million daily users, most in China, to act as a single retail, lifestyle and banking ecosystem. WeChat enables users to send messages, make payments, invest, order taxis, buy bus tickets and more, from a single integrated platform that handles roughly 1m transactions per minute. It has already entered Europe, offering its e-commerce platform for European companies to sell goods in China and WeChatPay, which targets Chinese tourists in the region. This is digital on steroids – and it's the future.

83% agree that banks have an opportunity to help customers manage their lives, not just their finances, better

It's time for banks to realise that the future is not about banking; it's about the customer relationship, and that means being there for the customer every step of the way. The good news is our research shows the industry is alive to this fundamental shift in priorities: 83 per cent of our respondents agree that banks now have an opportunity to help customers manage their lives, not just their finances, better.

Your bank, your money, your life

What might a lifestyle portal look like? In addition to an intuitive user-friendly experience, the lifestyle portal will be highly personalised with a focus on adding value to daily life with five key themes:

One-stop money management:

The aggregation of data from multiple accounts, credit cards and loans will allow banks to create a dashboard so customers have improved visibility of their finances. By partnering with providers of next-generation personal financial management (PFM) tools, banks can help customers take control and make better decisions about their financial wellbeing. These tools have already been developed by FinTech, and forward-thinking banks are already acting as distributors: in Sweden, for example, Nordea, Klarna, Nordnet and SEB have partnered with popular PFM provider Tink to integrate Tink's technology into their mobile banking apps, connecting all of a customer's bank accounts and credit cards in one place and offering money management tools.

Personalised insights that make a difference:

With access to vast reams of customer data, banks will be well placed to deliver proprietary, personalised insights and advice to help customers optimise their finances – whether it's reducing the cost of credit or getting better returns on their savings – and meet their personal goals in life, from buying a house to saving for retirement. Following in the steps of such services already offered by Simple Bank, Monzo and Starling bank, HSBC began testing a platform in October 2017 that lets its customers see all of their accounts, including loans, mortgages and savings, no matter who the provider, on one screen. The bank plans soon to beta test a number of features: showing customers how much disposable money they have before their next payday; categorising and providing insights into spending; offering tips on better money management; and rounding up spending amounts to send the extra to a savings account.

Getting the best deal, every day:

Access to a customer's personal data, including spending habits, personal preferences and energy usage, will enable portal providers to use advanced algorithms and machine learning to constantly check that customers are getting the best value across their commercial relationships, including their energy tariff, insurance policy or even retail loyalty scheme. One survey suggests such services could be mainstream within five years[63]. Monzo can already direct customers to the best ISA and put your money there for you. Soon it plans to use smart software to help customers identify the best gas and electricity supplier and auto-switch them to the best deal, and in the future could auto-submit expenses to your employer or allow customers to pick personalised mortgage deals based on the transactional data it holds.

Friction-free experiences:

By focusing on the customer's needs, rather than selling them a product, banks have the opportunity to reinvent many of life's big moments – buying a house, starting university or finalising a divorce. Rather than such moments being blighted by stress and inconvenience, there's an opportunity to pull together partners from other industries to create smart solutions and friction-free experiences that add real value to life, when it really counts.

[63] *In 2020 Customer Insight: Navigating the New Data Ecosystem – A Report by Market and TCS, May 2016, three-quarters of respondents said they expect intermediary services that automatically select the best products and services based on an individual's personal data to be mainstream within 5 years*

Driving convenience and contentment:

The use of banking and non-banking data, including real-time location data, creates opportunities to deliver meaningful insights into customer behaviour and anticipate their needs, be it finding an electric car charging point, recommending restaurants based on your budget and personal tastes or highlighting job openings that match your skills and salary expectations.

Banks that become trend-setters in the development of value-added services, rather than following the herd, will enjoy first-mover advantage, securing access to ever more data and tying up the best-in-class partner companies, enabling them to move further ahead of the pack. By the time the laggards wake up to the possibilities of the lifestyle portal, these frontrunners will already be embedded in the fabric of their customers' daily lives.

Customer demand

Such wide-ranging lifestyle services may not yet exist – but already it seems there's latent demand for them as customers wake up to the potential of mobile apps. Studies suggest 58 per cent of retail customers would move to a mobile-only bank to receive more rewards from their current account, 40 per cent to receive a more personalised service through the app and a third for better budgeting and predictive tools, while 29 per cent would move to access financial services products from third parties through the app that may be better value than those offered by the bank itself[64].

Our respondents believe these services are most likely to appeal to Millennial customers, which creates an opportunity for banks to engage with this most influential of generations.

Customers are likely to significantly value…	Millennial customers	Customers born before 1982
Alerts when expenditure is excessive in relation to forecast future costs and savings targets	84%	66%
Personalised information to assist in choosing a new home	71%	42%

[64] *How to flourish in an uncertain future, Deloitte, 2017*

The battle to own the lifestyle portal

Of course, it's not just banks looking to step outside their industry. A wide range of organisations are hoping to offer banking services – and significant numbers of customers may be tempted to let them. Indeed, research suggests almost half of customers with a mobile banking app would trust a digital payments provider to provide a mobile banking interface, 31 per cent would trust an online retailer and 29 per cent a global technology firm[65] - this covers all the members of GAFA, the companies seen as posing the most potent competitive threat to incumbent banks.

There is some good news, however. While almost two-thirds of our respondents think customers would prefer personalised information to assist in buying a new home to be delivered by one of the tech titans rather than their bank, when it comes to pure financial services they back the bank: almost four out of five believe customers would react better to their bank providing alerts related to expenditure than they would to notifications from GAFA. This could prove a critical advantage in the coming battle to own the customer interface.

65% anticipate that customers would prefer personalised information to assist in buying a new home from a GAFA firm rather than their bank…

…but 79% believe customers would prefer banks, rather than GAFA, to provide alerts when expenditure is excessive in relation to forecast future costs or savings targets

The bottomline

87% believe lifestyle management services that stretch beyond the scope of financial services would be effective in increasing customers' propensity to buy banking products

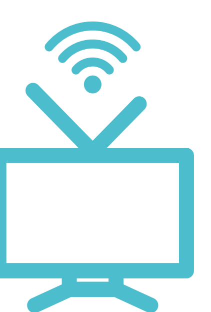
And this is a battle that must be won if banks are to generate sustainable returns in the era of open banking. Research shows that it's distribution and the customer interface that delivers 65 per cent of a bank's profits[66]. In recent years, banks have battled anaemic growth and slim returns but analysis by McKinsey suggests banks that create platforms and extend into non-banking markets could elevate their ROE to about 14 per cent – far above current industry average[67]. Our respondents add credence to this: 87 per cent believe providing lifestyle management services that stretch beyond the scope of financial services would be effective in increasing customers' propensity to buy products from their bank.

And all those value-added services could open up new revenue streams: nearly one in five consumers say they would be willing to pay their banking provider to know them better[68], while automated financial advice could also generate fee-income[69].

[65]Deloitte, 2017
[66]Remaking the bank for an ecosystem world, McKinsey, October 2017
[67]https://www.mckinsey.com/industries/financial-services/our-insights/remaking-the-bank-for-an-ecosystem-world
[68]Digital Banking Report: the Power of Personalisation
[69]In The next frontier, the future of automated financial advice in the UK, Deloitte found up to 15 million British adults would pay for automated advice in at least one of six major financial markets

Flowing with the data torrent

Data, and the ability to mine it for insight, will be key to delivering a best-in-class lifestyle portal that customers can't live without. The good news is there's an ever-expanding data universe to fuel these offers as customer behaviours and actions are captured by IoT devices and customers recognise the value of this data and are willing to trade it for rewards and personalised services.



48% of banks expect to use IoT data to deliver personalised insight in the next 3 years

96% agree that the threshold for what constitutes good customer communication will be that customers consider the communication to be a service

Almost half of our respondents (48 per cent) expect their organisation to use IoT-derived data to deliver personalised insight within the next three years. But banks will need to tread carefully: in a data-rich world, sometimes less is more and customers deluged with alerts that don't add meaning will soon label them as self-interested marketing and switch off. 96 per cent of our respondents agree that in 10 years' time the threshold for what constitutes good customer communication will be that customers consider the communication to be a service.

This is a high bar and demonstrates that it will not be access to data, but analytics capability, that will determine success. Customers don't want a bank to show off how much they understand them; that's now a hygiene factor. They want a bank that can take their data and show them how to make life better, and that provides the tools to make that happen, starting now.

This remains a stretch goal for many banks: one survey found only 27 per cent of senior banking executives felt their organisation was making extensive use of even the most basic form of analytics – descriptive analytics, used to understand what customers are doing – and only 17 per cent were using predictive analytics, a powerful tool that helps anticipate customer behaviours and transform the user experience[70].

In this banks are not alone: many organisations across a wide range of industries report poor returns on their investments in customer analytics because of poor data quality, the failure to align analytics projects with business outcomes and operational bottlenecks that hamper efforts to convert insights into action[71].

Unlike other organisations, however, banks face a tight deadline to get their systems and operations ready for the open banking revolution. In the near future, customers that want to manage their finances will voice activate not a banking app but rather a single lifestyle portal. As yet, it remains to be seen whether this gateway, and all the tantalising business possibilities contained therein, is owned by a bank – or will GAFA get there first?

[70]he Role of Analytics in the New Banking Age, Earnix/Marketforce, 2017
[71]In The Future of Customer Analytics, Sopra Steria/Marketforce found just 38% of customer-facing organisations felt customer analytics had yielded significant bottom-line benefits for their organisation and just one-third reported a significant improvement in the customer experience

Smart Communications Viewpoint

Today's consumers demand much more from the companies with which they do business. They want to be valued as an individual and have two-way conversations that consider their specific needs and preferences. And they want communications from these companies to feel like an extension of the service—not just a transaction or a marketing message. It is highly significant that 92 per cent of respondents in this report agreed that in 10 years' time, the threshold for what constitutes good direct marketing will be that customers consider the communication to be a service.

The good news is, with more data available now than ever before, it is possible for companies to deliver highly tailored and relevant communications. At the same time, this massive amount of data has led to tighter regulatory controls and privacy laws that must also be considered. Banks are at the forefront of this data opportunity, and are also among the industries that feel this challenge most acutely. For example, savvy consumers today expect banks to leverage their tremendous amount of data to help them better manage their finances via alerts and tips – not just through monthly statements. This is good news for banks as well, with 77 per cent of respondents believing that money-saving tips can increase customer propensity to purchase.

To help retail banks achieve these two-way relationships without sacrificing security or compliance, enterprises are increasingly relying on Customer Communications Management systems to deliver the most personalised messages possible via the most appropriate channel. And with no time to waste, many are turning to cloud-based systems, which can be implemented quickly and easily, and updated frequently as new functionality is available. And the results are clear. One of the largest financial services corporations in the world was able to save $100 million by taking advantage of our solution to reduce complexity while simultaneously reaching customers on new channels and with more personalisation than ever before.

For more information about how Smart Communications is helping companies scale more meaningful customer conversations visit www.smartcommunications.com.

Smart Communications™ helps the world's largest enterprises simplify their customer and business communications – while making those communications do even more. In 2004, we pioneered the new generation of CCM solutions, and today we're still leading this industry as the only cloud/hybrid cloud solution in the Gartner leaders' quadrant. Smart Communications customers rely on our team for the undivided attention of the only independent company 100% focused on enterprise CCM. No one does more to simplify template management and put so much control in the hands of the user. That's why more than 300 global brands – many in the world's most highly regulated industries – rely on us to scale the conversation. Smart Communications is headquartered in London and serves its customers from offices located in North America, Europe, and Asia Pacific. The company offers a range of solutions including SmartCOMM™, SmartDX™, SmartCORR™ for Salesforce and SmartCaaS™ for Partners.

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Methodology

This report is based on research conducted by Marketforce Business Media and the London Institute of Banking & Finance in October 2017. We surveyed over 225 senior figures from across the banking sector.

Size of organisation:

- Less than 1000 employees: 28%
- 1001 to 10,000 employees: 23%
- Over 10,000 employees: 49%

Organisation geography:

- National-only player: 37%
- Multinational player across one continent: 24%
- Multinational player across multiple continents: 39%

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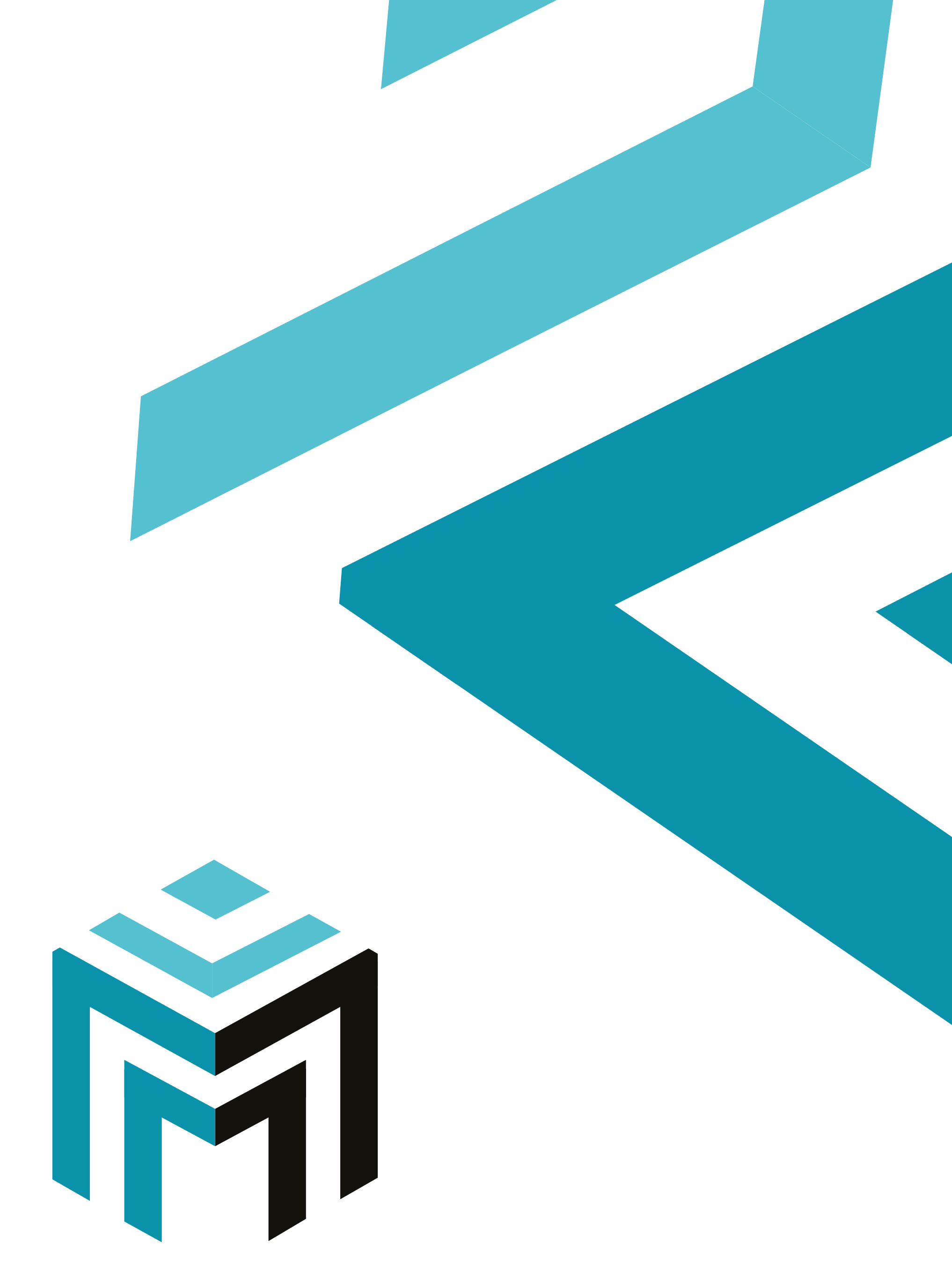

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