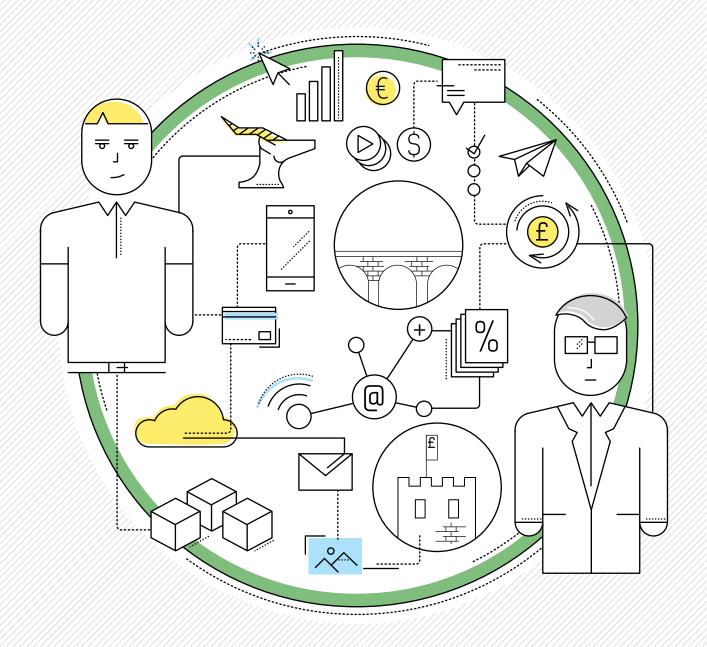


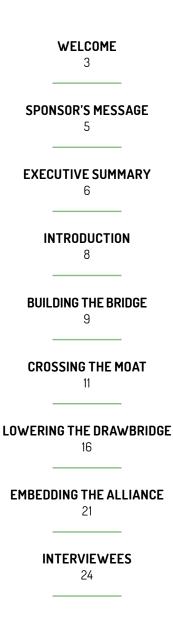
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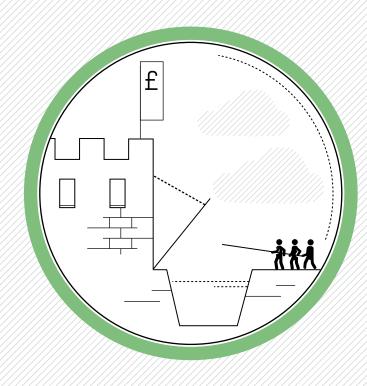
MAPPING THE FINTECH BRIDGE IN THE OPEN SOURCE ERA





CONTENT





A BREAK FROM THE MEDIEVAL PAST

This second edition of our review of fintech trends and perspectives across Europe, the Middle East and Africa reveals the extent of the progress made so far in bridging the divide between new fintech innovators and established financial institutions. It also explains the mutually beneficial reasons for what at times appears an unwieldy alliance.

The report takes in the findings from an industry-wide survey of banks and established financial institutions, fintech start-ups and ecosystem participants alongside insights from over 20 interviews with financial institutions across Europe, fintech founders, investors and enterprise-level technology firms.

Significantly, nearly two years into the "fintech revolution" the report makes clear that the real journey has only just begun. As the fusion of the two sides gathers pace in the years ahead, and the full scale advantages of the agility of new digital entrants penetrate deeper into the old banking fortress, the research reveals widespread recognition that a platform-based approach to financial services delivery will, in time, transform twenty-first century finance, and finally enable the fortress to break free from the constraints of its medieval origins.

There will be several false dawns and plenty of failures, on both sides of the bridge, along the way. McKinsey estimates that there may be as many as 12,000 fintech start-ups out there. A number that will continue to grow as generational adoption patterns in mature markets, and smartphone availability in fast growing ones, peak. For those businesses with the stamina and institutional knowhow to go the distance however, the rewards will be worth the wait.

We hope you find this year's report a valuable weapon as you weigh your approach to the era of open source innovation and we look forward to hearing more tales from the quest in the year ahead.

MagnaCarta Communications



SPONSOR'S MESSAGE FROM OLD FOES TO NEW FRIENDS

Earlier this year Fortune ran an interesting article on why fintech start-ups are flocking to a 124-year-old bank in Kansas owned and run by Suresh Ramamurthi, an ex-Google engineer, and his wife Suchitra Padmanabhan, a former Wall Street banker. In 2008, the pair used their own savings to purchase the CBW Bank, Weir's sole financial institution, and have built a next generation platform that essentially sits on top of the bank's older architecture.

Rather than applying for licenses themselves, these start-ups often find it much easier to work with a bank that has passed regulatory compliance and can already take insured customer deposits. In a similar development in August 2017, London based Transferwise teamed up with Raphaels Bank, one of the UK's oldest private banks – to become the first fintech group to gain access to the UK's Faster Payments Service since the system's launch in 2008.

This unbundling of traditional account relationships will lead to wider access to customer intelligence, sharing of customers and ultimately, will encourage banks to collaborate with smaller players. Banks are much less experienced at building ecosystems than the big tech players like Amazon, Google and Facebook. However, there is a mutual advantage of partnering with fintechs that often find it easier to work with a bank that has passed regulatory compliance and can accept insured customer deposits.

Ultimately, banks and fintech providers will compete on service quality as comparisons rather than the cost of a transaction.

Paul Thomalla,

SVP Corporate Relations and Development, ACI Worldwide

EXECUTIVE SUMMARY

With the dust settling on the first wave of the fintech raid on banking, awareness of a symbiotic relationship between bank and fintech has grown markedly. More than three quarters of banks, and a similar proportion of fintechs, in the survey identify partnership with the opposite camp as an essential ingredient to overcoming the challenges of institutional inertia or scale.



By 2020, you will be talking about the consumption of financial technology products, rather than their manufacturing or development. If you think about the traditional bank as being an LP, then you need to cut up the different tracks and make them available digitally.

Paul Thomalla,SVP Corporate Relations and Development, ACI Worldwide

derstood as fintech 2.0 takes hold in the years ahead. As we hope this report clarifies however, the potential rewards for financial businesses of all colours with the courage to pursue it are rich.

In particular, the research highlights three complementary threads that, combined, illustrate the new, connected supply chain that links the banking castle with the surrounding fintech community:

As a result, the relationship between the two sides is increasingly less mercenary and more like that between friendly factions. With individual perspectives on skills gaps, scale advantages and growth opportunities – on both sides – overlapping (see chart 2).

It is right that they do. Lean, efficient use of technology that lowers the drawbridge to admit long tail customers in mature markets, and increase financial services provision in fast growing ones, has the potential to benefit a much greater audience that reaches far beyond the traditional limits of fortress finance. Estimates of return on equity from sales and origination are a much more attractive 22% – and up to 60% of financial industry profits – than the 6% ROE generated from low-rent provision of credit.¹

With the foundations for the bridge between the two sides now setting, the quest to atomise fortress finance can finally begin. The impact of these new alliances, and the bedding-in of the culture of distributed innovation in banking, will only be fully un-

OPENING THE FOUNDRY

A case of out of the incubator, into the coop: the research highlights that acceptance of the need for an open source approach to innovation and product development has spread across the financial services industry. Where once the foundry was buried deep in the banking fortress, the gates have been opened to outsiders to allow a collaborative approach to innovation with a broad variety of partners. As respondents to the survey indicate, in future it may even be automated as further advances in computing are made in the years to come. The approach offers rich rewards for those with the courage to pursue it – affording viable access to long-tail consumers in mature markets, and new customers in fast growing ones by lowering the cost to serve.

PROLIFERATION OVER POLARISATION

As the first edition of our research highlighted, simplicity sells; especially as the battle lines were drawn against unwieldy, jealously-guarded banks. But it also has its limits. In a highly regulated industry, competing on price alone will not be enough to

^{1 2015} Global Annual Banking Review, McKinsey & Company

sustain the thousands of companies spawned by the open source wave in finance. While fortress finance will remain largely intact as fintech 2.0 takes hold, massive prolifera-



The isolation of the banking fortress has become a barrier to the potential for massive growth.

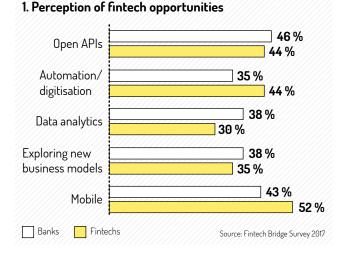
the democratisation of finance by enabling easier, faster access to financial services. To impressive effect already in some emerging markets, and, as yet, more muted results elsewhere.

tion in products and services will radically alter banking delivery and how it's consumed.

FLAT (OR FIAT?) BANKING

The long-term benefits of the bridge between banks and fintechs go beyond restoring the short-term economic fiefdoms of warring foes. The first fintech wave has already contributed to Businesses on both sides of the bridge, that are ready to adapt to the new terms of the alliance will share the rich rewards to be won from combining institutional scale with entrepreneurial agility as generational adoption patterns and, the era of fintech 2.0, take hold.

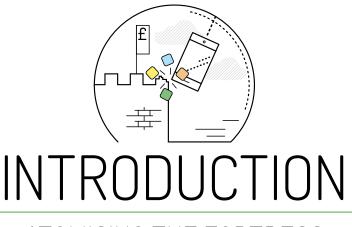
ALIGNED INTERESTS



2. Compatibility of perspectives - Top 3 challenges

Banks

Meeting changing customer needs	69 %
Establishing culture of innovation	57 %
Leveraging data and analytics	55 %
Fintechs	
Achieving scale and reach	61 %
Funding and finance	56 %
Gaining visibility and awareness	52 %
Sc	ource: Fintech Bridge Survey 2017



ATOMISING THE FORTRESS



One year ago we set out to document the themes dominating the campaign to redefine the distribution of financial services by rapidly forming armies of fintech start-ups, and later, upstarts, across Europe and the Nordic region. As an industry representing millions of customers there should be no argument that mobile operators should expand into financial services – it should be an expected responsibility.

Tine Wollebekk, Head of Financial Services, Telenor Given the size of the potential rewards for the victor this has not dampened the energy for a fight. McKinsey reckons there may be as many as 12,000 start-ups – more than 26 times the number in existence at the height of the dotcom boom.

As the battle for fortress finance began, their simple campaign, to many of Europe's recession-bitten banks, appeared painfully effective. Strip away the opaque fees, internal subsidies and cross-selling typical of most of the region's complex institutions and replace it with a single product that's easy to grasp and beats the competition on price, transparency and service.

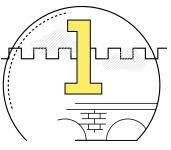
To do this, create a simple customer interface, with mobile as the primary delivery channel, to reach customers where the cost to serve was previously too high and, in the process, expand the addressable market for financial services, and win the support of legions of venture capitalists to fund the war effort. Another year into the raid and the multiple defences surrounding the banking sector are proving to be more resilient than expected. Not least in their strongest line of defence – regulation.

When one prominent UK fintech was asked to explain its claims on price earlier in 2016 and then forced to re-trench, it looked like the limits to that line of attack had been reached. At the same time, it's increasingly clear that heavy reliance on venture capital will make many fintech businesses unviable as enthusiasm for a protracted war starts to fade. While some fintech businesses have made significant advances, large parts of the fortress remain intact. Research on 350 of the most successful fintech companies worldwide shows that their impact so far has been more muted than the hype would suggest – at most accounting for 25% of all available products in the payments sector and, at best, just 10% of industry revenues in lending and capital markets.¹ As this research on Europe's fintech sector shows however, evidence of the ability of either side to win the fintech war may itself be an oversimplification. Focussing attention on the negligible direct impact of fintechs on treasured industry revenues as a sign that the battle is merely a skirmish misses the point. Despite perhaps underwhelming progress, two years into the fintech incursion, the battle lines have already changed the outlook of fortress finance. Irreversibly.

The isolation of the banking fortress – a prized asset since the medieval dawn of modern finance – has become a barrier that is inhibiting the potential for massive growth, and even deterring customers who are put off by their lofty behaviour. Financial services remain the only industry where the customer can be rejected. And rightly so. As past financial crises have shown, the impact of bad credit decisions goes far beyond the short term losses of one bank. But the nature of how those decisions are communicated to the customer, together with the immediacy enabled by smartphone technology revealed a breach in bank defences that digital first fintechs have been well placed to attack.

As the research reveals, neither tribe can win in isolation. The open source era that has displaced so many other industries has finally landed a strategic blow. Across the industry the cry from the parapets is universal – innovation and the broader distributive benefits that come with it – will come from beyond the castle walls, driven largely by the voice of the community below. It will atomise the fortress while leaving the institution of banking largely intact.

¹ Cutting through the FinTech noise, McKinsey & Company 2016



BUILDING THE BRIDGE

THE QUEST FOR CONVERGENCE

W hile the scale and speed of innovation today is deafening, all innovations continue to go through a period of proliferation, development and investment before widespread adoption and acceptance take hold. Fintech innovation is no different. Nigerian banks have traditionally not focused on retail. Paga has built the single largest network of financial access points in Nigeria. We are going to leverage that to deliver financial services to the mass market.

Tayo Oviosu, Founder & CEO Paga

Looking to the future, it's clear that successfully digitising the fortress will unleash the opportunity to create, and drive take up and use of financial services beyond the confines of national borders. While this plays out and fintech talent remains concen-

Much new financial technology is in a period of development and testing, either behind the fortress walls or out in the community below. There is still more to come, and much to learn, but the benefits of this period to fintech innovators and established institutions can be seen in the ongoing alignment of their objectives, strategic approaches and alliances.

Respondents to this year's survey identify a shared vision between fintechs and established institutions, with both sides placing emphasis on consumer-facing products and services, especially new payment technologies, alongside e-commerce and consumer finance applications, symbolising the power shift from the banking fortress to innovation sponsored and supported by the community below. As a sign of this new alliance between former foes.

It's not a case of one size fits all. Across the industry partnerships are taking a range of forms from selective collaborations and inhouse acceleration programmes to acquisitions, joint ventures and, for some banks with the institutional know-how, a blended approach that includes a combination of some or all of these elements (see table 1, page 12).

As might be expected, collaborative ventures between large financial institutions and leaner fintech counterparts present significant cultural and commercial challenges. On both sides.

trated in a small number of global hubs in the short term respondents to our survey continue to see North America as the most significant hub for fintech deployment at scale, followed by the UK, China and emerging Asian markets.

Survey respondents are particularly positive about African markets, with their high level of unbanked populations and absence of legacy infrastructure, singling them out for potentially rapid adoption of new banking technologies.

This is also a reflection of the longer term benefits of the atomised approach to financial services delivery. An approach perhaps best illustrated by the opportunity it affords to mitigate the risk of black swan events, such as the UK's Brexit vote, or in the ability to access large populations of unbanked customers. As examples, a truly atomised financial services industry will maintain access to talent outside the limits set by national boundaries, can activate or disable products in response to specific events or lower the cost to serve to access long tail customers.

While the progress made in advancing a new model of financial services delivery is substantial, this year's report makes clear that the real journey has only just begun. From practical applications for distributed ledger solutions, or block chain, to more theoretical advances in machine learning and artificial intelligence to serve as yet unidentified needs, the research goes some way to underlining the perception among many that the potential for transformation of banking delivery appears almost limitless.

What we're talking about is open source banking. Banks can play the same role for fintechs as systems integrators do in engineering bringing together different services.

Chris Skinner, CEO, The Finanser

Table 1: BRIDGE BUILDING - THE BLENDED APPROACH

RANK	BANK	FINTECH INNOVATION CENTRES	PARTNERSHIPS	VC FUNDS	ACQUISITIONS & INVESTMENTS
1	HSBC 🚺	London Hong Kong	The Floor, Tradeshift		Invested \$200m in Fintech startups
2	📣 Santander		The Floor	Santander Inno Ventures (\$250 million)	Check Collignment of the Collign
3		London	Innovate Finance, Startupbootcamp, Femtech, Google, Amazon, Worapay		EDM Conductors "
4	🛃 BNP PARIBAS	Paris New York	Scottish Financial Enterprise, Facebook, Google, LinkedIn, Twitter		Hello bankl
5	🗱 UBS	Singapore, Zurich, London	Credit Suisse, Swisscom, Swiss Life and EY		
6	BBVA	Spain, US, Argentina		Propel (\$250 million)	Atom O SpringStudio
7	BARCLAYS	London, Manchester, New York, Vilnius, Cape Town, TelAviv	Techstars	Tech startup fund (£100 million)	analoganalytics the logic group Access Payr
8	EXERPS The Royal Bank of Scotland	London	The Floor, Scottish Financial Enterprise, Rocket Space,Oakam, Funding Circle, Assetz Capital		
9	ING 🌺 GROUP	Belgium, Netherlands	R3, Deloitte, Swift Innotribe		esstones PoyPar Kabbage @WeLa
10	INTESA 📅 SANPAOLO	Singapore, London	Startupbootcamp, The Floor	Neva Finventures (€30 million)	



KEY FINDINGS

- Half of survey respondents viewed mobile commerce as a primary fintech opportunity, followed by automation or digitization of existing banking services and the creation of open APIs.
- Nearly two thirds cited achieving scale and reach as the biggest challenge facing fintech firms while over half of respondents revealed that finding funding to support development, gain visibility and raise awareness also posed challenges.
- 75 % cite leveraging a financial institution's ownership of customer channels as the major incentive to partner. Other strong reasons for partnership include access to data and building trust with customers.

The cry from the parapets of fortress finance and from the fintech community below is universal – respondents to the survey reveal that convergence between the commercial interests and objectives of both banks and fintechs is real.

More importantly as the open source era of financial services takes hold it may also be irreversible. In this section, we consider the core issues from the perspective of fintechs seeking to provide services to financial institutions, partner with them or provide alternatives to established financial service delivery models.

PAYMENTS FIRST AND THE REST WILL FOLLOW

Close to half of fintech firms in the survey are focused on payments. This figure is perhaps unsurprising given that there are such huge opportunities for the ongoing digitisation of the payments business as well as regulatory enforcement to encourage more competition in payments, such as the new Payment Services Directive in Europe. Payments is also the single biggest point of everyday contact between fintech providers and consumers and, as this report highlights, the engine room that will power the take up and repeated use of financial services innovations of all colours.

According to David Yates, chief executive of Vocalink, "almost 20 billion of the 42 billion payment transactions in the UK are

still being made as cash – there remains a big opportunity in this area." The move from cash to electronic payment is just one aspect of this ongoing revolution. Fintech firms see significant opportunities for firms focused on mobile commerce and digital payments, with over half of respondents identifying this area as having the greatest potential for development.

The research also identifies two other significant opportunity areas for fintechs - banking infrastructure and in the creation of open Application Programming Infrastructures, or APIs. There is a clear perception among fintech firms that although "banks are no longer playing defence", as one senior fintech executive put it, there's still an unwillingness to share software platforms and open up APIs to outside developers.

There is some indication that this is beginning to change. As Paul Taylor, founder of blockchain start-up Thought Machine commented: "Many banks realise they're in trouble with their systems and can't go on as they are. There's huge pressure to change, and opening up their systems to outside developers could address many of the friction points they currently face."

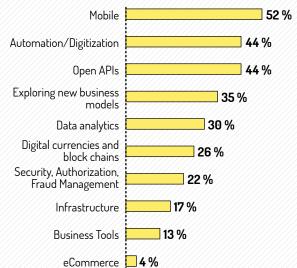
For Paul Thomalla, SVP Corporate Relations and Development at ACI, the creation of open APIs is the key to developing a single delivery platform for financial services. "There's a



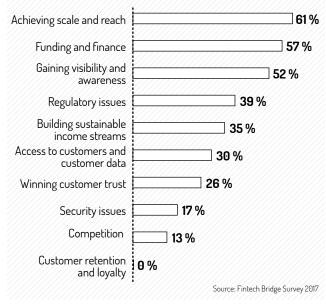
Paul Taylor, CEO, Thought Machine

ONCE WERE WARRIORS

3. Biggest opportunities for fintechs



4. Biggest challenges for fintechs



dilemma that needs to be resolved: banks all have disparate payment systems, and to progress we need a standardised system. One solution is to use open APIs, which will act as a "glue" between the various banks' systems."

RE-WRITING THE 80:20 RULEBOOK

At interview bankers unanimously recognised the hurdle of trying to innovate while maintaining legacy IT systems. In comparison for fintechs the challenge comes from scaling their innovation sufficiently to give them access to markets while building brand awareness and consumer trust – traditionally the preserve of fortress finance.

Describing the relationship with established banks as "evolving", Mutaz Qubbaj, chief executive of Squirrel, says that when it comes to the relationship between traditional banks and fintech firms, "it's more about figuring out how to better co-exist and where the lines can be drawn in terms of value proposition. The choice may be to either build your own solution from scratch, or leverage elements of what a bank may already have in place: but there's a bit of a mis-match between incentives and pace between a start-up looking to innovate at light speed and a bank."Indeed, the cultural difference between banks and fintech firms is seen as a significant road-block to further progress in the sector. As Damian Kimmelman, co-founder and chief executive of DueDil puts it, "working with banks can be tough. They're large behemoths, and people get frustrated with the slow pace of change. But they're now making efforts to work with growth stage and start-up businesses."

In spite of the differences in culture, the appetite for co-operation with banks is undeniable. Nearly all the fintech firms in the research would partner with a major financial institution to help finance their development and to give them access to a readymade market – the bank's existing customer base.

Respondents believe that partnership with a major financial institution will help them build trust with potential customers, and give them a better sense of what customers expect from financial products in the future. As Shachar Bialick, founder of Curve,

Table 2: TRIBAL CONVERGENCE European fintech M&A 2016

TARGET (Germany) TARGET (Ro C InterCard Provus		azil)		TARGET (Ge PAYM	BUYER Klik & Pay (CH) TARGET (Germany) PAYMILL VALUE Undisclosed		BUYER PAYU (South Africa) TARGET (India) Oitrus VALUE \$ 130 million	
		BUYER Wirecard (GER) TARGET (Romania) Provus VALUE € 32 million		BUYER MasterCard (US) TARGET (UK) VOCALINK VALUE £ 700 million		BUYER iZettle (Sweden) TARGET (UK) Imministration (UK) VALUE Undisclosed		
Nov. '15	Jan. '16	Feb. '16	Mar. '16	Jun. '16	Jul. '16	Aug. '16	Sep. '16	<u>Oct. '16</u>
1	nd)	nerlands)	BUYER BB TARGET (F) O HOLV VALUE Und	TARGET (NO ENCAP VALUE Undis VALUE Undis		BUYER Raku TARGET (No WALUE Undis	rth. Ireland) et	BUYER ICAP (US) TARGET (UK)
BUYER UL (US) TARGET (Ireland) CONSTRUCTOR VALUE Undisclosed			BUYER Atom Bank (UK) TARGET (Taiwan) VALUE Undisclosed		BUYER Terrapay (Ned) TARGET (UK) PAY2GLIBAL VALUE Undisclosed			

puts it: "Banks have two roles in the fintech revolution. They can cross-sell products to their existing customers, and provide access to those customers for innovative new products."

LOOKING AHEAD: BANKING BEYOND THE CASTLE WALLS

Despite substantial economic and political headwinds on both sides of the bridge the research provides good reason for optimism about the future prospects for financial services. Among fintech firms in the research, the change in approach and attitude of traditional financial institutions over the last 18 months was given as a primary reason for their increased optimism, although growing regulation – and the perception that regulation favours established financial services firms – gives some fintech companies cause for concern.

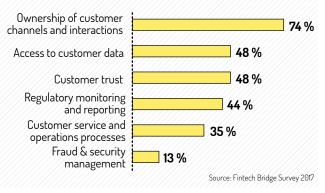
As Anthony Lipp, global head of strategy for financial services at IBM puts it, "the financial services industry is going to be radically different over the next ten years by incorporating some of this innovation. Regulators are going to shape this development over the coming years, and there are a wide variety of regulatory approaches. In the US, regulators are concerned with regulating new financial technologies to improve risk management, whilst in the UK, there is greater interest in how to promote a financial technologies industry."

Blockchain's role as the Jekyll and Hyde of fintech, alternately cited as an over-hyped innovation of uncertain utility or the saviour of transactional finance in the twenty-first century, appears to be reflected in our respondent's views. Responses range from those who believe that the technology is "at the rising end of the hype curve", and that useful applications of blockchain are up to a decade away, to those who believe we will see commercial applications of distributed ledger technologies in the next eighteen months, and that "the opportunities are immense, especially in trading systems, for distributed ledger technologies."

While the UK is seen as a great place for innovation and earlystage development, the majority of fintechs interviewed in the research and in the survey believe the US is the best market for product roll-out and commercialisation.

By contrast, Africa with its large unbanked population, estimated to be as high as 90% of the population of some countries such as Nigeria, and the absence of legacy banking systems and infrastructure to hamper take up of new technologies was widely viewed as the region with the greatest potential for fintech applications. This extent of this potential is reflected in the case study (see page 17) where fintech entrants to the African banking market have already achieved impressive rates of growth and profitability.

5. REASONS FOR PARTNERING WITH A BANK



We've seen a significant shift in the big financial institutions, accelerating in the last twelve months, from 'how do we put up barriers?' to 'how do we use this as a source of innovation and change?

Anthony Lipp, Global Head of Strategy for Financial Services, IBM

INNOVATING TO DRIVE ACCESS: VOGUEPAY

AUCTION

BUY AND EXPORT

IORTH AMERICA

Faced with the hurdle of a traditional African banking market that focused solely on the needs of large corporations and government, Michael Femi Simeon, chief executive of VoguePay, a Nigerian/Uk payments start-up, and colleagues identified an opportunity for an agile, web-enabled payment systems integrator that would enable more merchants to accept electronic payments while maintaining world-class standards of transaction speed and security.

Launched in 2012 by five business partners, VoguePay secured 7000 new small and medium enterprise

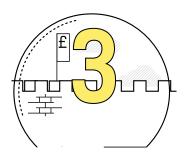
(SME) clients in its first year by reducing the fees charged for payment processing integration from around average of US\$12,000 to zero. In its second year of business, VoguePay grew its installed customer base by 234%, then acquired a complementary business in year three.

Within three years VoguePay had more than 17,000 SME clients in Nigeria. As of Q3 2016, there are more than 50,000 individual users signed up online for the VoguePay system, and transaction volumes are growing at more than 135% per month, with 15% of revenues coming from international businesses. As Michael Simeon puts it, "Africa is the most exciting market on the planet for fintech companies and we encourage other UK startups to look further afield, more so in a post Brexit environment. The banking sector in Nigeria is not providing adequate services to the vast majority of the population and SMEs, which creates a unique opportunity for new entrants to leapfrog existing banking systems and technologies."

Michael makes a comparison between new fintech firms in African

markets and the growth in mobile communications seen in the late 1990s, where consumer demand for communications technologies coincided with the absence of an installed legacy system (in this case, fixed-line and land-line telephony) to deliver explosive growth. He believes similar growth is now happening in African fintech – but, like his British and American counterparts, is concerned that regulation will unduly favour incumbent banking sector giants.

In VoguePay: Helping Nigerians buy cars



LOWERING THE DRAWBRIDGE

THE BANKING PERSPECTIVE

KEY FINDINGS

- Banks and financial institutions estimate that up to one third of their current revenues could be at risk from fintech innovations.
- For half of traditional financial institutions the biggest areas of fintech opportunity lie in open APIs and mobile services.
- Areas in which partnerships are most likely to be sought are payments, with nearly three quarters of respondents identifying this as an area of interest.

There is no clearer sign of the rapprochement between fortress finance and the fintech community than the lowering of the drawbridge to allow fintechs to enter the castle walls. A reflection of the convergence of interests and approach between traditional financial institutions and fintech innovators.

In contrast to our 2015 report where traditional institutions were plagued by a mix of self-doubt and suspicion, this year's survey reveals that around 80% of banks are in agreement with fintech peers that partnership with fintechs is a viable, even essential, path to the future of financial services delivery. Among interviewees and survey respondents alike many traditional banks are already actively seeking out partners or looking to grow their working relationships with existing fintech vendors.

OPEN SOURCE, OPEN SESAME

In part, this new attitude is driven by a recognition of the need to change. Among the institutions that responded to the survey up to one-third of current revenues could be at risk from new financial technologies. Unsurprisingly, the innovation imperative is to help them mitigate this risk.

Significantly however, the findings also suggest that banks' new approach to fintech is more about seizing new business opportunities and serving changing customer needs than defensive strategies to mitigate risks to prized revenues. A clear indication of the momentum that the open source era is gaining behind the previously impenetrable walls of big banks. In line with fintech peers, established banks believe that mobile services and open APIs are among the biggest opportunities for partnership and collaboration with fintech innovators. As Ismail Chaib, head of operations at Open Bank Project, remarked: "Five years ago, open banking standards and PSD2 might have looked like science fiction, but now the UK is mandating banks to move to these standards, and all of a sudden it's becoming a reality."

Banking respondents to the survey provide an interesting indicator of the extent of the impact that fintech's forays have had on banks' attitudes towards technology. While the majority of fintech start-ups in Europe are focussed on creating products for consumers, the opportunity for innovations in the back office and banking infrastructure has been largely overlooked.

The research indicates that this could be an area ripe for exploitation in fintech's next wave. In one of the rare differences of opinion recorded for our survey, banks see fewer challenges in altering banking infrastructure and business tools than their potential partners in fintech, a sharp reflection of the softening in perspective toward fintechs over the last year (see chart 6 below).

Elsewhere, bank's views of the challenges they will face in 2017 provide further evidence of convergence between their needs and those of fintech firms. Some 70% of institutional respondents see meeting changing customer needs as the biggest challenge faced by their sector; other major challenges identified include establishing a culture of innovation, integrating new



Tuomas Toivonen, Co-Founder, Holvi

technologies into their businesses and leveraging data and analytics technologies.

Taken together, the research suggests that banks are alive to the threat posed to traditional business models by fintech innovation. More significantly, beyond viewing fintech as a means to defend traditional lines of business, some bankers in the survey and at interview are increasingly aware of the opportunity that the innovation agenda can deliver if they have the right institutional model to support it. As Scarlett Sieber, SVP Global Business Development at BBVA commented, "We want to be the best digital bank in the world – testing, learning and building. We now have a digital investment team, and we're ready to propel venture funding for new technologies across the group."

PARTNERSHIP: THE KEY TO THE DIGITAL CASTLE?

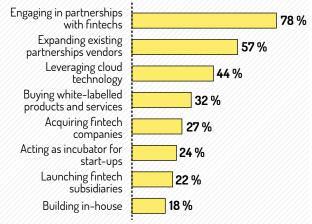
The research records a marked step change between fintech companies and incumbent banks compared to last year's report. Far from an adversarial or defensive stance, there's now strong evidence of a willingness to work together for mutual benefit. From the institutional perspective, this finds its most obvious expression in a desire to engage in partnerships. When asked how they could achieve their business goals most effectively, financial institutions overwhelmingly responded that partnerships with fintech innovators was the best approach. 78% of respondents said their institution would go down this route. Over half said they would be expanding their partnerships with existing third party vendors, while 44% of respondents would leverage existing cloud-based solutions to benefit their businesses. A fifth of banks also see acting as an incubator for fintech startups (see our case study on page 20) as another fruitful avenue for partnership.

CONVERGING INTERESTS AND APPLICATIONS

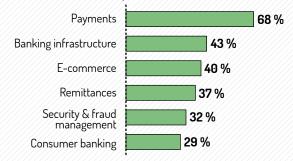
In much the same way as they report similar challenges and opportunities, as well as identifying many of the same potential solutions, the business interests shared by established banks and fintechs underline the extent of the symbiotic, at times even reflexive, relationship between the two former foes.

THINKING OUTSIDE THE BOX

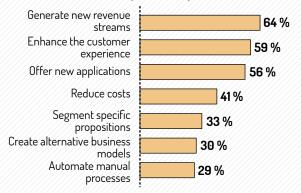
6. How fintechs can help banks meet their goals



7. Where banks want to partner



8. Business benefits of partnership



We've had support from the highest level for our work in fintech. Our Executive Chairman was talking about BBVA being a technology company long before others went down this route.

Scarlett Sieber, SVP Global Business Development, BBVA

Similar to the fintechs, established financial institutions see the greatest opportunities for fintech in payments. Nearly 70% identified this as an area of interest, followed by banking infrastructure, also a key area for fintech companies. Equally, e-commerce, a focus for 40% of banks, is also a major focus for fintech innovators, suggesting that the current period of development is proving productive in terms of aligning interests and establishing goals between the two industries.

If further proof of this ongoing alignment were needed, banks and traditional institutions report very similar business objectives to fintech companies. While fintechs want to partner with banks to provide access to existing customer relationships, build awareness with customers and obtain customer data; banks themselves cite enhancing the customer experience (59%) and the development of new customer applications (56%) as the main objectives behind their intended partnerships with fintech firms.

FINANCE BEYOND BORDERS

In common with fintechs, established institutions view the threat of increased regulation as a motivation to establish a greater variety of partnerships. Nearly half of banks in the survey saw the likelihood of future regulation of new financial technologies as a main driver towards the partnership model.

A climate of economic and – in the case of the UK vote to leave the European Union – political uncertainty, in part explains the momentum behind the current willingness to forge new alliances. Potential success factors are described by Ankur Kamalia of Deutsche Börse: "London has a robust fintech ecosystem. Like we see in New York, Singapore and some other cities globally, it also has the key elements for success: technology talent, access to capital, proximity to clients and government and regulatory capacity."

What is clear in the longer term is that the process of atomising the fortress may unintentionally mitigate some of the risk of these black swan events by enabling access to talent, customers and capital above, and beyond, the confines of national borders.

As smartphone adoption peaks in high growth markets in Africa and developing Asia, enabling viable access to underserved customers that were previously beyond reach, it is perhaps this aspect of the fintech upheaval that illustrates most clearly the shift that the age of fintech 2.0 could herald for those banks able to embrace the concept of distributed innovation with their fintech peers.

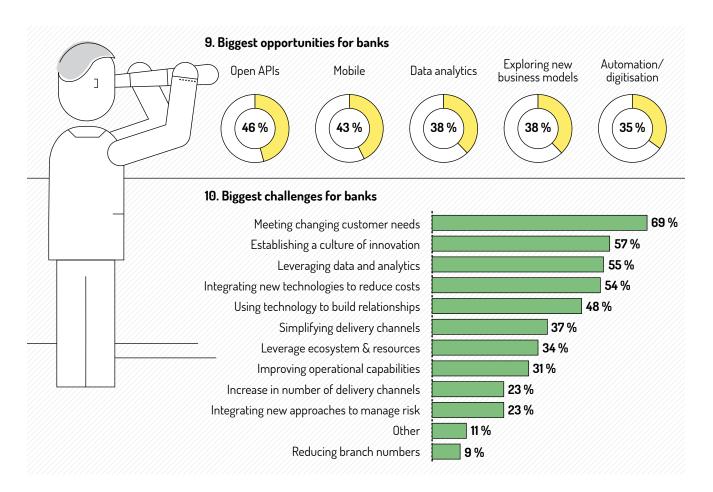
OLD FOES TO FAST FRIENDS

One area of contrast between banks and fintech firms is their views on the cultural challenge. Insights from interviews reveal widespread awareness among start-ups of the challenge of working with a large bank while interviewees from established banks have a more positive view of the collaborative process. Lubaina Manji, head of Rise and open innovation at Barclays Bank commented: "It's all about matching the agility of start-ups with our strengths as a bank, and making it possible to scale those innovations within the organisation."

Such a view speaks directly to fintech firms' concerns at their own abilities to scale, access and then serve (much) larger pools of customers. Established institutions are more likely to see culture above national, and often regional, borders, while having the resources to tap into talent and technology from anywhere in the world.

In a bid to cross the cultural divide between lean fintechs and weightier institutions, the Netherlands' ABN AMRO has moved to improve the way it serves start-ups by appointing a liaison from outside the bank to work with firms at a new Google-backed tech hub in Amsterdam. The new centre, run by Google with tech site The Next Web, acts as a co-working space for start-ups where they can share talent, tools and training.

With ABN Amro onboard as a founding partner the programme is designed to offer early stage tech firms financial advice, help and services. To do this, the bank has created a new role, startup liaison, and is hiring from outside the bank, seeking someone with experience in both the corporate and start-up world. The liaison will act as a single point of contact, addressing start-ups' financial questions, problems and frustrations, working to fix them through traditional banking channels, ad-hoc add-ons, or entirely new products and services. The move comes after ABN Amro found that its own relationship managers "didn't speak the start-up language". It's an approach mirrored by Barclays' Rise accelerator for early stage fintechs – where a senior banking stakeholder is appointed to mentor companies accepted into the programme that corresponds to their part of the bank's business.





Ankur Kamallia, MD & Head of Venture Portfolio Management and DB1 Ventures, Deutsche Börse

The research provides further proof that financial institutions everywhere are embracing the fintech revolution. Although they are doing so in very different ways – some with more substance behind the many proclamations from bank chief executives than others (see table 1). For some institutions, venture capital investment and acquisitions form the basis of their digital strategy. For others, the approach relies on in-

RE-TOOLING THE FOUNDRY: INCUBATING INNOVATION



Rise and rise: Barclays' fintech incubator

cubating early-stage technology companies, leveraging the skills of senior bank leadership to get their staff to think about their bank like a technology company along the way.

Neither the interviews or survey respondents provide a clear answer as to which strategy is the most effective, but it is clear from the research that moving the institutional vault closer to Silicon Valley is more about instilling the innovation mindset firmly within the fortress walls. Quite possibly it's also the fault line that will come to define the victors from the vanquished in the next phase of the fintech saga.

Barclays Rise, established by the UK bank as an open innovation platform has physical hubs in seven different cities – London, New York, Tel Aviv, Manchester, Mumbai, Vilnius and Cape Town - is one high profile example of the move to instil this mind-set firmly in a bank's institutional culture.

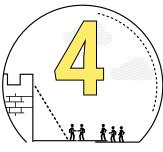
So far the bank has fostered more than seventy companies through its Barclays Accelerator programme in partnership with Techstars. It has also introduced new elements to the Rise project to encourage crossfertilisation of ideas between early-stage companies in development, including "hackathons" and challenge forums for colleagues to experience innovative thinking and encourage "intrapreneurship".

Rise management have also crowd-sourced solutions, for example, a savings apps on mobile devices, and co-created and

partnered with other start-ups outside the Accelerator program. As Lubaina Manji, head of the Rise programme, told us: "We don't know where the next disruption of traditional financial services models is going to come from, so we're encouraging these new firms, instigating change and developing a new way of working in this space."

In another example, a partnership with Emirates Airlines and Open Bank Project launched a global fintech applications competition in February 2015. Within four weeks, the competition had attracted 230 entrants, 18 of which were flown to London for a final round from which three winners – one from Poland and two from India – were selected for a €20,000 prize and the chance to work with experts in the banking industry.

Open Bank Project has also launched a sandbox to allow developers to create their own open API solutions, which can then be piloted and tested. To date, Open Bank Project has created more than 180 APIs with open software licenses, meaning that developers and banks can use these to create new products which will be fully interoperable across all banking systems globally.



EMBEDDING THE ALLIANCE

FROM BRIDGE TO PLATFORM

KEY FINDINGS:

- An enhanced customer experience and creation of a next-generation technology platform for financial services delivery are seen as the greatest benefits of part-nership between established institutions and fintechs.
- Well over half of respondents viewed payments as the area most likely to attract significant investor interest in 2017.
- Nearly half said real-time payments would be the dominant theme in financial technology. Other major themes cited were the automation or "self-service" approach to finance, and the use of distributed ledgers or blockchain technologies.
- Respondents overwhelmingly see the US and Canada as dominating the fintech landscape by 2020, followed by the UK (67%), Europe (43%) and China (41%) as important centres.
- More than half of all respondents believe Brexit will have limited, or no, short-term impact on fintech.

The final section of our survey asked fintech innovators and established financial institutions to look ahead, both in terms of the benefits which the current phase of collaboration and venture capital investment will bring, and an indication of what the financial services landscape will look like in five years.

The response was overwhelmingly optimistic. All parties agree that the current phase, in which new ideas proliferate and promising fintech innovations are accelerated by investors, through acquisition or incubation programmes, will lead to positive outcomes for all participants in the new financial services ecosystem.

Respondents believe that a new technology platform will emerge from the current phase (see chart 12, page 22). One which enhances the customer experience and provides the agility to enable financial institutions to respond quickly to changing market conditions, allowing them to bring new products to market more rapidly and profitably. This new phase may also kick start a virtuous circle of technology adoption that will help reduce costs, improve profitability and help define new technology standards as it gathers pace.

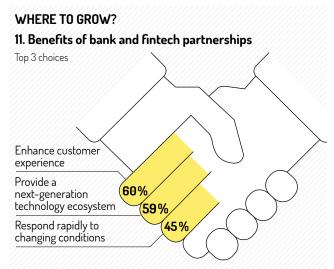
The application of new fintech to traditional financial services delivery at times appears limitless. Illusion or not, it is an impression backed up firmly by the findings of this year's research. Underpinning the new digital fortress and industry-wide adoption of the new tools of fintech however will largely be driven by the payments marketplace as consumers come to terms with the step-change challenges and opportunities that virtual, as opposed to cash or card-based payments make available.

A view supported by survey respondents where close to half of those surveyed cited faster or real time payments as the main trend in fintech over the next half decade and mirrored in the areas viewed as most likely to attract most attention from investors in 2017. Two thirds of respondents viewed payments as the most active area for investment followed by e-commerce and consumer banking in a list dominated by consumer-facing services.

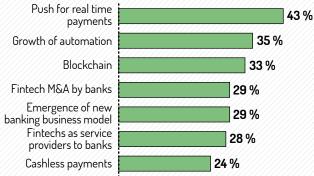


There are many challenges and questions to address besides digitisation. It is important to move at the speed of the customer, and adoption of certain new technologies could be a 10-year journey.

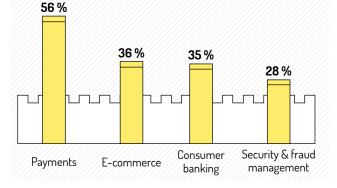
Elliott Goldenberg, Head of Digital Payments, MasterCard



12. Dominant fintech themes to 2020







While perhaps not very revealing it is significant, providing a marker as to how much the power has seeped from the castle walls down to the community below. As fintech applications continue to proliferate, their success will be defined by a network of factors driven solely by consumer take up and repeated use, displacing the model of scarcity and opacity in use since finance's medieval dawn.

Additionally, growth in self-service, automation such as roboadvisors in wealth management, and internet-enabled account management, alongside the development of products based on distributed ledgers were all viewed as dominant themes among interviewees and survey respondents for the years ahead.

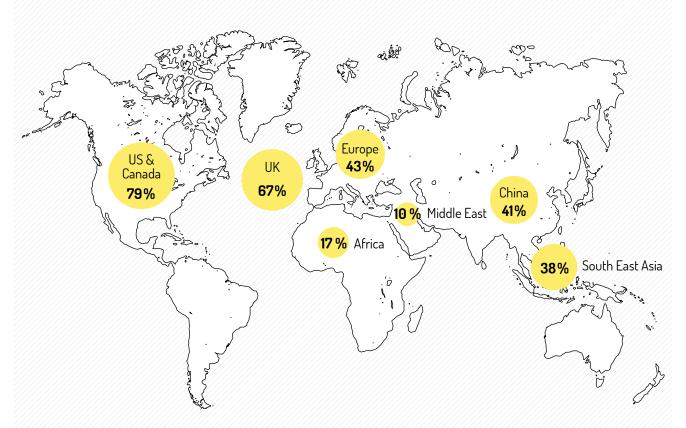
There is much to play for and, as the research underlines, the journey is only just beginning. With the internet of things, advances in artificial intelligence and machine learning helping to identify new areas where consumers might tolerate further automation, it is clear that successfully atomising fortress finance depends on the ability of banks and fintechs to work together. To achieve this will require the skills to build a robust platform that marries customer demands with entrepreneurial agility in a new holy alliance. For companies with the boldness of approach to embark on the quest, the rewards will be rich and herald the end of finance's medieval age.



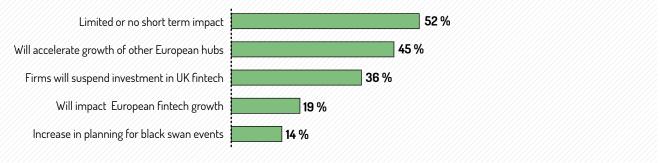
There's been a revolution in unbundling the traditional bank in the last decade. We believe that eventually everything will become re-bundled: users will have one app that connects them to all of their bank accounts and service providers

Shachar Bialik, CEO and Founder, Curve

FINTECH HUBS IN 2020



14. BREXIT IMPACT: DO BORDERS MATTER?



INTERVIEWEES



CHAE AN IBM



SHACHAR BIALICK Curve



ANDY BROWN NCR



ELLIOTT GOLDENBERG MasterCard



ANKUR KAMALIA Deutsche Börse



DAMIAN KIMMELMAN Duedil



MIKE LAVEN Currency Cloud



ANTHONY LIPP IBM



LUBAINA MANJI Rise, Barclays Bank



MUTAZ QUBBAJ Squirrel



SCARLETT SIEBER BBVA



SIGGA SIGRIDUR Santander



MICHAEL SIMEON VoguePay



CHRIS SKINNER The Finanser



PAUL TAYLOR Thought Machine



PAUL THOMALLA ACI Worldwide



TUOMAS TOIVONEN Holvi



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