



BIG BANKS CAN CHALLENGE FINTECHS WITH CLOUD BANKING

Traditional banks struggle to be as agile as their emerging fintech competitors. However, a new open-source cloud migration platform could put them on equal footing if they can also update their culture and product development process.

Fintech startups keep the customer at the core

Fintech startups have dominated the headlines in banking for several years now. While they represent a very small cross-section of the market, their digital strengths and speed that they bring has impressed customers and industry stalwarts alike.

The key to their success is an ability to be agile and rapidly develop new features in line with customer feedback — something large incumbent banks really struggle to compete with. Take Monzo, for example. Its “Big List” had feedback and ideas for new products and features shared by customers.¹ The unicorn (private companies worth more than \$1 billion), in-turn, kept customers updated on the progress on each of those products. Within three months of creating its initial list, 80% of the requested add-ons and upgrades were completed.²

According to Aberdeen Group research, companies can generate a 10x greater year-over-year increase in annual revenue by adopting a voice of customer strategy.³ Forrester research has found that customer experience leaders can grow revenue nearly 6x faster than their competitors.⁴

Traditional banks, on the other hand, struggle. Their legacy technology and siloed data makes it hard for them to respond at pace to customer feedback and needs. This chokes innovation and slows the response to changes in products. According to Oliver Wyman, traditional banks take between three to six months to launch offerings that fintechs can introduce in two weeks.⁵ In one case cited by Amazon Web Services (AWS), National Australia Bank used to take weeks for the workload deployment of its forex platform before it moved this capability to AWS.⁶

Of course, fintech startups and traditional banks cannot be compared

on a like-for-like basis. Fintech startups have a different risk appetite and funding model, and have for the most part yet to prove that they can achieve and sustain profitability. However, from a technology perspective, traditional banks can learn something from fintech startups, particularly around their use of the cloud and agile and DevOps methodologies. The challenge for banks has been a technical one — secure usage and adoption of cloud technologies to their full potential. That is until now.

Cloud and open source help innovate rapidly, economically

The upsurge in fast-moving, innovative startups, and fintechs, has been fueled by cloud and open source. The exponential fall in the cost of data processing from \$200K in the 1980s⁷ to \$0.03 in 2017⁸ has made the cost of hosting, launching and testing new digital business ideas extremely cheap. Meanwhile, open-source project

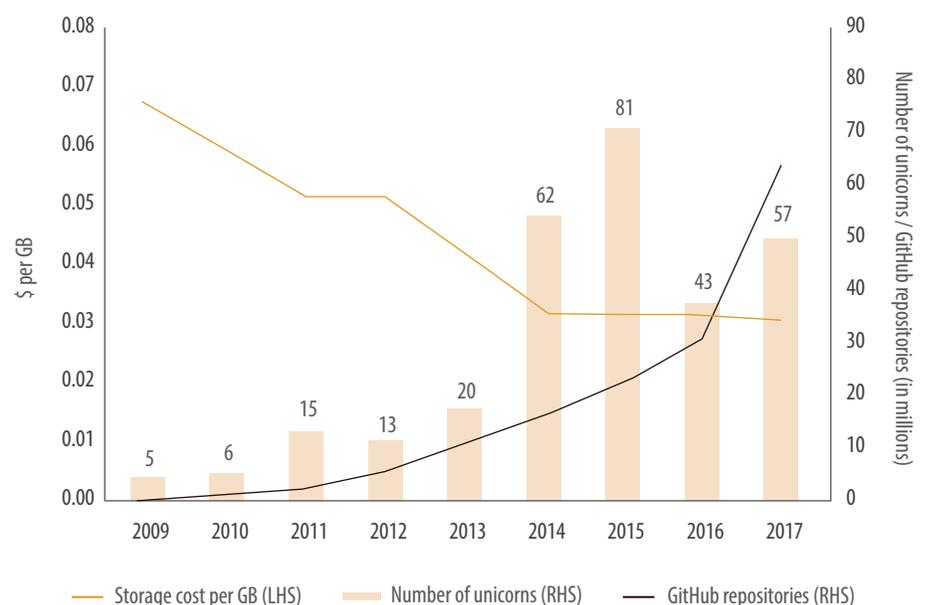
repositories, such as those created on GitHub, have skyrocketed, crossing over 100 million in 2018.⁹ These allow new businesses to design and build digital products easily and quickly by stitching together existing code. Software developers today need fewer skills and less time to make ever-more-sophisticated products.

Figure 1 tracks the falling cost of computing and the increased availability of open-source code, by using the proxies of storage cost and GitHub repositories. Over this time, it's clear to see how digital startups have benefited, using the growth in the number of unicorns.

Cloud and open source together enable businesses to rapidly iterate products at low costs

The key element here is the combination of cloud and open source that enables new businesses to rapidly iterate products at very little cost.

Figure 1. Startup success has been fueled by falling compute costs, and increased open-source availability



Sources: Visual Capitalist, Mkomo.com, Backblaze.com, Wikipedia

They have agile and lean business models allowing them to take on calculated risks. This dynamic gives fintech startups an edge over traditional banks in the following ways:

Start small, scale fast:

Take one of Europe's fastest-growing unicorns, Revolut. The startup began small in 2015, providing a forex interchange payments platform. The neobank added multiple products and services quickly — within 18 months clients could open current accounts. Insurance, crypto and stock trading services were also built. The digital bank recently received a European banking license and plans to launch savings accounts and extend loans. All this happened within a span of four years.

Technology infrastructure:

Startups have their infrastructure built for digital. Revolut's platform, built on the Google Cloud Platform (GCP)¹⁰ and its suite of services, allows the fintech to scale at speed. Customers can open an account within minutes and transfer money in seconds. The bank has onboarded more than 6 million customers, with 350 million transactions worth over \$40 billion.¹¹

Digital natives:

N26, a digital bank, said that its costs are one-sixth of that of any comparable incumbent bank, as its technology infrastructure works more efficiently and it does not have physical branch costs.¹² Fintechs, with their digital-only approach, save significant costs compared to traditional banks. According to a recent Economist article, fintechs need to make \$50 to \$60 per customer to break even, and that's including their product development and customer acquisition costs. However, for traditional banks, this figure is more likely in the region of \$200 to \$400 a customer.¹³

Quick-testing philosophy:

Lean startups are often said to be based on the philosophy of "fake it before you make it" and "move fast and break things." What this means is startups often build just the proposition but not the business functionality behind it. This allows them to be quick and test whether the proposition will work. But in a heavily regulated market such as financial services, this is not always appropriate.

It's possible to see how this new approach results in rapid growth. Again, Monzo is a great example. The unicorn is built on cloud-native technologies and open-source tools. This helps keep costs low, and speeds up product development and testing. It enabled Monzo to grow its customer base to 2.6 million in four years, thanks to its ability to rapidly deploy product features such as real-time transaction notifications, bill splitting and utility payments.¹⁴

Another example is Starling Bank, which has its IT infrastructure hosted in the cloud, resulting in a lower cost base.¹⁵ The bank's lean and agile infrastructure equips it to quickly innovate, effectively. This digital infrastructure facilitates customer data to be fed back into the system and derive insights that help consumers make better-informed, personalized financial decisions.

Technology issues weigh on traditional banks ...

Legacy systems are the biggest barriers to digital transformation (named by 45% of respondents) according to financial services executives [survey](#) by the Infosys Knowledge Institute in 2019.¹⁶ The reliance on legacy technology stops banks from taking advantage of agile ways of working. It also complicates and hinders banks from accessing their huge customer data for analytics and insights that improve customer

experiences. Legacy technology maintenance is also expensive, with experts estimating it to be 80% of banks' IT budgets.¹⁷

Banks store data in various locations, often accessed by different users. This siloed approach creates multiple layers of data duplication.¹⁸ Numerous data warehouses and lakes increase storage costs and have a bearing on run-the-bank costs. Traditional banks also suffer from their inability to benefit from data analytics and insights that can improve customer decisions and experiences.

Traditional banks move data manually, with project teams being set up for each data movement that can run into months. This is time-consuming and counterproductive in this digital age, where customers' demand for instant, real-time, and personalized products and services has become the new normal.¹⁹

Customer data in any form is sensitive for banks. Cloud vendors, such as Google and Microsoft, have outstanding security expertise, and all are certified compliant with federal data governance standards. Despite this, there are still significant cultural factors to overcome. For instance, Stephanie von Friedeburg, then CIO of the World Bank, faced pushback from her legal team when she tried to move the organization to the cloud. Eventually she was able to make her case that the business agility, combined with other benefits of the cloud, outweighed its risks, and the international institution adopted cloud technology.²⁰

This whole situation is further complicated due to the European General Data Protection Regulation (GDPR), which affects any business targeting the European market. Given the requirements that GDPR places on businesses, the ability to track and manage data lineage becomes all the more important. But it adds another layer of challenge to the financial



45% of executives consider legacy systems to be the most serious barrier to digital transformation in 2019

industry, which is already swamped with large volumes of siloed, high-volume data.

Legacy technology is such a barrier that the best examples of large banks launching fintech propositions are those that have been able to start from scratch, rather than building on old technology. This is very common in Asia where banks aren't encumbered by as much legacy technology. For example, India's ICICI Bank completely built its business on the Finacle core banking platform.²¹ This helped it roll out new features and products quickly. ICICI introduced India's first mobile banking application, iMobile, in 2008, and within 10 years added over 250 services.²²

In the west, the best example is Marcus by Goldman Sachs. Started in 2016, the digital bank has built its entire business on the cloud that helped it garner \$50 billion in deposits, \$5 billion in loan balances and nearly

4 million customers in a little under 3 years.²³ To do this, Marcus has used cloud technology and agile methodologies. For instance, it used this approach when it implemented Finacle's consumer lending solution on Goldman Sachs' Cloud that went live in the U.S. in under ten months and within budgets.²⁴

Yet, such spinouts are not necessarily a long term solution for traditional banks who already have retail banking operations. For Goldman Sachs, Marcus represents their very first business in retail banking. Established retail banks that take this route, however, will still eventually face the complication of integrating customers, data and processes with their parent bank. Yet this may well be worth the challenge if it means they attract a new demographic and grow market share.

... but they can now catch up

A new era of cloud technology is coming for traditional banks that will enable banks to avoid starting from scratch when building modern, digital-first propositions. Code-named JuniperX — the petabyte-scale data management cloud platform, part of Infosys Cobalt, built by Infosys in partnership with one of its large banking clients enables banks to integrate their legacy data with the cloud quickly and safely. The data management platform (an end-to-end data delivery suite) could be a fundamental part in helping banks leapfrog into the cloud space and develop products quickly. In this way, traditional banks can use JuniperX to start being more like fintech startups and solve their legacy technological issues.

In fact, the platform is already being used by the client as a critical enabler



to benefit from new technologies and advanced analytics. JuniperX allowed the bank to move data in a scalable and an efficient manner, in line with the stringent regulations placed upon it. It had to also meet the required standards of the evolving cybersecurity and regulatory risks in the digital space.

JuniperX — initially created to move data to the cloud, at scale, while simultaneously adhering to the bank's controls — ensured the safe and consistent arrival of data. It was initially tested on the bank's commercial banking business, and helped move the business's daily data to the cloud. The platform reconciled and audited data feeds registered in accordance with the bank's security standards.

With JuniperX, the bank saved \$8.5 million on license renewal costs for the Ab Initio software that addressed real-time data processing and application integration.²⁵ The client also saved millions of dollars by moving over 230 terabytes of data and Teradata workloads to GCP using automation and software code conversion.

This is just a glimpse of what JuniperX can enable. Once the platform is

established, a bank can begin to treat the data trapped in its legacy systems as if it was in the cloud. This means it can begin to use more open-source tools to analyze data and build and test new customer features.

Banks with data in the cloud and access to open source can suddenly be agile with managing their customer data. The platform can help them understand their customers better, draw meaningful insights from the data and build better financial products.

As banks have significantly more data than fintech startups do, they have the opportunity to do much more with the data, such as advising corporate clients on where and how to spend their resources.

Yet, traditional banks suffer from a host of other issues

JuniperX solves a lot of the technical issues that banks face in utilising the cloud effectively. However, this alone will not transform a bank into an agile

digital native. There are still several operational, strategic and cultural elements to be tackled:

Hierarchy

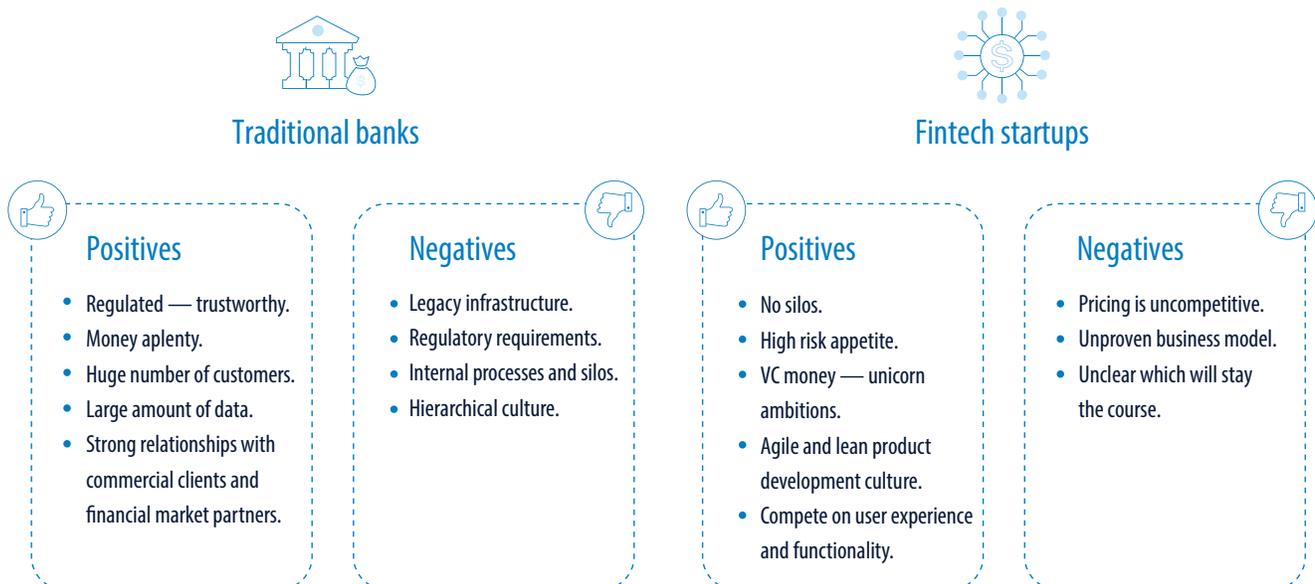
Traditional banks are known to operate large hierarchies and are extremely process-oriented. This slows down decision-making and increases a product's time to market. Fintech startups, on the other hand, work in a flat environment where decisions are fast-paced and products are released quickly.

Culture

To be safe, steady and considerate are imbibed in the culture of every traditional bank — the opposite of how fintech startups operate. These digital natives have a consumer-centric approach and are risk-takers that help foster innovation, test quickly, fail fast and change with agility.

Digital natives are consumer-centric and risk-takers

Figure 2. Fintech startups versus incumbent banks — the positives and the negatives



Source: Infosys

Regulatory

The banking industry is heavily regulated. A tier 1 bank can spend nearly \$300 million a year to update existing software and meet regulatory requirements.²⁶ This regulatory framework also restricts their ability to benefit from new technologies.

Fintechs are not bound by regulators and can grow fast. Revolut had 3.2 million customers²⁷ even before it had a banking license — offering prepaid forex cards and services that mirrored a checking account.²⁸ Fintech startups focus on building the platform and enriching customer experiences. They use their partnerships with financial regulated entities to navigate regulators. For instance, before receiving its banking license, Revolut customers could open an account that was indirectly opened and maintained at either Lloyds or Barclays.²⁹

Funding

Banking is a capital-intensive business, and while traditional banks are known to be cash-rich, fintech startups are funded without a bottom line. They take on additional risks because of the availability of cheap venture capitalist funding. This stems from venture capitalists' desire to buck the low-interest rate regime and turn their investments into unicorns. Revolut has raised \$336 million from global VCs to date, making it the fastest-growing unicorn, with a valuation of \$1.7 billion. It reported a loss of £7.1 million in 2016³⁰ and £14.8 million in 2017.³¹ Yet, venture capitalists are not shying away: Revolut plans to raise an additional \$500 million in 2019.³² The era of fintech startups is such that crowdfunding has become a viable seed-funding option. In 2016, Monzo raised £1 million in 96 seconds.³³ Preregistrations for Revolut's £1 million crowdfunding garnered £12.9 million.³⁴

The incumbent advantages

Incumbents do still have a strong chance to succeed. They are well regulated; have a large swathe of customers and the data that comes with them; and benefit from economies of scale, with a combination of retail, corporate and investment banking divisions under one roof. This enables them to act as a one-stop shop for their customers. However, they need to focus these resources in a more agile way to compete with fintech startups and provide customers with responsive products.

It's also worth bearing in mind that fintech startups do not compete strongly in all areas. For instance, most charge for services such as cash withdrawals or contactless payments that traditional banks either offer for free, or price at a lower level. Also Starling and Monzo both offer interest on their current accounts, but these are not necessarily at the most competitive rates.³⁵

Future of banking — who do you think will win: fintech startups or traditional banks?

It's too early to say who will come out on top as fintechs and traditional banks compete for customers. It's also important to note that currently their businesses and propositions can't be compared directly. Each have positives and negatives (Figure 2), and while banks are well funded, fintech startups seem to have no need for profitability — yet. While banks are bound in a regulatory environment, fintech startups aren't, and they can be quite flexible in their business model.

What's clear is; by leveraging a platform such as JuniperX, they both can start benefiting from the cloud, becoming faster and more agile as a result. Technology alone isn't the silver bullet to traditional banks' woes; however, with JuniperX, it will be less of an issue. To become fully agile, banks need to fundamentally change their culture, increase their risk appetite and act more like their fintech competitors.

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