



RETAIL BANKING REPORT

CLOUD BANKING – INNOVATION WITHOUT LIMITS

**(THE FUTURE OF
FINANCE IS OPEN**



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SYNOPSIS

A few years ago, the need to overcome legacy issues and become more efficient whilst reducing costs prompted banks to consider moving to the cloud. It is now clear that the need to innovate and keep up with new entrants has become the key driver in a bank's strategic decision to adopt the cloud. But how does it help banks meet their goals and ambitions? What are the key banking trends driving the rise of cloud?

A worldwide survey of banking leaders carried out by Efma and Finastra, plus input from experts at Microsoft and KPMG, provides a clearer picture of the needs and motivations of banks; what the cloud offers and some candid advice to those on a mission to move to the cloud.

EXECUTIVE SUMMARY

The rapid emergence of cloud computing is transforming the way financial institutions think about how they consume their IT resources. Traditionally, banks have been reluctant to embrace the technology, especially on security grounds. There were other challenges too, such as regulation and the complexity and procurement cost involved in managing many different suppliers.

However, as they start to fully understand the benefits, banks have recently been taking a closer look at the advantages of a cloud-based model. Cloud can enable business agility and rapid evolution. The on-demand innovation it makes possible can satisfy growing business needs, yet with no compromise on security and without the historic investment burden of IT transformation.

The Global Cloud Computing Market Will Exceed \$200 Billion in 2019 (Forrester). And will continue to grow at a 22% compound annual growth rate.

A major shift is taking place in how enterprises select their financial management applications, with a migration to cloud applications happening faster than expected, according to a recent Gartner press release, "currently almost 19 percent of cloud budgets are spent on cloud-related services, such as cloud consulting, implementation, migration and managed services, and Gartner expects that this rate will increase to 28 percent by 2022."²

Anand Subbaraman

General Manager Retail Banking,
Finastra



\$200 Bn

Size of global computing market in 2019

+22%

Continued compound annual growth in global computing market. (Forrester).¹



1. www.informationweek.com/cloud/cloud-computing-2019-the-cloud-comes-of-age/d/d-id/1333442

2. Gartner Press Release, "Gartner Forecasts Worldwide Public Cloud Revenue to Grow 17.5 Percent in 2019," 2 April 2019. <https://www.gartner.com/en/newsroom/press-releases/2019-04-02-gartner-forecasts-worldwide-public-cloud-revenue-to-g>

Cloud is the New Operating Model in Retail Banking



Organizations need cloud-related services to get onboarded onto public clouds and to transform their operations as they adopt public cloud services, said Mr. Nag. Currently almost 19 percent of cloud budgets are spent on cloud-related services, such as cloud consulting, implementation, migration and managed services, and Gartner expects that this rate will increase to 28 percent by 2022.”³

Sid Nag

Research Vice President at Gartner



A who's who of challenger banks in the UK now reads like an index of case studies for public cloud providers. Monzo, Starling and Tandem are all on a public cloud. Goldman Sachs' Marcus launched on the cloud. Shawbrook, Oaknorth, and Chetwood Bank all use public cloud providers. The UK's newest clearing bank, Clearbank, also runs on a public cloud.

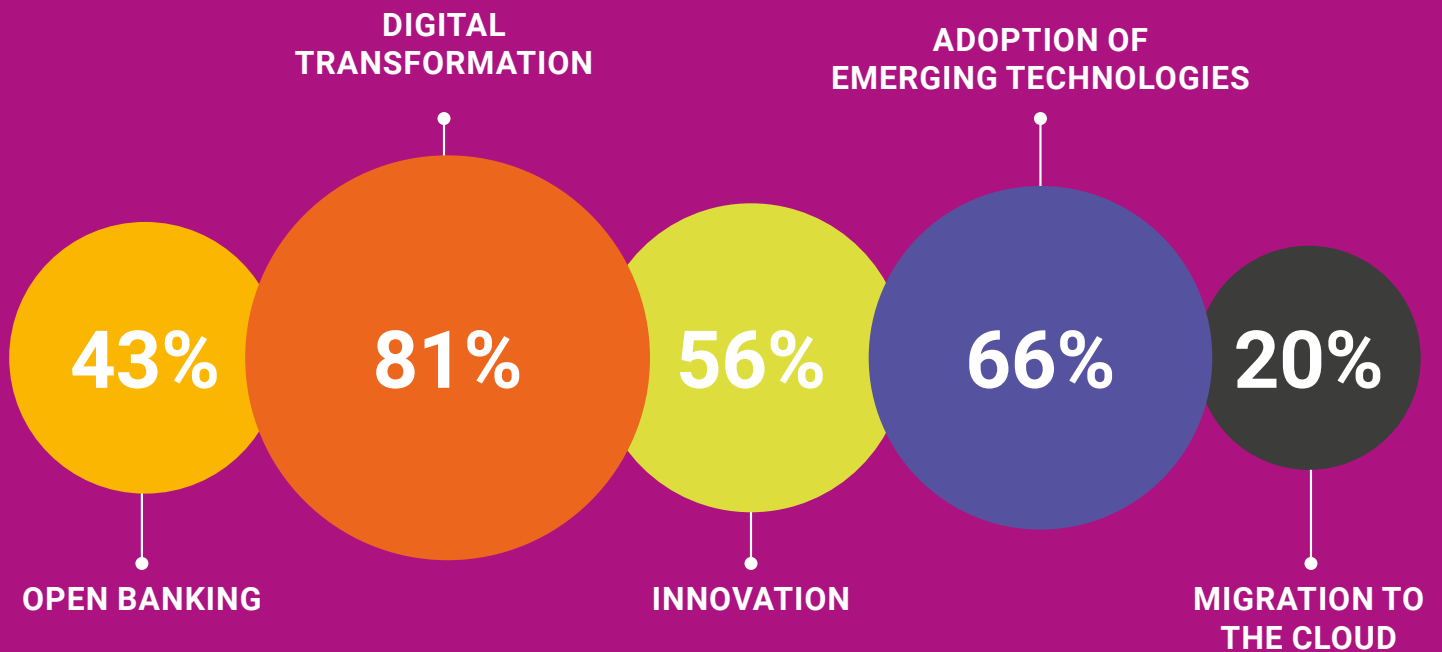
The older challengers may not have been able to launch on the cloud, but they have either migrated to cloud since then, or have plans to do so. Tesco Bank and Metro Bank have both migrated to the cloud. Atom Bank is planning to also.

Younger challengers, those which have yet to come to market, are all but guaranteed to run their technology on the cloud. revverbank, which will launch an SME-focused offering, has also chosen to work with a public cloud provider.

The same trend applies in Europe and beyond. Finnish business banking start-up Holvi launched in Germany in 2016, with its infrastructure entirely on a public cloud. N26, which launched in 2016, is fully on the cloud. French challenger bank Ditto is running on a private cloud. And Dutch savings bank Leaseplan is running its core software on the cloud.

3. Gartner Press Release, "Gartner Forecasts Worldwide Public Cloud Revenue to Grow 17.5 Percent in 2019," 2 April 2019.
<https://www.gartner.com/en/newsroom/press-releases/2019-04-02-gartner-forecasts-worldwide-public-cloud-revenue-to-g>

BANKS' TOP PRIORITIES FOR THE COMING 1-3 YEARS*

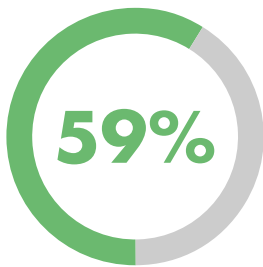


Banks priorities is to focus on digital enabling technologies to provide a highly relevant customer experience, attract customers, build customer loyalty and wallet share whilst improving business efficiencies.

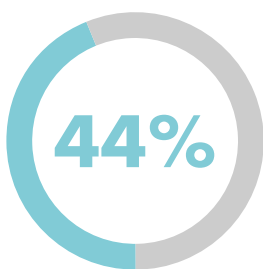
More Trust in Cloud Services for German Banks



Cloud providers need to adapt their offering to the requirements in Germany, a highly regulated market. Still the market for cloud services in Germany was growing by almost 30% in 2018.⁴



In the German banking sector, the cloud adoption has reached 59%.⁵



44% of German banks say they plan to roll out more cloud services over the next five years.⁶

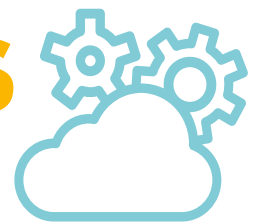
All of the most disruptive banks in the world are on the cloud. And the banks that are most likely to grow market share in the next few years will almost certainly be running on the cloud.

The established banks understand this. They too are looking to deploy in the cloud wherever possible. It is the new standard in retail banking.

DO YOU HAVE A CLOUD ADOPTION STRATEGY?⁷

54% YES

Strategy in place



(to be executed within the next 12/24 months)

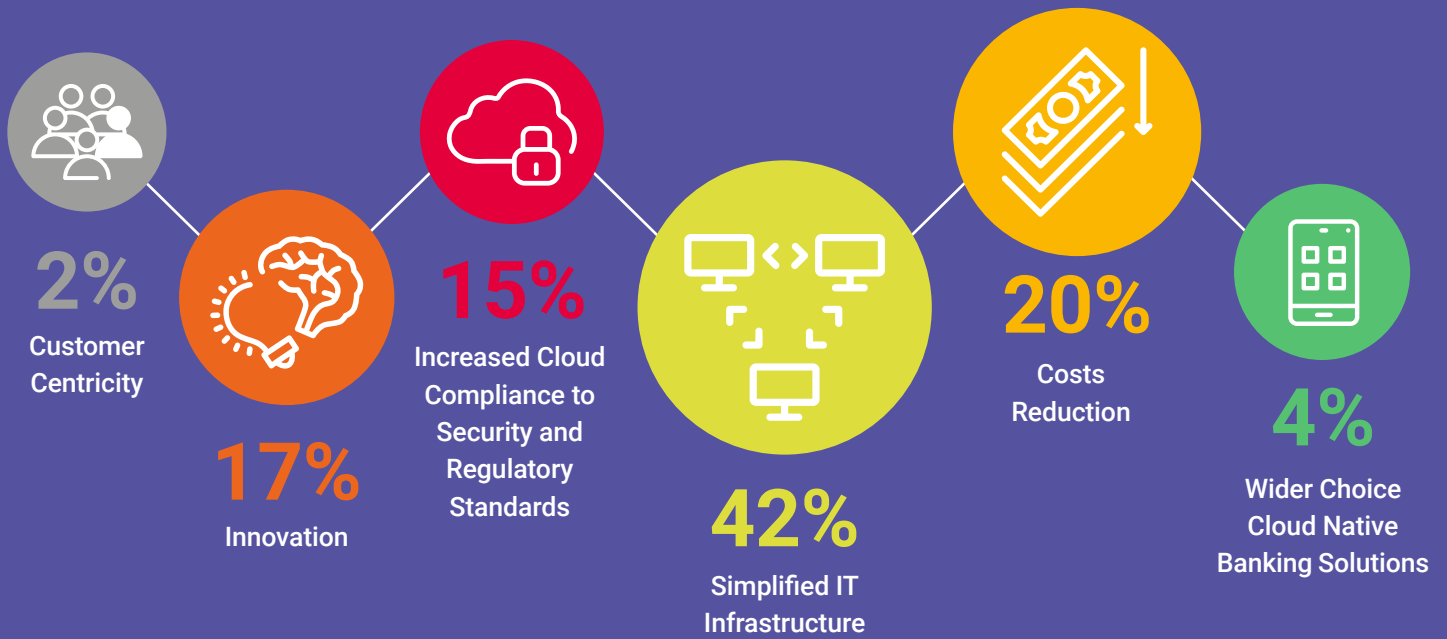
This is a recent development. For years, moving to the cloud was perceived as a risk most banks were not willing to take. But as the cloud made its way into every aspect of customers' everyday life, challenger banks rushed to embrace the opportunity. Consequently, the need for traditional banks to consider cloud adoption grew.

It has become clear that the cost advantages and flexibility of cloud enables financial institutions to become more agile, nimble and innovative, benefits that are now outweighing previous concerns about security and performance. Use cases from cloud providers demonstrate cloud's inherent security and compliance, and as time passes the track record of banks' cloud-based infrastructure has increased comfort levels.

This paper will look at the reasons why this shift has taken place, why the cloud is a crucial component of open banking, and what this means for challenger and established banks in the years to come.

4. Source: Digitalbusinesscloud magazine, 2018 | 5. Source: KPMG & Bitkom, 2018 | 6. Source: HTF Research & GFT Technologies, 2018 | 7. Finastra - EFMA Cloud Survey

WHAT'S DRIVING BANKS TO THE CLOUD?*



Cloud Aligns with Banks' Desire for Agile Innovation

An example of the agility cloud delivers comes from Tesco Bank, which moved from on premise hardware to a public cloud provider in 2015. On legacy infrastructure, launching a new landing page on its website would have cost £3,500 and taken three months, but it took one week and cost £66 a month on the cloud.

Another example comes from Redwood Bank, which managed to launch on the cloud 12 months after submitting its license application to the UK's FCA and PRA. This compares very favorably with the wave of pre-cloud challenger banks, which, after many years in the making, would come to market with a bare-bones proposition, and evolve only slowly after that.

Cloud also simplifies, speeds up and minimizes the risks during the product development cycle. Product testing is an excellent example of a computing process that is best delivered in the cloud. It places a heavy burden on computing resources and can take unpredictable amounts of time. It substantially increases the peak capacity a bank needs to hold in-house, while also driving down the utilization rate. This explains why the use of public cloud-based testing services has grown in the last few years.

The use of cloud also minimizes the cost of failed innovations. Creative, innovative IT departments can take risks designing and even launching new products in the knowledge that the computing capacity can be spun up as required – or decommissioned if no longer needed. This enables a level of agility in testing and launching new products that would otherwise not be available.

By being able to bring products to market quicker and eliminating some of the risks and costs of failure, cloud-based banks can adopt an entirely different attitude towards innovation that is simply not available to banks with traditional IT. By dialing up and down its capacity, a cloud-based bank can quickly publish beta versions, use soft launches or pilot programs, and reverse these moves just as easily as it can accelerate them. It can "fail fast".

That customer expectations have risen should not be in doubt. As millennials and digital natives comprise more of the workforce, businesses are increasingly sensitive to the customer experience they receive and more likely to switch providers for better service.

BANKS' KEY CHALLENGES*



63%

Customer Acquisition & Retention



52%

Fast Time to Market



50%

Agile Innovation



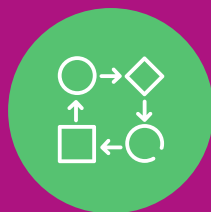
37%

Regulatory Compliance



33%

Rapid Solution Deployment



28%

Lean & Efficient Operations



26%

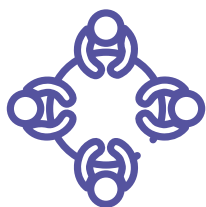
Cybercrime Prevention





A YouGov survey commissioned by Finastra in 2019 found that 41% of SMEs had opened a new account with a secondary bank, and 29% did so for a better overall service. The battle for account switchers throws the spotlight on banks' technology. Switchers are more likely to value a bank's mobile and digital offering, and,

are more open to the idea of banking with non-traditional players – 40% would be open to banking with GAFA (Google, Amazon, Facebook or Apple), which shows the potential of Apple's recently launched credit card. Crucially, one third of switchers now hold their main accounts with a challenger bank.



46%

of SME financial decision makers in companies aged under 5 years, said that their business would be likely to switch its main bank account in the 5 years, compared to 29% overall



40%

of under 45s would consider banking with a digital giant like Google, Amazon, Facebook or Apple (GAFA), should these companies enter the market

Lower TCO Is Most-Cited Benefit of Cloud Adoption

The cost profile of cloud is not the only benefit, but it remains a very important factor in its uptake. Lower TCO and operational efficiency were the most-cited benefits of cloud adoption, mentioned by two-thirds of survey respondents.

We know there is little appetite for building or renting data centers and increasing and improving data processing and analytical capacity. Instead of doing this, banks can use up-to-date and fit-for-purpose apps that sit in the cloud.

This model also enables rapid scalability both vertically and horizontally. This is hard to do on premise. From the outset, there has always been a clear commercial case for a move to the cloud.

This explains why almost as many respondents – 63% – cite scalability as a benefit of the cloud, and 60% point to speed of innovation. These two benefits are closely linked.



The reality is that the cloud can help to solve many of the issues around cost because it is remotely managed, maintained and upgraded. The cloud model enables banks to focus on their core competencies and not spend time and human resource on managing data centres.”

Matt Frank

Lead Cloud Consultant, Cloud Transformation,
KPMG



HOW WILL BANKS BENEFIT FROM THE CLOUD?*



67%

Operational Efficiency/
Lower TCO



63%

Scalability



60%

Speed of Innovation



50%

Market Agility



43%

Increase Business Focus



35%

Access to Ecosystem



30%

Predictability of Costs



19%

Greater Security



7.5%

Evergreening

03 DRIVER 3: CLOUD EASES ACCESS TO MARKETPLACE ECONOMY AND PARTNERSHIPS WITH THIRD PARTIES

The Cloud is all About Meeting Customer Expectations in Terms of Access, Usability, and the Possibilities Offered by Open Banking

Open banking and the second Payment Service Directive both require financial services firms to allow third-party businesses access permitted customer data, offer personalized services and become part of the customer's financial ecosystem.

These changes have paved the way for a platform model where banks, both challenger and established, can offer third party services to customers or indeed be a third-party service on another platform. Banks need to offer an ecosystem as well as being a part of others' ecosystems.

API enabled ecosystems, technologically possible for a while, are the only way to do this and are beginning to gain significant traction.

These new market paradigms are best served with a cloud-based environment. Indeed, the cloud plays a pivotal role. It reduces the implementation effort and smooths friction points because it can host the required tools: API gateways, identity and access management as a service, and cyber security as a service. In this sense it serves to align with the desire to have agile innovation, be fast to market and ultimately attract and retain customers.

The cloud is all about meeting customer expectations in terms of access, usability, and the possibilities offered by open banking.

New entrants to the market use a cloud-based environment to provide access to products and services in an agile way. Their challenge is the lack of a customer base to use them. Conversely, established banks have the customer base but need to work hard to have the necessary IT infrastructure in place to offer platform-based services and the ability to get those services to market quickly to retain and extend their existing customer base.

The analytics that can be performed on a bank's data is also transformed when that data is in the cloud. Tapping into artificial intelligence and machine learning processes are far more viable in the cloud, again enabling the bank to connect to such services on a pay-per-use basis while also potentially giving the bank access to existing data sets. This extra dimension, only possible on the cloud, maximizes the chance of bringing successful products to market.

And for those successful products, cloud enables immediate roll-out, with no hold-ups for procurement. Building marketplace offerings which take advantage of open banking will become ever more important as awareness of open banking increases and new experiences are developed. Banks that are on the cloud are best placed to do this.



Ultimate Security Provided by Cloud Providers

Security has moved from being a perceived weakness of cloud computing to one of its most important strengths. Public cloud providers deploy the highest standard of security and compliance, which is extremely difficult for an individual bank to compete with. Microsoft alone spends over \$1 billion a year on cloud security. Building the equivalent expertise and security in-house would be an impossible task for start-ups and established banks in the lower tiers. Indeed, a study from Deloitte calculated that financial institutions spend an average of around \$2,300 (£1,900) per full-time employee on cybersecurity annually, a huge overhead for a challenger bank.

While initially cautious about cloud, regulators have in recent years signaled support for the model. Until 2016, the UK's FCA required physical access for itself and auditors to servers, which was not realistic for multi-tenant public cloud users. However, these requirements were relaxed in 2016 with "choice and control" replaced by broader data residency requirements (which public cloud providers guarantee), and confirmation from the FCA that it could see no fundamental reason why regulated entities could not use cloud computing.

The backup and restoration process is also transformed by the use of cloud computing, with data backed up more securely and without the time and resource cost.

Until recently, established banks could point to the high burden of compliance as a cost of doing business and a barrier to entry for new competitors. But the advent of cloud has turned this assumption on its head. Now, a new entrant can effectively outsource much of their data compliance and security requirements to their cloud provider (albeit keeping regulatory responsibility) and do so with lower overheads and fewer staff than traditional banks.

According to the Gartner report "Cloud Heat Map for Banking and Investment Services, 2019"⁹, the compound annual growth rate between 2014-2018 for risk, security and compliance cloud deals has grown 148%. Further, the report states, "this sector has continued to build up over the past years and it doesn't appear it will stop the future, especially since it will be fueled by the analysis over unstructured data."



148%

The compound annual growth rate between 2014-2018 for risk, security and compliance cloud deals has grown 148%.⁹

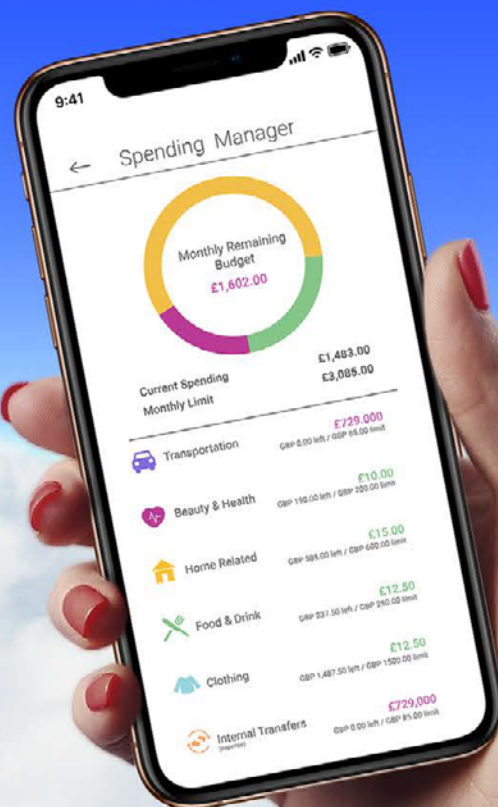
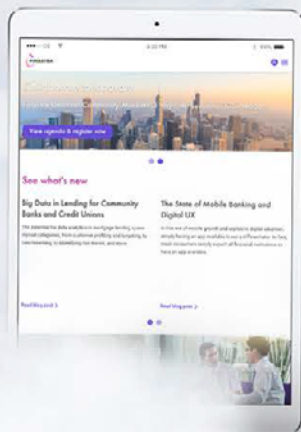
9. Gartner "Cloud Heat Map for Banking and Investment Services, 2019," Vittorio D'Orazio, Jason Malo, 5 September 2019.

CLOUD BANKING – INNOVATION WITHOUT LIMITS

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Cloud Is 'Simple-by-Default'

Despite efforts to ease the process of setting up a new bank, it remains a daunting process. Only those groups with the tightest of business plans and the most thorough preparation can expect to survive the scrutiny of the regulators.

The banking license application process focuses on two areas: financial resources and the robustness of the proposed IT infrastructure. So, the simplicity offered by a cloud IT environment could be the difference between securing a license or not. It is one of the reasons why "simplified IT structure" was the single biggest driver chosen by our survey respondents for the growth of cloud adoption.

Because of the long lead time for bringing a new bank to market, and the pressures this brings on funding, recruiting and reputation, the imperative for new banks is to get their license and get over the line as soon as possible, so they can start to grow mind share, market share and revenue. Most new banks start with a small product set and a streamlined offering – a "minimum viable product" approach. A typical start-up might launch with a single digital access savings account, a basic current account, or a prepaid card and mobile app, with plans to grow into a full-service bank later.

Both in the initial start-up phase and postlaunch, cloud computing is the simplest way to achieve this. It is "simple-by-default" because:

- It has simple, predictable, linear costs that make budget planning straightforward and easier to demonstrate the viability of the business plan to regulators. This compares favorably to hardware procurement with its associated dangers of under- or over- provisioning and costs in areas such as real estate and insurance.

- Cloud takes away responsibility for the headaches associated with physical infrastructure – disaster recovery, physical security and overheads, power and water consumption, capitalization, amortization, depreciation and upgrade. With cloud, it's out of sight and out of mind. When you aren't using it, you aren't paying for it and you don't have to think about it.

Cloud also simplifies data by taking it out of silos and managing it quickly and accurately. This is especially valuable in the middle and back office, where software hosted on the cloud can manage vast quantities of data and turn it around with minimal latency, supported by an exceptions-based error reporting method. This means that the middle and back office can work more efficiently and focus on more value-added tasks such as sophisticated analytics to give insights to all areas of the bank. In particular, volumes of granular data extracted using a market-leading analytics tool, can give the bank's front office the edge when it comes to decision-making.

The cloud also makes it possible to provide a better customer experience, using chatbots, video calling, and AI-enabled customer service and fraud detection. And in an open banking context, an API-enabled system in the cloud serves to broaden the services available to customers, enhancing the bank's overall proposition.

The simpler their IT landscape, the better chance banks have to thrive. Embracing cloud computing is the surest way of achieving this simplicity.

WHAT WOULD SUCCESS IN CLOUD MEAN TO YOUR BANK?*



“

Agile deployment of new solutions and a more flexible operating model.”



“

Quantifiable and measurable financial and operational business value.”



“

More resources allocated to our core business activities”



“

Scalable solutions with the lowest possible risks.”

Cloud Deployment Success Factors

The importance of agility

By now it is clear that the overwhelming case for adopting a cloud operating model revolves around cost saving, scalability, simplicity and agility.

The agility issue deserves a little more attention. A recent article by Microsoft¹⁰ says that to maximize the gains that the cloud can provide, banks need to move away from a focus on carefully controlled development and risk reduction, and learn to envision, experiment, and optimize quickly.

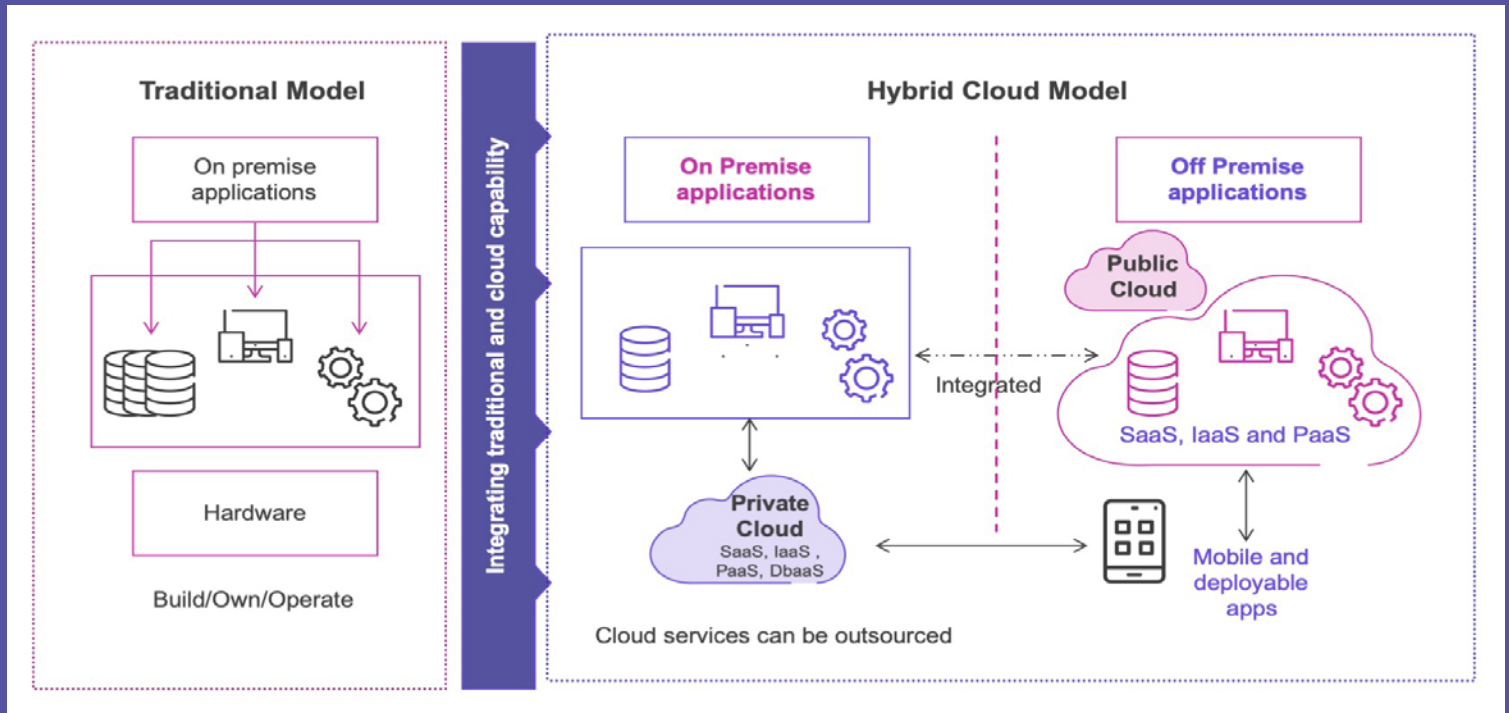
The argument is that migration to the cloud is an opportune moment to modernize an IT ecosystem to provide the agility required: "looking at each application to determine its place in the new environment, or if further investment is justified. Even for applications that remain on premise, modernization can save time and money."

It goes on to describe a three-stage process: experimentation, migration and transformation.

"In the transformation stage (which often overlaps with the migration phase), selected applications are redesigned to take maximum advantage of the cloud affording greater scale, greater integration with other cloud services, and numerous other advantages. The now-cloud-native applications can take advantage of cloud services such as machine learning, big data, streaming analytics, and many others — making them much, much richer in function and feature than before."

10. <https://blogs.partner.microsoft.com/mpn/map-your-customers-journey-to-the-cloud/>

HYBRID CLOUD MODEL



Hybrid as a first step

Particularly for existing banks, a hybrid approach is increasingly seen as a sensible step towards a cloud-based future. Selective cloud migration can, for example, enable banks to keep direct control of risk management and oversight of regulatory standards. It means that banks can keep key legacy systems or those that are too sensitive to place in the cloud, while taking advantage of the cloud for launching new applications. As well as allaying security concerns, this approach can minimize the operational, cultural and personnel changes implied by a full move to cloud.

For the banking industry specifically, different providers have quickly built up real experience of both migrating banks to the cloud, and taking start-ups from inception through the licensing process, all the way to launch and then beyond. And cloud providers have built close relationships with banking software players, enabling them to come to market with a joint proposition. Start-ups can therefore evaluate the software and cloud providers holistically, looking for a trusted infrastructure provider and best-in-class software proposition.

In brief, the industry has matured in a short space of time.

The vendor to work with is one that can best demonstrate understanding of bank governance issues, licensing requirements and launch process combined with an innate appreciation of bank internal deadlines and the full TCO. Don't underestimate the cost of the extras around the core solution and understand exactly what is and isn't included.

The final point is, don't underestimate the importance of functionality – cloud does not mean “basic”. Innovation used to mean using in-house IT experts to customise either in-house or packaged software, but that model has run its course.

Now, innovation stems from quickly integrating an ever-growing catalogue of cloud-based services and processes to deliver new products and experiences. Moving to the cloud in no way means giving up “control” or a deterioration in “functionality”.

**Truly, the only way
is cloud.**

WHAT WOULD SUCCESS IN CLOUD MEAN TO YOUR BANK?*



“

Cost and risk reduction, ease
of access for data in different
architecture data bases.”

* Finastra - EFMA Cloud Survey



07 AUTHORS



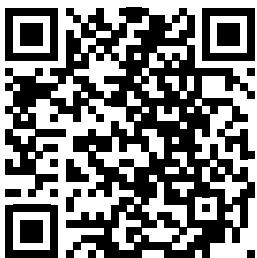
Lawrence Freeborn

Lawrence Freeborn works in the Market Intelligence Team at Finastra. He has 11 years of experience conducting qualitative and quantitative research into the financial services technology industry on behalf of software firms and independent analyst/consulting houses.



Andrei Charniauski

Andrei Charniauski runs the Market Intelligence Team at Finastra. Andrei has 14 years of research and consulting experience covering technology in financial services.



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