



TEMENOS
THE BANKING SOFTWARE COMPANY

The Future of Digital Banking in the Cloud

In collaboration with Amazon Web Services



Cloud has become one of the most talked about topics in banking, especially since benefits include cost reduction, faster innovation, risk mitigation, and accelerated digitization of mission-critical services.

Cloud computing technology may have been around for a long time, but it is only recently that banks have started to understand that the cloud is a true portal for change and innovation. Not only can banks reduce costs significantly on outsourcing or accessing infrastructure, but they can also get new initiatives to market faster than ever. Banks can even outsource the software itself to application software providers, making it easier to run, operate, and scale existing portfolios and new initiatives.

But it's not just direct IT savings powering the drive to provide banking services from the cloud.

Banks are now expecting to change at a ground-breaking rate. Both traditional and challenger banks are looking to leverage cloud-banking systems to foster new business models – not just to merely overcome the prevailing market challenges, but to prosper.

The Economist Report (See Box 1) shows the responses from a January–March 2019 global survey by The Economist Intelligence Unit, on behalf of Temenos, which surveyed 405 global banking executives on the changes they see taking place in their industry between 2020 and 2025. Cloud has significant prominence: over one-third of respondents are planning to use cloud to boost computing power, with nearly two-thirds anticipating their public cloud utilization will overtake their use of private cloud by the middle of the next decade.

Mainstream adoption of public cloud in banking is predicted to occur by 2023, according to Gartner. It predicts a five-year growth CAGR of 15.2% (vs 7.5% for banking in general).



If consumer demand for seamless, ubiquitous service is at one end of the spectrum, regulations and new banking entrants add pressure from the other end. Banks are under pressure to innovate at scale and pace to be relevant and compliant, while increasing profit margins. Changing a bank's production system can be slow, risky, and costly due to low levels of automation, insufficient test coverage, and weak processes to provision infrastructure on expensive hardware. Agile and DevOps methodologies have been implemented in most banks to keep up with this pace, but they still struggle to obtain meaningful returns. Furthermore, banks are realizing they need to have their own unique propositions in the market, rather than following the "me, too" model of old.

Optimization via the cloud is achieved when all of the moving parts are harmoniously aligned. There's a major difference between being cloud-native versus running software in the cloud.

The nature of cloud native-software is about the very way a bank's software is constructed so that it is scalable as well as easily adapted and updated. Cloud-native software is constructed as a series of building bricks, rather than delivered as a cumbersome sealed monolith, and this is what gives impetus to getting new banking features in the hands (or the fingertips) of customers.

| There's a major difference between being cloud-native versus running software in the cloud.

Box 1 *

The
Economist

INTELLIGENCE
UNIT

35%

are looking to cloud technologies to **address** their **computing power needs**.

60%

foresee deploying **more computing power** in the public cloud by 2025 **than** they currently deploy in all **private clouds**.

36%

of retail banks top new proposition for innovation is building their own **greenfield digital bank**.

* A whole new world: How technology is driving the evolution of intelligent banking, The Economist Intelligence Unit
<https://www.temenos.com/en/market-insight/2019/a-whole-new-world/>

Keeping it Fresh

What happens after launch? Services already in the market aren't excluded from the benefits cloud has to offer. And even services born in the cloud aren't immune to market vagaries and fluid customer demand.

Change is inevitable.

Cloud-native software can eliminate the old-world need for a costly, protracted project to upgrade software. Effectively, cloud-native structure entails lots of pieces of manageable code (in the form of microservices) rather than enormous clumps of software hosted in the cloud. This allows the development teams to edit only those parts of code whenever they need to make a change, rather than having to wait for a convenient time to take down the whole service.

The pace of innovation and the proliferation of digital devices are impacting the banking operating models and influencing the wider ecosystem. The most prominent of these innovations include big data analytics, automation, artificial intelligence (AI) and machine learning (ML), blockchain, and the Internet of Things (IoT). Many of these technologies are interrelated and dynamic. Solutions for interconnectedness are not static, and banks must introduce these into their models for change.

Using advanced API-first technology coupled with design-led thinking and continuous deployment will empower banks to rapidly innovate, connect to emerging ecosystems, and enable developers to "build in the morning and consume in the afternoon". According to the Cloud Elements report, State of API Integration (2019), there are currently 1.5 billion registered websites, 150,000 web applications, and 50,000 public APIs*.



*<https://offers.cloud-elements.com/the-state-of-api-integration-2019>

Taking Care of Business

Fears of security in relinquishing infrastructure control have long been cited as “too risky” for some banks’ security officers. Security or data privacy breaches make for sensational headlines, enormous regulator fines, and erosion of precious brand capital.

Established banks have invested heavily in tenured control frameworks to successfully provide a safe, compliant, and trustworthy service – free from vulnerabilities and malicious code – to ensure that services can operate securely, and customers can use their banking services with confidence. Cloud service providers have made mammoth investments in security of their own data centers as well as around the ecosystem that supports the transmission and storage of customer data – not merely to replicate bank level security, but also to massively expand the complexity and sophistication of the security protocols. It is in this area that pooled resources can deliver a security model far greater than any one bank could achieve.

Regulators are most concerned with this data protection. One of the biggest obstacles to moving mission-critical banking services to the cloud has been a reluctance to undergo regulatory scrutiny. In the Temenos Community Forum (TCF) Annual survey, regulatory concerns have remained on the priority list about moving these services into the cloud.

Although 19% of respondents cited this as the biggest barrier in 2019, down from 40% in 2009, regulation remains a key concern for banks, particularly with the lack of reference cases in many markets.

However, this view is slightly at odds from what is happening in the regulatory landscape. Regulators are starting to realize the positive impact cloud can have on boosting competition, creating high-quality predictability, and enhancing security of the banking ecosystem.

From a supervisory perspective, cloud is the pathway to a financial services landscape that regulators are actively promoting. It’s essential to Open Banking, which opens up the market to competition at the same time as enabling banks to break down their value propositions and monetize them through APIs.

In developing countries that may not have the infrastructure and data centers that modern banking needs, cloud offers an instant solution – as long as regulators are comfortable with domestic data being held overseas. In the Philippines, for example, the Central Bank has issued guidance that gives banks the right to run banking services in the cloud and use offshore services.

A photograph showing a woman with blonde hair and a man with a beard and glasses in a professional office environment. They are both looking at a laptop screen, with the man pointing at it. The image is slightly blurred and has a blue tint.

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Freedom to Focus

Migration to the cloud will empower banks to focus on their primary business and devote their capital and resources to better banking solutions – rather than IT. Banks can return their focus to delivering the mission-critical banking proposition and serving their customers. They can access the ancillary services and specialist functions via third parties and partners by extending the service with APIs.

This focus is an area where the challenger banks shine. In Australia, neo-banks Volt and Judo Capital have both created a fully cloud-based, API-centric technology ecosystem that enables them to focus entirely on its customers rather than managing IT systems. And non-traditional digital providers are moving into the financial services space, skipping over the barriers to entry that cloud has significantly lowered. This includes the digital behemoths who are poised to reach an already engaged and ready customer base for new banking services.

True optimization stems from prudent and insightful vendor selection and partnering. Temenos delivers cloud-native and cloud-agnostic software that can magnify the cost benefits and achieve almost zero downtime in various environments.

Banks can use APIs to access the blossoming FinTech ecosystem simply and quickly, essentially tailoring the banking proposition for the market niche identified. Also, the cloud service provider that banks use to run their service can offer far more value than simply providing the hardware to run processing.

Amazon Web Services (AWS), for example, takes a holistic view of the cloud business with a deep understanding that running a successful and agile banking service in the cloud is less about technology and more about process, strategy, and development – and keeping up with all the cloud foundation that the technology is resting on. AWS has designed its architecture and managed dozens of compliance programs to support the necessary security, compliance, and governance frameworks that banks need to meet regulatory requirements and customer expectations. In order to help businesses scale and grow, AWS offers more than 165 fully featured services for computing, storage, databases, and other functionality.

Temenos and AWS are working together to help banks fully realise their digital banking strategy with sophisticated applications that deliver increased flexibility, scalability, and reliability.



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About Temenos

Temenos AG (SIX: TEMN), headquartered in Geneva, is the world's leader in banking software, partnering with banks and other financial institutions to transform their businesses and stay ahead of a changing marketplace. Over 3,000 banks across the globe, including 41 of the top 50 banks, rely on Temenos to process both the daily transactions and client interactions of more than 500 million banking customers. Temenos offers cloud-native, cloud-agnostic front office and core banking, payments, fund management and wealth management software products enabling banks to deliver consistent, frictionless customer journeys and gain operational excellence.

Temenos software is proven to enable its top-performing clients to achieve industry-leading cost-income ratios of 25.2% and returns on equity of 25.0%, 2X better than the industry average. These clients also invest over 53% of their IT budget on growth and innovation versus maintenance, which is 2.5X better than the industry average, proving the banks' IT investment is adding tangible value to their business.

Learn More

To find out more about Temenos digital banking solutions, please contact us at sales@temenos.com or visit temenos.com

About Amazon Web Services

For almost 13 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 165 fully featured services for compute, storage, databases, networking, analytics, robotics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 60 Availability Zones (AZs) within 20 geographic regions, spanning the U.S., Australia, Brazil, Canada, China, France, Germany, India, Ireland, Japan, Korea, Singapore, Sweden, and the UK. Millions of customers, including the fastest-growing startups, largest enterprises, and leading government agencies, trust AWS to power their infrastructure, become more agile, and lower costs.

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