

# CLOUD-BASED CORE BANKING IN THE PHILIPPINES

## A RURAL BANK PILOT PROJECT

In June 2017, the Asian Development Bank and Cantilan Bank Inc. agreed to conduct a pilot project on cloud-based core banking technology. The Bangko Sentral ng Pilipinas supported the pilot and placed it in a regulatory sandbox while related regulation and processes were updated. In January 2019, Cantilan Bank became the first in the Philippines to be regulated by the central bank for fully relying on a cloud-based software as a service system for core banking.

**The Cantilan Bank pilot was a successful collaboration between the private sector, a government and regulatory body, and an international development partner, in which all actors made crucial contributions.**



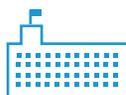
## Cantilan Bank

Cantilan Bank (CANBNK) is a rural bank headquartered in Cantilan, in southeast Philippines. By end of 2020, it had 46 branches, covering 12 provinces in four regions in Eastern Mindanao and Visayas. It serves an area with poverty levels twice the national average and below average access to financial services and products. By the end of 2020, CANBNK had increased their client base to 130,000, from 95,000 at its start.<sup>1</sup>



## Asian Development Bank

Asian Development Bank (ADB) as an international development partner provided financial support and knowledge and technical expertise as needed, for example in data security and accounting. It was also a neutral dialogue partner, contributing to open and constructive communication.



## Bangko Sentral ng Pilipinas and the regulatory environment

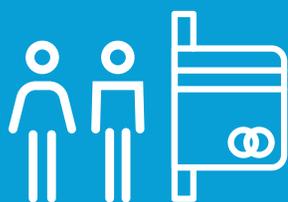
In 2013, the Bangko Sentral ng Pilipinas (BSP) issued Circular 808 guiding banks and other BSP-supervised institutions on IT risk management, opening up for cloud-based technology solutions for the financial sector.<sup>2</sup>

In 2015, it adopted the National Strategy for Financial Inclusion to ensure the financial system would reach traditionally unserved or marginalized sectors of the population through “technology and other innovations to reach the financially excluded.”<sup>3</sup>

From an early stage, BSP was a driving force in setting the agenda for the use of financial technology (fintech) as a tool for broadening financial inclusion in the Philippines.

# Financial inclusion in the Philippines

27% of Filipinos had a bank account in rural area in 2017



Financial inclusion in the Philippines is improving but remains low. According to the 2017 Global Findex data, 34% of the population had a bank account in 2017, up from 27% in 2011; 27% in rural areas, up from 20%.<sup>4</sup> BSP's annual financial inclusion survey suggests a slow but steady increase in bank account holders between 2017 and 2020.<sup>5</sup> In the Caraga region, only an estimated 24% of families have bank deposits.<sup>6</sup>

At the same time, geographical distribution remains uneven, and in 2017 it was estimated that more than 90% of total domestic deposits and 97% of total domestic loan volume came from 27 high-access provinces, a mere third of all Filipino provinces and none of which CANBNK is present in (endnote 6).

Better inclusion of the large unbanked or underserved Filipino population in the formal financial system will reduce vulnerability and risk for individuals, with likely positive effects on the economy. For rural banks like CANBNK to remain competitive, they will need to ensure a portfolio of products and services that appeals to this large but untapped target group, combined with outreach to more remote areas. A fast, flexible, and reliable core banking system, providing live data, incorporating third-party data as needed, is becoming a requirement rather than a competitive advantage. This pilot project explored how cloud-based services were used to ensure such a development.

The CANBNK pilot included several key features, with migration of the core banking system to a cloud-based, software as a service (SaaS) environment at its center. It also included integration of third-party systems, launch of tablet use for increased field mobility, and end-users' digital access.

2018

**System migration**

2018 focused on migration of the core banking system to the cloud, including the third-party ATM provider. Tablets for use in the field were launched and used off-line while data security and risks were assessed. In January 2019, the legacy system was discontinued and CANBNK became the first Filipino bank relying entirely on cloud-based SaaS as its core banking system.

2019

**Process mapping and change management**

2019 focused on back-office business process mapping and change management. Adjustments to accounting, audit, and reporting systems were made. Integration of third-party systems with the cloud-based system remained a challenge.

2020

**API/APIX, ATM digital roadmap**

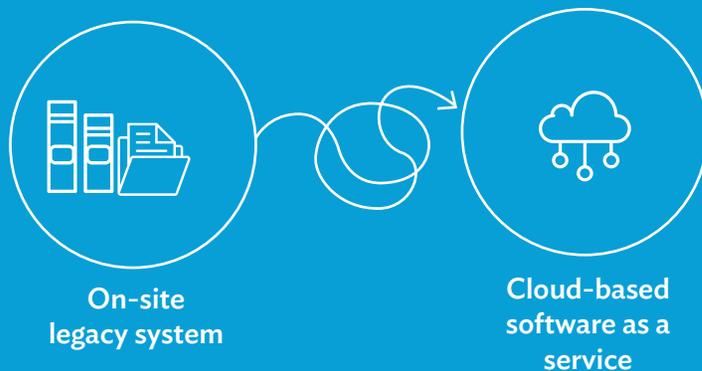
2020 was dominated by the global coronavirus disease (COVID-19) emergency. Despite this, CANBNK pushed its digital agenda forward. In collaboration with the API Exchange (APIX), integration of an application programming interface (API) layer for additional third-party integrations was completed, paving the way for a mobile application for end users' digital access. CANBNK also changed its ATM provider. Due to travel restrictions, off-line tablet use in the field was paused.

2021

**End-users' digital access field mobility**

2021 focuses on the commercial launch of the end-users' mobile application, expected for August 2021 after a short pilot phase for limited users, when necessary BSP license will be issued. Piloting of online tablet use in the field will also resume.

# Key lessons, timeline, change process, and a regulatory sandbox



In January 2019, BSP gave CANBNK the green light to switch off its on-site legacy system, to rely solely on a cloud-based SaaS as its core banking system. This was preceded by more than a year of data migration and of running two systems in parallel to test reliance and data security and ensure compliance with BSP rules and regulations.

The original timeline for migration to the new system and completion of all pilot stages was ambitious and did not fully foresee and capture the complexity of the change process. For example, the ATM system was previously provided in a bundle agreement with the legacy core banking system and contracts had to be renegotiated. This led to lengthier and more time-consuming integration than initially foreseen. Integration of an application for end-users' digital access could not be done directly with the core banking system, and an API layer was integrated, facilitated by the collaboration with the innovation sandbox and marketplace APIX. The original tablets required further data security analysis before they could be deployed. Deployment was further delayed by COVID-19. A considerably more thorough risk assessment than initially foreseen was also conducted, as were adjustments to accounting, audit, and reporting.

Placed in a regulatory sandbox, CANBNK served as a test case for all partners to improve knowledge and understanding of the cloud environment and needed adjustments. Among those were the importance of “change management” and to build in time for unexpected challenges in the implementation timeline.



As a result of the pilot,  
ADB is launching a fintech matching grant  
and capacity building program through its  
Inclusive Finance Development Program.  
This will provide opportunities for financial  
institutions to incorporate fintech solutions  
as a tool for greater financial inclusion.

Results of the switch to a cloud-based system include substantially improved connectivity, especially for remote branches, and a decrease in IT resources used. It simplified reporting and freed up time for both front and back-end staff, and provided customers with a more seamless experience. Customer satisfaction increased considerably, especially for staff efficiency and ease of finishing transactions, categories with previously lower than average scores. Between 2017 and 2020, CANBNK grew from approximately 95,000 to 130,000 clients.

By early 2020, more than 25 other BSP-regulated financial institutions, mostly rural banks, had received no objection from the BSP and switched to cloud-based core banking solutions. By mid 2021 this had increased to 46. Many smaller institutions (from one to three branches) experienced immediate bottom-line improvements and client base expansions.

### Internal

## Success factors

- Senior management buy-in and early formation of a cross-departmental core project team (the Instafin Champions) was crucial for overcoming unexpected challenges during implementation and to project success.
- Immediately visible benefits or “short wins” of the system kept staff morale up during transition and, above all, counteracted front-end staff change fatigue.
- CANBNK’s long-term strategic approach to innovation, including its digital transformation roadmap, allowed the bank to navigate the global pandemic, when the need to accelerate digital initiatives was critical to survival, resilience, and sustainability.

### External

- BSP as the main regulating body, acted as a driver of change and frontrunner in encouraging innovative technology solutions. An open and constructive dialogue between all actors, often guided by ADB, and willingness to learn and adjust, led to a solution-focused approach even when the pilot moved into unknown territory and current regulation lacked clear guidance.
- Without the partnership, the risk of “getting stuck” on unexpected issues would have been higher, possibly lengthening implementation.
- Aligned strategic visions and a coalition of actors working as partners contributed to changes benefiting the sector as a whole, above all other smaller financial institutions.

### Lessons learned

#### Internal

- For CANBNK and other financial institutions shifting to cloud-based and other fintech solutions, it would be useful to acknowledge that unexpected challenges most likely will occur, and if possible try to articulate this. Other financial institutions are unlikely to encounter exactly the same issues as CANBNK, but they are likely to encounter similar issues.
- Clarifying internal management procedures, including matrix, could have sped up the process during critical implementation stages.
- Due to a longer than expected technical implementation period, limited resources were available during the pilot period to communicate changes and to build staff capacity. With a better understanding of the importance of the change process, this could have taken place in parallel.

#### External

- The sandbox approach was useful, but it would have benefited from clearer structure in scope and timeline and on requirements to exit the “box” and how commercial and legal risks of noncompliance with current regulations are viewed.
- Knowledge and understanding of what “the cloud” is and encompasses, what regulations apply, and how risk management changes with a move to the cloud, remains limited among many actors. User-friendly guidance was limited on how financial institutions can work with emerging fintech outsourcing models, including data integrity and security. Policy exposure draft on the Amendments to Regulations on Outsourcing and IT Risk Management was already issued by the BSP for BSP-Supervised Financial Institutions’ comments and feedback.
- Audit and reporting required more substantial adjustment than initially envisioned, causing stress for the regulator and financial institutions. As such ADB provided technical assistance support to the BSP for the development of a Cloud Audit Toolkit last May 2021.
- Regular and direct collaboration with cloud service providers has also been initiated to harmonize understanding of regulations on cloud outsourcing operations and optimize efforts to ensure that each stakeholder is cognizant of its roles and responsibilities.

# COVID-19

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## Challenges and opportunities for financial inclusion

COVID-19 and the restrictions and related policies it imposed was a serious challenge for CANBNK. Loan processing declined and credit risk increased, loan officers' field visits were restricted, and many customers were unable to visit the bank.

On the other hand, the system change and adjustments provided the organization with tools to make immediate changes in its business continuity plan. A solid Digital Transformation Roadmap already in place was crucial, allowing 2020 progress to continue largely as planned.

The cloud-based core banking system allowed seamless continuity of services to branches, including training and IT support. Network availability and connectivity were unaffected. The cloud-based system also allowed continued integration with third-party fintech providers via APIs, expanding its ATM network, and preparing for end-users' mobile application.

Overall, the pandemic accelerated digitization and provided many communities access to a wider range of services. This in turn is likely to translate into accelerated financial inclusion. In future emergencies and market disruptions, digital initiatives will be critical to survival, resilience, and sustainability for all actors in the finance sector.

**This pilot contributed directly to national finance sector-wide change.**

Within a year of CANBNK’s move from its on-site system to the cloud-based SaaS, more than 25 BSP-regulated financial institutions had received no objection from BSP and began to rely on a cloud-based SaaS as their core banking system. By mid 2021 this had increased to 40. With more flexible and efficient banking systems, this will have long-term, large-scale effects on financial inclusion in the Philippines. It will increase relevance and effectiveness, especially among financial institutions active in rural and remote areas.

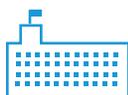


## System change, mindsets, and company culture – a parallel shift in doing business

The system change, while technically straightforward, opened up an all-encompassing new approach to doing business; to data management, monitoring, and analysis, with implications for decision-making; and, in turn, customer service and marketplace positioning.

The system change came with numerous quick wins for front-end staff, including time spent with customers. But the long-term shift lies not in doing “more of the same” but doing the same differently. This will require analytical skills and proactive approaches eliminating more non-value-added activities and costs. Only when this shift in approach and mindset has been fully institutionalized can the advantages of the new system be fully captured.

**Any financial institution considering a move to a cloud-based system or other fintech tools or applications would benefit from a thorough analysis of implications for change management and company culture.**



## The regulatory environment and the partnership – setting the agenda and driving change

The BSP as a driver of change of increased financial inclusion continued to set the agenda by providing a regulatory sandbox environment for CANBNK and the service provider, while itself learning from the process and updating both regulation and processes, without compromising data integrity and security.

During the process, needed regulatory adjustments were made that, by the end of project implementation, benefitted the sector as a whole.

ADB as an international development partner provided knowledge and specific technical assistance. It was also a neutral dialogue partner, among others, through its Inclusive Finance Development Program with BSP. Backed by these two actors, CANBNK successfully implemented an innovative but challenging project, while limiting risk.

**The collaboration directly contributed to an enabling environment and actual change toward more relevant and effective financial institutions in the Philippines.**



### Implications for the future – doing the same differently

CANBNK's change to a cloud-based system, while technically relatively straightforward, opened for an all-encompassing new approach to doing business, from data management to monitoring and analysis, with implications for decision-making and, in turn, customer service and marketplace positioning. The cloud-based system proved indispensable for business continuity during the global COVID-19 pandemic. CANBNKs digital transformation roadmap also contributed directly by providing strategic direction during the pandemic.

Digital initiatives are costly but necessary investments of strategic importance. For many small actors, technical and financial assistance will be paramount in balancing innovation and risk management, effectively lowering one of the main barriers to technology adoption—startup/implementation cost.

System change tends to come with numerous quick wins. But the long-term shift lies not in doing “more of the same” but doing the same differently. This will require analytical skills and proactive approaches eliminating non-value-added activities and costs to a larger extent than before. Only when this shift in approach and mindset has been institutionalized can the full advantages of system change be captured.



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