



**TEMENOS**

# Case Study

## Commercial Bank of Africa

Empowering low-income citizens through one of the most successful African banking initiatives in recent times



Commercial Bank of Africa

## Executive Summary

Commercial Bank of Africa (CBA) is changing the rules of the game for African banking. For years, banks in the region struggled to engage a largely rural, unbanked population that lived far from their nearest branch location. But the rise of the mobile phone in Africa enabled CBA to think differently and re-invent the challenge: why wait for users to come to you, when you can bring banking services to them?

The bank worked with Temenos to integrate its systems with those of the leading mobile money providers in Africa, and create a set of easy-to-use savings and loans services for low-income consumers. The result? 70,000 users on the launch day, rising in just a few years to 40 million across five countries—turning CBA into one of the dominant retail players on the continent, and making it a byword for ingenuity and innovation in Africa and beyond.



## Commercial Bank of Africa Profile



Established  
in 1962



Headquartered  
in Nairobi, Kenya



Total assets of  
USD 2.5 billion



Operations and  
subsidiaries  
across East Africa

# Embracing the African banking revolution

In the African banking industry, conventional thinking and traditional business models will only go so far. With the majority of citizens living well over a kilometre from the nearest physical bank location, takeup of financial services has historically remained limited. So, how could banks move beyond a reliance on traditional branch networks and face-to-face transactions, and democratise the availability of services?

Technology provides one answer, and in the last decade, Africa has become a hub for innovation. Driving this transformation is the rise of mobile money transfer (MMT) services—most notably, M-Pesa, a product launched in Kenya by leading telco Safaricom in 2007. Rather than having to travel to a nearby branch, M-Pesa users just head to a local agent to purchase credits, which they can use to make payments and transfer funds to others. Today, 93% of the Kenyan population use the service, and it processes nearly half of national GDP.

M-Pesa turned the mobile phone into a digital wallet. But Commercial Bank of Africa (CBA) spotted an opportunity to take things further, by turning mobile money into a full banking offering for low-income citizens. Back in 2011, the bank developed a plan for M-Shwari, a simple, paperless service that would enable mobile money users in Kenya to open savings accounts and raise loans.

Before it could turn its vision into reality, CBA had to overcome significant technical hurdles. Mohammed Jama Dalal, Head of Applications at Commercial Bank of Africa, explains:



To launch M-Shwari, we needed infrastructure to process transactions on a massive scale, and to link our systems with those of the telco companies who lead the way for MMT services. We wanted to move fast too, to ensure that we did not lose out on first-mover advantage in Kenya, and potentially further afield in other African markets.”

**Mohammed Jama Dalal,**  
Head of Applications at Commercial Bank of Africa

# Bringing M-Shwari to market

CBA's first step was to partner with Safaricom, which at the time had 15 million M-Pesa users in Kenya, and to create a separate business unit to administer M-Shwari. To facilitate the development of the new products, CBA turned to Temenos, its long-term core banking system provider, to deploy a new instance of Temenos Transact along with Temenos Integration Framework.



**5 months**  
to complete initial implementation

“Mohammed Jama Dalal continues: “We were already using Temenos Core Banking to support our branch-based services, so we know the strengths of the solution—especially how simple it makes product development by minimising the amount of coding required. With Temenos Integration Framework, we can connect seamlessly with many third-party components, facilitating rapid messaging between systems.”



**3 times**  
as fast as traditional integration model

Temenos Integration Framework works alongside the Fiorano Enterprise Service Bus (ESB) to integrate Temenos Transact with Safaricom's MMT systems rendered through a SIM Toolkit (STK) application and Customer Relationship Management (CRM) solutions. The architecture enables M-Shwari users to access and move funds from their savings to their M-Pesa digital wallet so that they can purchase goods.

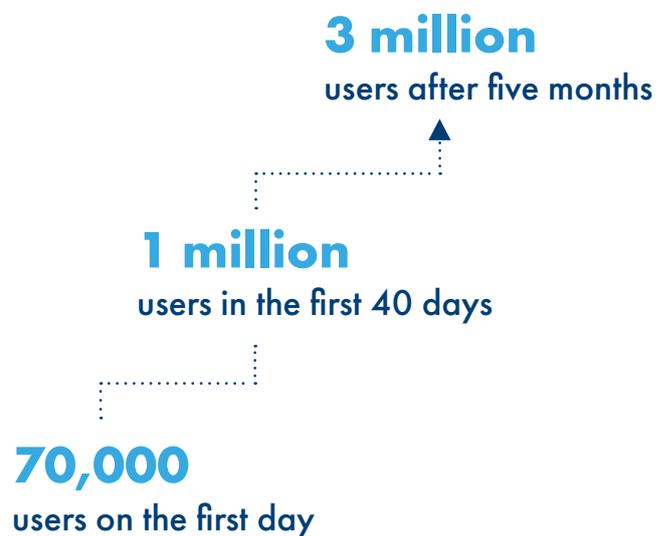
CBA gave Temenos just six months to complete the implementation. The Temenos team worked on-site in Nairobi alongside the bank's technical teams to execute an agile delivery model, including solution design, integration, testing cycles and a pilot. By November 2012, just five months after starting the deployment, M-Shwari was ready to go live in Kenya. If the bank had opted for a traditional integration delivery model, this would likely have taken three times as long.

# Success in Kenya and expansion beyond

In the early months, M-Shwari achieved extraordinary growth. On the first day, 70,000 signed up to the service, with an average 32,000 new subscribers each day in the first three months. In the first 40 days, CBA onboarded 1 million new customers, and within five months, this number rose to 3 million.

Following the success in Kenya, CBA set its sights on bringing low-cost mobile banking to other African markets. Inevitably, this brought a new set of challenges, from local banking regulations, varying levels of market maturity, and lower takeup of mobile money compared to Kenya. But once again, partnering with leading telcos offered a way to reach millions of potential users quickly.

In 2014, CBA teamed up with Vodacom to launch M-Pawa in Tanzania, where the telco had 5 million M-Pesa users. Then, the bank allied with MTN, the other leading MMT provider in Africa, to develop the MoKash offering for Uganda and Rwanda in 2017, and finally the MoMoKash service via a partner bank in Côte d'Ivoire in 2018.



For implementation support, CBA again turned to Temenos. The bank had no need to alter its existing architecture significantly, although it introduced Oracle WebLogic rather than Fiorano ESB to support its operations in Uganda, Rwanda and Côte d'Ivoire. With additional testing cycles and configuration processes to bring the systems into line with local best practices, the deployments took on average eight to nine months—another pleasing result for CBA, which was able to handle the process in Côte d'Ivoire without assistance.

# How does Temenos make it all possible?

CBA manages its offerings for all five countries using 3 Temenos Transact instances for M-Shwari, M-Pawa and MoKash (shared for Uganda, Rwanda and Côte d'Ivoire) from its central location in Nairobi. The massive scalability of the Temenos platform ensures short transaction times, even as workloads have become more and more demanding. In Kenya alone, for instance, CBA now disburses 60 to 70,000 loans every day, with the total reaching 90,000 during promotional periods. Temenos Core Banking provides the capacity and processing power to support this exponential growth.

The solutions also deliver **99.98%** straight-through processing, so there is minimal manual intervention required, enabling CBA to run its entire M-Shwari, M-Pawa, MoKash and MoMo Kash projects with an exceptionally lean team of just 60 operations and 20 IT personnel.

Developing new products in the Arrangement Architecture module of Temenos Transact is very simple. It's especially valuable that we can reuse and clone elements, which makes it quick and easy to add new options to M-Shwari. For instance, we recently created our M-Shwari Lock Savings Account, which allows users to put money away for a specific purpose and timespan, in return for a higher interest rate."

**Mohammed Jama Dalal,**  
Head of Applications at  
Commercial Bank of Africa

In a project where partnership is so important, ease of integration is key. For example, for the signup procedure for M-Shwari, the bank integrates with the Kenyan government's repository of passport and ID data to validate the user's identity—accelerating and optimizing the authentication process for both CBA and its customers. Likewise, to complete real-time credit scoring, CBA draws information from its telco partners' business intelligence (BI) systems to assess applicants' payment history, build individual profiles and set appropriate limits.

Mohammed Jama Dalal continues: "**The future of banking innovation depends as much on core systems as our ability to integrate our systems with those of our forward-thinking partners, and to develop all-new features and products. Temenos understands this, which is why its solutions are so valuable to us.**"

The Temenos solutions also provide the means for CBA to monitor its exposure to risk. Each day, it uses the Temenos Data Warehouse utility feature to extract and feed data into its business intelligence systems to track trends, and monitor the lifecycle of disbursed loans. The bank can set Temenos Transact to automatically generate SMS and email messages to update customers on their debt obligations and, when repayments are not made, communicate with the telcos' systems to withhold further airtime credit.

The end result is that CBA maintains an impressive **non-performing loan rate of around 2%**—well below the Kenyan market average of 5 to 6%.



# Understanding the social impact across Africa



CBA replicated its Kenyan success across new African markets. In Tanzania, M-Pawa gained 250,000 customers<sup>1</sup> within the first three weeks, while in Uganda the MoKash offering attracted 83,000 users<sup>2</sup> in the first 48 hours and 1.4 million in the first four months. M-Shwari in Kenya now has 26 million users, M-Pawa 8 million, MoKash in Uganda 4 million and in Rwanda 1 million, with a further 1 million users of MoMo Kash in Côte d'Ivoire — a total of 40 million users across the five countries.

In these markets, the CBA offering represents one of the first truly democratic banking products: simple to use, completely paperless, and without the need to step into to a branch. For the most part, takeup of M-Shwari and the other CBA services has been among those who previously had no access to savings or loan services.



Mohammed Jama Dalal explains: “We are moving beyond simply looking to increase financial inclusion. Instead, we think in terms of financial empowerment. Our aim is to provide users with more than just access to a product, but a service that truly benefits them and enriches their lives.

For example, we hear stories of small traders who raise a loan each morning to purchase stock, sell the goods and pay back their debt that night and place their profits into a savings account with us to earn interest. Likewise, in Tanzania, 93% of the rural population<sup>3</sup> had never previously used a formal banking product before we launched M-Pawa. Now, we see many farmers there taking advantage of loans to purchase livestock and equipment, enabling them to build more successful, sustainable businesses.”

<sup>1</sup> <https://www.cgap.org/blog/m-pawa-1-year-mobile-banking-perceptions-use-tanzania>

<sup>2</sup> <https://pctechmag.com/2016/08/mokash-mobile-savings-and-loans-system-has-registered-over-83000-customers-already/>

<sup>3</sup> <https://www.cgap.org/blog/m-pawa-1-year-mobile-banking-perceptions-use-tanzania>

## Driving the transformation of CBA

CBA radically shifted its market position through the success of M-Shwari and its other mobile products. Before the launch, the bank was Tier 2 classified, but rose to a Tier 1 provider in Kenya by 2017—an acknowledgment of its remarkable growth and sharper focus on retail services.

“Mohammed Jama Dalal explains: “Previously, we concentrated on serving high-net worth private individuals and the corporate space. Our move into mobile money has transformed us into one of the dominant players in the retail banking market in Kenya and beyond.”

M-Shwari has also made CBA a byword for innovation both in Africa and further afield. In 2013, the international publication Computerworld<sup>4</sup> recognised the project with the ‘21st Century Achievement Award’ for emerging technology, presented at a gala dinner in Washington D.C. Leading enterprises have also approached the bank to discuss the launch of joint projects and promotions. During the 2014 FIFA World Cup, for example, CBA worked with cable company MultiChoice to provide a unique financing package for viewers looking to purchase a subscription to view matches.

## Beyond M-Shwari: CBA Loop

CBA utilises its Temenos install base for much more besides its M-Shwari offerings. To target the tech-savvy, urban millennial market in Kenya, the bank launched CBA Loop in 2017, a fully digital banking service accessible via smartphone app.

CBA Loop runs on the same Temenos Transact instance as M-Shwari, while Temenos Integration Framework allows the bank to connect its online channels, iOS app standards, and its Strands personal financial management (PFM) tool. Together this integrated ecosystem enables CBA to provide services including savings and current accounts, planning and budgeting, and investment products. Users of CBA Loop also have the option of purchasing goods in-store via the app, or paying their utility bills.



<sup>4</sup><https://www.capitalfm.co.ke/business/2013/09/m-shwari-wins-global-emerging-technology-award/>

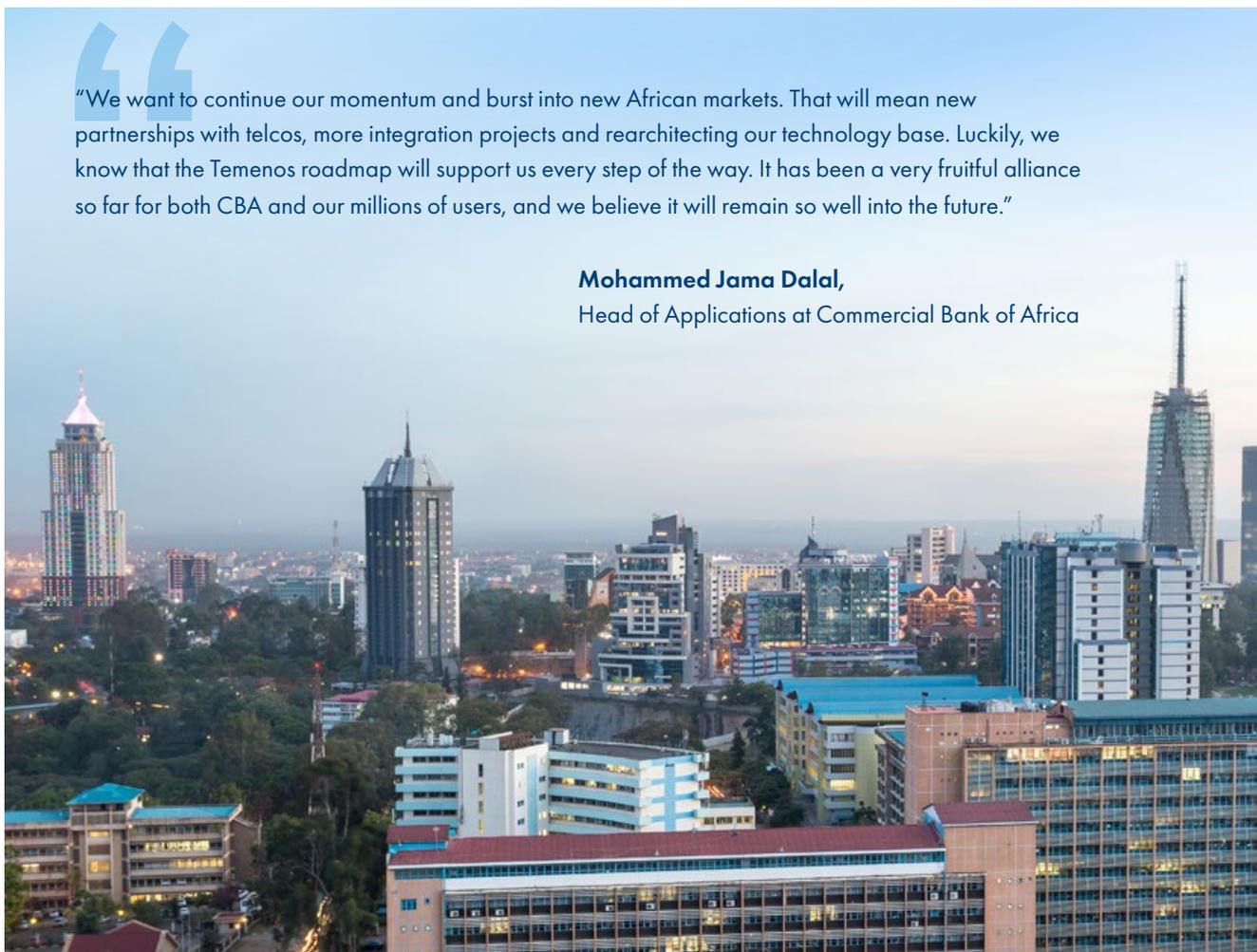
## The Next Chapter

Reaching 40 million users just six years since launching M-Shwari represents a huge achievement, but CBA is now looking ahead and setting new goals. In the next five to ten years the bank aims to hit the 100 million user mark, and is confident that with Temenos on its side it will have the infrastructure to support ongoing expansion.



“We want to continue our momentum and burst into new African markets. That will mean new partnerships with telcos, more integration projects and rearchitecting our technology base. Luckily, we know that the Temenos roadmap will support us every step of the way. It has been a very fruitful alliance so far for both CBA and our millions of users, and we believe it will remain so well into the future.”

**Mohammed Jama Dalal,**  
Head of Applications at Commercial Bank of Africa



Temenos AG (SIX: TEMN) is the world's leader in banking software. 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 and AI-driven front office, core banking, payments and fund administration software enabling banks to deliver frictionless, omnichannel customer experiences and gain operational excellence.

Temenos software is proven to enable its top-performing clients to achieve cost-income ratios of 26.8% half the industry average and returns on equity of 29%, three times the industry average. These clients also invest 51% of their IT budget on growth and innovation versus maintenance, which is double the industry average, proving the banks' IT investment is adding tangible value to their business.

For more information, please visit [www.temenos.com](http://www.temenos.com).

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