

## Basic Business Models for Banks Providing Digital Financial Services in Africa

By Lesley Denyes

Digital Financial Services have progressed rapidly since the first mobile-money services in East Africa a decade ago. Their early success in Kenya and Tanzania sent telecom firms, banks, technology firms, and development institutions scrambling to launch similar services. Yet many or most of these new services found only limited success of their own. The process delivered valuable lessons to the industry, however, including insights about scale, effective engagement models, the importance of adopting new technologies and rethinking corporate cultures, and the need for new digital financial services and products.

In a 2011 New York Times article, a fintech industry executive referred to the digital financial services (DFS) industry as a “goat rodeo”.<sup>1</sup> The description seemed fitting, as mobile network operators (MNOs) were scrambling to replicate the M-Pesa mobile money model launched in Kenya in 2007, without much success.

Zantel, one of the first telco-managed money transfer services ever launched, had failed completely. Wizzit, an early model for a digital bank in South Africa, was struggling to gain traction in the market. Globe & Smart telecom in the Philippines had almost no active usage beyond airtime resellers. And in Bangladesh, BRAC had launched B-Kash as an over-the-counter service that had grown exponentially, but the company was struggling to convince customers to convert their cash to digital and transact directly from their accounts.

It truly was a rodeo, with digital players frantically launching different services with little logic or strategy behind them, and those services failing as quickly as they were launched. Many organizations took part, from tech companies and development financial institutions to donors,

nongovernmental organizations, and mainstream consulting services. Boutique operations were popping up, too. The concept of fintech was just emerging at the time and, while the term Big Data was becoming better known, no one yet realized the power of data to drive financial services.

In 2011, there were 123 digital financial service deployments with no data on their usage, compared with 277 deployments today and 118 million active users globally.<sup>2</sup> The industry has come a long way, and the once chaotic rodeo now looks more like an orderly herd. Almost all mobile network operators and financial institutions today provide digital financial services in some way, shape, or form. And while many improvements are still needed, progress is being made both in terms of financial benefits for providers and impact on end users.

However, despite strong growth in recent years, financial inclusion across Africa remains low. In 2011, 23.2 percent of adults in the region had financial access, versus 42.6 percent in 2017.<sup>3</sup> In particular, access through a financial institution grew to only 32.8 percent in 2017. This is a testament to the limited levels of bank penetration across

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## Box 1 The Banking-Fintech Dynamic Development Space: A Cross-Country Comparison

To better understand the interaction between banks offering digital financial services and nonbank fintechs doing the same, we refer to the earlier framework as introduced by Matthew Saal et al. (2017), which is described below. That framework uses two indicators as proxies for four identified challenges both banks and fintechs face in emerging markets. Those challenges are:

- low penetration of formal financial services,
- low income and financial literacy levels,
- underdeveloped technology ecosystems,
- and weak infrastructure.

Saal et al. identify two indicators: formal banking penetration (representing the first two challenges and displayed along the y-axis), and venture capital (VC) investment relative to GDP (representing the second two challenges and displayed along the x-axis).

From Saal et al: The bubble sizes correspond to the estimated number of unbanked in each country. Taking the average venture capital penetration and the least-squares trend line for the interaction of the two variables as dividing lines, we get the four quadrants shown in Figure 1:

**Quadrant I (Upper Left): “Bank Dominance”** | This quadrant includes economies in which the traditional banking sector is already well established and will

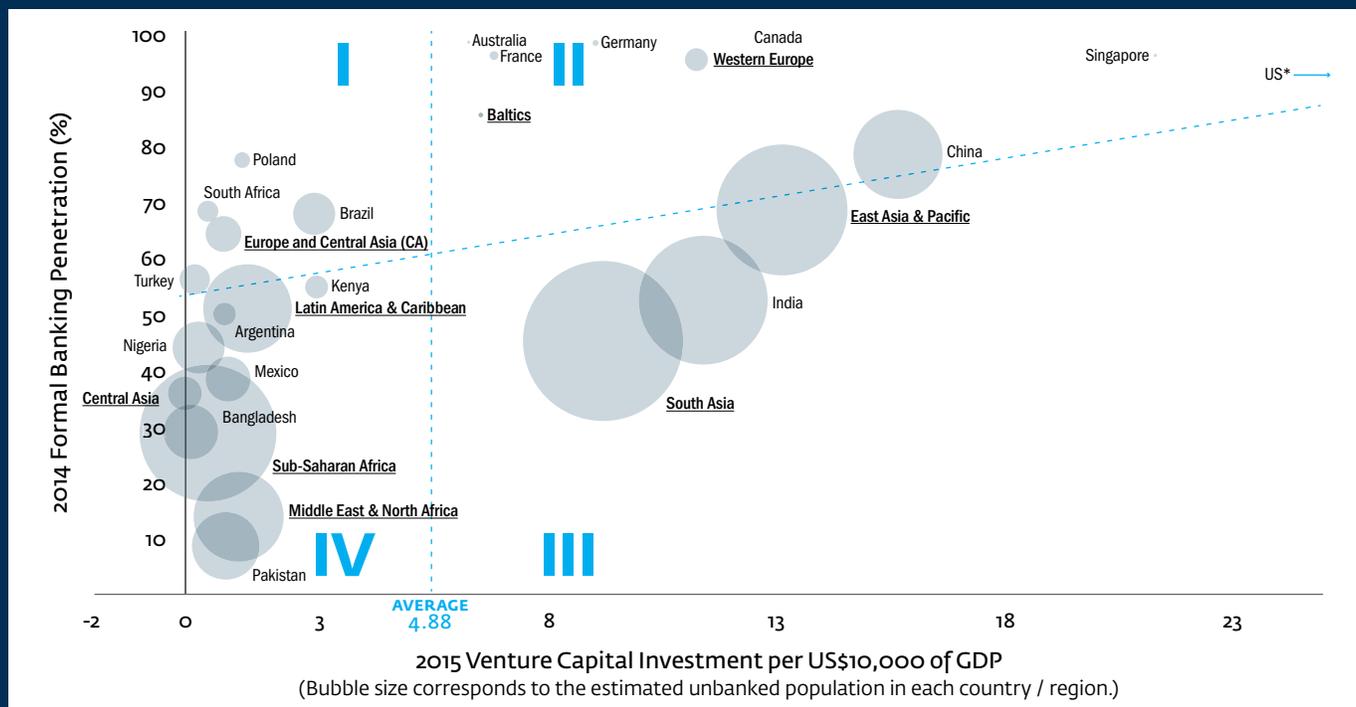
likely continue to dominate the market. In-sector competition may create a positive dynamic of service innovation among banks.

**Quadrant II (Upper Right): “Partnering”** | In this quadrant banks are well entrenched and serve most of the population. However, the strong tech ecosystem will support innovations offering new value propositions or seeking to take market share from incumbents. Banks can in turn leverage technology to compete.

**Quadrant III (Lower Right): “Tech Dominance”** | Countries in this quadrant have well developed tech ecosystems, while banks have left large segments of the market underserved. This has created an opportunity for nonbank innovators to enter the financial services market.

**Quadrant IV (Lower Left): “Race to the Finish”** | Here we see low levels of bank penetration and underdeveloped technology ecosystems. Telecom companies tend to be the most significant local tech players, and in some countries have led the digitalization of the financial industry through mobile money products. However, banks have a chance to catch up if they choose to adopt innovations before the telecom firms corner the market.

The focus of this note is on banks offering digital financial services in Quadrant IV.



**FIGURE 1** The Banking-FinTech Development Space

Source: Saal, Matthew et al. 2017. “Digital Financial Services: Challenges and Opportunities for Emerging Markets Banks.” EM Compass Note No. 42, International Finance Corporation. August 2017.

the region as well as the continent's underdeveloped technology ecosystems.<sup>4</sup>

Despite the low penetration of banks, the business case for digital financial services is now firmly established, and its impact on the bottom lines of providers is huge. Previously launched as a customer retention tool for Safaricom, M-Pesa has evolved into a significant revenue stream for the mobile network company and now represents 28 percent of its total revenue in Kenya.<sup>5</sup> Although digital services represent a more modest 5 to 15 percent of total revenue for most MNOs, it has become clear that demand for such services is growing. With many not yet breaking even on a standalone basis, the case for indirect revenue is emerging for new product development through bank partnerships.

For financial institutions such as banks, opportunities for revenue from digital financial services go beyond just fees. Opportunities to source new deposits and to increase cross-selling of transaction-based product sales could have a significant impact on these institutions' cost of funds, while moving transactions through digital channels reduces their cost-to-income ratios, a key metric for defining the profitability of a bank. According to a 2017 report by Boston Consulting Group, moving to digital can increase a bank's revenue by up to 20 percent, decrease expenses by 30 percent, and lower its cost-to-income ratio by 12 percent.<sup>6</sup>

Recent IFC longitudinal research followed nine financial institutions offering DFS in Africa. Transactions through banking agents (that is, through individuals or entities authorized by a bank to act on its behalf within a defined scope of transactions)<sup>7</sup> were 25 percent less expensive than teller transactions at one financial institution and 17 percent less expensive at another.<sup>8</sup> Regardless of competitive pressure or customer demand, this alone is a big incentive for banks to go digital. As a result, they are doing so in droves.

Most commercial banks now have some sort of digital product or channel such as ATMs, cards, Point of Sale (POS), or mobile banking. Some have their own agent networks and offer agent banking services. Many more offer bank-to-wallet integrations to the local mobile wallets in their markets in order to leverage the vast agent cash-in/cash-out networks built by the mobile network operators. Thus, most of the participants in the rodeo have joined the herd in some way or other, and providers, services, and customer experiences are converging in an orderly fashion.

As a result of this convergence, the lines between mobile network operators, banks, and fintech services are beginning to blur. As banks move to omni-channel approaches and

MNOs launch their own savings and loan products—in the case of EcoNet Zimbabwe, that meant acquiring its own bank license—soon customers will no longer be able to distinguish between banking with a bank or with a non-bank. From these customers' perspectives, it is about ease of access. In Africa, where 77 percent of the population is younger than 35, millennials are the driving force behind the onboarding of mass market consumer financial products. And as a 2017 Forbes article put it, millennials would rather go to the dentist than a bank branch.<sup>9</sup>

### Three basic engagement models for banks

There are **three basic engagement models for banks** in DFS: launch singular digital products and channels; launch digital subsidiaries; or transform into a digital bank (in which digital becomes business as usual). Regardless of the approach chosen, it is often fluid, and adopting one strategy does not preclude the simultaneous pursuit of another.

In Africa, most banks so far have made some investments in **digital products and channels** such as ATMs, POS, mobile banking apps, and standalone agent networks. Examples include CAL Bank Ghana and CRDB in Tanzania, both of which have launched mobile banking apps and agent banking.

The **digital subsidiary** is a model in which the bank maintains the status quo and launches a new subsidiary as a challenger bank in the market. This model was made popular in Europe and North America with new banks like Tangerine, which was launched by the Dutch bank ING in Canada (now owned by the Bank of Nova Scotia). There are a few examples in Africa too, including Alat Bank in Nigeria, owned by Wema Bank.

There is growing interest in the financial industry for the adoption of a more radical digital transformation into a **digital bank** where digital drives the existing banking model and includes everything from back-end customer relationship management (CRM) to front-end mobile applications for customers, for a seamless customer experience through the entire digital channel. Digital banks rely on the use of open banking infrastructure to provide access to fintech partners. Examples in Africa include Equity Bank and Co-op Bank in Kenya.

In a **digital bank or digital subsidiary** approach, financial institutions often partner with fintechs to leverage technology or data or to offer new products to customers. In the most sophisticated markets (such as Quadrant II in Figure 1), banks are partnering with fintechs to create an

ecosystem where demand and markets are growing around new customer acquisition and better service offerings.<sup>10</sup>

**Investments in two key areas** are needed to transform an existing bank. They are **technology and culture**, and both have proved difficult to change. Banks need to start with technology. Legacy systems hinder growth and innovation, yet it can be painful for banks to abandon them, as they represent significant investment, costs, and time, as well as many key decisions made by managers who may still be employed and protective of them. Removing these systems exposes bad decisions and expensive mistakes. But once it's done, an institution can begin anew and build for the future.

Tomorrow's banks will require very open banking systems through application programming interfaces (APIs). Sophisticated manipulation of data using artificial intelligence requires the availability of data warehouses that will allow all players and partners in the market to initiate, authenticate, transact, and settle in real time, enabling customers to do everything from buying goods through ecommerce directly linked to their accounts to borrowing money to buy an asset such as a refrigerator or a motorcycle, and having the asset tracked, monitored, and even stop working if loans aren't repaid.

Like its legacy systems, an institution's culture often needs an overhaul, too. A culture of innovation allows staff to ideate and create without fear of failure. Rapid iteration of products and services will embrace failure, retool, and pivot quickly, and will provide an environment where banks can better respond to the needs of customers and become truly customer-centric.

For a corporate culture change to succeed, it must be aligned with business direction and led by the CEO, guided by the board, and executed throughout every level of the institution in terms of physical presence of workspace, performance metrics, and communication culture.

### The Need for Products to Balance the Business Case

**The future brings the need for new products.** The third model for digital engagement is to launch **digital products or channels** to service new or existing customers more efficiently or with products previously unavailable such as data-driven insta-loans. Over the last six years, IFC has learned from its DFS implementations in Africa that product diversification is critical to financial success. When DFS was first emerging, it was widely believed that success was a matter of scale: build it, get to scale, and success will follow. Yet it became clear as banks and mobile network

operators grew their user bases substantially over the last several years that scale does not guarantee profitability. However, with second-tier banks with smaller transaction sizes, frequency of usage may have a stronger impact on the overall business case.

Within the current IFC DFS portfolio, marginal expenses of transactions represent, on average, 70 percent of total transaction costs, meaning that marginal costs don't diminish significantly as the customer base grows. So, if expenses can't be reduced by scaling, DFS providers need to earn greater average revenue per user, or ARPU. This is done by cross-selling, which requires more products and more partnerships to offer these products.

The business case can be further developed through the second generation of digital financial service products, which are emerging and widely used in some markets such as Kenya. First generation products included basic savings, loans, person-to-person transfers, and bill payments. Second generation products are focusing on payments through platforms such as merchant payments, ecommerce, and supply chain management, as well as data-driven lending backed by these platforms, which have taken off in recent years. However, new data suggests that these products may come with significant challenges. According to a recent paper from the Consultative Group to Assist the Poor, 35 percent of Kenyans have borrowed using digital credit, and of those borrowers, 35 percent borrow from multiple sources and 50 percent have made late payments.<sup>11</sup> New product development for digital lending requires both sustainable and responsible approaches.

Many providers are partnering with emerging fintechs to offer these services, as they are outside of these providers' core business models. APIs, sandboxes, and interoperability will further enable development of these second-generation models. In China, where merchant payments are dominated by the WeChat app and AliPay, mobile payments reach an annual volume of approximately \$5.5 trillion; 50 times as much as the United States, with just four times the population.<sup>12</sup> Payments are fully integrated in the app's ecosystem. And with WeChat's open API, users can do everything from book and pay for a dog grooming appointment to source new suppliers for a manufacturing business and apply for a trade financing loan to support the expenses.

### Driving Impact from DFS

For end-users, easy access to financial services is not only driving financial inclusion, it is also driving impact.

The Partnership for Financial Inclusion, a joint initiative between Mastercard Foundation and IFC, was started in 2012 with the hypothesis that supporting financial institutions to build new digital products and channels would lead to better access to finance and drive financial inclusion, which in turn would help to reduce poverty.

Since then, the IFC/Mastercard partnership has supported 15 financial institutions in Africa and crowded in funding to support 20 more, for a total portfolio of 35 digital financial service providers across Africa and the Middle East. Together, those institutions have reached 35 million new DFS users. To put that into perspective, the IFC/Mastercard partnership has supported financial inclusion for a population larger than the size of an average country.

So, what happens when a customer accesses financial service digitally? IFC conducted a randomized control trial in Senegal with one of the partners and discovered that customers who signed up for an account through agents became better customers and were more financially included. They transacted 140 percent more, they saved 80 percent more on average, and they had higher trust levels with the bank.<sup>13</sup> Their personal attachment to the bank increased even though their customer interactions were outsourced to an agent.

This may sound counterintuitive, yet it's not. Consider Barclays' first use of ATMs in the United Kingdom in the 1990s. These ATMs were initially kept online only during business hours due to fears that after-hours withdrawals could create a liquidity crisis. With much fear and trepidation, the ATMs were eventually made available at all hours. The surprising result was that customers withdrew less. Why? Because with easy access to their money when they wanted it, customers no longer needed to keep large sums of cash for emergencies during evenings and weekends. Today the same is true for customers of African banks that offer digital channels such as agents. When they transact through an agent, their transactions become more personal, more local, easier, and more accessible.

It is clear that the provision of digital financial services creates new customers. But it also raises the question, what happens after a customer becomes a DFS user?

In 2016, IFC conducted research in Côte d'Ivoire with smallholder farmers who were being paid for their cocoa harvests using mobile wallets linked to savings accounts. The researchers disaggregated the farmers into quartiles by income, from poor farmers to higher-income farmers. Those farmers who were paid using mobile money and

saved at least some of their income in their new digitally-linked bank accounts experienced less food insecurity regardless of their income level. In other words, poorer farmers experienced less hunger than their richer neighbors if they used their digital savings account. Similarly, Massachusetts Institute of Technology researchers found that access to mobile money services lifted 194,000 Kenyan households, or 2 percent of households in the country, out of extreme poverty.<sup>14</sup>

## Going forward

Where, then, is the digital financial services herd headed? There has been a clear market shift and digital financial services have gained a foothold across Africa, one that cannot be ignored. As we move forward, there will be a few providers that break out of the herd and truly innovate.

There is also a clear message that has emerged: If banks don't have a digital strategy by now they are at risk of seriously depleting their value proposition to their customers and losing market share. Customer-centricity is key, and with it, breaking down barriers to access and creating a seamless experience for financial services.

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### **Please see the following additional EM Compass Notes about digital financial services in emerging markets:**

The Case for Responsible Investing in Digital Financial Services (Note 67); How a Know-Your-Customer Utility Could Increase Access to Financial Services in Emerging Markets (Note 59); Modelo Peru: A Mobile Money Platform Offering Interoperability Towards Financial Inclusion (Note 54); Blockchain in Financial Services in Emerging Markets—Part II: Selected Regional Developments (Note 44); Blockchain in Financial Services in Emerging Markets—Part I: Current Trends (Note 43); Digital Financial Services: Challenges and Opportunities for Emerging Market Banks (Note 42); Can Blockchain Technology Address De-Risking in Emerging Markets? (Note 38); How Fintech is Reaching the Poor in Africa and Asia: A Start-Up Perspective (Note 34).

- <sup>1</sup> Seigel Bernard, Tara and Claire Cain Miller. 2011. "Swiping is the Easy Part." *The New York Times*. March 23. [www.nytimes.com/2011/03/24/technology/24wallet.html](http://www.nytimes.com/2011/03/24/technology/24wallet.html). The article quotes Drew Sievers, CEO of mFoundry, a company offering mobile payment software for banks and merchants, as saying: "It all comes down to who gets paid and who makes money. You have banks competing with carriers competing with Apple and Google, and it's pretty much a goat rodeo until someone sorts it out."
- <sup>2</sup> GSMA. 2017. "State of the Industry Report on Mobile Money." [www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/03/GSMA\\_State-of-the-Industry-Report-on-Mobile-Money\\_2016.pdf](http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/03/GSMA_State-of-the-Industry-Report-on-Mobile-Money_2016.pdf).
- <sup>3</sup> Global Findex Database, 2017.
- <sup>4</sup> Saal, Matthew, Susan Starnes and Thomas Rehermann. 2017. "Digital Financial Services: Challenges and Opportunities for Emerging Markets Banks." *EM Compass Note No. 42*, IFC, August 2017.
- <sup>5</sup> Safaricom Annual Report. 2018. [www.safaricom.co.ke/annualreport\\_2018/financial\\_review.pdf](http://www.safaricom.co.ke/annualreport_2018/financial_review.pdf).
- <sup>6</sup> Saleh, Aymen, Emma Bunnell, Nadjia Yousif, Ralf Dreischmeier, Christophe Duthoit, and Roman Regelman. 2017. "Why Aren't Banks Getting More from Digital?" Boston Consulting Group. <https://www.bcg.com/publications/2017/why-are-banks-not-getting-more-from-digital.aspx>.
- <sup>7</sup> See also Tarazi, Michael and Paul Breloff. 2011. "Regulating Banking Agents." *CGAP Focus Note No. 68*, March 2011.
- <sup>8</sup> Rodriguez, Christian, Julia Conrad, Gisela Davico, and Susie Lonie. 2019. "A New Banking Model for Africa: Lessons on digitization from four years of operations." IFC. [https://www.ifc.org/wps/wcm/connect/ccfc72e8-1434-4fcb-9262-990fb864e22c/Longitudinal+study\\_New+Banking+Model+for+Africa\\_final.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/ccfc72e8-1434-4fcb-9262-990fb864e22c/Longitudinal+study_New+Banking+Model+for+Africa_final.pdf?MOD=AJPERES).
- <sup>9</sup> Conway, Zach. 2017. "Why More Millennials Would Rather Visit the Dentist Than Listen to Banks." *Forbes*. April 19. <https://www.forbes.com/sites/zachconway/2017/04/19/why-more-millennials-would-rather-visit-the-dentist-than-listen-to-banks/#3171dee472b3>.
- <sup>10</sup> Saal et al. 2017.
- <sup>11</sup> Kaffenberger, Michelle, Edoardo Totolo, and Matthew Soursourian. 2018. "A Digital Credit Revolution: Insights from Borrowers in Kenya and Tanzania." *CGAP Research & Analysis*. October.
- <sup>12</sup> Keenan, Charles. 2018. "WeChat Pay and Alipay are Dominating Payments in China. What Could This Mean for the U.S. Market?" *Ngenuity Payments Journal*. [www.tsys.com/news-innovation/whats-new/Articles-and-Blogs/nGenuity-Journal/wechat-pay-and-alipay-are-dominating-payments-in-china-what-could-this-mean-for-the-us-market.html](http://www.tsys.com/news-innovation/whats-new/Articles-and-Blogs/nGenuity-Journal/wechat-pay-and-alipay-are-dominating-payments-in-china-what-could-this-mean-for-the-us-market.html).
- <sup>13</sup> Buri, Sinja and Fabian Reitzug. 2018. "Do Agent Networks Help to Boost Savings?" IFC. <https://www.ifc.org/wps/wcm/connect/1d2b4b46-1c9f-4b9b-9de4-c6dfae8c65b5/Research+Report+Can+agent+networks+boost+savings.pdf?MOD=AJPERES>.
- <sup>14</sup> Matheson, Rob. 2016. "Study: Mobile-Money Services Lift Kenyans Out of Poverty." *MIT News*. [news.mit.edu/2016/mobile-money-kenyans-out-poverty-1208](http://news.mit.edu/2016/mobile-money-kenyans-out-poverty-1208). December 8.

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