

Mobile money in Africa: Promise and Perils



Over the last decade, Africa has become a global leader in mobile money—cashless electronic payment that use mobile telephones as the main payment mechanism, rather than using a smartphone only as a conduit to a user’s bank or credit card account. More than half the mobile money companies in the world operate in Africa. In 2014, the most recent year for which figures are available, the mobile money market in sub-Saharan Africa generated \$656 million in revenue, according to industry analysts Frost and Sullivan.¹

There are several reasons why Africa offers such fertile ground for mobile money service providers. First, only one in three people have a bank account.² Second, the rate of smartphone adoption in Africa is twice the global rate.³ And third, that rate is growing fast: According to Swedish telecom equipment maker Ericsson, mobile internet usage in Sub-Saharan Africa is forecast to increase twentyfold between 2014 and 2019.⁴

The continent’s biggest mobile money success story is Kenya-based M-Pesa, a service launched by UK-based Vodafone for SafariCom in 2007. Since its launch, M-Pesa has grown rapidly, in the process transforming the Kenyan economy and spurring others to enter the market.

So far, M-Pesa has held that competition at bay. The company was initially set up to provide a means for poor people to make microfinance payments—that is, to repay small sums they had borrowed without collateral to start businesses. But the microfinance payments service quickly evolved into a broader platform enabling people to transfer money by any mobile phone for a variety of purposes. Within two years of the launch, about 38% of Kenya’s adult population was using M-Pesa. By 2015, the company had 13.9 million active users – with an estimated 40% of Kenya’s GDP flowing through its network.⁵

M-Pesa and its competitors provide many of the services usually associated with banking. The fastest-growing segment of the mobile money market has been in making bulk payments (such as wages) and in paying merchants, according to the GSM Association (GSMA), a group of mobile operators and related companies.⁶ Other important uses for mobile money accounts in Kenya are depositing money (85% of users), withdrawing money (98%), buying airtime on mobile phones (69%), and receiving remittances (64%), according to a recent survey for the Bill and Melinda Gates Foundation on financial

¹ News24, Africa’s mobile money transactions top \$656m, January 2015 <http://www.fin24.com/Tech/Mobile/Africas-mobile-money-transactions-top-656m-20150120>

² World Bank, Global Findex Data: Sub-Saharan Africa <http://datatopics.worldbank.org/financialinclusion/region/sub-saharan-africa>

³ GSMA, The Mobile Economy Sub-Saharan Africa 2014 http://www.gsmamobileeconomyafrica.com/GSMA_ME_SubSaharanAfrica_Web_Singles.pdf

⁴ Ericsson Report: Mobile internet use doubling year-on-year in Sub-Sahara Africa www.dignited.com/7909/ericsson-report-mobile-internet-use-doubling-year-year-sub-sahara-africa/

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inclusion in Kenya.⁷ In these ways, M-Pesa and other mobile money service providers are promoting financial inclusion in their countries—a plus for customers, for local businesses, and for job creation.

M-Pesa's striking growth was based on unique factors. "M-Pesa was started by a mobile phone operator that already had a very high market share [of 70%]," explains Hans Kuipers, partner and managing director of the Johannesburg office of the Boston Consulting Group (BCG), and co-author of *Africa Blazes a Trail in Mobile Money*.⁸ "Financial regulations around these types of services in Kenya were very loose at the time. The government was very supportive, as it was keen to use mobile financial services to make government payments throughout the country."

⁵ Telecoms in Kenya: A new east Africa campaign <http://www.economist.com/news/business/21657378-two-african-business-giants-go-head-head-over-mobile-telecoms-and-payments-new-east-africa>

⁶ http://www.gsma.com/mobilefordevelopment/wpcontent/uploads/2015/03/SOTIR_2014.pdf

⁷ Intermedia, Kenya, Digital Pathways to Financial Inclusion 2014 Survey Report, February 2015 <http://finclusion.org/wp-content/uploads/2014/04/InterMedia-FII-Kenya-2014-Wave-2-summary-report.pdf>

⁸ https://www.bcgperspectives.com/content/articles/financial_institutions_telecommunications_africa_blazes_trail_mobile_money/

⁹ Central Bank of Kenya, Launching of the Financial Geospatial Mapping Survey, 2015 <http://fsdkenya.org/wp-content/uploads/2015/10/2015-FinAccess-GIS-launch-CBK-Governors-speech.pdf>

Other mobile money companies have been less fortunate. "According to the GSMA, there are 255 or so mobile money operations around the world today," notes Michael Joseph, head of mobile money at Vodafone, which now owns 40% of M-Pesa. "Only 13 or 14 are recognised as successful or having good scale, with more than a million active – not just registered – customers." The distinction between active and registered customers is important, notes Mike Quinn, CEO of Zoono, a leading mobile money provider in Zambia. "Some mobile operators will talk about having, say, four million registered users, but often these figures are inflated, with companies automatically registering anyone with a SIM [card] as a mobile money subscriber," he says.

Facing up to challenges

Despite its rapid growth, the mobile money industry faces some distinct challenges in Africa. First, there is the difficulty of recouping the initial investment in infrastructure. "To succeed in Africa, mobile money services need to be relatively inexpensive, so tariffs need to be very low," explains Mr Joseph. "But to get people to use a system, companies need to make a significant initial investment, including the capital investment in the technology as well as building a ubiquitous network of cash-in and cash-out agents."

Second, fraud remains a huge problem, one that is not often widely communicated. In fact, Mr Kuipers believes that the levels of fraud are significant. "I know of one mobile money company in Africa that lost in the region of \$100 million last year," he says. A recent report published by the Central Bank of Kenya notes that "mobile money service providers reported the highest instances of fraud at 37% of transactions (compared to 10% for bank agents)."⁹

Fraudulent practices include the use of fake phone numbers that give crooks access to funds and to the PIN numbers used by customers to make payments via PIN-encrypted text messages; and the use of counterfeit phones that use duplicate IMEI (International Mobile Equipment Identifier) codes, making it difficult to identify fraudsters using those phones.

Moreover, insider incidents are increasing, in which employees or their family members have access to a service provider's system and divert cash to their own accounts. Some cyber criminals target mobile money systems via fake SMS promotions which lure victims into sending money to certain numbers in return for non-existent rewards

Recent research suggests many mobile money companies are vulnerable to such breaches. Patrick Traynor and Kevin Butler of the University of Florida have looked at 46 Android mobile money apps from countries including Brazil, India, Nigeria and Thailand.¹⁰ According to their research, half were found to improperly encrypt their communications, potentially allowing an attacker to steal money.

More sophisticated security systems would help to close these gaps. So would making customers more vigilant. M-Pesa has taken on this challenge, “using SMS blasts, radio announcements in local dialects, local skits and newspaper ads to increase customer awareness of fraudulent schemes.”¹¹ Zoono’s Mike Quinn also highlights the importance of training those involved in serving customers. “Even though the tellers who pay out the money are not our employees, we do a lot of training in terms of values alignment and integrity and customer service,” he says.

Despite these efforts, building and maintaining trust among customers remains a major hurdle for mobile money companies. It can be difficult to persuade people that digital money can be more secure than cash. Indeed, in many countries where digital money is used for government transfer payments to citizens, many recipients promptly access their digital accounts to convert the balances into cash. “Mobile money companies need to develop a liberal reimbursement policy so people feel they can rely on the service,” says BCG’s Hans Kuipers. “But this can be extremely costly for companies and can also lead to other problems, like money falling into the hands of various kinds of criminals.”

Regulation is also seen as an ongoing challenge by mobile money companies as many markets do not have a licensing framework for non-bank market entrants. This can stop new non-bank entrants from setting up mobile money services, thereby limiting competition. (In practice, this has led many non-banks either to partner with a bank, or to buy one, in order to enter the mobile money market.). Other regulatory obstacles include restrictions on the size of transactions and limits on international remittances. A larger difficulty is getting banking and telecom regulators to coordinate within a single country, and getting regulators in different countries to align their rules for mobile money transactions.¹²

Finally, lack of interoperability — the seamless transfer of money from one person to another across different mobile money systems—can stymie growth. However, Mr Joseph is optimistic that this capability will become more widespread in future. “It’s like when SMS started and you could only send text messages within your network; you couldn’t send them to anybody else,” he says. “Interoperability will come to mobile money.” And, in fact, some progress is already in evidence. Recently, Vodafone and South Africa’s MTN announced a plan to allow customers in East and Central Africa to send each other money.¹³

A look ahead

In the next four years, revenue from mobile money is expected to double to \$1.3 billion, according to Frost & Sullivan.¹⁴ Governments across the continent have made big efforts to curb fraud. Mobile operators, for their part, are implementing new processes and procedures to make their systems safer.

¹⁰ Mobile money in developing countries: study reveals security flaws in apps <http://www.theguardian.com/global-development-professionals-network/2015/sep/24/mobile-money-apps-security-flaws-study-reveals>

¹¹ http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/10/2012_MMU_Managing-the-risk-of-fraud-in-mobile-money.pdf

¹² <http://www.bankingtech.com/281712/mobile-money-goes-global-in-2015-reports-gsma/>

¹³ The Wall Street Journal, Africa Makes Leap in Cross-Border Mobile Payments, July 2015 <http://www.wsj.com/articles/africa-makes-leap-in-cross-border-mobile-payments-1437730380>

¹⁴ News24, Africa’s mobile money transactions top \$656m, January 2015 <http://www.fin24.com/Tech/Mobile/Africas-mobile-money-transactions-top-656m-20150120>

And African consumers are increasingly adopting cashless electronic payment, thereby providing a positive example to consumers in other regions.

At the same time, providers are broadening the range of mobile money services. M-Pesa, for example, has launched a service called M-Shwari, which allows customers to use mobile phones to deposit savings to a bank account linked to their M-Pesa account. In Nigeria, Aella Credit will launch a mobile lending application in the first quarter of 2016. And a growing range of mobile banking apps is appearing on the market. Companies offering these services will continue to face challenges; but the barriers are overshadowed by the potential rewards for economies and for individuals, as mobile money provides an alternative for the rural poor who lack access to traditional banks.