

# Mobile Money as an Information Utility That Touches Everyone

## Refining the Vision for Financial Inclusion

You've grasped the potential: mobile money can bank the unbanked in the developing world. You've seen the reality: most mobile money schemes are still like large pilots, and the majority of people are still unbanked. To date, mobile money has not been as transformative as mobile phones.

Perhaps it's too much to expect two epochal waves of change in one decade and we need to give mobile money more time. Or perhaps the idea of financial inclusion is itself a threadbare hope: there may be neither sufficient demand for formal banking among poor people who have evolved "good enough" ways to manage what little they have, nor sufficient revenue among commercial providers to sustain what would be a large number of new formal accounts. Or perhaps we are simply missing the socioeconomic changes that mobile money already brings to the poor because we are too wedded to traditional notions of financial inclusion.

Whatever the results to date, we maintain that the potential for mobile money to change the financial lives of 70 percent of the world population—that is, the unbanked—is huge. However, in our view, we also need to reset expectations based on two considerations:

---

*Ignacio Mas is a consultant in the field of mobile money and financial inclusion. He was formerly deputy director of Financial Services for the Poor at the Bill & Melinda Gates Foundation. He has written widely for publications such as Innovations, Challenge, The International Economy, World Economy, World Development, and The Journal of Payments Strategy and Systems, and is coauthor of "Branchless and Mobile Banking Solutions for the Poor: A Survey of the Literature," which appears in this issue.*

*Nicholas Sullivan is a Senior Fellow at the Center for Emerging Market Enterprises at The Fletcher School, Tufts University, and Codirector of the Fletcher Leadership Program in Financial Inclusion. He is author of You Can Hear Me Now: How Microloans and Cell Phones Are Connecting the World's Poor to the Global Economy (Jossey-Bass, 2007) and co-author (with Tonny Omwansa) of Money, Real Quick: Kenya's Mobile-Money Innovation (Guardian Books, 2012).*

- First, before mobile money can effectively alter the banking paradigm, it needs to scale—and fast. Microfinance might work on a small scale in an isolated geographic pocket, but mobile money needs to become a universal information utility that is of value to the majority. Mobile money exploits network effects that are initially hard to harness, but which become a powerful force for change once a critical mass is reached. It is unwise to judge the usefulness of mobile money until it has developed the scale that it requires to propagate itself.
- Second, mobile money is bringing convenience and immediacy to people's handling of money—in essence, it's putting money on the grid. The economic and social implications are hard to fathom because money is used in so many different contexts, for so many different purposes, and in so many different ways. We—the “royal we” of the global development community—risk bringing old baggage to bear when we evaluate mobile money exclusively through the prism of financial inclusion. “Banking the unbanked” just might not look as we first expected it to look—that is, mobile money versions of bank-like products.

In sum, we should not jump to premature conclusions about mobile money. We need to wait and watch and evolve our thinking as this extraordinary experiment unfolds before us. In time, mobile money may, as has mobile communication itself, write its own story.

### THE IDEA OF A DIGITAL UTILITY

Mobile money, mobile banking, and banking beyond branches (a.k.a. branchless banking)—whatever the permutation—entails giving people direct access to electronic transactional channels, based on cards or mobile phones, that are linked to appropriately regulated store-of-value accounts, which are in turn supplemented by a relatively dense network of retail stores that act as cash-in/cash-out and registration points. Banking beyond branches refers to new service channels and primarily addresses distance to and the cost of service delivery. A range of financial services can then ride on top of this delivery platform.

The predominant model to date is driven by mobile operators, who are combining their 24/7 access to customers with cash-in/cash-out points to deliver an exponential value-add over banks, especially those that have ignored low-income customers. A secondary model is driven by banks that are using mobile outreach to facilitate access to systems for existing and some new customers. In both cases, the mobile operator and the bank are seeking to cement their existing relationships with customers.

An estimated 70 percent of the population in developing countries is closed off from the formal financial system, and as a result they are relegated to a cash or barter economy. Imagine the opportunities that would open up for poor people everywhere if their cash were “dematerialized” and treated purely as information. It's not hard to do: just think about how you manage your own bank accounts.

Your monetary holdings are but a line of code on a server that is securely managed by a regulated institution. Paying someone is as simple as manipulating digital information to credit one set of accounts and debit another, with no physical exchange ever taking place.

Digital money—which is mere digits on a bank’s server—is easier to conceal, transport, and deliver than physical cash, and hence is safer and cheaper to use in many settings. Digital money leaves information in its wake, which can be used automatically to build up financial histories for individuals or accounting records for businesses. It is feasible to pay interest on digital money, or to index its value to a range of benchmarks, thereby reducing the risk of inflation.

Were the branchless banking infrastructure to become sufficiently pervasive, it could be thought of as a utility that links citizens and enterprises to each other and to a range of formal financial and nonfinancial service providers. The payment infrastructure would equate to an information utility that would ride on top of existing communications networks, and mobile networks in particular. It would readily and securely convey information to users on their own holdings of electronic money and permit the transfer of value between the people and entities connected to it.

#### THE BENEFITS OF A PERVASIVE MOBILE MONEY CHANNEL

Think of the multifaceted benefits of connecting many (but not all) to water, electricity, and communications networks. You can guzzle, slosh, and drip water for any number of reasons, plug in any kind of electrical device, and convey any message you like. Utilities are pervasive and have multiple uses—hence the name. However, they are not designed for specific purposes but as a channel through which to address multiple needs. So it is with branchless banking—which is, in essence, a money and payment utility. You can store value or pass it on in the context of most of the activities that human beings engage in: to signal status, earn a livelihood, procure services, cater to your family’s needs, provide for the future, etc.

It is therefore unduly limiting to judge the success of branchless banking in terms of a narrow, preconceived set of applications, such as access to standard savings and checking accounts. Success will be fully achieved when everyone uses their money and payment utility for a variety of overlapping reasons. The overall impact of this utility on people’s lives should be measurable, but not attributable to only a few distinct uses, such as remittances or online payments.

To illustrate the broad potential impact of branchless banking as a utility, we posit four main categories of benefits that differ in terms of whom or what people connect to: each other, regulated banks, government services, and business and commercial entities.

*Peer support networks.* The early use of M-PESA in Kenya revolved around friends and family remitting money to each other, as reflected in its marketing slogan, “Send money home” (originally “Send money by phone”). By enabling direct person-to-person payments, M-PESA improved the geographic reach and efficien-

cy of informal peer networks. It is used as a financial tool for people to help each other, and as such is of immense social and economic value. Researchers Billy Jack of Georgetown University and Tavneet Suri of MIT are currently studying how M-PESA allows families to resist idiosyncratic adverse shocks—in effect using mobile money as an informal insurance mechanism. This category also includes informal, community-based rotating savings groups that use mobile money as a channel to capture contributions.

*Access to formal financial services.* While visions of branchless banking differ, savings accounts are often seen as the anchor product through which people may be able to access other services, such as loans and insurance. From the viewpoint of financial inclusion, branchless banking is fundamentally an access method that connects people electronically to larger financial service providers. The value to be derived from the banking utility is seen as hinging more on the financial products that are delivered over the network than on the underlying payments channel. Whatever the product, one clear value of an electronic payments system is the transaction trail it leaves, which helps the unbanked develop a credit history.

*Government efficiency and less corruption.* Much recent interest in branchless banking has been stimulated by its potential for helping governments deliver micropayments. Doing so in cash is expensive, whereas doing so electronically is cheap and fast—and quite possibly more productive. Government is typically the largest micropayer in a country, and many of these payments go to people living in remote areas, such as teachers in rural schools or pensioners who return to their home village upon retirement. The volume of social welfare payments has also increased substantially in recent years; for instance, those made to demobilized soldiers in the Congo, conditional cash transfers to poor families under the Bolsa Familia Program in Brazil, or subsistence wages paid under the National Rural Employment Guarantee Scheme in India. Branchless banking can therefore enhance the reach and efficiency of government social safety nets and reduce the corruption associated with the administration of these programs. In many cases, these government-to-person payments are delivered through banking institutions, which provides another linkage point for the previously unbanked.

*Business efficiency and entrepreneurship.* A final potential application for a mobile money utility is to grease the wheels of commerce. If every potential customer, supplier, and partner of any given enterprise were connected to the same electronic payment network, interactions between them could be significantly more efficient. The costs associated with paying and collecting for goods and services would be lower; businesses would have readily available, real-time information on payments made and amounts owed; and credit and business risks could be streamlined across supply chains. We have seen bill payments and, to a lesser extent, salary disbursements become big drivers of customer adoption and transaction volume in mobile money schemes, such as M-PESA in Kenya and EasyPaisa in Pakistan. Businesses that have essentially run separate businesses to collect payments (such as electric utilities) or disburse monies (such as sugar cane processors) can now integrate these payments into their core business. Distributors that run

trucks through remote rural areas to collect cash can now distribute goods only when needed and accept payments electronically. Entrepreneurs and small businesses can operate cash-free businesses and no longer need to worry about trusting employees with cash or greasing cranky supply chains with payoffs.

Development agencies and donors have identified financial inclusion as the high bar of the benefits of branchless banking. Financial inclusion is a fuzzy term, but it typically refers to connecting people to “formal” (that is, licensed, regulated, and appropriately governed) financial institutions. Therefore, advocates of financial inclusion tend to put as much or more emphasis on the design of financial products as on the design of the payment capability underpinning them.

But branchless banking represents both less and more than financial inclusion. It is less because banks need to develop innovative financial products for low-income people if they want to become relevant to their customers. At the same time, branchless banking represents more than mere financial inclusion because the payment needs of all actors in the economy are much broader than their dealings with banks. Individuals, businesses, and governments all benefit when money goes digital, and will do so even more when the payment channel becomes a utility that is universal and nondiscriminatory. We need to stop thinking about banks and thinking about functionality in the way people use and manage their money

#### REALITY CHECK: ARE WE CLOSE TO A UTILITY?

Few people—regulators as much as practitioners—today question the need to take financial transactions out of the brick-and-mortar infrastructure of banks to make the economic system work for both providers and clients. The basic notion of doing this has gained wide currency, and dozens of banks and mobile operators have been moved to test products. Dozens of papers have been written on the topic, and *The Economist* reports fairly regularly on mobile money in Africa. Even the G20 is championing the issue. The question is, has the business case been made in a way that will entice multiple actors to invest in and commit to branchless banking?

Four years into the spectacular success of M-PESA in Kenya, no other mobile money system even comes close to showing that level of customer adoption and usage. True, there are some encouraging signs: Vodacom’s M-PESA in Tanzania and MTN MobileMoney in Uganda have more than one million active accounts. Telenor’s EasyPaisa in Pakistan and the SmartMoney and G-Cash operations in the Philippines are also significant, with more than eight million customers between them, although they are seeing only a limited take-up of wallet (i.e., account-based) services.

Banks have been very slow to build their own branchless banking operations to compete with mobile money operators, except in Latin America. In Brazil, Peru, Colombia, Chile, Bolivia, and, more recently, Mexico, banks have expanded their channels significantly by using point-of-sale terminals at local shops and retail chains.

There is little evidence in branchless banking led by either telecoms or banks that people are using their accounts for much more than peer-to-peer transfers or utility bill payments, and not much money stays put in the customer accounts. Banks and mobile operators haven't yet developed a collaborative model that will make both entities comfortable maintaining their value-add and desired customer relationships without overburdening customers with fees. Thus, products designed for the poor and unbanked are few and far between, and none have been scaled.

Even M-PESA, despite its spectacular level of take-up, remains very limited in how people use it. Most M-PESA transactions start and end in cash; it has in essence supplemented rather than displaced cash, and most customers use it only a couple of times a month. M-PESA does not offer easy programming interfaces for linking into enterprise systems, and the information value of its customer transactions is used rarely, if at all, for business or credit-scoring purposes.

Disappointment in the scale and impact of mobile money is real. Part of the problem has been caused by the expectation that mobile money would automatically and effectively bank the unbanked. But unlike microfinance, which was also over-hyped as a way to end poverty, mobile money must scale quickly if it is to actually take hold, let alone deliver results.

Thus, in looking forward, the focus should be first on the business implementation to scale and profit, rather than on the notion of financial inclusion. The question is, what is preventing telecoms and banks from doing just that? If their respective DNA is an impediment, perhaps third parties should be encouraged to implement mobile money and to use the mobile platform and new banking regulations as leverage to compete with incumbents.

The focus of branchless banking should turn to impact only after the business case and business model are fixed. And when it does turn to impact, the definition of financial inclusion should be scrapped or expanded in recognition of the multiple ways mobile money can impact society at large, and the poor in particular.

## BUSINESS DRIVERS TO SCALE FAST AND FAR

In most countries, mobile operators and banks do not have a sufficiently dominant market position to singlehandedly harness the network effects that are required to offer their customers a really useful money-transfer service, and to build dense retail cash-in/cash-out networks. They will therefore need to experiment with different paths from that charted by Safaricom in Kenya. While M-PESA has remained largely a "closed-loop" payment system, others with less scale will need to interconnect their platforms nationally. Moreover, whereas M-PESA has focused on domestic remittances, others may need to chase after different transaction pools to drive take-up and volume.

Below we present some economic business drivers that aspiring providers will need to consider.

*Adopt a complete ecosystem perspective.* Given the range of potential uses of electronic money described above, providers need to take much more of an ecosys-

tem view in the development of mobile money and branchless banking schemes. Most telecoms typically see mobile money as an opportunity to cross-sell one more service to their existing customers, and in the process create some stickiness for prepaid mobile services, which carry no contracts. Most banks, however, see branchless banking as an opportunity to reduce the cost of servicing their existing customers.

The complexity of these schemes requires that both actors approach the idea more holistically. The idea is not only about converting or acquiring customers but about delivering sufficient value to stores that are acting as cash merchants. Moreover, it's important to give businesses a way to pay their employees and casual laborers electronically, to collect bill payments electronically, to take cash out of supply chains so they can run more efficiently, and in the process drive stores to prefer to accept electronic payments over cash. Without a broader perspective that includes ecosystem development, most providers will not have the wherewithal to drive mobile money or branchless banking forward at sufficient scale and speed.

*Invest to develop a distributed cash-in/cash-out network.* Mobile money and branchless banking are about shifting transactions onto an electronic payment platform. The critical first step is to convert physical cash into electronic value. The inverse operation, letting people convert their financial holdings back into cash, is also essential if people are to gain confidence in the system. However, the paucity of bank branch and ATM infrastructure in many developing countries—especially where poor people live and work—makes it very difficult for most of the population to hope for formal banking services.

Building the necessary cash merchant network—the stores where people can cash in and cash out from their digital accounts—is hard work, for two main reasons. First, each store needs sufficient volume in order to maintain the necessary stock of electronic money and physical cash—that is, inventory. Creating that volume of business at every locality represents a very large number of transactions, which few providers can achieve. Second, the viability of the cash-in/cash-out channel depends on having many customers, which can create a chicken-and-egg problem. Customers won't be attracted to the service if they don't see a vibrant, reliable network of cash-in/cash-out stores that can meet their needs. The longer providers take to break this cycle—that is, the slower they are in getting both customers and stores on board—the more difficult it will be to market the service, as people will become annoyed with the marketing message and there will be little word-of-mouth promotion. Furthermore, the business case will become more complicated due to accumulated losses. Breaking this cycle requires careful, effective action and sufficient resources to reach the two sides of the market: end-users and cash merchants.

*Interoperability is win-win.* Most mobile money schemes seek to establish themselves on a stand-alone basis and see interconnecting with other similar schemes as a longer-term issue. There are two main reasons for this: first, early movers do not see much benefit in sharing their hard work with laggards, and second, scheme promoters who have their hands full rolling out a new system do not

relish the added complexity of negotiating with their competitors from the outset. However, a lack of interconnection can easily make it that much harder for schemes to achieve the necessary speed to scale. This can result in fragmented transaction pools that need to be spread across more stores that serve different scheme providers, rather than consolidating transactions to achieve a more readily viable cash merchant network that meets the needs of all interconnected schemes.

Consider the case of an African country that has 50 percent mobile phone penetration and the largest player has a 40 percent market share. Assuming optimistically that this dominant mobile operator converts 50 percent of its customer base to mobile money, this represents a payment ecosystem touching just 10 percent of the population (50% x 40% x 50%). That is simply not enough to create a compelling proposition to users, and most likely not enough transactions volume to create a viable business case for a sufficiently large number of cash merchants. Even this dominant operator might be better off interconnecting with the mobile money and branchless banking schemes of other telecoms and banks. Yet this is not happening anywhere, as both telecoms and banks want to go it alone, despite the obvious fact that their efforts are going to be subscale.

*Price cash out of the system.* Most electronic payment schemes are dependent on cash rather than disdainful of it. Operators have in fact sought to reposition cash as an extension of the local mobile money system through a dense network of cash merchants. Hence, local economies are based on cash (as usual), but long-haul transfers are electronic. The outcome is that most people tend to use mobile money systems sparingly, since their need for remote payments—to send money home, pay a bill, buy goods online, etc.—is relatively infrequent, perhaps only monthly. Most economies are local, as that is where most cash is moved, which means that mobile money has a minimal impact.

One big problem is pricing, which makes small-value transactions expensive via mobile. Lower pricing might induce people to substitute mobile payments for cash in their daily lives, and thus trigger a much higher volume of mobile money transactions, with all their known benefits. So far, most schemes have gone for the high-price model. M-PESA in Kenya has in fact gone as far as pricing purely electronic money transfers more expensively than cash-in/cash-out transactions—which in effect makes cash cheaper.

## REFINING THE VISION FOR FINANCIAL INCLUSION

When envisioning a large-scale information utility for making electronic payments, cash is the enemy. People love cash because they are conditioned to use it. They used to love cowrie shells and dogs' teeth too, but their preferences evolved as new forms of payment came along. They can do so again. Cash must be excised from the system as much as possible for all the reasons mentioned above if it is to fully scale and transform society. It would certainly lower costs for banks and telecoms and move more money into their systems.

*Mobile Money as an Information Utility That Touches Everyone*

Most importantly, dematerializing cash would begin to develop mobile money as a pervasive, large-scale, digital-information utility that is of value to all players, including the very poor. That would give entrepreneurs a viable platform on which to develop rich products to serve different segments of the population, and might begin to make financial inclusion a reality. That version of financial inclusion is not likely to look like the one we now envision—some sort of expansive banking system that pushes the same products you and I enjoy. It is likely to assume a whole new set of characteristics based on usage needs and local customs, which is precisely what happened with the spread of mobile phones.