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Mobile Phones to Grease the Gears of Economic Development

By Ed Finegold

I recently experienced the tragic passing of a close friend. He was an inspiring person; a man who left small town southern Illinois to pursue his education on the east coast. After phenomenal achievements in chaos math, including working with famous mathematicians such as Benoit Mandelbrot, he chose to return home to his family in Illinois to make a difference in the community there, building low income housing and helping families whose lives the great recession had shattered. At his memorial service, his remarkable parents spoke eloquently. It was their passion for charitable causes that fueled my friend's desire to help others. I remember him traveling to rural Africa with his parents' foundation when we were teenagers to help build schools, medical facilities, and fresh water wells. Their foundation, the Marion Medical Mission, is remarkable in that the family funds its operations so that all donations go to benefit people in need. Relatively small sums of money can make a huge difference in the lives of real people. Oddly, mobile phones can be conduits for this kind of direct and positive change.

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Four Hours to Nairobi

Another close friend – this one found through the Internet and with whom I share an interest in writing – lives in Nakuru, Kenya. He makes his living over the Internet as a freelance journalist, working from what is by Kenyan standards a relatively large town, but is remote from the U.S. or European perspective. Though he can receive funds in Nakuru via Western Union, to conduct any real business with his bank he must travel by bus (he can't afford a car) for several hours to Nairobi. Cash can be difficult to come by as a result, and the buses aren't safe from bandits or pick pockets.

In Europe and the U.S., when we need cash in a hurry we are disappointed if an ATM from our own bank isn't the one that's on the corner of the block we happen to be walking down. We now expect merchants to accept debit cards as a matter of course. We also take it for granted that even in our largest cities, so long as we don't do anything foolish, we aren't all that likely to have our wallets stolen out of our pockets or handbags. Even in Chicago, which is known for violent crime, I don't expect to be mugged at gunpoint on the streets where I spend most of my time.

My friend in Nakuru doesn't have these luxuries. Crime against his person is a daily threat. There are no ATMs, largely because there would be no way to secure them. He can't cash checks at the grocery store, or receive cash back from an automated check-out station with the swipe of a card. Again, where there's cash, there are armed bandits. So there's no easy way to get cash without walking into a bank, as was the case perhaps 40 years ago in the United States due to a lack of technology, not of security.

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In emerging economies, however, mobile phones are nearly ubiquitous. Pre-paid phones and SIM cards are relatively easy to find. My friend in Nakuru has two different phones, one of which he uses almost exclusively for Internet access and to file stories to his employers. A few years backed he penned a story for me about using mobile devices to conduct international money transfers, and he was excited about the prospect of having easier ways for his foreign employers to send payments to him directly. The idea of having easy access to cash through his

phone, without ever having to carry actual cash which is easily stolen and cannot be traced or secured, is life changing for him as it can be for millions of people.

Greasing the Gears

Economies are built on transactions. Buyers and sellers must exchange currency and goods; it's a simple concept. If there's no or limited currency floating around, there isn't a way to encourage development of fundamental pillars of modern society like supermarkets, movie theaters, Chinese restaurants, and Wal Mart. According to the Marion Medical Mission, just a few hundred dollars can build a fresh water well that will change the future of an entire village in Africa. On that basis, it makes sense to me that a pre-paid phone with which one can store a few "dollars" and conduct day to day transactions can be just the lubrication an emerging economy needs to drive a revolution.

There are multiple ways this can work, and various technologies out there for making it happen, but consider this scenario. My friend in Nakuru has his bank account in Nairobi and a mobile phone. He calls the bank, verifies his identity, and has a few Kenyan shillings transferred to the SIM card on his phone, which now works as a pre-paid debit card. He goes to the grocery store to buy food for the week for his family and pays by sending a text message with the amount to a short code. The payment is then verified to the merchant by text and he goes home to feed his family.

In the background, we're talking about a few technical and business components. You need a relationship between banks and mobile operators, and possibly a 3rd party clearinghouse for managing those relationships and transactions. You also need to manage a real time or near-real time, debit-based cash account associated with a pre-paid mobile account. Banks have this technology for debit cards; mobile operators have it for pre-paid accounts. So that already exists. You need security wrapped around this to verify user identities and transaction

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integrity; Did this mobile customer really just buy five pounds of sugar from this grocer? Is the person who made the purchase the actual owner of the account? Finally, you need to close the loop and verify to both merchant and payer that the transaction is complete, the funds are transferred successfully, and offer to display the remaining balance.

The transactional pieces here are pretty well explored territory. My assumption is that the security issues relating to this, while not completely new in the financial or mobile realms, need not only to be addressed, but to be policed and kept up with ongoing scams. Security is never a one and done issue. It's an ongoing risk that needs to be managed from all vectors and with the cooperation of all parties. And that's to say nothing of the legal issues – leave it to lawyers, judges, and regulators to make something that's technically straightforward potentially impractical to deliver.

What about people who don't have bank accounts? The SIM card can, in a sense, become a checking account, and they can pre-pay at the same point of sale where they would top-up their minutes. They can also receive funds by international money transfer from family and friends abroad who send their wages home – as millions of Kenyans, and people from other emerging economies living in other countries for work, do every day.

Critical Mass

If an economy is in fact built on transactions, then certainly a growing economy is built on an increasing number of simple, fluid transactions. A practical reason why many areas in emerging nations aren't growing economically is because they don't have the infrastructure to do so. Even if you gave every man, woman and child in rural Africa a $100 Visa gift card, it would essentially be worthless to them – there's no place to swipe or redeem it.

In the U.S. and Europe, again, we take ATM machines, debit/credit card terminals, automated checkout counters and handheld POS terminals for granted. They are ubiquitous. We use them every day without thinking about the cost or effort required to put them in front of us. Many of the people we're talking about in emerging nations have never, or only very rarely, seen any of these devices. But most of them have or have access to mobile phones.

The beauty of using mobile technology as a conduit or replacement for cash transactions is that the infrastructure is lightweight and is already in place. You would not need to initiate a massive effort to build banks, install ATMs and POS terminals, or any of the landline networks required to connect them. You just use what's already there – mobile phones and top-up vendors. The rest is done on the back end without any, or very few, boots on the ground in each locale. It's low cost and immediately leverages the critical mass that mobile phones and networks have already put in place.

Changing the World

I'm painting a pretty rosy picture here and am skimming over some key issues, like the fact that bandits and crooks will always find ways to break into technologies to steal money, identities, etc. Regardless, I am convinced that the biggest limiting factor in economic growth is access – access to cash, access to information (and education), and access to communication. Mobile phones can provide all three of these things, and that's why I believe they are so important to emerging economies. The payments angle provides a role for the OSS/BSS sector in this positive shift. Because mobile payments are so back end driven, it is up to this sector to make it easy to deploy and highly secure for both merchants and customers. It is rare that something like a billing system can play as important a role in someone's life as a medical clinic or fresh water well. It's up to our industry to make that happen.

For more information on the Marion Medical Mission, please visit: http://marionmedical.org/