Great observation from **#Blum2012**: The more coal we use, the more expensive it becomes. With solar, the more we use, the cheaper it becomes.

2 How replicable is M-Pesa?

Mobile money—the ability to store and transfer money using cell phones—arguably represents the most talked-about technology in global development today. Expectations are high that in as little as a decade, the service can be rolled out across the developing world, bringing basic financial services to the 2.5 billion people currently without a bank account.

Of particular interest is the possibility of serving the world's poorest people, who have historically been denied access to financial services by a combination of distance and cost. Mobile money offers a commercially viable business model for serving these potential customers, overcoming the constraint of distance by substituting cell phone ownership and networks of agents for physical banks, and mitigating the cost constraint by facilitating a shift from cash to electronic money where transaction costs are lower, thus permitting small-value transfers and minimal fees.

While more sophisticated financial services are beginning to be deployed through mobile money initiatives (see section 3), even basic offerings provide users with a rudimentary tool to support savings and more balanced spending (consumption smoothing), which themselves are associated with significant welfare benefits. For instance, a study in western Kenya found that women entrepreneurs who had access to a deposit account invested 45 percent more in their businesses.[5] Another study in Malawi showed that access to simple financial tools resulted in a 17 percent rise in household consumption.[6]

The preeminent example of mobile money success is M-Pesa. Launched in Kenya in March 2007, M-Pesa signed up 20,000 customers in its first month, 2 million by the end of its first year, and almost 10 million within three years, representing 50 percent of the country's adult population. In a country where two-thirds of the population lives below $2 a day, M-Pesa has clearly demonstrated its ability to serve the needs of low-income customers. Indeed, its penetration rates for 2011 are indistinguishable for customers living on $1.25 to $2 a day as those living on above $2. For people living on less than $1.25, penetration rates are lower, but still reached 72 percent in 2011 and are continuing to rise.

Today, mobile money systems are sprouting up almost everywhere. GSMA's mobile money tracker counts 150 live systems and a further 110 in the pipeline across 72 developing countries. These offerings are predicated on the assumption that the success achieved by M-Pesa in Kenya can be emulated by others elsewhere. To date, however, few other systems have come close to matching M-Pesa's achievements.

This is puzzling. Conventional wisdom dictates that crafting a viable business model and bringing it to scale can take several years, possibly even generations, and that this time frame can be especially long when the product or service involves the creation of a new market.[7] However, once a model is proven financially viable, it should be possible to replicate it considerably more quickly, reflecting a powerful demonstration effect.

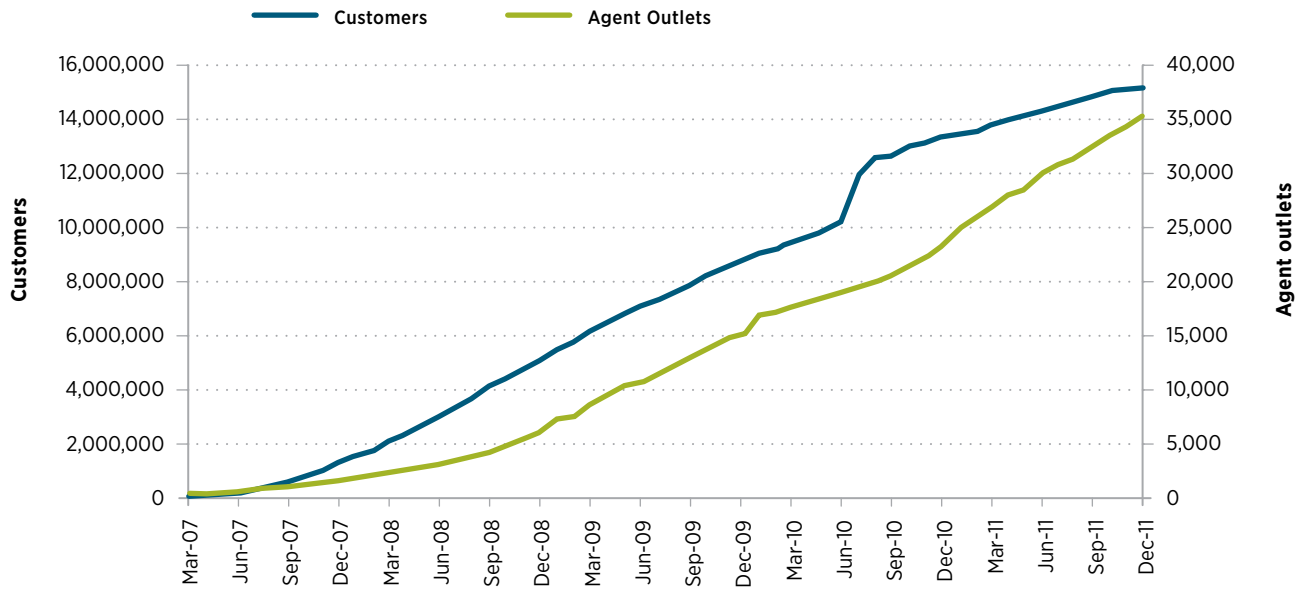
The case of mobile money does not seem to respect these rules. M-Pesa evolved from a concept to a country-wide launch in four years and achieved scale less than three years later. But replication in many cases has proven harder and slower.

Photo by Alex Irvin

"We, at MasterCard, estimate that out of the more than 130 mobile money deployments there are roughly 50 million accounts—and that half of these 50 million accounts come from only two countries—Kenya and the Philippines."

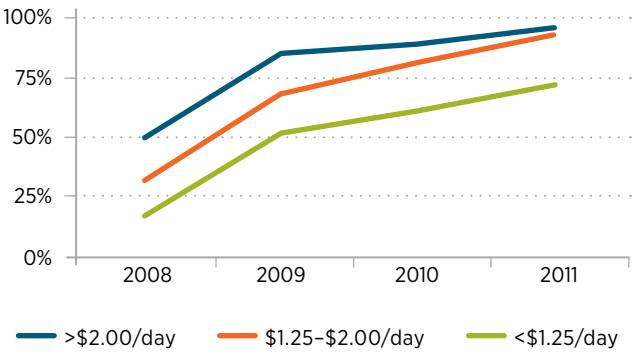
— **Mung Ki Woo** @MungKiatMC
Group Executive, Mobile, MasterCard Worldwide

Number of M-Pesa Customers and Agent Outlets, 2007-2011



Source: Safaricom/M-PESA Key Performance Statistics, May 2011

M-Pesa Use by Daily Per Capita Consumption
(non-Nairobi sample)



Source: Tavneet Suri and Billy Jack, "Reaching the Poor: Mobile Banking and Financial Inclusion," *Slate*, February 27, 2012.

Participants in the Brookings Blum Roundtable explored what lies behind this paradox. This was hardly the first attempt to address this issue; the mixed performance of mobile money systems worldwide has motivated many attempts to identify one or more distinguishing factors that separate successes and failures. Regularly cited factors include aspects of the offerings themselves (the product design, pricing, and terms of use) and the environment in which they are deployed (access to existing financial services, the competitiveness of the mobile industry, and country geography). A 2011 study by the International Finance Corporation identified no fewer than 50 parameters that determine the potential for mobile money's successful development in a given country.[8]

2.5 billion ppl in the world still unbanked. Mobile money is critical 2 get them access 2 **#financial services #Blum2012** http://t.co/AUuzRcwg

Source: http://www.mobileworldlive.com/mobile-money-tracker, as of 12/2012

It is self-evident that the technology used in mobile money can be employed virtually anywhere. However, as is the case in most innovative global development solutions, technology is only one part of a bigger story.

The roundtable discussion identified three critical issues that explain M-Pesa's success and the challenge of replication. First, the most successful mobile money offerings around the world have crafted their product design and marketing strategies with the goal of meeting a specific customer need and fulfilling a compelling value proposition. For M-Pesa, the "killer application" was to facilitate domestic remittances. In Japan, NTT DOCOMO's mobile money system, the most successful in the developed world, drew customers by enabling fast, convenient payment for train tickets for metropolitan Tokyo commuters. Such applications are context specific and so cannot simply be copied from a successful system elsewhere. Furthermore, the most salient application is not always readily apparent; for instance, M-Pesa's pilot was aimed at supporting the receipt and payment of microfinance loans.

The table on page 14 illustrates the International Finance Corporation's analysis of the segments of the mobile money industry that present the greatest opportunity for growth in four emerging economies (Brazil, Nigeria, Sri Lanka and Thailand), and thus the potential focal points of successful future offerings in these markets. Two aspects stand out: First, the most promising segments vary from country to country; and second, M-Pesa's killer application (domestic remittances) is not identified as a strong opportunity in any of the four countries.

Second, roundtable participants noted the role played by industry regulators in M-Pesa's winning formula. In particular, the limited regulation of M-Pesa's network of agents was critical to the viability of its business model. This was permitted by Kenya's regulators, who correctly identified these agents as intermediaries rather than providers of banking services. A broader philosophy of allowing "regulation to follow innovation" meant that the authorities could uphold prudential controls and consumer protection without stifling M-Pesa's growth. In other countries where Safaricom has launched M-Pesa, notably India and South Africa, overzealous regulation

"Mobile technology has the power to bring about a dramatic revolution in the way that banking is done by providing consumers around the world with more agency than ever before and ensuring that consumers and businesses can directly deal with each other. Linking people around the world and allowing them to make payments and have access to capital gives people a chance to disintermediate not just banks but many other powerful institutions."

— Gillian Tett
U.S. Managing Editor, Financial Times

Photo by Alex Irvin

has been cited as a constraint on growth and forced changes to the business model.[9]

Although acknowledgment of Kenya's regulators is surely deserved, some caution here is warranted. Kenya is rarely held up as a model of good governance for good reason; the Worldwide Governance Indicators rate its regulatory quality as a little below average. Two factors may help to explain this incongruity. First, supportive regulation of M-Pesa can likely be attributed as much to individual leaders as to the regulatory institutions with which they are affiliated. This is a reminder of the role specific champions can play in supporting innovation and bringing innovations to scale. Second, it is possible that Kenyan regulators and policymakers may have played a less supportive role in the emergence of mobile money if they had known what a tremendous success it would turn out to be and the subsequent opportunities that would be created for rent-seeking. Officials in other countries are better prepared to seize such opportunities when mobile money systems are launched, or to protect vested interests in the banking sector. This suggests that the demonstration effect associated with the successful launch of an innovative product or service can have a more insidious side.

Finally, one important factor in the modestly paced scaling up of mobile money worldwide, which was noted at the roundtable, is that much of the early-stage work performed in anticipation of M-Pesa's original launch has to be repeated in the preparation for launching similar systems in new countries. This includes establishing a network of agents, conducting experiential communications to teach consumers how to use the service and building customer trust. This places an onus on effective execution, challenging the assumption that replication is a straightforward, mechanized process involving little adaptation or experimentation. Moreover, these early-stage activities take time, money and patience. This is at odds with the contestable market spirit associated with mobile operators, whereby new promotions and products have a short turnover and their viability—measured narrowly in terms of their contribution to revenue—is tested over a short time frame.

Opportunity Analysis Summary

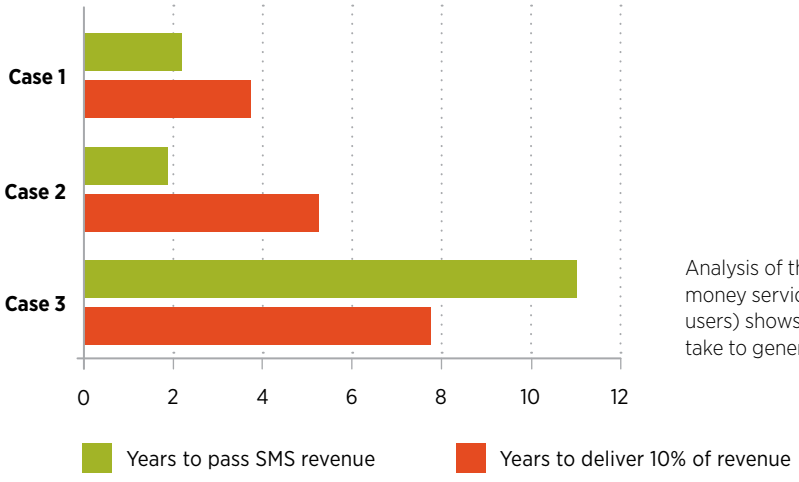
POTENTIAL MARKET	BRAZIL	NIGERIA	SRI LANKA	THAILAND
Bill payments (utilities)	■	●	▲	▲
P2P transfers	▲	▲	▲	▲
G2P payments	▲	■	●	■
Payroll (informal sector)	▲	▲	●	▲
Public Transport	▲	■	▲	▲
B2B payments	▲	▲	●	▲
International Remittances	■	▲	●	■
Credit and Microfinance	●	▲	●	■

Source: IFC Mobile Money Study 2011

Note: ● = significant and unrealized opportunity for m-money; many of the pre-conditions for m-money exist, such as demand, supportive regulation, and an identifiable group of customers; ▲ = potential opportunity but there are substantial challenges; ■ = unlikely to be any m-money opportunity due to lack of economies of scale or other constraints.

Photo: © Bill & Melinda Gates Foundation /David Evans

Guillermia Diaz Diaz utilizes the DiConsa store in her community to obtain Oportunidades (an innovative Mexican social assistance program) payments and participate in a savings program.



Analysis of the top 3 African mobile money services (as measured by active users) shows the length of time it can take to generate significant revenue.

Source: CGAP analysis, company financial statements 2009 and 2010.