FINANCIAL INCLUSION

# M-PESA: The Best of Both Worlds

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## 1. Introduction

M-PESA, the mobile banking and payment system in Kenya represents the gold standard for innovative financial services. Tailor-made for the Kenyan society, where many feel formal bank accounts are out of their reach while mobile phone technology has become pervasive, M-PESA creates an environment where even the most poverty stricken resident of a remote African village can become “financially included”. A product of collaboration between mobile phone giant, Vodafone, and local service provider, Safaricom, M-PESA has become ubiquitous to everyday life in the East African nation. All that is needed for participation is a basic mobile phone, technology that almost every household is now able to obtain.

Using data preloaded on the SIM card, M-PESA utilizes a SMS based interface to transmit money virtually to other phones. To load money into one’s virtual account, a customer visits one of Safaricom’s thousands of agents and exchanges currency for e-money that is automatically deposited into their account. Customers can transfer money to anyone who owns a mobile phone. This generates a seismic shift in how money is managed and payments are made in Kenya. The operation is built around convenience, security, and low prices. M-PESA reveals the new opportunities and reduction in risk a competent mobile service can provide to those excluded from traditional financial products and services that the residents of developed nations take for granted. As such it represents a revolution in financial inclusion.

## 2. The Origins of M-PESA

The lack of financial inclusion in Kenya is fueled by an array of adverse policies and conditions. Many Kenyans live in isolated, rural areas, locations where banks see traditional establishments as extremely unprofitable. Moreover, Kenyan culture embraces strong familial connections and a larger sense of community. This leads to the belief in informal lending practices, fostered by the trust individuals have with their relations. Transferring money between friends, family, and the larger community can be expensive, time consuming, and often dangerous. Furthermore, even those with access to formal financial institutions often do not open accounts due to their lack of trust that decades of questionable banking practices have created. These factors created a fissure between the ease and comfort associated with informal financing and the security and reliability that came with the use of formal financial institutions.

The executives at Vodafone and Safaricom recognized that a mobile financial service could address many of the problems present in Kenya’s financial sector. Unsurprisingly, this breakthrough came from the mobile phone industry, an industry built on connecting people through new ideas and technology. M-PESA, sought to address the gap that separated the unbanked from the advantages of financial inclusion (Hughes and Lonie, 2007). Although this was a novel idea, in no way did it seek to overhaul the existing payment structure. Jack and Suri (2011) have instead posited that “M-PESA is not designed to replace all payment mechanisms, but has found and filled a niche in the market in which it provides significantly enhanced financial services”.

M-PESA was originally branded as an alternative remittance system. Kenyan cities are full of individuals moving in from small towns, looking to make money and send it back to assist their families in their hometowns. Although these individuals may have left their ancestral home, they are expected to maintain a strong relationship and still contribute to their extended families, leading to approximately 21% of Kenyan adults relying on a form of money transfers for survival (Johnson et al., 2012). At its core M-PESA's goal, and corporate slogan, is to allow individuals to "send money home" (Mas and Ng'weno, 2010). In March 2007, when M-PESA was officially launched, there were only "poor alternatives for making domestic money transfers, particularly in the absence of technology-enabled or retail-based alternatives with a broad network" (Mas and Morawczynski, 2009). At that time, there were two options to sending remittance payments: using a secure, but very expensive formal service or delivering the money in person, a low-cost, but risky method. M-PESA's service was marketed as the best of both worlds. M-PESA promotions claimed that with the punching of a few keys, one could now easily transfer monthly remittances from the comfort of their couch. This service had bridged the gap between the two alternative forms, providing the benefits of each.

Bank fees were also unreasonably high by any standard. In 2012, the "withdrawal fee of Kshs 30 (around $.40) from an ATM represented the price of a kilo of unmilled maize which would feed three people for one meal" (Johnson et al., 2012). Yet, the alternatives weren't much better. If one saves their excess money in their house, they run a substantial risk of loss or theft. There is an estimated $3.4 billion being stored by the unbanked, "stuffed in jars or mattresses" (Economist, March 30, 2013). Customers were looking for a way to have liquidity available, but not pay the high fees associated with the traditional financial sector or risk keeping their savings in cash and making transfers through often unscrupulous agents. Like in the remittance industry, M-PESA sought to provide a middle ground, essentially to secure, short term liquidity at a reasonable price. This solution was not a process intended to eliminate cash altogether. In fact, "Safaricom has not set out to replace cash in day to day life, they simply offered a new solution" (Mas and Ng'weno, 2010).

## 3. The Implementation of M-PESA

With much of the infrastructure for M-PESA already in place, making the transition from an idea to a reality was relatively easy. Five key areas needed to be addressed to ensure a successful launch of the program: A financial institution to hold their money, cooperation with regulators, a supply of agents, Cellular towers and servers, and creating demand among consumers. All of these aspects were masterfully tied together by Safaricom and Vodafone, ensuring a growing demand with facilities to produce sufficient supply for their innovative platform. The launch occurred on a massive scale and set the trajectory to the ascension as the preeminent mobile money service. The coupling of a reliable infrastructure with credible marketing was the perfect recipe for creating the widespread adoption of in Kenya.

Before the development of M-PESA, Safaricom comfortably enjoyed a large lead in market share in the robust Kenyan cellphone market. Safaricom reportedly controlled approximately 80% of the market, meaning the service for their phones was already reaching nearly the entire population (Jack and Suri, 2014). There was no need for the renovation of these towers or acquisition of new ones. On the demand side, this extensive coverage allowed the company to build good relationships with its large customer base. The new goal was to expand this network and create as much market penetration as possible. For the first year after the launch, Safaricom's intention was to create as much customer growth as possible, overshadowing the push for the

creation of agents or increases in the frequency of transactions (Mas and Morawczynski, 2009). Safaricom aggressively marketed their new product as an extension of their phone service, solidifying its reputation as a “strong service brand” and a reliable corporation.

M-PESA was simple, but elegant, connecting all of Kenya financially. Presented as a financial tool for the wealthy that was also accessible to the poor, a certain prestige was attached to the service, driving up demand (Mas and Ng’weno, 2010). Research shows that new technology excites individual and creates desire for the product (Mas and Kumar, 2008). To make their product even more attractive, Safaricom developed a platform that was accessible to all phones. To mitigate the confusion that accompanies a switch to new services, M-PESA offered free SIM card upgrades, creating the first interaction between customer and agent, and establishing a platform to clear up any confusion surrounding the service (Mas and Ng’weno, 2010). With the demand side of the equation taken care of, the next key issue to resolve was once Safaricom convinced all of these individuals to sign up, where would the deposits go?

Safaricom knew that M-PESA was going to be operating in uncharted regulatory territory. Was this a financial service or a telecommunications company? Since Safaricom operated as a telecommunications company, and Kenyan “telecommunication regulations require that a mobile network operator offer only the telecommunications service listed in its license and mobile banking falls under the definition of telecommunication service in the law”, M-PESA was granted permission to operate by the Kenyan administration (Sultana, 2009). These multifaceted regulations proved to be quite complex and required a large amount of cooperation with financial and telecommunication regulators. Fortunately, an early, mutual relationship was struck up with the financial regulators. The Kenyan regulator served as an advisor, playing an active role in the development of the service from its inception, and ensuring it stayed in line with current requirements (Mas and Ng’weno, 2010). The regulator also set up certain ground rules to ensure that customers would be protected against a potential default. One of the most important measures requires Safaricom to store equal amount of currency as there is e-money in a formal financial institution, in addition to the inability to loan, invest, or profit from these holdings (Sultana, 2009).

The most important parts of the M-PESA operation are their agents in the field. Without competent and consistent agents, the development of M-PESA would prove futile. An agent can create demand and is the corporate representative of M-PESA, making them the cornerstone of the service-oriented platform. Safaricom actively recruited a large base of agents that already operated small stores, compiling a network of 750 agents for the launch (Mas and Ng’weno, 2010). Although these agents are not directly employed by Safaricom and are given large amounts of autonomy, their daily actions provide the maintenance and ensure the smooth running of the operation. Third party agents are entrusted to “predict the time profile of net e-float needs, while maintaining the security of the operations” (Jack and Suri, 2011). One of the biggest features of M-PESA was the ease of access to convert e-money into cash. Liquidity is the linchpin of M-PESA, a process dictated almost exclusively by the agents, effectively making them “Human ATMs” (Mas and Kumar, 2008). The presence of a human face who personally recorded every transaction assuaged many of the fears customers had about security. This expanding network of agents proved to be cost effective and created a friendly, familiar face for disgruntled or confused customers.

## 4. The Explosion of M-PESA

M-PESA has become the benchmark for successful mobile money launches and operations. New mobile financial service operators seek to emulate the success and market penetration Safaricom has been able to achieve. M-PESA has been inextricably woven into the daily life of Kenyans, rich and poor, rural and urban. It would be hard to find a person in Kenya who was unaware of M-PESA. According to di Castri (2013), over 18 million Kenyans use the mobile service, with an 86% penetration rate amongst families. Between the years 2008 and 2011, M-PESA grew at 88% annually (Deb and Kubzansky, 2012.). Now, upwards of two-thirds of the adult population transfers a proposed $1.6 billion a month on the mobile platform (di Castri, 2013). The transactions can even amount to "as much as 60% of the country's GDP" (The Economist Intelligence Unit, May 13, 2014). Never before has there been such a take up of mobile financial technology. Jack and Suri's survey (2011) revealed that only 2% of the population in Kenya claims that the closing of M-PESA would have no effect on them at all. M-PESA is also maintaining growth at an astonishing rate, with competitors having a negligible effect on their vast market penetration. M-PESA has leveraged its status as a mobile phone operating network to create a profitable mobile financial system by fundamentally altering the credit system in place. The spreading of "informal credit" has created financial benefits to those involved (most notably in cost reduction), has introduced a wide range of benefits and diminished much of the risk present that is present in an unbanked society.

Nick Hughes, one of the men behind the idea and creation of M-PESA, attributes the rise to two factors, "targeting the unbanked" and learning "to keep it simple" (Hughes and Lonie, 2007). Before M-PESA, formal financial institutions struggled with find appropriate means to connect with the general population in developing countries. Hughes and Lonie (2007) attributes this to every previous financial service platform being constructed for and by western banks, something M-PESA broke away from. Instead, M-PESA turned towards its potential customers and addressed their wants and needs. Jack and Suri (2011) describe the result as the facilitation of "the safe storage and transfer of money". The trade unlocked a new medium for transfers and created an easier way to receive credit. In addition, it also improved and accelerated avenues for trade, created a higher demand for saving, as well as allowed risk to be spread out amongst a larger network (Jack and Suri, 2011).

The transference of money has never been easier in the East African nation. In 2010, close to 50 % of adopters of M-PESA claimed they saved upwards of three hours and $3 by using M-PESA rather than delivering the cash themselves (McKay and Pickens, 2010). Furthermore, the ease in which individuals can now save has improved the informal credit market. With an increase in transfers, individuals are now able to better smooth consumption, receiving aid from friends and family in times of hardship or economic shock (Jack and Suri, 2011). As empirical evidence has shown, the access to credit generally raises the wealth and consumption of individuals. Research by Jack and Suri (2014) showed that during times of economic shock, individuals using M-PESA saw negligible drops in consumption. Also, in 2010, the average daily expenditure of registered users was $11.67, 67% higher than consumers without the mobile service (McKay and Pickens, 2010).

Not all the benefits went to the customer, as the agents and Safaricom still turn a tidy profit. This is derived from the high volumes of activity as well as cost cutting techniques. M-PESA was able to achieve unprecedented volume, creating a familiarity and a high level of comfort for its customers. Mas and Morawczynski (2009) credit the uniformity of the brand to its booming success, asserting that "it is consistency among

all elements of the customer proposition and Safaricom's attentive monitoring of the entire system that best explains its success". A key element of this success is that the agents presiding over the cash in/cash out stores are the cornerstone of the operation. If the customer feels comfortable making transactions with the agent, the more likely they are to increase use of M-PESA. To create familiarity with the system, Safaricom purposely kept its tiered tariffs for transfer the same, even in the face of rapid inflation (Mas and Morawczynski, 2009). Even though household proximity to the closest agent has grown by a factor of five in an 18 month period, between 2008-2010, customers can expect the same reliable service with each new agent (Jack and Suri, 2014). Safaricom can count on the market to regulate the service expected; "competition between agents can be relied upon increasingly to ensure proper service at the store level" (Mas and Ng'weno, 2010).

With every peer to peer transaction or withdrawal of funds (depositing cash is free of charge), Safaricom receives a nominal fee from the customer. With over 1.6 billion dollars transferred per month, Safaricom makes a considerable profit despite the low margin. In fact, almost all of their revenue is generated by commissions on peer to peer (P2P) transfers (Mas and Ng'weno, 2010). The fee for consumers on any P2P on the M-PESA network is 35 Kenyan schillings ($.40), a negligible fee compared to other money transfer services (Mas and Ng'weno, 2010). This fee is charged solely to the sender. Safaricom shares their commissions with their agents, creating incentives for agents to promote the use of the service. The area in which agents generally generate the most revenue is from cash out operations. On average stores make around 130 transactions per day, netting them a substantial $12 (Mas and Ng'weno, 2010).

## 5. Drawbacks and Unintended Consequences of M-PESA

M-PESA's upside is undeniable, however there are several considerable risks associated with the program. Using the product as a means of saving represents a huge opportunity cost due to the lack of design as a saving mechanism. Since the program operates in a gray area, between a financial and mobile service, the uncertainty surrounding it creates a level of systemic risk. With an increasing reliance on the service, a breakdown of the system could be catastrophic to the overall economy. Furthermore, it also has the potential to have negative consequences on the behavior and attitudes of those who use the service to receive remittance payments. Consumer safety has also recently become an important issue. Regulators must be wary to ensure that its growth does not come at the cost of many of Kenya's most vulnerable individuals.

Although research has shown that M-PESA increases the likelihood of savings, its initial design was not intended to be a long term saving mechanism. Since M-PESA is not allowed to invest or profit from any of their customers deposits, they pay no interest on money stored in the system. If an individual had large amounts of money stored in the system, it would be irresponsible to let it remain. In addition, Kenya has experienced high rates of inflation in the last decade, eroding value of stored money. In the year 2011, Kenya experienced over 14% inflation, imposing significant costs for savings.

There is also the risk that unintended behavioral consequences could arise due to the ease in which money is received. A large number of rural workers remain dependent on the remittance payments from family members in urban areas. The convenience and inexpensive nature of M-PESA has created larger number of people receiving payments; "the 'send money home' tag line embraces a wider concept of 'home' than the nuclear family to the extended family and even the network of kin and clan that now

geographically spreads beyond the village" (Johnson et al., 2012). Critics are worried that these receivers may become lazy and lack the ambition to work harder as remittances come more frequently and in larger amounts as a result of the cheap transaction prices (Jack and Suri, 2011). Regulators are also worried that this extended credit may facilitate people falling into the 'moral hazard trap'. With lack of visibility on how the receivers are using the money (often due to differing locations), individuals may start to use the remittances in a more risky manner. Also, during the pilot period, there was a noticeable drop off in attendance of weekly group meetings for loan repayment (Hughes and Lonie, 2007). Consumers saw the ease in which they could repay loans to MFIs and didn't see the need in attending the meetings, a place where prudent financial behavior is reinforced.

The biggest cloud surrounding the mobile money service concerns consumer protection. Never before had a service combining finance and cellular phones existed in Kenya. There was no precedent for regulation, and doubt surrounded the platform as regulators were unsure of the stability and potential fallout from a mobile money system. Government officials saw it as the combination of all the risks that banks and telephone companies face (Ashta, 2010). Regulators were initially hesitant to approve M-PESA as they were uncertain of the consequences should it fail (Makin, 2010). The deposits were not insured since Safaricom is not a bank, making some wary of potential access to one's money should the company go under. This has been partially assuaged by the government's insistence that all company funds and deposits remaining separate and stored at the Central Bank.

Another key issue that could potentially cause problems for M-PESA is the Know Your Customer (KYC) laws necessary to create an account or receive money. When M-PESA began, it did not require necessary forms or documents that a formal bank did (Demirgüç-Kunt and Klapper, 2013). Although Safaricom worked hand in hand with the regulators in the creation of the platform, the laxer registration requirements created a new vehicle for money laundering and financing terrorism. Thankfully, there have been no major issues with this, and the checks and balances of the system appear to have enough preventative measures.

## 6. M-PESA Moving Forward: Competition and New Services

With success comes competition. Seeing the profits that M-PESA is earning, $302.51 million in net revenue in the last fiscal year, mobile and financial institutions clamor to enter the lucrative industry (Reuters, May 26, 2014). Safaricom is doing everything it can to retain the largest share of the market. Their monopoly status is being questioned, and other platforms are working together to attempt to dethrone Safaricom. Nevertheless, Safaricom has rolled out a new service along the same lines as M-PESA. This platform, M-Shwari, was also designed around the needs displayed by potential customers. However, this project relies on a partnership with a commercial bank and creates even more opportunities for what unbanked Kenyans value the most, credit. Although the competition in Africa is ramping up, Safaricom looks poised to remain at the pinnacle.

Following the launch of M-PESA, the next biggest three mobile service providers fashioned their own version of the mobile financial service. Airtel developed Airtel Money, Yu mobile created Yucash, and Orange produced Orange Money. All three services are in the mold of M-PESA, yet none have had the success of Safaricom's product. M-PESA's presence in neighboring Tanzania has also come under recent threat. In June 2014, Tigo, the second largest service provider in Kenya agreed to create interoperability between themselves, Airtel, and Zantel, allowing mobile money to flow freely

across all three platforms (Reuters, May 26, 2014). The providers hope to create a network that will rival the Safaricom's strangle hold on the market. In addition, Tigo is also tapping into the international market, creating a system to transfer mobile money between Tanzania and Rwanda (Reuters, May 26, 2014). Since mobile money "will be optimized to serve the mass market", this combination of services should prove to be a credible alternative (Makin, 2010). Safaricom is shying away from interoperability, seeing it as detrimental to their revenue.

Safaricom's 80 percent share of the phone market has been consistently questioned and labeled as a monopoly. Airtel even brought a course case against Safaricom, claiming that the sheer size and restrictive prices when sending money to someone not in the M-PESA system constitutes a monopoly (Business Daily, November 20, 2013). Eventually, the two sides settled out of court, without any compromise on the issue of interoperability. Even more recently, Safaricom sought to expand their reach in Kenya by acquiring Yumobile. However this deal fell through due to requirements from the regulators, fearing that Safaricom would become even bigger. The regulators called for Safaricom to open up M-PESA and promote interoperability, an enormous compromise Safaricom was unwilling to make (Techmoran, April 4, 2014). Safaricom cited the large costs incurred to create the existing infrastructure, something they would not like to allow access to for free (Techmoran, April 4, 2014).

To fend off the encroachment from other operators, Safaricom has partnered with the Commercial Bank of Kenya (CBK) to offer a new credit program. M-Shwari, the Swahili word for calm, acts as an extension of M-PESA and appears as part of the menu when using the M-PESA application. Consumers have the ability to receive credit from CBK, subject to approval. Furthermore, it can also operate as a mode of savings, acting as another location to store one's monetary reserve. M-Shwari is just as accessible and easy to use as its parent platform, and shares many characteristics. There is no minimum balance required, and enrollment is completely free. Its meteoric rise is also comparable to M-PESA, with over 2.3 million individuals using the system during its first four months (Economist, March 30, 2013). In the first three months of 2014, approximately 15% of active M-PESA consumers used M-Shwari (CGAP, April 10, 2014).

The attribute that sets M-Shwari apart from M-PESA is the partnership with the CBK. This relationship allows consumers to now store their excess mobile money reserves in a CBK account, garnering interest, therefore promoting saving. On average the loans taken out hovered around $12, and were subject to a 7.5% interest rate upon repayment (Economist, March 30, 2013). Credit history is derived from the customers previous interactions with Safaricom, creating instances where individuals are denied due to unpaid phone bills. In addition, the 7.5% rate is viewed as quite fair, as most micro credit loans are accompanied by even higher interest rates (Gitau and Mas, 2013). The interaction with M-Shwari can be seen as another important tool in promoting financial capability. The service allows hands on experience with credit, as well as promoting savings. Furthermore, evidence shows default rates are lower with M-Shwari then the national average for formal institutions, a clear indicator of increasing financial capability (ITweb Africa, February 7, 2014). This also provides customers with interactions with banks, teaching them the importance of interest and planning ahead to repay a loan.

## 7. Is M-PESA Leading to Financial Inclusion?

There is no doubt that the introduction of M-PESA into the Kenyan market has revolutionized the ways in which transactions occur, however a prevailing question is whether M-PESA promotes financial inclusion and capability? This question is difficult to answer directly, as there are many different definitions of financial inclusion currently in use. Leading financial organizations, such as the Global Partnership for Financial Inclusion and Alliance for Financial Inclusion, have pushed the belief that financial inclusion is achieved and defined differently in each distinctive circumstance. For this paper, we define financial inclusion as a combination of access to financial services, financial capability, and active participation in the financial system (Dub and Kubzansky, 2012). Those trapped in the lowest socioeconomic classes face countless barriers preventing the acquisition of even the simplest accounts at formal financial institutions. This initial introduction to the system is the most important, as "the basic bank account can become the first step of integration into the formal financial system and, therefore, of greater social inclusion" (Bold et al., 2012). M-PESA successfully combines the three traits of financial capability in an unconventional sense, promoting inclusion in a manner unique to Kenya. Although using M-PESA may not be considered being "included", the use of the platform creates avenues that lead to inclusion in the long run.

If use of M-PESA is included in data for financial inclusion, only 12% (compared to 32.7%) of the population is considered excluded (Johnson, et al., 2012). Yet, in the traditional sense of financial inclusion, understood as the use of banking services, M-PESA would not be considered inclusive. Neither Safaricom, nor Vodafone, operate as a bank or formal financial institution. No interest is earned on the balances held with Safaricom, and there is no direct borrowing from the mobile operator. However, the lending environment in Kenya reveals that saving large amounts of money, a benchmark for banks in developed nations, is not a large part of the culture, even for the wealthy. Even if all banks reduced the barriers that prevent prospective consumers from operating an account, many believe the current structure of formal institutions would need to undergo fundamental change to satisfy the customers; "the expansion of bank accounts will tend to follow the need for managing lumpier amounts of funds, and is less clearly related to active small scale saving behavior" (Johnson et al., 2012). For individuals to be more active in the marketplace and economy, access to small amounts of finance in an easy and safe manner is paramount.

The use of M-PESA, and therefore access to financial systems, a keystone of financial inclusion, is made straightforward for the "unbanked". Nick Hughes claims that the overarching goal of M-PESA was to "be very simple for our customers to get finance", and that it was "specifically targeting the unbanked" (Hughes and Lonie, 2007). In Kenya, access to finance is more concerned with small loans, indicating that access to formal institutions is often not needed. As stated early, peer to peer finance using M-PESA provides the benefits of both formal and informal modes of lending, reducing the costs of access. Furthermore, banks have seen the creation of M-PESA as direct competition to their service, even resulting in the Finance Minister initiating an investigation into the legality of the system (Makin, 2010). This indicates that M-PESA is operating as a substitute for the financial access that banks can supply.

Once consumers have access to greater pools of finance, the operative question becomes whether they leverage this into use of other financial tools? This is the key linkage to financial capability, the measurement of behaviors, attitudes, and knowledge of financial tools and systems (Holzmann et al., 2013). The current,

prevailing theory is that much of this can be addressed through financial education. Johnson and Sherraden (2007) have shown that the most successful examples of this have been through "practice based learning", the use of real world examples to increase financial literacy. Currently, the majority of financial systems are so complex and confusing, the average individual is unable to comprehend them (Lusardi and Mitchell, 2013). Yet, M-PESA is a rudimentary, straightforward platform making it simple to understand and use. M-PESA provides users with the ability to learn how to manage finances by placing the individual in charge of small, day to day savings.

Although not a direct financial education program, the changes in attitudes and behaviors displayed by users of M-PESA have revealed an increase in financially prudent behavior. Van Rooji et al. (2012) find strong correlations between increases in financial literacy and savings, concluding that the higher levels of financial literacy are correlated with the taking advantage of "the equity premium or stock investments". The users of M-PESA have been shown to do both. In addition, Demombyrnes and Thegeya (2012) show that use of M-PESA raises the propensity to save by approximately 20%. Furthermore, data shows that individuals using the mobile platform are over three times more likely to have invested in stocks (Jack and Suri, 2011). Levels of participation in the financial systems have also increased dramatically. In Kenya, bank accounts are primarily used to receive payments, not to save, therefore often remain dormant (Johnson, et al., 2012). To the contrary, even while still in its infant phase (2007-2008), M-PESA had an average of 107,200 transactions per month, a volume of transactions exceeded only by ATM withdrawals (Jack and Suri, 2011).

M-PESA's popularity along with its large reach has created the incentives for businesses and formal financial institutions to offer complementary services. The Kenyan Central banks and the Family Bank of Kenya now allow for direct transactions to bank accounts from mobile phones, making banks accounts more attractive (Mas and Ng'weno, 2010). In addition, M-PESA users also have access to over 110 ATMs where they can withdraw money from their mobile account (Mas and Morawczysnki, 2009). Partnerships with Equity bank and Kilimo Salama have even made insurance policies accessible through M-PESA (McKay and Pickens, 2010). Small scale pension deposit plans and small amounts of credit are also available now through partner programs (McKay and Pickens, 2010). Whether or not M-PESA use directly constitutes financial inclusion, its success has bred opportunities for more inclusive programs through the piggybacking of its incredible success.

## 8. Mobile Money around the World: Beyond Africa

Why has following the M-PESA model not been nearly as successful elsewhere?

Sub Saharan Africa was the ideal environment for the development and growth of the mobile money industry. It represented an area with a large number of unbanked individuals prone to using informal savings and credit, large barriers of access to formal institutions, and high penetration of mobile phones. There are other regions that suffer from many of these same dilemmas, so why have not we seen the emergence of more services like M-PESA? Could technology created for a third world country be applicable to the modern industrial nations? This would represent a seemingly reverse diffusion of technology, a concept unfathomable in prior decades. However, mobile money initiatives have followed a much different path outside Africa. It would seem that no one size fits all in the world of financial inclusion and mobile financial services.

The appeal of mobile money is not very strong in the majority of developed nations. In fact, many believe that an M-PESA like platform will never reach Western Europe or the United States (The Economist Intelligence Unit, May 13, 2014).

These nations do not face many of the barriers that plague less developed economies, and existing services already provide many of the same benefits. Consumers in these countries already have relatively easy access to credit cards, something that provides liquidity, security, credit, and reasonable fees. The use of credit cards is already viewed as providing sufficient convenience and performance. Individuals in first-world countries also have greater concerns about their security following recent data leak scandals. Surveys conducted in Western Europe and the US reveals that consumers feel safer giving information and data to a bank than to other institutions, like mobile service providers (Ahmad, et al., 2014). Until the credit card becomes unsafe, inconvenient, or not widely accepted, M-PESA like services are unlikely become pervasive in modern nations.

The world is trending towards a cashless economy. The Center for Financial Inclusion (2013) believes that "by the end of the decade, we anticipate a major transition toward 'cash lite', in which clients carry out many or most of their financial transactions through digital means, reducing their dependence on cash". Developed nations already have measures in place that have been alleviating the need for cash. Most emerging economies are cash dependent, yet the majority of their residents possess a cellular phone. According to di Castri (2013), of the 2.5 billion "still lacking a viable alternative to the cash economy and informal financial services" around 1.7 billion have access to a mobile phone. Mobile networks have become so pervasive around the world that the implementation of mobile financial services could make a considerable difference. Wireless Intelligence (2009) estimates that mobile networks have "the ability to immediately offer mobile banking to 61% of the world population". Unfortunately there has been hardly any uptake of this beneficial technology. Only four countries have more than 10% of their adult population using any type of mobile banking, three of which are in sub Saharan Africa (Aggarwal et al., 2011).

Mobile banking is essentially nonexistent in Eastern Europe, a region that is known for being reliant on cash transfers. In fact, the first implementation of M-PESA outside of Africa will take place in Europe in late 2014. Vodafone has decided to expand their mobile banking operation into Romania, hoping to "target about 7 million people who transact mainly in cash because they do not have debit or credit cards" (The Economist Intelligence Unit, May 13, 2014).

Why have more countries and financial institutions not taken up the initiative to push for a mobile financial system? Every service offered in a traditional bank setting can be implemented in a mobile banking platform (Makin, 2010). The issues that are holding the emergence back in most countries remain centered on a few salient issues: lack of trust from regulators, not enough interoperability, and the lack of existence of a dominant, quasi-monopoly service. To put it simply, many regulators believe that mobile services cannot remain secure and free from money laundering and terrorist financing (Makin, 2010). Without strong assistance from the public sector a mobile initiative is doomed from the start. Phone services are also built on network externalities, the more people that use the service the more valuable the service is for each individual. The same goes for mobile financial service. Yet this often does not occur, as conciliation between mobile operators and financial services are very rare, both wanting total control over the service. Fragmentation of the market splits potential customers into using different products. If there are a variety of mobile financial services, the only way to optimize them is to have interoperability between the services. A way to get past this is when an institution that has an incredible amount of market share exists. Safaricom in Kenya fits this bill, controlling 80% of the market, yet most nations have nothing close to an institution that powerful. The World Economic Forum has labeled this phenomenon the "lack of a champion", indicating their belief that "a single entity that can take leadership and

provide an end to end delivery mechanism" is essential (WEF, 2012).

## 9. Conclusion

The marriage between technology and behavior of the Kenyan population, make M-PESA's success real. M-PESA, a mobile banking and payment system in Kenya, represents the gold standard for innovative financial services. It creates an environment where even the most poverty stricken resident of a remote African village can become "financially included". There is no doubt that M-PESA builds the basis for deeper inclusiveness, providing users with valuable gains in financial capability and well-being. These kinds of initiatives are beneficial in promoting financial inclusion, an important determinant for poverty alleviation, and also in preventing social exclusion.

Globally, a large proportion of the adult population is prevented from using financial services. Market failures are often responsible for many individuals relying on their own resources or informal instruments to deal with personal finances. M-PESA like systems could help to overcome many obstacles to financial inclusion. It is important for similar attempts to take into account the specific needs of each society and the means to adapt supply to the new markets. Government involvement is also necessary in a regulatory and supervisory role, enabling new products to focus on the most vulnerable groups.

## References:

Aggarwal, N., Bilodeau, J., Hoffman, W. and Nikkelen, S. 2011. Untapped Potential: Mobile Banking for the Unbanked. *BCG Report*.

Ahmad, K., Bertrand, S., du Toit, G. 2014. Mobile Payments: The next step in a bank's digital journey. *Bain & Company*.

Ashta, A. 2010. Evolution of Mobile banking Regulations. *Retrived from http://www. arraydev. com/commerce/JIBC/0306-04. htm*.

Bold, C., Porteous, D., and Rotman, S. 2012. "Social Cash Transfers and Financial Inclusion: Evidence from Four Countries ." Focus Note 77. Washington, D.C.: CGAP, February.

Center for Financial Inclusion. 2013. Technology Enables Full Financial Inclusion. Center for Financial Inclusion.

Deb, A., & Kubzansky, M. 2012. Bridging the Gap: The Business Case for Financial Capability. *A report commissioned and funded by the Citi Foundation. Cambridge, Mass: Monitor, March*.

Demirgüç-Kunt, A., and Klapper, L. 2013. Measuring Financial Inclusion: Explaining Variation in Use of Financial Services across and within Countries. *Brookings Papers on Economic Activity*, *2013*(1), 279-340.

Demombynes, G., and Thegeya, A. 2012. Kenya's mobile revolution and the promise of mobile savings. *World Bank Policy Research Working Paper*, (5988).

di Castri, S. 2013. Mobile Money: Enabling Regulatory Solutions. *GSMA, London, United Kingdom. Available at http://www. gsma. com/mobilefordevelopment/wp-content/uploads/2013/02/MMU-Enabling-Regulatory-Solutions-di-Castri-2013. pdf*.

Gathoni, S. Safaricom Officially Backs Out Of Yu Mobile Sale Deal. *Techmoran*. April 4, 2014.

Gitau, J., Mas, I. A lot of hope and some hiccups with M-Shwari. *Institute for Money, Technology, and Financial Inclusion*. February 8, 2013.

Holzmann, R., Mulaj, F., Perotti, V., 2013. Financial capability in low- and middle- income countries: measurement and evaluation A report on the World Bank's research program and the knowledge from

the Russia Financial Literacy and Education Trust Fund. *Washington DC ; World Bank*

Hughes, N., and Lonie, S. 2007. M-PESA: mobile money for the “unbanked” turning cellphones into 24-hour tellers in Kenya. *Innovations*, *2*(1-2), 63-81.

Jack, W., and Suri, T. 2011. “Mobile Money: The Economics of M-Pesa.” NBER Working Paper 16721, National Bureau of Economic Research, Cambridge, MA

Jack, W., and Suri, T. 2014. Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution. *The American Economic Review*, *104*(1), 183-223.

Johnson, E., and Sherraden, M. S. 2007. From Financial Literacy to Financial Capability among Youth. *J. Soc. & Soc. Welfare*, *34*, 119.

Johnson, S., Brown, G., & Fouillet, C. 2012. The search for inclusion in Kenya’s financial landscape: The Rift Revealed. *FSD Kenya, March*.

Juma, V. Safaricom calls M-Pesa war truce with rival Airtel. *Business Daily*. November 20, 2013

Kaffenberger, M. M-Shwari in Kenya: How is it Really Being used? *CGAP.* April 10, 2014.

Lusardi, A., and Mitchell, O. 2013. The Economic Importance of Financial Literacy.

Makin, P., and Hyperion, C. 2010. Regulatory Issues Around Mobile Banking. *The Development Dimension ICTs for Development Improving Policy Coherence: Improving Policy Coherence*, 139.

Mas, I., and Kumar, K. 2008. Banking on Mobiles: Why, How, for Whom?. *CGAP Focus Note*, (48).

Mas, I., and Morawczynski, O. (2009). Designing mobile money services lessons from M-PESA. *Innovations*, *4*(2), 77-91.

Mas, I., and Ng’weno, A. 2010. Three keys to M-PESA’s success: Branding, channel management and pricing. *Journal of Payments Strategy & Systems*, *4*(4), 352-370.

McKay, C., and Pickens, M. 2010. *Branchless Banking 2010: Who’s Served? At What Price? What’s Next?* (Vol. 66). CGAP Focus Note.

Okutoyi, E. 140,000 default on Kenya's M-Shwari loans. *ITweb Africa.* February 7, 2014.

*Reuters.* 2014. Equity Bank of Kenya's mobile service set for July launch. May 26, 2014.

Sultana, R. 2009. Mobile banking: Overview of Regulatory framework in emerging markets. In *4th Communication Policy Research, South Conference*.

*The Economist.* 2013. Is it a phone, is it a bank? Safaricom widens its banking services from payments to savings and loans. March 30, 2013.

*The Economist Intelligence Unit.* 2014. M-Pesa: Out of Africa, into Romania. May 13, 2014.

Van Rooij, C., Lusardi, A., and Alessie, R. 2012. Financial Literacy, Retirement Planning and Household Wealth. *The Economic Journal* 122.560 : 449-478.

World Economic Forum. 2012. Galvanizing Support: The Role of Government in Advancing Adoption of Mobile Financial Services. World Economic Forum.

Wireless Intelligence. 2009.