

Mobile Money in Haiti: Potentials and Challenges

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Figure 1: Depositing money in a TchoTcho Mobile account in downtown Port-au-Prince.

EXECUTIVE SUMMARY

In November 2010, Digicel and Voilá both made mobile money services publicly available in Haiti. Building upon our previous research on domestic remittances and financial practices, we returned to Haiti from December to April to identify mobile money's potentials and challenges given the specific characteristics of the mobile money services offered and the needs of the Haitian population. This report presents our analysis of how the new mobile money services fit into Haiti's existing socioeconomic environment, and how customers are adapting and using the services. We identify six key insights and make recommendations for the development of mobile money in Haiti.

Insights for now

- **Me2me transactions** have emerged as an important use of mobile money services. A broad spectrum of Haitians is attracted by the ability to store money and withdraw it at different geographical locations. It helps allay problems concerning security, inaccessible infrastructure, and uncertainties that Haitians face in their daily lives.
- **Customer experience** is a crucial part of why mobile money is a viable and attractive alternative to existing financial services. Fast service, reliability, informality, security, trust, and accessibility are areas in which mobile money can hold an edge over banks and transfer houses. To maximize this edge, mobile money services should be distinct from those offered by other financial institutions.
- **Who is an agent?** Branding and service provision need to be consistent to ensure repeat business and the growth of a customer base. There is currently wide variation in the kinds of mobile money outlets in operation and the ways they deliver their services. Outlets may need to be incentivized to provide consistency of service.

Insights for the long term

- **Trade may well** make up a greater percentage of P2P transactions than domestic remittances (gifts or loans). Use of mobile money for trade is feasible because mobile phone service covers most trade routes adequately. The primary limiting factor in this use will be the wallet size permitted by each mobile money provider.
- **Horizontal and vertical integration** across Haitian geography, society, and financial landscapes will facilitate mobile money's ability to contribute to both commerce and socioeconomic development.
- **Achieving scale** across Haiti could be facilitated by adapting providers' local level initiatives (matching customers with mobile money outlets) to create projects that work with existing flows of money across the country.

We are optimistic about mobile money's future in Haiti and feel that this is a promising opportunity to contribute to achieving socioeconomic development goals. Maximising mobile banking's potentials will require ongoing dedication, creativity and cooperation between players in the private and public sectors, especially taking into consideration emerging uses of mobile money among different sectors of the Haitian population. Over the next few years we will be watching how mobile money impacts upon Haiti's socioeconomic landscapes.

INTRODUCTION

In a cybercafé in downtown Port-au-Prince, Jean Yves deposits 100 gourdes into his TchoTcho Mobile account. His brother Michel, who owns the business, recommended that he register for this mobile money service so that he doesn't have to carry money across town and risk being robbed. Taking his brother's advice, Jean Yves deposits cash at the cybercafe and withdraws it via his phone when he arrives at his final destination. One hour away in the busy port town of Saint Marc, Carmen receives a text message saying that Mercy Corps has deposited US\$40 of food aid into her T-Cash account. She picks up her bag and heads off to her local merchant to purchase rice and beans using her phone.

These are just two small snapshots of how Haitians have been using mobile money services since they became publicly available in November 2010 with Digicel's TchoTcho Mobile and Voilá's T-Cash. Mobile money was initially introduced to Haiti as a way to move money around following the January 12, 2010 earthquake. Widespread damage to financial, communications and transport infrastructure crippled Haiti's already underdeveloped financial system. According to GSMA's Mobile Money Deployment Tracker, formal banks have just 15% penetration in Haiti, [2] and money transfer offices are not always easy to access.

Mobile money promises a more affordable and accessible way of conducting a wide array of financial transactions for a broad spectrum of Haitians, possibly even evolving into true mobile banking. Potential benefits of this new technology range from the primarily economic, such as through facilitating the circulation of currency and the ability of poor people to save money, to the overwhelmingly social, such as sending money to a family member to pay school fees or help fund a cultural event, such as a carnival performance. More often than not, the social and the economic are inseparable. Mobile money's integration with Haiti's existing financial landscape therefore depends upon both the technicalities of its operations and on Haiti's sociocultural landscapes.

Since June 2010 we have been conducting fieldwork in Haiti, with the support of the Institute for Money, Technology and Financial Inclusion (IMTFI) at the University of California, Irvine. We have been mapping out money flows, researching people's remittance needs, and following the development of mobile money services. In Phase I of our research—before mobile money services were launched—we found Haitians to be enthusiastic about the idea of using their phones to store and transfer money. Our interviewees told us that they would welcome a service that allowed them to avoid long bank lines, the high fees of money transfer offices, and the security risks incurred in sending money across the country. [3]

In Phase II of our research we returned to Port-au-Prince to watch Haiti's new mobile money services as they

evolved and assesses their role in Haiti's existing financial landscape. We found that mobile money was indeed providing an edge over traditional financial services in terms of time, cost, and security.

This report presents an overview and analysis of the early days of mobile banking in Haiti. As independent researchers who are enthusiastic about mobile money's potential to contribute to socioeconomic development, but agnostic about the Haiti experience thus far, our aim is to provide all parties who are interested in mobile banking—telecommunication companies, NGOs, policy makers, researchers—with information that can:

- a) Help identify early potentials and challenges facing mobile money in Haiti; and
- b) Tailor mobile banking services meet the needs of different segments of the population, especially disadvantaged groups who are usually excluded from traditional banking systems.

We explain in detail the current state of mobile money in Haiti, the advantages of the services and products that TchoTcho Mobile and T-Cash provide, and the challenges of using mobile money services at a variety of levels we have observed at multiple levels as it continues to emerge and evolve. Our aim is to document this dynamic landscape and, where appropriate, make recommendations for how to improve mobile banking in Haiti and suggest creative ways that it can be applied to the needs of individuals, enterprises, non-profit organizations, and government.



Figure 2: A camp of earthquake-displaced people north of Port-au-Prince.

HAITI'S MOBILE MONEY LANDSCAPE

The beginnings of mobile money

On June 10, 2010, the Bill and Melinda Gates Foundation and the USAID-funded Haiti Integrated Finance for Value Chains and Enterprises (HIFIVE) announced the launch of the Haiti Mobile Money Initiative (HMMI) to stimulate the development of mobile banking services in Haiti. [4] The HMMI offered US\$10 million in prizes and US\$5 million in technical assistance for companies to develop and expand mobile banking services across the country. Six months later, two functioning mobile money services exist in Haiti: Digicel's TchoTcho Mobile and Voilá's T-cash.

Mobile money was initially adopted in Haiti as a way to move money around following the January 12, 2010 earthquake. Widespread damage to financial, communications and transport infrastructure crippled Haiti's already underdeveloped financial system. NGOs were the earliest adopters of mobile money in Haiti, partnering with TchoTcho Mobile and T-Cash to deliver food aid and cash donations to internally displaced persons (IDPs) within the earthquake zone and to victims who had returned to their home towns for safety and shelter.

Mercy Corps were particularly quick to adopt mobile money as a way of distributing relief aid in the form of one-off cash payments, food aid, and cash-for-work. They were granted HIFIVE's first technical assistance grant in October 2010. [5] Beginning in November 2010, Mercy Corps used T-cash to deliver cash payments of US\$40 to IDPs in Mirebalais in November 2010 and Saut d'Eau in December 2010. [6] They partnered with USAID to provide US\$40 per month in food aid to 5,000 beneficiaries in Saint Marc between December 2010 and September 2011. Beneficiaries receive the money on their T-Cash accounts and can use it to buy rice, beans, oil and cornmeal at fifty different small merchants throughout the town. Although they tested the possibility of paying for work employees with mobile money in Mirebalais, the system was not adopted.

Digicel launched TchoTcho Mobile on November 22, 2010. In their pilot project they worked with World Vision to pay 230 cash-for-work employees via TchoTcho Mobile. [7] They also recruited individual users and ran training sessions through approaching people in different areas of Port-au-Prince, especially post-earthquake camps, and university campuses. To expand their customer base, TchoTcho Mobile has signed up the vendors in the Marche en Fer (Iron Market), which was recently reconstructed with funding from Digicel. [8] Starting at the end of April, vendors will pay their stall rent using TchoTcho Mobile.

Mobile money in Haiti loosely follows a bank-led model, which in this case means that the partner banks hold the deposits while the telecommunications companies administer customers' accounts. In effect, TchoTcho

Mobile and T-cash are agents for Scotiabank and Unibank respectively.

Mobile money outlets are spreading throughout the capital city. Digicel quickly established outlets along major roads and in different neighborhood of Port-au-Prince. On January 10, 2011, Digicel's TchoTcho Mobile was awarded a US\$2.5 million 'First to Market' award for having achieved 10,000 cash in/cash out transactions at 100 new outlets in the six months after the award was announced. [9] Both TchoTcho Mobile and T-Cash are now competing for the scaling awards to be granted between now and June 10, 2012. As mobile money rolls out across Haiti, the challenge will be to take off the training wheels and creating a viable, relevant mobile money service that is publicly available and widely distributed.

How mobile money works

The basic services that TchoTcho Mobile and T-Cash offer are similar. Both permit customers (both Haitians and foreigners) to deposit, withdraw and transfer money. Neither service currently has a facility for paying bills. Transactions can be done using SMS or internet; the registration process for TchoTcho Mobile is the only part of mobile money transactions in which a computer with an internet connection is required.

Registration

Mobile money customers do not technically have to own a phone or even a SIM card in order to register for mobile money; they can sign up using a SIM card that is registered under another person's name. However, the owner would then not be able to use their SIM card to open their own mobile money account. Alternatively, customers who do not own a phone could buy a SIM card and insert it into someone else's phone every time they want to make a transaction. However, this is technically unfeasible because it can potentially take hours for a phone to download the information associated with the newly-inserted SIM card. They remain customers of the telecommunications companies, and at no point do they become customers of the partner banks.

The registration process for TchoTcho Mobile and T-cash is different. Registering for T-cash's mini-wallet must be done by calling the registration number using the SIM card they want to be associated with their new account. No deposit is required to register for the T-Cash mini-wallet, nor do customers need to show identification because the maximum amounts of money storage and transfer allowed with the mini-wallet are very small.



Figure 3: Receiving food aid via T-Cash in Saint Marc.

Mercy Corps and Mobile Money in Saint Marc

Marie sits with a group of other women outside a small vendor in Saint Marc, Voilà phone in hand. They are waiting to spend the US\$40 that Mercy Corps just sent to their T-Cash accounts. As heads of households that include IDPs (internally displaced persons) from the earthquake, they are among 5,000 recipients who receive money on their phones to buy rice, oil, beans, and cornmeal from fifty small, local merchants. Mercy Corps help recipients register for T-Cash, give them a mobile phone, activate their phone, train them to make payments, and give them printed instructions. Vendors are also happy: they are moving a lot more stock and making more money.

Mercy Corps and Voilà have ongoing plans for Saint Marc. In April and May, Mercy Corps and the Red Cross will run a market once per week in which 2,500 of the current recipients will be given a one-off payment of US\$250 to spend on materials to build or renovate their homes, or to pay school fees (including technical/trade school). Later on, half of these recipients will be selected for a third time to spend a further US\$250 on tools for small enterprises.



Figure 4: A small store distributing food aid using T-Cash.



Figure 5: T-Cash sign painted on a wall in Pétionville.

Because registration for the T-cash mini-wallet can be done over the phone, it is a promising way to encourage people to register for mobile money. Having a mini-wallet gives customers a chance to become accustomed to the service, and they can later register for a larger wallet if they find that the service suits their needs.

TchoTcho Mobile does not offer a mini-wallet, and so all new customers must show their identification to register. This means that they cannot register over the phone; they must visit an outlet in person. They need to provide valid identification, and if the business does not have a photocopier they will have to provide the agent with a copy of their ID and deposit a minimum of HTG100 (US\$2.50).

Wallet sizes

The major difference between Haiti's two mobile money services is that T-Cash offers a 'mini-wallet' and TchoTcho Mobile does not. A 'mini-wallet' is a mobile money account that has low limits on how much money can be transacted or stored. In the case of T-Cash, the maximum amount that can be stored in the mini-wallet is HTG2500 (US\$62.50), and the maximum amount that can be transferred to another person is HTG1500 (US\$37.50). The low risks associated with such a low limits makes it possible for customers to register for the service over the phone without having to provide identification. The mini-wallet has two primary advantages:

- It facilitates early adoption since people can register spontaneously without having to find an outlet.
- Customers can register for a mini-wallet without showing identification. Given that so many people lost everything in the earthquake, there is a large population who may not currently have a valid ID. The mini-wallet allows for the adoption of mobile money while people are rebuilding their lives and the state is able to issue ID to all who need it.

These advantages make the mini-wallet suitable for the needs of NGOs such as Mercy Corps, who transfer just \$40 per month to users. Given that the median income in the formal private sector is HTG\$9285 per month (US\$232), [10] and that this is the highest earning income group, then we can safely assume that the mini-wallet is sufficient for most domestic transfers in Haiti.

The maximum balance and maximum transfer permitted using TchoTcho Mobile is HTG\$10,000 (US\$250). Unlike the mini-wallet, this larger wallet size offers the majority of Haitians working in the formal sector the possibility to receive their salary directly into their mobile money account. With the facility to move up to HTG\$60,000 (US\$1500) through each individual's account, this wallet size has potential applications for microenterprises who may choose to use mobile money to buy stock from wholesalers and accept payments from customers.

However, even though most of these microenterprises do not make a lot of profit, many handle sums of money that are too large for the e-wallet to cope with. For example, a Port-au-Prince trader may buy up to HTG80,000 (US\$2000) worth of fish every month from a number of fisherman selling in Marigot's beach-side market. With a maximum monthly transaction limit of HTG60,000 (US\$1500), the e-wallet is not sufficient to meet all of his financial service needs. He may choose to pay some fishermen using mobile money, but he will have to carry the rest of the cash back to Marigot in person next time he goes to buy fish.

Clearly, then, one major challenge and potential limiting factor of the growth of mobile banking in Haiti is the upper limit of the e-wallet. If mobile banking is to grow, providers and regulators may have to adjust the e-wallet limit to meet the needs of different kinds of businesses. This may raise additional regulatory issues, but a tiered or risk-based approach may mitigate these issues.

Transaction fees

TchoTcho Mobile and T-Cash charge almost identical transaction fees. Nether provider charges customers to deposit money. The major differences between them are:

- The minimum amount that a TchoTcho Mobile customer can transfer is HTG25, whereas a T-Cash customer can transfer from HTG1-25 for free;
- T-Cash is less expensive than TchoTcho Mobile to transfer amounts less than HTG600 between customers. Above this amount, or for transfers to a non-customer, the tariffs are the same;
- T-Cash customers pay 10% tax on top of their transaction fee, whereas TchoTcho Mobile's tax are built into their tariffs.

	TchoTcho Mobile		T-Cash	
Registration	Free, HTG100 deposit		Free, no deposit	
Deposit	Free		Free	
Transfer to a client	25-1000 1000.01-2500.00 2500.01-5000.00 5000.01-10000.00	6 15 25 30	1-25 26-599 600-1000 1001-2500 2501-5000 5001-10000	Free 1 /100 6 15 25 30
Transfer to a non-client	25-1000 1000.01-2500.00 2500.01-5000.00 5000.01-10000.00	20 40 80 120	25-1000 1001-2500 2501-5000 5001-10000	20 40 80 120
Withdrawal	25-1000 1000.01-2500.00 2500.01-5000.00 5000.01-10000.00	10 20 40 60	0-1000 1001-2500 2501-5000 5001-10000	10 20 40 60

Table 1: Comparison of TchoTcho Mobile and T-Cash Tariffs. HTG40 = approximately US\$1.

Given the limited differences between the two services, how would a customer choose to use one service rather than the other? Here are some examples:

- I want to repay a friend the HTG20 that she paid for my transport across town. If we are both T-Cash customers it will cost me nothing to repay her. If we are not both T-Cash customers then I will not be able to repay her using mobile money since the cost of transfer will be the same or more than the amount owed.
- A friend bought me lunch and a drink, costing HTG125. If we are both T-Cash customers it will cost me HTG2 to transfer him the money; if we are both Digicel customers it will cost me HTG6. If my friend is not registered for either service it makes no difference which I choose to use; in either case it will cost me HTG20.
- I want to send HTG1000 to money to my brother who lives in Aux Cayes. T-Cash and TchoTcho Mobile charge the same amount to send more than HTG600, so which service I choose to use will probably be decided by which mobile phone carrier I am with, and which mobile money agents are within reach of our homes.



Figure 6: Registering a new customer for TchoTcho Mobile.

Cash in / cash out

To cash in or cash out, customers must visit an official mobile money outlet, which could be any registered business that has been approved by the partnering bank with an employee who has been trained by the mobile money operator. A client finds their nearest agent by calling the mobile money operators at their respective customer numbers. The customer and employee conduct the transfer by entering instructions on their phone using the keypad. Depositing money is free, so no fee will be taken out of the user's account, but if they are withdrawing money the appropriate fee will be subtracted from their account.

When the transaction is done, each party will receive a text message confirming that the transaction is completed. At this point electronic money is converted to cash and either paid out to the customer or deposited with the outlet. Agents deposit funds in an account held by a super-agent against which they will carry their different transactions. Agents cannot move more money than they have in their escrow account. If an agent has deposits that surpass their deposit, they will have to visit a super-agent to rebalance their account before they can take additional deposit. Agents need constant cash in and cash out activities in order to minimize their visit to the super agent.

Given Haiti's underdeveloped banking system, access is also an important factor in the success of the cyber café. Although he has a bank account, Bruno, the owner of an electronic workshop in downtown Port-au-Prince, prefers to use his TchoTcho account instead of his bank account because he can access his money almost anytime. As he says,

“If I run out of money on Friday night, I have to wait until Monday morning before I can get my money out of the bank, but with TchoTcho mobile, it does not matter if it is 5pm on a Sunday. I know that my agent will be there and I can get my money.”

P2P: Transferring money

Customers do not have to visit an outlet to transfer money to another person (P2P) or to top up their phone credit. So long as they have money on their account and a mobile phone signal, they can do these transactions no matter where they are or what time it is. In addition to sending money, TchoTcho mobile customers can also top up their phone.

Transactions are done via the mobile phone keypad and SMS. In the case of a transfer, the sending and receiving parties will both receive text messages informing them that the transaction has taken place, who sent the funds, and how much is left. The sender will receive a balance update, and so will the receiver.

An advantage of using mobile money outlets over existing ways of transferring money is privacy. With mobile money, customers can transfer money to anyone from the privacy of their home or wherever they find themselves. Other transfer services are not private. Using traditional modes of transfer such as bus drivers and boat captains means that others will know who sent money to whom, how much, and when. In transfer houses, not only will people be observed going in and coming out of the transfer house, but other customers can often hear the agent checking the customer's ostensibly private information, including name, phone number, and amount of money being transacted.

Diary of a TchoTcho Mobile withdrawal

It is four in the afternoon and Marie is walking home from school when she decides to check her email. She has no cash on her, having spent her last twenty gourdes on a coke, but her local cybercafé is also a TchoTcho Mobile outlet. As she stands at the vendor's stall finishing her drink, she checks her m-wallet balance to make sure she has enough money to pay for internet access.

After emailing her friends, and updating her facebook account, she goes over to the counter where she hands over her ID card and asks the employee to withdraw HTG 100. He picks up the business's TchoTcho Mobile mobile phone, which has a special SIM card, and keys in the withdrawal details. Once both the employee and Marie have received an SMS confirming the transaction, the employee enters the details on a paper form which Marie signs and he hands over the money.

Marie then pays HTG20 for the 30 minutes she spent on line and has HTG70 left over if she wants to buy something for the remainder of her journey home and to cover her expenses the next day. Reflecting on the whole experience, Marie looks forward to the day when she can pay for everything using mobile money.

In addition to remittances, P2P transfers in Haiti may have a significant application for the payment of goods and services in Haiti's large informal economy. For example, if I buy rice and beans in one of Haiti's thousands of open air markets, I could choose to pay the vendor directly into her personal mobile money account. Or, if I live in Marigot and I want to send my passport to Anse-a-Pitres with the boat captain to get a Dominican visa, I could pay him the US\$170 fee in two installments via TchoTcho Mobile. Both cases prevent users from carrying large amount of cash around and avoid the security risks associated with it.

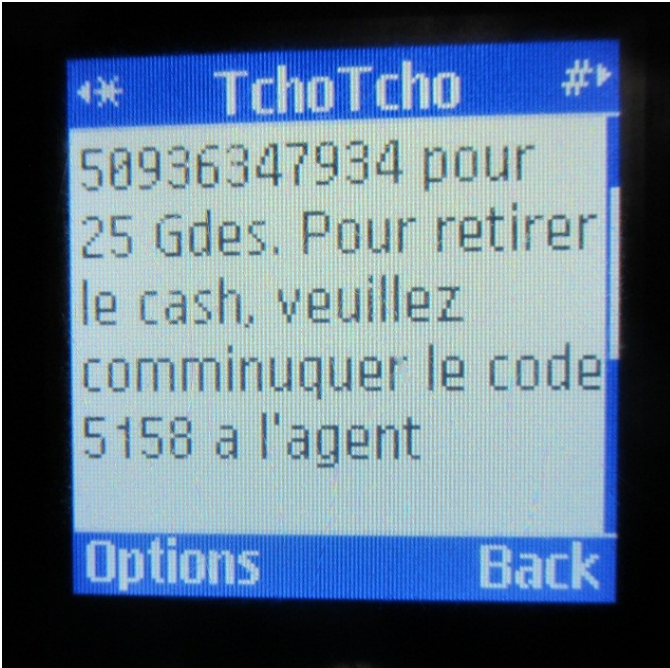


Figure 7: Sending money to a non-registered customer.

Me2Me: Saving and storing for personal use

The image of one person transferring money to another conjures images of family members helping each other. This is precisely the image of mobile money promoted by M-PESA in Kenya, which released a commercial showing a peasant woman in the countryside receiving money from her son in town. But because mobile money outlets are not yet distributed around the country, most individual mobile money transactions in Haiti (not connected to NGOs) have not been P2P transfers, but rather deposits and withdrawals for purely personal use. These Me2Me transactions serve three main purposes:

- **Topping up phone credit.** When shops are shut and mobile Pap Padap vendors have gone home for the day, mobile money customers can still top up their airtime when it runs out by transferring money from their mobile money account onto their phone accounts. While online

top up is available, it is not an option for many people because it requires internet access and a credit card, two luxuries that are not readily available in Haiti.

- **Saving money.** Haitian common wisdom tells us that if you have money in your hand, it will not remain there for long. As Josué, an artist, explained to us,

"If I have money in my pocket, I will use it on beer, cigarettes and women, but if it is not there I cannot spend it as fast. After all, money is the devil, it makes you do crazy things."

Mobile money is a way to separate savings from disposable income and work towards savings goals. It is much more secure than keeping cash at home, and it can also act as a backup in case something goes wrong. For example, if Josué's art dealer is late in paying him, he can use his m-bank savings to pay for his beer, cigarettes and women until he receives the money he is owed for his paintings and can return it to his savings account.

- **Security.** Storing money in an mobile money account is more secure than hiding it in your house or carrying it around town in your pockets. Bianca, a vendor who sells vegetables on Route Delmas and a TchoTcho customer, told us that an advantage of mobile money is that she can deposit her day's wages at an agent near her stall and withdraw at an agent in her neighborhood. Bianca thereby avoids the stress of travelling with money and the possibility of being robbed as she travels home. She says that she would rather pay the cost of withdrawing money than risk losing everything. Bianca went on to say that she likes the fact that TchoTcho agents are located in regular businesses. If she walks out of a restaurant or a clothing store, no one will know that she just withdrew money. While if she walks out of a bank, people might think that she has money.

The appeal of Me2Me transactions to a broad range of customers should not be underestimated, especially given the unreliability of the banking system and lack of a reliable ATM network. It can take hours to make a simple deposit in a bank, and it is not uncommon for banks to be out of service because there is no signal. ATMs are often not working, especially outside of bank hours. Furthermore, most ATMs are located in affluent neighborhoods such as Delmas and Petionville, reflecting the population who has bank accounts. The difficulties of using banks, the security risks that individuals and businesses face, and the need to stay in constant communication with other people are important reasons why Haitians may be prepared to pay withdrawal fees in order to store their own money.

Using mobile money to top up phone credit

No story could illustrate the significance of mobile money for topping up your phone as this scenario presented by Samuel, a 19 year old university student. He said: *“Have you ever been talking to a girl late at night and just when the conversation gets interesting you run out of money on your phone? At this hour there is not a store open or an available Pap Padap vendor. Even if there were, you would be too scared to go out at that time. With Mobile money you can continue the conversation without losing momentum because once lost, you cannot recapture that moment.”*



Figure 8: La Coquille, a restaurant offering TchoTcho Mobile.

Mobile money outlets

Any registered business in Haiti can apply to be a mobile money agent, including restaurants, mechanics, optometrists, clothing stores, printing stores, cybercafés, bars. They also stand to benefit doubly from mobile money by accruing transaction fees and attracting new clientele who may feel motivated to buy the store's other products: facial soap, vitamins, a new pair of shoes, a stick of gum, ten minutes on the internet.

To become an outlet, the business owner/manager fills out the paperwork, have a credit check by the mobile money provider's partner bank (Scotiabank or Unibank), and attend a one-day training seminar (this could be either the owner or an employee). Upon acceptance, they are given a mobile phone with a special SIM card and signs to display in their shop showing the tariffs and maximum transaction amounts. Becoming an agent is relatively simple, requires little investment of time or money, [11] provides a new source of income with little maintenance, and has the potential to bring in new clientele who may buy other products/services once in the outlet. These factors augur well for the spread of agents around the country.

However, there are businesses that do not, under any circumstances, wish to attract mobile money customers. Any business that depends upon an elite clientele, such as a high end restaurant, will not want to attract mobile money customers whose movements in and out will disrupt the venue's ambiance and image. Restaurants that have a side entry or separate booth may find that there is no conflict between mobile money and their current business.

One important challenge with mobile money outlets is the provision of a reliable, functioning service. Outlets should not often face technical problems of their own making, because all they have to do is keep their mobile phone charged. It is up to the mobile money provider (the telecommunications company) to ensure that the

infrastructure works. Technical problems at the outlet's end are most likely to occur when new customers register, as this requires a computer with an internet connection. We have heard that mobile money providers are beginning to supply outlets with smart phones to overcome this hurdle. Either way, the simple technology of mobile money could provide Haitians with an alternative to lining up at the bank for three hours, only to find that the system is down.

More common are problems with personnel. On numerous occasions, we were unable to make transactions at agencies around Port-au-Prince. The most common problem is that there is no staff member present who knows how to do a transaction. Sometimes he or she has been close by and was called to come and help us; at other times we were told to return later in the day. There was one occasion when a café employee called the person who knows how to do the transaction and was talked through the steps over the phone, essentially being trained on the spot. The deposit was successful, though she was not asked to show her identification or sign the paperwork. It is essential that business owners or mobile money providers train multiple staff how to use mobile money and keep a stock of forms so that the paperwork can be filled out.

Although they have signed up to become mobile money outlets, some business owners do not seem to understand the product. We visited one high end clothing store with prominently displayed mobile money signs. However, none of the employees had been trained how to do an mobile money transaction. They called the store owner, who told them that the paper work and the phone needed to do our transaction was locked in his desk and could not be accessed until after 5pm when he arrived from his day job. We left the store without doing the transaction because although the store was an outlet, none of the employees present could help us.

Conversely, we are concerned about the use of transfer offices as mobile money outlets. They fail to provide two of the main advantages of mobile money: that customers can avoid long lines at the bank and transfer office (time), and that people on the street cannot tell if a customer has just withdrawn money or purchased an item such as a pen. Furthermore, there is a potential conflict of interest between transfer services and mobile money, as international money transfers attract much higher fees and mobile money customers do little more than take up space in line. Transfer offices may have little motivation to make sure their staff are properly trained or to promote mobile money.

The most promising types of businesses to be mobile money outlets are ones in high traffic areas, open long hours, and have a clientele who have a low income but some disposable cash. Some of these have done better than others: Taylor's local TchoTcho agent, located in a 'multiservice' (printing shop) in a relatively affluent, low pedestrian traffic area on Route Delmas, had just thirteen TchoTcho customers from January through March.

In comparison, Baptiste's cybercafé downtown, which was constantly full of young men using the internet, had approximately a hundred transactions in the same period. We believe that a number of factors combined to make this outlet successful: it has a high volume of traffic; the TchoTcho Mobile signs are prominently displayed; the owner actively promotes the service; users are technologically and textually literate; they are low income but have disposable cash, and they appreciate the security benefits of being able to hold their money electronically rather than carry it around town. The low initial deposit of HTG100 (US\$2.50) compared to the HTG250 (US\$6.25) to HTG25000 (US\$625) required by banks makes opening a TchoTcho account more attractive.

While very poor people with little to no disposable income may seem to be an important base for mobile money as far as financial integration is concerned, it is the next economic level up who will be able to take advantage of everything mobile money has to offer. Grocery stores, supermarkets, cafés, internet centers, bars, and shops selling anything related to mobile phones are promising venues for the development of mobile money, so long as there is always a staff member present who is able to conduct mobile money transactions. These venues, because they are either associated with class and education or aspirational spaces, will contribute to mobile money's image as something that people want to be associated with.

Another consideration for mobile money providers may be the esthetic experience of customers. In addition to the commission paid to the business owners, mobile money providers might consider investing into the look of their different outlets. Will the customer find a clean, well lit place when they walk into an outlet? Does their outlet look like it might need a coat of paint or a couple of new

may affect the success of some outlets. As mobile money providers expand their agent networks in Haiti, they should be aware that while business owners have an incentive to become mobile money agents because of the commission and the added traffic that mobile money brings, the way they set up service provision will affect customer experience and return business.



Figure 9: T-Cash outlet in a Unitransfer office.



Figure 10: T-Cash user.

THE FUTURE OF MOBILE MONEY

Mobile money arrived in Haiti with the immediate goal of helping NGOs move money around, and the long-term goal of banking the unbanked. But given that the unbanked comprise roughly 85% of the population, this does not tell us much about which social sectors will adopt mobile money or why. In this section we make suggestions for how mobile money could be used in the future, based on existing infrastructure and the needs of Haitians across the country.

Horizontal integration: linking families and traders

Geographic locations of users

Digicel's and Voila's mobile networks tend to cover the major towns and roads, with large gaps in rural areas. If we assume that the majority of cash transactions take place in trade sites and distribution routes, then in numerical terms mobile money has broad coverage.

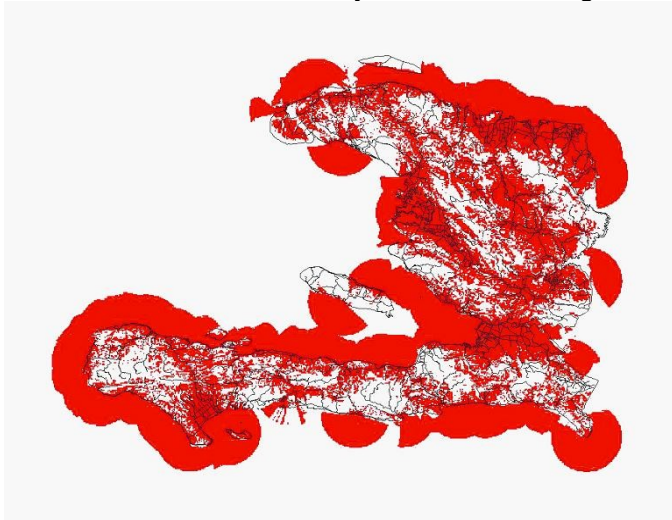


Figure 11: Digicel coverage map.

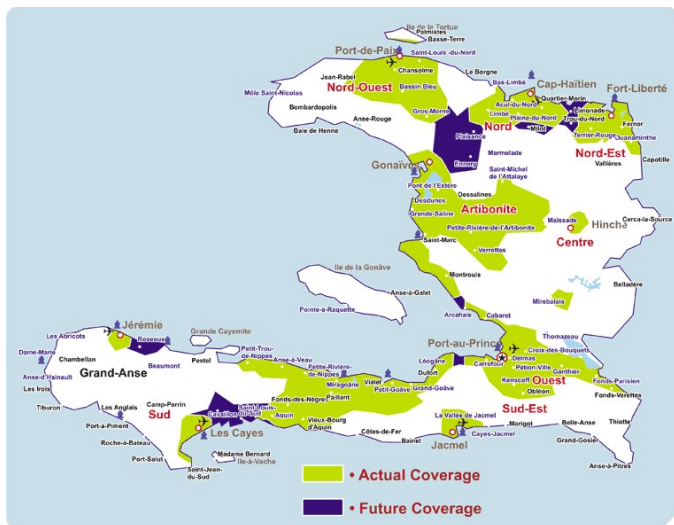


Figure 12: Voila coverage map.

When thinking about providing financial services for the poor, there are a few issues to consider. Mobile money may be accessible for people who do not have mobile coverage but who make frequent trips to areas that do have a signal. The limitation of mobile money is that transactions can only be done where there is a mobile phone signal. Electricity is a problem to a lesser extent, because mobile towers can be powered either by the grid or by generator. In many rural areas people who do not have electricity at home will pay to recharge their phone at a small kiosks powered by solar panels or batteries; others use a car cigarette lighter.

However, if people have to travel to town to pick up a mobile phone signal, then they are unlikely to be frequent users of mobile phones, and even less frequent users of mobile money. They may ask third parties to transfer money for them rather than registering for their own accounts. In this case, transfers will not be direct, but will work through an intermediary (PIP).

There will also be people who will find it difficult or even impossible to access mobile money. Haiti still has large swathes of remote areas that are at best tenuously connected to the rest of the country. Our concern, then, is that mobile money will not include the poorest and least connected people, who are often primary producers and the base of the market system. [12]

Creative ways of getting a signal in rural areas

Richard is a father of two in the town of Lascahobas. In the off-season, Richard accompanies his son in law to the Dominican Republic where he works as a brick layer. Richard's older daughter lives works as a housekeeper in Port-au-Prince. Richard depends on his phone to maintain contact with his daughter, whose three-year-old is living with he and his wife.

Although Richard can afford a phone, his house is so far from a tower that he cannot pick up a signal from inside his house. To receive and send messages, Richard hangs his phone on a tree that is about ten yards from his house. Despite the difficulties getting signal, Richard can imagine the possibility of mobile money so that he can receive money from his son-in-law and friends in the Dominican Republic and from his daughter who lives in Port-au-Prince.

Urban and rural connections: the importance of trade

Rural to urban remittances were an important reason for M-PESA's success in Kenya, where 17% of rural households depend upon remittances from urban relatives, and urbanization is about 40%. [13] However, we suspect that in Haiti, trade has a greater potential than domestic remittances to make use of mobile money. Ratan (2008) suggests that domestic remittances are more important in countries with mid-level urbanization ratios (20-40%) than in countries with high urbanization ratios, which are more likely to depend upon international remittances. [14] At 52% urbanization, [15] Haiti falls into a high urbanization category. However, a large volume of trade crosses the country from the provinces and the Dominican border to the cities, with cash being sent back to the provinces. Merchandise and produce is often bought on credit, and money travels back through slow informal channels. The provinces could benefit greatly from the faster circulation of currency that mobile money facilitates. [16] If distributors and producers are quickly paid for what they have sold to the cities, then they can more rapidly pay off their debts to local shops from which they may have bought on credit, pay bills such as school fees, and support households. There are many potential applications of mobile money in the provinces, not just for individuals but also for peasant kombits (working groups), fishing cooperatives, and used clothes vendors [17].

It is worth keeping in mind that the Haitian diaspora is a major source of income for Haiti. In 2008, international remittances to Haiti totalled \$1.3 billion, making up 18.7% of the GDP. [18] While the diaspora cannot send money to Haiti using mobile money services, recipients of international remittances tend to redistribute funds on to other family members and may prove to be an important sector of mobile money users.



Figure 13: Trading used clothing in Marigot's market.



Figure 14: A voodoo stall in the Marche en Fer, Port-au-Prince.

Vertical integration: linking socioeconomic groups

Geographic link-up is not the only prerequisite for mobile money's success. It should also link different kinds of people and businesses to maximize the circulation of money and stimulate socioeconomic development. Rather than simply being a service that poor people use to send money to each other or even to save money, it should facilitate money and communication traveling the entire length of the socioeconomic food chain.

The potential for mobile money to speed up money circulation should not be underestimated. Haiti's existing financial system is cumbersome and time-consuming. When people have to spend days waiting to receive a check or cash for the work they have done, the products they have sold, or money gifted by a family member, they cannot run their household, pay their debts, or buy more stock to sell. When employees have to spend hours waiting in a bank line during working hours to cash their checks, businesses lose productivity. Some employers report that most of their employees leave work early so that they can make it to the bank early in order to cash their checks. Mobile money's contribution to socioeconomic development will ultimately not be about NGO payments or transfers between families, but vertical integration of Haiti's socioeconomic strata. That is, the system will work best if everyone is using it, not just the poor.

One challenge for mobile money will be whether it can gain broad market appeal. M-PESA was marketed as a service for all Kenyans to avoid becoming stigmatized as a service that only poor Kenyans use. It essentially became an aspirational product, facilitating its adoption throughout a broad spectrum of society. Promoting mobile money in Haiti as a tool of commerce for a range of businesses (informal enterprises, store purchases, restaurant payments and bill payments) will not only open up a large sector of the economy to its use, but

Vertical integration: How far up the economic food chain can mobile money go?

About once a month, Rosemonde travels to Panama to buy Chinese made shoes that she will sell by the case to Haitian retailers. Before leaving Haiti, she transfers some money to her bank in Panama. She may also take some cash, as well as bank checks made out to business that she usually does business with while in Panama. In Panama, she must also pay the warehouse that will load the merchandise onto the container and the ship that will transport them to Haiti. When she gets back to Haiti, she will need to use multiple currencies to retrieve her merchandise. She needs to pay:

- The shipping company (US currency);
- Port rebuilding "tax" (US currency);
- Customs, which is usually done with a bank check made out to the government;
- The truck that will transport the container;
- The people unloading the container;
- Her employee;
- She must "grease the hands"(give bribes) of people at different levels of the verification process so that she can get her merchandise fast and with the least amount of theft as possible.
- The customs broker.

Mobile money could integrate some of the different levels of this international food chain by connecting the international shipping company with the very local, low income sector represented by her employee and the porters. However, the current wallet sizes offered by the different providers are inadequate for her level of transactions. Larger merchant accounts would bring considerable time savings since she will no longer have to endure the bank line for the check or find a money changer for the US currency needed to pay the shipping company.

A further example of vertical integration can be seen in the movement of the merchandise through different layers of the business sector. The wholesalers who bought enough merchandise in Panama to fill a container will sell it by the case or half case to the first level of retailers, who will then sell it by the dozen to smaller vendors, who will in turn sell the merchandise to individual users. Mobile money could create a chain of money transfer between the wholesaler and the individual user. This chain of money transfer is potentially beneficial for all involved because it lessens the likelihood of any of them losing their money to theft and help money circulate faster.

normalize it as an economic tool rather than a 'product for the poor'. [19]



Figure 15: Goods for sale in a street-side stall.

Achieving scale: matching chickens and eggs

A major problem with achieving scale in mobile money services around the world has concerned what is referred to as the 'chicken-and-egg dilemma': individuals will not sign up for mobile money services if there are not enough agents near them or transfer recipients, but businesses will not sign up to be agents if there do not believe they have the customer base. [20]

Local projects initiated by TchoTcho Mobile and T-Cash provide a promising model of matching customers and agents, thus overcoming the problem of generating an initial user base, educating people in the use of the technology, and providing reasons for customers to continue to use the services beyond the short term. Mercy Corps's food aid program using T-Cash in Saint Marc will end in September, but by then they will have exposed a large number of residents, businesses and institutions such as schools to mobile money. If local businesses and institutions decide set up permanent payments via mobile money, many of their customers will already know how to use the technology. Furthermore, as mobile money rolls out across Haiti, residents of Saint Marc may find that they can use mobile money to transfer money across the country.

In Port-au-Prince's Iron Market, vendors will soon start paying their stall fees using TchoTcho Mobile. This is an ongoing venture, and so issues of maintaining customer interest and trust should not affect customers' continued use of mobile money. What is interesting about the Iron Market is that we found that vendors had already begun to use mobile money before they were required to pay their stall fees.

The limitation of these examples is that they only resolve the chicken-and-egg problem at the local level. But this

approach could be easily adapted to join users across Haiti by targeting sectors of the population who need to move money. Educating and incentivizing individuals is difficult, but there are plenty of groups in Haiti who could benefit from mobile money. Fishermen, peasants, market women, educational institutions, and savings circles are just some examples of Haitian groups who may prove enthusiastic about potential applications of mobile money. People who act as social intermediaries, such as Madame Sarahs or transport workers, will continue to be important links in Haiti's socioeconomic networks and could be usefully incorporated into scaling projects. NGOs may also continue to prove useful in making mobile money work: according to Alex Dupuy, there are more NGOs in Haiti than in any other country in the world. [21] They may well prove indispensable to making mobile money work. They provide customers who while using mobile money to receive aid payments can transition to other uses and expand the customer base for mobile money services.

The trick is to link up the chickens and eggs across the country, not just within a single town or market. While the benefits of mobile money are ultimately limited by the speed at which goods and services can be traded (especially Haiti's underdeveloped transport system and road network), mobile money can at least unblock one major obstacle to circulation in Haiti.

CONCLUSION

We are optimistic about mobile money's future in Haiti and believe that this is a promising opportunity to achieve both commercial profits and socioeconomic development goals. Whether an alternative to Haiti's underdeveloped banking system, a backup in case of emergencies, a way to store money for personal use, a trading tool or a means to redistribute international remittances, mobile money has a broad range of potential applications in Haiti. Maximizing mobile money's promises will require ongoing dedication, creativity and cooperation between players in the private and public sectors, especially taking into consideration emerging uses of mobile money among different sectors of the Haitian population.



Figure 16: Taptap transport.



Figure 17: Teenagers in Jacmel collecting donations for their Carnival band.

ENDNOTES

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[2] GSMA Mobile Money Deployment Tracker: <http://www.wirelessintelligence.com/mobile-money>.

[3] Baptiste, Espelencia; Heather Horst and Erin B. Taylor. *Haitian Monetary Ecologies and Repertoires: A Qualitative Snapshot of Money Transfer and Savings*. Report for the Institute for Money, Technology and Financial Inclusion (IMTFI), December 2010. http://cast.nacs.uci.edu/socsci/imtffi/baptiste_horst_taylor_report_haitian_monetary_ecologies_and_repertoires_1_12310.pdf.

[4] *Gates Foundation and USAID Announce Innovative Fund to Incentivize Mobile Money Services in Haiti*. Press release, June 8, 2010.

<http://www.gatesfoundation.org/press-releases/Pages/building-assets-with-mobile-money-service-in-haiti-100608.aspx>.

[5] *Haiti Mobile Money Initiative/HIFIVE Awards Grant to Mercy Corps to expand Mobile Money Services in Rural Areas*. Press release, October 27, 2010. http://www.microlinks.org/ev_en.php?ID=46502_201&ID2=DO_TOPIC.

[6] Mercy Corps's website: <http://www.mercycorps.org/countries/haiti>

[7] *Mobile money service comes to Haiti with "tchotcho mobile" from Digicel and Scotiabank*. Press release, November 25, 2010. <http://www.digicelbusiness.com/tt/en/about/news/mobile-money-service-comes-to-haiti-with-tchotcho-mobile-from-digicel-and-scotiabank>.

[8] Haiti's Iron Market restored by Digicel's Denis O'Brien. Caricom News Network, January 16, 2011. http://www.caricomnewsnetwork.com/index.php?option=com_content&view=article&id=1825:haitis-iron-market-restored-by-digicels-denis-obrien&catid=55:features&Itemid=410.

[9] *Mobile Money Services Have Arrived in Haiti!* Blog posted by Salah Goss, January 10, 2011. <http://www.gatesfoundation.org/foundationnotes/Pages/salah-goss-mobile-money-services-in-haiti-110110.aspx>. For information on prize criteria, see http://www.microlinks.org/ev_en.php?ID=46077_201&ID2=DO_TOPIC.

[10] Institut Haitien de Statistique et d'Informatique (HSI). *Enquete Sur l'Emploi et l'Economie Informelle (EEEI): Premiers REsultats de l'Enquete Emploi (Phase I)*, Juillet 2010.

[11] Stores must deposit an initial amount to guarantee their transactions. They cannot accept deposits beyond the money in their super agent account.

[12] Smith, Jennie Marcelle. 2001. *When the hands are many: Community organization and social change in rural Haiti*. Ithaca: Cornell University Press. Also see Maguire, Robert. 2009. Haiti After the Donors' Conference: A Way Forward. United States Institute of Peace Special Report, http://www.haitiinnovation.org/sites/default/files/haiti_after_donors_conference.pdf.

[13] Mas, Ignacio and Dan Radcliffe. 2010. *Mobile Payments go Viral: M-Pesa in Kenya*. Bill and Melinda Gates Foundation.

[14] Ratan, A.L. 2008. *Using Technology to Deliver Financial Services to Low-Income Households: A Preliminary Study of Equity Bank and M-PESA Customers in Kenya*. Microsoft Research Technical Report, June.

[15] CIA World Factbook: [https://www.cia.gov/library/publications/the-world-](https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html)

[factbook/geos/ha.html](https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html).

[16] Jack, William and Tavneet Suri. 2011. *Mobile Money: The Economics of M-PESA*. *NBER Working Paper Series*, No.16721, <http://www.nber.org/papers/w16721>.

[17] Taylor, Erin B. 2011. *Cash for Fish: Potential Applications of Mobile Banking on Haiti's Southern Trade Route*. IMTFI website: http://www.imtffi.uci.edu/imtffi_haiti_blog_040411.

[18] World Bank website (Ratha, Mohapatra and Silwal 2009): <http://blogs.worldbank.org/peoplemove/a-factsheet-on-haiti>.

[19] For a case where an ICT4D project has been negatively affected by its association with poor people, see Renee Kuriyan et al's description of a private-public partnership for computer kiosks in India: Kuriyan, Renee; Isha Ray and Kentaro Toyama. 2008. *Information and Communication Technologies for Development: The Bottom of the Pyramid Model in Practice*. *The Information Society*, 24: 1–12.

[20] Mass, Ignacio and Daniel Radcliffe. 2010. *Scaling Mobile Money*. Bill & Melinda Gates Foundation. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1681245.

[21] See Alex Dupuy's blog: <http://www.ssrc.org/features/pages/haiti-now-and-next/1338/1339>.

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