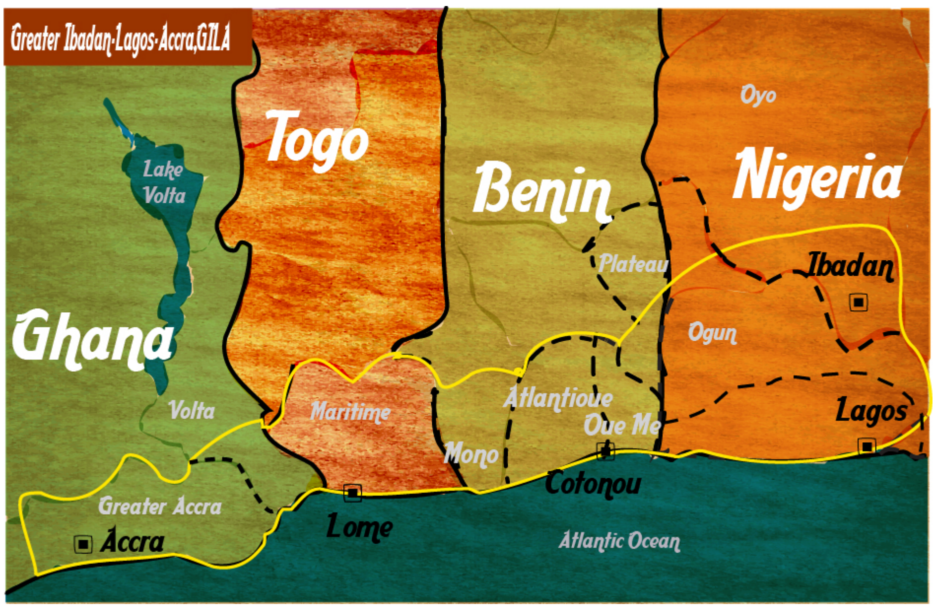
The GILA Mobile Money Project
Present–Day Money Handling and Mobile Money Opportunities in Greater Ibadan-Lagos-Accra, aka GILA, West Africa.



Sub-Contract 2012-2834 between the Regents of the University of California and J2 Partners, Inc.

This report was authored by Joel Patenaude, of J2 Partners, Inc., a consulting firm. Thanks are due to the Institute for Money, Technology and Financial Inclusion, whose funding of the GILA Mobile Money research project made this report possible. Thanks also to the US Embassies in Togo and Benin for their letters of support.

FINAL REPORT
January 31, 2013

J2 Partners, Inc., 183 Park Street, Montclair, NJ 07042
joel.patenaude@j2partnersinc.com

Introduction

The objective of this research was to examine ways in which mobile money could improve the experiences of individuals crossing the borders between Nigeria, Benin, Togo and Ghana. Rather than examine all four countries, we chose a more narrow study area, the large urban area known as GILA (the Greater Ibadan-Lagos-Accra corridor).

GILA includes the largest cities in each country and, overall, powers the regional economy. Given the common goal of the national governments to reduce dependence on cash and increase the use of digital money, it makes sense to go where the money is. In this part of west Africa, the money is in GILA.

Map of The GILA Urban Corridor from a UN-Habitat report which informed our identification of a study area

Despite the short distances (about 500 kilometers end-to-end), three international boundaries divide four distinct nations with differences in regulation, culture, wealth and established telecoms and banks. Mobile money is unevenly available.

The research took an inventory of money handling practices for different categories of international travellers at the three border crossings (Ghana-Togo, Togo-Benin and Benin-Nigeria). We interviewed industry and government stakeholders and offer high-level concepts for services that might encourage use of mobile money to replace physical cash within the GILA corridor.

Internet and telephone research began in May, 2012 and continued throughout the year. A research trip and in-person interviews took place in September and October 2012.

Traveler Survey

Methodology

The in-field survey portion of this study took place in late September 2012 and was designed to document snapshots of traveler finances. We interviewed 214 willing international travelers crossing one of three borders at 6 border towns: at Aflao-Lome, at Savicodji-Hillacodji and at Seme-Badagary. Their broad characteristics follow:

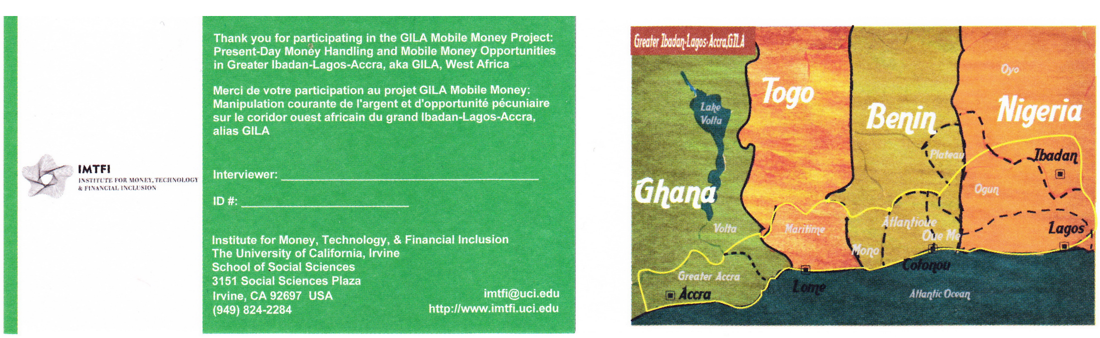
Nationality	Number	(%)
Benin	48	22.43
Ghana	50	23.36
Nigeria	62	28.97
Togo	47	21.96
Other	7	3.27
	214	100.00

Reason for Travel	
Work	34
To Purchase or Sell Goods	115
Personal Matters	54
School	11
	214

Question areas included banking practices, how they'd arranged their travel finances and their mobile phones. [See appendix for questionnaire]

Practical Sampling International (Nigeria) and **Social Consulting Group** (SGC, Benin) supplied and supervised fieldworkers and SCG provided analysis.

This work was carried out in accordance with **UC Irvine's Institutional Review Board** (IRB); all fieldworkers completed an online training on the ethical conduct of human subjects research. We also provided all survey participants with a card to thank them and to provide contact details for the **IMTFI**.



Front and back of a card handed to each survey participant

SCG fieldworkers in Lome, Togo, prior to the day's activities

Survey Highlights

- ***Thirty people (13.7% of our sample) reported they had mobile money accounts***. Accounts were reported with **MTN Ghana**, **Airtel Money Ghana**, **MTN Benin**, **GTBank Nigeria** and **UBA Nigeria**. Reported balances were low though outliers included one respondent who claimed to be carrying between CFA50,001 and CFA100,000 ($1,000 and $2,000) and even one who claimed a balance over C20,000 (over $10,000).

  With lower percentages of adults registered for mobile money services across all of GILA, this indicates that international travelers in this corridor are early adopters of mobile money.

- ***Nigerian or Ghanaian nationals traveling for reasons of trade dominate the data, and this group is heavily reliant on cash.*** This reliance on cash by traders may be partly due to limitations with existing formal options. Bank branches have limited hours and ATMs have maximum withdrawal thresholds. A business unit President of a company listed on the Nigerian Stock Exchange told us that traders would not likely utilize mobile money for some time because their existing practices are so well-established and because their import activities often skirt the law. Transition to a cashless alternative would raise concerns of unwanted scrutiny.

Border officials at Seme provided an example of an established cash handling practice. They described a system in which some traders divide their cash between a number of “carriers”, or mules, who simply walk across the border unobserved. The trader then aggregates their funds on the other side.

- ***Sophisticated phones are commonplace; the platform for mobile money is there.*** 82% of travelers said that they had cash with them while 91.1% said they had mobile phones, 70% of these were smart phones.

  Telephone brands mentioned included many lesser-known brands: **Kasapa**, **Kenxinda**, **GTide**, **Techno**, **Itel**, **Phylix**, **Alcatel** and **Sagem**. Many reported they were carrying two or three SIM cards.

  The finding that many travelers carry smartphones suggests they could potentially be reached for mobile money, and for a variety of value added services that incorporate mobile money payments. The widespread presence of smartphones also suggests it may be possible to introduce services using Wireless Application Protocol (WAP) as opposed to more limited Unstructured Supplementary Services Data (USSD).

- ***High payment card penetration -- 45.8% -- surprised us***. About 35% of travelers with bank cards were planning to use an ATM, or already had, during their trip. Nigerians were most likely to have a card, while citizens of Togo and Benin were least likely. Overall, in an environment where up to 75% may be unbanked, 45.8% of travelers had at least one bank card.

  We conclude that these travelers are the economic crème de la crème, and likely community leaders, and that these people may become advocates for mobile money services.

  Research in Ghana in 2012 sponsored by **CGAP** (**The Consultative Group to Assist the Poor**, housed at the **World Bank**) indicated that mobile money uptake is more affected by “under the line” (UTL) marketing as opposed to “above the line” (ATL) marketing. ATL includes billboards, newspaper, radio and TV advertising. UTL is largely word of mouth and recommendations from friends and family. This research found that while ATL creates awareness, UTL drives adoption. It is here that this well-to-do group may be useful. Should they see value in mobile money and use it, they may bring the practices to popularity back in their hometowns. Efforts to incent this group as mobile money advocates may be worthwhile.

- ***29.0% of people had experienced theft or were close to a theft victim and called it "non-trivial, a significant theft."*** Those included in this 29% were disproportionately unbanked whereas those who reported they had either used, or planned to use, an ATM during their trip were less affected by theft.

  It may be that those who are unbanked and who have no access to ATMs may value a mobile money service as a travel vault – money in the desired currency, safely kept. Though this requires more study, it is possible that this could be a convincing use-case that might also involve border officials, who deal with these victims, as advocates of cashless alternatives.

- ***A small percentage (4%) of those we spoke with were travelling with airtime to use as currency during their trip***. We learned that some people travel with a collection of airtime scratch cards, while others take the extra precaution of copying the numbers off these scratch cards and carrying them on a piece of paper. This practice may be more common for domestic travellers given the limited use of airtime between markets.

- ***Unsurprisingly, people did not want to reveal details about the cash they had on them.*** Nearly half (47.9%) refused to answer or replied "NA" when asked how much money, and in which currency, they were carrying.

Full study findings are attached in a separate file, written by SCG.

Market Details
Methodolgy
We began internet and telephone research in May 2012 and spent two weeks in late September 2012 travelling overland from Accra to Ibadan by a variety of means. We met, spoke with and corresponded with stakeholders. These included regulators, bankers, post office officials and individuals running mobile money services. We did not use a formal survey instrument but, rather, started with a few questions and saw where the conversations led.

We found broad support across industry and government for cross-border digital money within GILA. This is consistent with the near-universal belief that intra-Africa trade is a key driver of future economic growth and opportunity. We also identified disproportionate consumer interest in mobile money among travelers as compared to the general public. The challenges to cross-border implementations are in the many details. Support might wane from industry if revenue projections from contemplated services were too low, whereas consumer adoption in these markets is very price sensitive.

There are elements of an ecosystem for formal cross-border financial services though the market lacks much consumer choice. A few regional financial institutions offer cross-border payment and remittance products and platforms, led by **Ecobank's** *Rapid Transfer* and **UBA's** *AfriCash* and *AfriTrade* and by their agency associations with money transfer firms such as **Western Union** and **MoneyGram**. Two regional upstarts based in Senegal, **Groupe Chaka** (**Money Express**) and **Cellular Systems International** (**WARI**), have a particularly strong presence in Togo and Benin. Their mutual focuses, however, are on relatively high-value transactions and conventional bank and switching infrastructures, where parties can afford transactional fees adequate for profit.

These compete against informal money transfer services. These may often be offered for a fee by bus and truck drivers and, perhaps at a lower cost or even free, by friends, relatives and acquaintances. These tend to be opportunistic and require that senders visit bus stations and search out potential facilitators.

Travelers can find growing numbers of ATMs, particularly in urban centers. We concluded that, within GILA, the ATMs work. During our trip we successfully withdrew funds using a US-issued debit card (without a smart chip) at ATMs at a **Société Générale** branch in Accra, at an **Ecobank** branch in Cotonou and at a **GTBank** branch in Ibadan.

For those with bank accounts and associated debit cards, there are a handful of options to travel and trade without carrying much cash.

Mobile Money in GILA

There are mobile money implementations in 3 of the 4 countries studied; only Togo lacks the service entirely. The available services are all fairly new and have not been instantly popular, for a variety of reasons. Mobile money has not been a game-changer.

There are too few agents and even fewer merchants that currently accept mobile money payments. Many potential bill-pay entities, such as utilities and government agencies, often have inadequate IT systems and lack institutionalized customer-oriented or profit-seeking mindsets, and thus feel little incentive to change. Private schools have been somewhat an exception and some accept mobile money as payment, especially in Ghana. Without many ways to spend digital funds, the mobile money loop (the number of times digital money changes hands) is short and reverts to cash.

This need to revert to cash is a major stumbling block. Too few agents, some of whom have cash flow issues that may prevent cash outs on certain days, reduce service attractiveness. And the mobile money services do not interoperate and each may use different agents. Though most believe it a matter of time before mobile money services introduce some level of interoperability, for the present they operate in their own closed loops.

We'll note an option that might accelerate interoperability is an innovative hub that interconnects mobile money services with banks and international remittance providers. This new hub, called **HomeSend**, is offered by a Belgian company partly owned by South Africa's **MTN**, one of the dominant telecom companies in Africa. Given the absence of a mobile money implementation in Togo, this would not be a comprehensive cross-border solution for GILA.

Market-by-Market Overview of Mobile Money Services

GHANA – There are five mobile money services licensed by the **Bank of Ghana** through commercial banks. These services are offered through partnerships with the telecoms **Airtel**, **MTN**, **Tigo**, and **Vodaphone**, and with a private 3rd party **Afric Xpress**. There is at least one value-add aggregator, **Ozinbo**. We observed that advertisements for the first four, the services involving telecoms, are ubiquitous in and around Accra.

TOGO – There are no mobile money services in Togo. There are two telecoms. An official of the government-owned **TOGOCEL** told us they prefer to provide data services for mobile money and not run a mobile money service themselves. The competitor, **MOOV** (part of **Etisalat**), has yet to introduce a service.

BENIN – Several telecoms compete for market share but there is only one mobile money service: **MTN-Benin's**, started in 2010. It offers person-to-person transfers and mobile top-ups.

NIGERIA – Some 17 services have been licensed by the **Central Bank of Nigeria** since December 2010 and they have all had slow starts. Most of the banks have introduced mobile money services and those in conjunction with telecoms aim at the unbanked. Notable private players include **Cellulant**, **ETranzact**, **Pagatech** and **VTNetwork**. Some licensees never got up and running with a commercial service and at least two that did quickly ceased operations. Despite the proliferation of mobile money services, the agent network remains very limited.

Recommendations: Test and Learn Pilots

One premise of this study is that people will use existing mobile money services only when they are seen as affordably and safely meeting a need, and that cross-border use cases may provide additional traction and address different needs than domestic services. There are potential applications one could conceive of at the border crossings, for foreign exchange and for safekeeping funds. The markets are different, and when combined, the increased heterogeneity may prompt business model and service innovations.

We began thinking of potential cross-border services, that may help increase uptake of mobile money overall, by identifying the hurdles.

(1) ***Non-convertibility of local currencies*** -- Conversion between currencies requires conversion up to a hard currency, either the US Dollar or the Euro, then back down. One official at **Enhancing Financial Innovation & Access** (**EFInA**) told us they would be concerned that cross border mobile money would not work due to the costs associated with this "dollarization". This is very unlikely to change soon and any cross border pilot must take non-convertibility into account.

GILA Currencies include Ghana Cedis, CFA Francs and Nigerian Naira

(2) ***Currency Controls*** -- Ghana is unique within GILA in that it does not allow the export of its currency. To implement any cross border service from Ghana would require the Bank of Ghana to relax its decade-long export restriction.

(3) ***Uneven taxation and banking practices*** require further study. For example, Benin taxes all financial transactions while mobile money transactions in Ghana are subject to sales and communications taxes. Bank fees vary.

(4) ***The Informal market*** -- A very large issue is, that in West Africa, the formal sector only comprises about 15% of the total economy, according to the World Bank. The balance – about 85% of all activity – is in the informal sector, mostly outside the banking system and beyond the reach of regulators and tax authorities. Since there is no regulation or tax, prices charged in the informal economy are almost always lower than prices for similar goods or services when delivered formally. This creates an attraction even to those with bank accounts and histories of paying taxes. Everyone participates in the informal sector.

Every border crossing in our study featured many currency traders, ready to assist travellers seeking foreign exchange. Any efforts to promote cross border mobile money service must build strong value propositions able to contend with these informal institutions that have a stake in the status quo. To be built for success, cross-border services must place the customer at their center.

Moneychanger working at border crossing in Seme, Benin.

We have identified four possible test-and-learn pilots to begin offering cross-border digital money services aimed at the unbanked and the informal sector. Each could take different forms, depending on the willingness of regulators to collaborate.

(A) Extend mobile money agents across borders;
(B) Facilitate a cross-border airtime market;
(C) Address foreign exchange more directly with a locally-adapted peer-to-peer foreign exchange platform;
(D) Work toward mobile phones as instruments of identity solutions.

We explain each of these concepts in more detail on the following pages.

(A) Extend Mobile Money Agents Across Borders

One promising near-term opportunity is a test-and-learn pilot in which three regulators -- the **Bank of Ghana**, **Banque Centrale des Etats de l'Afrique de l'Ouest**, and the **Central Bank of Nigeria** would authorize mobile money providers licensed in either Ghana, Togo, Benin or Nigeria to legally offer services through agents across one or more borders, outside their country-of-license.

The most straightforward instance would be to extend **MTN-Benin's** service into Togo, as both countries share a common currency and central bank. Although this may be the lowest-hanging fruit it also seems a smaller opportunity, as there is relatively more economic activity between both Ghana and Togo and between Benin and Nigeria.

For a broader solution, any of the five mobile money services in Ghana might, for example, establish agents in Lome. Or the large Nigerian population in Ghana might lead Nigeria-licensed mobile money services to creative market solutions, with or without their Ghana-licensed counterparts. The technology is there, and partner banks across markets could help with settlements.

One mobile money service provider we interviewed recommended identifying and training a small number of well-established businesses to serve as cross border agents. A public sector example might be Togo's **LaPoste**. During the in-country research phase of this study, we met with **LaPoste** officials and they expressed tentative interest to provide agency services. **LaPoste** already offers money transfer, branded *Ten*.

A poster in front of the main post office in Lome for **LaPoste's**
Ten Mobile a soon-to-launch enhancement to their money transfer offerings

Through **LaPoste**, this agency pilot might extend into the provinces, and address rural financial inclusion.

Last we note that "under the radar" efforts may emerge. More than one person mentioned Nigerian parents with children in Ghanaian schools as a target group for service extension.

(B) Facilitate a cross-border airtime market
Selling airtime is "tricky," to quote a senior mobile money veteran, while another described GILA's airtime market as "controlled by cartels."

Still, airtime is very widely understood and accepted and has emerged as an alternative currency, a convenient way to transfer value, which is in many ways a precursor to mobile money. People commonly purchase airtime and text the associated numbers to a recipient, instead of sending money. How might a system be put in place to facilitate traveller finances, using airtime?

One way might be for any authorized mobile money agent to be given a way to sell airtime pins back into the system, and pay out in cash. A traveler from Benin, for example, might carry pins gotten from purchased airtime scratch cards, and sell them to an agent in Togo or Ghana or Nigeria. Such a system might be provided by a 3rd party acting as an airtime dealer for the telecoms, or it might be a platform used by dealers to extend their reach.

Another approach might be to issue universal airtime recharge cards in multiple currencies. One person we spoke with imagined a voucher engine sitting on top of a multi-operator vending platform. As non-technologists we cannot sketch out the associated details, but follow the general rule that in these systems, technology is not the limiting factor.

(C) Address forex with a locally-adapted currency exchange service.
Such a service has been successfully piloted in the South Pacific, where there are many micro-currencies, with the support of the **Pacific Financial Inclusion Programme**. The service understands how to connect into banks in real time and is especially good at queuing, which approximates real time. A similar service might be particularly well-suited to the mix of currencies and circumstances within GILA.

(D) Work toward mobile phone as an instrument of identity solutions
There are a number of efforts globally to promote mobile phone as an instrument of identity, yet there are none in Africa to date. There are implementations in Scandanavia, Lebanon and Estonia, and pilots are underway in Vietnam and

Cambodia. These cover a range of applications including voter eligibility verification, website authentication and account authorization. **Turkcel**, a mobile operator in Turkey, has leveraged an identity infrastructure to build out an advanced mobile signature program, *MSign*.

For cross-border economic activity there are potential immigration control and customs administration applications. Though this is more of a value-added service than the straightforward extension of mobile money, we included it as an indicator of a potential leapfrog approach. The immigration controls at the border crossings we observed were mostly rudimentary and nearly all literature describes the borders within GILA as porous and customs procedures as lacking.

To successfully promote financial services, including cross-border mobile money within GILA, one may need additional use-cases beyond plain vanilla mobile money. Providing travelers more ways to leverage the technology almost all carry in their pockets, with an emphasis on safety, convenience, affordability and privacy, can build out an ecosystem in which mobile money can flourish.

This is a large undertaking and further specifics are beyond the scope of this research.

Conclusions

An extension of mobile money services across the borders within GILA would extend consumer choice for modern and safe cross-border financial services, and provide first-time access of formal services to the unbanked. The research demonstrates that there is consumer interest among cross-border travelers, and the technology, in the form of mobile phones, is nearly ubiquitous. Coordinated government and industry effort is required for ultimate success.

The financial services technology company Fiserv describes a “snacking, lunching and fine dining” analogy to mobile, online and branch banking channels (with mobile being the snack). Most cross-border travelers in GILA are sustained by snacks – biscuits and chips, sausage rolls, nuts and roasted cassava. What is lacking on the ground across GILA are “financial services snacks,” affordable, widely available and easily obtained. If provided, they may sustain and nourish an increased economic vitality that all seek.