

Development Implications of Mobile Money

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Synopsis

While e-money is not a new issue², multi-national funders and others involved in development should look carefully at mobile money and mobile payment services, which offer substantial promise for development. This paper addresses some of the effects, both good and bad, which should be understood in the context of any planned project. It also offers a checklist of legal and policy considerations, which will vary by locality and context.

Introduction

The adoption of mobile payments in some African and other states far exceeds their citizens' use of the Internet, ATMs and bank accounts, as well as far exceeds the adoption to date of mobile payments in much of the developed world. It offers the possibility of hope and opportunity for many who have had too little of either. Consumer protection and regulation of mobile payment, however, do not match its usage.

In addition, the introduction of mobile money and mobile payment services will produce effects, both good and bad, which should be understood in the context of any planned project. The approach to be taken in the introduction of mobile money and mobile payment services will depend to a large degree on the nature of the problem to be solved.

United Nations Millennium Development Goals

The U.N.'s Millennium Development Goals (MDGs) for 2015 are central to its ongoing mission. The U.N. Secretary-General has stated:

"Eradicating extreme poverty continues to be one of the main challenges of our time, and is a major concern of the international community. Ending this scourge will require the combined efforts of all, governments, civil society organizations and the private sector, in the context of a stronger and more effective global partnership for development."

United Nations Secretary-General BAN Ki-moon³

The eight MDGs range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015. They form a blueprint agreed to by all the world's countries and all the world's leading development institutions, and have led to unprecedented efforts to meet the needs of the world's poorest.

Most relevant to mobile money is Goal 1, eradicating extreme poverty and hunger. Targets within Goal 1 include:

Target 1.A: Between 1990 and 2015, cut in half the proportion of people whose income is less than \$1 a day

Target 8.A: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system

Target 8.B: Address the special needs of least developed countries

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² See, e.g., *Cash is Dying*, by James Gleick, *The New York Times Magazine*, June 16, 1996; *Electric Money: How to Use It; How to Mint Your Own*, by Udo Flohr, *Byte*, June 1996; *Should the Fed Seize Control of Electronic Cash?*, by Joanna Smith Bers, *Bank Systems & Technology*, June 1996; *Money Wants to be Anonymous*, by Alan Deutschman, *Worth*, October 1995; *Citicorp Sets Its Sights on a Virtual Greenback*, by Jennifer Kingdon Bloom, *American Banker FutureBanking*, March 18, 1996; *Symposium Issue on The Electronic Future of Cash*, *The American University Law Review*, April 1997.

³ See <http://www.un.org/millenniumgoals/bkgd.shtml>

Target 8.F: In cooperation with the private sector, make available benefits of new technologies, especially information and communication.

More specifically, the President of the General Assembly highlighted in remarks following a recent Dialogue on Financing For Development that:

"The importance of universal access to formal financial sector, including full array of financial services, especially for those with low and uncertain incomes, who required more financial management to smooth their consumption over time, was noted."⁴

What is the Problem to Solve?

A development organization, prior to making any effort to introduce mobile money and mobile payment services into a society, should clearly understand the problem or problems to be solved. These may differ radically from location to location but may include one or more of the following considerations:

- There is insufficient money available due to widespread poverty
- Money is available, but it is costly to move
- There is a need or desire to expand markets, whether domestically or internationally, including through the Internet
- There is insufficient government control of payment systems (or too much control, stifling adoption, usage and development)
- The local banking/telecommunications infrastructures are incapable of developing suitable solutions or need assistance in working together
- There is a desire for less foreign entity control of payment systems (or greater foreign expertise, such as in best security practices)

Effects of Introduction of Mobile Money

The introduction of mobile money and/or mobile payment services into a society that previously lacked these capabilities will produce effects, both good and bad. These effects should be understood in the context of any planned project.

Positive Effects:

The astounding thirst for mobile money and mobile payment services in "early adopter" countries and their unprecedented rates of adoption clearly point to a tremendous unfilled need and the potential for great benefits.

- Mobile money enables new types of money flow and commerce. It gets money to the point of sale where it can enter commerce, whether in a physical location or online.
- In the absence of mobile money, there may be numerous barriers to trade and purchasing. This may be especially true in societies that do not have widespread access to bank accounts, automated teller machines for cash or credit or debit cards. In some cases, the need for monthly pre-payment for utilities, etc. may cause hardship. And in some locations, cash is just too risky to carry on one's person while traveling.
- Mobile money and mobile payment services may enable new types of local lending and other services, thus providing employment.
- Mobile payment services may fill a gap where there is no existing service, such as bank-run checking accounts for making payments. Indeed, these services may be easier to establish in the absence of competing financial vested interests, as well as a technical infrastructure to be overcome and re-engineered.⁵ Central bank approval and involvement in any planned system is advisable, whether or not the system is intended to be run by the banking industry or another sector.

⁴ Concluding remarks by the President of the General Assembly, Fourth High-Level Dialogue on Financing For Development, 23-24 March 2010

⁵ By way of example, in the United States, the availability of entrenched (and profitable) credit card lending services has led to a relatively slower rate of adoption of stored-value cards and other means of electronic payment, such as mobile money, compared to countries without comparable payment service competition.

- Mobile payment services may also provide an avenue for the receipt of payments, thus enabling globalization of sales. It may be an invaluable lifeline for remittances, including family remittances from overseas. It may also offer new models for finance, including microfinance.
- Mobile payment may lower transaction costs, though the history of technology development and implementation advises caution and a careful analysis in this regard.⁶

Negative Effects:

On the other hand, consideration should also be given to the effect on social structures in pre-electronic payment societies, such as:

- Will access to e-payment eliminate certain forms of barter or lead to the elimination of beneficial forms of social interaction?
- Will introduction of a mobile payment system eliminate traditional jobs?
- The creation of e-money may have a leveraging effect in that both the e-money and the underlying currency used to purchase the e-money (possibly housed in a bank or taken in as income by a mobile telephone operator) may now be used and spent independently (absent reserve requirement or similar regulation). The creation of new money also creates new risks of inflation and even possibly currency devaluation.
- What will be the effect of a sudden increase in the availability of credit, and will it lead to a risk of consumer or business overextension, default or bankruptcy?
- While there may indeed be substantial advantages to allowing non-bank operation and control of certain mobile money and mobile payment services, consideration must be given to the risk of erosion of the strength of the national banking system. In particular, there should be analysis of the effect on bank accounts and deposit bases, which may serve as consumer and commercial lending resources. There should also be an understanding of the use of reserves, both in the promotion of safety and soundness and in monetary control policy. Strengths of traditional and well-developed bank-based payment systems need to be reproduced or adopted in a non-bank e-money environment. These strengths include "know your customer" requirements, traceability, and a restitution structure that is consistent and understandable. There is also the need for ensuring the continued solvency of a system, the availability of a government "backstop" for emergencies, and establishment of trust in the system through vetting and oversight as well as during times of adversity. A robust system must also provide alternative payment mechanisms that offer variations to fit a wide variety of needs, including cost, need for payment finality, etc.
- Finally, the effect of a substantially higher velocity of money must be considered in an overall risk analysis. The increased speed of the electronic environment may make it more difficult to timely catch fraud and will create new opportunities as well as dimensions for mischief.

Checklist of Policy and Legal Issues

The use of mobile money and mobile payment services entail both legal and policy considerations, which may be domestic but may also have cross-border implications. These considerations may be location-specific and will certainly vary depending on the architecture of the system.

In addition to issues already addressed, here is a preliminary checklist of other policy and legal issues in mobile money and mobile payment services, separated into general categories:

I. System oversight

- Differing national views of the nature of electronic money (and what it means to issue electronic money) have produced fundamentally different approaches to regulation. To some states, electronic money is the electronic equivalent of a national currency and, therefore, should be issued only by the state, through its central bank or designees. Widespread use of a "virtual currency" would raise issues of money supply as well as stability of the currency. To others, electronic "money" may be only one piece of the service of moving value from one owner to another. That service may be composed of a number of steps, some of which could be carried out by banks or non-banks who bring efficiencies to the process. Under this view, the goals of

⁶ See, e.g., *The Future of Money: Cash, Checks, and Credit Cards -- Who needs them? The new global currency is flexible, frictionless, and (almost) free*, by Daniel Roth, *Wired*, March 2010, pp. 70-79, whose conclusion of cost reduction masks the likely increased risk and inefficient internalizing of previously outsourced tasks by niche players.

regulation would be to ensure the safety and soundness of the entire payment system, consumer protection and other fundamental social policies.

- Under either view, the nature of regulation and supervision of issuers of electronic money and mobile payment services must be considered. Non-bank mobile providers are likely not regulated comprehensively in their payment services, though some states have utilized existing "money transmitter" or similar laws to regulate non-bank providers. Issues include determining the location of virtual services and appropriate jurisdiction among government agencies (e.g., banking vs. telecom), as well as with respect to courts. Transparency of financials is paramount. For services with a cross-border aspect, international harmonization, such as adoption of treaties or conventions, may come into play.
- For small services, there is little or no concern with effects on the money supply or inflation. However, these concerns become real for payment services that become widespread. A balance must be maintained between encouraging experimentation and development of new approaches and maintaining economic stability.
- General policies in approaching risk allocation should be considered. Risk allocation may be by comprehensive proactive regulation, left to private agreement between the parties, or a combination of the two. (The first approach may foreclose beneficial market developments, while the second may result in unfairness as between parties with unequal bargaining power.) It is appropriate to allow risk allocation to vary by usage, parties and possibly even system architecture, since each variation may change the relative power of the parties and their ability to detect and prevent loss. Generally, there should be incentives for the party with the ability to improve the system over time to act.
- The goal of promotion of commerce and the need for liquidity in a payment system are often of significant importance.
- Mobile payment services may be extremely useful in advancing related e-government goals. Services may include collection of taxes, duties and fees (including taxation of electronic transactions), procurement, as well as payment obligations by governments (including benefits, salaries, grants/loans and subsidies). There also may be issues in obtaining robust transaction data for the benefit of governments, international development banks, academic study or others.
- Identity management must be addressed, either on a case-by-case basis by the service provider or more comprehensively. This may include recognition of electronic signatures as well as other aspects of identity management, such as website authentication and account authorization services.
- Even in a private service environment, regulatory consideration must be given to system security and resiliency, including identification and banning of bad players, evaluation and supervision of systems, mitigation of the risk of system collapses (that may include public safety nets) and contingency planning.

II. User issues

- There is a spectrum of consumer (and business) protection concerns, though these may vary based on social expectations. General concerns include the relative obligations of the counterparties, banks, and mobile service providers, which should be clearly set forth in contracts, system rules, or regulations. Notable among these obligations are loss allocation, as well as the establishment and maintenance of other appropriate protections against fraud, user error and system error or loss.
- Effective dispute resolution, minimally at the level of establishing sufficient trust in the system to encourage its use, is an integral part of any successful payment system (at least any system for which alternatives are available). States vary on whether there should be negligence or strict liability standards for losses due to unauthorized use of devices or access codes. An independent and trusted judiciary and/or arbitration-type process may be called for, especially when considering integration into global markets.
- Issues of payment necessarily raise related issues of insolvency and related risks, including both issuer credit default risk and intermediary credit default risk. It may be necessary to characterize prepaid "money" and recognize the special risk for prepay customers who may be financially unable to afford other payment plans.
- A variety of issues relating to personal privacy will be of significant concern in most consumer payment systems. Issues of data mining, as well as of carrying transaction history and other information with an electronic payment, may be implicated. Related issues include confidentiality and data protection, as well as anonymity. There may be valid interests in using mobile payment data for economic, social, or even health research.
- Since payment tends to involve selling, there will be issues of e-contract enforceability and distance selling (including language, disclosures, and applicable law and jurisdiction, etc).

III. Crime and National Security Considerations

- Money laundering presents a critical set of issues in any payment system. Systems must be built in a way that discourages money laundering and allows for some form of monitoring or review. The Financial Action Task Force (FATF), an independent, inter-governmental body, has issued guidance in this area.⁷ The FATF divides mobile services into four categories:
 - (i) *Mobile financial information services*, for viewing accounts only without the ability to conduct transactions. This is considered low risk.
 - (ii) *Mobile banking and securities account services*, tied to existing accounts and therefore likely to be regulated and supervised.
 - (iii) *Mobile payment services*, allowing payments to be made by non-account holders, under widely varying controls and supervision of non-traditional financial institution payment service providers.
 - (iv) *Mobile money services*, which offer the ability to store value on mobile telephones in the form of phone credits, airtime or other measures, and that are likely to be unregulated and unsupervised in many countries.
- Terrorist financing presents similar issues, including issues of anonymity, traceability and supervision. Risk may be mitigated through the technical establishment of value limits, as well as through appropriate monitoring. Customer due diligence and the adoption of "know your customer" principles also play a significant role. Currently there are no uniform international standards for low-risk e-payment products.
- Ways to discourage other uses of e-money for criminal purposes should also be built into any system, as well as addressed in laws. These may include tax evasion, fraud (by issuers or others), theft and holdups, blackmail, kidnapping and piracy, bribery and gambling.
- Corruption at all levels, as well as government and financial transparency, must be addressed.
- For certain systems, the need may arise for government-to-government sharing of information, with strike forces or in connection with ongoing investigations. This commonly arises in tax evasion and money laundering investigations but also may arise in other situations. The ability to trace and intercept transactions in real time may be of great importance in fraud cases.
- Depending on the technical architecture of a mobile payment system (e.g., value that is resident on the mobile device vs. "in the cloud"), seizure of phones and devices at borders by customs or other seizures by police may have novel financial implications.

IV. Infrastructure Policy

Various other related public policies will greatly affect the success of mobile money and mobile payment service development. Some of these policies are best addressed within the private sector, while others may require government intervention.

- Standards and technical coordination policy. Technical coordination may be needed between and among device manufacturers, issuers, merchants and banks. Increased bandwidth requirements, particularly competition with video, need to be addressed. In certain situations, there may be benefits to considering offline approaches to payment or dedicated networks.
- Competition policy. A state may wish to promote competition in mobile money and mobile payment services, though there may be a tendency toward natural monopolies in some instances. Issues of cooperation, barriers to entry, intellectual property sharing, etc. may come into play. For consumer protection, monetary policy or other reasons, security and system resilience may be encouraged or required beyond normal or market levels.
- The development and operation of a successful mobile payment system requires the use of "cutting edge" technologies. It will be necessary to identify needed technologies and addressing their use locally. There may be conflicts involving export restrictions, patent and other intellectual property policy, restrictions on the use of strong encryption, etc. There may be reasons to promote or allow partnerships with foreign experts or investors.
- Changes to domestic laws, as well as recognition of some international instruments, may be helpful in resolving a variety of novel issues in electronic money. Issues that may be helpful to clarify include

⁷ *Money Laundering Using New Payment Methods*, Financial Action Task Force, October 2010, available at <www.FATF-GAFL.org> (117 pages). See also, *Standards for Money Laundering*, FATF 40 Recommendations, 2003, available at the same web site (24 pages).

"location" of electronic funds in connection with liens, setoffs and attachments. For states with abandoned property laws, questions arise as to who "owns" the money and to what extent contractual provisions can redefine ownership so as to avoid escheat obligations. Ownership by foreign operators may present special issues.

- No new technological system functions in a vacuum. If mobile payment is to be promoted, additional infrastructure development resources may be needed to support it. These may include transport infrastructure and delivery systems, customs processing, financial settlement and netting systems, judiciary and regulatory efficiency and independence, and payment system legal regulation (particularly where mobile systems have "leapfrogged" prior technologies and no appropriate payment system laws exist). There might also be a call for public education on the topic, including technical instruction as well as instruction as to legal rights. Additionally, some societies may be faced with underdeveloped corporate cultures generally, undeveloped debt, credit and equity markets, as well as undeveloped legal frameworks.

Conclusion

Mobile money and mobile payment services show promise of widespread benefit to societies but particularly to the unbanked. States and their central banks should consider the needs of the unbanked and take the opportunity to explore ways to absorb them into the mainstream through mobile commerce. Additional benefits may include the encouragement of savings and the use of banks and bank accounts. If well-managed, mobile commerce also has great potential to improve and expand markets, create jobs and build a middle class. The considerations in this paper, while not intended to be comprehensive or applicable to every situation, may serve as a useful starting point in planning for the introduction and development of mobile money and mobile payment services.

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