MEASURING THE POTENTIAL FOR MOBILE PHONE BANKING

Introduction

Financial systems in Africa have been strengthened by a number of reforms in recent years. This has allowed banks and other players to diversify and increase their reach with new products and technology such as the mobile phone. Mobile phones are a convenient way to make electronic financial transactions, either using mobile phone companies' infrastructure independently, or in alliance with financial institutions. They are considered a fifth banking channel, after the bank branch, ATM, telephone and internet. Mobile phones reduce the cost of transactions for the provider and customer, allow new entrants into the financial sector, and offer new ways to distribute services. This has the potential to increase access to financial services.

Africa is the fastest growing mobile phone market in the world. Over the past five years the continent's mobile phone use has increased at an annual rate of 65%, almost double that of the rest of the world. The subscriber base in 2006 was estimated at 152-million users.[1] This rapid spread means that the number of users may already exceed the number of banked people in many low-income countries. This implies that increasing access to financial services by using mobile phones may have **transformational** effects, defined as the provision of financial services in such a way that unbanked people are targeted.[2]

Additive mobile banking (m-banking) models, such as those offered by First National Bank in Southern Africa or ABSA in South Africa, are when the mobile phone is another channel through which to operate an existing bank account for some functions, alongside or instead of internet or ATM. These models help to enhance access to existing clients.

This paper uses information from the FinScope™ Zambia survey conducted in 2005[3] to assess the extent to which mobile phones may have transformational or additive potential in Zambia. Specifically, the paper analyses whether adults (16 years and older) in the country use mobile phone-based financial services; how they view the technology; how they conduct transactions; their access to and use of mobile phones; and if the present banking products meet the needs of the potential consumer market or whether there is the opportunity for mobile banking solutions to enhance access to financial services.

M-banking in Zambia

Mobile payments (m-payments) and mobile commerce (m-commerce) refer to the use of mobile phones for financial transactions such as retail payments and person-to-person transfers only, based on technologies such as short-messaging service (SMS) or Java. M-banking refers to the delivery of banking services through mobile phones. It includes m-payments but also involves access by mobile devices to the broader range of banking services, such as account-based savings or transaction products, balance enquiries, money transfers, remittances and bill payments that are linked either to the customer's own account or the service provider's account.

M-payment and m-banking solutions are starting to emerge in Zambia. CAD International, headquartered in South Africa, has been piloting Quick Pay Zoona in the Zambian cotton industry since July 2007. Zoona is an m-payments initiative that allows companies to make payments cost effectively to any mobile phone in Zambia, without the need for the person to hold a bank account. These payments are made on any network and customers then transact via their mobile phone or collect their payments from an authorised cash dealer. In addition to relationships with the formal banking sector for larger payments, Zoona uses a mass-market retail outlet as a branch network.

Celpay, owned by First Rand Bank in South Africa, offers an m-banking solution in Zambia that provides its subscribers with inter-bank transfers, airtime vending via its dealer network, mini ATM capabilities and cash on delivery with its built-in mobile ordering application. Only 0.05% of FinScope™ respondents surveyed have Celpay now and use it, and a further 0.025% have it but don't use it. The reason for this low level is that, until now, Celpay has focused on the corporate market in Zambia, though the company is now exploring ways to target the consumer market.

Consumer-focused m-banking solutions, while still in their infancy in Zambia, have both additive and transformational potential in the country.
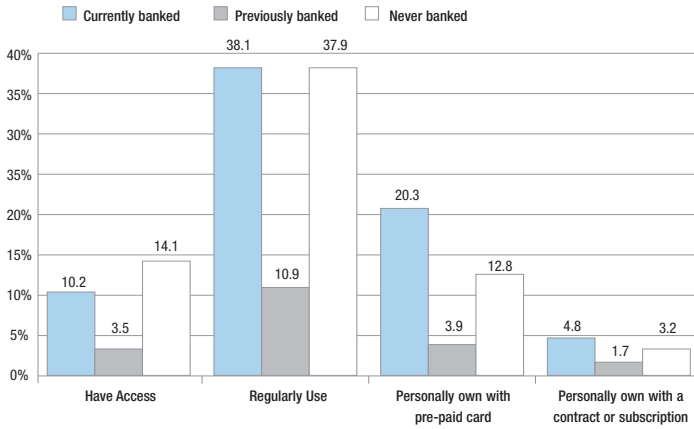
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[1] Entrepreneurial programming and research on mobiles, Massachusetts Institute of Technology, 2007.
[2] Porteous, D (2007) *Just how transformational is m-banking?* FinMark Trust, South Africa, available at http://www.finmarktrust.org.za/accessfrontier/Documents/transformational_mbanking.pdf.
[3] FinScope™ is a demand-side survey exploring how adults interact with financial markets. More information can be found at www.finscopeafrica.com.

Figure 1: Access to and regular use of mobile phones by banking status

Legend: Currently banked | Previously banked | Never banked

Data values by category:
- Have Access: 10.2, 3.5, 14.1
- Regularly Use: 38.1, 10.9, 37.9
- Personally own with pre-paid card: 20.3, 3.9, 12.8
- Personally own with a contract or subscription: 4.8, 1.7, 3.2
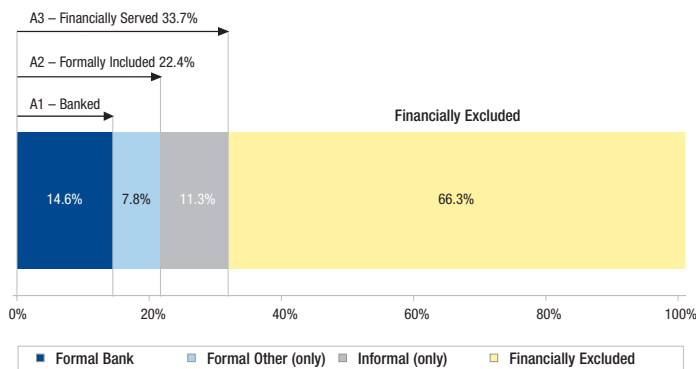
Additive potential

The additive potential of mobile banking is dependent on the size of the population that is currently banked and has access to a mobile phone. Thirty-eight percent of the currently banked survey respondents regularly use a mobile phone (see Figure 1). Most of these own their phones and pay with a pre-paid card rather than through a contract or subscription. The currently banked in urban areas have greater access to, regularly use and own mobile phones than in rural areas, with Lusaka Province having the highest access to, and regular use of, mobile phones. Currently banked men have higher access to, regularly use and own mobile phones than women. This suggests the initial market for additive m-banking solutions will be male mobile phone users in Lusaka and other urban areas.

Less than 2% of the currently banked are using phones to transfer money, a reflection of the limited availability of m-banking solutions. The success of efforts to exploit the additive potential of m-banking depends on how the currently banked view technology. Eighty-four percent of currently banked Zambians agreed with the statement, "I am prepared to learn how to use a new technology". Nevertheless, more than half would prefer to deal with a person. This suggests that properly promoted m-banking solutions could have an additive effect, though the desire for continued human interaction must not be underestimated.

Transformational potential

Transformational m-banking models target the unbanked and can be distinguished as either alliance or independent models. Examples of **alliance models** include MTN Banking and WIZZIT in South Africa. These bundle the opening of a new bank account with m-banking features that can be used to access statements and balances, conduct electronic transfers to any bank account or text money directly to an individual, who can then withdraw cash from a branch or retail agent using their mobile phone.
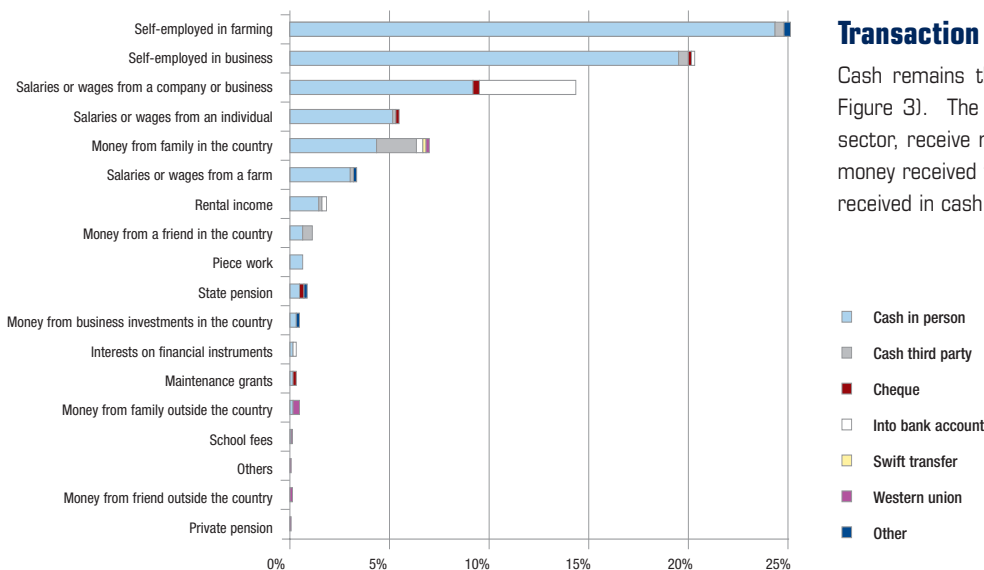
Figure 2: Access to financial services in Zambia

A3 – Financially Served 33.7%
A2 – Formally Included 22.4%
A1 – Banked
Financially Excluded

Formal Bank 14.6% | Formal Other (only) 7.8% | Informal (only) 11.3% | Financially Excluded 66.3%

Source: Peachy & Munro (2007)

Independent models include Zoona in Zambia and M-Pesa in Kenya, which use existing mobile communications infrastructure and do not require their clients to open a bank account. These independent models are usually driven by new players with different target markets from banks. They use new distribution networks for cash transactions such as airtime merchants and other retail outlets, and tend to be cheaper than conventional banking.

The transformational potential of mobile phone-based financial service solutions has significant potential at the consumer level in Zambia as most Zambians, 78%, are currently unbanked, with two thirds being financially excluded – that is, they have no access to any formal or informal financial services (see Figure 2).

Figure 3: Ways of receiving income

Categories (top to bottom):
Self-employed in farming
Self-employed in business
Salaries or wages from a company or business
Salaries or wages from an individual
Money from family in the country
Salaries or wages from a farm
Rental income
Money from a friend in the country
Piece work
State pension
Money from business investments in the country
Interests on financial instruments
Maintenance grants
Money from family outside the country
School fees
Others
Money from friend outside the country
Private pension

Legend:
Cash in person
Cash third party
Cheque
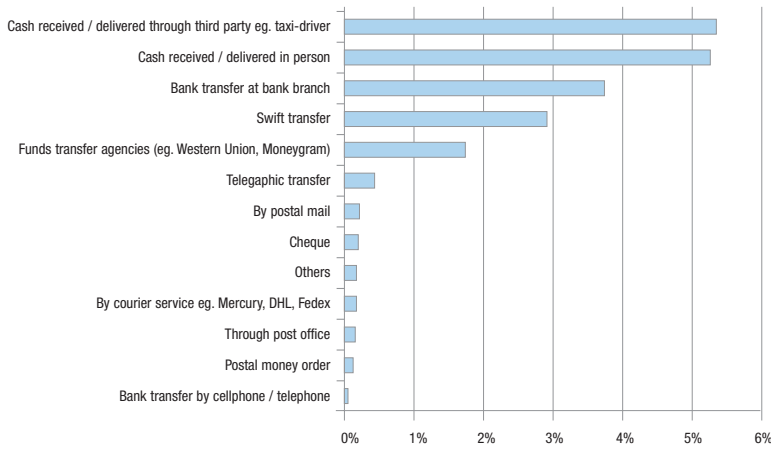Into bank account
Swift transfer
Western union
Other

Transaction banking

Cash remains the main way of receiving income in Zambia (see Figure 3). The self-employed, most of whom are in the informal sector, receive most of their money in cash. A high proportion of money received from employment in a company or business is also received in cash.

**Figure 4: Ways of sending and receiving money**

Category	
Cash received / delivered through third party eg. taxi-driver	
Cash received / delivered in person	
Bank transfer at bank branch	
Swift transfer	
Funds transfer agencies (eg. Western Union, Moneygram)	
Telegaphic transfer	
By postal mail	
Cheque	
Others	
By courier service eg. Mercury, DHL, Fedex	
Through post office	
Postal money order	
Bank transfer by cellphone / telephone	

Most of the surveyed respondents who send or receive money rely primarily on cash-based methods, either through third parties or personally. This is followed by bank-based methods and then remittance agencies such as Western Union and MoneyGram (see Figure 4).

The main reasons why the respondents surveyed prefer to use cash-based modes of delivery are ease of use, convenience and speed. However recent research has found that in countries where most transactions are conducted on a cash basis and have high mobile phone use, m-banking solutions have a strong possibility of success. This is because of the increased safety and accountability that these solutions offer relative to cash-based financial transactions.

Access to and use of mobile phones

People who are currently banked, who also have higher incomes, own the most mobile phones (see Figure 1). Surprisingly, those who have never been banked make as much regular use of mobile phones as those who are currently banked.

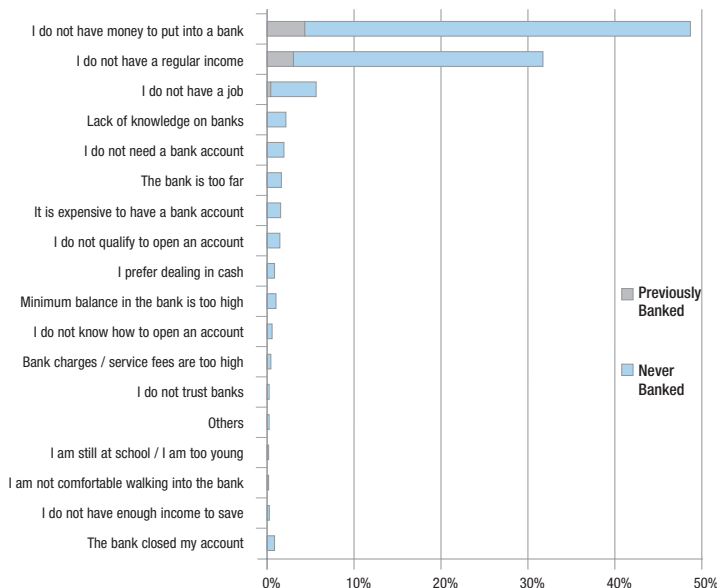**Figure 5: Unbanked access to and regular use of mobile phones by province**
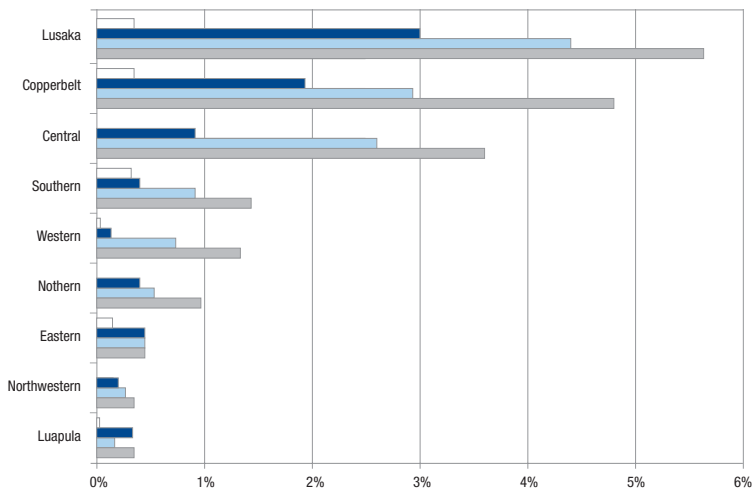
The unbanked in urban areas have higher access to, and regular use of, mobile phones in Zambia than the unbanked in rural areas, with Lusaka Province having the highest access to, and regular use of, mobile phones compared with other provinces (see Figure 5). Unbanked males and females tend to have about the same access to, and regular use of, mobile phones.

The relatively high use of mobile phones among the unbanked suggests that m-banking solutions have transformational potential, particularly among users in Lusaka and other urban areas.

Legend:
- Personally own cellphone with contract or subscription
- Personally own cellphone with pre-paid
- Regularly use cellphone
- Have access to cellphone

Figure 6: Reasons for not having a bank account

Reason	
I do not have money to put into a bank	
I do not have a regular income	
I do not have a job	
Lack of knowledge on banks	
I do not need a bank account	
The bank is too far	
It is expensive to have a bank account	
I do not qualify to open an account	
I prefer dealing in cash	
Minimum balance in the bank is too high	
I do not know how to open an account	
Bank charges / service fees are too high	
I do not trust banks	
Others	
I am still at school / I am too young	
I am not comfortable walking into the bank	
I do not have enough income to save	
The bank closed my account	

Legend: Previously Banked, Never Banked

## Potential for non-bank m-banking service providers

M-banking solutions do not necessarily have to be provided through banks. Rather, to realise the transformational potential of mobile banking, innovative new players must be encouraged. These solutions can be offered through any of Zambia's mobile phone companies – Celtel, Cel-Z or MTN – with their success hinging on them offering a solution that addresses gaps not being filled by banks at present. It is useful to understand why the unbanked population do not use financial services to help identify these gaps.

The most common reasons why the previously banked and never banked are not banked are because they do not have money to put into a bank, a regular income or a job (see Figure 6). Current bank products are often designed for salaried people with regular incomes rather than for most of the population who have irregular incomes, mainly from self-employment.

In the absence of bank products that cater for the self-employed, an m-banking solution that targets this group may have some success. While salaried employees have the greatest access to, and use of, mobile phones, the self-employed also have significant access and use (see Figure 7).

Figure 7: Access and use of mobile phones for salaried vs self-employed workers
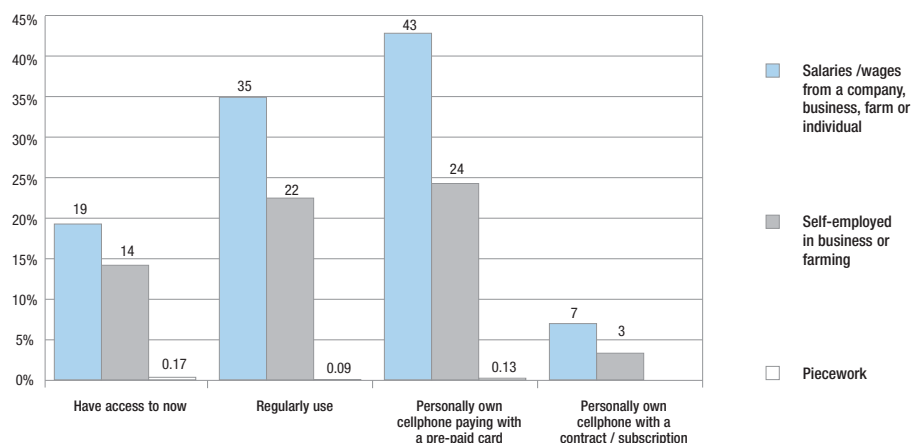
Lack of knowledge about banks ranks fourth among the top reasons why unbanked people do not have bank accounts (see Figure 6). An m-banking solution will therefore need to address this knowledge gap through aggressive marketing to maximise success.

Physical proximity is another reason why the unbanked population is so big in Zambia. The convenience of m-banking, which uses existing mobile phone networks that extend beyond bank branch networks, could therefore be a solution for both the unbanked and currently banked population who may no longer need to use scarce time and financial resources to travel to distant bank branches.

Regulatory environment

The success of m-banking solutions in Zambia is dependent on an enabling regulatory environment. M-banking sits at the overlap of several regulatory domains – banking, telecommunications, payment systems and anti-money laundering. Mitigating the risk of inconsistent or contradictory legislation as a result of this overlap requires a comprehensive vision for market development by policymakers, regulators and industry players.

Such a vision will help address issues such as:

- Interoperability across mobile operators – to ensure that m-banking transactions can be conducted across different mobile phone networks; and
- Resolving conflicts between mobile operators and banks – to allow m-banking providers to attain critical mass beyond small, geographical markets or specific value propositions.

As a minimum, a two-tier framework of regulatory principles is necessary for m-banking to thrive. The first tier is needed for m-banking to happen on any scale and includes: sufficient certainty around electronic contracting; adequate customer protection against fraud and abuse; interoperability through appropriate access to payment platforms; and the ability of consumers to switch financial providers easily.

The second tier includes: risk-based, customer due diligence procedures for account opening that do not prejudice remote and small customers; the ability for customers to make deposits and withdraw cash through agents and remote points outside bank branches; and adequate provisions for the issuance of e-money by appropriately capitalised and supervised entities that need not necessarily be banks.

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