

The potential for mobile phone banking in Zambia

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FinScope™ Zambia is a survey carried out on a nationally representative sample of Zambian adults (aged 16 and above) which profiles the demand for financial services. FinScope™ Zambia 2005 was carried out as an integral part of the government of the Government of the Republic of Zambia's Financial Sector Development Plan (FSDP). Funding was provided by the Department for International Development (DFID) and the Swedish International Development Cooperation Agency (Sida). FinMark Trust provided technical support. The analysis in this report is based on the survey findings. More information is available at www.finscopeafrica.com.











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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 their activities, deepen their lending and increase their reach with new products and technology.[1] One of these is the mobile phone. Mobile phones – also known as cellular phones or cellphones – offer a convenient way for initiating and executing electronic financial transactions, either using mobile phone companies' infrastructure independently, or in alliance with financial institutions' infrastructure. Mobile phones reduce the cost of financial transactions for the provider and customer, allow new entrants into the financial sector, and new relationships to be formed for distributing services. This has the potential for increasing access to financial services.[2]

More than 800-million mobile phones were sold in developing countries between 2003 and 2006. The device is the first communications technology to have more users in developing countries than in developed ones.[3] Africa has the fastest growing mobile phone market in the world, according to African Mobile Handset Market Analysis. The continent's subscriber base grew by 66% in 2005 to 135-million users, compared with growth of only 11% in Western Europe during the same period.[4]

The rapid spread of mobile phones on the continent means that the number of users may already exceed the number of banked people in many low-income countries.[5] 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.[6] In areas where the provision of financial services through the mobile phone channel is not widespread, increased use of the channel may have additive effects as well, defined as mobile phone-based financial services provided as an additional offering to banked individuals through their financial institutions.[7]

This paper aims to assess if the mobile phone has any additive or transformational potential in Zambia. It uses information from the nationally representative FinScope™ survey conducted in Zambia in 2005[8] to analyse 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 an opportunity for m-banking solutions to be provided by other service providers besides banks. The aim is to understand the dynamics of the m-banking, transaction banking and mobile phone market and through this identify possible barriers to, and opportunities for, m-banking in Zambia.

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[1] World Bank (2006) *Making finance work for Africa,* Washington DC, The World Bank, Africa Region

[2] Porteous, D (2006) *The enabling environment for mobile banking in Africa,* Department for International Development report by Bankable Frontier Associates, Boston

[3] GSM Association (2006) *GSM Hits Two Billion Milestone,* London GSM Association, June 2007

[4] Timewell, S (2007) *Retail Banking,* The Banker, London

[5] Porteous (2006) ibid

[6] 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

[7] Although additive effects have no implications for increasing access to financial services, they reduce costs for financial institutions and providers

[8] See www.finscopeafrica.com

M-BANKING IN ZAMBIA

Mobile payments (m-payments) and mobile commerce (m-commerce) refer to the use of mobile phones to conduct financial transactions such as retail payments and person-to-person transfers only, based on various technologies, for example short-messaging service (SMS) or Java. Mobile banking (m-banking) refers to the delivery of banking services through mobile phones.[9] 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 offered by banks, for example 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-payments and m-banking are subsets of the broader domains of e-payments and e-banking respectively.[10]

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 in the Katete and Choma areas since July 2007. Zoona is designed as an m-payments initiative that allows companies to make payments cost effectively to any cellphone in Zambia, without the need for the individual to hold a bank account. These payments are made on any network and customers can 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.[11]

Zoona represents an exciting new frontier in the m-payments industry in Zambia. However, this focus note does not assess the Zoona m-payments service in more detail because it was not included in the FinScope™ 2005 survey.

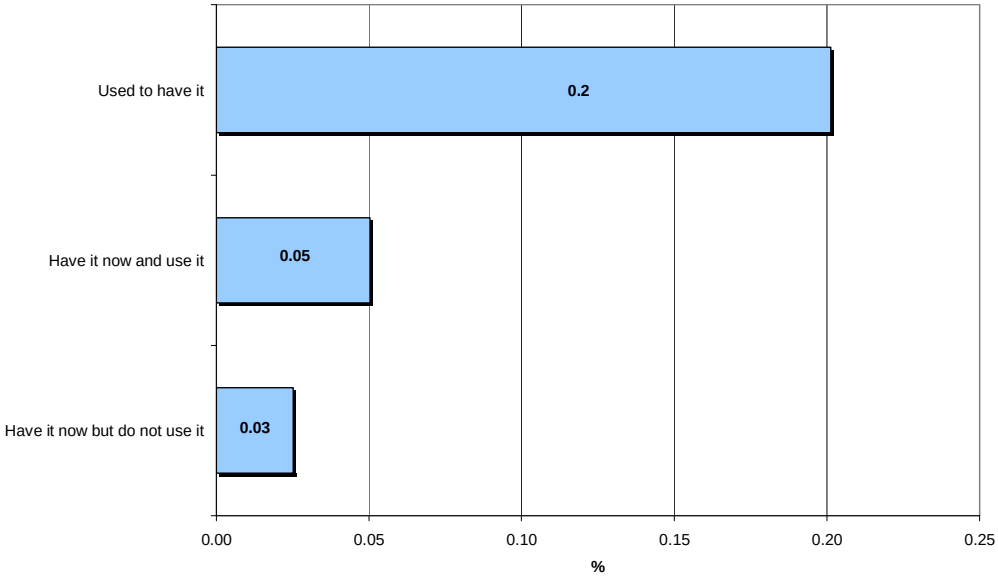
[9] Mobile phone banking is differentiated from mobile banking, which can occur through any mobile devise as opposed to mobile phones solely

[10] Ivatury, G. & Pickens, M. (2006) *Mobile phone banking and low-income customers: Evidence from South Africa,* Consultative Group to Assist the Poorest, United Nations Foundation and Vodafone Group Foundation; Porteous, D. and Wishart, N. (2006) *m-Banking: A Knowledge Map.* Washington, DC infoDev/WorldBank. Available at: http://www.infodev.org/en/Publication.169.html; Industrial and Commercial Bank of China (2007) Notice on ICBC Mobile Banking (Short Message) Business: http://www.icbc.com.cn/e_icbcmodule/thirdindex.jsp?column=E-banking%3EMobile+Banking%3ENotice

[11] McGrath, B (2007) *Zoona: Mobile movements,* Presentation CAD International, Zambia

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 automated teller machine (ATM) capabilities and cash on delivery with its built-in mobile ordering application.[12] However only 0.05% of respondents surveyed have Celpay now and use it, and 0.025% have it but don't use it (see Figure 1).

Figure 1: Celpay use



The reason for this low level of penetration is that, in Zambia, Celpay has focused on the corporate market, with its services consisting mainly of business to business (B2B) transactions. Celpay has not yet undertaken any marketing campaign aimed at consumers, but plans to do so.[13]

Consumer-focused m-banking solution, while still in their infancy, has both additive and transformational potential in Zambia.

[12] Fundamo, (2006) Celpay Zambia upgrades technology to directly answer African population requirements, Fundamentally mobile banking: Mobile solutions for banking and transacting: http://www.fundamo.com/index.asp?pgid=45\

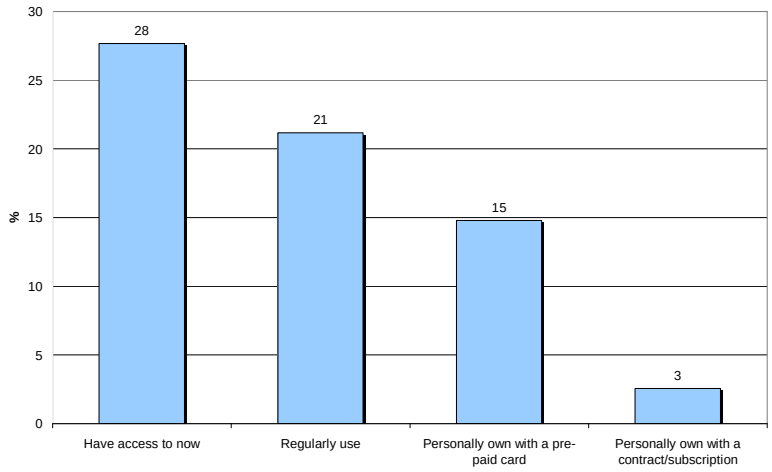
[13] Mulambo, M (2007) *Celpay* Presentation and making finance work for Africa Conference, World bank and Bank of Zambia, Zambia

ADDITIVE POTENTIAL

Additive 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, alongside or instead of internet or ATM, for some functions.[14]

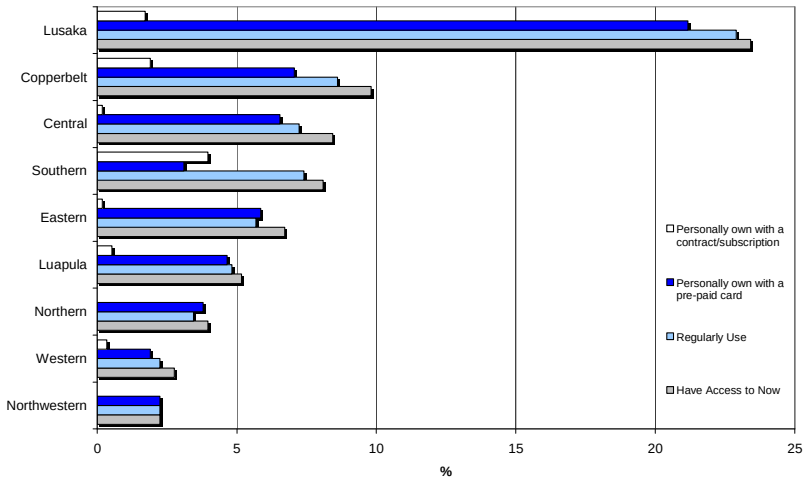
To assess the additive potential of mobile banking in Zambia it is useful to analyse access to and use of mobile phones among the currently banked. Twenty-eight percent of survey respondents have access to a mobile phone (see Figure 2). Most of those who own mobile phones pay with a pre-paid card rather than with a contract or subscription.

Figure 2: Access and use of mobile phones in Zambia



Respondents in Lusaka province have the highest access to mobile phones, and regularly use them (See Figure 3).

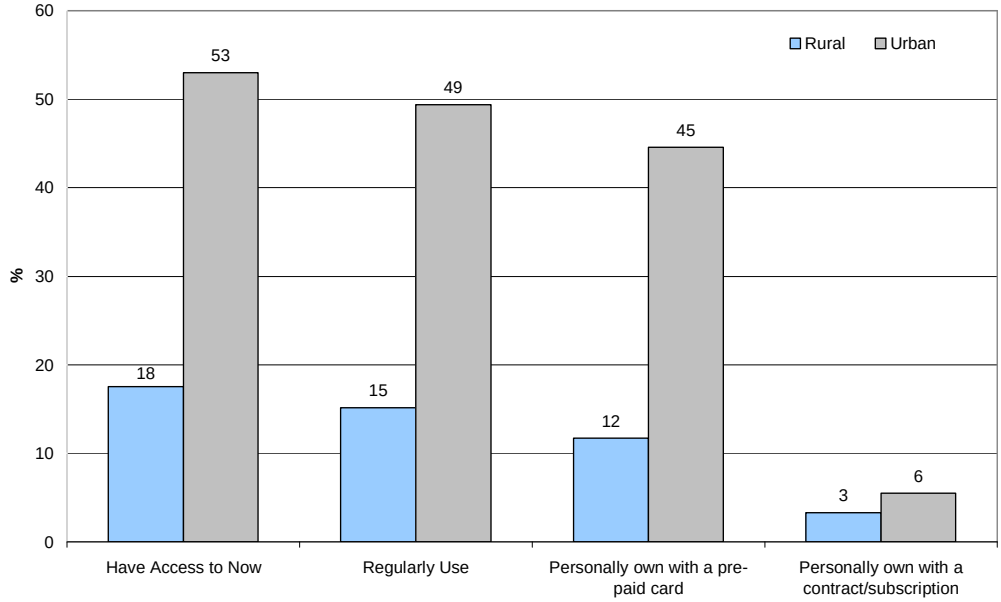
Figure 3: Currently banked access to and use of mobile phones by province



[14] Porteous (2007) ibid

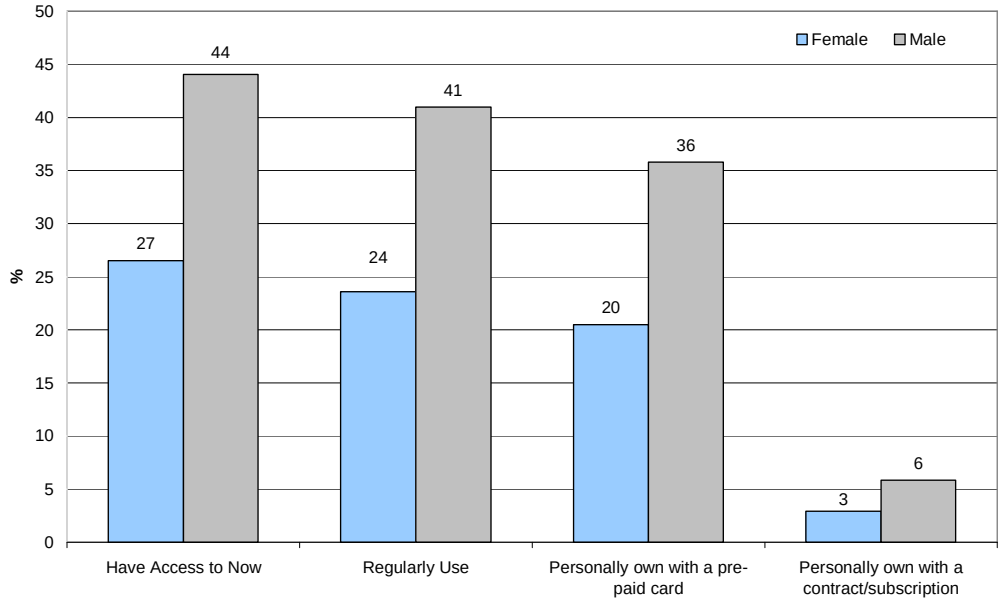
The currently banked respondents in urban areas have access to, regularly use and own mobile phones more than in the rural areas (see Figure 4).

Figure 4: Currently banked access and usage of mobile phones by location



Currently banked male respondents have higher access to, regularly use and own mobile phones, more than their female counterparts (See Figure 5).

Figure 5: Currently banked access to and use of mobile phones by gender

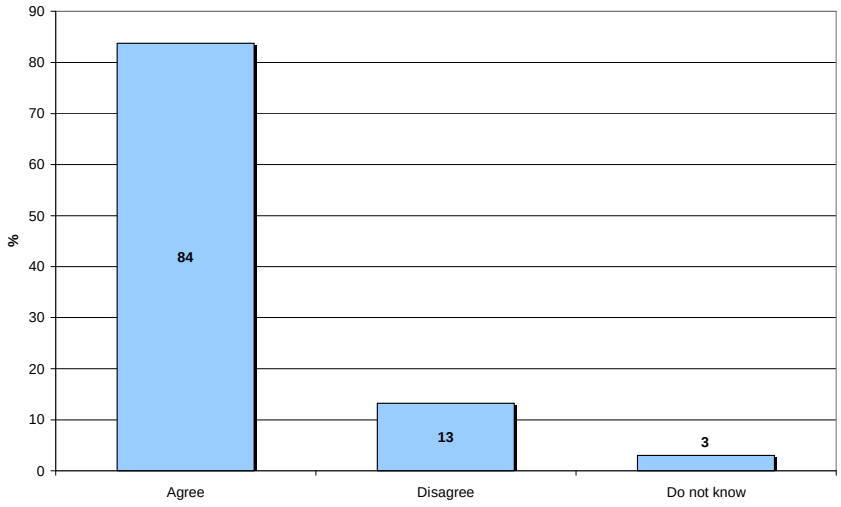


This suggests that to realise the additive potential of m-banking in Zambia, initial efforts should focus on urban areas in Lusaka province with special attention paid to male mobile phone users.

The success of efforts to exploit this additive potential depends to a large extent on how technology is viewed by the currently banked. Analysing these perceptions provides insight into whether this potential market would be attracted to a well-promoted m-banking solution.

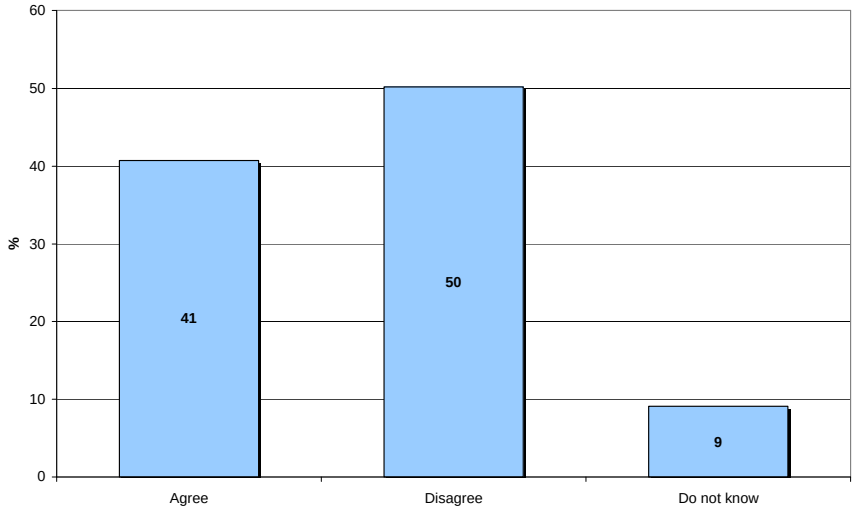
Most currently banked Zambians would be willing to learn to use a new technology if introduced (see Figure 6). This suggests that properly promoted m-banking would have an additive effect.

Figure 6: I am prepared to learn how to use a new technology – Currently banked



However, the view among the currently banked on whether banks force them to use technology (see Figure 7) is balanced between those who agree and disagree. Given this, efforts to exploit the potential additive effect will need a promotion campaign that takes this into account.[15]

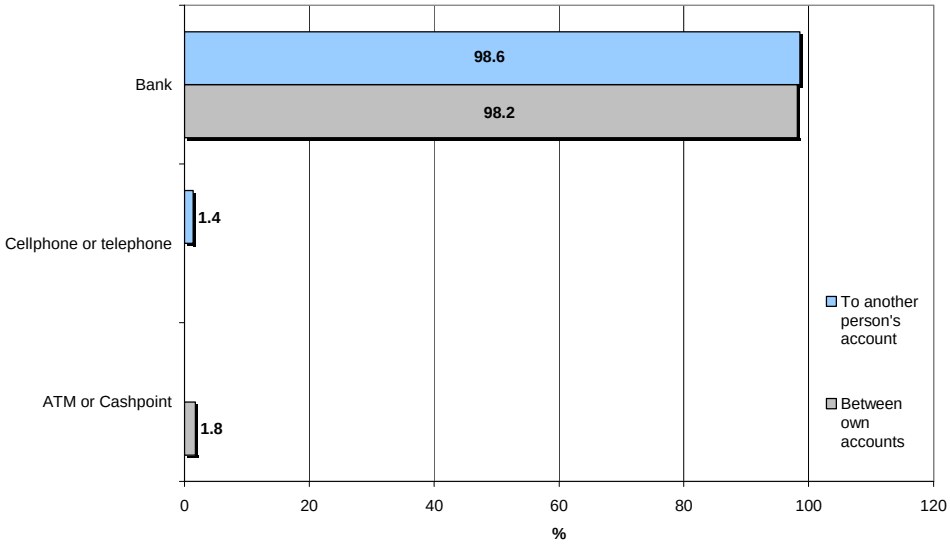
Figure 7: Banks force me to use technology – Currently banked



[15] Leach, J. et al. (2007) Press Release: *Cellphone banking transforms the unbanked into bankers*, South Africa: FinMark Trust

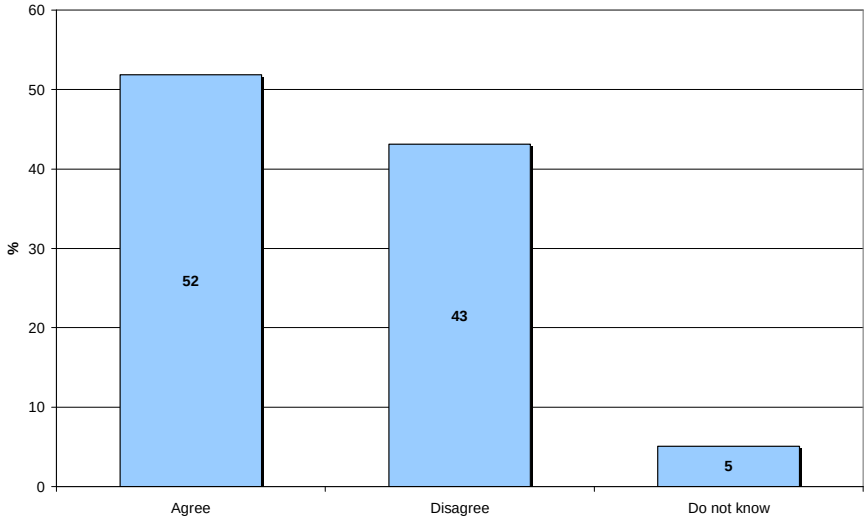
The percentage of currently banked respondents who use mobile phones or land-line telephones to transfer money only do so to another person's account, and mostly use banks, ATMs or cash points to conduct money transfers between their own accounts (see Figure 8). This also indicates that an additive effect of m-banking in Zambia exists as it shows that they do not have wide access to a mobile banking option at present.

Figure 8: Money transfer modes – Currently banked



However, the additive potential of m-banking will always be tempered by the ever present need for the personal interaction that can be provided by a branch or retail agent. Most currently banked Zambians value some human interaction with their bank even when faster technologies exist (see Figure 9).

Figure 9: Even if a device is quicker, I would rather deal with a person than the device – Currently banked



TRANSFORMATIONAL POTENTIAL

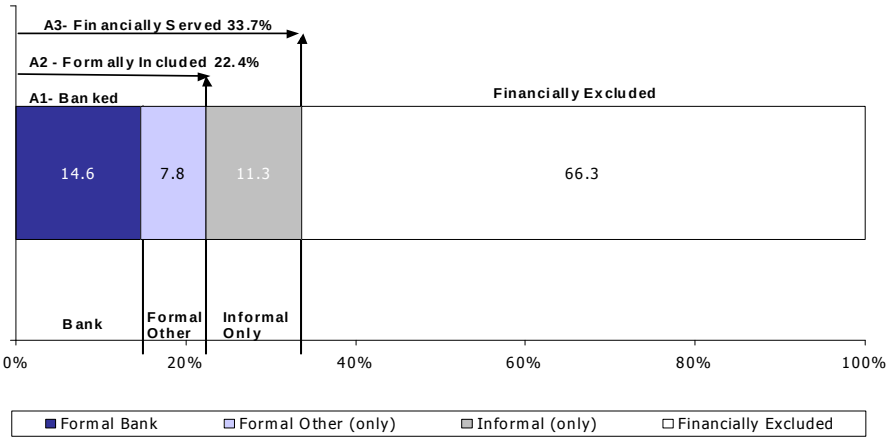
Transformational m-banking models target the unbanked and can be distinguished as either alliance or independent models.

Alliance m-banking models include MTN Banking and WIZZIT in South Africa.[16] 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 is notified of the transaction via the mobile phone and can then withdraw cash from a branch or retail agent.

Independent m-banking models include Zoona in Zambia and M-Pesa in Kenya.[17] The transformation potential of these m-banking models is bolstered by the fact that they do not require their clients to open a bank account and use existing mobile communications infrastructure, which already reaches unbanked people, to provide access to m-banking services. These independent models are usually driven by new players with different target markets from banks; harness the power of new distribution networks for cash transactions such as airtime merchants, beyond the conventional merchant point of sale or ATM networks of banks; and tend to be cheaper than conventional banking, if the offering is competitive.[18]

Most Zambians, 78%, are currently unbanked with 66% financially excluded, that is with no access to any formal or informal financial services.[19] These findings suggest that the transformational potential of mobile phone-based financial service solutions, if executed well, has huge transformational potential at the consumer level in Zambia.

Figure 10: Access to financial services in Zambia



Source: Peachy & Munro (2007)

[16] Alliance banking models are where a telco (MTN) or a third party (WIZZIT) ally with a bank (Standard and Bank of Athens respectively) to provide a separately branded and marketed basic transactional bank account with a debit card but rely heavily on existing channels such as ATMs or branches for top-up or cash withdrawals (Porteous 2007 ibid.)

[17] Lonie, S. (2007) M-Pesa: Presentation at making finance work for Africa conference, Zambia: World Bank and Bank of Zambia

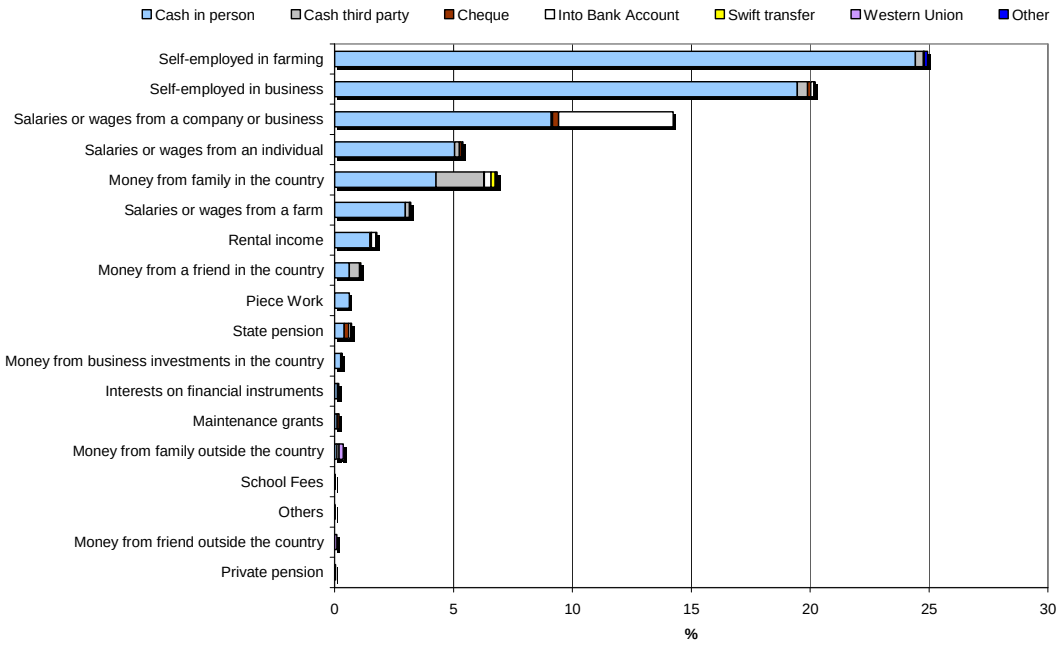
[18] Porteous (2006) ibid.

[19] Peachy, S. & Munro, J. (2007*) Access to Financial Services in Zambia*, Presentation at making finance work For Africa conference, Zambia: World Bank and Bank of Zambia

Transaction banking

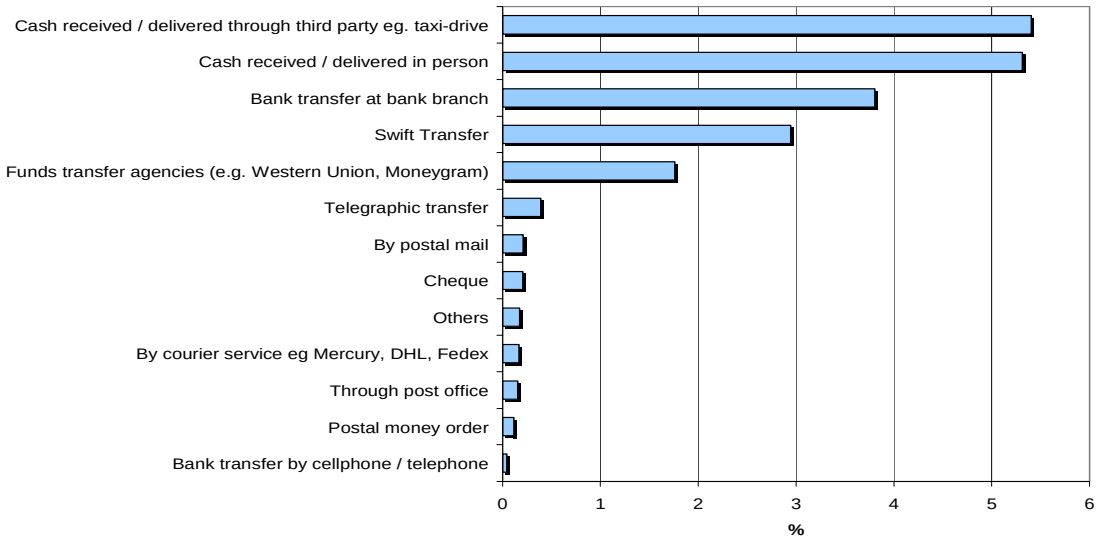
Cash remains the main way of receiving income in Zambia (see Figure 11). In fact the self-employed, most of whom are in the informal sector, receive most of their money in cash. Surprisingly, a high proportion of money received from employment in a company or business is also received in cash.

Figure 11: Ways of receiving income



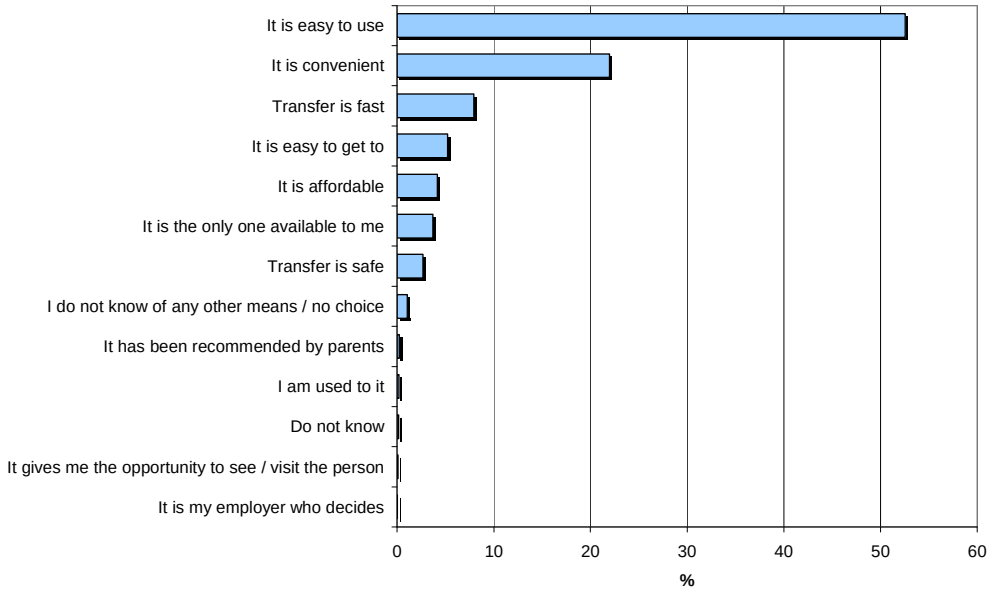
Most of the surveyed respondents who send or receive money rely primarily on cash-based methods, either through third parties or personally. This is followed by bank-based methods and then remittance agencies such as Western Union and MoneyGram (see Figure 12).

Figure 12: Ways of sending and receiving money



The main reasons why the respondents surveyed prefer to use cash-based modes of delivery are ease of use, convenience and speed (see Figure 13).

Figure 13: Reasons for choosing main method of sending money



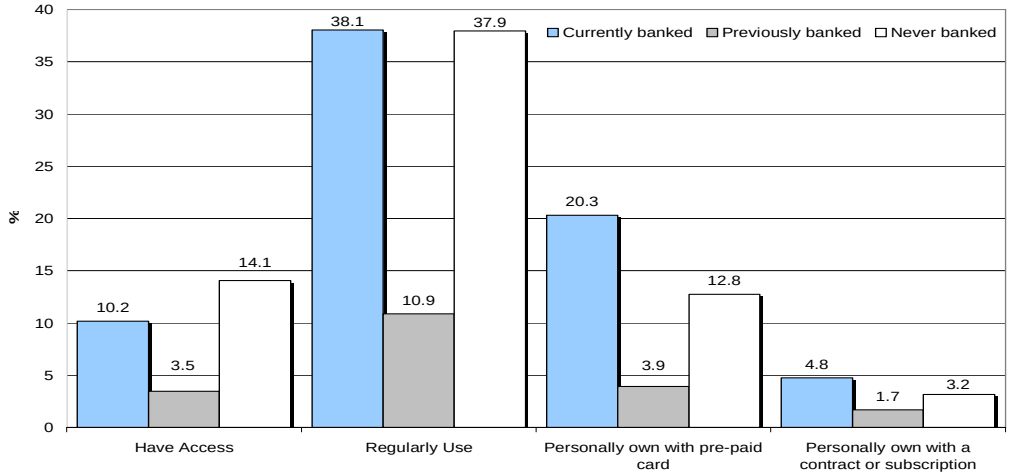
Recent research has found that in countries where most transactions are conducted on a cash basis and have high mobile phone use, m-banking solutions have a strong possibility of success. This is because of the increased safety and accountability that they offer relative to cash-based forms of conducting financial transactions.[20]

[20] Booz Allen. 2003. *Processing Cost per Transaction*. New York: Booz Allen; BAI. 2004. *Transaction Cost per Distribution Channel*. Chicago: BAI.

Access to and use of mobile phones

People who are currently banked, who also have higher incomes, own the most mobile phones. Surprisingly, those who have never been banked have the most access to mobile phones and make as much regular use of it as those who are currently banked (see Figure 14). The relatively high access to, and regular use of, mobile phones among the unbanked suggests that m-banking solutions have transformational potential.

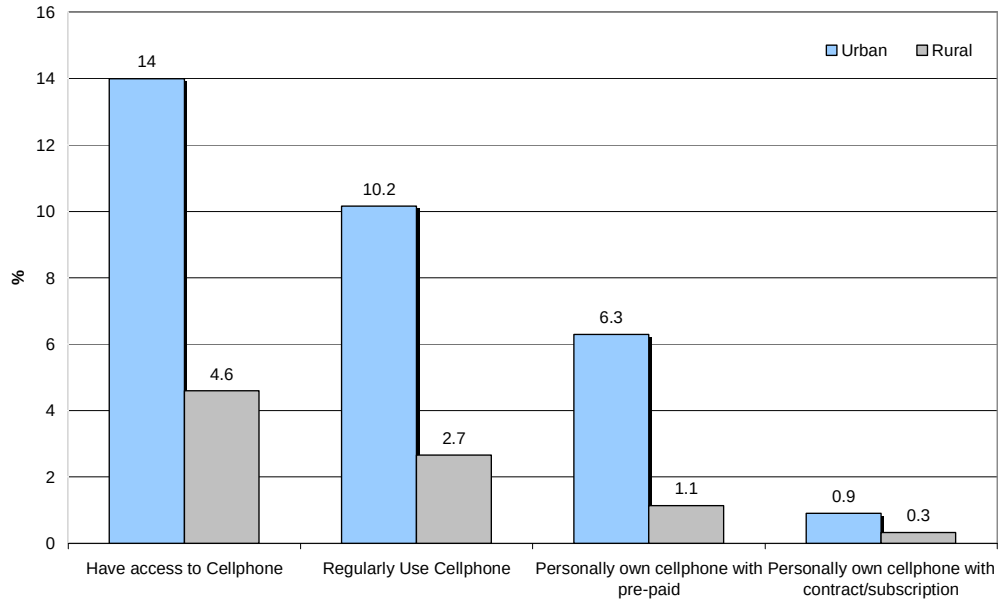
Figure 14: Access to and regular use of mobile phones by banking status



To better understand the transformational potential of an m-banking solution in the Zambian environment it is important to understand the unbanked, including the previously banked, population that has access to, regularly uses and owns mobile phones.

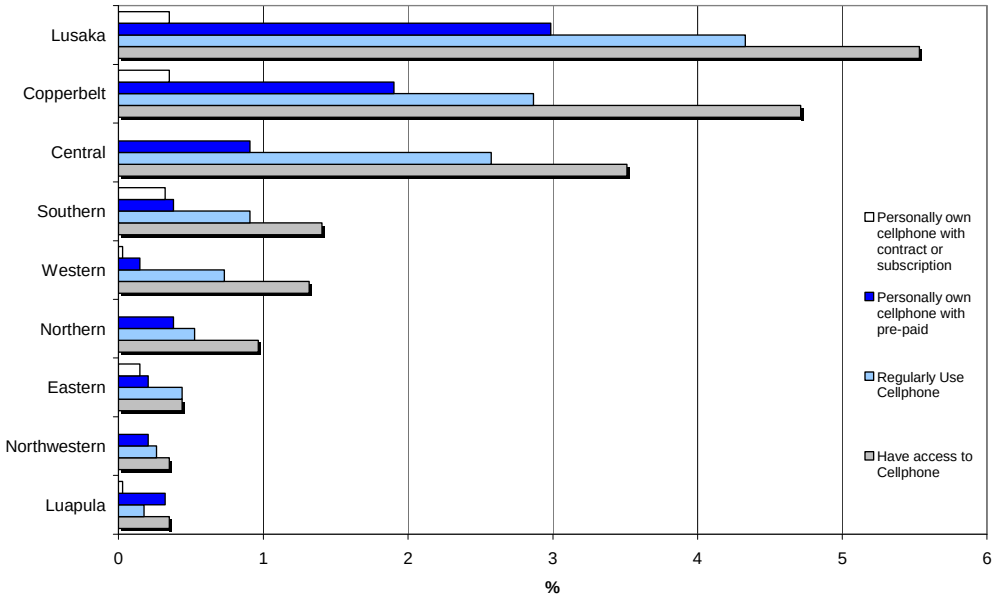
The unbanked in urban areas have higher access to and regular usage of mobile phones in Zambia than the unbanked in rural areas (see Figure 15).

Figure 15: Unbanked access to and regular use of mobile phones by location



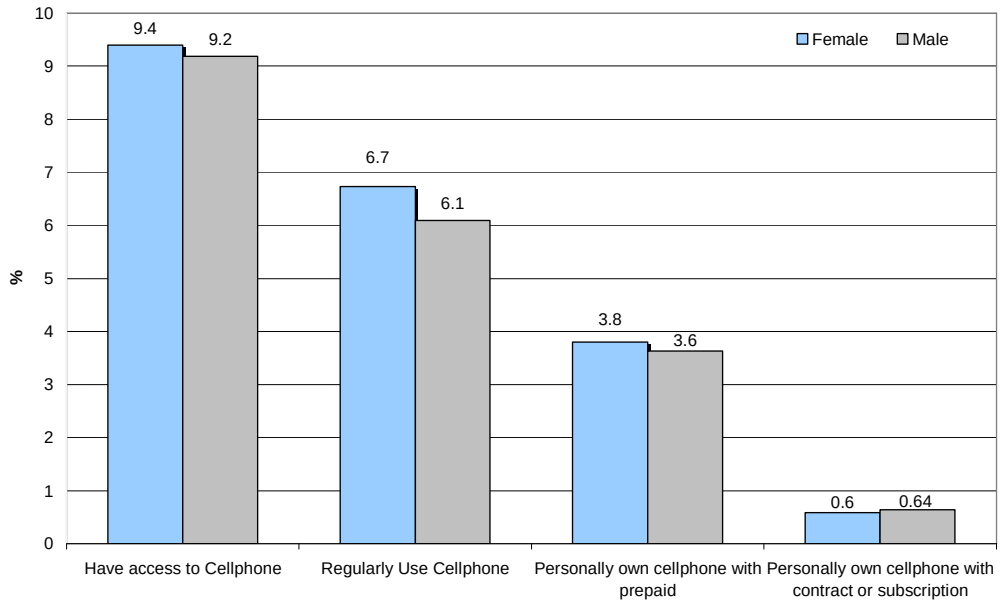
The unbanked in Lusaka Province have the highest access to, and regular use of, mobile phones in Zambia compared with the unbanked in other provinces (see Figure 16).

Figure 16: Unbanked access to and regular use of mobile phones by province



Unbanked males and females tend to have about the same access to and regular use of mobile phones (see Figure 17).

Figure 17: Unbanked access to and regular use of mobile phones by gender



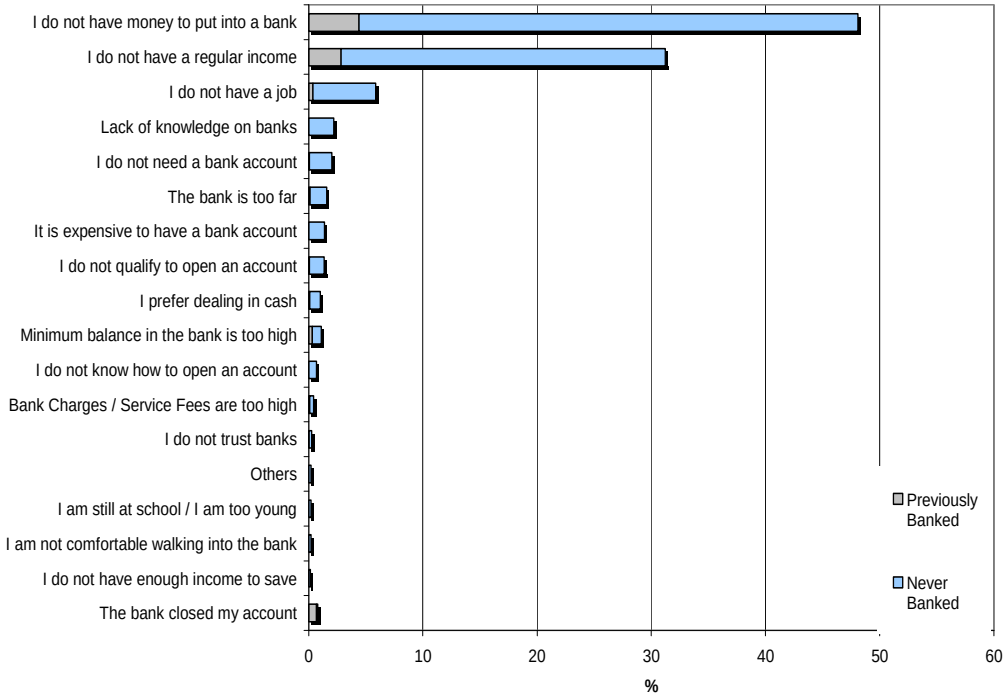
The above suggests that to realise the transformational potential of m-banking in Zambia, initial efforts should focus on all users in urban areas in Lusaka province.

POTENTIAL FOR NON-BANK M-BANKING SERVICE PROVIDERS

Zoona in Zambia and M-Pesa in Kenya highlight that 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 to compete in the market. Aside from Celpay, m-banking solutions can be offered through any of Zambia's mobile phone companies – Celtel, Cel-Z or MTN – similar to what Zoona is doing in its pilot initiative.[21] For the non-bank m-banking service providers, success will hinge on them offering a solution that addresses gaps not being filled by banks in the country.

The most common reasons why the previously banked and never banked are not banked are because they do not have money, a regular income or a job (see Figure 18).

Figure 18: Top 18 reasons for not having a bank account



These responses suggest that the current banking products offered in Zambia have barriers to their use. The responses of "I do not have money", or "I do not have a regular income", and "I do not have a job" suggest that bank accounts are designed for salaried people with regular income rather than for those who may have irregular income, mainly from self-employment.

This suggestion is bolstered by the finding that many unbanked respondents perceive that banks, relative to other financial institutions, require a permanent address and a payslip to open an account and force you to keep a minimum balance. (see Figure 19 to Figure 21).

[21] For full details on m-banking business models see Porteous (2006) ibid.

Figure 19: I agree that a permanent address is required to open account

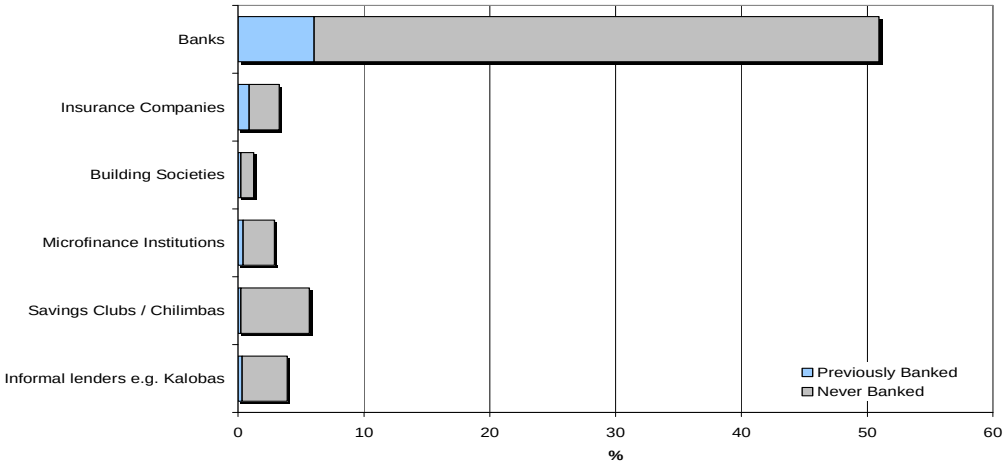


Figure 20: I agree that a payslip is required to open account

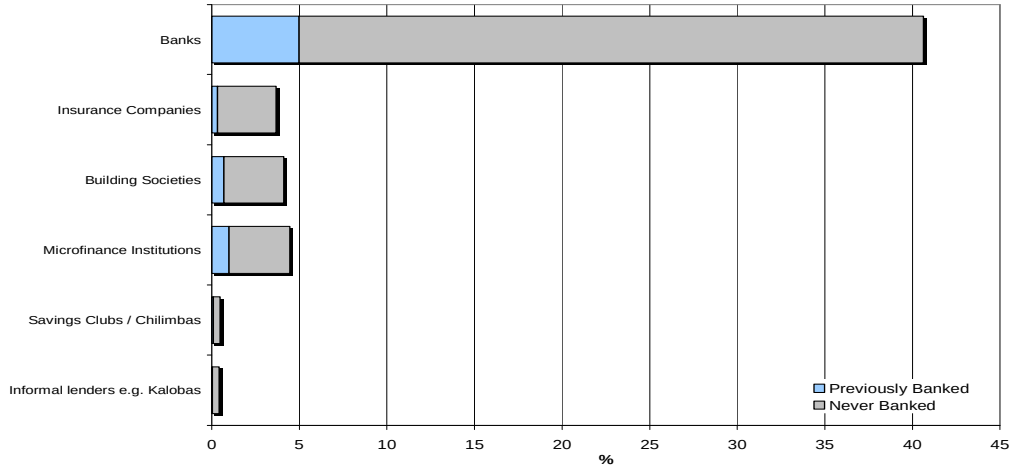
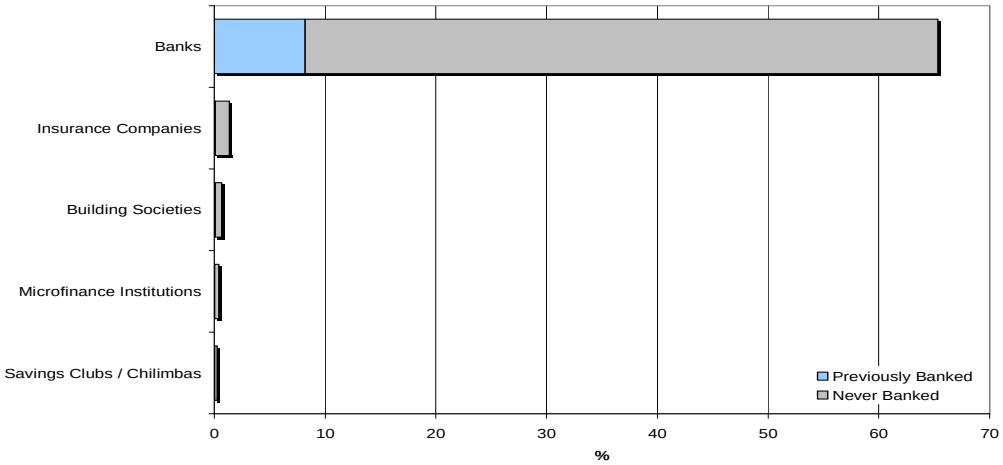
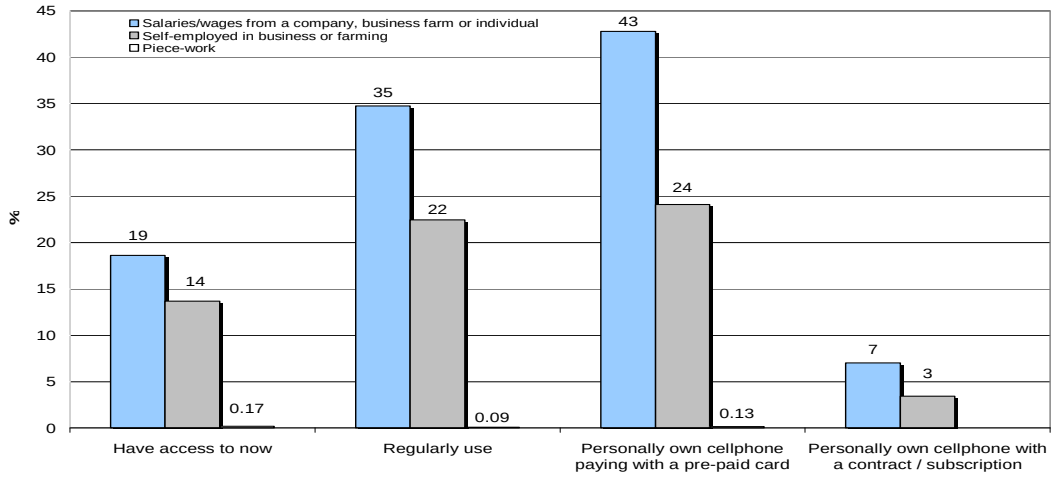


Figure 21: I agree that a minimum balance is required to maintain account



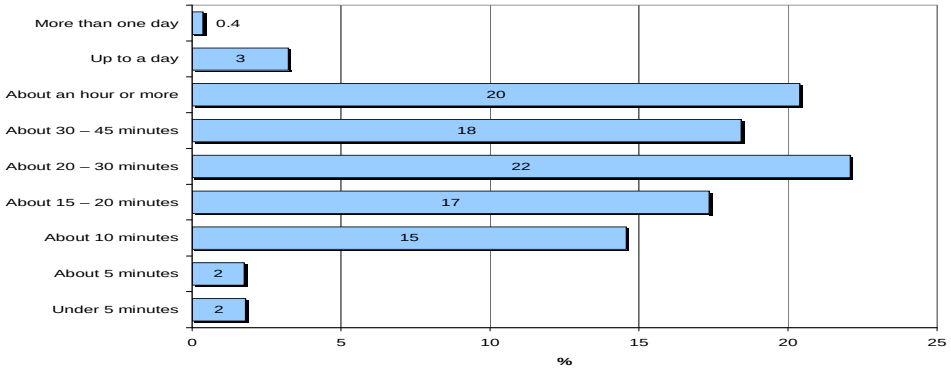
These findings suggest that, in the absence of a more flexible bank account that caters for the self-employed, an m-banking solution that targets this group may have some success in the Zambian banking environment. This is illustrated in Figure 22, which shows that although salaried employees have more access to and higher usage of mobile phones than the self-employed; the latter category also has substantial access to and use of mobile phones.

Figure 22: Access and use of mobile phones for salaried vs self-employed workers



Distance from a bank ranks sixth among the top reasons why the unbanked do not have a bank account (see Figure 18). It takes more than an hour to get to a bank for a fifth of currently banked respondents (see Figure 23). The convenience of m-banking could be a valued solution for the unbanked, or even currently banked, population who will no longer need to use scarce time and financial resources to travel to distant bank branches. The potential can be realised especially because Celtel alone covered 65% of the Zambian population in 2006, which was an increase from 55% in 2005,[22] compared to a banked population of 14.6% in 2005 (see Figure 10).

Figure 23: Time currently banked spend to get to the bank



Lack of knowledge ranks third the unbanked among the top reasons for not having a bank account in Zambia (see Figure 18). This implies that an m-banking solution should aim to overcome this barrier through aggressive marketing to ensure that a lack of information does not limit the transformational potential of m-banking in Zambia.

[22] Yakima (2007) *A growing giant* New Zambia: Economic reflections for a new and better Zambia, http://zambian-economist.blogspot.com/2007/07/rising-monopoly.html

REGULATORY ENVIRONMENT

An appropriate regulatory environment is important to realise the potential of m-banking in Zambia. This is because m-banking sits at the overlap of several regulatory domains – banking, telecommunications, payment systems and anti-money laundering.[23] This overlap raises the risk of inconsistent or contradictory legislation or regulation. Mitigating this risk 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.[24]

Porteous proposes a two-tier framework of regulatory principles. These are necessary, but may not be sufficient, for m-banking to thrive in a country.[25] The first tier is required for m-banking to happen on scale and includes: sufficient certainty around electronic contracting; adequate customer protection against fraud and abuse in an m-banking environment; 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 unduly prejudice remote account openings by 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.

[23] The risk arises due to the use of e-money held by an unregulated third party as opposed to hard cash. Current approaches to the regulation of e-money vary widely, from waiver or neglect as long as the maximum payment of balance size is low (Porteous, 2006 ibid.)
[24] Timewell ibid.
[25] Porteous (2006) ibid.

CONCLUSION

This paper explored the potential for m-banking in Zambia using data collected in the FinScope™ 2005 survey. It argues that, while consumer-focused m-banking solutions are still in their infancy in Zambia, a case for additive potential for m-banking exists in Zambia. Because of the prevalence of cash-based financial transactions and the high access to, and regular use of, mobile phones among the unbanked, m-banking has a transformational potential as well.

To realise the additive potential of m-banking in Zambia, initial efforts should focus on urban areas in Lusaka province with special attention paid to male mobile phone users. To realise the transformational potential of m-banking in Zambia, initial efforts should also focus on urban areas in Lusaka province with special attention paid to all mobile phone users.

Zoona, which is still in its pilot phase, provides a great opportunity to take advantage of the transformational potential in the m-banking space in Zambia because it does not require its clients to open bank accounts uses mobile phone company infrastructure and is establishing a network of mass-market retail agents beyond the banking infrastructure to service its clients. However, further research is needed to determine if it should focus on companies and rely on them to sign up their customers or if it should focus on establishing a consumer-driven growth model.

As m-banking sits at the overlap of several regulatory domains – banking, telecommunications, payment systems and anti-money laundering – it is important to design a regulatory environment that is aimed at ensuring that both the additive and transformational potentials are realised.

The FinScope™ 2005 survey is aimed at exploring access to financial services as opposed to m-banking, specifically. The m-banking survey piloted by FinMark Trust in South Africa in 2006 allows a deeper understanding of m-banking in general and perceptions surrounding its use or non-use, which is of value to understanding the potential of m-banking in Zambia. This could help answer questions raised in this focus note such as to why a higher proportion of Celpay users used to have it but no longer do, and whether or not Zambian adults conduct airtime transfers between urban and rural areas.

Mobile phones are a fifth banking channel, after the branch, ATM, telephone and internet. They are flexible and functional when linked to an ATM network and can be positioned as a remote control for finances to provide a wider range of financial services outside the banking network. To realise their potential in Zambia, energetic financial entrepreneurs, prepared to integrate mobile phone technologies that have proved effective in isolated pilots on the continent into the financial service delivery environment in the country, will be needed for wider roll-out.[26]

[26] Timewell ibid. and World Bank ibid.