

# AN OVERVIEW OF THE MOBILE PHONE BANKING INDUSTRY

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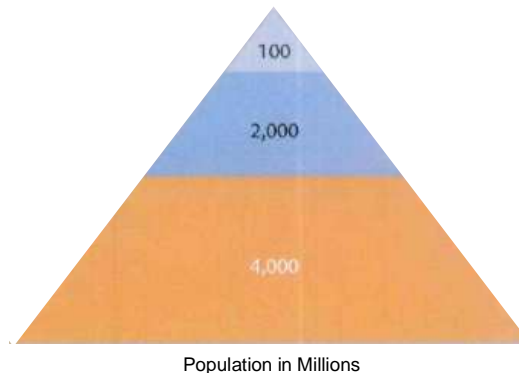
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## INTRODUCTION

From a demographic perspective, the developed world represents an ever-shrinking portion of the world market. There are now more than 6 billion people on the planet. Measured in purchasing power ability there are around 4 billion people in the world with an income per capita below \$3,000 per year. This represents two thirds of the population. According to World Bank projections, this 4 billion population could become 6 billion by 2040.



Source: Allen Hammond, William Kramer, Robert Katz, Julia Tran and Courtland Walker, "The Next 4 Billion", World Resources Institute and International Finance Corporation, 2007

These four billion people constitute the Base of the Pyramid (BoP). New studies<sup>1</sup> and empirical evidence suggest that their consumer behavior and aggregate purchasing power represent a significant opportunity for market-based approaches to meet their needs, increase their productivity and incomes and empower their entry into their formal economy, while providing a venue for

<sup>1</sup> Some of these studies are C.K. Prahalad and Allen Hammond, "Serving the World's Poor, Profitably", Harvard Business Review, September 2002; C.K. Prahalad and Allen Hammond, "What works: Serving the poor, profitably", Markle Foundation and World Resources Institute, January 2002; C.K. Prahalad and Stuart Hart, "The Fortune at the Bottom of the Pyramid", Strategy + Business, Winter 2002; C.K. Prahalad, "The Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits", Wharton School Publishing, 2006; Vijay Mahajan and Kamini Banga, "The 86% Solution: How to Succeed in the Biggest Market Opportunity of the 21<sup>st</sup> Century", Wharton School Publishing, 2005; World Business Council for Sustainable Development, "Doing Business with the poor: A Field Guide", 2005; John Weiser, Michele Kahane, Steve Rochlin, Jessica Landis, "Untapped: Creating Value in Underserved Markets", Berrett-Koehler Publishers, 2006; Kasturi Rangan, John A. Quelch, Gustavo Herrero, Brooke Barton (eds) "Business Solutions for the Global Poor: Creating Social and Economic Value", Jossey-Bass, 2007; Stuart L. Hart "Capitalism at the Crossroads: Aligning Business, Earth and Humanity", Wharton School Publishing, 2007.

impressive growth for the businesses that can penetrate these markets. After all, although these four billion people are estimated to have incomes below \$3,000, together, they represent a \$5,000 billion market.

For example, Dharavi is a shantytown of more than 1 million people at the center of Mumbai. Warden Road is an upper-class suburb in Mumbai. Clearly costs could be reduced if the poor could benefit from the scope, scale and supply chain efficiencies at Warden Road. This is a common pattern around the world.

Cost	Dharavi	Warden Road	Poverty premium
Credit (annual interest)	600%-1000%	12-18%	X 53
Municipal grade cubic water (per m <sup>3</sup> )	\$1.12	\$0.03	X 37
Phone call (per minute)	\$0.04-\$0.05	\$0.025	X 1.18
Diarrhea medication	\$20	\$2	X 10
Rice (kg)	\$0.28	\$0.24	X 1.2

Source: C.K. Prahalad and Allen Hammond, "Serving the World's Poor, Profitably", Harvard Business Review, September 2002

BoP customers have an unmet need for financial services. Historically, financial services in the BoP were the sole realm of microfinance institutions. However, "The Next 4 Billion" by the World Resources Institute<sup>2</sup> proved that at the BoP level there are significant unmet basic needs, such as in modern financial services. BoP customers are capable and willing to pay for financial services outside microfinance provided that the terms of the contract adapt to their situation.

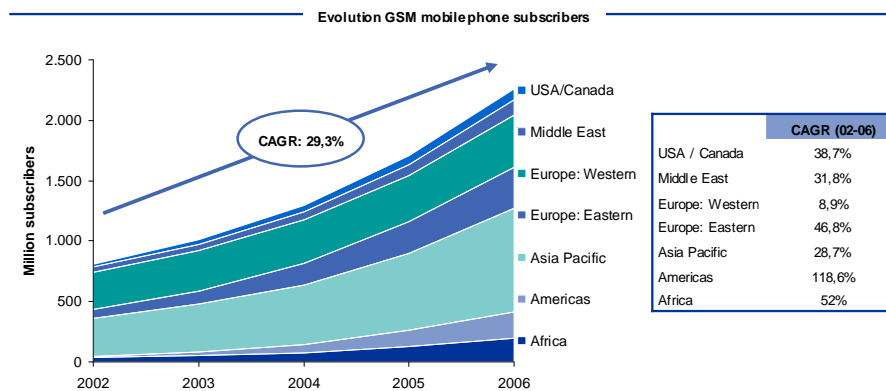
At the same time rapid changes in technology are reducing the transaction costs in financial services, expanding markets, and catching the attention of large financial institutions for markets previously ignored. Technology is bringing nontraditional players into the financial services markets. As the nature of the services is being transformed we are now witnessing the rise of a dynamic financial services industry.

Mobile phone banking has recently sprung to the media's attention as an increasingly important means to offering financial services through mobile phones, instead of via banking branches. The Economist devoted several articles in November 2007<sup>3</sup> to the promise that mobile phones, particularly mobile phone banking, represent in the development of national economies. The Financial Times echoed the hopeful prospect of mobile phones by covering an agreement<sup>4</sup> signed in October 2007 between Western Union and the GSM Association (the main mobile operators' body) to develop money transfer services for remittances.

<sup>2</sup> Allen Hammond, William Kramer, Robert Katz, Julia Tran and Courtland Walker, "The Next 4 Billion", World Resources Institute and International Finance Corporation, 2007

<sup>3</sup> The Economist, "A Bank in every pocket?", November 15<sup>th</sup> 2007 ([http://www.economist.com/opinion/displaystory.cfm?story\\_id=10133998](http://www.economist.com/opinion/displaystory.cfm?story_id=10133998)); The Economist, "On the Frontier of Finance", November 15<sup>th</sup> 2007 ([http://www.economist.com/opinion/displaystory.cfm?story\\_id=10146637](http://www.economist.com/opinion/displaystory.cfm?story_id=10146637))

<sup>4</sup> Paul Taylor, "Money transfer by mobile phone plan", Financial Times, October 19<sup>th</sup> 2007



Source: GSM World Statistics

Currently, mobile networks cover more than 80% of the world's population and nearly 3 billion people are estimated to have a mobile phone. This creates an unprecedented opportunity to extend the benefits of financial services to the majority of the world.

This research publication seeks to analyze different M-banking business models and strategies, factors affecting them, problems that currently beset this market and challenges for the future. In doing so, it hopes to clarify and further the debate about the most profitable and efficient ways of offering financial services through mobile phones for BoP customers.

## WHAT IS M-BANKING EXACTLY?

M-banking is a variation of branchless banking. The World Bank's Consultative Group to Assist the Poor (CGAP) Technology Program defines branchless banking as: "the delivery of financial services outside conventional bank branches using information and communications technologies and non-bank retail agents"<sup>5</sup>.

Why branchless banking? BoP customers usually have no access to many services and products including financial services. These customers represent high volumes and low margins to businesses. For businesses to profitably enter the market, costs need to be reduced, most especially fixed costs (variable costs tend to change with the amount of business being conducted). In commercial banking there is rarely a more important fixed cost than the cost related with building and sustaining branches and staffing the branches with employees. Branchless banking will be an effective solution to reduce the fixed costs that arise with banking branches as long as it does not impair the financial services provider's ability to generate profits. It thus has the potential to expand financial coverage to previously unserved population segments.

Before analyzing M-banking, let's define first some slippery concepts that are often encountered in this arena. E-money is one of those concepts for which there is no common definition. The one agreed by the European Union's Electronic Money Institutions Directive<sup>6</sup> (2000) defines e-money as the "monetary value as represented by a claim on the issuer which is: (i) stored on an electronic device; (ii) issued on receipt of funds of an amount not less in value than the monetary value issued; (iii) accepted as a means of payment by undertakings other than the issuer". The most accepted definition for the BoP also requires that the electronic store of value is on a device that is in the customer's possession.

<sup>5</sup> CGAP, "Notes on regulation of branchless Banking in Kenya", November 2007 (<http://cgap.org/portal/binary/com.epicentric.contentmanagement.servlet.ContentDeliveryServlet/Documents/Kenya-Notes-On-Regulation-Branchless-Banking-2007.pdf>)

<sup>6</sup> European Union Electronic Money Institutions Directive, 2000 ([http://ec.europa.eu/internal\\_market/bank/e-money/index\\_en.htm](http://ec.europa.eu/internal_market/bank/e-money/index_en.htm))

Another important definition to bear in mind is that of point-of-sale (POS) agents. POS banking agents can be anything between retail, lottery and postal outlets that work on behalf of a financial institution. These agents allow clients to deposit, withdraw, transfer funds or pay their bills, among other services. The agents can process transactions with card readers, mobile phones or barcode scanners. In some cases, depending on the regulation, these agents can even open bank accounts for new clients and fill in credit applications. The main benefits accrued to these agents for handling financial services are usually not in the shape of commissions generated from the transactions, but from the newly generated foot traffic into their stores and the bolstered reputation of their store.

## BRANCHLESS BANKING MODELS

There are two models of branchless banking, both of which make use of POS agents:

- 1.- Bank-led model: In this model a banking service provider delivers financial services through a retail agent who can communicate with the bank using a mobile phone or a point-of-sale (POS) device. The bank maintains the customer account. The retail agent operates it.
- 2.- Non-bank led model (or “telco-led” model, as UPSides magazine<sup>7</sup> prefers to call it): Customers exchange cash at a retail agent in return for an e-money account (in contraposition to the previous example in which customers have a bank account). This virtual account is stored on the server of a non-bank, such as a mobile operator or an issuer of stored-value cards. The balance in the account can be used for making payments, storing funds for future use, transferring funds or converting back to cash at agents. If the system relies on a POS network and plastic cards, customers must visit a participating retail agent to conduct a transaction. If the system is mobile phone based, customers need to visit a retail agent only to add value or to convert stored value back into cash. Commercial banks are often used to hold the net proceeds of e-money issued by the firm which offers e-money accounts.

(It is sometimes argued that there is a third model, a hybrid between the two previous models, in which customers have both a bank relationship and an e-money account.)

In the case of M-banking both models have been successful. They usually involve a partnership among banking service providers, telecommunications software firms and mobile telephone servers. The difference is that in the bank-led model, commercial banks are the ones at the driving wheel, while in the non-bank led model, the mobile operator is the one in charge. For example, Wizzit, owned by The South African Bank of Athens and based in South Africa, and XacBank, based in Mongolia, are M-banking bank-led models. M-Pesa, owned by Safaricom (which in turn is owned by Telkom Kenya, 60%, and Vodafone, 40%) and based in Kenya, and G-Cash, owned by Globe Telecom and based in the Philippines, are examples of M-banking non-bank led services. It must be noted, however, that currently the financial services offered are relatively simple. Many providers only offer rudimentary savings accounts and money transfers between different accounts.

**Case study:** Kenya’s M-Pesa (Pesa means “cash” in Swahili, while M stands for Mobile) was launched in March 2007 by Safaricom. M-Pesa was specifically designed to target the unbanked and hence all services in offer do not require a consumer bank account. Its customers need not have a bank account if they do not want to and can withdraw cash, make payments or send money only using their mobile phones. A network of airtime sellers dotted around the country is in charge of turning cash into e-money.

Within the first month, Safaricom had registered over 20,000 M-Pesa customers, well beyond the original business plan. By July, it already had 500 agents and 150,000 customers.

<sup>7</sup> “Branchless banking: back to basics” Upsides Magazine, Winter 2007 ([www.upsides.nl](http://www.upsides.nl))

This kind of system is expected to be easily scalable across borders. Additionally, there is already a pilot scheme in place to enable people to send expatriate remittances to Kenya via M-Pesa, taking advantage of Vodafone's network (a joint owner of the firm).

**Case study:** Globe Telecom is a mobile phone company in the Philippines which has progressively included additional services to be offered via the mobile phone in their quest for additional revenues per customer. Out of their 18 million customers, 97% are prepaid customers. Therefore, conceptually, it was relatively easy for Global Telecom to jump from pre-financing to keeping a deposit account for their customers.

In 2004, Global Telecom launched its mobile wallet service called G-Cash and created G-Xchange to handle its mobile commerce business. It is a mobile phone solution that enables customers and merchants to transfer money with just a text message. Additionally, it is possible to cash in or out through a nationwide network of 6,000 outlets. Some companies are even starting to use the platform to pay salaries, commissions and bonuses.

G-Cash does not have a saving or a lending function and is currently looking into banking partners to provide expertise and support for these services in the future.

With an estimated 68 million unbanked Filipinos, almost half of whom are mobile phone users, Global Telecom is now entering a potentially huge untapped market and source of revenue.

## HOW TO DETERMINE WHICH MODEL IS APPROPRIATE FOR EACH MARKET?

National regulations are pivotal in deciding which model will arise in a specific market. If regulators require a financial institution to be directly involved in transactions, bank-led models will tend to flourish. Commercial banks are usually the largest players and have the capacity and expertise required to successfully provide branchless banking. However, most banks are not interested in this option because it is assumed to be less profitable than regular banking. Often for countries with no legal framework, no M-banking industry will arise because of the risks associated with it. In turn, if mobile operators are allowed to enter this market, they will do so. Why? Because mobile telephony is a very competitive industry in developing countries and its margins tend to be lower than for commercial banking. Mobile banking services help mobile companies increase their customer base, enhance customer loyalty and generate additional revenue.

### **Why, among all industries, is the Mobile Phone Industry the best partner for the Financial Services Industry?**

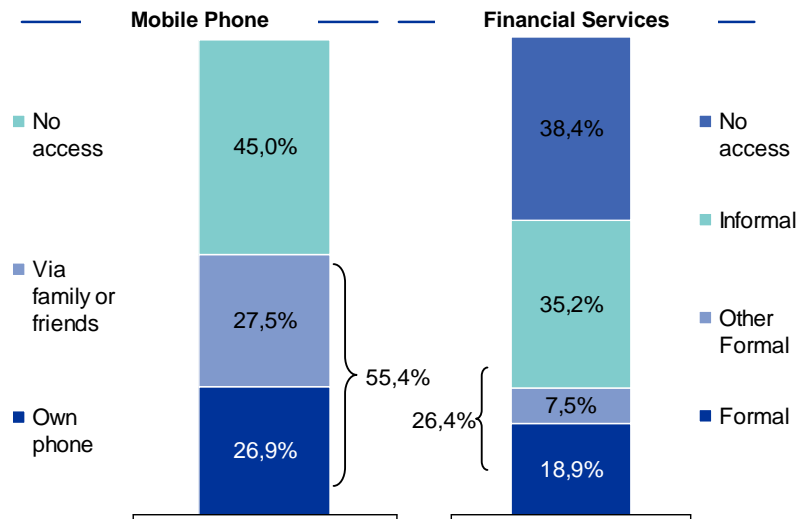
There are three basic reasons that explain why the Mobile Phone industry has emerged as the ideal partner to offering financial services for unbanked population segments:

- 1.- High mobile phone penetration offers a way to cheaply and rapidly provide financial services to many unbanked customers who demand them, which no other interactive technology offers nowadays.

In 2006, the mobile phone industry celebrated the connection of the second billionth customer. Within this second billion, more than 80% live in developing countries. A study by the Financial Sector Deepening Trust in Kenya<sup>8</sup> estimated that in Kenya, 54.4% of the adult population owns a mobile phone or has access to a mobile phone via family or friends. It estimated that only 18.9% of the adult population has access to formal financial services through banks, while 7.5% more is

<sup>8</sup> "Financial Access in Kenya. Results on the 2006 National Survey" Financial Sector Deepening Trust in Kenya, October 2007

served through microfinance institutions and savings and credit cooperatives, making in total just 26.4% of the adult population.



Source: "Financial Access in Kenya. Results on the 2006 National Survey" Financial Sector Deepening Trust in Kenya, October 2007

2.- There is no technology aside from mobile telephony that is reaching maturity at such a rapid rate in so many emerging countries at the same time.

Since the mobile phone industry is a fast maturing industry with strong competitive markets in most emerging countries, profits will tend to fall. The industry needs new business models, new frontiers to run to in order to keep growing.

3.- Mobile phone banking offers a physical proximity that other industries can not afford.

Other options to access the consumer are not as cost-efficient and flexible in the interaction possibilities made possible by mobile phones. With mobile phones, customers do not have to walk miles to find a banking branch—they are instead carrying the banking branch in their pockets.

However, it is important to note that mobile phone banking is not the only good option available for linking BoP customers to financial services. Other options can utilize point-of-sale agents/devices in manners such as:

- Post offices: Banco de Crédito in Peru has started creating new banking agents in post offices. In 2006, it managed to roll out 1.5 banking agents per day (more than 1,000 banking agents on that year).
- Mobile vans: Both Credibanco (Colombia) and BASIX (India) have started using mobile vans to access potential customers. These vans function as mobile banking branches.
- ATMs are also a well known alternative to gaining access to unbanked customers. However, they are saddled by high fixed set up costs, maintenance costs and, sometimes, unreliable services.

M-banking is perhaps the only financially viable option that is easily scalable across geographies and countries. Its fast scalability is probably the defining factor in explaining the stunningly rapid success of M-banking in such a short period of time.

## WHAT ARE THE MOST COMMON PROBLEMS IN M-BANKING?

The most important problem facing the M-banking business nowadays is the general lack of regulatory guidance and oversight in its activities. No one really knows who is responsible if something goes wrong (although every agent claims that it is definitely not him). This issue poses the possibility of an increased risk to M-banking customers and to the financial sector in general if less responsible actors were to enter the field.

An additional problem within the legal framework is that banking and non-banking agents who are engaged in similar activities are subject to totally different regulatory regimes in the same country. This affects their ability to compete on a level playing field.

According to CGAP, the solution for these problems is to develop updated regulations including new reporting regulations, minimum capital and liquidity requirements, and restrictions on how e-money proceeds may be held or, for payment service providers, restrictions on permitted investments of funds held pending transfer.

Generally, CGAP suggests that all new regulations fulfill the following preconditions: (i) Setting objective and transparent standards regarding the permitted use of agents, thereby increasing the number of service points; (ii) Facilitating account opening (both on site and remotely) while maintaining adequate standards for customer decision-making; and (iii) Permitting a range of players (subject to appropriate supervision) to provide payment services and to issue e-money, thereby enabling innovation from multiple sources.

International experience suggests that non-bank e-money issuers do not need to be subjected to the full weight of banking law because of the relatively simple financial transactions they provide and because they may not be able to cope with many requirements of the law due to lack of banking knowledge.

Moreover, CGAP suggests that the risks associated with non-banking agents issuing e-money can be minimized by stipulating certain specific regulatory requirements, such as per-customer transaction limits and maximum e-money balance. In addition, to minimize risk of losing customers' funds, operators can be subject to minimum security standards, required to put e-money proceeds in a segregated bank account held in trust for the benefit of the customers and required to hold a sufficient proportion of funds in liquid form to mitigate liquidity risk.

A second very important issue is customer illiteracy at three levels:

- 1.- Reading illiteracy: The majority of poor clients cannot read or write and can only trust voice services or what the sales agents say. Also, since mobile phone software and hardware is based on the Latin alphabet, non-Latin language users are at a disadvantage.
- 2.- Technological illiteracy: Prospective customers who might be a good match for the product may feel that the product is technologically too complex for them.
- 3.- Financial illiteracy: The target customers may often be unaware of the terms and the conditions that underlie the financial agreements they agree to with the financial service provider.

Illiteracy at these three levels enables many firms (or the agents working on their behalf) to take advantage of their unwitting customers. This possibility increases as the financial services on offer become more and more complex. In some cases, these services might even "trap" the customer as it is sometimes the case for microcredits<sup>9</sup>. The solution is, on the one hand, to nudge financial service providers to teach the customers financial and technological literacy (these "teachings" can take place, for example, in the mobile vans mentioned above) and provide an efficient customer

<sup>9</sup> See for example: Keith Epstein and Geri Smith "The Ugly Side of Microlending" BusinessWeek, December 13<sup>th</sup> 2007

service department; and on the other hand, enforce stringent regulations protecting the customer and clearly defining who is officially responsible for unlawful behavior.

## HOW THE RULES OF THE GAME CHANGE IN BRANCHLESS BANKING

CGAP's study from the South African market<sup>10</sup> shows that M-banking is cheaper than other mainstream financial competitors. The annual cost of Wizzit transactions represents 7.5 days of income per year. Transactions at Mzansi, its cheapest competitor, represent 10 days of yearly income. The same transactions with any other "Big Four" South African Banks are estimated to represent 11 days.

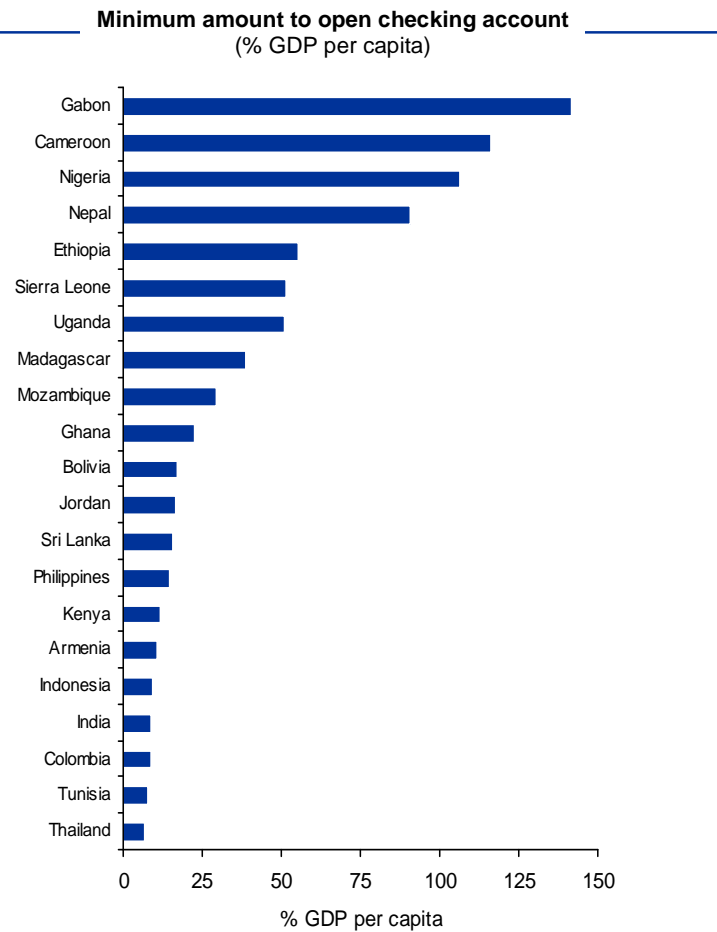
	Transactions Wizzit users (\$)	Same Transactions with Big 4 Banks (\$)	Same Transactions Mzansi (\$)
Bank fees per month	5	7	6
Airtime fees per month	0.3	0	0
Transport to bank per month	1	1	1
Total Monthly cost	6	9	8
Annualized cost	70	103	94
Annual cost as days of income	7.5	11	10
Annual cost as % of annual income	2.1%	3.1%	2.8%

Source: CGAP, United Nations Foundation and Vodafone Group Foundation, "Mobile Phone Banking and Low-Income Customers: Evidence from South Africa", 2006

This is the common state of affairs in developing countries. In 10 percent of the countries surveyed for a World Bank report<sup>11</sup>, a person must have the equivalent of at least 50 percent of per capita GDP to open a bank account. For example, it takes over \$700 to open a checking account in Cameroon. As a result, only 20% of families in Africa have bank accounts.

<sup>10</sup> CGAP, United Nations Foundation and Vodafone Group Foundation, "Mobile Phone Banking and Low-Income Customers: Evidence from South Africa", 2006

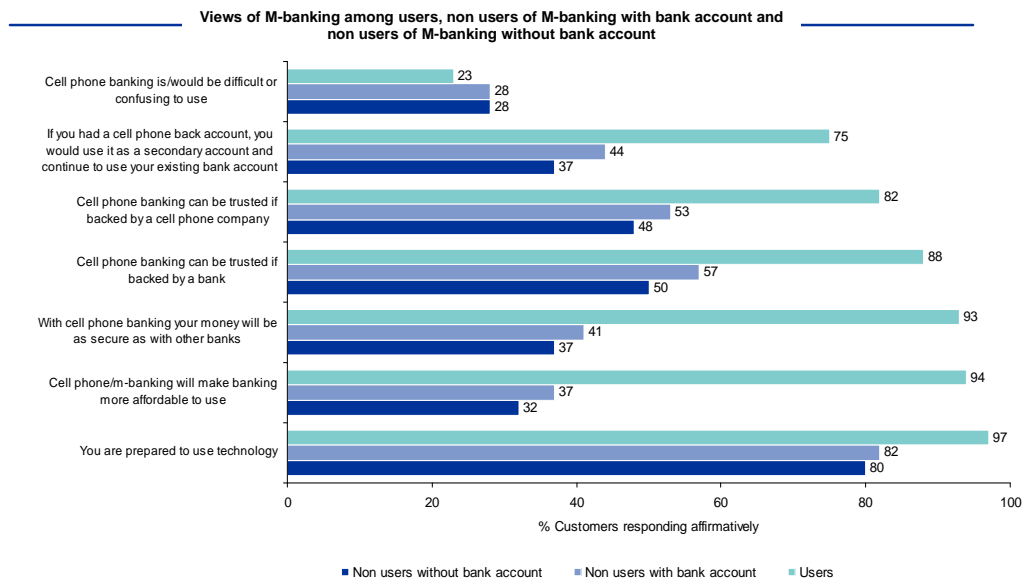
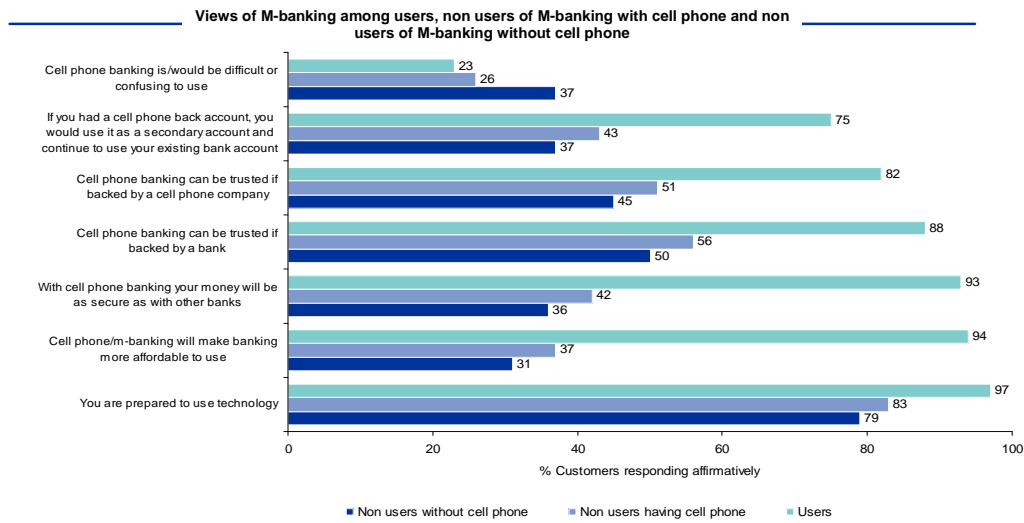
<sup>11</sup> World Bank, "Finance for All? Policies and Pitfalls in Expanding Access", 2007 (<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPRRS/EXTFINFORALL/0,,menuPK:4099731~pagePK:64168092~piPK:64168088~theSitePK:4099598,00.html>)



Source: World Bank, "Finance for All? Policies and Pitfalls in Expanding Access", 2007

The paradox of branchless banking is that by doing away with banking branches to save money and thus making it profitable to serve BoP customers, other expenses tend to crop up.

Firstly, there is very low awareness among potential customers about who is eligible for bank accounts. Potential customers' perception is that M-banking is expensive and insecure. However, the majority of Wizzit customers testify that M-banking is "as safe as with other banks" (93%), "will make banking more affordable" (94%), and is "not difficult to use" (77%). Of course, it is the normally satisfied customers who give a product higher marks than those who have chosen not to purchase the product in the first place. Still, this does not explain that the biggest strengths of a product according to customers are at the same time the weaknesses for non-customers. There is a problem of lack of information among potential customers.



Source: CGAP, United Nations Foundation and Vodafone Group Foundation, "Mobile Phone Banking and Low-Income Customers: Evidence from South Africa", 2006

As a consequence of the low awareness, Wizzit customers tend to be more financially and technologically sophisticated than non-customers (because they are more confident in that they will qualify for the product and they will tend to understand it). Wizzit has not yet reached its full potential, but as the case study shows, it has started to overcome this problem.

**Case study:** Wizzit operates a virtual banking service in South Africa. It operates as a division of the South African Bank of Athens.

Wizzit does not own any branches. Customers can use their mobile phones to make person-to-person payments, transfer money, buy airtime for a prepaid mobile phone subscription and even pay utility bills. It also gives its customers a Maestro debit card with which they can get cash back and make purchases at retail outlets. Wizzit does not have a minimum balance requirement and does not charge any fixed monthly fees. It allows for the opening of accounts at any time of the day in just two minutes.

Since its launch in December 2004, Wizzit has acquired more than 50,000 customers. Its aim is to provide 14 million unbanked citizens with access to financial services.

To encourage customer recruitment, it has developed customer centers that are available 15 hours per day in the 11 official South African languages and supports community-based "Wizz-Kids" representatives (currently more than 2,000 agents) who will educate potential customers about Wizzit and earn a commission for each new customer.

It is a plausible assumption that other M-banking firms will have to avoid potential customers' lack of knowledge by increasing their marketing expenses. Financial institutions will have to pay for specific marketing activity in the agent's community or incentivate their selling agents based on performance.

Additionally, even though there is no need to build branches, financial service providers will still have to invest in new technology, internal organizational changes and product development.

The selection process for selling agents is extremely important to minimize fraud, to guarantee customer service quality, to achieve good transaction performance and to effectively cross-sell financial services to existing clients. To run the network successfully, costs must include monitoring and technical and product support.

In conclusion, M-banking is cheaper and leaner than other standard banking models, but it must still keep an eye on the new costs that come together with this novel business model.

## THE FUTURE

As it has been pointed out already, the market needs regulation to clarify whether financial institutions have to be involved in all transactions and where the legal bucket stops. This will just be the first step in developing a healthy market that will allow M-banking to flourish.

Other important policy and regulatory issues that will have to be tackled in the development of this new market are:

- Payment systems regulation
- Competition
- Consumer protection
- Possible macroeconomic implications

As for M-banking firms, they have still a long way to go in understanding customer needs and the designing of customer-friendly products. They will have to work very hard in fully adapting their offerings to potential customers and teaching customers how to take full advantage of the services available.

However, this is not the end of the story. Mobile phones are extraordinarily well positioned for further innovations at the BoP due to some exceptional characteristics such as:

- 1.- The granular interaction they enable between customer and service provider.
- 2.- Allowing customers to connect with the markets and thus empower them by giving them access to information, leading to increased efficiency, productivity, and the free flow of information as explained in an article by fellow NextBillion colleagues Robert Katz and Ana Escalante<sup>12</sup>.

<sup>12</sup> Robert Katz and Ana Escalante, "Mobile Phones Empower the Base of the Pyramid", World View Magazine, Winter 2007

- 3.- The relatively cheap selling prices that represent a small percentage of the income for potential customers in developing countries.
- 4.- The possibility to be shared within a group thus pooling the cost of a mobile phone between members of a group.
- 5.- The sturdiness and relative long life of the product.

**Case study:** The Indian cellular telephony market is now adding close to 4 million new mobile connections<sup>13</sup> every month. That makes 48 million new handsets a year. Additionally, the replacement market is estimated to be about 8 million sets a year. Penetration in India is still very low, at about 6%.

However, Nokia dominates this market with 78.8% of total sales<sup>14</sup>. How does it do it? It has decided to start offering mobile sets to the lower rungs of the population. It has cut costs and is harnessing local knowledge thanks to its local factory in the state of Tamil Nadu and a recently opened factory in Chennai. Nokia was the first mobile firm which started adding useful devices for the local BoP, such as a built in flashlight which is very useful on India's poorly lit highways. It has also developed extra-sturdy mobile phones which can cope with the dusty and wet Indian climate.

As a political tool, mobiles phones have proved that, given the chance to be used with ingenuity, customers will find new applications. For instance, take the recent pro-democracy uprisings that were summoned via text-messaging. Witness the recordings by anti-torture groups taken by mobile phone cameras.

As an economic tool, mobile phones have yet to unleash their full potential in being an inclusive mechanism for socio-economic groups without connection to global markets. Businesses and customers still have to take full advantage of the profitable market opportunities that mobile phones will open. ■ ■ ■

<sup>13</sup> Cellular Operators Association of India

<sup>14</sup> Research Agency ORG GfK