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The Early Experience with Branchless Banking

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Branchless banking has great potential to extend the distribution of financial services to poor people who are not reached by traditional bank branch networks; it lowers the cost of delivery, including costs both to banks of building and maintaining a delivery channel and to customers of accessing services (e.g., travel or queuing times).[1]

In Brazil, customers open bank accounts, make deposits, and pay bills at lottery houses and small retail outlets. In the Philippines, urban migrants send money to their families in rural areas using mobile phones. Both of these cases can be described as branchless banking. Branchless banking entails substantially all of the following elements:

- Use of technology, such as payment cards or mobile phones, to identify customers and record transactions electronically and, in some cases, to allow customers to initiate transactions remotely
- Use of (exclusive or nonexclusive) third-party outlets, such as post offices and small retailers, that act as agents for financial services providers and that enable customers to perform functions that require their physical presence, such as cash handling and customer due diligence for account opening[2]
- Offer of at least basic cash deposit and withdrawal in addition to transactional or payment services
- Backing of a government-recognized, deposit-taking institution, such as a formally licensed bank
- Structuring of the above so that customers can use these banking services on a regular basis (available during normal business hours) and without needing to go to bank branches at all, if that's what they choose

This paper reviews seven key observations CGAP has drawn from its advisory work and research on branchless banking and, particularly, from its support of branchless banking projects around the world over the past year.[3] Each element and player in the branchless banking delivery chain, including customers, financial service providers, agents, products, and technology platforms, is addressed. Most of the observations apply equally to the use of mobile phones to handle remote transactions (or mobile banking) and card-based branchless banking networks. However, lessons from mobile banking are emphasized because of its newness relative to card-based networks.

Branchless banking has yet to demonstrate pro-poor, pro-growth impacts for households, communities, and national economies.

Given the early stage of development of branchless banking solutions, these observations are offered as a tentative state of play. We also discuss four key uncertainties—as yet unresolved issues that may significantly affect the pace of development and the degree of customer acceptance of branchless banking offerings. Finally, we offer four predictions that appear to emerge from the key insights we identified.

Based on early experiences, branchless banking has a large contribution to make toward financial inclusiveness in developing countries. Policy makers and regulators are demonstrating keen interest in this topic, although in most countries regulation continues to constrain the emergence of branchless banking. Where regulation permits, exciting new branchless

1 For an exposition of the main issues and country examples on branchless banking, see Ivatury (2006); Lyman, Ivatury, and Staschen (2006); and Lyman, Porteous, and Pickens (2008).
2 Among the initiatives listed in the Annex and referred to in the text, the only ones that do not use agents are MTN Banking in South Africa and the small number of companies that operate the more than 100,000 payment terminals in Russia that accept cash from customers for payments.
3 Several examples in this paper, including from countries like Colombia, the Philippines, Kenya, Pakistan, and the Maldives, refer to projects that CGAP supports through its Technology Program. For details on this work, visit http://technology.cgap.org.

banking initiatives are being developed by a plethora of market participants (see the Annex for a list of noteworthy initiatives in selected countries).

But the fact is that branchless banking has yet to demonstrate pro-poor, pro-growth impacts for households, communities, and national economies. There are still some major obstacles to widespread adoption beyond purely legal enablement.

Observations

1. Branchless banking can dramatically reduce the cost of delivering financial services to poor people.

We believe branchless banking can offer basic banking services to customers at a cost of at least 50 percent less than what it would cost to serve them through traditional channels. Branchless banking helps address the two biggest problems of access to finance: the cost of roll-out (physical presence) and the cost of handling low-value transactions. This is achieved by leveraging networks of existing third-party agents for cash transactions and account opening and by conducting all transactions online. This sharp cost reduction creates the opportunity to significantly increase the share of the population with access to formal finance and, in particular, in rural areas where many poor people live.

The biggest cost saving is on transactions that can be done completely electronically, through mobile banking. In the Philippines, a typical transaction through a bank branch costs the bank US$2.50; this would cost only US$0.50 if it were automated by using a mobile phone (Asian Banker 2007).

The cost reduction from using agents rather than banks for remote cash transactions is equally dramatic. Banco de Credito in Peru estimates that a cash transaction at a branch costs about US$0.85, while the same transaction at an agent would cost US$0.32.[4] Tameer Bank in Pakistan estimates that, in the Orangi slum of Karachi, the setup cost of a bank branch would be 30 times more than the setup cost per agent, which is about US$1,400. Monthly running costs average about US$28,000 for a branch, compared with US$300 for an agent, but also, a much larger share of monthly running costs is variable for an agent than for a branch.[5]

2. Branchless banking channels are used mainly for payments, not for savings or credit.

Customers primarily make payments and send transfers through branchless banking channels, even when most branchless banking channels offer a broader range of services, including account opening, cash deposits, and cash withdrawals. Most customers either time their deposits to coincide with bill payments or cash withdrawals, leaving a near-zero balance in their accounts, or they do not open a savings account at all. Consider the following experiences:

- In Brazil, bill payments and the payments of government benefits to individuals comprised 78 percent of the 1.53 billion transactions conducted at the country's more than 95,000 agents in 2006.[6] CGAP research in Brazil found that, of the 750 people who responded to a survey in Pernambuco State, 90 percent reported using banking agents to pay utility and other bills, only 5 percent reported opening a bank account at the agent, and less than 5 percent said they had made a cash deposit into their bank account at an agent.[7] Indeed, 87 percent of those who had opened an account stated that they had done so just to receive welfare or salary payments.
- In Russia, more than 100,000 automated payment terminals have sprung up in the larger cities in recent years. One provider, CyberPlat, claims to have processed 1.2 billion transactions worth US$4.7 billion through the first three quarters of 2007 via its

4 Presentation by Luis Almandoz, manager of Agente BCP channel in Bogota, Colombia, on 30 November 2006.
5 Calculations provided by Tameer Bank, 15 January 2008.
6 These two products comprised about 55 percent of the US$104 billion in transactions value during the year. See Marques and Sobrinho (2007).
7 CGAP 2006 survey of branchless banking in Pernambuco, Brazil. Findings summarized at http://cgap.org/portal/site/Technology/research/technology/agents/. It should be noted that the geographical area covered by the survey has significant coverage of agents acting for Lemon Bank, which does not offer savings products.

70,000 "cash acceptance" points, mostly for prepaid airtime, television, Internet, and other utilities (CGAP forthcoming).

- As shown in Table 1, each month, the average mobile banking customer of WIZZIT (a mobile phone banking provider in South Africa) bought airtime with WIZZIT twice as often (2.6 times) as they withdrew funds from a branch or ATM (1.3 times), and five times as often as they made a money transfer (0.5 times) (Ivatury and Pickens 2006).

Customers use payments and transfers rather than banking services in part because providers focus their marketing efforts on payments and transfers. M-Pesa advertises its service as "an affordable, fast, convenient, and safe way to transfer money by SMS anywhere in Kenya,"[8] and WIZZIT's slogan is "the easy way to pay." Mobile operators, in particular, prefer marketing payments services rather than the ability to store value because payments services are a closer fit with their traditional revenue model (e.g., per minute or per SMS). Some mobile operators argue that if they did advertise the ability of their mobile banking services to take deposits, they would run afoul of the approvals they've received from banking regulators.[9]

The predominance of payments services over savings also likely reflects the perceived relative value that each service brings to the economic lives of the poor. Using banking agents and electronic payments to pay utility bills takes less time than traveling to and queuing in a range of utility offices, thereby bringing very tangible benefits. Similarly, collecting a pension, remittance receipt, and welfare or salary payment is a strong driver for opening accounts.

On the other hand, the value proposition of saving money, particularly in electronic form, appears to be less strong. The former head of Banco Postal in Brazil reported that, in rural areas in particular, his team spent considerable effort trying to explain to customers why they should have a bank account at all.[10] It seems that although branchless banking has brought formal banking services physically closer to many unbanked people, it hasn't changed their perceptions of the value proposition of saving in formal

Table 1: How WIZZIT Users Conduct Banking and Payment Transactions, per Month

	Total	Buy Airtime	Balance Inquiry	Cash Withdrawal	Cash Deposit	Money Transfers	Pay Electricity	Mini-Statement	Pay Store Accounts	Electronic Bank Transfer	Set up Debit Order	Set up Stop Order	Check Deposit
All Banking Transactions	12.8	3.7	2.7	1.7	0.8	0.8	0.7	0.7	0.5	0.4	0.4	0.2	0.1
Transactions Using WIZZIT (all channels)	9.3	2.6	1.9	1.3	0.7	0.5	0.5	0.5	0.5	0.4	0.3	0.1	0.1
Transactions Using WIZZIT (mobile phone)	6.6	2.6	1.9	0.1	0.1	0.5	0.4	0.4	0.2	0.2	0.2	0.1	0.0

Note: Figures based on average number of transactions of each type conducted monthly, weighted by the number of users who say they conduct them. Not all users conduct all types of transactions. The "average basket" should be viewed as the mean usage among surveyed users, rather than a profile of a typical WIZZIT user. Row two shows all transactions via all WIZZIT channels, including mobile phone, ATM, and partner bank branches. Row three shows only WIZZIT transactions conducted via mobile phone.
Source: Ivatury and Pickens (2006).

8 Safaricom Web site, www.safaricom.co.ke, accessed 25 December 2007.
9 Interview with Rizza Maniego-Eala, CEO of GXI Inc., August 2007. In Kenya and the Philippines, some nonbanks are allowed to offer mobile phone-based money transfers and even mobile wallets on a limited scale. Thus, Safaricom and GXI Inc. would probably be seen as overstepping their bounds if they sold their service in the market as a "safe place to store money."
10 Interview with Andre Cano, May 2005.

financial institutions. When they receive a payment or a remittance, an overwhelming majority of people go to the agent to withdraw the full amount received.

We believe that, over time, as customers increase their use of branchless channels to make a broader range of payments, they will start to find more value in maintaining transactional or savings balances in their account. In the meantime, more research must be done to distinguish how customers feel about savings in general, about the benefits of saving in banks, and about the branch and branchless channels available to them.

The success of agents in Brazil—achieving 100 percent coverage of municipalities—hinged in no small degree on the fact that utility bill paying is considered a banking service and cannot be done at nonbank outlets. This created a natural captive market of transactions for new correspondents opening up in towns without prior bank presence, where previously residents had no choice but to travel to nearby towns to pay their utility bills. In other countries, such as Colombia, local stores may have collection contracts with utilities, and it has proven much harder for correspondents to seize the utility payments business upon entering the market.

3. Few poor and unbanked people have begun using branchless banking for financial services.

Having examined several branchless banking ventures around the world, it appears that less than 10 percent of all branchless banking customers are poor, *and* new to banking, *and* are using these channels for financial services (or activities other than paying bills, purchasing airtime, or withdrawing government cash benefits). In its study in Pernambuco (a particularly poor state in Brazil), CGAP found that only about 5 percent used a banking agent at least once a month for anything more than paying bills or receiving government payments, were previously unbanked, and were considered poor by Brazil's standards.[11] Similarly, of about one million mobile banking customers in South Africa, CGAP estimates that fewer than 100,000 fall below South Africa's poverty line, did not have a bank account earlier, and now use mobile banking for more than payments or transfers. And in Colombia, typical cash transactions through agents are in the range of US$100–200, which suggests that they are not being used by the poorest.

While disappointing to organizations that aim to expand access to finance, this is a fairly natural outcome in the early stages of development of a market following a major innovation. Providers experimenting with a new technology or business model typically seek to reduce risk by focusing on known markets (avoiding the "double gamble" of new business model *and* new customer segments), and within those on likely "early adopter" subsegments (i.e., those more naturally predisposed to try the new offering).

Indeed, a provider that focuses branchless banking on customer segments it already understands and knows how to market to will find it easier to try out services, assess customer and service profitability, and tailor propositions and market communications messages. For instance, in the Philippines, SMART and Globe Telecom originally advertised their mobile banking services mainly to up-market consumers. SMART combined its mobile prepaid account with a Maestro debit card that can be used at any store that accepts a traditional debit or credit card. SMART's customer base at year-end 2006 mainly included segments it knew well: four million subscribers had signed up for Smart Money, and of the 900,000 active users, nearly all were businesses distributing SMART's prepaid airtime.[12]

11 That is, they fall into the three lowest of Brazil's seven socioeconomic classifications, or *critério de classificação econômica*, which measures wealth by income and assets.

12 Presentation by Banco de Oro, 2006.

Globe Telecom's GXI Inc., which offers the G-Cash mobile wallet service, estimates that nearly all of its 500,000 active users are individual subscribers in urban areas.[13] In fact, the company moved beyond the pilot phase of registering outlets to accept or dispense G-Cash in rural areas as late as early 2007. To date, just over 100 agents are registered in rural provinces, compared to the 3,000 airtime resellers that Globe Telecom has signed up nationwide directly and the 700,000 airtime resellers that buy and resell Globe airtime.

Most customers are also just dipping their toes in the water. In 2006, CGAP conducted a survey of 515 people in areas served by WIZZIT. Even within the more directly enabled markets—among people who have both a mobile phone *and* a bank account—the study found, not surprisingly, that those who took up WIZZIT's mobile banking service on average had a higher income and higher education levels and were more often formally employed, urban, and older. Early adopters were, in general, customers with more sophisticated banking requirements.

That poor people are not usually early adopters of technology can be explained by personal experience (they are likely to have had less exposure to technology and have less access to information about new offerings) as well as the fact that they are less attractive to providers.

This makes the job of governments and donors who are targeting poor people with financial services much harder. Government programs in India, Russia, Malawi, South Africa, and Brazil distribute social protection payments to customers through branchless banking channels. These have been found successful at opening bank accounts for millions of poor customers in some cases (notably Brazil), but have not led to regular use of those accounts to spread expenditure over time—balances tend to be withdrawn in full as soon as payments are received. More research is needed on how poor and excluded clients view their relationship with banking agents and their willingness to trust providers.

4. Financial services providers view agent networks as key to achieving their business strategy.

Most financial service providers see partnerships with businesses that have a substantial local retail presence as a key competitive strategy. They act to build their networks as quickly as they can to expand the pool of potential customers and attain local brand presence. The pace of agent sign-up is most dramatic in Brazil, where 95,000 agents have opened for business, leaving no municipality without a retail bank outlet. This agent network has directly led to the opening of more than 13 million bank accounts in the past five years.[14]

Depending on regulations, agents can be used to open new accounts (signing up customers and conducting customer due diligence) or to conduct customers' cash transactions (to deposit into or withdraw from an account, or to make or receive payments). Given the finding that most branchless banking customers do not build sizable deposit balances (per observation 3, above), most customer transactions do in fact entail a cash transaction.

Many banks that want to enter into branchless banking have partnered with businesses that have many local outlets so that they can jump-start their agent networks, including mobile operators, post offices, and major retail chains:

- **Mobile operators.** Mobile operators run some of the largest national retail distribution networks to support prepaid card sales. This puts them in a strong position to lead or participate in mobile banking projects. For instance, five banks have

13 Provided by Rizza Manielo-Eaga, CEO GXchange Inc., 3 November 2007.
14 From Federação Brasileira de Bancos (Febraban), Dados do Setor Bancário, 2006.

partnered with SMART Communications in the Philippines, and Standard Bank in South Africa partnered with mobile operator MTN in South Africa.

- **Post offices.** Brazil's Banco Bradesco purchased the rights to use the national post office network as a banking agent network. Bradesco created the Banco Postal subsidiary to trade on the trust that Brazil's population has in the postal service and to differentiate from Bradesco's branding as one of the leading private banks in the country. By May 2007, Banco Postal had an agent network of about 5,600 agents, two-thirds of which were post offices. The rest were retail outlets branded as "Bradesco Expresso" points.[15]
- **Major retail chains.** Equity Bank in Kenya signed a deal in mid-2007 to use the Nakumatt chain of retail stores as its anchor banking agents, and WIZZIT has arranged to use the Dunn's chain of about 400 clothing stores across small town South Africa to act as account opening locations.

Where banks are unable to partner with large retail chains, or in rural areas where these chains have limited or no presence, banks often outsource the building and management of chains of agents to third-party agent management companies. Banco Popular in Brazil (the banking correspondent brand of Banco do Brasil) uses companies such as NetCash in Sao Paulo State and the Brasilia Federal District and PagFacil in Pernambuco to sign up, equip, train, and maintain agents on its behalf. Lemon Bank has no branches at all and relies on 16 agent management companies (including three that it purchased) to manage the majority of its 5,750 agents.[16]

A bank's ability to sign up agents in disparate locations depends on the national payments system rules and practices. Referring back to the Brazilian success case, a second legal provision spurred geographic coverage to such a stunning extent: an agent is legally able to deposit its excess cash into its account with its sponsoring bank through the branch of any bank, at no extra cost, and without having to open an account at that bank. The situation is quite different in Colombia, for instance, where the bank with the largest network of rural branches, state-owned Banco Agrario, charges such high cash handling fees to other banks that those banks cannot profitably set up agents in remote municipalities. While Banco Agrario's high cash handling fees may be justified by the high cost of operating in such remote locations, the result is that other banks are not able to use agents unless they set up their own branches nearby.

Based on our observations, it appears that being an early mover in creating an agent network confers three key competitive advantages:

- Early movers are able to partner exclusively with the businesses that have the largest number of local retail outlets, thereby patching together a sizable agent network relatively quickly. Subsequent entrants are likely to find it more difficult to assemble an agent network of their own, particularly in areas with few retail establishments. The number of agents or physical locations is an easy concept to differentiate advertising, and hence it becomes a self-sustaining advantage for early movers.
- Early movers with larger agent networks can negotiate more favorable agreements with utility companies and various government agencies to distribute or collect payments on their behalf. As noted earlier, most banks realize that payments (from customers to utility companies and lenders, and from governments to welfare and pension beneficiaries) is the first product likely to move through this channel.
- A bank that is first to introduce banking services in a given geography is likely to capture greatest market share among the local population. The

15 Presentation by Gerson Gomez da Costa, Banco Postal, Bogota Colombia, October 2006.
16 Presentation by Gilberto Salomão, director general Lemon Bank, Sao Paulo, May 2007.

general manager of Banco Popular in Brazil explained that putting Banco Popular agents in unserved neighborhoods gave the bank a presence and the start of a relationship with local customers. As these communities develop and become increasingly banked, Banco Popular would be the bank whose name they would remember the best.[17]

5. Most mobile banking projects to extend market reach have been led by mobile operators.

In the convergence of banking and telecommunication companies, who is taking the lead? It appears that while many banks are deploying mobile banking capabilities to make banking more convenient for their existing customers, those ventures that have attempted to reach new client segments that are new to banking have usually been done in partnership with, if not been led by, a mobile operator.

In fact, none of the early branchless banking projects based on mobile banking was bank led. SMART Communications in the Philippines and MTN in South Africa both constructed a branchless banking proposition using banks to maintain customer accounts. And GXI in the Philippines and Safaricom in Kenya designed mobile banking initiatives without any bank participation at all. In the case of WIZZIT in South Africa, an independent provider packaged a mobile-based branchless banking service using South African Bank of Athens as the holder of customer accounts—not mobile operator led, but not bank led either.

Consider the case of M-Pesa, which is close to signing its second millionth registered user within one year of launching nationwide. This amounts to a customer base that is almost one-half of the entire retail banking sector in Kenya. M-Pesa did it in part by building a network of 850 agent locations, a network larger than all bank branches (550) in the country. But this rapid growth is also a result of the head-start that Safaricom has in serving the mass market. Mobile operators in developing countries, including in Kenya, typically strive for rapid coverage of major population areas around the country and, in developing countries, see mass market, prepaid customers as their bread and butter. So a large number of poor and unbanked people are already their customers. On the other hand, banks in developing countries generally focus on the top 10–20 percent of the population, in economic terms.

This situation may change in the future, as banks see the potential of mobile banking as a tool for developing branchless banking to extend reach. Equity Bank in Kenya, Tameer Bank in Pakistan, and XacBank in Mongolia are now starting to pursue mobile banking to extend reach. But the question remains: why have market-expanding mobile-banking-based projects tended to be led by mobile operators rather than banks? We offer several reasons.

First, because mobile operators generally run a national infrastructure, they must market themselves very broadly and avoid niche strategies, however lucrative those niches might be. Hence, mobile operators may be better predisposed to the concept of branchless banking as a means of achieving mass adoption of (communications-based) financial services. Banks on the other hand, are more driven by specific customer and segment profitability measures within defined geographies and, thus, tend to view mobile banking as supporting key segments rather than as a way of reaching new ones. More generally, mobile operators inhabit a far more competitive industry than banks in most developing countries.

Second, mobile operators have more experience running networks of third-party agents (airtime resellers). In fact, mobile operators may be running some of the largest retail franchises in-country. This ready-made agent network gives mobile operators a

17 Interview with Antonio Valdir Oliveira Filho, manager of Products Division, Banco Popular, May 2006.

Table 2: Penetration of Mobile Phones and Bank Accounts in Selected Countries

	Gross National Income Per Capita (US$)	Mobile Penetration (%)	Banked (%)
Mexico	7310	54.71	25
South Africa	4960	77.06	46
Brazil	3460	56.03	42
Algeria	2730	65.95	31
China	1740	34.71	42
Philippines	1300	49.18	26
Egypt	1250	27.35	41
Nicaragua	910	32.62	5
India	720	14.76	48
Pakistan	690	32.64	12
Kenya	530	19.92	10
Bangladesh	470	15.03	32

Sources: GSMA (Regulatory Framework for Mobile Banking). GNI per capita from World Bank (2006). Mobile penetration from GSMA's Wireless Intelligence. Population banked from Honohan (2007). Only China and India show higher banking penetration than mobile penetration. Rapidly growing mobile penetration in both countries means that it is probably only a matter of time before they fit the pattern.

strong position from which to start branchless banking operations, or at least to negotiate partnering arrangements with banks.

Third, mobile operators have experience running high-volume, low-value transactional engines, in the form of prepaid platforms. However, mobile operators have found that their preexisting prepaid platforms were not able to support general-purpose branchless banking accounts because of the higher transactional volume and accounting requirements of such accounts. Still, they had the vendor relationships and in-house skills necessary to upgrade their platforms.

Fourth, because mobile operators control the interface for mobile banking (through the mobile phone itself and the SIM card), they can provide a more secure and appealing customer experience. The SIM card contains the operator's own security keys, which places the operator in the best position to authenticate the customer. The SIM card can store the security keys of other providers, including banks, but this needs to be done with the consent of the mobile operator. The SIM card also can house a SIM toolkit application that can be used to drive an extension of the standard phone menu that includes the mobile banking application, for ease of use by the customer. Because the SIM card's memory is controlled by the operator, this application needs to be delivered to the SIM card by the operator (either preloaded or over-the-air). Hence, without collaboration from the mobile operator, a mobile banking provider would need to rely on user interfaces that are less user friendly, such as basic SMS, or with which users are less familiar, such as WAP browsing.

On the other hand, from a brand point of view, a survey CGAP conducted in South Africa suggested that fewer people would trust a mobile banking service if it were backed by a mobile operator rather than a bank, but the difference was relatively small.[18]

The main implication is that because mobile operators have controlled the "last mile" to the mobile banking customer, very few branchless banking operations have been able to ensure interoperability across mobile networks. Only WIZZIT among the major mobile-enabled branchless banking initiatives works across all networks in the country. But to standardize its service across operators it has had to force customers to remember a standard set of short codes to launch a standard WIZZIT menu, rather than providing a custom WIZZIT menu delivered by each operator.

If this trend continues, authorities will face important competition issues. The mobile industry is an oligopoly, especially in developing countries, where the smaller market size may justify only two or three competitors. Having these players dominate the branchless banking market may not be a palatable option for banking regulators and competition authorities alike.

On the other hand, there are attempts in several countries to establish shared mobile standards. An interesting project to watch is the mobile platform being established by Redeban in Colombia, which so far has two banks and all three operators on board, although the platform is not yet fully transactional. Similarly, the Maldives Monetary Authority is building a shared mobile payments platform that will be interoperable across all operators and banks in the country.

6. Mobile banking providers have valued ease of implementation and adoption over richness of functionality, constraining the customer experience.

Both banking and mobile communications are fundamentally about information. And yet there is widespread recognition that their convergence is fraught with challenges and risks for providers, customers, and regulators alike.

Mobile banking must achieve simplicity in its technical transaction platforms and in its user interfaces if it is to work for the poor and financially excluded. Today, many mobile banking projects have been set up as a parallel banking system, with special-purpose prepaid accounts or "mobile wallets" offering limited banking functionality for the mobile user, rather than as a new channel into existing accounts. Besides being simpler technically, this design also makes it easier for poorer clients without a preexisting bank account to sign up.

In the Philippines, SMART took this approach: its Smart Money service is based on prepaid accounts running on a platform operated by SMART but held by five commercial banks, including Banco de Oro. These accounts may be linked to normal current accounts at one of the partner banks, but all mobile transactions happen through the prepaid account. For instance, customers who want to make a mobile payment from funds sitting in their normal current account must first transfer these funds to their prepaid account, before sending them to the intended party from the prepaid account. This adds a layer of complexity for customers who may need to manage multiple accounts, but is easier for basic users who do not need regular bank accounts and greatly simplifies implementation by banks.

When it comes to interfaces, providers want to minimize potential barriers to adoption by using the more prevalent channels. For example, SMART Communications uses SMS to transfer Smart Money messages between the mobile handset and its own platform. Its mobile banking application is built into every SIM card, so each SMART subscriber can see

18 See Ivatury and Pickens (2006). The perceptions on bank vs. mobile operator brands in delivering a mobile banking service were similar for most subgroups tested: WIZZIT customers or not, people with or without a mobile phone, people with or without a bank account.

the mobile banking offering as an extension of the phone's main menu. Any other way of setting up and using mobile banking would be different for each handset, requiring SMART to educate its customers on how to launch the application.

Mobile implementations of branchless banking have taken a very pragmatic, low-risk approach. But these choices constrain the customer experience and, hence, potential uptake.

7. Microfinance institutions (MFIs)[19] are largely being left out.

Most MFI-led branchless banking initiatives have been small pilots or have had only limited success. Even though MFIs have strong local knowledge, product development acumen, and the ability to manage small loans, most lack the stable core banking systems and specialized technical skill to implement branchless banking models or tap into existing platforms.

In the Philippines, an initiative to let customers of rural banks use G-Cash instead of cash to make deposits and repayments has been constrained in part by the poor quality of banks' core banking systems. Based on interviews with experts in the field and observations from our own visits, CGAP estimates that the vast majority of the approximately 750 rural banks will need an IT overhaul or major upgrade to participate. In Kenya, an MFI that substituted group loan cash repayments with repayments in M-Pesa found a different problem. Group loan borrowers made fewer on-time repayments under the new system. Customers no longer attended the group meetings that had helped to keep up repayment pressure.

On the other hand, those relatively few MFIs that have the financial resources and skills to deploy branchless banking have been among the first movers. Microfinance banks, including Tameer Bank in Pakistan and XacBank in Mongolia, are developing their own mobile banking channels and are partnering with mobile operators to reduce delivery costs and to reach unserved urban and rural areas.

Another way MFIs may get involved is as partners for banks seeking to expand their market among the unbanked. SKS Microfinance in India has developed a mobile banking initiative in partnership with Andhra Bank, in which customers use designated SKS banking agents to deposit money into Andhra Bank accounts and use a mobile phone to repay SKS microloans.[20] Small MFIs and local community-based organizations can also play on the other side—as correspondents for other, larger banks. This ensures them a steady revenue stream in a synergistic relationship with the larger bank, as long as they target different population segments. An interesting case is the intent of the Andhra Pradesh State government in India to use up to 30,000 *village organizations* (local federations of self-help groups [SHGs]), to act as a cash agent for payment of social services, for SHG members under their umbrella, as well as for local banks.

Finally, MFIs are also tackling branchless banking as a group to overcome their individual limitations. In Ecuador, for example, the Red Financiera Rural association of MFIs and cooperatives is planning to contract a technology provider to build and maintain core banking systems and branchless banking channels on behalf of the group to minimize upfront costs and the expertise needed inside each member organization. This sharing of technology costs and expertise has perhaps the highest potential to bring MFIs onto payment networks and allow them to take advantage of mobile banking and other delivery channels they cannot implement alone.

19 The term "microfinance institution," as used in this Focus Note, includes nongovernmental organizations, cooperatives, banks, and licensed nonbank institutions that focus on delivering financial services to microentrepreneurs and other low-income clients, generally using new lending techniques that have been developed during the past 30 years.

20 As part of offering this channel for customers, SKS sells low-cost mobile phones to its customers and provides them a loan to finance the purchase.

Key uncertainties relating to branchless banking

1. Can branchless banking, particularly mobile banking, substitute for the human touch?

MFI loan officers who visit customers periodically, as well as tellers and representatives at bank branches, are likely to provide greater personal service than branchless banking at an agent or through a mobile phone. The informal financial service providers that many poor people use are also largely founded on human interaction and personal or community relationships.

In a survey CGAP conducted in South Africa, roughly half of those surveyed said they preferred to deal face-to-face with a person rather than with an electronic device, even if the device is quicker. Interestingly, the responses were similar between WIZZIT customers and people who have a mobile phone but do not use it to conduct transactions.

Despite being satisfied with the mobile banking service, users still missed the human touch. Customer research conducted in South Africa pointed at a likely reason for this: having to deal with machine interfaces undermines people's sense of control over the process. Indeed, a larger proportion of WIZZIT customers than nonmobile-enabled bank customers felt that they had insufficient control over their finances. Similarly, in one anecdote from South Africa, customers using ATMs for the first time checked their balances so frequently that they lost their entire balances to ATM fees.

The same research in South Africa also highlights the need to improve customer awareness of branchless banking and to educate customers about how it works and what it costs. Not understanding the technology is the single most frequent reason given for WIZZIT customers who have stopped using the service. Nonusers thought the cost of the service was on average 14 times more expensive than it really is.

These results demonstrate the importance of marketing and of balancing technology with human interfaces, both to improve awareness and understanding, as well as to improve perceptions of the service. Achieving this through a branchless model will be a challenge.

2. Can providers walk the tightrope between reliability and customer convenience?

Mobile banking raises security concerns. In principle, security concerns over mobile banking are more manageable than that of Internet banking, because they happen on a more trusted—or at least a more tightly controlled—network. On the other hand, security concerns over mobile banking are bigger than for traditional ATM or POS devices, which are more directly specified and controlled by the provider.

We still do not know the tolerance threshold for errors and fraud for both users and providers in the mobile banking context. Because the mobile banking service is intangible, it is likely that customers will react negatively to (real or perceived) security risks of mobile banking more quickly than to the risk of loss or theft of physical cash. We suspect that customers will not be very tolerant of security lapses, and therefore the security track record must be impeccable.

Security can always be tightened, but that often results in higher demands on the user (more complicated password procedures) or a less favorable customer experience (reentry of PINs, SIM swap). We do not know the extent to which the benefits of mobile banking will be sufficiently appealing to cause customers to put up with increasingly frustrating security measures or, indeed, to develop a higher tolerance for errors or fraud. The industry will need to find ways to offer sufficient security to manage risk

of fraud or violation of privacy, without making what is already a precarious customer experience (because of very limited user interface capabilities of mobile phones) a hopelessly frustrating one.

3. Will governments develop practical risk-based approaches to know your customer?

Know your customer (KYC) requirements on financial institutions have received increasing attention by governments in their anti-money laundering and combating the financing of terrorism (AML/CFT) initiatives. AML/CFT regulations introduce specific obligations on account opening, including, at the very least, checking the customer's identity. This poses a particular challenge to branchless banking for two reasons. First, the absence of branches means that banks need to find alternative ways of conducting face-to-face interviews or identity checks, where those are required. Regulations may allow banks to "outsource" this function to a third party (perhaps the cash-in/cash-out agents), but it remains the bank's responsibility to ensure KYC procedures are performed adequately. In the Philippines, the growth of rural agent networks has been limited because all agents need to take a Central Bank-supervised training course in Manila before they are allowed to operate. Many agents find this required training to be too costly and disruptive. Second, to the extent that branchless banking targets poorer and more remote customers, it may be more difficult for these customers to show proof of identity at all.

On the other hand, AML/CFT risks associated with branchless banking initiatives can be mitigated by capping account sizes, account functionality, and transaction volumes. As governments' interest in access to finance grows, they are becoming increasingly pragmatic about KYC requirements, allowing for simplified procedures where risk is limited. In South Africa, the Reserve Bank permits remote account opening for certain types of accounts; this has allowed WIZZIT to undertake KYC procedures through a network of roving "WIZZkids"—often previously unemployed youths.

For branchless banking to develop, governments need to continue to work with providers to find flexible solutions that meet policy and business requirements. It is unlikely that there will be a one-size-fits-all solution. Instead, governments will need to be responsive to proposals coming from providers and to evaluate these proposals based on the risks involved.[22]

4. Will interoperability increase adoption?

In principle, one would expect open, interoperable payments platforms to be easier to market and more successful than closed ones. Some early ventures have indeed tried to work seamlessly with existing systems, offering bank cards alongside mobile phone capability (Smart Money, WIZZIT).

Yet other ventures have involved closed systems, through which users can transfer funds only to other members of the "club" (G-Cash, M-Pesa). Promoters of closed systems may be able to seize time-to-market advantages by not having to engage in lengthy negotiations with partners. Particularly in a context where many customers may not trust financial institutions to begin with, creating a vertically integrated end-to-end model may be a reasonable market entry strategy rather than outsourcing key functions, such as cash handling or sales and marketing, to third-party agents or even large retail chains.

But whatever market entry strategies are used, in the long run customers will benefit more and pay less if interoperable networks allow them to transact with anyone, at any time.

22 For a more detailed treatment of this issue, see Lyman, Ivatury, and Staschen (2006).

Predictions

1. Poor people will use mobile banking more than rich people.

In developed countries, bank customers have access to several channels, each supporting a range of services. Bank cards offer convenient cash dispensing where ATM deployment is widespread. The Internet offers convenient access to more complex bill paying or remittance services. Checks can be deposited by mail. Telephone banking provides instant access to account balances and recent transaction histories. Customers also can do all of this with a more personal, higher touch service at a branch. Therefore, mobile banking struggles to achieve customer relevance, beyond simple informational services (e.g., balance inquiry), notifications (SMS alerts), and, once phones have "contactless" card capabilities, micropayments for public transport or vending machines.[23]

The situation is, *a priori*, very different in developing countries, where there is less deployed infrastructure (fewer branches, ATMs generally co-located to relieve branches, low broadband penetration). For many customers in these countries, the mobile channel with banking agents in principle could offer a much clearer convenience advantage over alternatives (travel and queuing at branches or cash-based savings). Hence, there is more reason to believe that mobile banking will find more than a niche application and could, in fact, become the primary banking channel for large segments of the population. For this to happen, some of the key uncertainties mentioned earlier would need to be resolved favorably.

2. Providers will manage the operational risks of using agents, and customers will tolerate liquidity shortfalls.

Two thorny problems for bankers and regulators considering branchless banking have been to ensure that customers are not defrauded by agents and that agents have sufficient cash on hand when customers want to make withdrawals. The concern is that customers will mistrust the financial institution and even lose confidence in the banking system if they are victims of fraud or if they cannot get money out of the agent.

But preliminary unpublished ethnographic research in Kenya on M-Pesa suggests that customers will do neither: in several instances, M-Pesa customers continued to use agents for cash withdrawals that earlier had insufficient cash to dispense. Anecdotal evidence suggests that customers' trust of Safaricom, the entity ultimately holding customers' funds, is what is leading them to continue using these agents.

Although the evidence on how customers respond to cash shortfalls at agents is limited, by and large customers seem to appreciate there is no guarantee of cash availability. Indeed, the agent's key role is less about maintaining large cash balances to meet all eventualities, as much as undertaking trips to the bank on behalf of customers when liquidity runs out. Customers will understand that when cash runs out at an agent, all it requires is a trip by the agent to the bank to get more. And now only one person need make that trip rather than each customer of the bank. The open questions are how many trips to the branch will be required, and will agents be paid enough through commissions to make those trips. Also, how can cash be balanced to reduce the time between these trips in places far away from bank branches? In the end, branchless banking through agents may not be a solution for very remote locations until the predominance of cash is replaced by a predominance of electronic payments and transfers.

We are still looking into how much customers save by making branchless banking transactions. But overall, poor and unbanked customers, in particular, have been accustomed to skipping work and traveling hours to

23 Contactless cards employ a very short range communications technology that allows them to be read by a card reader at a distance. To be read, it suffices to hold them near or tap the card reader; cards do not have to be swiped. This technology can be embedded in a mobile phone, so that, for example, holding the phone near a turnstile will automatically deduct the right amount from the "wallet" on the phone.

open a bank account or make a withdrawal, and receiving altogether abysmal service from many of the formal financial services poor people use. In this context, local banking agents are well-known community members bringing low-cost, hitherto unavailable services to places where no services—utilities, mobile phone coverage, government services—work reliably.

3. Shared agent networks will be the key to massively expanding access to finance through branchless banking.

The opportunities presented by branchless banking in broadening access to banking services across the population are limited by two factors. First, assembling a proprietary retail network of agents is time consuming and implicates financial service providers in agency operational risks they may find difficult to manage. Second, because customers are able to convert their savings to/from cash only at designated agents, financial service providers are generally compelled to support the liquidity position of their agents, which exposes them to additional credit risks. Indeed, proprietary agent networks continue imposing a significant burden on banks that want to expand.

The alternative is to develop branchless banking models based on shared agent networks. This would allow financial service providers to be "liberated" from location constraints and able to compete for customers anywhere purely on the basis of product design, marketing, and branding. And rather than rely only on exclusive agents to handle customer liquidity needs, the liquidity at all agents in a given location would be pooled to serve any customer and, hence, can be used most effectively and with minimal credit support.

Without this added layer of benefits underpinning the branchless banking model, providers are not likely to find branchless banking viable, particularly in rural areas where agents are few and cash transportation is costly. Making this a possibility will require changes in bank regulation, industry business models, and commercial strategies by individual financial service providers.[24]

4. Mobile banking will be used by large numbers of poor, currently unserved people in about three years, as a result of competitive market entry.

Early movers with a disruptive business model can afford to be picky about the segments they address. Emboldened by a dramatic cost advantage over established players, they are able to focus on the most attractive customer segments. As long as these constitute a sufficiently large pool of people to meet their growth aspirations, they have little incentive to expand into others. They will concentrate on building defensive barriers through scale (growing quickly) and depth of retail network, rather than on expanding into new segments and service offerings. Thus it is, as explained above, that early branchless banking projects have not addressed the currently unserved population.

However, the benefits of the cost advantage will be eroded over time as their own success induces new entrants or the adaptation of existing players to the new cost structure. With greater competition, the focus of new entrants will be on expanding the market so as to avoid head-to-head competition for market share with early movers who will have secured a strong position through scale. Hence, we can expect targeting of currently unserved customers to come not with the innovation but with the competition phase of branchless banking.

One should not underestimate the market-transforming potential of solutions that cut the cost of service provision at least 50 percent or so. What is less clear is how long it will take for the competitive dynamics to play out for the benefit of currently underserved populations.

24 Shared agent networks and their challenges are discussed in Mas (2008).

ANNEX: Examples of Branchless Banking Projects

Country	Provider	Model*
Afghanistan	Roshan (mobile operator)	M-banking
Brazil	Caixa Economica Federal (bank) Banco Bradesco (bank)	Card-based Card-based
Chile	BancoEstado (bank)	Card-based
Colombia	Banco Caja Social (bank)	Card-based
DR Congo	Celpay (bank)	M-banking
India	SKS Microfinance (MFI) State Bank of India (bank)	M-banking M-banking
Kenya	Safaricom (mobile operator) Equity Bank (bank)	M-banking M-banking
Malawi	Opportunity International (bank) First Merchant Bank (bank)	Card-based Card-based
Mexico	Banamex (bank)	Card-based
Mongolia	XacBank (bank)	M-banking
Pakistan	Tameer Bank (bank)	M-banking
Peru	Banco de Crédito (bank)	Card-based
Philippines	SMART (mobile operator) GXI (mobile operator)	M-banking M-banking
Russia	Tavrichesky Bank (bank)	M-Banking
Senegal	Ferlo (third-party)	Card-based
South Africa	MTN Banking (bank-mobile operator joint venture) WIZZIT (third-party)	M-banking M-banking
Tanzania	Vodacom (mobile operator)	M-banking
Uganda	Uganda Microfinance Ltd. (MFI)	Card-based

*Many mobile-banking initiatives also involve the issuance of cards to customers. In this table these are referred to simply as "m-banking." Initiatives that offer cards but not mobile phone access are referred to as "card-based."

No. 46
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