MicroSave Briefing Note # 66

POS vs. Mobile Phone as a Channel for M-Banking

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Point of Sale (POS) systems have been the primary device used by banks in South America to provide branchless banking services, while mobile phone based solutions are being used by banks in partnership with mobile network operators (MNOs) in the Philippines to fulfil a similar role.

Given the functional capabilities and the multiple formats in which POS (merchant acquiring platform, cash advance device, teller management interface) and mobile phones (direct channel to customers, merchant environment, money transfer platform, branchless banking interface) are used by financial service providers, this note will focus on the relative merits of the POS and the mobile phone in a branchless banking environment.

Indicative costs (service provider & customer)

Mobile phones offer a cost advantage from a device perspective in that most (if not all) branchless banking agents will have a mobile phone. In contrast, the POS, ranging from $400 to $800 per device and the overall total cost of ownership, including software licensing and maintenance, can be expensive, particularly if POS deployment runs into the thousands.

From a management/back office platform perspective, indicative costs are very similar. Platforms can range from $2.5 million upward depending on what systems are already in place and whether systems need to be Card Association certified (in the case of POS systems - add $500,000; M-commerce platforms - add $1m or more, depending on whether it is for issuing or acquiring).

When evaluating the two platforms, an estimated cost per transaction needs to be included. The POS has the capability to process transactions more quickly, allowing infrastructure costs to be spread across a high number of transactions. Using a mobile phone-based system is ideal in lower transaction volume environments (small or rural villages or with small merchants). Ultimately, however, at any given transaction volume, the mobile phone can offer a lower cost infrastructure.

The key to reducing costs of card accounts is the ability to shift the cost of maintaining accounts from the customer to the merchant using a merchant discount charged for retail POS transactions. In some markets, this reduces account fees significantly for customers who make payments at retail POS terminals. In the case of one bank in South Africa, account fees could be reduced to $0.50 per month for unlimited retail POS transactions and two cash back/advance transactions at retail POS terminals. In other markets, such as Colombia, bank agents are actually paid a slight fee per transaction that is often less than the costs associated with teller based transactions.

Transactional capabilities

Both platforms offer very similar transactional capabilities in the branchless banking format. Both devices can support the majority of transactions conducted by lower income individuals in un/under-banked environments.

The two key differentiators between the two devices are:

- ***The printing of receipts:*** POS are capable of printing customer records of transactions. This has been found to be an important service for low income customers with limited trust in the reliability of financial service providers or those coming from a savings passbook environment. This can be ameliorated by sending transactional information to the customer's mobile phone[1], but again trust of an SMS as a record and level of mobile phone penetration needs to be evaluated in each market or customer segment. Ultimately, we could see SMS reference numbers become as accepted as internet banking transaction reference numbers are already for higher income level clients, especially if SMS transaction notices could easily be printed if required by the customer.
- ***Bank cards:*** In this case, the POS offers an advantage over mobile phone by allowing customers to use their bank card to make payments using the existing POS and ATM terminals that are already deployed in a given country.[2] It also allows customers from other banks to access services at the service point as well similar to the way banks share ATM networks. This can generate additional revenues for the branchless banker as well as the financial service provider.

[1] This is commonly done for mobile phone banking transactions as well as mobile money transfers in the Philippines.

[2] It should be noted, however, that M-PESA and banks such as Standard Chartered in India are now using codes that are sent to mobile phones via SMS to enable withdrawals at ATMs without requiring a card.

	POS (with or without card)	Mobile phone
Balance enquiry (on device)	✓	✓
Balance enquiry (printed)	✓	×
Mini Statement (on device)	✓	✓
Mini Statement (printed)	✓	×
Bill payment (Person2Business)	✓	✓
P2P (account to account)	✓	✓
P2P (money transfer)	✓	✓
Cash-in	✓	✓
Cash-out	✓	✓
Card acquiring	✓	×

Convenience

In a recent survey by Genesis Analytics, it was found that typical transaction times per transaction instrument were positively correlated with the value of the transaction, i.e., the longer it took to transact, the higher the average value per transaction. Customers used the convenience of card and internet for higher value transactions.

In the case of branchless banking, third party facilitated transactions can take time to complete on both the POS and the mobile phone. In the case of POS, transaction times can be reduced if individuals are able to identify themselves and their bank accounts by using a card and PIN or biometrics. In the case of bank branches, this reduces transaction costs from $1.3 to about $1 (various sources including, Genesis, Forrester Research, Bain & Co.) by reducing teller time per transaction and increasing transaction volumes per teller.

Product appropriateness

South Africa's experience using mobile phones to facilitate financial transactions has only been partially successful, while Kenya's market has seen significant take-up of M-PESA (latest count is nearly 5 million registered users) and the Philippines has seen a significant take up of GCASH and Smart Money with approximately 9 million registered users.

Both *MicroSave* and Genesis research has highlighted the importance of the customer value proposition and product appropriateness in driving usage of mobile phone channels. For example, for money transfer in Kenya, M-PESA leverages a well documented need to move funds between individuals who are outside the banking sector in countries with low bank penetration. In the Philippines, Smart Money and GCASH also build on the large amount of money transfers between urban and rural areas and overseas. Coupled with the distributional advantage of MNOs, money transfer services offered by MNOs is a compelling value proposition and attractive product for customers.

Mobile phone banking South Africa: In the case of mobile phone banking in South Africa, most South Africans in lower income segments use their bank accounts to receive salaries, which they then cash-out as quickly as possible. In the case of individuals who are not banked, cash-out facilities are provided by government as part of a social welfare distribution infrastructure. There is very little incentive for customers to use a mobile phone banking solution, as there are still issues with the cash-out process.

A similar argument can be made for branchless banking services. In the case of a branchless bank value proposition, the financial service provider needs to provide a compelling value proposition to the third party, who acts as the servicing agent. In the case of branchless banking agents, key determining factors of sign-up include the range of available monetary and non-monetary benefits of being an agent. The monetary benefits increase with the number of potential services from which revenue can be generated, including transactions, account activations, credit, etc. Non-monetary benefits flow indirectly from providing these services, i.e. customers identify a bank brand with a range of services offered by an agent whose primary business then benefits from improved exposure and visibility from traffic through the store (see *MicroSave* Briefing Note # 69).

In terms of processing as many transactions as possible, supporting card payments (the key differentiator between POS and mobile phone only models) becomes an issue where card transactions are a significant share of potential transactions faced by an agent. This may be very high (South Africa) or very low, (Nepal). For card payments, an important element for agent value proposition over time is the rate of growth in card penetration. India has recently passed the 100 million debit card mark in terms of the number of cards now in circulation, and is growing at 2 million cards per month. For mobile phone-based payments, delays in SMS confirmation messages has been an issue for some M-PESA customers, since clients are left unaware of whether a transaction has actually occurred. This becomes more of an issue when transaction volume increases significantly and MNO networks are congested.

Concluding remarks

Formalised payments using a variety of channels are a well-established activity in most countries and the move towards electronic payments is changing the face of retail financial services in developing countries. The predominance of one type of electronic payment will have a significant impact on the relative importance of mobile phone and POS as complementary channels in the branchless banking environment. Ultimately, models that combine and offer the ease of a mobile phone-based system while offering a POS card, that builds on the existing network of POS and ATM terminals, will most likely offer a significant advantage to a mobile phone-based or POS-based only solution.