

MicroSave Briefing Note # 79

Mobile Payments: Ten Years On, What Has Changed?

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May 2010

Introduction

When in 2004 Globe Telecoms of the Philippines launched its G-CASH product as a competitor to the successful money transfer launched in 2000 by Smart, the other mobile operator in the Philippines, it seemed clear that it was only a matter of time before mobile payments and mobile banking became a major part of the way in which poor people received financial services. The *MicroSave*-Microenterprise Access to Banking Services (MABS) M-Banking Dialogue 2009 held in Manila, prompted some reflection on what has changed in ten years in the m-banking environment. This Briefing Note considers some of the key developments.

Platform / Protocol

In the early days of mobile payments, two main issues concerned potential providers. Would there be coverage in the areas where the unbanked and potential users will be located? And what applications / communications could the handsets support? It turns out that they should have been more worried about business models, and customer value propositions.

The coverage issue has largely disappeared, at least for global system for mobile communication (GSM) services. Few would-be mobile payment service providers now seem concerned over coverage. In most low income markets general packet radio services (GPRS) services are now available and 3G has been launched or is anticipated. Network reliability may still cause concern, but is probably no greater an obstacle to operations, than other infrastructure constraints routinely faced in remote areas (power cuts, bad roads etc). In fact in many countries the mobile communication networks have proved the most resilient in times of crisis.

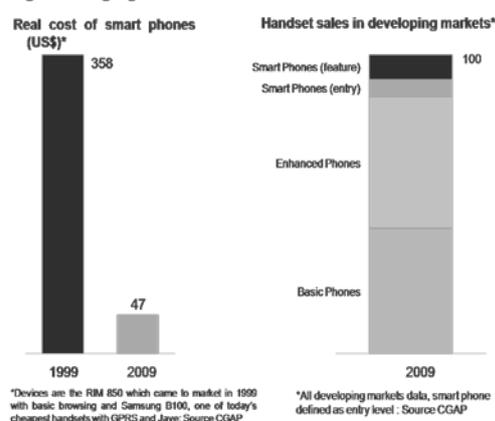
The evolution of the handset is more difficult to track, but is certainly changing rapidly. Three trends seem relevant. Figure 1 highlights the extent to which more and more phones are “enhanced” – by which we mean able to handle over the air application downloads using GPRS.

One of the main concerns ten years ago was the hassle factor experienced when customers needed to download an application using subscriber identity module (SIM) toolkit. In fact most early solutions requiring menu downloads or for customers to remember long “strings of numeric codes” were not commercially successful, and created an asymmetry between the segments targeted and reached. Although targeting the unbanked, it was largely the banked and literate who were able to manage the download process and the unbanked need dedicated assistance and support to manage this process which dramatically increased the costs of launching a service. With more modern handsets, a

dramatic fall in the costs of handsets, java applications, GPRS services (and an increasingly technologically-aware market) these issues seem largely to have been resolved for many users.

Of equal concern was the capacity of the SIM cards issued by mobile operators to handle the additional applications. Although little data is available it seems that most networks have successfully migrated most users to 64k SIM cards in the normal course of business, thus removing the constraint and also eliminating the need for customers to complete a potentially confusing SIM swap to avail of a mobile payment service.

Fig 1: Changing handsets



The third issue concerns security, with operators needing to make trade-offs between ease of deployment and use and security. These issues remain and continue to be a key feature of debates on the appropriate business model and partnerships required to succeed.

There are now probably three groups of “core solutions” and related business models that are competing in the market, which reflect these trends:

- i) **SIM dependent and integrated solutions** – The best know example of such a solution is [M-PESA](#) from Safaricom, which is now pre-loaded on all new Safaricom SIM cards. Being integrated into the SIM card, the solution can operate, and was designed to operate, on the most basic phone, and has end-to-end encryption. However given the degree of technological integration this type of solution is extremely difficult for a non-mobile network operator (MNO) to offer and thus gives an MNO a huge advantage over other mobile payments providers, and is thus a core feature of MNO lead business models.
- ii) **USSD solutions** – equally successful are solutions that use unstructured supplementary service data (USSD) and simple menus to provide mobile payment solutions. Bank mobile payment providers in South Africa have seen the greatest success with USSD

services. However as the initial leg of the transaction is not encrypted or secure, most of these services have been confined to “closed loop transactions” – where money is passed between accounts or users at a single bank, but not between banks. This is a huge constraint to achieving widespread use of mobile payments as interactions will be confined to either the bank’s own customers and out of network payments need to be to cash. As all phones can use USSD, the solution can reach large target segments, and as the USSD service does not require integration with the SIM card, these services can be launched with minimal involvement of a MNO. Although the MNO needs to agree to make the service available and this has been a problem in some markets. In USSD solutions anybody can “play” and banks have tended to be the winners.

- iii) **GPRS/Java solutions** – involving downloads. As noted above downloading solutions to an “enhanced” phone is considerably easier, and an increasing number of people have higher quality phones, or soon will have them. It is likely that most people who are banked now have phones that can handle such downloads. This business model is perhaps the most contestable as the downloadable application can be from a bank, mobile network operator or any other third party. The drawback remains that the solution is no more secure than accessing the internet, and to compensate the provider for the associated risk transaction fees tend to higher.

What Might The Future Hold?

The future industry terrain will be governed by issue of customer ownership and platform. Whereas the mobile operators will continue to have the greatest natural market share and brands, their ability to use this to lock customers into products and services they provide will probably diminish. In the current weaker global market conditions, and with even some emerging markets achieving saturation in the mobile phone market, it seems likely that the cost of enhanced phones will continue to fall, and their penetration will continue to rise. Over time, and as happened with the internet, this will give greater advantage to whoever has the best application and marketing campaign to get the application on to the user’s phone or to attract them to their mobile enabled web site. In this respect the announcement that Nokia phones will in future come with a pre-loaded Nokia money solution that enables some form of card to card payment (as it is based on a service provided by Obopay, www.obopay.com) signals the start of much greater competition over what application will define the mobile payment space.

What does this mean for mobile operator led strategies? The mobile operators face an interesting dilemma. Their mobile payment services currently leverage three “assets”: their ability to provide services from the SIM card (and their control of the SIM card), their ability to determine the prioritisation of messages and an extensive distribution

infrastructure (that was originally set up to sell airtime). However some mobile operators have an explicit strategy to use their mobile payment platforms to allow users to purchase airtime with a significant rebate. This entails considerably cost savings for the MNO, as the cost to deposit funds into a mobile account are typically much cheaper than the amount a MNO pays to its reseller network. However it is not in the long term interests of the reseller to sign up customers to a mobile money service, as to the extent to which the customers stop purchasing airtime via the agency network, their business will decline. Resolving the complexity of the role of the reseller in promoting the mobile payment service is thus a key element of the design of the business model. In some instances the MNOs are dependent on the agents to promote mobile payments, although because of the rebate offered to users it represents a long term threat to the agents’ business. This contrasts with M-PESA in Kenya where no rebate is offered, precisely to protect and promote the interests of the agents, who play a key role in customer registration and payments. In the Philippines the dilemma is resolved by having separate sales and service channels with the resellers not being responsible for the sale of the service. At the same time it seems that for the customer, instant access to airtime at a discounted rate remains one of the key drivers of the adoption of mobile payments in most markets.

For banks and MFIs, the opportunity is to play catch up. Few have yet been able to reduce their total cost to service low income customers through leveraging mobile as a low cost channel, but at least in South African banks and several rural banks in the Philippines, there is sufficient experience and customer acceptance to start to consider mobile as a core part of the “package”. This experience, as well as, new revenues from airtime sales, remittance revenues and bill payments will increasingly feed into estimates of customer profitability and market opportunity. Equally, a larger and larger number of younger customers access and purchase value added services on their mobile phones and need to find a cheaper way to fund such purchases rather than use airtime minutes (or load). The natural extension is thus for more and more users to adopt solutions that link their mobile phone with their bank account, or to download applications that facilitate this linkage.

Bottom-line for MFIs: More Options with Less Investment

Whether mobile payments remain operator led or come to look more like the card industry, does not matter too much to an MFI. Providing that a dominant and interoperable transaction infrastructure emerges, there should be major opportunities for MFIs to re-engineer business process to reduce costs using the capabilities of mobile payment platforms. This is already happening in the Philippines, and in Kenya. However it is equally important that any MFI considering adopting a mobile payments solution carefully examines the value proposition to its customers, and what competitor products/solutions are available.