

Mobile Payments

Key aspects for launching successful services

Introduction

Mobile Payments (M-Payments) provide new opportunities for, as well as threaten, mobile operators, financial institutions and new industry players.

With a plethora of payment methods already in use, the value such new services will bring is unclear.

Indeed, there have been mixed results from services launched so far, which have ranged from success to failure. However, large take-up of such services is still yet to occur.

A combination of key elements is required for mass take-up of M-Payments. These include simplicity and usability of the services, market knowledge and understanding, and teaming up with the right partners.

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About Northstream:

Northstream provides strategic technology and business advice to the global wireless industry. Northstream has assembled a multinational team with some of the world's best experts and analysts on wireless communication business and technology.

Northstream works for several of the world's leading operators and system suppliers, e.g. Vodafone, AT&T, NTT DoCoMo Europe, Sonera, Mitsubishi, Ericsson, Nokia and Siemens. Northstream also works for other consultancies such as Accenture and some of the leading investment banks and financial institutions. Northstream is established in Stockholm (Sweden), Sophia Antipolis (France), Tokyo (Japan), Hong Kong (HK) and Henley on Thames (UK). For more information please visit us at: www.northstream.se

Payments are primarily about buyers and sellers

When discussing M-Payments it is often the mobile operators and banks that are seen as the key players, or those with highest interest in M-Payments. These players are crucial for the proliferation and mass-market take-up of mobile payments and indeed hold genuine interest in getting a larger part of the cake. But on closer examination of M-Payments, which is essentially a new form of payment for any kind of transaction, it is the buyer and seller, i.e. the mobile phone subscriber and the merchant, who appear to be the key links in the chain. Essentially, M-Payments is about a buyer who needs to choose M-Payments over cash, cheque, credit, or whatever form of payment she currently prefers; and it is the merchant who needs to be ready and willing to accept this new form of payment. A critical mass is needed on both ends of the chain to make this happen.

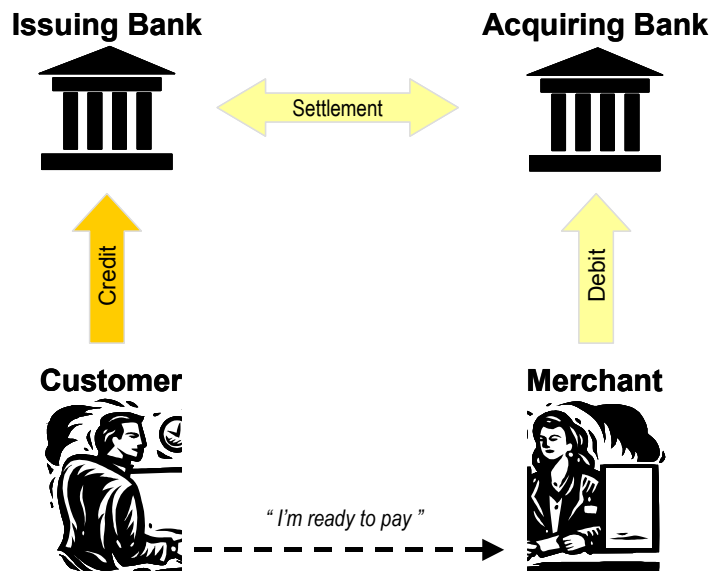


Figure 1: General transaction flow

Cash is king; God save the queen

With the increasing use of credit cards (the annual growth in use of credit cards is approximately 12% in the US and slightly higher in Europe), we tend to overlook cash, which is still used for about 80% of retail payments in western countries. Of the remaining transactions, there are major differences between countries in use of non-cash payment instruments such as cheques, credit, etc. Whereas practically all merchants are equipped to accept cash, in some cases this is still the only form of payment they are willing to accept. In the world of electronic transactions (namely the Internet), however, cash is almost non-existent, and credit cards are the most important payment method¹.

Although other payment instruments have been around for many years, consumers' use of the alternatives to cash is increasing slowly. In Sweden, for example, it took the introduction of high fees for processing cheque payments to limit their usage. Merchants tend not to rush to change their habits, mainly due

¹ Source: Payment Culture Matters, Institute for Prospective Technologies Studies, European Commission, August 2001

to related costs. Still, payment instruments such as credit and debit are gaining acceptance. In Asia-Pacific for example, the credit market is expected to grow by 600% in the next ten years².

Banks and mobile operators are already here

Banks have long been part of financial transactions, acting as issuing banks (i.e. owning the customer), acquiring banks (i.e. owning merchants), and clearing houses (i.e. clearing and settling transactions between the issuing and acquiring banks). Mobile operators, on the other hand, are quite new to this business. Although they have charged and billed subscribers for services for a long time, it was mostly limited to services they offer directly and to customers they have specific agreements with. Even that has changed over the years with the introduction of pre-paid accounts and with emerging data services where content is produced and provided by third parties. In some cases these have involved revenue sharing agreements with the mobile operators, who are handling the charging for those services.

Banks currently possess the know-how required to handle transactions and risk, the licence to do so, the legacy data systems to handle such an operation, and the customer base, on both the merchant and customer sides. Operators own the networks that can enable access to new M-Payment services. In addition, they own a large subscriber base with which they have an agreement and a billing mechanism in place.

New M-payment schemes are emerging

Many new initiatives that include various combinations of different types of players already exist in the M-Payment market. Some M-payment services, like Germany based Paybox, are independent, i.e. allow services to customers of any bank or mobile operator. The user is therefore required to establish an account with this company. Others, such as Vodafone m-pay bill, are operated by a specific operator only for its own subscribers and only require registration to the additional service.

A key advantage of the independent players is that they enable every mobile user to use the service upon registration, regardless of their mobile service provider. For a specific merchant intending to use an M-Payment solution, teaming up with such a player is more efficient than teaming up with three or more separate mobile operators. On the other hand, an independent player will need to build a user base, usually from scratch. A mobile operator or a bank, will already have millions of customers who are potential M-Payment users.

Examples of independent M-Payment providers used in this document³:

Paybox AG was founded in Germany in 1999 by Mathias Entenmann and is owned by the founders, Deutsche Bank AG and Debitel AG. Paybox began commercial launch in Germany in July 2000 and is currently active Austria, Spain, Sweden and the UK. (<http://www.paybox.net>)

Mint AB is a Swedish mobile payments company founded in early 2000 by Fredric Ankarcrona, Wouter van der Wijngaart and Patrik Mossberg. Mint launched its commercial end-user operations in January 15, 2001. In addition to the founders, Mint is mainly owned by Ledstiernan, the Icelandic Software Fund and Skandia. Jacob Palmstierna is the Chairman of the Board. (<http://www.mint.nu>)

² Source: Visa Corporate Report 2001

³ Source: Paybox and Mint are used as examples for commercially available independent services. This does not imply anything about the viability and

Success requires a combination of various aspects

We have identified a few key aspects that together form the basis for a successful payment method. The real key is in combining the different aspects on a market by market basis, but the following gives an overview of key issues to consider.

Simplicity and usability

Usability largely determines whether users will use an M-Payment service. This includes not only a user-friendly interface, but also, the range of goods and services one can purchase using the service, the geographical availability of the service and the level of risk the user is taking when using the service, to name a few.

As far as interface goes, Paybox, for example, uses an Integrated Voice Recognition (IVR) based system. A user making a transaction is providing her mobile number to the merchant, who then calls the IVR with the transaction data. The user receives an IVR call (in her own language), asking for a PIN code.

Whereas many concerns have been raised around security issues, the most popular M-Payments services to date, such as Paybox and Mint, use very limited security features. These services include authentication based on the mobile number and a unique PIN. Although trials are ongoing for highly secured solutions, Paybox already has 750,000 users signed up for its service and about 10,000 available acceptance points⁴. Mint declares 12,000 users and 30,000 parking spots, 100 retailers, and other acceptance points, all in Stockholm. Still, while Mint was launched with high hopes to become a widely accepted payment method, its usage is currently pretty much limited to paying for parking fees, primarily due to the increased flexibility it offers and the elimination of the need for small change.

Market knowledge and understanding

When trying to identify the key to a successful M-Payment scheme, we appreciate the difficulty of predicting in advance the kind of benefits a user will find in using such a service. Most of us are very used to existing payment methods and need an incentive to use anything new. The ability to use the mobile phone, usually available in our pockets, as a payment tool, in itself might not be enough. Users and merchants should see additional benefits such as reduced transaction time, reduced transaction cost, etc, whereas at the moment it is questionable whether current M-payments methods really improve any of these parameters. Systems that wish to be sustainable must either improve their functionality and usability, or be creative in making users and merchants perceive it as beneficial.

A thorough understanding of a specific market is key to reduce the uncertainty. Research into available payment methods, key players and user habits needs to be performed. Furthermore, one needs to analyse the market to identify the potential and to design a solution to address this potential and any existing needs.

potential of their relative businesses. Furthermore, Northstream has no interest within these companies.

⁴ Source: Paybox, presentation in Mobile Commerce conference, London 23/05/02

Choosing the right partner

Once the above has been accomplished, it is likely that cooperation with other players is required. M-Payments are in very early stages of development and whatever happens in the coming years will have a great effect on its potential success. It should be clear that it is unlikely to be a "winner takes it all" situation, where for example mobile operators will push banks out of business and vice-versa. Northstream sees the future M-payments market as one where players act together, each taking a fair piece of the pie. Indeed, new players will enter the market and will take some of the profits that could otherwise remain with existing players; mobile operators could possibly have a share of a market they haven't been part of before; credit card companies could potentially have reduced profits due to the entrance of mobile operators.

In a specific market, an analysis should be done to identify the right balance required between players and what profit/risk distribution can and should be established. Then, a more detailed selection process would identify the potential partners for the new venture. Be prepared that some external factors might be involved. In Spain, for example, anti-trust authorities have forced players (namely Telefonica) to open a planned M-payment service to subscribers of other operators. This led to the Mobipay service that potentially covers 100% of the Spanish mobile subscribers and 80% of bank customers. It is yet to be seen how this will progress. Yet, the key to minimizing uncertainty lies in thorough market knowledge and analysis.

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