

# Paying by Mobile

This whitepaper is an extract from:

**Mobile Payments**  
***Strategies & Markets***  
**2007-2011**



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# Paying by Mobile

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## Introduction

The user demand for convenient and intelligent ways in which to make payments for goods and services using a mobile phone is creating exciting opportunities for those organisations that are part of the mobile payment ecosystem.

The ecosystem includes mobile operators, banks, retail merchants & transport operators, handset manufacturers (and their suppliers), and a whole range of new entrants eager to put their innovative mobile payment solutions into the hands of mobile phone users.

Mobile payment applications and services are already available in most regions in a variety of formats, and where they are being adopted, either in trial or production mode, the user feedback has been very favourable.

As is the case with other, older, payment schemes like cash, the current mobile payment market does not have a single, definitive, payment method and there is substantial variation between what particular scheme is adopted from region to region. Mobile payment schemes vary from the remote methods, such as Premium SMS schemes for paying for digital content dominating in Europe, to the physical, whereby, in regions such as the Far East and China, users take their mobile phone to the physical storefront to pay for goods via contactless credit/debit card schemes.

This white paper introduces the reader to the main types of mobile payment schemes and investigates market drivers/constraints and forecasts for them.

## Mobile Payment Types

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As with the physical and virtual worlds there are many different and competing categories of mobile payments currently available. Juniper Research has created two distinct categories;

- Remote Mobile Payment (RMP) - when the storefront or retailer is remote to the mobile phone user, e.g. paying for digital goods or physical goods via a mobile web enabled retailer.
- Physical Mobile Payment (PMP) - when the storefront or retailer is physical, e.g. the payment is made in a physical storefront in the same way we would use cash or a plastic debit/credit card.

## Remote Mobile Payment

This is currently the most popular mobile payment method and SMS is the dominant technology. There are many categories under the remote mobile payment header, and there is a high degree of overlap between each category. For instance payment to mobile phone bill is generally initiated by an SMS, usually a PSMS, text message and P2P payments also use SMS for the underlying technology. This means that a remote mobile payment method may be included in a number of categories. For this report categories include:

- Premium Rate SMS (PSMS)
- Mobile phone bill – “direct to bill” (D2B) payment
- Online – Payment for the Mobile Web (WAP billing)
- SMS payment – mobile wallet & account based payment
- Person-2-Person (P2P)

### Premium Rate SMS (PSMS)

Premium Rate SMS (PSMS) has been the dominant mobile payment method and is geared up towards purchase of digital goods, such as ringtones, wallpaper and games and physical goods from mobile web enabled m-Commerce sites. With digital goods, the digital item is downloaded to the phone and the payment is usually managed by the operator (either direct to bill for subscribers or removed from the stored value in the case of prepaid users). This includes Premium Rate SMS (PSMS) users and as it is simple to use with no payment application to download it has proved popular and dominates the current mobile payment world in terms of transaction volumes and total number of users.

There has been much debate of late of the imminent demise of PSMS as a payment method, often initiated by the companies most likely to gain from it disappearing. Juniper Research feels that it will remain an important method to pay for digital content but we shall see its importance gradually weaken as more efficient m-Payment methods are proven.

### Mobile Phone Bill - D2B

One of the simplest methods of paying for goods and services using a mobile phone is payment via a mobile phone bill. Operated by mobile phone operators, this is usually aimed at low-value micro-payments and is offered to account customers as an alternative to a credit card.

Operators are investigating this payment method as an alternative to the less reliable, and least profitable, PSMS payment method.

### Online – Payment for the Mobile Web & WAP Billing

Online payment for the mobile web is a payment method that enables retailers to bill goods or services from a mobile web or a web site. This is very similar to payment on e-Commerce sites and usually allows consumers to pay via a variety of payment mechanisms that may not be unique to m-Commerce.

**Figure 1: Presenting Products at an mPoria Enabled Mobile Store**



Source: [www.mporia.com](http://www.mporia.com)

It is interesting to note that in discussion with USA based m-Commerce vendor mPoria that provide services to mobile web-enabled retailers, that consumers are not put off by entering in their credit or debit card details on their phone. It certainly has not been a hindrance to the early adoption of m-Commerce but is not ideal for mobile web users who want a one-click payment method that removes the need to enter in the full credit card number – this is especially the case when the mobile phone user is in a public place such as a commuter train and wants to avoid the security issue of taking out a debit or credit card.

### SMS Payment – Mobile Wallet and Account Based Payment

SMS payments, excluding those under the banner of PSMS, are when the mobile payment is initiated using SMS and the funds are transferred from a registered account or a mobile wallet. The registered account could be debit or credit based. Scheme operators include PayPal Mobile and SmartPay in China.

In the case of PayPal Mobile, once you have registered for the scheme, anytime that a user sees the “Text to Buy” logo alongside a product, either on a poster or in a printed magazine then they can securely pay for the item using a SMS text message.

**Figure 2: PayPal Mobile “Text To Buy”**



Source: [www.paypal.com](http://www.paypal.com)

PayPal has over 100mn customers worldwide and handles more than \$17bn worth of payments annually. Most of this is for payments on eBay and the company has been cagey on what percentage of this is being generated solely by its PayPal mobile users.

This category also includes the UK operator-led initiative, PayForIt, that aims to offer consumers better protection than that currently offered by PSMS based payments by off-loading the payment to a trusted party, known as an Accredited Payment Intermediary. This is an attempt by

UK operators to replace PSMS as the primary payment method and takes some of the work that was undertaken for the demised Simpay European mobile payment scheme.

A substantial majority of customers that are using this category are within the youth market – a market that traditionally does not have a relationship with a bank or other financial institution. There are an estimated 10 million to 20 million un-banked households in the US, many of whom, according to Valista, the mobile payment solution provider, are mobile-phone users, and this figure is even higher in the developing world regions such as India, Africa and China.

### Person-to-Person (P2P) Payments

Another example of a remote mobile payment is Person-to-Person, (P2P) payments. This category has generated a lot of interest from the mobile payment ecosystem recently. P2P payments are when funds are transferred between mobile phone users and then the funds are redeemed for either goods or cash at selected merchants (*there is a fine line between whether this is classified as a payment or as a remittance – Juniper Research have taken the view that it is essentially a remittance that can be used as a payment in certain scenarios*).

P2P is seen as a social money payment mechanism in the developed world, for instance to allow a group of friends to share payment for dinner at a restaurant or for parents to send funds to a child at college to pay for school books etc.

In the developing world it has considerable potential to act as a major payment method as often there is a lack of traditional payment and banking infrastructure in these economies. Vodafone obviously think that there is a big market for P2P based payments in the developing world with its recent announcement for the M-PESA payment scheme in Kenya. M-PESA, run by the Vodafone affiliate Safaricom, enables users to transfer funds and pay for goods using a secure SMS application - Michael Joseph, CEO of Safaricom, said: 'Safaricom and Vodafone's M-PESA mobile money transfer service is an example of Kenya leading the way in the advancement of mobile technology and its uses'. Vodafone has plans to expand M-PESA, with a tie-up with Citigroup, to other developing regions including India, possibly through its latest acquisition, Hutchinson Essar.

Examples of P2P operators include Globe Telecom in the Philippines, Obopay, and TextPayMe, TextPayMe has been signed up as a payment method for Craigslist, allowing users to post free classified advertisements.

### Physical Mobile Payments - PMP

Physical Mobile Payments (PMP) are when the mobile phone is used at a physical location to make the payment; this could be with a cashier in a physical store or at an unattended vending or ticketing machine or kiosk. This has included trials with infrared, "point & buy" and SMS text, "text and PIN", where there is a text-based message communication between the consumer, the payment scheme operator and the retailer. The infrared schemes have not been successful as the technology is not particularly suited for use at the physical storefront; schemes in countries like South Korea have been abandoned. Examples of "text & PIN" schemes include Paybox, a European vendor that has schemes operating in Malaysia, Austria and Kuwait with M-Net, detailed below in the figure. For the report, categories include:

- "Text & PIN"
- "Wave & Pay" - Contactless

**Figure 3: Using M-Net to Pay at Shops/POS**



Source: [www.paybox.net](http://www.paybox.net)

In India there is the Citigroup sponsored scheme, PayMate, which claims to be supported in over 2,500 online portals.

Since 2005/6, the dominant, and most successful, schemes have been contactless chip based, the “wave & buy” schemes using technology that includes NFC (Near Field Communication). With these schemes a contactless chip, similar to the chips that are embedded in smartcards, is embedded into the mobile phone and interacts with a payment application that is either pre-loaded onto the phone or downloaded OTA (Over the Air). These mobile payment schemes have generally been more successful than other physical mobile payment methods as they are more simply to use. Both retailers and customers alike want a speedy transaction at the POS (Point of Sale) and “wave & buy” schemes using contactless chips provide them with that requirement.

In the Far East and China we have examples of contactless schemes using the Sony FeliCa chip in Japan, run by NTT DoCoMo, and South Korea, run by SK Telecom.

**Figure 4: SK Telecom Mobile Payment Scheme**



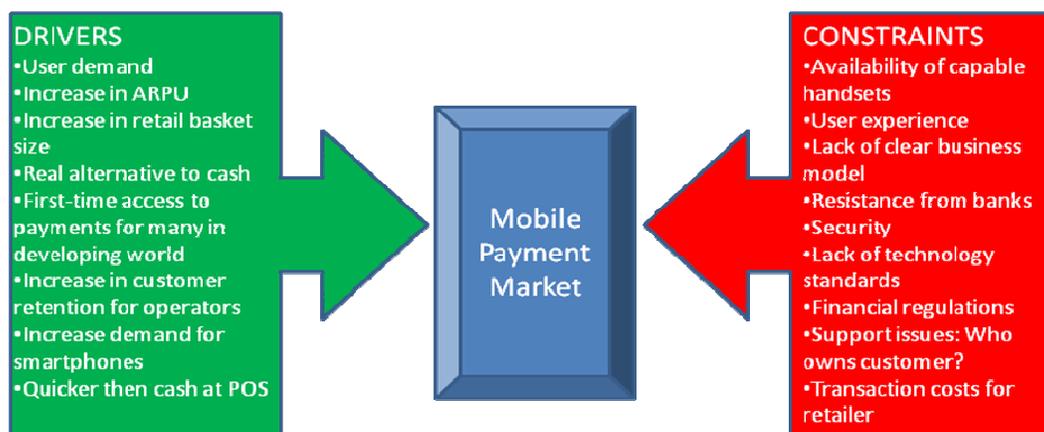
Source: SK Telecom

In North America both MasterCard and Visa International have been involved, or are running, trials, using NFC enabled devices. In these trials, the credit card scheme organisations have ported existing contactless payment applications onto the mobile phone. This means the supporting infrastructure, both at the merchants and at the issuing banks, is already in place. Additionally the potential user base is not confronted with a payment method that is alien to them.

## Market Drivers & Constraints

There are some real and compelling market drivers for mobile payments in both remote and physical guises, but we also need to discuss the constraints that could restrict its growth. The main drivers and constraints are summarised in Figure 5 below and discussed in more detail in the sections following.

**Figure 5: Mobile Payment; Summary of Market Drivers & Constraints**



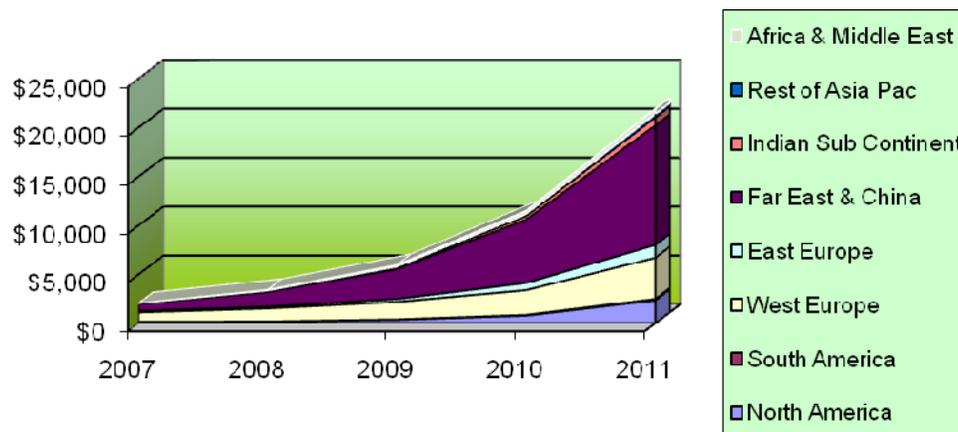
Source: Juniper Research

## The Market for Mobile Payments

By the end of 2007, the total transaction value for mobile payments will have reached just above \$2bn. This is a good indication of the strength of demand for mobile payments and is being fuelled by a number of factors that include the increasing demand to download digital content to mobile phones and the need to pay for them, in the majority of cases, using the mobile phone bill. Another factor that is pushing up demand is the deployment of secure and user friendly physical mobile payment schemes such as NTT DoCoMo's FeliCa based contactless payment scheme.

The demand for mobile payments will grow in the 5 years from 2007 to enable the processing of nearly \$22bn worth of payment transactions by 2011. This is a large figure on the surface but still means that in terms of payment schemes; mobile payments will be a niche player in the overall payment market. If we compare this figure to the figures from MasterCard for 2006 with a reported worldwide gross domestic charge volume of \$1.96 trillion from 20.5bn transaction then the figures for mobile payment are put in perspective.

**Figure 6: Total M-Payment Transaction Value (\$m) Regional Forecast 2007-2011**



Source: Juniper Research

## Order the Full Report

### Mobile Payments: Strategies & Markets 2007-2011

This whitepaper is taken from the report entitled "Mobile Payments: Strategies & Markets 2007-2011".

Providing an in depth analysis of the payment and mobile industries current and future strategies, the *Mobile Payments: Strategies and Markets* report projects the most comprehensive regional market data obtainable to date. With a detailed forecasting suite predicting changes in the market until 2011, this report provides the complete analysis of the opportunities available for mobile operators, credit card networks, banks, vendors, handset manufacturers, chip manufacturers and hardware providers. This extensive report, containing nearly 190 pages of detailed research and analysis, explores how NFC technology functions and the key role it will play in enabling mobile payments. This report examines current commercial mobile payment schemes that are based on SMS. Key mobile payment vendors along with current commercial schemes and pilots are highlighted in a number of case studies. This report also offers an invaluable insight into the strategy that new entrants will need to adopt if they wish to effectively establish themselves in this exciting new market.

For more details on this report visit the website [www.juniperresearch.com](http://www.juniperresearch.com) or phone +44 (0)1256 830002

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