Who will be the winners in the mobile payments battle?

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Consumers hold the key to future success - are players taking account of their needs?

Mobile payments – on the brink of mainstream acceptance?

Mobile payments were a hot topic around the turn of the millennium, when the dot-com bubble was ripe to burst. At IT fairs, several vending machines offered visitors the option to pay via their mobile phone. Rumour has it that at that point, a poor guy had to sit in each vending machine and throw a can at every call he received.

A decade ago, experts predicted that banks would lose ground on payment services as telecom companies achieved the same outcome using their billing mechanisms. Today the landscape has become even more complex and a variety of new players have entered the fray. Google, PayPal, Facebook, Apple and others are turning their sights on the target of replacing cash, debit cards and other forms of payment with software-based approaches running on mobile devices.

What can traditional and new stakeholders do to ensure they stay in the game? In this paper we offer a fresh perspective, based on a specially commissioned study of European and US consumers, to help players across the board make conscious choices regarding their mobile payment strategies.

While it is too early to predict winners, banks have a clear head start despite their damaged reputations, as they have by and large retained the trust of consumers. However they cannot rest on their laurels. Continued deregulation, coupled with a growing consumer appetite to work with newer players (no doubt catalysed by media attention on bank failures) combine to create an unprecedented opportunity for new players. We see telcos, with their similarly transaction-based business models, continuing to chomp at the heels of the banking sector, particularly in developing countries where they benefit from greater reach. Meanwhile, internet based start-ups are filling in the gaps, creating opportunities and taking mobile payments into new areas.

Consumers are notoriously fickle. Their behaviours depend on transient qualities such as confidence over convenience, peer behaviour and demographic factors such as age and disposable income. All organisations have the potential to respond to these drivers, however their different starting points and attitudes can result in very different approaches and indeed, risks.

Industry research organisation Gartner believes that transactions will reach a volume of $617 billion by 2016, making mobile payments a worthwhile prize by itself, if providers and the technologies they adopt satisfy key consumer expectations. The ultimate prize for all participants, lies in the current accounts of consumers across the continents. Win a consumer’s main current account, and you own the payments market.

With all to play for, we explore scenarios of how mobile payment models could impact consumers in the future and we provide a strategic framework to enable all organisations to be better equipped for the challenges ahead.

WHAT EXACTLY ARE MOBILE PAYMENTS?

The term mobile payments describes a payment process where the initiation, confirmation, authorisation or realisation of the financial transaction requires a mobile device. In general, mobile payments are categorised as proximity or remote payments. Proximity payments are where both parties involved in the payment transaction are in the same location and communicate directly with each other using contactless radio technologies. Remote payments are mobile-device-initiated payments where the transaction is conducted via a communication link. The payments can be initiated regardless of the payer’s location.
AN EVERYDAY EXAMPLE OF MOBILE PAYMENTS

Imagine you are walking through a picturesque shopping promenade and pick some items of your choice. Eventually, you want to check out and the amount to pay is calculated at the cash register. By using your mobile device the amount is confirmed, transferred to the merchant’s bank account through electronic transmission and all loyalty rewards are directly credited to your account.

In a more advanced scenario you could scan the product with your mobile device and the payment would be completed right in front of the shelf. No need to reach for your wallet or to sign a receipt, all banking and loyalty cards are stored on your mobile device, eliminating time-consuming delays at the cash register. Seconds later you receive an email receipt with all details together with a coupon offering a rebate on your next visit. Even after the purchase you still have the option of changing the mode of payment among different credit cards, current accounts or other finance mechanisms.

Current and future players in the mobile payment market

The European mobile payment market landscape is experiencing revolutionary change as new players and technologies appear on the scene. But which forms of cooperation or competition will establish themselves and which technology will prevail? We applied Porter’s classic Five Forces Model to gain a better understanding of the shape of the mobile payment market (Figure 1).

The stakeholders present are traditional banks and mobile network operators (telcos), both challenged by the new kid on the block: the internet players.

Then we look into the role of retailers and the catalysing effect of other suppliers.

Traditional players – banks and telecommunication operators

Traditional players and telcos within the mobile payment market feel established in their environments, looking to leverage existing infrastructure and adapting their business models in incremental steps. Both groups act as operators within their industries; either financial markets or telecommunication networks. They process large amounts of data and need to secure billions of transactions each day. Through business expertise and innovation they create highly sophisticated services for their client base.

Figure 1

Mobile Payment Ecosystems
Porter’s Five Forces adapted to the m-payment market
Traditional players in the European payment market are making use of different technologies at their disposal to promote mobile payments. Banks equip their plastic cards in circulation with NFC chips, credit card companies are upgrading their vast Point of Sale (PoS) networks and telcos look to leverage their mobile networks as revenue generators.

**NFC – NOT FOR COMMERCE?**

Different technologies are competing to lead the way in the future mobile payment arena. No technology has been able to set the industry standard yet among pay per text messages (SMS), pay per call, mobile web payments, pay by QRC (2D Barcodes), Near Field Communication (NFC) and other innovations. Among all of these methods NFC-based payment methods promise the best usability and transaction speeds. Nevertheless the technology faces a first-mover dilemma: handset manufacturers may be tempted to not offer NFC-enabled mobile phones as long as consumers do not express an immediate need for it. Moreover, merchants and payment stakeholders may be tempted to not invest in a ubiquitous NFC-based mobile payment network without a significant number of NFC-enabled phones in circulation. Hence the NFC technology could turn out to be either the promised land of mobile payments or the strongest friction pad.

All the same they are coming under increasing pressure as growing numbers of mobile payment market participants introduce new ways to conduct business, new thinking in terms of security and privacy, and new technologies which drive faster adoption. These put pressure on existing players to respond, at the same time as impacting the value chains upon which all participants depend.

**Internet players and other substitutes**

Now that powerful smartphones and cheap communications are mainstream, barriers to entry for new competitors in the mobile payment markets are lower, requiring only moderate capital investment. New players include internet companies attempting to change the landscape of mobile payments with innovative, software-based payment solutions that are not tied to old structures and technologies. Such organisations have innovation in their DNA and are unafraid of change at breakneck speed. Unrestricted by traditional models, they can:

- Become the payment processor themselves and store credit cards on file.
- Work through banks and payment processors to execute transactions.
- Team with mobile operators to create direct-to-carrier billing where consumers make a purchase with their device and the amount shows up on their cell phone bill.

New players do not have to amortise large infrastructure investments from the past, renegotiate contracts with customers or change their organisational environment. Nor do they have businesses they could lose or risk cannibalising through new payment methods. So they are free to disrupt traditional conventions with their highly competitive business models.

**Retailers – the point of sale**

Retailers will continue to play a very important role in the mobile payments future. Consumers cannot access mobile payments unilaterally, but depend on the specific mechanisms available at the PoS. The result is a chicken-and-egg situation: retailers will be less willing to invest in a mobile payment mechanism at the PoS if insufficient consumers use the mechanism. Meanwhile, consumers will only adopt a mechanism if it has been widely adopted by retailers⁴.

The mobile payments opportunity remains, not least because of efficiency advantages for retailers. Since service costs are a key cost driver for retailers, increased checkout velocity is a promising goal as this enables cashiers to respond more quickly to customers and deliver greater turnover. Equally, unmanned or remote PoS locations, for example accessed via mobile payments apps on a smartphone, possess significant cost reduction potential with reduced security risk over cash. Mobile payments offer another marketing and sales channel, enabling merchants to send loyalty rewards and marketing messages to the consumer, in real-time.

**MOBILE WALLETS – THE GATEWAY TO DIGITAL MARKETING?**

Almost 70 per cent of players expect that mobile based technologies will experience the greatest growth in importance until 2015. In addition, research presented by American Express at a recent Telco 2.0™ Initiative “brainstorm” workshop suggests that mobile wallets could take digital marketing to a new level by enabling the smooth delivery of targeted advertising and the straightforward issuance and redemption of loyalty points and coupons... a market prize valued at 4 to 5 times the value of the payments industry, at $400-500 billion.

Understandably, retailers and other well-established brands with existing high levels of customer trust are looking at developing their own schemes. Many large supermarket chains already supply financial products and have loyalty card schemes in place. It is a small step to enable more loyal customers to use a retailer-specific mobile payment mechanism. Large postal and logistics companies are also looking at extending their trusted brands to incorporate payments mechanisms.

Whether they go with their own mechanisms, retailers and other organisations will put additional pressure on traditional payment network operators as they look to invest in faster payment methods at the PoS.
**Suppliers and the catalysing effect**

Suppliers will also play a significant role in mobile payments. These organisations include loyalty programme companies, payment network operators and providers (including telcos) that integrate a mobile channel into their value chains. Suppliers have the potential to add value through their services, like loyalty and redemption, location-based services and advertising, third party service subscriptions and social network integration to any mobile payment solution. For example:

- Public transport companies that offer electronic ticketing via mobile devices could partner with mobile payment providers or telcos.
- A loyalty programme company could partner with a mobile payment provider to leverage their locked-in loyalty programme customers and maximise rewards to their customers.

Such collaborations can generate innovative unique selling points (USPs) for all participants in this highly competitive market.

**Consumers – the fifth force**

What about the purchasing public? Today’s consumers are well informed, have a variety of choices, demand customised products which exactly fit their needs – and they have a voice. Time optimisation is an essential part of daily lives and technology like smartphones, tablets and apps have made this development possible. The things that most people carry in their pockets, having dispensed with cameras, notebooks, and calendars, are keys, wallet and mobile phone.

Taking the step toward merging payments into the phone seems to be a valid proposition. But can we assume that young people who grew up in a technologically advanced environment will value the utility of mobile payment methods and their benefits? Or that older people will reject mobile payments? While mobile payments will be adopted quickly by some demographic cohorts who will make more measured progress among others, who will be the leaders?

In the meantime, how will existing and new players develop the mobile payment market? One of the most important challenges will be to find the most valuable target groups and to align pricing models for mobile payment services. There are also questions about whether consumers will feel comfortable storing the intimate details of their financial lives in one basket, up in the clouds.

While much research has taken place in the US, little available data exists in Europe. So in 2012 BearingPoint commissioned i2 media research limited to learn how consumers transact in the UK, France, Germany and the USA, and what are the drivers, barriers, opportunities and challenges to realising a vibrant mobile payments market in Europe. We report the key findings below.

**The consumer payment landscape**

The first thing to say is that the landscape is diverse, with methods reported by consumers for any transaction varying significantly across the four countries considered. As shown in Figure 2, cash is most commonly reported method of payment across the four countries considered. As shown in Figure 2, cash is most commonly reported method of payment across the four countries considered. In France it is about equal with Debit Card. Debit card payment is next most cited in the UK, France and USA, but in Germany Online banking is second.
These proportions vary by amount spent. For lower value (<20€, £15, $25) transactions, cash is the most common method of payment followed by debit card, except in Germany, where online banking is second. However for higher value (>20€, £15, $25) transactions, Debit card is the most common method of payment across three countries (UK, FR, USA), while German respondents still report that cash is the most popular payment method.

We can read that cash and debit card are the key payment methods to target for replacement by mobile mechanisms, particularly for lower value transactions. The data also suggests that go-to-market strategies need to be developed with sensitivity to specific country differences.

A more significant factor, however, is the propensity for smartphone use. We shall get into the detail of this in a moment, but let us first point out the age effect on smartphones. Older people are far less likely than are younger people to use a smartphone, across all four countries sampled in our survey. The vast majority of 16 to 34 years old are smartphone users, compared to about half of 35-54 years old and less than 30% of people aged 55 years and above.

So, how do these factors influence future payment habits? Let’s take a look.

Can consumers imagine mobile payments substituting current habits?

Mobile payments are clearly still to leave the starting gates. When we asked respondents whether they had knowledge of specific mobile payment platforms, we learned that a good 50% knew of mobile payment approaches such as those from PayPal Wallet or Google Wallet, described below. Nonetheless, only 10-15% had actually used a mobile payment method of any kind.

The future looks bright. As shown in Figure 3, a significant proportion of respondents agreed they could imagine paying via a smartphone to substitute their current everyday payment habits in the future.

Unsurprisingly, current smartphone users are far more likely to concur – some 52% across all countries. What we can’t tell from this data is whether having a smartphone is the gating factor for paying by phone, or whether smartphone users have other characteristics (not least, age) which makes them more willing. From a provider perspective this question is moot, given the significance of the sample.
For the subgroup of smartphone users, cash payments present an easier substitution target for mobile payments than debit or credit cards. As the transaction values go up, the proportions fall: 25% of US respondents said they would be prepared to make unlimited payments, compared to 15% in the UK and France and only 7% in Germany. For this reason it looks unlikely that other payment methods will be completely substituted, at least in the short term.

As mentioned previously, the ‘age factor’ has a significant bearing on the amount spent. When asked whether they could imagine making mobile payments using a smartphone, we received very few (less than 10%) ‘Don’t Know’ responses, illustrating a black and white position which varies considerably according to age. As Figure 4 illustrates, the 55-plus group shows considerable reluctance to adopt mobile payments across all geographies, whereas the 16-34 group is quite willing to go with the concept.

TAKE-AWAY:
Mobile payments present a valid alternative to everyday payment mechanisms such as cash and debit cards, particularly for younger smartphone users.

Figure 4
Generation Y is open minded towards mobile payment
Willingness of smartphone users to make payments using a smartphone by country and age group

Figure 5
Security and convenience are the driving factors for m-payment uptake
Considerations of smartphone users if using smartphones rather than cash
What do consumers expect from their providers?

So, what will encourage consumers to adopt mobile payments? Given that cash payments by smartphone users looks like the initial target, we can focus specifically on the considerations selected by respondents as important when thinking of using a smartphone payment method instead of cash. As demonstrated in Figure 5 (left), security concerns top the list, cited by a majority of UK and USA respondents (53%) and by at least a third of French and German respondents.

It is interesting to drill down into the secondary priorities. “Wide acceptance by retailers” was cited as an important consideration, particularly in the USA and UK (44%). This was seen as of greater importance than convenience and time-saving characteristics, which suggests that both of these factors require a level of critical mass first. The picture was similar for smartphone-based payments to replace debit and credit cards.

Another key question is whether mobile consumers would expect to pay for any service. Reported resistance toward this idea is high across the sampled countries, with over 50% disagreeing with the statement, and around one third strongly disagreeing (Figure 6). This implies strategies should be geared towards fees/ costs being bundled with other elements (e.g., bank account fees or interest rates, line rental and so on).

Figure 6
Smartphone users are not ready to accept m-payment charges
Willingness to pay for mobile payments via a smartphone

Figure 7
Continental Europe attracted by discounts, US/UK by cash back and loyalty schemes
Types of service provider likely to provide a mobile payment service

Who will be the winners in the mobile payments battle?
About 50% of the sample suggested they would be open to some kind of reward scheme. When offered reward mechanisms such as cash-back or discounts, respondents across the board said they saw such options as being capable of encouraging them to make mobile payments via smartphone.

As Figure 7 shows, the exact mechanism can vary by country: discounts are most often cited by French and German respondents (~65%), while in the UK, loyalty rewards and cashback hit the spot. The latter is of most interest in the USA. Note that general ideas around ‘status’ were not appealing in any geography. Consumers tend to be more mercenary.

Which players can be expected to deliver?

Turning to the providers, Figure 8 shows consumer expectations on organisations they expect to be capable of providing mobile payment services. It is immediately clear that respondents consider their current bank to be the best-suited mobile payment provider. This is followed by specialist companies, except in France. Interestingly credit card companies are not seen as having a major role — though they are more likely to be cited by respondents from the USA.

TAKE-AWAY

Security leads other priorities, such as acceptance of cards by retailers. While convenience is even less of a priority it would certainly encourage adoption, aided by rewards schemes. At this early stage, asking people to pay for the privilege would undermine progress.
Despite failures in the global banking system, consumers do still appear to set some store by their banks. This is further demonstrated by Figure 9, which shows just how important respondents still consider trustworthiness over convenience - “Knowing the provider is trustworthy” is considered important by over 70% of UK and USA respondents for example, whilst only 30% value “The convenience of the service”.

This is a very important finding. Even given the current climate, banks have a significant head start in providing mobile payment services. Specialist mobile payment companies are not lagging far behind however, suggesting that if they can achieve a similar level of perceived trust, they can gain customers from traditional banks. And while credit card companies are not seen as significant apart from in the US, if they link a specialist service with their own trusted brand, they can still be players. Strategies may need to be bespoke to each territory. For example, telcos might be expected to perform better in the UK than elsewhere in Europe or the US, and credit card companies and internet companies to perform better in the USA.

Figure 9
Importance of trust over convenience for smartphone payments
When selecting which service to use for payments via a smartphone, which of the following facts would be important to you?

FRANCE
GERMANY
UNITED KINGDOM
USA

- The convenience of the service
- Knowing the provider is trustworthy
- Neither

The importance of this finding is further demonstrated by Figure 10, which shows the extent to which respondents would be willing to open a bank account with a mobile payment specialist provider. At least 40% of USA and UK respondents agree/strongly agree with the statement, while French (39% disagree) and German (43% disagree) respondents seem less keen.

Clearly, this is not simply about the mobile payments space, but personal banking as a whole. It is important to note that the figure is significantly less with regard to ‘main’ bank account – only 22%-36% of respondents (France 22%, Germany 29%, UK 32%, USA 36%) would be comfortable with this. However, an additional bank account would represent a significant beach head for mobile providers, into traditional banking territory. If banks do not get their acts together and consumers take out accounts with specialist providers as a result, then the former group risks losing that all-important loyalty.

BEARINGPOINT TAKE-AWAY:
Banks maintain a strong position of trust and therefore have a head start compared with competitors. However banks should not be complacent, particularly given that the ultimate prize for mobile payments players is to provide everyday banking services to consumers.
Bottom line: there’s all to play for

Where the US leads, Europe often follows – in its own way. Country differences shown across our sample are not to be ignored. However there is broad agreement that cash and potentially debit card payments are ripe for plucking by mobile payment providers, particularly for younger smartphone users. While this is a subset, it remains a staggeringly large number of consumers.

Given that penetration of mobile payments is still tiny compared to other transaction mechanisms, action is needed to raise consumer awareness of mobile payment methods. Risk-averse groups need to be assured that mobile payments are a safe payment method, whereas more risk neutral and responsive consumers can lead adoption and therefore promote mobile payments to a wider public. Not everybody currently uses a smartphone, so payment providers may benefit from promoting both the mechanism and the smartphone platform.

Top priority for all groups is security, which works two ways. If consumers believe that they are gaining security through mobile payments over (say) a larger cash transaction, they will be encouraged to use it. However, if a provider has a poor reputation, it could be damaging both for its own customers and for that particular group of players: for example failure by one telco could damage the reputation of all telcos. It is therefore in the interest of all parties to utilise new technological possibilities to increase security.

Trust and privacy are also important to consumers, particularly where money is involved. Trust plays a particular role in cultivating an effective, long-term, mutually rewarding relationship. Trust and privacy can easily be lost. A study from the University of California, Berkeley showed an overwhelming 96 per cent of respondents to be against any system that would use their phones to track them as they browse a store.

Other concerns include the potential susceptibility of NFC to hackers, market fragmentation and lack of interoperability of mobile finance systems. Any such issue could make or break mobile payments. If risks are addressed before mobile payments hit the mainstream, we can expect demand to grow. If questions are left unresolved the resulting problems (and media attention) could undermine trust and set the mobile payments market back by several years.

Finally we should re-iterate the loyalty which consumers have built with banks over many decades. In this technology-driven world, consumers (particularly younger ones) will be prepared to try new mechanisms, if they are seen as secure and offer additional convenience compared to traditional methods. If mechanisms underperform however, consumers will carry on using cash and cards; The risks of doing things differently outweighing the inconvenience of the old. The winners will be those who maximise convenience whilst offering a continuing guarantee of security. There is no place for half-baked attempts to balance the two.
Changing stakeholder roles

Where can future business be made and which players will drive the market? The traditional payments value chain typically involves a consumer, merchant, acquirer, a payment network and an issuer (Figure 11).

Payments processing has evolved dramatically, however: the mobile payment value chain involves a larger number of players and introduces numerous changes in the roles that each play. This value chain can be best understood by comparing it with the established payment value chain for credit/debit cards (Figure 12). What interest does each stakeholder in the mobile payment ecosystem have in participating in this value chain? Let’s take a look at how traditional and new players are responding.

Figure 11
Card based Payment Value-Chain

![Card based Payment Value-Chain](image1)

CONSUMER
- Purchases goods or Services from Merchant
- Provides payment account information to Merchant
- Owns Credit / Debit account

MERCHANT
- Owns / leases software / hardware to authenticate and process payment account information
- Generates bill for transaction and sends Acquirer

ACQUIRER
- Merchant’s Bank
- Contacts Payment Network to check on funds
- Provides banking service to Merchant

PAYMENT NETWORK
- Intermediary between Acquirer and Issuer that handles communications between banks

ISSUER
- Consumer’s Bank
- Provides credit or debit account to consumers
- Authorizes or declines payment of bill from Merchant
- Sends payment to Acquirer if funds available

Figure 12
Impact of mobile players on the payment value chain

Card based Payment Value-Chain + New Players

CONSUMER MERCHANT ACQUIRER PAYMENT NETWORK ISSUER M-PAYMENT AGGREGATOR TELCO
- Provide a single place where multiple payment instruments can be accessed effectively
- Will be more influencing with the rise of Location based
- Provides mobile services to Consumer
- Authorises or declines bill from Payment Provider
- Pays Payment Provider with Consumer’s mobile account funds

Who will be the winners in the mobile payments battle?
Traditional players and their big bets

We have already pointed out the first-mover advantage that banks have when it comes to provision of mobile payment services. Financial institutions have proven expertise in handling payments securely, putting them in a strong position. Moreover, mobile payments appeal to financial institutions as they play a part in the continuing challenge to reduce use of cash and its associated costs.

Banks and other financial institutions are not slow to react to this opportunity:

• German savings banks are looking to develop a stronghold in the mobile payment market with NFC-based GiroGo, whose unique selling point is security. Participant banks upgraded their network of PoS terminals for NFC payments, and will have issued more than 40 million plastic cards to customers by the end of 2013.

• MasterCard is upgrading its network of PoS terminals for its NFC-enabled PayPass service and competitor Visa is upgrading its network under the label Visa payWave. Neither service currently includes mobile devices during the payment process yet. However this will soon be an option.

• With its CardMobile service, the Austrian Raiffeisen Bank International is upgrading customer iPhones with an NFC chip which allows them to use Visa’s payment network V PAY.

Players such as telcos are trying to disintermediate banks, with the help of third parties who have expertise in mobile micropayments. Telcos view mobile payments as an attractive way of achieving a return on past decades of infrastructure investment through reduction of churn, extra payment-related revenues and associated increases in air time and data use. Mobile payments also hold potential to allow for diversification into other areas of consumers’ needs and lifestyles.

Telcos are the most active stakeholders at this point in time. We are seeing a number of initiatives underway across Europe, including the mpass service in Germany for example, which enables mobile network operators like T-Mobile, Vodafone and O₂ to offer online payments via SMS. The service transmits a text message with a one-time PIN which the consumer enters into the merchant’s interface to approve a payment.

Other intermediaries within the value chain include:

• Technology providers offer a variety of technological support solutions to create value for M-payment consumers. They are important intermediaries, as they are pioneers in technology-led development.

• Aggregators (such as PayPal) are service providers that enable e-commerce merchants to process their payment transactions. Aggregators allow merchants to accept credit cards and bank transfers without having to set up a merchant account with a bank or card association.

• Independent service providers provide infrastructure to carry out M-payments, especially micropayments.

To counter this, banks generally see mobile payments as a defensive tactic.
New players and new ideas

The respectable margins within the current payments value chain earns established players good money and has attracted a number of new entrants. PayPal Wallet, Google Wallet, Apple’s Passbook and Facebook Credits are some of the promising new concepts that warrant a closer look.

- PayPal Wallet
  While PayPal has its origins in online-shopping, it aspires to expand to offline retailers by offering new payment methods at the PoS. Consumers identify themselves either through their telephone number and a PIN-code, a traditional plastic card or by purchasing the product via a secure mobile app known as PayPal Wallet. This bypasses the difficulty of having mobile payment services dependent on specialised hardware. In addition, use of a software-only solution speeds up the adoption process, giving PayPal an advantage while other players must wait for acceptance of NFC-enabled mobile devices.

- Google Wallet
  Google introduced a virtual storage for credit, debit and loyalty cards in late 2011, relocating the functions of the physical wallet onto mobile phones. Including payment. The digital representation of wallet functionality makes Google an intermediary between consumer and merchant. The company can also collect customer information from the data stream and use it for customising advertisement offers. With their advertising-financed business model, Google has already disrupted newspapers and map providers. It is quite possible that Google might lower payment costs for consumers and start a competition on prices.

- Facebook Credits
  Facebook has offered the Credits payment solution for several years, which works with apps that run on its platform. Facebook is currently rolling out the system for linked mobile Web apps, partnering with mobile operators in 30 countries to create a direct-to-carrier billing system to make it much easier to pay for in-app purchases. Facebook Credits currently differs from other solutions because it only substitutes cash for certain transactions, but it is imaginable that the services are the first steps towards a Facebook wallet.

- Apple Passbook
  Apple launched its Passbook service in 2012 enabling boarding passes, movie tickets, retail coupons, loyalty cards, and more to be stored in one place. As with Facebook Credits, Apple Passbook only substitutes cash for certain transactions, but latest rumours suggest that Apple (with its large and very loyal customer base) might make a considerable investment into setting up an Apple Bank. An application for an “iWallet” patent has already been handed in at the United States Patent and Trademark Office (USPTO) this year.

- Square, iZettle and Skimm
  A rising number of start-ups are responding to the desire of consumers to test new services and providers. For example, US-based Square and European start-up iZettle use relatively low investment in software development to compete with a mobile payment solution. Both services offer a smartphone app, which automatically announces the customer to a nearby merchant who can verify customer identity by a photo on the cash register. In France, Skimm offers a QR-code based solution aimed at small retailers, where the code contains the specific payment details for the transaction.

Numerous reasons exist for new entrants to think about participating in the payment value chain. But how can they gain market share? From our point of view, value-adding contributions could include using digital technology to speed up merchants’ checkout processes, streamlining and simplifying merchants’ payment processes to reduce both internal and external costs.
Learning from other geographies

Our view is that Europe’s mobile payments market will be influenced by market developments in the US, which has a strong start-up culture. Industry experts highlight the urgency for banks and credit card companies not to fall behind other mobile payment providers in the game that will be decided in the following two years or so.

Lessons can also be learned from elsewhere, not least in the African and Asian markets where telecommunications companies have gained a foothold in the payment process to grow revenues from existing mobile network investments. Whereas African telcos operate in areas with a wide under- or non-banked population, Asian telcos, for example in Japan and South Korea, build on their strong market positions and a technology-loving population. Research shows many different micropayment services entering the market between 2001 and 2005, such as bitWallet’s Edy (Currently, Rakuten Edy), East Japan Railway Company’s Suica, Pasmo K.K.’s PASMO, 7&I Holdings’ nanaco, AEON’s WAON, NTT Doicom’s iD, Japan Credit Bureau’s QUICPay, and Smartplus from UFJ Nicos (Currently, Mitsubishi UFJ Nicos).

Similar developments are appearing in Europe. If banks and retailers do not want to lose market share, they need to increase the pace of adapting to developments in the mobile payment market.

EDY AND SUICA – LEADERS IN A GLOBAL FIELD

A closer look at Japanese consumers delivers valuable insights for a possible development of European markets. To this end, we would like to shed some light on Edy and Suica. Of all of the mobile payment services, Edy has the longest history. Edy is a prepaid rechargeable contactless smart card and many consumers “owned a card, but rarely used it.” Nevertheless, it is recognised as a “convenient payment solution used in many locations.” Aggressive effort has been made to recruit new member stores, mass-media advertising and other promotional activities. This has contributed significantly to the service securing a favourable position as a pseudo-currency.

Suica is a rechargeable contactless smart card used on train lines. It has established itself as a “convenient micropayment solution for specific situations,” such as purchasing rail tickets and commuter passes or usage (e-money) at station kiosks. In 2007, Suica lagged behind Edy in terms of consumer perception as a pseudo-currency. Nevertheless, as a result of vigorous recruiting of new member stores, mass-media advertising, in-store marketing and other promotional efforts, it is likely that attitudes towards this service are about to undergo a significant transformation.

The difference in the positioning of Edy and Suica as means of micropayments is also reflected in factors leading consumers to “acquire the corresponding cards.” When asked why they originally decided to acquire an Edy card, many enthusiastically replied that “they found the service attractive” and independently sought a subscription. As for Suica card acquisition, an overwhelming number of survey participants indicated that the service appeared to be a “convenient alternative to conventional commuter passes...” reflecting the fact that the service was initiated as a substitute for transportation tickets.

Research has shown three important factors driving adoption of these cards can grow as an e-money solution: (1) The most effective means of promoting micropayment services appears to be in-store logo display, (2) Other effective promotion methods vary depending on consumer clusters, (3) Effective promotion methods for Edy and Suica differ in line with the positioning of these services. But research shows that mobile payment solutions require more than convenience alone. Most popular requirements were “prevention of anyone other than the handset owner from using,” “the ability to cash-in credit,” and “compatibility with other incentive point systems.” Security taken very seriously by the consumers, too.
Three scenarios of a future world with mobile payments

The appearance of new entrants has changed the dynamics of the payments value chain and consequently the share of revenue earnings of established players. As Figure 13 shows however, no one stakeholder has expertise in performing all operations, across the value chain.

Based on our understanding of the existing payment value chain and its players, we have created three scenarios of a future world with mobile payments:

- **Bank-dominated** - where the mobile payment value chain is controlled by established players.
- **Collaborative** - involving a mix between established players and new entrants.
- **A possible future without banks** - where new entrants dominate the mobile payments market and established players play a subordinate role.

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**Figure 13**
Core competencies of value chain participants

<table>
<thead>
<tr>
<th>TELCO</th>
<th>MERCHANT</th>
<th>PAYMENT NETWORK</th>
<th>BANKS</th>
<th>TELCOS</th>
<th>INTERMEDIARIES</th>
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<td>Infrastructural Support</td>
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As shown in Figure 14, in each scenario, every participant of the mobile payments value chain (apart from financial institutions) is stepping out of its core competencies and trying to gain market share from competitors. So how do these scenarios play out?

**Bank-dominated**

Quite clearly, banks could be leading players when it comes to deploying mobile payments. They are in an excellent position to offer a wide variety of mobile payment solutions, due to their existing competence in financial transactions with regard to security, efficiency and speed. It would take other value-chain players much more time and significant effort to compete with this positioning.

As a result, customers and merchants see banks as their primary contact for all aspects of payment. Mobile payment will be established by banks issuing virtual cards with a mobile payment component like NFC, which is used in a classical way at the merchant’s terminal for payments. The clearing of payments is carried out by a bank dominated payment network. Participating banks drive technology choices, control all parts of the mobile payment value chain, determine transaction prices and pocket a large share the profits.

How can this position be maintained? If there is any chance for this scenario, banks will have to equip their broad customer base with the ability to pay by mobile device. As a second step, banks have to enable merchants to accept their concept of mobile payments, generate a critical mass of acceptance points and use their existing product line, processes and IT infrastructure to fully integrate mobile payments into their financial services offerings. By using their technological and organisational knowledge, banks need to guarantee and market their offerings as the most secure mobile payments system at a competitive price among all existing innovations.

GiroGo in Germany (mentioned above) is an example of a strategic attempt to defend a bank’s market share and dominate the future payments landscape. Using this service, German savings banks can offer a mobile checkout to small and/or mobile merchants, based on an App called Kasse2Go which transforms NFC-enabled smartphones into mobile PoS.

But will the bank-dominated scenario prevail in the future of mobile payments? Banks have sometimes been too hesitant and invested too little in innovation and digital services to customers. Due to this fact, banks can lack the internal knowledge and culture to develop, by themselves, a mobile payment solution that can deliver on key criteria such as convenience. Instead they rely on the external knowledge of hardware, software and web providers and need to cooperate with business partners.
Collaborative

With the collaborative scenario, old players and new entrants operate simultaneously in the mobile payments system. To understand how things might look, we can consider first how different forms of cooperation and competition between telcos and banks have evolved over recent years, for more developed payment markets (Figure 15).

From our point of view, a collaborative scenario becomes likely if individual strengths of each player are leveraged and stakeholders are able to focus on their core competencies. Each stakeholder brings something different to the party. First, banks administrate customer accounts and issue (plastic or virtual) cards, as well as develop and operate the associated backend systems. This ensures that security needs of customers are met by handling money exclusively in high-standard banking IT systems and under finance industry common control mechanisms.

Meanwhile, the innovative culture and the user-centric development approach of Internet players delivers additional value for consumers and merchants. Research shows new entrants adding value to consumers in Asian markets by adding features at the PoS (e.g. integrating loyalty programs). New players also become the consumer and merchant’s contact point, while accelerated adoption and awareness raising is supported by resources provided by more traditional partners. This opens the door for new revenue streams from incremental services, improves customer retention and loyalty, and responds to the fundamental demand of customers for new payment models.

Different players each have their reasons to co-operate. For example, while mobile payments are deemed to cannibalise credit and debit payment products, networks such as MasterCard and Visa remain active – not least through fear of disintermediation. Therefore, they use their financial expertise and invest in mobile payments know-how as a way of defending their market share.

Figure 15
Impact of positioning vs. segmentation on collaboration strategies

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<tr>
<th>Different positioning along the value chain</th>
<th>Similar positioning along the value chain</th>
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<tr>
<td>Complimentary Model</td>
<td>Substitution Model</td>
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<td>Different client segments</td>
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Caption

Cooperation Model

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Caption

Cooperation Model
On this basis, a considerable number of banks, credit card companies, telcos and new players have entered into partnerships. For example:

- Citibank and MasterCard have partnered with Google and “tab payments” can be made at any retailer accepting MasterCard PayPass with a NFC equipped smartphone. Visa, Sprint and Deutsche Telekom have announced plans for similar systems.

- A consortium including Verizon, AT&T, T-Mobile, Visa, American Express, Discover and MasterCard is piloting the ISIS NFC-based mobile payment system in select cities in mid-2012.

- In the UK, multiple players are very active in the mobile payment market, e. g. Orange/Barclaycard QuickTap, Barclays’ Pingit, O2 Wallet, etc. UK operators Vodafone, Everything Everywhere and Telefónica have submitted a plan to create a mobile wallet joint venture to the Europe Union, but 3UK (UK’s smallest mobile operator) has raised objections.

Given that all players have different objectives, a customer-centric vision might get lost. But, at this initial stage, such an approach is considered necessary for a rapid mass adoption of mobile payments. A particular opportunity is to allow different players to respond to different customer needs. For example progressive customers – in terms of lifestyle and purchasing behaviour – are frequently attracted by brand power and the innovative service offerings of new market entrants. More conservative customers can be addressed by banks with their ‘respectable’ image, through their existing customer base.

While many different mobile payment solutions already exist in Asia and are establishing themselves in Europe, collaborative approaches will not be without their challenges. For example, the issue of revenue sharing has to be resolved, as this is the major driver for participation in mobile payment services, particularly in relation to the question of ‘free’ cash transactions. Though cash handling indirectly generates transaction costs, and merchants pay significant fees for the service of cashless payment, both types of costs of payments are included in the price of a service or product. The question of whether this model will sustain for mobile payments, or whether consumers will be prepared to pay explicitly for security and convenience, is still to be resolved.

**Without banks**

In the without banks scenario, banks are ultimately replaced by new entrants who take ownership of consumer and merchant relationships, superseding traditional financial institutions. The key driver for this scenario is the innovation created by intermediaries, who are looking for ways to process payments without using existing wire transfer and bank card processing networks. Their innovative models might be capable of excluding traditional players and catalysing adoption.

Both value chain players and new entrants tend to use the mobile phone to eliminate the existing payments ecosystem. Merchants are already attracted by the potential reduction of processing costs for credit and debit payments. In this scenario, growing consumer confidence would work with the catalysing effect of merchant adoption, causing customers to establish main accounts with new entrants and reduce their relationships with traditional banks over time.

As with established players in the first scenario, new entrants reach the described position by playing to their strengths. With a fresh look on financial services and a customer-centred development approach, they can provide a convenient mobile payment service and create additional value for consumers and merchants. Additionally, they can use brand power and fresh image to distinguish themselves in the eye of the customer from the old players.

By developing new, leaner systems, they are able to offer lower payment prices to merchants. Meanwhile, banks lose their ability to differentiate since payments can take place globally without depending on the banking connection. Without which, banks could be significantly impacted.

How likely is this? Today’s banks are established players with a sizable retailer network, customised payment offerings and potential for convenience-enhancing innovations (all expenses in one bill, connection to loyalty programs at par with high security standards). So, while banks may see a reduction in potential revenue streams from mobile payments, a considerable number of factors would need to be in place for this scenario to play out:

- Merchant networks continue to play an important role in catalysing adoption and facilitating PoS-based mobile payments, so new players will need to establish their own at a greater scale.

- Intermediaries need to develop, in some cases from scratch, a trusted brand that consumers associate with a reliable and trusted payment service provider.
While the scenario seems unlikely, it nonetheless remains possible – particularly if banks fail to act strategically. As we have seen, intermediaries are partnering with other players (e.g. larger logistics companies) who already have well-established reputations and close customer intimacy. Such organisations have a large customer bases and can offer customised propositions – in the case of logistics, for example, it is only a small step to become a responsible authority for money transfers.

An example of this scenario is the online payment provider PayPal, which is expanding further into the offline world. PayPal’s system uses the services of banks and credit cards only for transfers in and out of their own system. PayPal controls the whole process and does not need existing financial institutions to process payments. No doubt we shall see other players operating in a similar way, so banks should remain vigilant.

**BearingPoint’s advice: need for action**

The dynamic nature of mobile payments is pushing market participants to review their business models. In order to translate the market potential into business success, we recommend following a structured process to evaluate the extent companies are affected by developments in the mobile payments market. From our experience, the following activities should lead to a comprehensive analysis of the mobile payment landscape:

1. Analyse the mobile payment landscape (Five Forces analysis)
2. Segment your customers and identify potential target groups
3. Define a mobile payment strategy
4. Set specific mobile payment objectives
5. Select appropriate technologies

As a first step for any organisation looking to participate in the mobile payments market, we recommend a Five Forces assessment of market participants and driving forces across related industries, to gain a broad view of the market developments. Examination of service or product substitution and the level of competitive pressure should reveal potential threats, which will be of crucial importance to challenge your own positioning in the industry and within the payment value chain. In addition, participants can analyse contextual factors including technology trends, social and demographic changes, and the evolving regulatory landscape.

This information can be used as a foundation to segment target groups and gain insights into the anticipated mobile payment behaviour and lifestyles of customers. Once this information is understood, the company should have everything it needs to decide its overall corporate strategy for mobile payments and set specific business objectives to support the strategy.

To kick off the strategy development process, a fundamental element of the company’s mobile payments strategy concerns the pace at which it wants to compete in the market – early mover, fast adopter or follower, as follows:

- **As an Early Mover**, the company should be at the forefront of the mobile payment development and set the standard within the industry. Implementing the remaining steps of our strategic framework (define strategy, set the objectives, and select technology) should happen in regular intervals to make tactical adjustments whenever needed.

- **By taking the Fast Adopter position**, the company should observe the mobile payment market closely and invest in a few promising and innovative technology solutions (potentially realise small innovations). Be alert about market developments and be prepared to move fast if the mobile payments market accelerates.

- **If taking the Follower position is a valid option** (it will not always be possible), the company should observe market developments and evaluate which potential opportunities and technologies might be the most relevant for their business model. In this way, the company can copy successful competitor business models and look to increase the customer base gradually, either by competing on price or by identifying an appropriate differentiator.

A decision on whether to be an early mover, fast adopter or follower will then enable more specific business objectives to be decided, based on the following questions:

- What segments are to be targeted as a priority?
- What will be the service or product offering?
- Which operational model will we use to deliver products and services?
- What is the level of commitment (investment and management attention) and how does the organisation measure success (KPIs)?
When addressing these strategic questions, companies should focus on potential business development scenarios in their industry and the resulting impact on the individual business cases. Our analysis reveals three major, realistic scenarios for the impact of mobile payments on the business of various industries:

1) **No impact of mobile payments on existing business models and payment value chains in the industry**
   Possible reasons can be slow acceptance by relevant target customer segments, insufficient standards and/or adoption by retailers, and aggressive protectionist strategies deployed by established financial institutions to defend market share and business margins.

2) **Coexistence of traditional (debit/credit) and mobile payments, where customers use mobile payments to supplement traditional payment methods**
   In this scenario, existing players will have to make room for new players and enable an ecosystem which accepts their existence. Over time, traditional players may also leverage the capabilities of new intermediaries, to the benefit of both.

3) **Total substitution of traditional payment methods (debit/credit) by mobile payment solutions**
   This scenario includes subsequent virtualisation of the banking business where the boundaries between different business branches like banking, payments, communication, and information technologies will become less important.

The essential first steps for any player are to identify the most realistic scenario for their own organisation, to decide how mobile solutions will affect the payment environment in the company’s industry and to evaluate the impact of the preferred scenario on the company’s business cases. In our experience, key questions include: Will your market share increase or decrease? Do you expect to be disintermediated from the emerging mobile payments value chain? What kinds of business models will emerge for your company, out of the mobile payment trend? Where do you see the potential for increasing revenues?

Once the mobile payment strategy is set, the technology selection should be derived from the strategic objectives and choose a possible combination of two or more promising technologies.

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**REGULATORY DEEP-DIVE - SEPA**

An important element of the Single Euro Payments Area (SEPA) initiative from European Payment Council (EPC) involves mobile contactless card payments, which aims to expand the existing pan-European payment network to cover mobile payments.

As a consequence, the EPC is developing a standard for contactless mobile payments within the SEPA region. In contrast to the already circulating mobile payment solutions, the EPC focuses on contactless and remote mobile payments based on International Bank Account Numbers (IBAN) and Bank Identifier Code (BIC). The EPC is taking the initiative by involving all telcos and other stakeholders in the mobile payments process at an early stage. Nevertheless, current pilots indicate that there is still a long way to go for a single agreed mobile payments standard in the SEPA region.

How might the SEPA initiative affect the market introduction of mobile payment methods? We can anticipate some important aspects. First of all, the implementation process of SEPA payments has proven to be very costly for banks and credit card companies. These costs mainly come from heterogeneous payment processes in the 32 participating countries which need to be rationalised, leaving room for new players who do not have to bear these costs.

Such organisations can enter the market with innovative payment methods following the three characteristics of the SEPA vision: simplicity, homogeneity and safety. For banks, the standardisation of creditor and debtor identification is the major cost factor. Banks are forced to implement new payment systems which run alongside old systems which are still indispensable. This constitutes a major challenge but also a big opportunity for new players. Methods that standardise the process of identifying creditor and debtor and independent of their geographical position without incurring additional costs will have an advantage over traditional payment methods.
Concluding take-away: Old and new participants have it all to play for

BearingPoint’s research shows that the European mobile payment market offers a considerable size, growth potential and sustainability. The strong correlation between the general attractiveness of mobile payment and customers’ motives to use mobile payment complementary to traditional payment services indicates that customers are looking forward to integrating mobile payment services into their daily lives.

While banks have the upper hand compared to other players, this does not reduce the size of the challenge they face. To maintain a leadership position even while telcos and new entrants are looking to take their market share. Even though Internet companies have it all to gain, they could equally become no more than a memory in the history of mobile payments, should they fail to establish themselves as a trusted provider of financial services.

In the dynamic environment of mobile payments, the established players have to understand not only their own objectives, but also those of their partners, their competitors and – most importantly – their customers.

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