

MCOMMERCE OPPORTUNITIES TAKE OFF



STRATEGIES FOR
FINANCIAL INSTITUTIONS,
MOBILE OPERATORS
AND ENTERPRISES TO
IMPLEMENT MCOMMERCE
SERVICES IN DEVELOPED
AND EMERGING MARKETS

Mobile Commerce Guide 2012

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An SAP Company

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TO IMPLEMENT MCOMMERCE SERVICES IN DEVELOPED AND EMERGING MARKETS

Mobile Commerce Guide 2012

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By John S. Chen, Chairman + CEO,
 Sybase, an SAP Company

The Tipping Point for mCommerce

Globally, the growth of mobile commerce is a tale of two regions. The developing world has quickly embraced mobile commerce, even when done over very simple mobile phones.

It's no wonder: mCommerce makes obvious sense in places where physical banks are scarce, Internet access is spotty and few financial services exist.

In the developed world, however, it's another story. Robust financial infrastructure already exists. Other reasons have also played a part. Antiquated regulations, for one. So has the existence of multiple competing standards. And entrenched customers take time to change.

So when will the evolution of innovative and robust mobile commerce ecosystems begin? It's already happening.

Mobile commerce deployments in the developed world are catching up as regulators start to reform existing banking and transaction rules. Markets are starting to shake out and settle on the adoption of key mobile commerce technologies, and consumers, especially younger ones, are embracing mCommerce. A recent study by Juniper Research forecasts that the gross value of physical goods bought and sold via mobile will exceed \$170 billion worldwide by 2012.

The 2012 edition of the *Mobile Commerce Guide* offers strategies, expert advice and case studies for financial institutions, mobile operators & enterprises, from key players in the ecosystem who have successfully deployed mCommerce services around the world. It's a great place to start as you consider your own mCommerce strategy.

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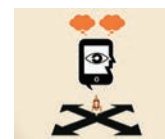
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THE OPPORTUNITY

By John Sims,
President, Sybase 365

The more a system evolves, the more complex it becomes. Any evolutionary biologist can tell you that. For understandable reasons, complexity is often treated in our day and age as a problem; but, for those that can bring order to the chaos, opportunity awaits. As we enter the midpoint of 2012, this is the situation facing proponents of mobile commerce and mobile banking, who realize that exciting and strategically positive opportunities are within their grasp.

As we consider the mCommerce market, we can draw upon our experiences with Web-based eCommerce. In many important respects, the industrial-strength marketing, transaction processing and analytic capabilities that beat at the heart of mCommerce today have picked up (to put it modestly) where the Web leaves off, in ways unthinkable less than a decade ago.





In its ability to leverage the unique mobile assets of presence and location, link these to the social networking phenomenon, and supercharge it with intelligent analytics, mobile commerce is transforming consumer motivation and redefining business opportunity. In the process, it is taking the extraordinary and making it ordinary. The same is occurring in the realm of mobile banking, with pronounced results in developing economies, where bricks and mortar banking infrastructure is conspicuous by its absence. We can see some of the extraordinary advances reflected in the sweep of articles in this year's Mobile Commerce Guide.

From corporate mBanking articles comprising Citizens Bank and RBC to mobile network operators in emerging markets, from mobile top up to customer engagement via the mobile channel – the common thread is practical, hard-hitting, real-world depictions of mCommerce in action. The evolution is growing every day into a robust, innovative mobile ecosystem:

- A large study of retail systems last year saw “engaging consumers through their mobile devices” a high priority. CRM, coupon and loyalty management topped the list, with 7 out of 10 respondents citing

these as essential for their next point-of-sale system purchase.

- Between Isis, Google and many other industry players, the mobile wallet is a leading topic in mCommerce. Material advances in this platform will only come about, however, when banks, operators and retailers can achieve interoperability and determine what kind of business model will be required to fairly reward the participants and foster a widely embraced mCommerce ecosystem.

- Then there is the critical matter of security. Rather than debating who owns consumer transaction security, operators and banks need to collaborate in developing standards and mCommerce best practices that protect all ecosystem participants to ensure mobile transactions are secure. Consumer awareness and understanding are key. We must continue to educate consumers, for example, that losing your mobile wallet is not fraught with the same pitfalls as losing your physical wallet.

- All these elements (and others) must ultimately fulfill the imperative of delivering value to merchants and consumers, one that constitutes a true payoff behind mCommerce technology for consumers.

We remain focused on understanding the complexities and helping our customers solve the challenges before us—bringing order to the chaos, drawing opportunity from the complexity. But there is no question that

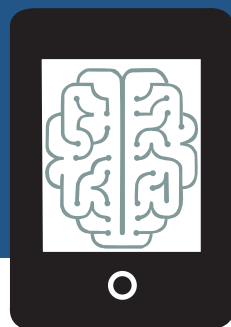
the evolutionary progress we all seek will require a chain of critical developments, just as we have seen in so many previous instances where innovative technology meets businesses and society. The first step is meaningful industry adoption of the new technologies, until we reach the inflection point that defines critical mass. This must be followed by businesses learning how to harness the innovative technology in powerful new ways.

Finally, consumers must see the value in changing their behavior to embrace the technology as an everyday part of their life. It's only with the achievement of these essential stepping stones will we see the full potential of this brave new world. One thing is certain: We're all in a process of discovery, but we're clearly well on our way to getting these elements in place and making the evolutionary leap! ■■■

John Sims heads the mobile messaging and mobile commerce business at Sybase. Previously, John served as CEO of 724 Solutions, Inc., a company that provided mobile internet/mobile broadband products for mobile operators worldwide. He was also co-founder, CEO and President of TANTAU Software, Inc., a global provider of eCommerce solutions to enterprises. John also served as COO of SCC Communications, and held several management positions at Tandem Computers and Burroughs Corporation.

Making Sense of Mobile Financial Services

By Zilvinas Bareisis,
Senior Analyst, Celent



Mobile financial services remains perhaps the most exciting topic for bankers today.

It is still relatively new and rapidly changing, with innovation in abundance. Press releases announcing “the next big thing in mobile” are issued almost daily in various countries around the world. Many get starry eyes when talking about the size of the mobile market and how mobile is changing the financial services and retail landscapes.

Mobile devices are reshaping many industries. They are also introducing a lot of complexity by enabling new types of payment flows and by blurring the lines between physical and online worlds and between various

payment transactions. None of it is making the job of getting to grips with or sizing the mobile market any easier. This article proposes a clear taxonomy to help readers make sense of mobile financial services and accelerate their strategic planning efforts.

As we all learned in recent years, mobile phones, and especially smartphones, can be so much more than voice communication devices. Hardware and software (thousands of apps on various smartphone platforms) can turn our phones into sophisticated cameras, GPS devices and music players. Phones can translate foreign phrases, help solve Sudoku puzzles and provide hours of entertainment courtesy of Angry Birds and many other games.

Many of those uses are not particularly relevant for a financial institution deciding on its mobile strategy. However, we at Celent believe that the financial institutions should care about a mobile phone being used for the five purposes in Figure 1.

1. Mobile as a Media Channel

Leading marketers have found creative uses for mobile devices to promote the overall brand or specific products. However, mobile remains under-utilised as a media channel—according to some estimates, mobile accounts for 7 percent of consumer time spent across print, TV, radio and other media, yet only for 0.5 percent of all advertising spend in the UK. And financial services are lagging behind other industries—it ranks only number seven internationally based on mobile advertising spend.

As with other channels, it is important to understand how customers use the channel and select the most appropriate tools and ad formats, which will vary depending on the use cases. However, a mobile channel also has unique characteristics—it is more personal and more engaging, which results in better response rates. According to Google, compared to desktop-based advertising (online), mobile can deliver an 80 percent increase on click-through rates and 43 percent higher conversion rates at a 15 percent lower cost per action (CPA), which is why the company recommends separating online and mobile campaigns. Mobile phones can and should be an explicit component of any financial institution’s media strategy.

2. Mobile as a Channel for Banking Services (Mobile Banking)

Just like online banking, delivery of mobile banking is no longer an option for a financial institution. Celent includes both information (balance inquiry, nearest ATM/ branch) and transaction services (account-to-account transfers) as part of the definition of mobile banking.

Information services continue to dominate the banks’ offerings. However, some innovative banks are beginning to offer advanced services, such as account opening and loan approval (Jibun bank in Japan). Rather than linking to Internet banking, many financial institutions now see mobile banking as a discrete channel with its own set of opportunities and challenges.



MOBILE PHONES CAN AND SHOULD BE AN EXPLICIT COMPONENT OF ANY FINANCIAL INSTITUTION'S MEDIA STRATEGY.

In terms of technology, triple play (SMS, browser and app) has become the norm.

The key questions for the banks around mobile include what types of services should be provided to which customer segments, how to cost-effectively manage the delivery across multiple mobile operating platforms and devices, and how to ensure multi-channel integration. Also, increasingly banks are starting to think how to leverage their investments in mobile banking to start offering mobile payments.

3. Mobile as a Point of Sale (POS) Acceptance Device

This category includes cheque remote deposit capture applications (mobile RDC) and various services which turn a mobile phone into a POS terminal, enabling card acceptance (Square). While these may look like payment transactions, Celent views them as acceptance innovations for traditional payment instruments and does not consider them as “mobile payments.”

Most of these offerings today are focused on the U.S. market. Remote deposit capture (RDC) was enabled by the U.S. Check 21 legislation and many of the card acceptance players started in the U.S. However, this is gradually changing, particularly in the mobile POS space—the U.S. leaders are planning international expansion, whilst

other players emerged in both developed (iZettle in Sweden) and developing markets (Rêv Worldwide).

These innovations are actually good news for most banks, as they either create efficiencies in the back office (cheque processing) or expand the market (card acceptance). However the banks should watch out for potential shifts in the business models by players focused on mobile card POS.

4. Mobile as a Payment Initiation or Approval Device, Enabling Mobile Payments

Mobile payments are incredibly diverse and represent the biggest challenge as well as opportunity for banks. At Celent, we distinguish at least three subcategories:

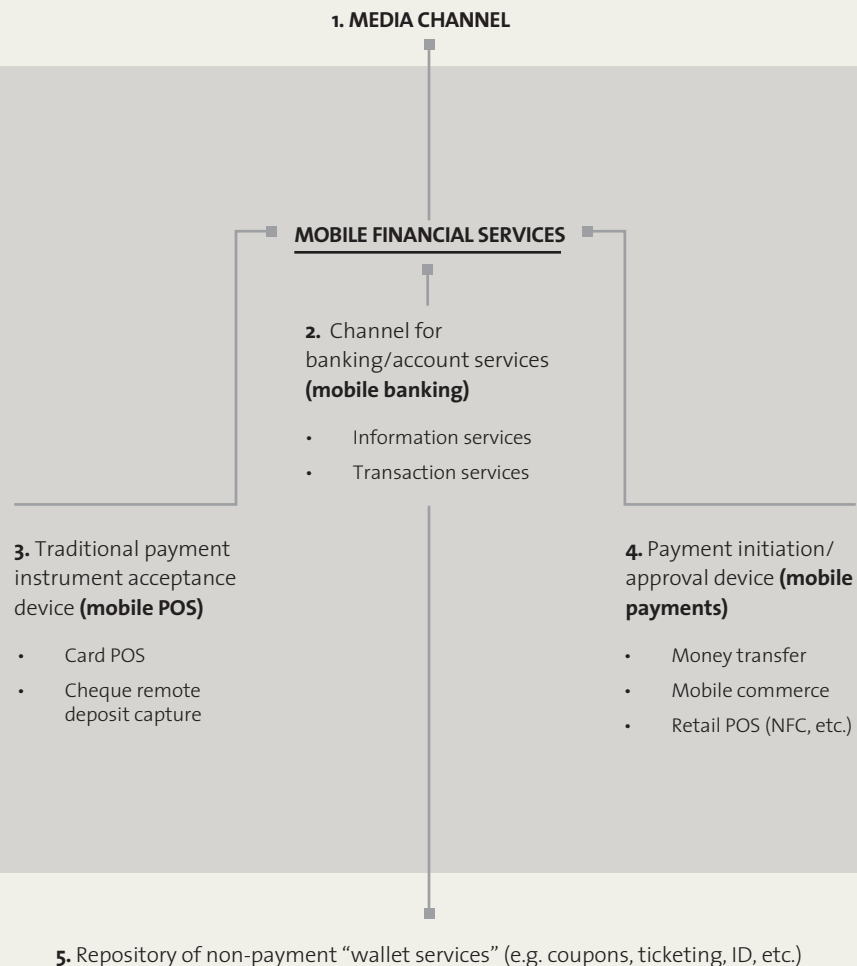
- Money transfer services, which include domestic person-to-person (P2P) and other transfers, bill payments and international remittances. The domestic P2P story itself is quite complex, with many different solutions vying for dominance in various markets. For example, in the emerging markets, mobile network operators have had notable success with their own solutions, such as M-PESA in Kenya or GCASH in the Philippines. In many developed markets, PayPal leads the way, but banks are starting to offer solutions based on bank or card accounts with technology partners, such



MOBILE PAYMENTS ARE INCREDIBLY DIVERSE AND REPRESENT THE BIGGEST CHALLENGE AS WELL AS OPPORTUNITY FOR BANKS.

FIGURE 1. WHY MOBILE MATTERS TO FINANCIAL INSTITUTIONS

Mobile as a:





as Fiserv, or card schemes, such as Visa and MasterCard.

- Mobile commerce, which includes various mechanisms allowing the individual to buy physical and digital goods and services from remote merchants through a mobile phone. Fundamentally, mobile commerce transactions differ by the role the mobile device plays in the transaction (whether it initiates or approves/authenticates the transaction) and by the type of account used to pay for the transaction (whether MNO-based or any other account-based payment method). In the most straightforward case, a mobile commerce transaction looks very much the same as an eCommerce transaction online,

just initiated through a mobile phone. Another important case is when the customer purchases, typically for digital goods, are put on a mobile operator’s bill, a payment method known as “carrier billing.”

- Retail point of sale, sometimes referred to as proximity payments, which includes paying via mobile for purchases from brick-and-mortar retailers. Near field communication (NFC) is the technology receiving the most attention, but there are alternatives, such as Quick Response (QR) codes or even remote payment methods. There are many NFC initiatives around the world, most of them in pilots, but some in commercial rollouts (Google Wallet.)

However, we are still a few years away from a mass market tipping point, due to a number of challenges, such as the need to upgrade both the phones for consumers and POS devices for merchants.

Among the key priorities for banks in mobile payments are enabling bank-account-based P2P, bill payments and remittances, finding the appropriate business model across multiple parties and finding ways to actively participate in mobile wallets by, at a minimum, maintaining the “issuer” role in mobile payments.

5. Mobile as a Repository of “Wallet Services” (Non-Payment)

Mobile phones can receive and store coupons, act as a ticket for transportation or events, and perhaps even be used to confirm the owner’s ID. In other words, it can replace many items currently residing in our physical wallets. While not financial, these services are important for financial institutions to understand, because they will likely reside along with the payment mechanisms in the successful mobile wallets. In fact, Celent’s view is that many of these applications will be critical in reshaping the retail landscape and driving adoption of mobile payments.

Categories one and five are important for financial institutions, but it is categories two, three and four that represent Celent’s definition of mobile financial services. Those three categories collectively cover a diverse range of transactions, but they also share enough similarities as well as present common issues and challenges.



BANKS SHOULD WATCH OUT FOR POTENTIAL SHIFTS IN THE BUSINESS MODELS BY PLAYERS FOCUSED ON MOBILE CARD POS.

Figure 1 shows the three categories as overlapping. Indeed, for example, many banks have mobile RDC applications as part of their mobile banking offerings. Similarly, as sophistication of mobile banking services continues to grow, consumers (and businesses) increasingly have an option to go beyond account-to-account transfers (part of mobile banking) and initiate third-party payments through a mobile phone. Finally, there are services that explicitly utilise mobile banking capabilities to execute remote and proximity payments (initiating an Online Banking ePayment (OBEP) transaction over mobile).

It is clear that with the pace of innovation we see in the mobile space, new creative solutions will continue to be launched. A framework, such as the one outlined in this article, can help the readers make sense of these new innovations and spot early “the next big thing.”

Zilvinas Bareisis is a senior banking analyst at Celent, a research and consulting firm. Bareisis’s research focus is on retail payments, including cards and mobile. Before joining Celent, Bareisis was a principal at Oliver Wyman Financial Services. Throughout his career, Bareisis has been advising senior client executives globally across a broad range of strategic business issues.

MOBILE BANKING SERVICES MATURE



The industry has come a long way since the first (mis-)steps of WAP 1.0 mobile banking.

Those early services promised a great deal, but in most cases failed to live up to the hype. After this stumble, many banks backed away from mobile, quietly winding down their offerings to reassess the channel and the opportunity.

About five years ago, mobile banking resurged. This time, it did not rely on immature technology. Rather it stood on one of the cornerstones of mobile services: SMS, or text messaging. Even in the world of iPhone and Android, SMS alerts are still the foundation of the vast majority of mobile banking services today.

In these five short years, we have seen mobile banking services evolve and broaden in their scope. From the simplest SMS alert to tablet computing, mobile banking now covers all devices and all mobile technologies. It is also helping banks reach new markets.

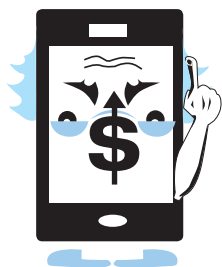
In developed economies, mobile banking is moving from a retail-only service to one that covers small and medium-sized enterprises, corporate and treasury. In emerging markets, mobile means banks can extend beyond their branch and ATM networks to reach new customers.

In this section of the guide, financial institutions and analysts present stories of real-world implementations, as well as guidance on working with regulations and selecting a qualified vendor in this rapidly changing space. ■■■

Mobile Wallets: The Cornerstone of Mobile Payments

IF MOBILE PAYMENTS ARE TO ACHIEVE WIDESPREAD USE AND PRACTICALITY, MOBILE WALLETS MUST BE A PART OF THAT SCENARIO.

By Andrew Schmidt,
Research Director, Commercial Banking & Payments,
TowerGroup, a Corporate Executive Board company



There is a tremendous amount of activity taking place in the mobile payments market as banks, payment networks, vendors, and merchants experiment with a variety of models in search of the “right” approach. While no clear winners have emerged to date, a number of models and requirements have arisen as key elements in securing the promise of mobile payments. One of these requirements is the creation of mobile wallets.

Although mobile phones (especially smartphones) make mobile payments possible, mobile wallets make mobile payments useful

by allowing consumers to choose their payment method while leveraging rewards and loyalty accounts via a single application. Mobile wallet frontrunners Google Wallet, Serve (from American Express) and Visa Digital Wallet provide many but not all of these services.

Figure 2 presents an overview of these mobile wallets, including their usability either at the point of sale or online or both. (Excluded from this figure because it is still evolving and remains largely theoretical is the Isis mobile wallet).

Each provider’s mobile wallet offering has its benefits and drawbacks. For example, Serve allows users to fund their accounts using a variety of sources, including cash; Google Wallet works only with a Citi MasterCard or Google prepaid card; and neither Serve nor Visa Digital Wallet support loyalty and rewards accounts—yet. Nonetheless, these offerings will undoubtedly expand over time as the mobile payments market matures.

At the moment, the American Express and Visa offerings have the most to offer consumers and have the most obvious chance of success in the United States and abroad, given their global reach. In contrast, the Google offering appears to be a limited hodge-podge of offerings and players

focused more on advertising than on delivering value to consumers and/or retailers (an approach that many banks will wisely avoid). However, Google is also the mobile wallet having the most success in adding loyalty cards to its offering. Likewise, banks should be interested in Google Wallet because it provides them the opportunity to preserve and even enhance the customer relationship rather than risk disintermediation by inclusion as a mere funding source for Serve or Visa Digital Wallet.

The Role of NFC in Mobile Payments

Near field communications (NFC) makes mobile wallets useful in the physical world, whether for person-to-person (P2P) transactions made between handsets, or for transactions involving an NFC-enabled point-of-sale (POS). NFC adoption is also key to the success of mobile wallets given that far more transactions take place in the physical world than online. As demand for NFC-enabled handsets increases, handset manufacturers and mobile operators will need to agree on a number of topics, including the location of user credentials, in order for adoption to have a sustainable trajectory. Similarly, these handsets will likely need to support not one, but multiple mobile wallets given that consumers will



BANKS LOOKING TO ENTER THE MOBILE SPACE NEED TO AT LEAST MATCH THE CAPABILITIES OF EXISTING PLAYERS IF THEY ARE TO HAVE ANY CHANCE OF ATTAINING MARKET SHARE FOR THEIR MOBILE WALLET OFFERINGS.

FIGURE 1: TOWERGROUP KEY FINDING



Mobile wallets are a necessity if mobile payments are to evolve from interesting gimmick to useful and ubiquitous payment option.



To spur adoption, mobile wallets must emulate the consumer's physical wallet, be payment-type agnostic and support customer rewards and loyalty programs.



NFC will increase the utility of mobile wallets by making them more accessible for POS and P2P transactions.

likely use the wallet, not just the payment type, that best suits their needs on a per transaction basis.

Recommendations

Banks and vendors serving the mobile payments market must consider the desires —and limitations— of their target markets, because consumers are unlikely (and possibly unable) to sign up for additional payment cards just to use a specific mobile wallet. This means that vendors (and financial services institutions acting as vendors) should be payment-agnostic, accommodating both electronic- and cash-funded payments, and facilitate the interaction of payment types and rewards programs at the point of sale. Doing so will create the customer value needed to carry mobile payments past the early adopter phase.

Banks looking to enter the mobile space need to at least match the capabilities of existing players if they are to have any chance of attaining market share for their mobile wallet offerings. Banks that fail to provide such basic capabilities as making payments to noncustomers are bringing a knife to a gun fight and risk accelerating their disintermediation by demonstrating that they do not understand the market.

FIGURE 2: MOBILE WALLET OFFERINGS (2011)

Name	Players	Supported Payment Types/Sources	Usability
Google Wallet	Citi, Google, MasterCard, Sprint	-Citi MasterCard or Google prepaid card -Gift cards -Also supports loyalty/rewards programs	-At contactless card readers at point of sale (POS)
Serve	American Express	-Cash, credit/debit card, transaction account prepaid card -Comes with separate prepaid reloadable card	-At contactless card readers at POS -Online
Visa Digital Wallet	Visa	-Consolidates multiple Visa and non-Visa payment accounts that can be used in mobile, eCommerce, social network and retail POS -Supports merchant-driven discounts and promotions	-At contactless card readers at POS -Online

Source: Company Websites, TowerGroup

Moving Forward

Mobile payments and bank-led payment exchanges hold great promise in their potential to forever change the way consumers make payments. To be effective, these offerings must accommodate as many payment types as possible lest they be ignored in favor of existing payment types that already meet consumers' needs and require no additional hardware or training for retailers to accept. They also must allow consumers to make payments outside of common banking relationships. Failure to provide these basics will delay, if not outright squander, the investments that financial institutions, vendors and mobile phone manufacturers have

made in mobile payments and will cede the person-to-person payments space to software vendors and alternative payment providers. ■■■

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Andy Schmidt is a research director in TowerGroup's Commercial Banking & Payments practice. He focuses on trends and developments in the payments back office, including payments hubs, mobile payments, service-oriented architecture, payments convergence, standards, and anti-money laundering. Schmidt has 20 years of experience in the financial services industry as both a banker and a consultant.



MOBILE PAYMENTS AND BANK-LED PAYMENT EXCHANGES HOLD GREAT PROMISE IN THEIR POTENTIAL TO FOREVER CHANGE THE WAY CONSUMERS MAKE PAYMENTS.

The Mobile Remittance Regulatory Landscape

UNDERSTANDING AND COMPLYING WITH REGULATIONS MAY NOT BE EXCITING, BUT IT REPRESENTS REAL MONEY, AND MAY BE THE DIFFERENCE IN THE SUCCESS OR FAILURE OF YOUR MOBILE REMITTANCE BUSINESS.



By Derek Ho,
Corporate Counsel, Asia Pacific,
Sybase 365

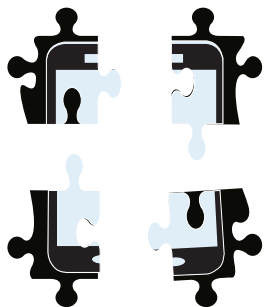


It is true that things we avoid or ignore often have the uncanny knack of upsetting our apple carts. Compliance with regulations is one of those things that could easily blindside businesses, and businesses would do better to spend effort and resources trying to understand and comply with the regulations that impact their services, especially if the regulations are new or evolving, or relatively unfamiliar to the business.

The mobile remittance regulatory environment in most countries is characterized by regulations that range from fairly new and evolving to well-established, and involvement by one or more regulatory authorities. The road is sometimes difficult to traverse, especially if the business (a non-bank institution) has never been the subject of such regulations, licensing or compliance requirements. Understanding and addressing the regulatory and licensing requirements of a new, unsettled market can be a competitive advantage, particularly if competitors are less well-prepared to deal with such issues. Mobile network operators (MNOs) that want to provide cross-border remittance services can realize a competitive advantage if they plan for such regulatory issues.

Understanding the Regulatory Stakeholder

In any regulated market, an important key to getting the deal done is engaging with the relevant regulators early, and understanding their concerns. In most countries, the financial services regulatory authority would be the key regulator to engage with. For example, in Singapore, the Monetary Authority of Singapore is tasked with oversight of remittance agents.



Other regulatory authorities may also be involved. For example, the telecommunications regulator needs to be involved when the mode of payment is prepaid cards, or, more generally, because a telecommunications service is being provided. Countries with foreign-exchange control may require further registrations. In Malaysia, besides seeking regulatory clearances from Bank Negara Malaysia, a remittance service provider in Malaysia also needs to obtain approval from the Controller of Foreign Exchange.

The complexity increases if the remittance service model being implemented involves the service provider owning or controlling both the sending and disbursing remittance service providers. Control over both ends of the remittance chain would necessitate discussions with the relevant regulators in both the sending and receiving countries.

In regulating markets, financial regulators want to fulfill certain objectives. Key among these objectives, in relation to remittance services, is the prevention of money laundering and other illicit transfers of money (such as terrorist financing). Another

consideration is promoting confidence in the integrity and security of remittance services. Hence, the regulators may impose or recommend certain practices or requirements relating to risk management, security, prudential measures, governance and prevention of money laundering.

Understanding and addressing regulators' key concerns will help to a large extent in the structuring, presentation and, ultimately, approval of mobile remittance plans.

Registration or Licensing Requirements

It is important to ascertain the correct licenses that must be obtained, so as to identify and gather the information required for the license application, and to start the application process early, especially since licensing approvals are usually subject to the regulator's discretion and timetable. A failure to register usually exposes the service provider to penalties. For example, in Hong Kong, failure to register as a remittance agent may attract a penalty of HK\$50,000.

In addition to telecommunications licenses, a mobile-remittance service provider may need to obtain a remittance service provider/agent license. Further, the remittance service is usually implemented as part of a wider payment system enabling mobile payments (or sometimes creating an electronic store of value), and the mobile remittance service provider then needs to obtain a payment system or e-money license. For example, Maxis is licensed as a telecommunications operator, e-money issuer and remittance service provider in Malaysia. In Hong Kong,

Smartone Mobile Communications Ltd. is also licensed as a remittance agent.

The conditions that accompany such licenses are also important. For example, a person who wants to be a substantial shareholder of a remittance service provider would need to obtain the Monetary Authority of Singapore's (MAS's) approval. Further, a person providing a remittance business in Singapore would need to both provide the MAS with a security bond or deposit to secure the due performance of its obligations, and obtain MAS approval for changes to its board of directors. All monies received from customers for remittance purposes must be paid directly into a bank account and cannot be withdrawn except in limited situations. License conditions would also extend to compliance with guidelines and directions issued by the regulator relating to IT outsourcing and risk management.

If the mobile remittance service provider utilises a model that involves third-party agents (such as retail distributors) to facilitate payment or disbursement of remittance monies, a relevant question would be whether there are restrictions on using third-party agents. This would be an issue when mobile network operators partner with retail outlets or distributors, and such parties are not owned by the licensee (the mobile remittance service provider). A possible solution could be to have retail outlets or distributors obtain their own licenses and/or registrations (which would increase business costs).

Some countries (such as India) currently permit only banking institutions to carry

out the business of remittance. In such cases the question of registration or licensing by a mobile network operator becomes irrelevant.

Anti-Money Laundering and Combating Financing of Terrorism Obligations

As a remittance service provider, an MNO is subject to anti-money laundering (AML) and combating financing of terrorism (CFT) obligations, and it must address the operational and logistical issues that accompany these obligations. It is worth pointing out, however, that the extent of compliance also depends on the service model adopted by the mobile-network service provider (such as an MNO-led versus a bank-led model, or an MNO working with a banking institution that has existing systems and processes in place to address AML and CFT concerns).

A mobile remittance service provider may need to take specific steps to address AML and CFT concerns, such as the creation and implementation of AML/CFT guidelines, structures and processes within the business. These can include improving on know-your-customer procedures, suspicious transaction reporting and disclosure processes, the creation of dedicated compliance teams to review red-flagged transactions, guidance and training of employees and agents, internal awareness programs, procuring or obtaining access to a database of known or suspected terrorists, retaining proper records, periodic reviews of customer accounts and internal auditing of processes.

In some cases the provider may only need to expand existing processes (for example, collecting more information at customer acquisition); in other instances it may need to create new processes or additional investments in information management systems and software to identify, review and report transactions and information.

It has been noted elsewhere that the industry is resistant to AML and CFT regulations due to fears that implementing AML and CFT would “kill their business.” It is easy to understand this sentiment. For example, the implementation of anti-money laundering measures may require completely new internal compliance departments dedicated to the monitoring and review of red-flagged transactions (indeed, it is a regulatory requirement in some countries to have a designated compliance officer), and significant investments in the implementation of reporting systems and processes.

That said, the importance of compliance and addressing the risks posed by payments connected to money laundering or terrorist financing should be a key concern for any mobile remittance service provider, as it is certainly a key concern for regulators. A failure to address the risks of anonymity and poor oversight will be a stumbling block for any MNO wishing to provide financial services through the mobile medium. Fulfillment of AML and CFT obligations is also not an impossible endeavor, as it has been noted that some telecom companies have put in place systems to detect money laundering or terrorist-financing transactions that are more robust than some local bank systems.

E-Money

If a mobile remittance service provider creates payment instruments that act as electronic money, which may then be used to make payment to another person, the service provider usually will need to obtain payment system or e-money licenses, and usually will be subject to more stringent regulations.

These regulations generally cover these areas:

- Governance, such as rules on the structure, fit and proper criteria for the company and board of directors
- Operational arrangements, including rules on funds and records management, security, system and operational reliability, risk management, outsourcing, and systems development, implementation and testing
- Customer protection
- Prudent management of funds
- Prevention of money laundering

Consumer Protection

Most countries have consumer protection legislation or legal systems that impose legal liability for misrepresentations, and providing a mobile remittance service would bring its own specific customer protection concerns. Mobile remittance service providers (especially those that rely on third-party agents and service providers in the country of disbursement) would have to consider clarity of pricing and terms and conditions of their service. This will include informing customers of the margin on the

exchange rate to be applied for foreign currency transfers, and informing customers of any charges levied by the disbursing service provider. Pricing transparency concerns could arise if the remittance service provider does not have control over the disbursing service provider, or where it uses the international banking system for the remittance. Such price information (or exchange-rate mechanisms) and disclaimers would need to be presented in clear language to consumers.

Another concern would be the potential of failed transactions arising out of the usage of telecommunications infrastructure and the resultant consumer complaints in relation to the service. For example, a source of customer dissatisfaction with the M-PESA service has reportedly been that “transactions either are not processed in the system, or they are processed but confirmation SMS is not sent,¹ and due to long wait times to get through to the customer support line. The reliability and robustness of the systems, and the ability to effectively resolve consumer disputes, would be important considerations for a regulator in assessing proposed mobile-remittance service plans.

Regulation Has a Role in Success

The regulatory hurdles that accompany a new business endeavor are not insurmountable, as long as there is adequate prior research and preparation, and a commitment to addressing the concerns of one major stakeholder—the regulator.

Failure to adequately understand and address regulatory concerns or obligations,

at the very least, delays one’s mobile remittance service strategy. However, the real sting in any such failure is usually the financial and/or reputational damage that accompanies a breach of regulatory obligations after the service goes live. Hence, to take a more than keen interest in the application of the regulations goes some way toward ensuring the success of your mobile-remittance service. ■■■

¹ Olga Morawczynski and Mark Pickens, Poor People Using Mobile Financial Services: Observations on Customer Usage and Impact from M-PESA, CGAP Brief, August 2009

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Derek Ho is a corporate counsel for Sybase 365 in the Asia Pacific region. Ho has more than 10 years of experience practicing telecommunications, IT and corporate law. Prior to joining Sybase, Ho worked at CA where he was Senior Counsel for the Asia South region, and at the law firm Drew & Napier LLC. Ho has worked on a number of high profile matters including the drafting of the Telecoms Competition Code and the Media Market Conduct Code in Singapore, and 3G spectrum rights auction regulations.

Banking the 87 Percent

A BANK'S PHILANTHROPIC AND TECHNICAL LEADERSHIP COME TOGETHER TO BRING MOBILE FINANCIAL SERVICES TO MILLIONS OF UNBANKED PEOPLE IN RURAL BANGLADESH.

Abul Kashem Md Shirin,
Deputy Managing Director
Dutch-Bangla Bank Limited (DBVBL)



According to market research conducted by Dutch-Bangla Bank Limited (DBBL) before it started its mobile banking initiative, just 13 percent of the 160 million people in Bangladesh had bank accounts. The reason was a lack of branch offices in rural areas, where the majority of the population lives. Yet within the unbanked 87 percent, which is more than 139 million people, 50 percent had mobile phones. Again, access was the key. Mobile operator agents are widely distributed, the devices themselves are affordable and service coverage is constantly expanding.

Similar numbers are common in developing nations all over the world for the same reasons, which is why the opportunity for



DBBL SAW AN OPPORTUNITY TO LEVERAGE A NETWORK THAT ALREADY EXISTS THROUGHOUT RURAL AREAS: MOBILE OPERATOR AGENTS.

banks to bring basic financial services to the unbanked via the mobile channel is so big.

In mid-2011 DBBL launched a solution for customers to manage money with their mobile phones, depositing and withdrawing funds as well as conducting other financial transactions. In addition to making banking more convenient and accessible for customers, the mobile channel provides a low-cost methodology for DBBL.

Why Mobile Makes Sense

Technology is a key business driver for DBBL, established in 1996 as a joint venture between local shareholders and Dutch company FMO. The bank focuses on financing high-growth manufacturing industries in Bangladesh. It has the largest ATM network and electronic processing system in the country, and it is the largest corporate donor. DBBL has won numerous international awards because of its unique approach as a socially conscious bank.

Combining its philanthropic mindset and willingness to put new technology to work, DBBL understood that deploying a mobile banking solution would be much less costly than expanding services through new branch locations or even ATMs.

Opening branches in the country's rural areas is difficult and expensive. Each new branch requires the approval of the Central Bank of Bangladesh, which allows only 5 to 10 new branches per bank, per year.

New branches also require a staff of expert bankers, and generally, expert bankers do not want to work in rural areas. What's more, rural branches do not take in enough deposits or provide enough loans to make them profitable.

ATMs seem like a better fit for rural areas—and there is no restriction on number—but they still require continuous maintenance, cash restocking from the nearest branch, rent, electricity and security. Without a network of branches in rural areas, ATMs are not practical either.

For many years, these complications left the rural population cut off from the traditional banking system. That is changing now, however, as mobile phones are providing access and banking opportunities to people who have never had them.

Tapping into an Existing Network

Mobile phones are not the only access point. DBBL saw an opportunity to leverage a network that already exists throughout rural areas: mobile operator agents. These agents are generally small shop owners or retailers. As they are already distributed throughout the country, they help new customers open accounts and check account balances, as well as provide cash-in/cash-out services. Customers use their phones to authorize the transactions.

Account holders can arrange to have employers or the government deposit payments

to their accounts, or mobile wallets, and transfer money to their relative's wallets. The accounts remain secure by requiring personal identification number (PIN) access, and customers can change their PINs from their mobiles. The bank's plans for the next phase of services include mobile airtime top-up, merchant payment, ATM withdrawal and micro financing—all using consumers' mobile devices.

Benefits Beyond Banking

Existing and new customers have adopted mobile technology quickly, and a large segment of people that lived too far away from banks to open accounts can now conduct all types of banking transactions. However, DBBL's mobile solution promises to deliver more than just banking. For people who have never had access to financial services, the numbers show that—as deposits are greater than withdrawals—simply having a bank account helps develop savings habits.

For illiterate people, who cannot sign their name to paper cheques, the mobile system provides a workaround whereby customers type their PIN into the phone. If the combination of the PIN and the mobile number is correct, DBBL releases the money to the agent so he or she can pay the customer.

The system also allows local and international money remittance, so Bangladeshi expatriates can send money home. The receiving family

member can withdraw funds at the nearest participating retailer or cash point.

An Open Network

DBBL's service will be available on all mobile devices with subscription to any of the six mobile operators of Bangladesh. This openness is key to being able to reach the maximum number of customers, as the business model depends on serving the widest base of the economic pyramid.

DBBL now has a business channel that is much less costly to support than building branch offices and installing ATMs. This tremendous innovation gives the bank a competitive advantage and ushers in a new era of banking in Bangladesh.

DBBL hopes that banks throughout the developing world will use its mobile banking initiative as a model. Mobile money can increase financial inclusion and bring positive change to economies throughout the world. ■■■

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Abul Kashem Md. Shirin worked for the Bangladesh Sugar and Food Industries Corporation for 10 years and served as head of IT at BASIC Bank, Bangladesh for eight years and head of IT at DBBL for five years. Since 2008 he has been the deputy managing director at DBBL.



FOR ILLITERATE PEOPLE, WHO CANNOT SIGN THEIR NAME TO PAPER CHEQUES, THE MOBILE SYSTEM PROVIDES A WORKAROUND.



RBS CITIZENS IS ONE OF THE FIRST BANKS IN THE UNITED STATES TO OFFER MOBILE BANKING SERVICES TO ITS CORPORATE CLIENTS.

By **Matt Richardson**,
 Head of Product Solutions,
 GTS Americas/RBS Citizens

Scott Manley,
 Senior Vice President,
 Head of Product - Delivery Channel,
 RBS Citizens



In November 2010, RBS Citizens became the first bank in its region, and the second bank in the United States, to untie clients from their desks and computers. Commercial customers, through accessMOBILE, began accessing their banking information and initiating transactions from mobile devices. They can get balance information, check on transfer status, approve and release wire transfers and receive alerts, as well as find nearby ATMs, get information about

corporate credit cards and see daily foreign exchange market updates.

Why Commercial Mobile Banking?

While most mobile banking technology and mobile apps have been aimed at consumers, RBS Citizens saw an opportunity for business clients. The bank wanted to offer corporate customers the same conveniences they get in their personal banking.

Mobile technology makes it easier than ever to work remotely, from home or on the road. If treasury employees need to get information or updates, or complete critical transactions, accessMOBILE allows them to connect to the bank when they are not in the office, so that business can keep moving.

Most banks are playing catch-up with bringing a mobile channel to their commercial customers, but that is changing fast. The online banking systems providers have been quick to introduce mobile apps for their corporate platforms, and soon the top 30 to 50 banks in the country will be offering corporate mobile services.

Differentiation Opportunity

RBS Citizens was not the only bank considering mobile corporate applications, but it was among the first in the country to execute a successful deployment. That success is attributable to two factors. First, the product management team saw an opportunity to differentiate with mobile. They recognized

the importance of the mobile channel and that these kinds of opportunities do not come along often in the established cash management space.

Second, the mobility plans had executive support. The executive team immediately understood the value of corporate mobile banking and the differentiation opportunity, and they provided the high-level support to complete the project in record time.

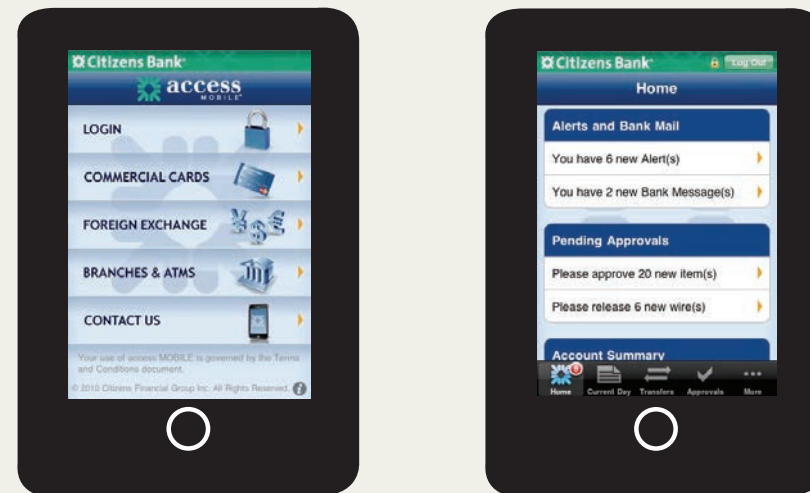
Development took less than eight months, from the initial concept to the day Apple posted accessMOBILE in its App Store. That is fast for any software project, but it is remarkable for a project in a new channel. Resolving regulatory implications proved to be the most complicated part of the process. Banking is a regulated industry, and while we were not specifically dealing with outside regulators, we worked closely with our internal information technology, risk, legal and security teams to understand the challenges of this new channel and to help them understand what we were trying to do.

Key Learnings

Since our launch, we have learned that giving senior treasury officers the ability to initiate transactions is the key value of mobile access in the commercial space. Allowing them the freedom to get things done from their devices is the most important feature.

We have also learned to shorten our product development cycle. The subscribers who jump at the chance to use new products such as

FIGURE 1: ACCESSMOBILE INTERFACE



DEVELOPMENT TOOK LESS THAN EIGHT MONTHS, FROM THE INITIAL CONCEPT TO THE DAY APPLE POSTED ACCESSMOBILE IN ITS APP STORE. THAT IS FAST FOR ANY SOFTWARE PROJECT, BUT IT IS REMARKABLE FOR A PROJECT IN A NEW CHANNEL.

accessMOBILE differ from the larger online community. For the traditional customer group, you work on a software upgrade, bundle the new features into a package and release it, and then do it again six to eight months later. Early mobile adopters, however, are constantly clamouring for more functionality. They are also more willing to offer feedback and help refine the product. Our roadmap now includes frequent, targeted updates to our mobile apps.

When designing the interface of accessMOBILE, we did a lot of internal work on its look and feel and usability. We tried to keep the interface and user experience as close to the commercial online banking systems as possible. The terminology, information flow and security credentials are the same and in the same order as they are online. That model has been very successful.

Choosing a single operating system for launch was another benefit. We made a



LAUNCHING A MOBILE CORPORATE BANKING APPLICATION SENT A POWERFUL MESSAGE TO CLIENTS THAT WE ARE GOING TO LOOK FOR WAYS TO HELP THEM WORK WITH US.

decision at the outset to launch accessMOBILE for iPhone and iPad only. We knew we would need to expand to other platforms, as Android and BlackBerry devices are more common in the workplace. Our primary objective was a swift time-to-market; focusing on one operating system and two devices helped us launch quickly. We saw iOS as the easiest development platform and are now developing applications for other platforms, which will make accessMOBILE available to more commercial customers. Devices change, operating systems differ, and we do not want to give customers different experiences based on what device they use, so we are creating a uniform look and feel.

Know Your Business

As we were developing an offering for this new channel, we tried to take a holistic approach. We know banking. We know our customers and what they want. Our job was to translate that knowledge to mobile. Above all, we wanted to make sure our application would be relevant to our commercial customers regardless of their internal business divisions. We originally added the ability to access foreign exchange market updates and information about Commercial Card, our corporate credit card, and we will continue to add new mobile features. Our customers do more than just

cash management with us. We want to give them mobile access to everything they need.

Mobile has been a great experience for RBS Citizens. Launching a mobile corporate banking application sent a powerful message to clients that we are looking for innovative ways to help them work with us. We will not stand pat with the same old ways of doing things. It also sent a powerful message internally: We want to improve the value proposition for our customers. And it sent a clear message to the market that we are at the forefront of the mobile game. ■■■

Matt Richardson is senior vice president and head of product solutions US for GTS Americas/RBS Citizens. Richardson has held sales and sales management positions in the small business, commercial enterprise banking, middle market, mid-corporate, and specialized/asset-based lending business segments and as business manager/COO for GTS Solutions US.

Scott Manley is senior vice president and head of product-delivery channel at RBS Citizens. Before joining RBS Citizens, Manley was director and general manager of Sears' first commercial eCommerce platform, commercial Web services and B2B gift card site.



The concept of money has been around for the past several thousand years of civilisation.

For most of that time, money was in the form of physical currency that could be exchanged for goods and services. It was not until the last century that the use of credit cards became widespread, but even so, cash as payment has not gone away.

As we move firmly into the 21st century, cash and credit are the primary forms of payment for most transactions conducted around the world, but just as society has made the leap from using shells and beads to the legal tender we know today, we are at the threshold of the next big step in payment.

From Wallet to Phone

Mobile money and mobile payments have become popular topics as more consumers and businesses rely on mobile technologies such as SMS, smartphones, tablets and other devices to conduct business and personal transactions. And as a financial institution with a long list of corporate clients, Citi has focused on delivering mobile payment solutions to businesses, which can then pass along the convenience to their end customers.

The Citi Cash to Mobile initiative launched in October 2010 with an implementation at a soft drink company in South Korea,



IF YOU APPROACH A SEA CHANGE IN PAYMENT FROM THE PERSPECTIVE OF HOW MUCH MONEY IT WILL MAKE WITHIN ONE YEAR, THE UPTAKE TIME FRAME COULD FEEL VERY SLOW.

which distributes beverages to retail shops around the country. In a typical delivery situation, a driver will collect about \$500 from each store, and at the end of the day a driver whose route might include 40 stores is literally sitting on a pile of cash of up to \$20,000. Not only is this an insecure situation for the driver, but the corporate office of the soft drink company in South Korea assumes unnecessary risk by having its drivers accepting large sums of cash from shop owners and not being able to reconcile the transactions immediately and have access to the payments right away.

Citi Cash to Mobile removes the risk of theft as well as fraud and improves the accuracy of settlement and availability of funds, since the entire transaction is conducted at the point of distribution all through an SMS-enabled mobile phone.

Upon delivery of product to a shop, the driver can view and make changes to the invoice right on a mobile phone and send that invoice to the shop owner via SMS. A real-time balance check takes place, and Citi issues a one-time password to the retailer, also via SMS. The retailer then gives that password to the driver, who submits it via SMS. The back-end settlement system by Citi processes the payment, and the transaction is complete.

The Next Generation of Payment

While this type of transaction seems obvious as the next step in the evolution of payment systems, the truth is this new business model does require a significant shift in mindset not only on the part of the consumer goods company but also the “mom-and-pop” stores that still are very important retail outlets in most parts of the world.

Interest in and demand for this type of payment strategy is not lacking, but what is important to realize is that when you approach mobile innovation of any sort, you cannot think about it purely in terms of your own revenue or potential revenue you could get from the solution. In the case of Cash to Mobile, the strategic value of the solution to the direct store delivery (DSD) industry as a whole came first. In other words, knowing the issues are deeply rooted in the fundamental interlocking of a cash-driven society with lack of credit facility and supporting infrastructure in the current ecosystem and being bold enough to take an initiative to change the landscape of a system was the motivation for this solution. In the end, adoption of this solution will impact the revenue model of the consumer goods company, mom-and-pop store owners, and the banks holistically.

With the innovative mobile technology and conservative business model in place, the next step is encouraging uptake of the solution. Even though adoption of new technologies and new uses for technology has its own life cycle, uptake can be facilitated by being on the ground and educating clients on the benefits of this type of mobile payment solution.

As stakeholders begin realizing the potential impact that a mobile payment solution like Cash to Mobile brings to their business, the time and effort spent on education will begin to pay off. The Cash to Mobile solution in South Korea is at the stage where we are beginning to see steady adoption growth.

If you approach a sea change in payment from the perspective of how much money it will make within one year, the uptake time frame could feel very slow—and might




ADOPTION OF NEW TECHNOLOGIES AND NEW USES FOR TECHNOLOGY HAS ITS OWN LIFE CYCLE.

lead to a decision to give up in a tough economic environment. But if you approach it as providing a useful tool to streamline business operations and provide a safer, more efficient alternative to cash payments benefiting all stakeholders, you will be able to endure the pain of slow organic growth of the first few years and have enough perspective of a long-term strategic vision becoming fulfilled.

The Digital Bank of the Future

Citi has a vision of becoming the digital bank of the future and solving the financial issues that are bound to appear down the road. But that requires a leap of faith and getting in the trenches to truly provide innovative products that will benefit both businesses and consumers. Cash to Mobile is a great example of truly embracing an industry problem and creating the necessary relationships, operations and ecosystems to try to solve it.

Fundamentally changing a very manual but working process that is ingrained in the daily routines of the DSD industry takes tremendous effort. But by understanding the challenges faced by our corporate clients and their customers, and having the dedication to solve them, Citi believes it is possible to change something that is been the same for thousands of years to make it better. And that is the “Innovation” in action that Citi strives for. 



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Thomas Woonyoung Ko is a global product head of mobile solutions for Citi Global Transaction Services. He is responsible for several mobile products that serve top-tier GTS clients worldwide, including CitiDirect BE Mobile, Citi's mobile corporate banking solution.

Moving to Mobile Banking 2.0

TOO MANY FINANCIAL INSTITUTIONS ARE NOT THINKING STRATEGICALLY ABOUT THE NEXT STEP IN ONLINE TRANSACTIONS.

By Marc DeCastro,
Research Director,
IDC Financial Insights



In previous years, the discussion in the boardrooms of many financial institutions focused on whether or not they should offer mobile banking solutions to their customers. Delays in deployment were thought to be critical errors that would alienate the client base. Thus, many institutions practiced a “ready, shoot, aim” mentality and rushed to market with solutions that were not strategically laid out. In 2012, most financial institutions will have deployed their first-generation mobile solutions, but many others may already be looking for mobile 2.0. Questions that financial institutions should be asking are:

- What should I look for in a vendor?
- What questions should I be asking?
- How do I go beyond just offering online banking in a mobile format?

When looking for a vendor, you need to think about both the vendor’s current capabilities and its future strategy. Often, an organisation may find a vendor that fits a short-term need, yet ends up lacking in the long term.

Look for Value

When looking at current capabilities, make sure that the vendor offers a compelling and distinctive value proposition. Working on a cost-benefit analysis with the vendor often provides an excellent way for organisations to find benefits perhaps not initially considered. Look at the current offerings, and look



SERVICES BEYOND BASIC ACCOUNT INFORMATION AND BALANCES OFTEN CAN PROVIDE REVENUE OPPORTUNITIES, EVEN FOR THE CONSUMER MARKET.

beyond the standard offerings that are considered table stakes.

Services beyond basic account information and balances often can provide revenue opportunities, even for the consumer market. Look at the various delivery models to ensure that the proposed solution fits in with the strategy of IT. Many vendors offer solutions that can be deployed in-house as well as hosted in their data centres, with pricing structures that vary based on the amount of overall platform management requested by the customer. Also, follow up on customer references. Find out how the vendor handles application patching and customer issues. Are issues resolved professionally and quickly, or do customers contact the bank in frustration?

Strategically, look at the growth of the organisation. You want to make sure that management has a strong formula for growth and an excellent track record. Innovation and investment in new products and platforms is one way of determining the health of an organisation—if an organisation is not investing in itself, then it likely will not be a good long-term relationship. Ensure that the pricing models in place work within your organisation’s budget and expectation for growth. Service-level agreements (SLAs)

FIGURE 1. CHECKLIST FOR DEVELOPING A MOBILE 2.0 PLATFORM

- ✓ Think about both the vendor's current capabilities and its future strategy
- ✓ Establish that the vendor's solution can be deployed in-house as well as hosted in their datacenters
- ✓ Follow up on customer references
- ✓ Determine the vendor's track record for innovation and investment in new products
- ✓ Ensure that the pricing models match your organisation's budget and expectation for growth
- ✓ Look for opportunities where the customer may be willing to pay for value-added services
- ✓ Take full advantage of mobile technology (touch screen, camera, geolocation, social media and near field communication)

can also be more than just tools at contract negotiation; make sure that SLAs are in place and that they align with your internal policies.

Plan Strategically

Once you have selected a vendor, whether for your first mobile solution or for your next-generation mobile solution, it is important to remember that mobile needs to be thought of strategically, not defensively. Often, organisations find themselves taking a wait-and-see approach and then responding rapidly once they see what the competition is doing. While this approach reflects the conservative nature of the industry, it often leads to poor decision making.

One such decision has been to simply make mobile an extension of online banking and bill pay. Despite financial institutions' best attempts, the online banking penetration rate remains at 60 percent and is considered to be a mature market. While mobile banking still lags behind online banking for usage, IDC Financial Insights has reported that there has been a doubling of users each year over the past three years, with 23 percent of consumers interacting in some way with their financial institutions through their mobile devices.

Limiting mobile to the online platform limits the possible market for mobile solutions. In a recent survey of mobile vendors conducted by IDC Financial Insights, three out of the 12 vendors surveyed offer solutions tied to online banking.



LIMITING MOBILE TO THE ONLINE PLATFORM LIMITS THE POSSIBLE MARKET FOR MOBILE SOLUTIONS.

Finding Revenue

Despite the difficulty in the past, there are revenue opportunities for small business and corporate cash management solutions and perhaps in some areas of retail banking. As we continue to see the largest U.S. institutions implement fees into checking account products, it is unlikely that there will ever be a separate fee for mobile or online access. However, there are opportunities where the customer may be willing to pay for value-added services.

One such service may be around security. Alerts for balances and certain transactions are common. What seems to be missing are alerts tied to the mobile device to warn users about potential fraudulent transactions, credit report enquiries or high-dollar transactions. These bundled services may provide a fee opportunity for banks and credit unions.

These same services can also be deployed to small business and corporate cash management customers. Utilising the mobile device as not only a convenience for the CFO but also as an extra layer of security has value for the customer.

Converging Technology

Financial institutions that fully take advantage of integrated mobile technology

(touch screen, camera, geolocation, social media, and near field communication), will be in a position of strength. The great benefit of the mobile device is the convergence of technology. The mobile device has become a combination phone, beeper, camera, token, and electronic wallet, and it is always available.

Taking advantage of this convergence to fully integrate the mobile device into the financial ecosystem takes the self-service model to the next level. The only thing that banking customers cannot conceivably do on a mobile device is deposit cash. ■■■



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Marc DeCastro leads the Consumer Banking Strategies advisory service and provides extensive information technology expertise to assist IT managers with all facets of Web-based technologies for online strategies within financial institutions including home-based banking, bill payment, check imaging, cash management services for corporate and legacy system data transformation.

Simplicity is Key in Delivering Mobile Payments

By Sirpa Nordlund,
Executive Director, Mobey Forum

BANKS NEED TO FOCUS ON DELIVERING CORE FINANCIAL SERVICES—OR RISK BEING MARGINALISED BY NEW PLAYERS ENTERING THE MARKET.

This year has seen many high-profile global brands jump on the mobile payments and near field communications (NFC) technology bandwagon. Market leaders such as RIM, Google, McDonalds, O2, Orange, Samsung and Vodafone, are all beginning to recognise the rich operating environment offered by mobile payments technology and how it can revolutionise the payments landscape. In short, everyone understands that the field of mobile payments has a lot more to offer than simply providing a new payment option.

That said, executing transactions is one of the sector's key enablers, so before the market rushes to commercialise from value-added services, all industry stakeholders including banks, mobile network operators (MNOs), handset manufacturers and service providers must first get the basics right. This means coming together to create a trusted and secure technical environment that supports a range of business models and provides sufficient room for future mobile payment innovation.

The Role of the Banks

Banks play a crucial role in bringing mobile payments to the mass market, but there is a question about what additional services they could provide to consumers beyond straightforward transactions. Technology leaders such as Apple and Google are developing business models that focus on maximising the consumer appeal of mobile payments through mobile marketing, where consumers are lured into adopting the technology by exclusive incentives tailored to their individual preferences. These players are so big and powerful that they could conceivably dominate the market, effectively squeezing the banks into a "transactions only" role within the mobile payments ecosystem.

To defend their ground, banks need to collaborate and develop business models that play to their strengths. Failure to do so could result in the banks being left behind in mobile payments, which would have a negative cumulative effect on their customer relationships, and ultimately their overall market share.

Instead of competing with Apple and Google on mobile marketing services, banks should concentrate on doing what they do best: providing customers with a safe and trusted environment through which to manage their money. Generally, consumers trust their banks to deliver basic financial services and will extend this trust to mobile payments technology, particularly to services that the consumer finds convenient and



TO DEFEND THEIR GROUND, BANKS NEED TO COLLABORATE AND DEVELOP BUSINESS MODELS THAT PLAY TO THEIR STRENGTHS.

familiar. Banks should build on this trust to strengthen their positioning by offering no-nonsense, useful banking services, such as sending alerts when a bill is due or providing the capacity to pay bills and check invoices from a mobile device.

Naturally, security sits at the heart of mobile payments development and is familiar territory for financial institutions. Effective mobile payments require a device to carry an encrypted secure element that hosts and protects customer payment details with the highest level of global security industry standards. The secure element is a smart chip that enables multiple applications to be stored in their own dedicated domains on the same chip.

Choosing the Right Business Model

Like banks, all players in the mobile payments space are striving to define their roles and business models. Choosing and developing an infrastructure that not only incorporates mobile payment services, but also has the capability to advance mobile marketing is one of the biggest barriers standing in the way of global mobile payments adoption.

To create a sustainable and fully interoperable ecosystem, all stakeholders—from banks to MNOs and device manufacturers—must





CHOOSING AND DEVELOPING AN INFRASTRUCTURE THAT NOT ONLY INCORPORATES MOBILE PAYMENT SERVICES, BUT ALSO HAS THE CAPABILITY TO ADVANCE MOBILE MARKETING IS ONE OF THE BIGGEST BARRIERS STANDING IN THE WAY OF GLOBAL MOBILE PAYMENTS ADOPTION.

work together and align their efforts. This process takes time and presents unique challenges; after all, this is the first time the financial services and mobile device industries have had cause to work together.

To address some of these challenges, Mobey Forum has released the white paper, "Business Models for NFC Payments," which highlights what needs to happen to make contactless mobile payments at the point of sale (POS) a mass-market reality. The document addresses how, as NFC technology gains momentum, stakeholders can assess implementation options, define the business case and roles that meet their requirements and establish a clear go-to market strategy with essential partnerships. The paper analyses the current ecosystem and showcases different types of technology and deployment strategies, explaining how these can be assessed to identify the implementation model that best aligns with each stakeholder's commercial needs.

The Future of Mobile Payment Services

Once mature, mobile payment solutions will provide companies in a host of sectors

with a new, convenient and innovative means of interacting with their customers.

For example, a brand will be able to display NFC symbols in its advertising, which will trigger a discount voucher to be sent by SMS to consumers who "wave" their phones over the symbols. Or, if a customer is making a purchase in a store using NFC, when the phone is waved over an NFC POS reader, the customer could automatically collect loyalty points or redeem in-store offers.

These "open" solutions facilitate communication and interaction without a customer having to divulge confidential details. It is this type of service that many believe will be the driving force behind global adoption. But we are not there yet; in the meantime, the banks should focus on developing their core mobile service offerings, making it simpler and more convenient for their customers to manage their money. This is where their true strengths lie and what their consumers trust them to deliver. ■■■

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Sirpa Nordlund is executive director of Mobey Forum, which works to define a sustainable and prosperous mobile financial services ecosystem. Previously a guest speaker at Mobey Forum events, Nordlund is now responsible for the direction of Mobey Forum initiatives and the operational management of the group.

ACH Network Growth Cultivates Mobile Payment Options

By Susan Pandy ,
 Senior Director, Internet & eCommerce,
 NACHA — The Electronic Payments Association



In January 2011, new rules to support mobile ACH payments were incorporated into the NACHA operating rules, providing a framework for the financial services industry to accept, process and/or originate mobile-initiated ACH consumer debit payments. The adoption of rules to support mobile transactions represents the first step in solidifying the role of mobile payments in the ACH Network.

Since introducing the rule, evidence suggests the ACH Network experienced a rise in the number of mobile payments. Third-quarter 2011 ACH Network Web (Internet/mobile-initiated transactions) volume climbed 8.63 percent over 2010, and 2.26 percent from last quarter 2011. The growth may be partially attributed to expansive adoption of



MANY FINANCIAL INSTITUTIONS ARE STRONGLY CONSIDERING THE ACH NETWORK AS PART OF THEIR ORGANISATIONAL MOBILE STRATEGIES.

smartphones by U.S. consumers, reaching over 40 percent in 2011. Such soaring adoption rates present a prime opportunity for financial institutions to ensure their product offerings include a mobile payment capability to better serve customers.

To capitalize on these opportunities in mobile ACH payments, financial institutions must leverage the Web SEC Code, and recent research by NACHA's Internet Council shows financial institutions plan to do just that. Thirty-one percent of large financial institutions, with assets exceeding \$25 billion, already offer Internet-initiated ACH consumer debits (Web) to originators. Future projections signal growing demand as 15 percent of small (with assets less than \$1 billion) and 7 percent of medium (with assets between \$1 billion and \$25 billion) financial institutions indicate strong interest in implementing Web transactions in the near future.

This study also pointed to the fact that many financial institutions are strongly considering the ACH Network as part of their organisational mobile strategies. Large and medium financial institutions say Web has been the largest driver of volume over the past few years and instrumental to retaining large business customers. Including Web

in product offerings is a smart business decision. Overwhelming smartphone adoption rates, coupled with steep advances in technology, has encouraged NACHA to further explore enhancements to the NACHA operating rules to support industry innovation in the mobile channel.

Growth in using the mobile channel and wireless networks for ACH debit transactions has prompted NACHA's Internet Council to evaluate the expanded use of the ACH Network for person-to-person (P2P) payments, which can be driven by mobile technology. In the same way that online bill payment can leverage the mobile channel, various mobile methods are also used today to support P2P payments. Given the convenience and portability afforded by smartphones today, NACHA anticipates increased growth in P2P and person-to-small business payments in the future.

In the strategic growth and direction of the ACH Network, NACHA is paying close attention to developments in mobile technology. Engaging with industry partners, NACHA has provided input on how the ACH Network can be utilised within a "mobile wallet," whereby the smartphone replaces the physical wallet and extends broad capabilities to consumers and businesses that go beyond payments to include a process for passing payments and information together. A recent report authored by the Boston and Atlanta Federal Reserve Banks and industry thought leaders states the mobile wallet can play a role to help reduce

fraud and costs associated with fraud to financial institutions and businesses. NACHA will continue its work with the industry delivering mobile wallet solutions that capitalize on the ability of the ACH Network to efficiently carry payments and related information to support end-user requirements.

The ACH Network provides another option for mobile payments. With mobile payment adoption growing, what can financial institutions do to prepare for developments



THE ACH NETWORK PROVIDES ANOTHER OPTION FOR MOBILE PAYMENTS.

in mobile ACH? First, financial institutions can ensure they process Internet-initiated ACH consumer debit (Web) transactions in compliance with the NACHA operating rules. Furthermore, NACHA encourages financial institutions to participate in its Internet Council by providing insights and input to continue to build an infrastructure that supports mobile payments in the ACH Network. Financial institutions can assess how to best position their mobile solutions by working to:

- Use a variety of resources to learn more about ACH and mobile payments
- Assess the market for existing and potential ACH originators to gauge interest and evaluate preferences

- Educate originators about rules, regulations and procedures
- Conduct a risk management and fraud prevention audit
- Anticipate internal procedural and external service changes
- Create a blueprint for integration and implementation

For further information on developments with ACH Network mobile payments, visit NACHA's Internet Council Website at <http://tic.nacha.org>



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Susan Pandey is senior director of Internet and eCommerce at NACHA — The Electronic Payments Association. In this capacity, she oversees NACHA's Internet Council and its Mobile ACH Payments Work Group, which explore payments that originate from the mobile channel and ways to enable efficient and effective adoption in the ACH Network.

OPERATORS NURTURING MOBILE MONEY



Today, nearly 100 mobile money services are active in the world—not including all the mobile payment services—from the long-established paybox service in Austria to the recently launched Google Wallet in the United States.

Whilst the underlying technology of these services is often constant, no two deployments look the same. Increasingly, the mantra is “build globally, implement locally.” The huge differences in market requirements, available technologies and local regulations create an increasing challenge for rolling out mobile money services.

Despite the challenges, mobile money services continue to expand, both in range of services and geographic footprint. In emerging markets, mobile payments are becoming agents for change, from reaching the unbanked to enabling the fast and reliable disbursement of funds from governments and non-governmental organisations (NGOs).

Mobile money is also making it easier for small stores and wholesalers to do business, speeding the process of ordering new stock, and making it possible to pay for goods on receipt without the need for cash.

In the last year alone, the types of organisations that offer mobile payments have increased significantly. Whilst mobile payments started as a service offered by mobile operators, banks and other third parties are offering their own.

This section provides insights into the challenges of rolling out a mobile money service as well as the many benefits, from bringing financial stability to Iraq, to Telefónica introducing mobile wallets to their 300 million customers in 26 countries. ■■■

Replacing Cash in Business Transactions

THE NEXT WAVE OF MOBILE FINANCIAL SERVICES WILL INCLUDE NEW PAYMENT OPTIONS FOR BUSINESS AND NONPROFIT ORGANISATIONS, ENABLING FASTER PAYMENTS, ADDING SECURITY AND REDUCING RISK.

By Diarmuid Mallon,
Senior Product Marketing Manager,
mCommerce, Sybase 365



Person-to-person, or P2P, payments dominate the news coverage about mobile payments today. It is true that P2P payments make up the bulk of mobile transactions today, and are the foundation of the wildly successful M-PESA service in Kenya and other similar services around the world, but it is time to expand our horizons.

In an increasing number of markets, people already own the handsets, understand the benefits of mobile purchases and transfers and are comfortable with the process. Now that consumer payments have paved the way, the next stage in developing markets will be business-to-business (B2B), consumer-to-business (C2B) and governmental/non-governmental organisation (NGO) payments-to-citizen (G2C).

B2B: Sending IT COD

Cash on delivery, or COD, is a business standard throughout much of the world. Across multiple industries, a manufacturer or wholesale distributor delivers goods to independently run stores. Delivery drivers start the day with a lorry full of goods and no cash. As they make their deliveries, they exchange goods for cash, so that by the end of the day, they are driving a lorry full of cash. That makes them a prime target for robbery.

For small and medium-sized merchants that make cash payments, they must keep cash in the store, and are themselves targets until the trade is complete. We find this same scenario in emerging and developed markets alike, whether the deliveries are baked goods or tankers full of petrol.

If mobile payments enter this exchange, the merchants could pay with their mobiles as they receive goods, and delivery drivers could verify that the main office has received payment before they leave. No cash would ever change hands. Mobile payments improve cash flow for the distributor, reduce fraud and losses in the system and reduce risk for the merchants and delivery drivers.

Beyond payments, mobile commerce could give merchants the ability to request new stock via their mobiles. In developed markets, merchants can order new inventory via the Internet. Simple mobile technologies are making the same solutions available in emerging markets for “mom and pop” stores using standard mobile phones. In addition, wholesalers could expose their



MOBILE PAYMENTS IMPROVE CASH FLOW FOR THE DISTRIBUTOR, REDUCE FRAUD AND LOSSES IN THE SYSTEM AND REDUCE RISK FOR THE MERCHANTS AND DELIVERY DRIVERS.

inventory systems to customers through a simplified interface using mobile protocols such as SMS, Unstructured Supplementary Service Data (USSD) or mobile browser.

The key to these solutions is using mCommerce to expose existing inventory ordering systems to the mobile channel, which minimises the investment for both wholesalers and merchants.

C2B: Traveling To Pay the Bills

People in developing countries regularly face a variety of payment challenges. Unbanked consumers have few options when it comes to paying bills for services such as water, electricity and other utilities. Although banks are launching mobile banking and financial services, this population is still largely underserved. The only payment option for many is cash, paid in person, every month.

The ability to send and receive mobile payments for a small transaction fee, through mini-accounts, mobile wallets or mobile banking services could give consumers the ability to quickly and securely pay utility companies and merchants, make payments on micro-loans and receive paychecks wherever they are. This approach removes cash from the equation, giving consumers a safe, affordable,

efficient and reliable way to manage their money, and giving banks, utilities and other companies the wide reach and low cost they need to serve these communities with viable business models.

G2C: Disbursements

The mobile channel also creates a new way of getting funds directly to those in need.

In 2010, mobile payments for charity donations hit the mainstream when people donated \$20 million USD in response to the earthquake in Haiti within just a few days. That proved the speed and potential of the mobile channel. But when it came to distributing those funds on the ground, mobile played no part—unfortunately.

The donated funds were intended to pay for food, medicines and shelter. However, Haiti's large unbanked population (studies show as much as 90 percent), plus security concerns in the post-disaster chaos, made it difficult to distribute cash to pay local suppliers or provide emergency funds to those displaced by the earthquake. In these circumstances, the last thing relief workers should be worried about is payments.

Whilst much of Haiti's infrastructure failed during the quake, the mobile network was back up in less than 24 hours—and in 2010, 85 percent of Haitian households had access to a mobile phone. With this kind of penetration, it is not hard to see why the mobile channel is such a good fit in times of disaster—and why NGOs such as World

Bank and Mercy Corps are looking to use it more. Mobile payments can provide a safe, affordable and faster alternative to cash, creating a direct path to recipients for salaries, pension/welfare payments and NGO disbursements.

The Haiti Mobile Money Initiative, sponsored by the Bill & Melinda Gates Foundation and the U.S. Agency for International Development (USAID), is helping Haiti rebuild and establishing a model for future disaster relief efforts.

Mobile payments, part of the next phase of mobile commerce rollouts, have the potential to save time, money and opportunity cost for millions of businesses, consumers and organisations, securing financial transactions and advancing the economies in areas that have historically lacked banking, transportation and Internet infrastructure. ■■■

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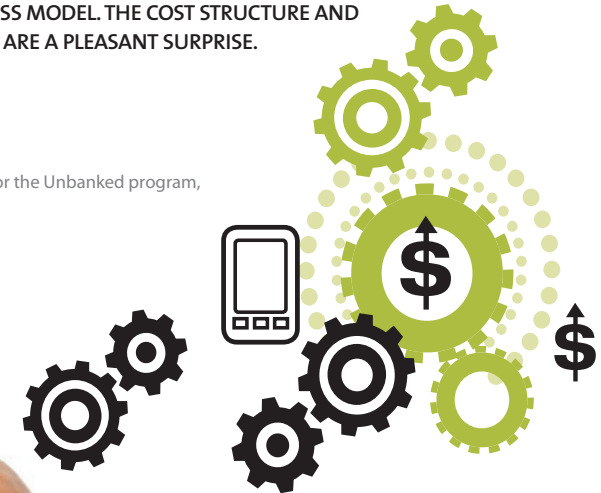
Diarmuid Mallon has 17 years of experience in mobile telecoms. He has held a range of positions with a focus on the consumer benefits of the introduction of new communication technologies. Prior to Sybase 365, Mallon held a number of positions at LogicaCMG and Sema Group Telecoms in product management and business development. Mallon also worked with the teams responsible for world's most successful text messaging service and with the introduction of MMS to Europe.

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Making Money in Mobile

GSM ASSOCIATION TAKES AN IN-DEPTH LOOK AT MTN UGANDA'S MOBILEMONEY BUSINESS MODEL. THE COST STRUCTURE AND REVENUE PROJECTIONS ARE A PLEASANT SURPRISE.

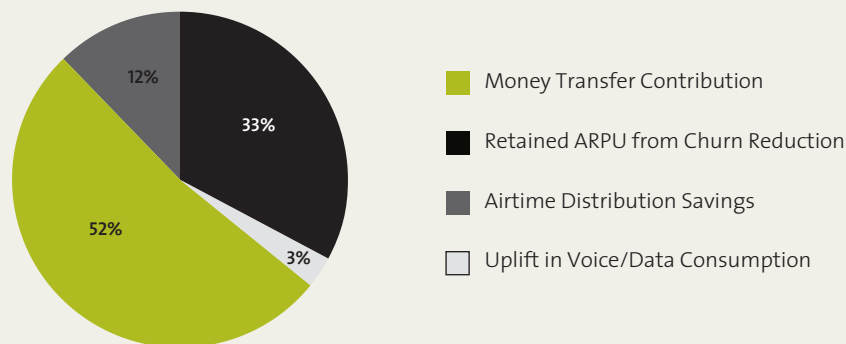
By Paul Leishman,
Manager, Mobile Money for the Unbanked program,
GSM Association



From Afghanistan to Zambia, mobile network operators (MNOs) in developing countries are launching mobile money services at a rapid pace. Their enthusiasm to enter this business is clear—to date 78 deployments have been launched and another 83 are planned—but their rationale for doing so is not. There is no doubt that Safaricom's runaway hit, M-Pesa, is profitable. But Kenya represents an anomaly—the perfect coalescence of latent demand, a dominant MNO and a progressive regulator. So the question remains for just about every MNO outside of Kenya: Is there any money in mobile money?



FIGURE 1: GROSS PROFIT CONTRIBUTION TO DATE (MTN MOBILE MONEY UGANDA)



To answer this question, GSMA studied the operational and financial results of MTN Uganda's MobileMoney, a promising deployment from the East African country of 32 million, where 80 percent of the population lacks access to financial services. We chose this service because of its early growth. In only 16 months after launch, MTN had registered 1,400 cash-in/cash-out agents, and the MobileMoney service counted 400,000 active customers, processed as many as 385,000 peer-to-peer transfers per month and served as the channel through which 3 percent of airtime was sold.

These metrics are impressive, but so too is the service's financial performance. MTN

Uganda's MobileMoney became cash-flow positive on a month-to-month basis just 14 months after launch. The peak financing requirement for the service, or the amount that MTN had to finance before MobileMoney became cash-flow positive, was less than US\$4 million (total investment and operating costs were US\$10.5 million over 16 months).

What is more interesting for mobile money practitioners everywhere is how this service became cash-flow positive. Indirect benefits unique to MNOs—including savings from airtime distribution, reduction in churn and increased share of wallet for voice and SMS—combined to account for 48 percent

of MobileMoney's gross profit to date (see Figure 1). Of the business costs to date, 55 percent are variable and step, rather than fixed. In other words, MTN's financing requirement has been (and increasingly will be over time) driven by customer growth (see Figure 2).

Let's examine three ways MTN has earned revenue from MobileMoney—airtime distribution savings, churn reduction and direct revenues—and the relative significance of each.

Airtime Distribution Savings

The ability to sell airtime using the platform is one important source of value for MNOs that offer mobile money services. When a customer buys airtime using mobile money rather than scratch cards, MNOs unlock value in two ways. First, they pay lower commissions. The commissions paid to agents for performing cash-in (a necessary step before buying airtime) are typically lower than the discounts at which MNOs sell airtime to the channel—although the degree of difference varies by market. Second, MNOs save the costs of manufacturing and storing scratch cards. These savings flow straight to the pre-tax bottom line.

How big a deal is this? For successful services, savings from airtime distribution can be a big deal indeed. For MTN Uganda's MobileMoney, this value source has contributed a total of 12 percent of its gross profit to date. Even though the service is less than a year and a half old, MTN has derived significant value



MTN UGANDA'S MOBILEMONEY BECAME CASH-FLOW POSITIVE ON A MONTH-TO-MONTH BASIS JUST 14 MONTHS AFTER LAUNCH.

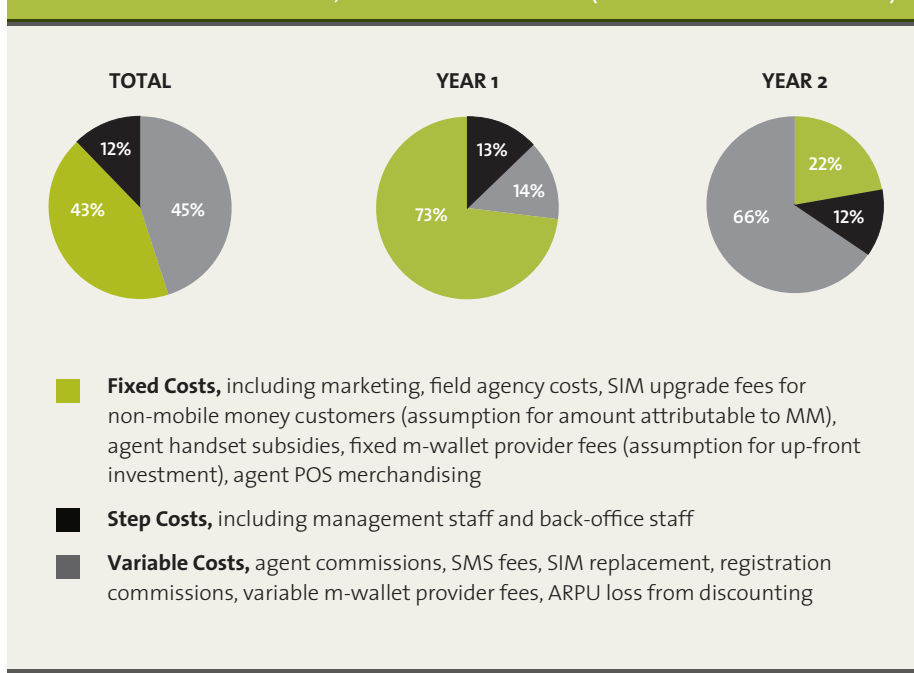
from its mobile top-up feature. In its best month, roughly 3 percent of total airtime was sold through MobileMoney—at more than a 9 percent savings compared to airtime purchased with scratch cards.

How can MNOs evaluate the importance of mobile top-ups to their profitability? The first step is to identify the size of the discount at which airtime is sold to the channel: the higher the discount, the greater the opportunity for mobile money to deliver value. Second, an MNO must estimate the percent of total airtime sales it can reasonably convert from scratch cards to mobile money. And third, an MNO must consider the myriad costs involved in facilitating mobile top-ups. These costs can include perpetuities paid to top-tier agents on airtime sales for customers they register for mobile money, incentives paid directly to frontline agents or customers themselves to stimulate adoption and commissions paid to agents for facilitating cash-in (because customers cannot buy airtime from an empty e-wallet).

Churn Reduction Benefits

Analysing MTN Uganda's MobileMoney uncovered a startling finding. In any given month, the churn rate for active mobile money customers is negligible. That is,

FIGURE 2: BREAKDOWN OF TOTAL, YEAR-1 AND YEAR-2 COSTS (MTN MOBILE MONEY UGANDA)



while the churn rate for regular mobile customers was roughly 4.5 percent per month, the churn rate for an active mobile money customer was no more than 0.2 percent over the course of the three-month analysis.

This reduction is dramatic, but does it make much of a difference to the overall profitability of the service? In the case of MobileMoney, the answer is a resounding yes. Of the total revenue generated to date, churn reduction benefits – which come in the form of retained ARPU—account for 33 percent. If the service was not delivering this benefit, MobileMoney would have barely been out of the red by

now. In other words, the benefit of reduced churn matters—a lot.

The message is clear: churn reduction is a real benefit, so it must be measured by practitioners and included in any profitability calculation. And most important, MNOs need to execute effectively if they want to realize this potential (because not every MNO has).

Direct Revenues

Direct revenues, less commissions paid to agents, contribute 52 percent of MobileMoney’s

total gross profit. Clearly, this area of the business case cannot be neglected. How can MNOs ensure that they are well positioned to fully capture this source of value? In the case of MTN Uganda’s MobileMoney, one decision has more of an impact than any other: enabling P2P transfers to unregistered recipients.

Uganda is a fragmented mobile market, so when MTN launched the service, the company made sure customers could send funds to recipients on any network. To date, 38 percent of P2P transfers made using MobileMoney have been from a registered customer to an unregistered recipient; this traffic generates 45 percent of total revenue (even more in gross profit).

Two things are striking about this data. First, the overall number of P2P transfers to unregistered users is high, which suggests that had MTN not offered this option, the company likely would have left some revenue on the table. Second, P2P transfers to unregistered users are more lucrative for MTN than P2P transfers to registered users (38 percent of transactions generate 45 percent of revenue). This margin occurs because MTN charges customers a premium—7 percent for low and 94 percent for highest value transfers—to make a transfer to an unregistered recipient, and the commission paid to agents remains the same. By enabling P2P transfers to unregistered recipients, MTN not only expands the base of potential users for the service, it also generates a significant amount of revenue.

Not every MNO allows P2P transfers to unregistered recipients. Some reason that

doing so would forfeit potential revenue from recipients who, if they want to receive money, have no choice but to activate a SIM from the MNO. Then, as the theory goes, these recipients would start to use this new SIM for mobile services, too.

This walled garden logic is risky: mobile money is a service that is predicated on network effects. Particularly in countries with fragmented mobile market share, the “closed model” presents an insurmountable customer experience barrier to adoption, ultimately making it difficult to scale the mobile money service. If a mobile money service cannot scale, its sustainability becomes questionable. In the end, any benefits of net new revenue will be short lived.

More Money for Mobile

For MTN Uganda, MobileMoney is a hit. The growth has continued since our analysis and MTN continues to reap the benefits. ■■■

To read the full version of this article, download the 2011 MMU Annual report from mmublog.org

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As a manager of the GSMA programme, Mobile Money for the Unbanked, Paul Leishman supports the development of strategy and execution for MNOs in Africa, Asia and Latin America. Before joining the GSM Association, Leishman worked for a Canadian consultancy, the Strategic Planning & Execution team at TELUS Mobility, a Canadian MNO.

Operators and Mobile Commerce

REMOTE PAYMENTS IS THE BEST BET FOR OPERATORS IN THE MOBILE COMMERCE MARKET.

By Shailendra Pandey,
Senior Analyst,
Mobile Content & Applications,
Informa Telecoms & Media



Informa Telecoms & Media believes that the global market for mCommerce, in terms of end-user service revenues, was worth approximately US\$10 billion in 2010 and is expected to grow to more than US\$47 billion by 2014. This includes the use of mobile phones for local payments (including near field communications, or NFC), remote payments for physical goods and services, P2P money transfers, access to banking services and prepaid top-ups. The growing interest in mCommerce is reflected by the increasing number of service announcements and market activity including partnerships, mergers and acquisitions as well as the launch of new platforms and solutions by value chain players.

Renewed Interest in Mobile NFC

The mobile NFC market has regained momentum driven by Google's backing and the fear of Apple's entry into the market. This has resulted in a rush from a number of mobile operators in the United States, Europe and other parts of the world to launch NFC services. Mobile operators are trying to address their lack of universal reach by teaming up with local rival operators, such as in the Isis joint venture in the United States, the Cityzi project in France, mpass in Germany, and the mCommerce operator joint venture announced in the UK. At the same time, many operators are pursuing their own individual rollout plans focused on own-brand mobile-wallet and prepaid-cash products.

By grouping together, operators can offer nationwide coverage to service providers and big-volume orders to handset makers. Antitrust laws limit the extent to which mobile operators can integrate services. For example, in most jurisdictions operators cannot offer service providers a commonly agreed rate for renting space on the SIM. Clearly, operators that are early to market with NFC and mobile wallets will experience "first-mover" benefits, such as reducing churn and creating greater subscriber stickiness to their service. In markets where churn is running at 30 per cent or even higher, a reduction of just 1 per cent could be worth as much as US\$100 million per year to a large operator.

Mobile operators' business case for NFC payments boils down to savings from customer retention and acquisition, and

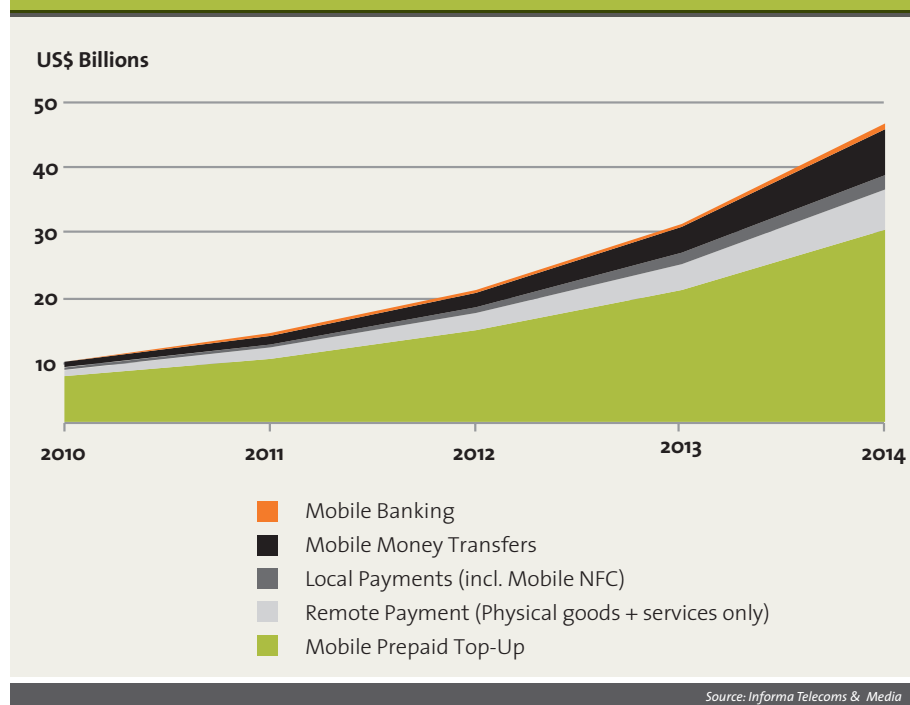
additional revenues from the commission fees from mobile local payments. Revenues will also be generated from service provisioning, customer support, data traffic and carrier billing. However, it will take several years before NFC point-of-sale infrastructure will be prevalent enough to drive significant consumer adoption of mobile NFC transactions. In the near term, mobile operators have greater opportunities to earn additional revenues from remote mobile payments than from NFC.

Greater Revenue Potential from Remote Payments

In addressing mCommerce, most operators have traditionally chosen to offer a bundle of complementary services, starting with remote payments, local payments, banking or money transfer services in their domestic markets, and introducing international money transfers and other rich services later on. Operators are pushing electronic recharge mechanisms for prepaid top-ups, including the use of mobile phones for prepaid account recharging as it is more cost effective and can generate significant savings in the longer term in comparison to the costs involved in production, distribution and provisioning of scratch cards and voucher-based systems.

The largest portion of revenues from mobile remote payments is generated by the purchase and consumption of digital content (music, games, videos and others) by users on their mobile phones. Traditionally, the majority of mobile digital content was sold via the operator portals but now the market has shifted in

FIGURE 1: GLOBAL M-COMMERCE REVENUES BY SERVICE TYPE



favour of the smartphone application stores, in particular Apple and Google stores. However, one of the key strengths of the operators is the direct billing relationship they have with subscribers. Smartphone vendors and other over the top (OTT) players are interested in adding operator billing as a payment method, even though it means sharing a significant portion of revenues with operators.

Nokia's Ovi Store and Microsoft's Windows Marketplace are enabled with operator billing in a number of markets. Google also

has an agreement for operator billing with NTT DoCoMo for mobile app sales in the Android market, and is keen to form similar partnerships with other operators. Data reported by most handset and application vendors indicates that operator billing leads to significantly higher purchasing of mobile apps and content compared with other third-party payment options. Nokia reported that in the second quarter of 2011, Ovi Store experienced about 5 million downloads a day, nearly eight times as many as a year ago. A key reason for this growth is Nokia's operator billing agree-

ment with 112 mobile network operators in 36 markets. According to Nokia, integrated operator billing in the Ovi Store has resulted in a four times increase in the number of consumer transactions.

Limitations of operator billing solutions today include the high percentage that operators are charging for this payment method (around 30 per cent), which limits this payment option to categories with very low cost-of-sales, such as digital content and services. To counter this, operators need to consider reducing their fees and adding payment choices such as bank accounts, cards and alternative payment types for consumers.

Informa Viewpoint

For mobile operators to offer NFC services will require large upfront investment and take at least three to four years to reach critical mass of users and transactions. Considering that the immediate short-term strategy of most operators is to use mCommerce to increase customer stickiness, reduce churn and generate incremental revenues, it makes sense to put more focus on utilizing existing top-up and billing systems to drive mobile remote payments market growth.

By driving the adoption of mobile wallets by offering top-up, content purchases, and bill payment services, and increasing subscribers' comfort level with conducting such transactions, operators can strengthen their position in the mCommerce value-chain and successfully face the competition

from OTT players. Operators are looking to deploy mCommerce services by using both in-house expertise and outside suppliers, and recognise the need for outsourcing to develop a robust mCommerce platform. Working with outside suppliers is important to ensure necessary security and fraud management features, as well as to accelerate time-to-market for deploying services.

The current focus on operator billing is an intermediate step toward full mCommerce functionality. Ultimately, payment devices supported by the operator will need to include credit and debit cards, bank accounts, alternative payments and non-operator stored-value accounts. These in turn will bring more revenue opportunities for the operators by building upon existing billing relationships with consumers. Operators can also expand the capabilities of the mobile wallet by layering in different third-party services, and they can benefit from a share of transaction revenues, while remaining in control of the user experience. ■■■

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Shailendra Pandey is a senior analyst at Informa Telecoms & Media and works on research and consulting projects on topics including mCommerce, mobile advertising, mobile social networking and mobile entertainment services such as mobile music, games, and mobile TV and video. He has produced research, analysis and forecasts on a range of mobile industry topics including operator and telecoms vendor strategy.

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Iraq's MobiCash: Multi-Bank, Multi-Telco

By Kris Haag,
Director, Financial & Energy Sector Development,
Task Force for Business & Stability Operations, U.S.
Department of Defense

Atheer Alqadi,
Executive Director,
AMWAL for Electronic Banking Services Iraq



COOPERATIVE ECOSYSTEM
INTRODUCES MOBILE
FINANCIAL SERVICES
PLATFORM AND A NEW
STANDARD FOR THE
DEVELOPING WORLD.

In war-torn Iraq, mobility has succeeded in building a team of rivals. Two groups that typically battle over who “owns” the customer relationship have made banking a real option for a bank-leery population. Three mobile network operators (MNOs) are offering mobile financial services in Iraq using the country’s new centralized mobile banking platform, MobiCash. AMWAL, a consortium of five privately owned banks, developed the system.

Founded in 2008, AMWAL’s mission was to oversee first, the provision of card services through a partnership with Visa and MasterCard and second, the development of this centralized mobile banking system. Arabic for “money,” AMWAL continues to provide interconnectivity with, and access to, global banking services and systems that offer a secure channel for international and domestic retail payments.

The resulting economies of scale and system interoperability—and the ability of both MNOs’ customers to use it—allow the operators to offer mobile services at a much lower cost. The variety of services, including mobile airtime top-up, mobile-to-mobile and bank account-to-bank account transfers, account balances and purchasing goods and services from participating merchants, is appealing to a large customer base and creating a more robust mobile banking sector that, in turn, is helping to strengthen the Iraqi financial sector and economy.

Integration Solidifies Proof-of-Concept

The Iraqi system is a good framework for other developing countries seeking to establish

FIGURE 1. CURRENTLY, IRAQ'S THREE MAJOR MNOS PROVIDE SERVICE TO MORE THAN 22 MILLION CUSTOMERS:

ASIACELL (OWNED BY QTTEL)	12 MILLION SUBSCRIBERS
ZAIN	7 MILLION SUBSCRIBERS
KOREK	3 MILLION SUBSCRIBERS

mobile banking systems. The banks and mobile operators have proven the concept of an integrated approach in three important ways. First, operators and banks are working together successfully and avoiding the segmentation that results from unproductive competition. All parties—MNOs, banks and consumers—benefit from this partnership-driven framework.

Second, this approach distributes the risks and costs associated with developing a mobile banking service across multiple stakeholders. In answer to the oft-debated question, “Which should be realized first, ecosystem or subscriber base?” Iraq has proven that no tradeoff is necessary. Both can be successfully developed simultaneously.

Third, operator integration facilitates an easier customer subscription process, allowing for faster consolidation of the mobile banking and financial services ecosystems.

The Mobile Opportunity

The mobile potential in Iraq surpasses that presented in Kenya, the Philippines or South

Africa—other emerging markets where mobile banking applications have succeeded. The combination of a countrywide high employment rate, a large unbanked population and eager financial services organisations make Iraq a mobile hot spot.

Though Iraq has a 74.1 percent literacy rate and an 84.7 percent employment rate, according to *The World Factbook* published on the U.S. Central Intelligence Agency Web site, the vast majority of the population—more than 90 percent—remains unbanked. Due to the country’s recent history of corruption, war and political and financial instability, Iraqi citizens harbor a firm distrust of financial institutions. As this country of 30 million rebuilds, financial institutions such as KIPCO, CitiBank, HSBC and National Bank of Kuwait now provide services in the country, and they



THOUGH IRAQ HAS A 74.1 PERCENT LITERACY RATE AND 84.7 PERCENT EMPLOYMENT RATE, THE VAST MAJORITY OF THE POPULATION—MORE THAN 90 PERCENT—REMAINS UNBANKED.

are actively seeking to reinvent themselves and emerge as more reliable and dynamic entities. Mobile services can help them become relevant and viable banking options.

The population with mobile phones has been growing at a fast pace, from 0 percent in 2003 to over 73 percent in 2011, according to the *The World Factbook*. Due to their prevalence, mobile devices may serve as the main conduit through which many Iraqis enter, or re-enter, the traditional banking system.

That is where MobiCash comes in. In August 2010, Asiacell began offering free access to MobiCash services in Iraq, providing a firm foundation for the platform. In January 2011, Korek, the only Iraqi-owned MNO, followed suit and began providing MobiCash services (in partnership with AMWAL member Bank of Baghdad). As of March 2011, Zain began the process of joining the MobiCash program too. More than two-thirds of the population has access to mobile services through MobiCash.

Interoperability Sets New Standard

Because MNOs and banks have chosen to be mobile teammates rather than rivals, the success of mobile banking is only bound by the size of the mobile user base and robustness of the provider networks. Soon, nearly every mobile subscriber in Iraq will have access to mobile banking services. MNOs can both strengthen (or, in some cases, establish) relationships between consumers and banks, as well as provide unbanked consumers with access to traditional banking services.



IRAQ IS PROVIDING THE WORLD WITH AN EXAMPLE OF HOW TO SUCCESSFULLY DESIGN AND IMPLEMENT AN INTEROPERABLE, MULTI-BANK/MULTI-TELCO MOBILE FINANCIAL SERVICES PLATFORM.

Further innovation in the mobile banking sector depends more on partnerships than on disconnected, nonintegrated ecosystems. Without healthy ecosystems, the industry risks stagnation by generating a fragmented and inefficient market. Noninteroperable platforms are set up to fail altogether, leaving subscribers lost in the shuffle.

Iraq is providing the world with an example of how to successfully design and implement an interoperable, multi-bank/multi-telco mobile financial services platform. For the developing world, Iraq has become the new standard. ■■■

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Kris Haag has over 17 years of international experience in national security, energy development, wireless networks, financial infrastructure and payment systems, supply chain strategy and new product introduction. In his role as director of financial sector development at the U.S. Department of Defense, he oversaw the modernization of the Iraqi private banking and payments networks.

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Atheer Alqadi is the executive director and founder of AMWAL for Electronic Banking Services Iraq. He is an engineering graduate of the University of Baghdad and has held board-level positions with several Iraqi companies.

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Fast Cash for Rural Poor

By Paolo Baltao,
President, G-Xchange Inc.

INSTEAD OF MONTHS OF DELAY, POOR FILIPINOS IN REMOTE AREAS NOW RECEIVE GOVERNMENT ASSISTANCE ON TIME THROUGH GCASH REMIT. SUCCESSFUL SERVICES LIKE THIS ONE ARE INFLUENCING THE NEXT STEPS OF G-XCHANGE INC.'S (GXI) MOBILE STRATEGY.



When GXI, Globe Telecom’s wholly owned subsidiary, launched GCASH in 2004, it only offered basic mobile commerce services such as phone-to-phone transfers. Light years later, in 2011, GXI has expanded to a range of mobile commerce services, adding value to even traditional remittance services.

GCASH REMIT, a cash pick-up remittance service powered by a mobile money platform, is by far the most popular offering among subscribers. The Philippines has a population of almost 100 million, with

Overseas Filipino Workers (OFWs) accounting for almost 10 percent of the total.

GXI believed that for it to succeed, outlet pervasiveness and engagement was key. On the domestic front, GXI partnered not only with pawnshops, money changers and rural banks but also utilised Globe airtime



GCASH REMIT, A CASH PICK-UP REMITTANCE SERVICE POWERED BY A MOBILE MONEY PLATFORM, IS BY FAR THE MOST POPULAR OFFERING AMONG SUBSCRIBERS.

subdealers as GCASH outlets, helped by a landmark regulation enacted by the Bangko Sentral ng Pilipinas (BSP). GXI was authorized by the BSP to supervise the conduct of Know Your Customer (KYC) and Anti-Money Laundering (AML) regulations among its outlets. Internationally, GXI partnered with money-transfer companies and connected to telecom operators, including Celcom, Maxis and Vodafone, and hubs such as BICS, Ericsson and Western Union.

From Helicopter to Mobile

Based on the huge success of GCASH REMIT internationally, GXI maximized the use of GCASH REMIT for the disbursement of Conditional Cash Transfer (CCT) cash grants in remote areas of the country. The CCT, a program implemented by the government’s Department of Social Welfare and Development (DSWD), is vital to the government’s poverty alleviation agenda.

CCT helps the country’s poorest families with cash assistance; the beneficiaries, in turn, must keep their children in school, attend regular health check-ups and get vaccinations. Previously, the DSWD, through the state-owned Land Bank of the Philippines (LBP), had to hire helicopters to reach the remote areas and disburse the cash grants. In most cases, the beneficiaries still had to travel to get their grants. It was estimated that beneficiaries spent as much as 40 percent of their grants on transportation costs.

GCASH REMIT was piloted in November 2010 in three remote areas, covering around 10,000 beneficiaries. To date, GXI now serves



SINCE MOVING TO GCASH REMIT, BENEFICIARIES ARE NOW RECEIVING THEIR CASH GRANTS ON TIME INSTEAD OF MONTHS LATE.

more than 500,000 beneficiaries in over 400 municipalities. Since moving to GCASH REMIT, beneficiaries are now receiving their cash grants on time instead of months late. Furthermore, they no longer have to spend much on transportation costs, since disbursements are made by the GCASH outlets in areas near them.

Mobile Commerce Newcomer to Mobile Commerce Expert

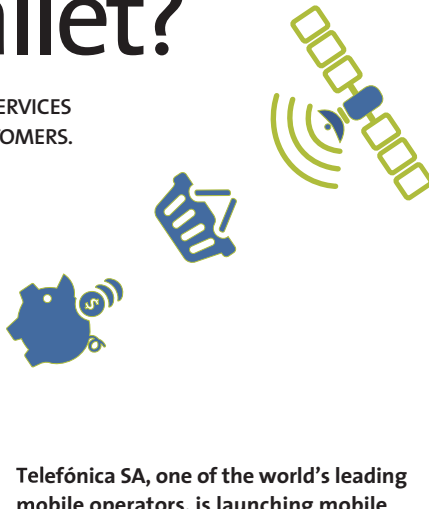
In less than a decade, GXI has graduated from a mobile commerce newcomer to a mobile commerce expert. Mobile payments will have a major role in upcoming plans, and the company expects to support multiple mobile commerce services in the near future. Money can be made in mobile. It takes time, commitment and a willingness to adapt to what subscribers want. ■■■

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Before he became president of GXI, Paolo Baltao held the following positions at the company: product group and International Remittance & Banking Business Development head, Financial and Government Services segment head and Money Remittance segment head.

What's in Your Mobile Wallet?

TELEFÓNICA IS PUTTING ADVANCED FINANCIAL SERVICES INTO THE MOBILE WALLETS OF 300 MILLION CUSTOMERS.

By Pablo Gonzalez de Santiago,
Director Global Financial Services,
Telefónica SA



Telefónica SA, one of the world's leading mobile operators, is launching mobile financial services in 26 countries over the next three years. The company's new mobile wallet service will be introduced first to eight countries in Latin America and Europe.

Each market has different characteristics, and Telefónica intends to offer services that match market needs, whether those are banking services for the unbanked in Latin America, international remittances from large populations of expatriates all over the world who send earnings home to Latin America or other advanced financial services to the already-banked population all over Europe.

Telefónica is building a mobile financial services platform that reaches across global markets and can be fine-tuned for local regions. Rather than one platform for a

FIGURE 1. TODAY, TELEFÓNICA IS A LEADER IN THE LATIN AMERICAN TELCO MARKET, AND HAS A SIGNIFICANT FOOTPRINT IN EUROPE.



THE MOBILE WALLET AND ASSOCIATED SERVICES MAY REPLACE CUSTOMERS' PHYSICAL WALLETS, MAKING THEIR LIVES EASIER.

single service, we envision a ratio of one modular platform to many services, as well as devices and operating systems. When a new mobile device enters a market, or business development identifies a new service opportunity, the operator will be able to respond quickly in all its markets with a new set of offerings just by adding capabilities to its global platform.

A New Wallet for a New Age

The foundation of the Telefónica ecosystem is a mobile wallet application that will be

available to our complete client base—nearly 300 million people in 26 countries. Our equity participation partner companies will also have the option to offer our mobile wallet capabilities to another 300 million of their customers.

The application will be preinstalled on all new devices, and it will be easy to download onto existing mobiles. Telefónica will do the installation either on the Subscriber Identity Module (SIM) through USSD menus or have it ready in all app stores for direct download.



WE ARE BUILDING THE ENVIRONMENT AT THE SAME TIME THAT REGULATORS ARE REFINING THEIR CONTROLS. FOR THAT REASON, WE MUST BE READY TO ADAPT TO CHANGE.



CREATING THIS NEW ECOSYSTEM WILL REQUIRE CROSS-INDUSTRY COOPERATION AND SOLUTIONS THAT CAN EVOLVE OVER TIME.

Within the wallet application itself, customers will find a diverse set of financial services, including domestic and international peer-to-peer money transfer, financial account information, online merchant purchases and in-shop payments using near field communication technology. Customers will also be able to buy tickets and receive offers and coupons that can be redeemed through the wallet. In the future, wallet services will use geolocation and other innovative device features. Telefónica's view is that eventually the mobile wallet and associated services may replace customers' physical wallets, making their lives easier.

Telefónica and other operators have already deployed similar services. What makes this new wallet different is that all the services will be available in one application, with one registration process that is very easy to use. The wallet is also interoperable internationally, meaning that customers can use it in different countries. Telefónica will be able to offer financial institutions and other industry players a "one-stop shop" for direct delivery of their services to customers across mobile operators and a large population base.

Slow and Steady Digital March

Educating customers about security is our biggest challenge. Addressing customer concerns and convincing them that the

wallet is secure will take time. We hope customers will recognize the strong value proposition of the mobile wallet, and the convenience of having these mobile financial services will help them overcome their fears.

We also know that mobile payments will be strongly regulated worldwide, as they already are in many countries. The field is coming of age. We are building the environment at the same time that regulators are refining their controls. For that reason, we must be ready to adapt to change.

Large companies such as Telefónica need to think big, like the industry leaders we are. But we also need to recognize that creating this new ecosystem will require cross-industry cooperation and solutions that can evolve over time. That slow and steady approach, rather than a big bang, avoids conflicting functionality that could inhibit widespread consumer adoption. ■■■

Pablo Gonzalez de Santiago is director of the Global Financial Services team at Telefónica SA. He holds a BA in economics from Universidad Complutense de Madrid and an MBA from IESE Business School. He has held management positions within Telefónica Group for the last 10 years, including Latin America and Spain controller at Telefónica SA and treasury and assurance manager at Telefónica Spain. He also runs in races to promote Proniño, a social action program of Fundación Telefónica that seeks to eradicate child labour in Latin America.

Technology's Role Is Purely Assistive

THE LATEST TRENDS INDICATE THAT THE FUTURE OF IT LIES IN MOBILE SOLUTIONS.

Dr. Key Pousttchi,
Head of the wi-mobile Research Group,
University of Augsburg in Germany

Dr. Key Pousttchi discusses companies' future opportunities and those they may have already missed, as well as the evolution of the mobile markets.

What topics are keeping companies busy at the moment?

For companies, mobile-integrated business processes are of primary interest. Take a hauling contractor who delivers goods with a commercial truck. This involves a mobile business process that stationary IT cannot sufficiently support. Mobile integration is what enables a company to really benefit from a mobile technology.

And how can a company become a mobile enterprise?

First, the company has to analyze where it needs to support its existing mobility and where mobility can create new potential. Basically, organisations have to reengineer their mobile business processes by asking themselves how each of them would work if they were created from scratch with the mobile technologies' possibilities available today. After drafting their ideal processes, they can then impose the necessary limitations. The strength of mobile technology is not in tacking it onto old process structures, but in





constructing all-new work methods. Only then can its potential be fully realized. Otherwise, everyone ends up with even more to do than before.

What might one of these newly established mobile processes look like?

An insurance company, for example, could send a loss adjuster who usually processes cases from the office directly to the customer in certain situations. Equipped with a tablet PC, the employee would appraise the damage on site and decide—with the help of an expert when necessary—whether or not to issue a check immediately. If an insurance company can come to an agreement with the claimant right at the scene of an incident and avoid even a small part of court proceedings or appraisals, a solution like this will pay for itself in no time and provide the customer with better service.

We have been hearing about mobile solutions since the turn of the millennium, but for awhile, they were nowhere to be found. Why did the market take so long to get rolling?

For one thing, some people still have not realised that mobile-integrated business processes are primarily a question of organisation—not one of technology. Meanwhile, mobile network operators have missed a golden opportunity to aid companies in this revolution, just like they missed the boat on mobile B2C applications. Google and Apple are leaving them far behind in the latter field, and now everyone is talking about apps.

Will companies' mobile applications follow the example set by Apple and Google?

Many companies are deliberating a bring-your-own device approach, which focuses on users' private devices and apps that they can download to carry out business tasks. I recommend taking a look at Japan, where this trend has a long history. They use this approach to handle partial tasks, but real mobile-integrated business processes are more or less nonexistent. While using an iPhone might look cool and modern, we have not scratched the surface of the potential for increased efficiency.

Companies should also be aware of how accessible their internal data can be to the producers of the operating systems they use and how much control third parties may have over the company's IT infrastructure. Imagine the simple option of denying applications to run on these devices or even remotely erase them.

So customers might actually want to avoid iOS and Android?

I think it will end up being a two-sided arrangement: Employees will be able to download apps for simple solutions containing less sensitive information to their

mobile devices, while process solutions and applications that require greater security will require different solutions. Another option might be to have a B2B app store with the OS providers signing clear agreements.

How do you think cloud computing will aid mobile enterprises?

We are a little old-fashioned in this area. For years, our students have been learning to draft mobile-integrated business processes using a particular approach we call the "Mobility-M Framework." Part of it involves deciding whether to carry out most of the application functionality on the device—the client-based method—or on a server. You might call the former setup an "app" and the latter "cloud computing." The most important thing is to find the right solution to each particular problem. If you are dealing with technicians who service power lines in rural areas and only get EDGE or GPRS reception, you will want to be wary of server-based solutions. Bank consultants in the field also complain that they often lose their 3G connectivity when they need it most—serving customers at home. On the other hand, mobile devices certainly are not the ideal place to house large databases and applications that require a lot of processing horsepower.

You can make an argument for just about anything; in the end, a mobile solution has to provide the best possible support for an optimised business process's existing mobility, or create new forms of mobility. Then it will contribute to your company's success. The instrumentation of mobile technology has to address the problem at hand; the technology itself has a purely assistive role.

Do you think the most lucrative fields of business are process- or industry-oriented at the moment?

Process-oriented, because it is easiest to realise significant savings in all kinds of documentation processes. Designing solutions for employees with specialist tasks based on prestructured processes also promises benefits. Companies whose core business is mobile—such as building and construction or logistics—have the most potential.

How does the mobile market look internationally?

If you look at B2C, Europe is about to fall behind. B2C used to be dominated by mobile network operators, and since the global corporations in this industry are based in Europe, the region's position was very strong. Now, however, the Googles and Apples are taking over. And it is not just about profits—it is about who is making the rules, as well. That said, we are only at the beginning of this whole development. In the future, customers will trigger services and functions simply by touching them—on a device, on the Internet or in the cloud. Then the Internet of Things will have arrived. ■■■

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Dr. Key Pousttchi is associate professor and head of the wi-mobile Research Group in the department of Business Informatics and Systems Engineering at the University of Augsburg in Germany.

Latin America: Mobile Payments are Evolving

DIVERSE POPULATIONS AND MULTIPLE MOBILE COMMERCE PLAYERS BUILD ALLIANCES TO DEPLOY MOBILE BANKING OPTIONS UNIQUE TO EACH COUNTRY.



By Mary Gramaglia
Director of Sales,
mCommerce,
Sybase 365

Latin America's adoption of mobile commerce solutions evolved throughout 2011. Many financial institutions revisited their deployment of mobile banking, and mobile network operators formed mobile payments alliances, most notably America Movil, which formed a joint venture with Citibank, and Telefónica, which partnered with MasterCard.

However, despite clear progress no deployment emerged to captivate the market in an iconic fashion. Moreover, person-to-person (P2P) transfers and mobilised bill pay services—the basic use cases so prevalent in Africa—are unlikely to resonate with such magnitude in Latin America.

Region Roadmap

What, then, might be the roadmap for the region? Will there be a “typical” deployment, or will we see a complex fabric of participants whose solutions will adapt to the market realities of individual countries and subregions?

Let's begin by acknowledging a few realities that have influenced mobile commerce deployments in Latin America.

The region's complex regulatory environment virtually dictates that mPayment deployments will not emerge in isolation. Instead, they will be the result of carefully crafted ecosystems powered by distinct players in finance and telecommunications, all operating within well-defined frameworks.

Case in point: the concept of providing mobile wallets, whose sole funding instrument is the stored value account, as in Africa, is not relevant in much of the region. In fact



THE REGION'S COMPLEX REGULATORY ENVIRONMENT VIRTUALLY DICTATES THAT MPAYMENT DEPLOYMENTS WILL NOT EMERGE IN ISOLATION.

mobile wallets are emerging as a catalyst to achieve financial inclusion. In Guatemala, for example, new regulations are requiring that mobile wallet holders establish bank accounts if they do not already have them, thereby converting upfront the unbanked population into banked.

Other countries are taking a more nuanced approach. Mexico, for example, has established a multi-tiered framework for the mobile wallet registration process. This approach balances the need to engage in adequate Know Your Customer (KYC) checks during the mobile wallet registration process with the desire to simplify registration. Accounts opened at the lowest tier-1 level may be done so anonymously, but with significantly fewer transactions and smaller deposits permitted. Accounts opened with greater disclosure are allowed more transactions and larger deposits and will be tied to savings and payment products designed to meet user needs.

Different Populations

Latin America has an increasing urban population, a large percentage that is still rural, and widely divergent socio-economic levels. As a corollary to income, education impacts social strata, as with advanced schooling comes greater exposure to technology, higher disposable income and increased access to financial services. Central America,



ONE POTENTIAL mPAYMENTS ECOSYSTEM PARTICIPANT FOR LATIN AMERICA IS THE RETAIL SECTOR, INCLUDING LARGE NATIONAL CHAINS, SUPERMARKETS AND FOREIGN FIRMS WITH SIGNIFICANT NAME RECOGNITION.

for example, is home to some of the region’s lowest-performing economies, with a comparatively greater percentage of its population poorly educated and living in poverty (Honduras and Nicaragua) than the more flourishing (albeit still somewhat troubled) economies of Argentina, Chile and Uruguay.

Education and income will affect how mobile payment projects are conceived and deployed. A rural citizen of Honduras is more likely to find compelling a mobile wallet solution, deployed with SMS or unstructured supplementary service data (USSD) channels, that enables government disbursements, P2P transfers and bill payments. Argentina’s urban *porteños* will be enthused by a mobile wallet that accumulates loyalty points and enables discounts at popular restaurants and retailers, particularly when retailers leverage smartphone GPS capabilities. Honduran citizens are more likely to fund their mobile wallets with stored value accounts, and in Argentina residents will be more inclined to link mobile wallets to their bank accounts.

Brazil’s situation represents an opportunity to target both groups. In Brazil, a global powerhouse, the population’s income levels cover the entire spectrum of very poor to very rich. Participants in the mobile payments

ecosystem in Brazil could thus do very well targeting any group along the economic spectrum, or choose to have different strategies for distinct market segments.

Developing an Ecosystem

How financial institutions and mobile network operators choose to enter the mobile payments arena will thus depend in part on a given country’s regulations governing mobile wallets, the profile of its population and its targeted market(s). Another characteristic to consider is the condition of any existing third-party agent networks and whether they will be a logical venue for registering mobile wallet users, particularly the unbanked. (Users who are banked may also choose to register through a third-party agent, but are more likely to be directed to on-line portals.)

Agents who specialize in airtime top-up could have the desired ubiquity but may not be in a position to handle the KYC requirements associated with mobile wallet registration. In addition, some agents may not have sufficient liquidity to support users’ cash-out requirements, and others may not have the controls required to handle cash-in transactions. As in Brazil, where major financial institutions (Banco de Brasil, Bradesco and Caixa Economica) have a long history of working through third-party agents, countries



IN LATIN AMERICA, MOBILE PAYMENTS COULD BE DEPLOYED IN SEVERAL WAYS, BUT THE MODELS OF AFRICA AND ASIA ARE NOT NECESSARILY INSTRUCTIVE.

in which agents already provide some type of financial service and whose principal business is not airtime top-up will have a ready-made infrastructure to facilitate the launch of mobile payments.

One potential mPayments ecosystem participant for Latin America is the retail sector, including large national chains (Elektra, Sanborn’s in Mexico), supermarkets and foreign firms with significant name recognition (Carrefour, Walmart). Frequented by rich and poor alike (although in varying degrees and for different products), large stores have the infrastructure necessary to register users and verify identity, as well as the products many mobile wallet participants will want to purchase. Moreover, large stores do not face liquidity challenges (many already offer some form of financial services). And although in more developed markets retail mPayments are launching with point-of-sale terminals and mobile devices outfitted with near field communication (NFC) capabilities, in Latin America more basic channels such as SMS and USSD can be adapted to enable purchases with the more prevalent lower-end phones.

Another advantage of including retail chains in the mPayments ecosystem will be the ability to incorporate loyalty points and discounts and thereby further use of the mobile wallet. In addition, merchant-acquirer networks that participate in the mPayments ecosystem can also expand purchase options for mobile wallet users. (It is no surprise that in launching its mPayments solution for the region Telefónica has chosen to partner with MasterCard.)

No One Way

In Latin America, mobile payments can be deployed in several ways, but the models of Africa and Asia are not necessarily instructive. Ecosystems will evolve that bring together a variety of participants. Regulatory requirements will necessitate that the financial sector, which is awakening to the market potential of the region’s unbanked, take a leadership role. Large MNOs—America Movil, Telefónica, Digicel, Millicom, Brazil’s Oi and Vivo, among others—have significant subscriber bases and in many countries are viewed more favorably than the banking sector. Large retail chains can handle mWallet registrations, cash-in and cash-out requirements and provide both necessary and discretionary goods that mobile purchasers will buy. The right agent networks can extend their reach into smaller, more rural communities, and merchant-acquirer networks can expand mPayments ecosystems to retail establishments beyond the well-known chains. ■■■

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Mary Gramaglia, director of sales, U.S. and Latin America, Mobile Commerce, is responsible for sales of Sybase 365’s mBanking solutions to select U.S. financial institutions, as well as sales of the firm’s mBanking, mPayments and mRemittance solutions into the Caribbean, and Central and South America. Gramaglia has extensive international experience in both the telecom and financial services sectors and has worked for Lockheed Martin, Sprint International and Citibank.

Scale Matters

AS MOBILE COMMERCE MATURES, SCALABILITY EARNS CENTRE STAGE.

By Ronald D. Finlayson,
mCommerce Lead,
IBM



Looking back at the consumer Internet of the early 1990s, the predominant traffic was mail, file transfer and telnet (for accessing remote computers). The Web browser, along with the HTTP protocol, was the killer application that led to the explosive growth of the Internet and the proliferation of eCommerce solutions. eCommerce was responsible for up-ending many seemingly entrenched business models and introducing entirely new models. The marketplace was shaped by the reality of the technology and pushed by the demands of the consumers. New solutions tended to mature and evolve rapidly but were mostly constrained to the developed world where the economies and consumers had the requisite infrastructure to take advantage of the benefits of eCommerce. Ultimately, even the term eCommerce fell away and simply became the new “normal” for conducting business alongside traditional commerce channels.

In response to these new marketplace demands, the industry saw rapid advancements across the spectrum of technologies that facilitate the transaction volumes and complex interaction models that are the foundation of eCommerce. The overarching business goals for eCommerce are: Get to market quickly with a successful solution that is fault tolerant and scalable while operating as cost efficiently as possible. Even in this mature marketplace, companies are developing innovative solutions to support these commerce models and their demands. Cloud computing appears to be the next advancement that will address

these complexities, as well as availability and ultimately scalability of marketplace solutions.

Comparing mCommerce and eCommerce

Unlike eCommerce, mobile commerce has been more widely adopted in developing markets due to the availability of mobile devices and the lower infrastructure requirements. In developing markets mobile commerce implementations are meeting the pent up demand of a massive consumer base that is ready and eager to use mobile commerce solutions. These emerging markets have a more compressed consumer adoption arc than in the developed markets and are unlike anything seen during the eCommerce evolution.

In the developed markets, consumer expectations are extremely high. Having enjoyed a robust eCommerce marketplace for over two decades, developed markets demand sophisticated commerce transactions and services. The rapid advancement in smartphones, high-speed wireless and linked infrastructures is putting extreme pressure on commerce providers to improve their mobile channels. As the mobile devices become more sophisticated,



MOBILE COMMERCE HAS CLEARLY BENEFITED FROM THE ECOMMERCE ADVANCEMENTS OF TECHNOLOGY, TECHNIQUES AND OVERALL IMPROVEMENTS TO BOTH SOFTWARE AND HARDWARE ARCHITECTURES.



SCALABILITY NEEDS TO BE MOVED UP IN CONSIDERATION AND SIT ALONGSIDE THE DRIVERS OF GETTING TO MARKET AND TOTAL COST OF OWNERSHIP.

the traditional eCommerce channel may be completely replaced for consumers who choose mobile devices as their only means of interacting with the digital world.

In 2010 IDC reported that more smartphones had been sold than PCs for the first time ever. With the rise in smartphones comes consumer demand for the availability of mobile commerce services. Those who can deliver mobile commerce services and solutions stand to be winners at the most hotly contested marketplace around the globe.

Mobile Commerce Maturation

The mobile marketplace has evolved in an amazingly short period of time. Mobile commerce is maturing in much the same way eCommerce did, and it owes some of its speedy development to lessons learned and technology advancements made during the eCommerce evolution. However, the goals have remained the same with the first priority being to “get to market” with the mobile commerce solution.

The second priority tends to be (as a result of lessons learned during the eCommerce maturing process), security and then availability. Scalability continues to lag as a priority as it did during the early years of eCommerce. Mobile commerce has clearly

benefited from the eCommerce advancements of technology, techniques and overall improvements to both software and hardware architectures. In some ways these advancements have led to complacency as it relates to scalability. But scalability is important due to the vast number of consumers in developing countries wanting access to mobile commerce solutions. Both horizontal and vertical scaling has challenges that must be addressed.

Scalability Approaches

Let’s take a moment to define horizontal and vertical scaling to create a common understanding for this scalability discussion.

Scaling horizontally. To scale horizontally (or scale out) is the act of adding more computing capability or nodes to an existing system. An example is adding a new computer to an existing distributed software application. For instance adding two Websphere Application Servers where there was only one.

Scaling vertically. To scale vertically (or scale up) is the act of adding resources to a single computing device or node in an existing system. This model typically involves the addition of CPUs, memory, physical disk space, or specialized computing capability to a single computer. This type of vertical scaling of existing systems also enables virtualization technology, as it provides more resources for the hosted set of operating system and application modules to share.

Scalability approach considerations. For horizontal scaling the system (in this context mobile commerce platform) must be designed or architected to permit horizontal scalability through proper handling of business transactional states. The system must be able to optimally utilise pooled and shared resources within the larger system.

When scaling horizontally, the larger numbers of computers increase management complexity, as well as a more complex programming model and issues such as throughput and latency between computing nodes.

Industry technology providers. It is worth noting where industry players are placing their bets and how this can impact your mobile commerce deployment strategy as it relates to scale. Some key hardware providers have taken the “commodity” server approach and suggest scale is to be provided horizontally using many servers to distribute the solution/system. IBM provides solutions for this space, and it has made substantial investments in the vertical scaling approach favouring the ability to scale the existing nodes within the system. IBM has taken this a step further by providing the IBM mCommerce Appliance, an all-in-one mobile computing platform that supports both vertical and horizontal scaling with an emphasis on vertical scaling.

Make Scalability a Priority

During 2011 many mobile commerce solution providers focused on the “get to market” aspect and experienced difficulties

scaling to meet demand as adoption rates soared. In several cases the providers are content with the commerce functionality they have implemented but are finding that it cannot scale to meet demand. This problem is sometimes compounded because the cost of maintaining the implementation exceeds the business value provided by the mobile channel. These providers are “stuck” because their customers have become dependent on the services and shutting them down or limiting usage is not an option as they find themselves in the position of the new “normal.”

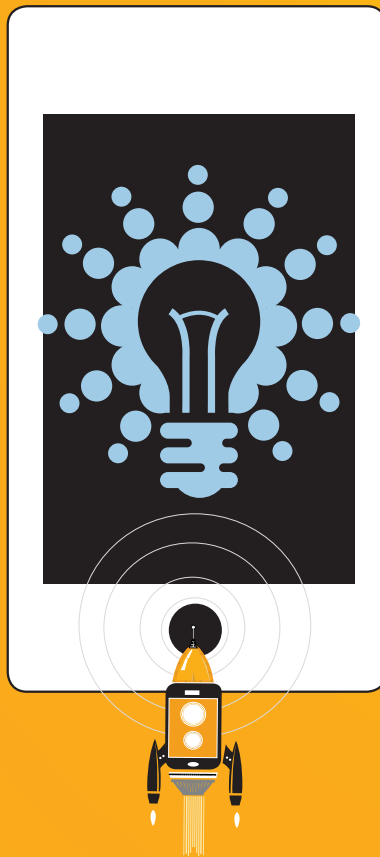
In the end, whether a provider is seeking to bring new mobile commerce solutions to the marketplace or has an unsustainable implementation based upon adoption rate, the solution for both needs to address scalability.

Scalability needs to be moved up in consideration and sit alongside the drivers of getting to market and total cost of ownership. Scalability as a mobile commerce implementation attribute has the unenviable position of being completely invisible as a benefit if considered properly from the outset and conversely the primary reason for complete failure if not considered adequately. ■■■

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Ronald D. Finlayson is the worldwide lead for IBM's Mobile Commerce Appliance and has helped clients around the globe develop and realize their mobile channel objectives.
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Mobile Creates

NEW OPPORTUNITIES AND CHALLENGES



The increasing momentum of mobile commerce services is due to the unique properties of mobile. People interact with their mobile devices totally differently than previous service and communication channels. The intensely personal, interactive and immediate nature of mobile enables companies to create new types of services and interactions that were simply not possible before.

As more consumers have access to more advanced mobile devices with additional capabilities such as cameras, GPS and NFC, the range of possible services will only increase.

Mobile is moving from a simple push environment, to a truly interactive one where companies are starting to exploit the direct connection to their customers.

The complexity and (potential) frequency of interactions is now creating new challenges for those running mobile commerce services. Five years ago a financial institution's mobile banking service might have consisted of a single weekly SMS account balance summary text message. Today they can be using the consumers' locations to provide branch information, capture check images with the mobile device's camera and instead of simple balance alerts, a range of transactional services are being offered such as bill pay.

In this rapidly expanding mobile commerce environment, engaging with customers no longer means just respecting the three Ps of marketing (permission, permission and permission), but instead meeting local telecommunication and banking regulations.

In this section you will find examples of the new models of consumer interactivity that are being built using mobile. Today there are new models for loyalty, marketing and purchasing being created for the mobile market. You will also find guidance on regulatory compliance and necessity of Know Your Customer (KYC) when running mobile commerce services. Finally, we look at the new and old mobile channels for these services, from the cutting edge of NFC to native device applications and how existing channels can still support these services. ■■■

Best Practices For Mobile Customer Engagement

By Sally Burley,
Marketing Director,
The 3rd Degree

MOBILE GIVES YOU UNIQUE OPPORTUNITIES TO INTERACT WITH CUSTOMERS AND DEVELOP LIFELONG RELATIONSHIPS.



When considering a customer engagement strategy for mobile, a good place to begin is with a brief look back at the pre-Internet era. Remember the relationship between the customer and traditional, independent shopkeeper? After a series of interactions you, the shopper, become a regular customer recognized by the shop personnel.

The employees knew your name and likes and dislikes—perhaps even your home address and family or social connections. The staff's ability to advise you grew with each interaction. They recommended products, and when they got it right you became more emotionally connected and loyal. If you wanted to try something new, your relationship would motivate you to buy from them first, even if they did not have the cheapest price. They would ask you about how you were getting on with the things you bought from them (and maybe even unrelated things from another store), and you knew they valued your feedback. You became an advocate of the store and recommended it to friends.

The delivery of products and services to the end customer has changed over the years, becoming less personalised due to self-service and Internet shopping. Customer loyalty has become more elusive. For today's shoppers, it has never been easier to switch suppliers, research a brand or service, take part in surveys or receive advertising. At the same time, the interactions between brand and customer have become one-directional by each party.

Brands are now trying to re-engage consumers in an ongoing dialogue and create a holistic customer engagement program that combines satisfaction, loyalty, involvement, advocacy and feedback. Using the mobile channel offers a powerful engagement opportunity for a one-to-one relationship, but executing a mobile customer engagement strategy is not without pitfalls. Lessons from the past can help you ensure a better customer relationship through the mobile channel and promote ongoing customer engagement.

Know Your Demographics

A holistic approach to designing and delivering a mobile engagement piece from both the brand and the customer perspective significantly aids success. The cultural and technological implications of the program's delivery will depend on the target market and the socio-demographic. It is unwise to carbon-copy an online process to mobile, and consideration should be given to the type of mobile technology being used by consumers.



USING THE MOBILE CHANNEL OFFERS A POWERFUL ENGAGEMENT OPPORTUNITY FOR A ONE-TO-ONE RELATIONSHIP, BUT EXECUTING A MOBILE CUSTOMER ENGAGEMENT STRATEGY IS NOT WITHOUT PITFALLS.

Some markets will be appropriate for smart-phone apps or mobile Web solutions—but remember that the app is not ubiquitous, and SMS and mobile Web offer the most accessible solutions across all regions and socio-demographic groups. Understanding which technologies are most likely to be adopted by consumers whilst also achieving your objectives is incredibly important to a successful relationship.

Enable the Customer to Come to You

Mobile is very personal. Customers will be much more engaged with the brand and the mobile program if they initiate the relationship by opting in to the program.

The first interaction is a time of high engagement, and it is the opportunity to grab those key pieces of information that can empower relevance later. It is also the time to make a good first impression, so give the customer a speedy reply that reassures and affirms the customer contact.

Make Easy Things Easy and Hard Things Possible

Delivering a solution that makes it easy for the customer to engage in the relationship

will not only increase participation but also lengthen the engagement. When Atari first started shipping games, they came virtually without instruction because the games were designed to be intuitive, like some of the best mobile apps today. If programs are to be successful, they need to deliver what the customer and the brand want with natural and intuitive processes requiring minimal explanation.

Offer Rewards that Consumers Want

Many mobile customer-engagement programs are nothing more than loyalty offerings targeted at transient customers rather than at customer acquisition. No matter how you dress it up, an offer of the day and mass coupon delivery are still broadcast advertising, and the engagement is short lived. This type of promotion can encourage customer switching and ultimately breed disloyalty and disengagement.

More popular rewards are financial— money-off vouchers or free products—but being more imaginative in the reward delivery can increase customer loyalty. Consider coffee rewards: Buy nine, get the next free. Those small cards that track the 10 coffees are often lost or forgotten, but regular customers should be rewarded nonetheless. An invitation to an exclusive event at the store—or even an affiliate reward like a free book or cinema ticket—could be more encouraging and give the brand an opportunity to engage customers on a different level.

Rewards can also come in the form of information. The Pampers Hearts Club program allowed customers to collect points for purchases that ultimately had a monetary value. Pampers also provided baby-development tips from pediatric experts that gave valuable advice to the participants whilst positively positioning the brand as a custodian of health for babies. The program strengthened relationship trust and emotional reliability.

Empower Advocacy

Empowering the most dedicated and loyal customers to become advocates, thus increasing the number of new and instantly more deeply engaged customers, is priceless. No one is more trusted when recommending a brand or service than someone independent.

It is important to find ways that engaged mobile customers can introduce friends and receive rewards. Brands should also be able to recognize relationships between members, identify advocacy levels to key promoters, deliver group offers and support the collection of group points for increased rewards.

Abide by the 3 Rs: Relevance, Relevance and Relevance

Brands will quickly be cast aside if they ignore relevance in communications. Contact for contact’s sake can appear needy and annoying; it turns the customer off and potentially drives down loyalty and satisfaction



UNDERSTANDING WHICH TECHNOLOGIES ARE MOST LIKELY TO BE ADOPTED BY CONSUMERS IS IMPORTANT TO A SUCCESSFUL RELATIONSHIP.

levels. If customers have joined the relationship via the highly protected and personal medium of their mobile you (the brand) probably had them “at hello,” so relax and spend some quality time with them rather than pestering them.

Listen as Much as you Talk

Asking for feedback improves customer perception of a brand and makes customers feel valued. That interaction increases the emotional tie and provides valuable insight. Two important interactions are engaging with lapsed customers and with the most engaged members: Understanding what drives these groups helps you improve your service and assures you maximum ongoing engagement with them. You can gain actionable insight from everything from surveys to product development and detailed feedback. The real-time nature of a mobile survey means it can be an integrated campaign element rather than a tagged-on afterthought, typically carried out long after the event.

Prepare for a Lifetime of Learning

Relationship longevity is achieved through monitoring, adaptation and learning.

Collecting registration data from customers makes communications more relevant and personalised. But the data must be maintained, updated and augmented to fulfil its greatest potential. Collect data such as frequency of points loading, point totals in a loyalty program or answers from a feedback survey to better understand and profile the customer. This knowledge will help nurture the relationship. Monitoring and live reporting, scorecards, key performance indicators (KPIs) and activity levels can also help ensure a healthy relationship.

Let the Mobile Journey Begin

Brands are making significant investments in mobile in the hope of creating a closer, more valuable relationship with their customers. Mobile has the capability to provide everything traditional relationships delivered in terms of customer service, satisfaction and loyalty, and it has the potential to deliver something greater—an enriched connection. Like all successful relationships, it needs buy-in and attention from both partners to ensure a wonderful journey together. ■■■

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Sally Burley is co-founder of The 3rd Degree. Sally began her career as a cognitive scientist working with artificial intelligence systems before specializing in SaaS applications and GUI design. Sally has worked with mobile technology since 1999. Her role current at The 3rd Degree is as marketing director.

What Do You Know About KYC?

KNOW-YOUR-CUSTOMER (KYC) IS DIFFERENT IN EVERY COUNTRY AND EVOLVING ALONGSIDE MOBILE COMMERCE.

By Tarik Husain,
Business Development Director
mCommerce, Sybase 365



Regulation and compliance requirements are still evolving in many markets when it comes to mobile commerce.

This is not a new channel for operators alone: Many banks also lack experience with mobile payments, remittance and other transactions. Various government bodies that regulate both mobile operators and financial services are also learning their way around mobile. Many regulators simply rely on existing rules for older types of transactions, such as card or cash payments. Regulation of mobile commerce as an industry is still a way off.

As the line blurs between typical operator services and those that are considered to be more part of the financial services industry, operators should be careful to ascertain exactly what Know Your Customer (KYC) really means.

Mobile operators cannot just rely on the telecommunications authority rules and adopt them for mobile commerce, as many of the service offerings may fall clearly within review of the monetary authority or central bank. Mobile operators need to work with both regulators to implement a KYC process that works for their country. KYC is not just about preventing fraud: It encompasses several aspects that the consumer, service operator and even the government must be safeguarded against. Fraud is one issue, but KYC also involves anti-money laundering efforts, combating the financing of terrorism and even prevention of identity theft. These are all equally important reasons why your KYC process should conform to the rules.

KYC regulations vary from country to country, so there are no global standards to adopt. In the United States, for example, KYC policies typically include a customer identification program, as mandated by the Bank Secrecy Act and the US Patriot Act. Even these rules require interpretation of exactly how they should be implemented. Some systems are as simple as a thumbprint and a photo sent to the central bank; more complex systems can include a “points” system that requires users to provide several documents to prove their identities, with a minimum number of points to qualify. There are even partial-KYC and full-KYC implementations.

Emerging Markets on the Leading Edge

To a certain extent, the emerging markets have led the way when it comes to KYC. In most developed (and highly banked) countries, most of the population has already been through some form of KYC. Citizens of developed countries typically have several forms of identification (such as a passport, driving license or utility bills). So KYC in developed countries merely needs to emulate established procedures for opening a bank account.

Many mobile operators also are forced to perform KYC these days, because it is important to know who is using prepaid phones and for what purpose. However as a mobile operator, the KYC you perform to identify a customer is not necessarily up to the same standard as a bank performed KYC process.



AS THE LINE BLURS BETWEEN TYPICAL MOBILE OPERATOR SERVICES AND THOSE THAT ARE CONSIDERED TO BE MORE PART OF THE FINANCIAL SERVICES INDUSTRY, MOBILE OPERATORS SHOULD BE CAREFUL TO ASCERTAIN EXACTLY WHAT KNOW YOUR CUSTOMER (KYC) REALLY MEANS.

In contrast, it is a much bigger challenge to perform KYC on a resident who has no identification and may also be illiterate. This is where many operators, banks and even central banks have had to really look at different ways to implement KYC for mobile commerce, as they simply cannot follow rules that may be in place for a “banked” customer.

FIGURE 1. STRATEGIES FOR IMPLEMENTING KYC

Although there is no single answer as to how mobile-commerce service providers should implement KYC given the shifting landscape of regulations from country to country, these guidelines should help mobile operators plan KYC for mobile commerce in their local markets:

- ✓ **Work with the local telecommunications authority** to understand the current rules around the KYC process.
- ✓ **Work with the central bank or monetary authority** to understand the local KYC process rules as well as any other regulations you may need to comply with, such as deposit guarantees, or a remittance license.
- ✓ **Look at existing KYC guidelines** from both financial and telecommunications regulators, because they can be good models for your practices. If there are any, they typically are for “e” money services in the unbanked and prepaid markets
- ✓ **Remember that KYC is part of an overall solution;** you still need to monitor and maintain account activity after registration.
- ✓ **Localization is key.** Find out what types of formal documentation you need to comply with, and how you should “interpret” the rules. Many are vague and require clarification. Do not assume anything.
- ✓ **Understand your agent network** and those who would perform KYC procedures on your behalf.
- ✓ **Remember that the market will and does introduce new rules around KYC** on an ongoing basis. Plan your platform and processes to adapt.
- ✓ **Training and education** of your personnel, agents and the consumer is very important.
- ✓ **Make sure you engage your internal risk,** compliance and audit teams from the beginning.

Most people who have a history of banking, paying bills, driving and so on typically end up in one or more databases that attest to attributes such as their creditworthiness.

It is easier to perform KYC tests on people who have this kind of paper trail. People who have never paid their bills by electronic means (such as credit or debit cards or the Internet) are not documented via trusted sources such as the credit-reporting agencies, making it harder to find reliable data about them. This makes it even more important for mobile commerce service providers to ensure that their KYC process is thorough and that they truly do “know your customers.”

Another advantage that banks have is that in a typical bank branch, the staff performs KYC checks on people opening bank accounts. Mobile operators typically have a large network of agents. While this is a good thing for mobile commerce business, for things like cash out, payments and remittance, it represents a challenge in the KYC process. As mobile operators in emerging markets have grown, so has their agent base. Many of the strict trading rules and regulations that govern retail in the established economies are still not present in the emerging markets. It is not uncommon for a high percentage of fraud to take place in the emerging markets, as the retail network itself is still in its infancy.

Hence, it is very important that the agent network is capable of performing the KYC process correctly and that the service provider minimises the risk of rogue agents poorly performing a KYC— or worse, performing outright fraud.



IT IS A CHALLENGE TO PERFORM KYC ON SOMEONE WHO HAS NO IDENTIFICATION AND MAY BE ILLITERATE.

In emerging markets, regulators have had a real challenge in devising KYC processes. Typically they have emulated e-money or similar regulations, not just in the KYC registration process but also in the limits that are typically placed on these systems. Limits have been set for the amount of money that can be transferred per day, the number of transactions that can be performed, and more.

Most regulators, be they banks or telecommunications, post their guidelines for KYC on their websites. However they are a moving target and at best open to interpretation. So a team approach is best.

Perhaps your KYC implementation will consist simply of a photograph or a signature taken on a mobile device and stored in a database—or it could be a points system that requires some compliance; either way, it is a crucial step in the mobile commerce process. Time and care should be taken to reach out to regulators before you finalise your mobile commerce plan. Also, be prepared to adapt as the regulatory framework evolves. ■■■

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Tarik Husain is the business development director at Sybase 365, with more than 20 years' experience in the banking and payments industry.

The Chemistry of Mobile Marketing

FORGET DO-RE-MI. MO SO LO CO—WHEN USED IN MARKETING—PROMISES TO POWER THE ECONOMY.

By Michael J. Becker,

Managing Director, North America
Mobile Marketing Association



In the mobile world, relevant information—or relevant marketing—increasingly engages consumers. Four elements, similar to those in a periodic table, are driving this change: Mobile (Mo), Social (So), Local (Lo) and Commerce (Co). When mixed correctly, like two parts hydrogen and one part oxygen, these elements form a compound that powers modern-day marketing and the economies of the world.

Understanding the Elements

Let's take a closer look at these four marketing elements. What are they, and how can they work together to boost marketing impact, and ultimately steer customers to the products and services they need and want?

Mobile (Mo). Unquestionably, Mo has changed the fabric of society and consumer behaviour. The sales of mobile devices have grown—and continue to grow—exponentially. Britain's telecoms regulator found that more than one-quarter of British adults uses a smartphone, according to an October 2011 report in *The Economist*. Most mobile phone sales in the United States are of smartphones, Nielsen estimates. Smartphone sales, according to Gartner, are on track to reach 468 million units worldwide in 2011, a 57.7 percent increase over 2010.

Social (So). Today's consumers are social. More than 800 million people are on Facebook, and 350 million of them access

Facebook through their mobile devices, according to the company. Moreover, these consumers are active. Social networking site Foursquare's 10 million users "checked in" more than 1 billion times in 2011. Millions more are posting, scanning and reviewing codes and products. This social activity creates 70 percent of the content (articles, posts, Tweets, Pokes, Likes, pictures, videos and more) on the Internet, according to authors Craig & Ludloff.

Location (Lo). The location element provides the ability to determine the general region—or precise location—of an individual. Taken by itself, location has little commercial value. But when you combine Mo, So, and Lo, something magical can happen: Location can power a relevant engagement.

When an engagement is relevant, marketers can quickly get to the core of consumer's information needs, such as: Where is the local store? How much will this cost me? Can I get a discount? What do others think? For example, 48 percent of adults 18 to 34 years old are more likely to engage with an advertisement that is relevant to their location, while 56 percent are more willing to share their location information for more relevant content, and 81 percent prefer to receive local, ad-supported (free) content than to pay for content (JiWire.com).

In addition, relevance can be augmented when it is bonded with real-time behavioural analysis. All the interactions that transpire



IN THE MOBILE WORLD, RELEVANT INFORMATION—OR RELEVANT MARKETING—INCREASINGLY ENGAGES CONSUMERS.

FIGURE 1. A LOOK AT WHAT CONSUMERS DO, ONCE THEY HAVE INITIATED MOBILE SEARCH



within the engagement, if marketers perform well, can create consumer awareness and positive feelings for the brand, generate loyalty and provide value.

Commerce (Co). Commerce can take two forms: a transaction or a process. As a transaction, Co refers to the exchange of value, often money (but sometimes personal and related information or other tangible values). We often call this “payment” or “mPayment” when the transaction occurs with mobile devices. As a process, Co refers to the steps that both lead up to the payment (price comparisons or confirmations, store locators, needs matching) and immediately

follow the payment (installation instructions, user support).

Combining Mo, So, Lo and Co powers relevant, real-time consumer engagement in which every interaction can lead to an immediate exchange of value, anywhere, anytime and through any screen (phone, TV, tablet, game terminal and more).

Putting MoLoSoCo into Action

Given that most consumers carry a mobile device, marketers must engage consumers through one of the eight mobile media paths

GIVEN THAT MOST CONSUMERS CARRY A MOBILE DEVICE, MARKETERS MUST ENGAGE CONSUMERS THROUGH ONE OF THE EIGHT MOBILE MEDIA PATHS (SMS, MMS, EMAIL, VOICE, APPLICATIONS, WEB BROWSING, CONTENT AND PROXIMITY) IN COMBINATION WITH TRADITIONAL MEDIA.

(SMS, MMS, email, voice, applications, Web browsing, content and proximity) in combination with traditional media. And because of MoSoLoCo, all marketing now can be interactive, relevant and action-oriented and can guide the consumer to point of purchase and positive brand attribution actions.

Action is the key word, and mobile means action. According to Microsoft Advertising, nearly 70 percent of consumers take action within an hour of initiating a mobile search (Microsoft, 2010). This finding is supported by new data from Google/Ipsos OTX Media CT, which shows 39 percent of mobile users taking action immediately, and an additional 36 percent taking action within a few hours of initiating a mobile search (Google, et. al.). Of these 75 percent of respondents who took action, more than half made an in-store visit and more than a quarter made a purchase (see Figure 1).

These figures are substantiated in a study conducted in October 2011. Accenture found that 54 percent of mobile users and 35 percent of tablet users plan to use their device while comparing prices in the store while holiday shopping in 2011, while 43 percent of mobile users plan to receive discounts, and nearly one-third (32 percent) plan to receive alerts when a product is in stock during the holiday shopping season (Accenture).

The value of MoSoLoCo should be clear. Marketers who embrace the possibilities of mobile are putting themselves in a winning position where they can bring consumers into the store and have them want to make a purchase.

Furthermore, the power of MoSoLoCo is borne out in compelling, real-world examples. Men’s Wearhouse, after introducing a \$5 discount mobile coupon program, added

163,000 subscribers from February to October 2011. The program is not only building relationships, it is paying off. The redemption rate for the program between February and May was 93 percent.

American Express and Foursquare have created a model for what can be done when MoSoLoCo come together for hyperlocal customer engagement. By syncing an American Express card to Foursquare, then checking in at a Foursquare location, the user can download exclusive nearby specials to the subscriber Amex account. When card owners use the American Express card to make purchases, they automatically get savings applied to the transaction. American Express made it simple, and when combined with search, it drives foot traffic and sales.

Add MoSoLoCo to Your Campaigns

Companies not taking advantage of MoSoLoCo need to rethink their strategies. With the help of organisations like the MMA, they can be empowered to learn about this new marketing chemistry, invest in it, train in it, and engage in it—making mobile a central and indispensable part of their marketing plans.

Michael Becker founded mobile marketing solutions provider iLoop Mobile, which earned the 2007 MMA Innovation of the Year Award. Now the managing director of North America MMA, Becker also serves on the dotMobi Mobile Advisory Group steering committee and Direct Marketing Association’s annual Programming Advisory and Mobile councils.

The Mobile Revolution in Retail

KNOW-YOUR-CUSTOMER (KYC) IS DIFFERENT IN EVERY COUNTRY AND EVOLVING ALONGSIDE MOBILE COMMERCE.

By **Richard E. Mader**,
Executive Director of the Association
for Retail Technology Standards
(ARTS), a division of the National
Retail Federation (NRF)



The question of whether consumers will adopt smart mobile phones is becoming less relevant. The more relevant question is “What is the best way for retailers to capitalise on consumers’ rapidly evolving use of their mobile devices?” Mobile phones are changing the way retailers, suppliers and consumers communicate and do business. Our phones are always with us and always on, connecting retailers to current and potential customers, regardless of location or time of day. Adoption rates for mobile devices are accelerating so fast that forecasts from a few years ago are completely outdated. In 2005, according to Juniper Research, mobile payments totalled \$155 million and were forecast to hit \$10 billion by 2010. Actual mobile payments for 2010 were closer to \$100 billion and forecast to double, to \$200 billion, in 2011. Mobile technology for retail is no longer a trend, but a necessary way of doing business. Indeed, mobile will revolutionise retail by:

- Allowing anytime, anywhere outreach to consumers
- Locating a store or product
- Offering in-store targeted discounts and coupons
- Providing accurate product information
- Increasing sales while reducing markdowns
- Allowing consumers to negotiate price
- Enabling self-checkout anywhere in the store
- Offering payment alternatives that lower costs with added convenience



PAYMENT BY PHONE CAN BE COMBINED WITH ADDITIONAL SERVICES TO INCREASE SALES, SPEED UP TRANSACTION TIMES AND STRENGTHEN CUSTOMER LOYALTIES.

Forging Stronger Relationships with Customers

During 2011, early adopters of mobile technology such as Target and The Home Depot redefined how they wanted to interact with customers in their stores, on the Web, on mobile devices and on social networks. These innovative retailers recognise that mobile can be integrated into their business models to enhance the relationship between their brands and customers.

Although customers will not require retailers to offer multiple integrated channels to win their business, leading retailers must strengthen the relationship between their brand and their customers, because mobile devices give customers more buying options than ever. Consumers continue to use mobile devices not only to research products and pay for purchases, but also to interact with retailers in ways that increasingly connect to social media sites and third-party pricing and promotion applications.

Consumers with a mobile device can use apps such as Red Laser to find a better price while standing in the middle of a retail store. One example of using mobile capabilities to forge a stronger relationship is Whole Foods Markets: Customers who are curious about an ingredient can use their phones to find and display recipes using it. They can even restrict their choices to accommodate food allergies or nutritional requirements. Shoppers headed for Target can search a

 **MOBILE PAYMENT PROCESSING MUST BE GLOBAL.**

friend's gift registry for the perfect gift, locate the nearest store that has that item in stock and check the gift off the registry list—all on a mobile phone.

Time for Standards in Mobile Payments

Using mobile devices for payment has lagged behind marketing and internal operation applications. In 2012 expect mobile payment to be the focus, given the entry of Google and PayPal in to the mobile payment space, as well as the August 2011 announcement by Visa that EMV (chip-and-pin) security will be required (in the United States) by 2013.

Payment by phone can be combined with additional services to increase sales, speed up transaction times and strengthen customer loyalties. When consumers pay by phone, payment information that adheres to Association for Retail Technology Standards (ARTS) standards can be integrated into the retailer's back-office systems—coordinating all-important inventory, customer relationship, enterprise resource planning and financial data.


Mobile payment processing must be global. What works in the United States should also work in Asia, the Pacific Rim, Europe, the Middle East and Africa. The only one way to ensure that processing is the same everywhere is to create and adopt global standards. Fortunately, numerous organisations, such as Smartcard Alliance, the Near

Field Communication (NFC) Forum, GSM Association and ARTS, are already working to develop and promote the necessary standards.

As technology evolves and consumer sophistication increases, retailers have an opportunity to leverage mobile technology to streamline operations and generate incremental revenue. Today consumers fully expect to use their mobile to find a retailer location, a product within the store and accurate product descriptions. Urban Outfitters and Nordstrom have introduced mobile point of sale (POS), allowing associates to serve customers and complete sales anywhere in the store. Mobile POS eliminates the age-old problem of store-to-store transfers: Associates simply scan any item with the mobile camera, instantly search the inventory in all store locations and warehouses for the customer's desired colour and size, complete the sale and have the desired merchandise shipped directly to the customer's home. This tool puts an end to the paperwork associated with store-to-store transfers and reduces markdowns often caused by inaccurate store allocation of merchandise.

Navigating the Mobile Landscape

Mobile is revolutionising retail. Consumers are leading this revolution, demanding the convenience afforded by mobile services and transactions. Surveys show that 48 percent of retailers have already implemented some mobile services. If you are among the 48

percent, congratulations, but do not rest on your laurels—continue to expand and refine! If you are among the other 52 percent, begin your mobile planning today. 

Extracted in part from *Mobile Retailing Blueprint: A Comprehensive Guide for Navigating the Mobile Landscape*. The Mobile Retailing Blueprint was developed over 24 months by more than 40 organisations—including retailers, solution providers, mobile network operators and not-for-profit associations—that are leading the use of mobile smartphones in business.

The complete document is available from www.nrf.com/mobile.

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Richard Mader is the Executive Director of the Association for Retail Technology Standards (ARTS) a division of the National Retail Federation (NRF). ARTS was founded in 1993 to speed the implementation of technology in retail by reducing costs through standards. Mader was a founding member and volunteer chairman before becoming executive director in 1999 when ARTS became a division of National Retail Federation (NRF). Mader has more than 40 years in retail information management, progressing from programmer analyst to serve as senior vice president and chief information officer for Boscov's and Bon-Ton Department Stores, and Director of Corporate Systems for Federated Department Stores.

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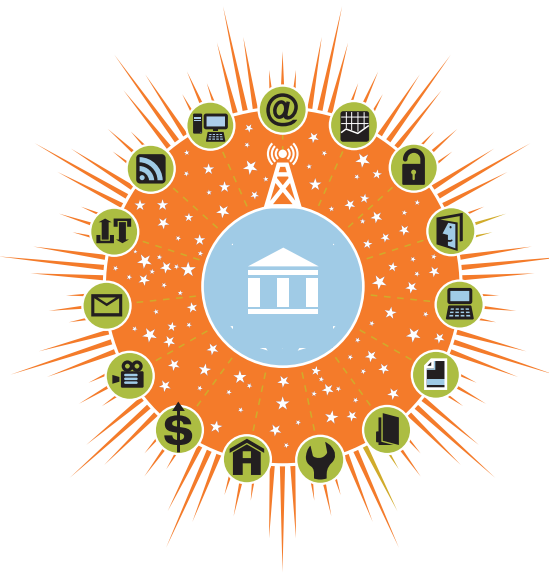
FIGURE 1: RETAIL TIPS FOR MOBILE SUCCESS

-  Create a mobile plan for your whole enterprise—including marketing, finance, IT and all other departments.
-  Understand your customers' desires, remembering that teenagers are different from seniors.
-  Start small and grow with success.
-  Create, monitor and enforce a policy for privacy and security.
-  Understand the differences between mobile commerce and electronic commerce.
-  Integrate mobile applications with existing back-office data.
-  Mobile applications must be global and built on standards.
-  Work with an experienced and trusted mobile solution provider.
-  Integrate social media into mobile marketing and commerce.
-  Consider cloud computing to implement mobile applications.

An App for the Mobile Ages

RBC ROYAL BANK HAS FIGURED OUT HOW TO BUILD A BETTER APP — USING INNOVATIVE TECHNOLOGY, CLOSE ATTENTION TO MARKET TRENDS AND LOTS OF CUSTOMER FEEDBACK.

By **Sharad Ojha**,
Head of Mobile Channel Strategy,
RBC Royal Bank



Canada is BlackBerry country. The mobile device has gained an extremely loyal following, with a 42 percent market share within Canada, according to ComScore. What is interesting about BlackBerry users is that while they love to press and punch keys for email and text, they are not huge app fans. Among the RBC customers who have downloaded the RBC Mobile Banking app, 65 percent use an iPhone, while only 35 percent use BlackBerry smartphones. And there lies the mobile rub: Can one mobile banking offering serve a diverse user base with different device types? Yes—if technology is in place that recognizes, just as RBC does, that mobile customers are not all the same but want equal treatment.

Before launching the extremely popular RBC Mobile Banking Apps in December 2010, RBC did its homework to find out exactly what customers wanted from mobile banking. The clear message was that bank clients expected fully integrated banking apps with functions such as online banking and a user experience similar to other apps on their devices.

RBC saw an edge and wanted to jump ahead of its competition as the first bank to offer fully integrated mobile banking applications in Canada. The development team was tasked with creating an app that had the same mobile banking features but offered unique interfaces for BlackBerry and iPhone



RBC WANTED TO JUMP AHEAD OF ITS COMPETITION AS THE FIRST BANK TO OFFER FULLY INTEGRATED MOBILE BANKING APPLICATIONS IN CANADA.

users. BlackBerry users want to interact by pressing a button, and iPhone users want to touch and swipe. The developers created an app that can take advantage of each device types' existing functions, such as the menu keys, location services, passcode security and so on. RBC also deployed a middleware platform that made the app both iPhone- and BlackBerry-friendly.

RBC launched its mobile banking service after only nine months in development.

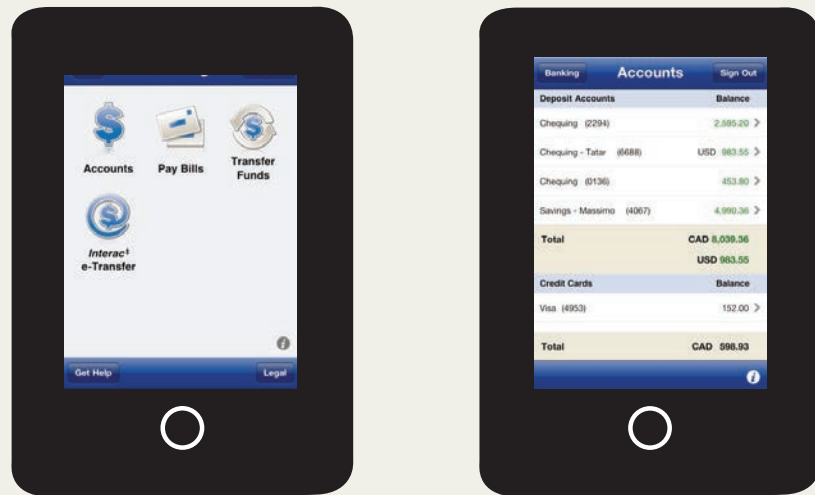
Since its 2010 launch, the company has released three updates as well as an Android version—all were based on the same guiding principle of build once and deploy across multiple platforms.

Move to the Front of the Screen

In a little less than a year, more than 800,000 RBC customers signed up for and downloaded the free mobile banking app. While those numbers are breathtakingly strong, what stands out is that customers use the service regularly. Customers, for example, check their balances an average of 12 times a month. They have also used their mobile banking apps to pay more than 1.6 million bills, and customers have transferred funds approximately 3.6 million times since launch. Another popular feature is the ATM and branch locator. Initial customer research did not pinpoint location services as a popular function, but customers travelling in unfamiliar areas have latched on to this convenient way to find banking services on the go.

These usage stats are not the norm. Half the people who download an app use it only once. In addition, ongoing usage for most apps tends to decrease significantly over time. To counter that trend, RBC knew its mobile banking service needed to meet two customer demands: Customers wanted to manage a real-time activity while on the go, and the task needed to be relevant at all times. If the application does not provide value to customers they will not use it or,

FIGURE 1: RBC MOBILE BANKING APPS



worse yet, will uninstall it. Our goal was to ensure that customers kept our app front and centre on their mobile device screens.

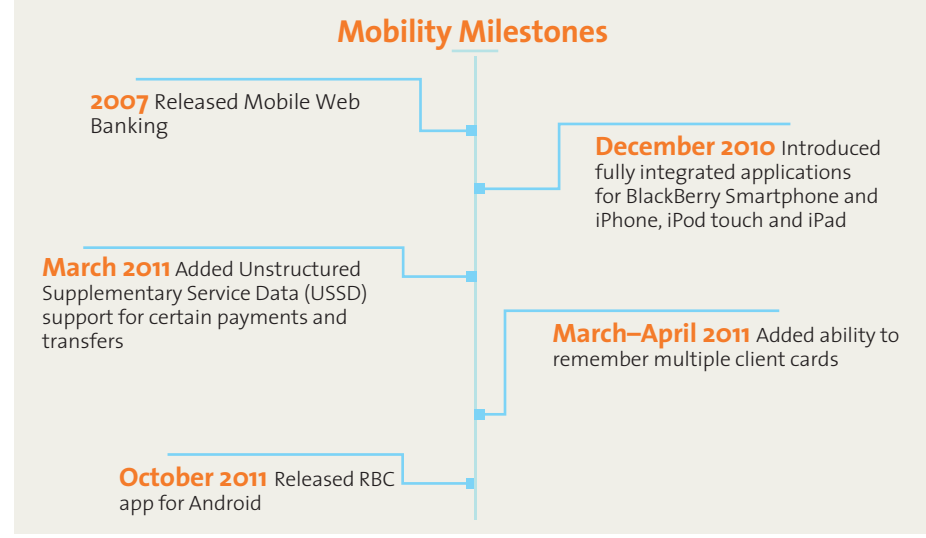
Rate My App

The popularity of the RBC Mobile Banking Apps is not a coincidence. RBC developed a multipronged marketing strategy that leveraged print and online promotions. We highlighted the new mobile offering in in-branch banners, in-branch digital signage, bank statements, ATM receipts and online. The campaign even extended to billboards, theatres and retail centers and was posted on public transit terminals.

Once RBC created excitement for the new offering, it had to make sure the app did not disappoint. RBC worked hand in hand with users in every phase of app development—and will continue to do so. Mobile customers are very vocal and will let you know what they like—and more often don't like. Users are rarely shy about using ratings and feedback tools, and RBC pays attention to the comments and

 **IN A LITTLE LESS THAN A YEAR, MORE THAN 800,000 RBC CUSTOMERS DOWNLOADED THE FREE MOBILE BANKING APP.**

FIGURE 2: MOBILITY MILESTONES



responds with improvements and modifications. RBC also monitors feedback from customers calling into the contact centre and from user groups and focus groups. Social media is another channel that RBC looks to for customer input.

So far, customers have been very happy about the user experience for each device (Android, BlackBerry and iPhone). Customers have appreciated the easy-to-understand icons and simple process flows, as well as the offline view of their personal financial information. Mobile customers are always looking for new features and improvements added on a regular basis. Our willingness to listen to and

learn from customers will keep us on track to deliver exactly what customers want from their mobile banking experience. ■■■

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Sharad Ojha joined RBC in 2008 and is responsible for RBC's mobile channel strategy, with the mission of delivering existing products and services and developing new ones through the mobile channel. Prior to joining RBC Ojha held management positions in the consulting and consumer products industry. Ojha holds master's degrees in engineering and business. Ojha also volunteers with several nonprofit organisations and is an executive board member for HMC.

Protocol Pros and Cons



By Andrew Mikesell,
Product Director, mCommerce,
Sybase 365

FOUR MAIN TECHNOLOGIES UNDERLIE MOBILE COMMERCE APPLICATIONS, EACH WITH ITS OWN ADVANTAGES AND DISADVANTAGES.

Each geographic market contains more than 1,000 models of mobile phones. Releasing mCommerce apps for Android, BlackBerry and iPhone may cover a large proportion of your target audience in developed markets. However, in emerging markets where smartphones are the minority, you need a different strategy.

In developing regions, the question is not for which smartphones you will build an app, but which mobile technology works best for your app and users. There are three protocols to choose from: SMS, Unstructured Supplementary Service Data (USSD) and Wireless Access Protocol (WAP). In addition, the SIM Toolkit (STK) lets you add new functionality to feature phones.

SMS

SMS, or text messaging, is the oldest of these technologies and the most widely used. SMS messages can transmit one-way “push” notifications such as alerts, news, offers and other data from content providers to subscribers. SMS can carry binary data, so

it can be the wireless delivery mechanism for downloads (ringtones, operator logos) as well as encrypted messages. SMS also supports two-way interactive messaging; for example, allowing bank account holders to check their current account balance by texting “BAL” to a specific phone number or short code.

The main advantages of SMS are its ubiquity and ease of use: it is available everywhere and is accessible to all end-users irrespective of their operator or mobile device type.

The main drawback of SMS is lack of encryption. SMS services cannot use Personal Identification Numbers (PINs) for authentication, because copies of messages are stored in the unsecured Sent folder. This limits SMS to services that do not require authentication or that require the PIN to be requested “out-of-band” in another medium, such as by an Interactive Voice Response (IVR) call to the subscriber to request the PIN.

While Multimedia Messaging Service (MMS), or picture messaging, is widely used in some markets, it is generally not used in mCommerce services. MMS is much more costly than

SMS, and controlling how it appears on the device is difficult. One exception is MMS for barcodes, but this is still a niche use.

USSD

USSD is nearly as old as SMS, but is available only for external services in a limited number of markets. Where it is available, which includes parts of Africa, Central America, Europe, India and Southeast Asia, it is generally very popular. Unlike SMS, USSD establishes a real-time connection that allows for true session-based communications. Think of it as the mobile version of IVR systems that many companies use for customer service—but without the voice.

Like SMS, USSD can transmit push notifications, answer queries from users (the available balance in a prepaid mobile account) and top-up the balance on prepaid mobile accounts. Also like SMS, USSD is accessible from virtually any mobile phone, and using it is easy. A big advantage of USSD is that it can incorporate secure password or mobile PIN protection, because sent messages are not stored on the device.

USSD does have drawbacks. Charging for services is difficult because operators do not have a built-in billing mechanism. It is not guaranteed to work when you roam. And your phone must be turned on to receive messages. When your phone is off, out of range or in a dead zone (such as inside a lift), you will not get the message—and unlike SMS, USSD provides no ability to resend

messages. For those reasons, USSD is not a good option for services such as fraud alerts.

If you launch services in a market with USSD, it provides maximum reach. However, USSD requires the operator to make it available to external services, so this limits its availability.

WAP/Mobile Web

Using XHTML (a variation of HTML) for mobile Web access, WAP 2.0 has been available on most feature phones since 2004. Since the launch of iPhone, most smartphones have supported browsers that support HTML.

WAP 2.0 provides a mobile experience much closer to a desktop and laptop Web experience than the original WAP standards did, but it is still different enough that a WAP experience and Web experience will not be exactly the same. A WAP user experience can be close to what you get with a basic mobile application. WAP does not have access to the mobile phone’s features like an app does, but it is still a good back-up plan for users without smartphones.

STK

Using SIM Toolkit (STK), developers can build an application that is stored on the Subscriber Identity Module (SIM) card and appears in the top-level menu of a feature phone. STK allows these applications to request and receive information from SIM, give commands to the mobile device, ask for



EVEN IF YOU ARE ROLLING OUT A SMARTPHONE APP, YOU MAY STILL WANT TO MAINTAIN SMS FOR CERTAIN TYPES OF NOTIFICATIONS, SUCH AS FRAUD.

FIGURE 1: TECHNOLOGY COMPARISONS

Reach	Works with all handsets	Requires data plan	Requires configuration	Notes
SMS	Yes	No	No	Requires little consumer education.
USSD	Most phones since 1998	No	No	Users pay USSD costs on top of SMS/voice fees. Not offered by all operators. Limited to GSM networks.
WAP	Most feature phones since 2004, all smartphones	Yes	Yes	Configuration is not straightforward. Requires an over-the-air activation and provisioning service to remotely configure phones for general consumers.
STK	Yes	No	No	May require a new SIM card and cooperation from operator.
Native App	No Java ME for feature phones	Yes	Yes	Apps are built for specific device type, so costly to support wide range of devices.
Services Support	User-initiated service	Push services	Can access phone features	Notes
SMS	Yes	Yes	No	
USSD	Yes	Yes (requires USSD Phase 2)	No	May not work when roaming. Entering text can be tricky.
WAP	Yes	Yes (WAP push via SMS)	No	Using a container/mini-launcher app for mobile Web, accessing phone features (GPS, camera) is possible. Not offered by all operators.
STK	Yes	No	No	
Native App	Yes	Yes	Yes	SMS can be used to trigger Java ME apps.

FIGURE 2: TECHNOLOGY COMPARISONS

Security	End-to-end encryption	Supports PIN	Notes
SMS	No	No	SMS is encrypted while being transmitted, but requires STK or an app for end-to-end encryption.
USSD	No	Yes	
WAP	Yes	Yes	SSL supported.
STK	Yes	Yes	
Native App	Yes	Yes	
User experience	Graphical user interface	Requires end user education	Branded user experience
SMS	No	No	No
USSD	No	Yes	No
WAP	Yes	No, like the Web	Yes
STK	No	Yes	Yes
Native App	Yes	Yes	Yes

input from the user and communicate with external applications.

A few services use STK for mobile banking and other kinds of applications with simple interfaces and a low level of functionality. The main benefit of STK is security in the form of identity verification and encryption.

From a security standpoint, giving subscribers an STK application is like giving them a dedicated terminal. STK is ideal for financial or mobile commerce deployments where customers have access to a network of cash in/cash out agents, like those of the M-PESA system in Kenya or in other peer-to-peer markets where subscribers trade airtime.

The challenge of STK is that it usually requires the mobile operator to issue a new SIM card. For that reason, it is best to use STK in limited distribution environments.

A Word about Alerts

With all the sophisticated technologies available today, is SMS still needed? Will we eventually replace its most popular function, the alert, with the alerts available on Android and iPhone devices? Not necessarily. Depending on the importance of your alerts, even if you are rolling out a smartphone app, you may want to maintain SMS for certain types of notifications, such as fraud.

iPhones running iOS 5 and Android devices display alerts in the status bar/alerts centre of the device. These alerts are perfect for simple service notifications such as “You have two new comments on Facebook.”

However, because users are accustomed to receiving many alerts, and on Android you can only clear all alerts, Android alerts may not be the best choice for important messages. For key mCommerce alerts, such as payment due or fraud notifications, alerts on Android devices risk not standing out or being cleared in error. In cases like these, using an SMS for the alert can be preferable. With SMS, if you clear the alert, you can still go back to your inbox and read it at your leisure. You can reply to it, if you need. Plus, SMS alerts can contain clickable URLs.

The Right Technology

When launching an mCommerce service, most clients want a tiered approach to the

devices they will support. They might build a set of smartphone apps for Android, BlackBerry, iPhone and Windows Mobile, then have a WAP option for a middle-of-the-road user experience plus an SMS option for guaranteed connectivity. In countries that have it, USSD may be a better choice than WAP.

FIGURE 3: MOBILE DEVICE COMPATIBILITY

		Mobile device compatibility	
		All	Smartphone
Requires cooperation of operator	Yes	STK USSD	
	No	SMS WAP Java ME	SMS WAP Native app

The landscape of mobile technologies is complicated—and constantly changing. Companies planning to build applications should research the options and work with a knowledgeable partner that can make reliable recommendations based on the target market and services offered.

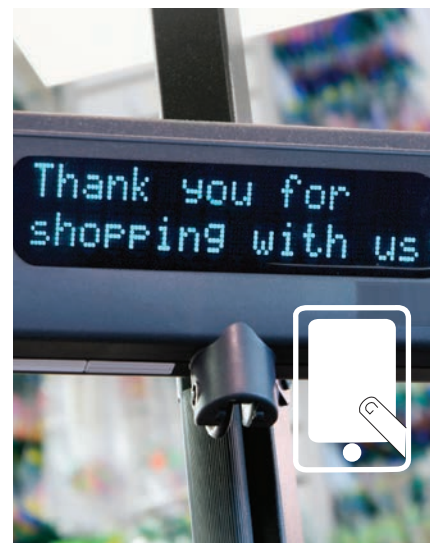
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Andrew Mikesell joined Sybase in November 2000, bringing over 10 years of Internet bank implementations, mobile billing systems and n-tier system integration. Before joining Sybase, Mikesell managed teams responsible for implementing internet banking offers and mobile billing systems integration for the Top 100 financial and mobile service providers within North America, Asia and Europe.

How NFC Works, and Why We're Not Using It More

NEAR FIELD COMMUNICATIONS (NFC) TECHNOLOGY PROMISES A FUTURE WHERE WE WILL SIMPLY TAP OUR PHONES AT THE POINT OF SALE TO MAKE PURCHASES. IT SOUNDS GREAT.

By Diarmuid Mallon,
 Senior Product Marketing Manager,
 mCommerce, Sybase 365

SO, WHY AREN'T WE USING IT YET?



For the last few years, mobile technology press and pundits have been claiming that “next year will be the year” that near field communications, or NFC, payments will finally become mainstream. At the February 2011 GSMA Mobile World Congress, a presenter predicted that 2011 would be the “year of transition” for NFC. Looking back, that forecast turned out to be accurate.

In 2011, NFC graduated from bank and operator pilot programs to real-world deployments, with Google Wallet being the most high profile. Orange UK is another notable service. Perhaps the largest venture has been Isis, the joint venture in the U.S. involving AT&T, T-Mobile and Verizon Wireless.

Whilst the wheels of NFC are certainly in motion, the technology still faces a number

of challenges before it can become any kind of standard.

What Is NFC?

NFC technology enables ultra-short range wireless communications between devices. It is similar to Bluetooth, but with easier set-up and a range of only a few centimetres. NFC is specifically designed for payment transactions or exchanging small bursts of information between mobile devices. NFC is currently available in the Visa payWave credit card; account holders simply tap their cards on a point-of-sale terminal to make their purchases.

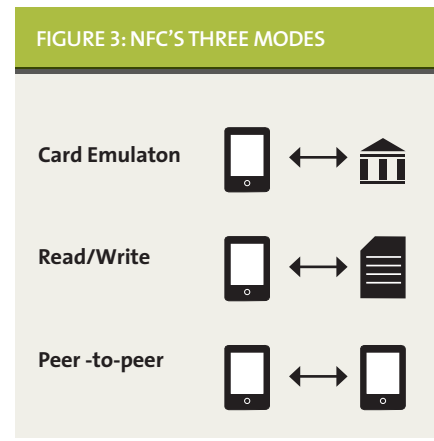
Since the late 1990s, there have been numerous attempts to turn phones into universal payment devices. Even the original SIM cards were the same size as a credit card, albeit without the magnetic stripe. Initial attempts at enabling mobile purchases focused on sending simple barcodes to a phone, an approach that is still in use today. Later methods have included premium short message service (PSMS), or direct-to-bill charging, and more recently payment commands issued by SMS, USSD, WAP and mobile applications.

NFC vs. NFC vs. NFC

NFC actually has three different NFC standards, only one of which is suitable for payments.

- Peer-to-peer, which enables devices to quickly connect and share information. For example, bumping two devices together to swap a business card.

- Read/Write, which is a non-secure mode for exchanging information. For example, touching a smart poster with your phone for a FourSquare-like check-in to a specific location.
- Card Emulation, which is the mode that enables an NFC handset to act as a smartcard/credit card. Importantly, it is the only secure mode for NFC.



What Is Holding NFC Back?

Today, the hurdles to widespread mobile payment adoption are the same as they have always been. For a phone to work in the same manner as a Visa payWave card, it needs, at a minimum:

1. NFC wireless capability, either built-in or added
2. A secure element to verify the phone's identity, just as a credit card has a magnetic stripe or embedded microchip

3. A merchant that has an NFC reader at the point of sale
4. A link to a source of funds or line of credit (an mWallet)
5. Agreed business rules; Visa payWave has a maximum transaction limit, and process for verifying the customer if the transaction is suspicious.

Bringing all of the necessary pieces together is not a simple or straightforward proposition. In developed markets, retailers hesitate to invest in new approaches since they initially slow down checkout speeds. Additionally, most large retailers only replace their point-of-sale terminals every 10 years, so building a network of NFC terminals will take time. Consumers, no matter where they are, resist change until there is a clear advantage over whatever they are currently using: cash, cards and cheques. In emerging markets, the majority of consumers favour low-end phones which means a much greater lead time before a majority will have a NFC capable device.

Secure Element: Another Challenge

What makes a credit card a credit card is the secure element (SE), which is the combination of software and hardware that verifies the card is genuine, and links it to your debit or credit account. On a conventional card, the series of 1s and 0s encoded on the magnetic strip accomplishes this. With NFC, the SE is a discrete element distinct from the radio component of NFC and rest of the mobile device.



THE INDUSTRY RECOGNISES THAT ALL THE PLAYERS—OPERATORS, BANKS, HANDSET MANUFACTURERS AND MERCHANTS—MUST MAKE A CONCERTED EFFORT.

Exactly where the SE exists on the phone is the second challenge for NFC mobile payments, because no one can agree on it today. Some banks favour creating a software version of the SE and putting it on a phone's SIM card. Whilst others, like the Isis joint venture, would prefer to integrate the SE into a mini-SD memory card. The appeal of the latter approach is that it closely mirrors how banks currently issue credit cards: manufacturing it first, and adding the SE element afterward. However, that method does not work with all devices, including iPhones, which do not have a mini-SD slot. So, the question remains: What mix of components and design will mobile NFC payment ultimately comprise?

Forging Standards

NFC mobile payments are coming; there is no doubt. The success of services like the Starbucks Mobile barcode payment application show there is a huge appetite for mobile payment services.

However, at the present time, the lack of agreement over key elements limits existing solutions. Of course, even a hodgepodge of methods will accelerate demand, educate customers and help build mobile payment ecosystems.

It is akin to getting your feet wet at the beach. The first approach is to stand on the

shore, and wait for the tide to come in. The second is to run straight in to the waves. Both methods will get your feet wet, but one takes a much longer time. NFC leaders are forging ahead, each creating their own approaches, hoping that they get both the first mover advantage, and that they actually create standards as they go.

Let's hope that whatever the standards end up being, it will not end up like the story of electrical outlets, where travellers must carry a set of adapters if they want to use their shavers or hairdryers in foreign countries. Hopefully, the industry will settle on one, universal system for NFC.

What Does the Industry Think?

At the Global System for Mobile Communication Association (GSMA) Mobile World Congress in February 2011, Sybase surveyed 251 mobile industry members, and asked them for their view on when mobile NFC would happen, and what was holding up its progress.

The main finding was that the industry recognises that all the players—operators, banks, handset manufacturers and merchants—must make a concerted effort. The consistent feedback was that there is no single factor holding back NFC, but rather a lack of suitable handsets in consumers hands, limited number of NFC readers at points of sale, incomplete standards and a need for improved coordination between stakeholders.

The big surprise was the gap between the industry's expectations of when NFC will be widely available (at least two years out) compared to recent press coverage (any day

now!). According to the industry, NFC is still years away from being mainstream. But that does not mean that mobile commerce is at a standstill. Quite the opposite.

Alternatives In Use Today

In the last few years, developed and developing economies have differed in their approach to mobile payments. In developing economies, where there is a significant unbanked population and sending money is a major challenge, the focus is very much on remote payments. For that, existing technologies (SMS, USSD, WAP) can be used. There is no need to wait for NFC.

Looking at developed economies, many countries are focusing on proximity payments. But even here we see a split, with some markets waiting for NFC, whilst others are launching interim solutions, such as the bCode solution discussed elsewhere in this guide. The advantage of the latter approach is creating momentum and beginning to build that eco-system of merchants and customers that will be the final frontier. ■■■

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Diarmuid Mallon has 17 years of experience in mobile telecoms. He has held a range of positions with a common focus on the consumer benefits of introducing new communication technologies. Prior to Sybase 365, Mallon held positions at LogicaCMG and Sema Group Telecoms in product management and business development. Mallon also worked with the teams responsible for the world's most successful text messaging service and the introduction of MMS in Europe.

Navigating the Regulatory Maze

REGULATIONS OFTEN LAG BEHIND NEW MOBILE TECHNOLOGIES AND THE OPPORTUNITIES THEY CREATE. HERE IS WHAT THE BURGEONING INDUSTRY CAN DO TO BE PROACTIVE.

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 By Miranda Roberts,
 Policy and Initiatives Manager,
 MEF



Disruptive Mobile Technologies

The world has changed. Mobile technology, services and solutions are continually transforming the landscape of communications. Micropayments, value-added services and digital goods are a well-established element of the mobile sector. The world has moved beyond SMS and digital content. Today, consumers can browse within a shop, buy a pair of shoes and pay with a credit card, all through their mobile phones. Commerce extends well beyond traditional bricks-and-mortar retail, and eCommerce is transforming into mCommerce. The mobile device is facilitating financial transactions, payments and banking.

The opportunities for continued growth of the mobile channel are clear as new services and solutions maximise the unique nature of personal devices: always there and always on. MEF's Global Consumer Survey 2011, which surveyed more than 8,000 feature phone and smartphone users across nine markets, shows that 82 percent of respondents are already using their mobile for commerce

Legislation and regulation underpin every aspect of the mobile industry, and the complexities surrounding them can be daunting.

Rules exist to protect both consumers and industry from unfair practices and anti-competitive behaviour. In many markets, however, current regulations stem from legislation drafted to govern the communications sector of an earlier era, including postal services.

FIGURE 1. UK MOBILE MEDIA REGULATION MAZE	
Content/Premium	
Ofcom - Communication Act 2003 - The Digital Economy Act 2010	Advertising Standards Authority - Committee for Advertising and Broadcaster Advertising Codes
ATVOD - Audiovisual Services Media Directive	Gambling Commission - Gambling Act 2005
Independent Mobile Classification Body - Self-regulatory code for mobile content	PhonepayPlus - Code of Practice
Promotion	
Advertising Standards Authority - Committee for Advertising and Broadcaster Advertising Codes	Ofcom - Communication Act 2003
PhonepayPlus - Code of Practice	ATVOD - Audiovisual Services Media Directive

purposes, either to research or make purchases, and 57 percent have used their mobile to perform a banking function, such as sending airtime or money to someone else, check their bank balance, pay bills or even apply for and repay loans.

The Regulatory Landscape

Mobility is changing industries and lifestyles at a fast pace, and regulations are not always

keeping up with the times. How do those working within the mobile ecosystem, be they mobile experts or those new to mobile as a channel, identify the rules and comply?

Any rules, whether imposed at a statutory level or through industry self-regulation, must be clear, with the aim of protecting consumers as well as growing and developing the industry. Without clarity, interpretations may differ as companies attempt to mould their services and solutions to fit existing rules.

FIGURE 1. (CON'T) UK MOBILE MEDIA REGULATION MAZE	
Consumer/ eCommerce	
Office of Fair Trading - Consumer Protection from Unfair Trading Regulations 2008 - Business Protection from Misleading Advertising Regulations 2008 - eCommerce (EC Directive) Regulations 2002 - Consumer Protection (Distance Selling) Regulations 2000	
Privacy	
Office of the Information Commissioner - Data Protection Act 1998 - Privacy and Electronic Communications (EC Directive) Regulation 2003 (also known as 'the Cookie Detective')	PhonepayPlus - Code of Practice
e-Money	
Financial Services Authority - European Communities (Electronic Money Regulations 2002)	

As the mobile opportunity grows, so will complexity. For example, the convergence of mobile and banking unites two separate and distinct industries, with separate and distinct regulations in place, neither of which was drafted with the other in mind. Look at the rules and regulations that apply, for example, to the UK mobile market (Figure 1). The potential for miscommunication is endless. In addition, cross-regulation complicates matters when an industry must determine which enforcement body should take

precedence over a particular matter, such as the promotion of premium rate content in the UK.

Effective consumer protection measures that are clear, proportionate, appropriate and targeted are essential to both securing and maintaining consumer trust and continued industry growth. Based on the MEF Global Consumer Survey 2011 consumers are using their mobiles for commerce purposes in large numbers. At the same time, the findings show that 27 percent of respondents cited



THE CONVERGENCE OF MOBILE AND BANKING UNITES TWO SEPARATE AND DISTINCT INDUSTRIES, WITH SEPARATE AND DISTINCT REGULATIONS IN PLACE.

lack of trust in security as the top reason for not making more purchases on their mobiles.

Educating Consumers, Industry + Regulators

The solution to alleviating consumers' lack of trust in mobile security is the same as the solution for reducing regulatory complexity. It is education: of the industry, of consumers and of regulators.

Industry benefits from a clear understanding of the regulations that govern it, and the ways to achieve compliance when developing new services and solutions.

Consumers gain empowerment and control when they understand how mobile works and why it is secure. They also benefit from learning how regulations protect them. When they know what to look for within terms and conditions, pricing, and the overall mechanics of a service, they can make informed purchasing decisions and speak out when they have concerns.

When regulators keep up with innovations, and the technical and practical limitations of regulatory compliance, they understand when changes in the market drive the need for new or updated rules.

MEF Resources

As the global trade body for the mobile content and commerce industry, MEF has

undertaken a number of initiatives to help members navigate the regulatory landscape. One such initiative is the Regulatory Information Service Centre (RISC)—MEF's central resource of regulatory information for 25 countries and the European Union. MEF has also produced guidance and briefing notes on regulatory updates for members, represented members to government and enforcement agencies, held educational webinars and workshops, and been engaged in a consumer literacy programme. Additionally, MEF has collaborated with industry leaders to draft best practice codes, which create frameworks for the effective operation and delivery of mobile services.

Industry and regulators must collaborate to address the complexities that exist in the mobile sector. The goal is to protect consumers while supporting innovation, thereby instilling consumer, merchant and industry trust in mobile as the channel of the future. ■■■

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Miranda Roberts is MEF's policy and initiatives manager. She joined the company in 2009, bringing with her extensive experience in regulatory affairs and project management that she gained while working for PhonepayPlus, the UK premium rate regulator. Roberts is responsible for MEF's global and regional policy and initiative activities, which address the monetisation of mobile content, commerce and services, the protection of revenues, policy development and industry education.

NFC: Beyond Trials

THE NAYSAYERS ARE OUT IN FORCE AGAIN. THAT MEANS THE NEXT DISRUPTIVE TECHNOLOGY IS JUST ABOUT TO TAKE DOWN THEIR BUSINESS, AND THEY ARE WORRIED.

By Michael Mullagh,
 CEO, ViVOtech



The next revolution goes by the name of near-field communications. NFC, for short. And mark my words: NFC mCommerce is on the cusp of making eCommerce revenue look like chump change—and much more quickly than most people think.

NFC naysayers have gotten behind the recent hype about payments—the ability to wave your phone at a point-of-sale terminal instead of whipping out a credit card or cash to buy that latte.

If that is all there is to it, then the naysayers are absolutely on the money: NFC is overhyped and will under-deliver.

NFC payments are the least of the mCommerce equation. What is actually flipping NFC from trials to commercial rollout is real-time, in-store personal marketing, merchandising and loyalty.

Swing for the Fences

Digital wallets, such as the Google Wallet introduced in September 2011, were never envisioned for just debit and credit accounts. They were created to also hold gift cards,



BUT IN THE END, NFC WILL WIN FOR FIVE SIMPLE REASONS: IT'S FASTER AND EASIER TO USE, IT'S MORE SECURE, IT HAS A LOWER COST TO SCALE AT THE POINT OF SALE, IT'S CAPABLE OF ONE-TOUCH REDEMPTION AND PAYMENT, AND IT'S FULLY INTERACTIVE.

coupons, admission tickets, transit tickets and loyalty cards for offers and promotions.

That is how merchants suffering the world's worst drought in business since the Great Depression will make money, and why mobile retail applications are proliferating today. And equally important to the success equation, it is where consumers will realize real value and convenience.

All the other mCommerce ecosystem components—phones with NFC chips, contactless point-of-sale terminals at every retail register, back-end software that connects banks to merchants and credit and debit card issuers—are simply a means to this end.

If merchants cannot make money and grow their businesses, and consumers do not experience the technology as an exponentially better, faster, cheaper way to shop, NFC will simply never happen.

NFC Gets Real

Merchants around the world get it. NFC phones let them deliver high-value, personalised offers when consumers are in their stores—offers that are based on consumer buying patterns. Retailers are fast-tracking NFC because it gives them new ways to in-

fluence buying behaviour using time-limited sales and product-specific information from shelf tags. Best of all, from their perspective, NFC allows them to gather unprecedented amounts of new data on likes and dislikes for future promotions and offers.

In Singapore we recently demonstrated a retail application that is on track to be introduced in 2012. The app lets shoppers tap their iPhone on products' price tags to get an item's details and buyer reviews, if available. Any special offers or discounts are instantly displayed on the phone screen. As shoppers walk up and down the store aisles, they can with the push of a button add items they want to an electronic shopping cart and decide whether they want to take the items home or order their purchases delivered on a specified date and time.

The same app allows shoppers to select a card from their phone's digital wallets to pay for the purchases and complete the transaction by tapping the phone on a reader integrated into the cash register. The shopping cart contents, payment card—and if requested, delivery address and dates—are processed, and a receipt is displayed with applicable loyalty points awarded and discount coupons deducted. Finally, the application prompts a taxi-booking feature when the sale is complete, just in case the shopper needs a ride home from the store.

A social shopping app that should make an early 2012 commercial debut in Singapore lets customers try on clothing virtually and solicit Facebook friends' opinions before buying. Shoppers use the app to superimpose a shirt or dress, for example, on a picture, which they post to their Facebook wall. Friends can

then “Like” or write comments, which are immediately sent to the iPhone app.

At the point of sale, the customer taps their phone on an NFC reader to pay for the items using a credit card in their digital wallet. Alternatively, at the end of the shopping spree, the app allows the customer to send their electronic shopping cart to a third party—a parent, for instance—to remotely pay for the items using the digital wallet in their phone. Once the payment is approved, the remote third party receives notification and a receipt, and the shopper picks up the items and goes.

Buckle Up: mCommerce Speeding Past eCommerce

The naysayers would have you believe that rival technologies such as traditional credit cards, SMS or barcodes are good enough and can do everything that NFC promises. But in the end, NFC will win for five simple reasons: it's faster and easier to use, it's more secure, it has a lower cost to scale at the point of sale, it's capable of one-touch redemption and payment, and it's fully interactive.

That is why mCommerce will be bigger and grow faster than eCommerce ever did—and because your phone is a more powerful commerce device than your computer ever was. For example, your phone knows who you are. It knows where you are. It increasingly knows your search and purchase history. Best of all, it delivers instant gratification.

Worldwide, mobile phones outnumber PCs by 5 to 1. In-store sales still outnumber eCommerce by 19 to 1. Those two things are guaranteed



NFC IS JUST THE TICKET, BECAUSE IT IS THE PROVERBIAL BRIDGE THAT SEAMLESSLY CONNECTS THE VIRTUAL AND BRICK-AND-MORTAR MARKETS.

not to change anytime soon—despite impressive gains by eCommerce.

But perhaps more important is that Web players such as Google, Facebook, Microsoft, Yahoo! and AOL, which collectively own more than 70 percent of online ad spending, want and need a way to do the same in the physical world. NFC is just the ticket, because it is the proverbial bridge that seamlessly connects the virtual and brick-and-mortar markets.

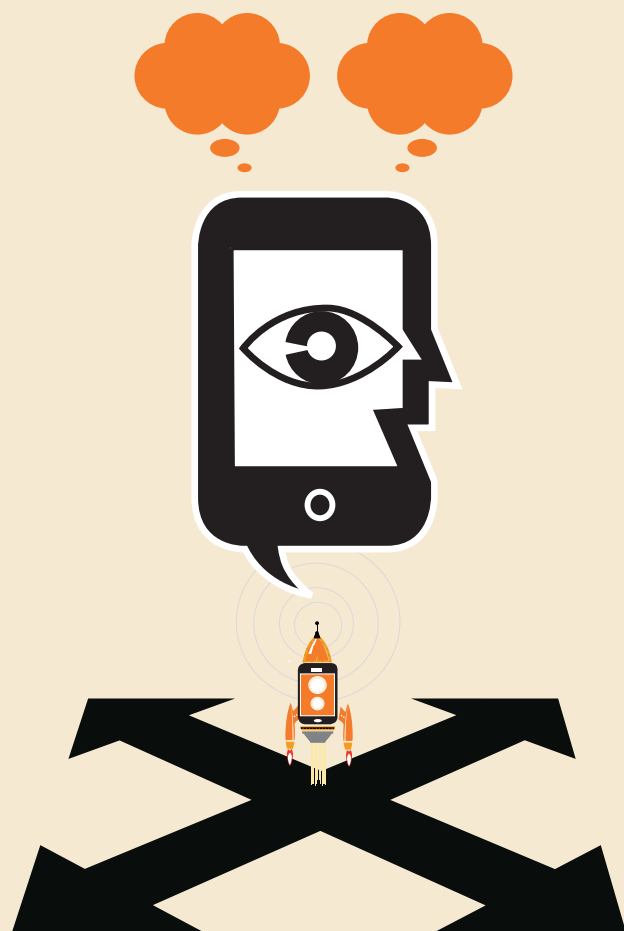
So, get ready. Stop thinking “mobile payments” when you hear NFC, because payments are just the tip of the iceberg. Start thinking about a new medium—a totally new mobile advertising and shopping platform for mobile devices. Then you will understand why NFC mobile commerce is finally here and happening. ■■■

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Michael (Mick) Mullagh is the chief executive officer of ViVOtech. Mullagh has served as president and CEO of Telephia and CEO of Whisper Communications, a provider of last mile wireless telemetry networks. Before coming to Silicon Valley, Mullagh served as president and COO at Rogers Wireless, Canada's largest wireless carrier.

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PREPARE FOR STEADY CHANGE



Everything changes. Or so it seems in the world of mobile commerce.

There is a slide in the standard mCommerce presentation deck, which Sybase has used for the past five years. It defines mobile financial services as mobile banking, payments and remittances. It shows that banks offer mobile banking, and operators offer mobile payments and remittances. The slide is still in the deck, but now it is used to point out that these definitions are changing. First, we saw a blur between banking services and mobile payments. Then mobile payment services support bill pay. In a few years, the hard boundaries between these services will completely vanish.


Within the last year, banks have begun offering pure mobile payment services, both in developed and emerging economies.

Banks have also acquired mobile networks, and mobile networks have acquired banks.

In the mobile world, we are starting to see non-network third parties offer mobile services—independently of local operators. These so-called over-the-top players are shaking up the mobile ecosystem.

New technology constantly changes how mobile payments happen. Whilst near-field communication (NFC) technology has had a lot of press coverage, it has only just emerged from years of trials to its first nascent real world uses. Other solutions to making mobile payments, such as the approach used by bCode, are also gaining traction.

Mobile commerce is expanding beyond banking and payments in to a channel for customer engagement. Whilst the lion's share of the NFC coverage has focused on payments, it is NFC's potential for loyalty and couponing that is its greatest differentiator to traditional payment methods.

The articles in this section cover the new technologies, new players and other disruptors to the existing mobile commerce landscape. Whilst it is true that all the various pieces and players are constantly evolving, customers remain the locus for change. The industry must wait and see which mobile solutions and services they embrace. 

Operator + Bank = Mobile Commerce

OR DOES IT? BANKS ARE BECOMING OPERATORS. OPERATORS ARE BECOMING BANKS. MCOMMERCE PIONEERS ARE PROVING THAT THERE IS MORE THAN ONE WAY TO BRING MOBILITY AND FINANCE TOGETHER.

By Matthew Talbot,
Senior Vice President,
mCommerce, Sybase 365



Mobile commerce generally requires the combination of two parts: a mobile network operator, or MNO, to provide the “mobile,” and a bank to supply the “commerce.”

As awareness of the mobile commerce opportunity has grown, a number of different approaches are bringing both ingredients to the table. Some operators have acquired or become banks. Some banks have become operators. And, some operators and banks work together.

Operators Becoming Banks

Austria’s leading telecommunications provider A1 acquired a banking license and set up A1 Bank in 2002 expressly to handle mobile payments—one of the first in the world to do so. Part of the Telekom Austria Group, A1 introduced SMS-based transit tickets in 1999, and it launched its paybox austria mobile payment platform in 2001. Now interoperable between the four biggest operators in the country, paybox austria has become Austria’s second most popular payment mechanism. A1 Bank has continued to support mobile payments, with products such as the A1 Visa card. In April 2011, Telekom Austria merged its A1 Bank and paybox austria, renaming the entity paybox Bank AG.

In North America, Canadian mobile operator Rogers Wireless announced in September 2011 that it applied to the Minister of Finance to become a bank. Rogers says it has no plans to “become a full-service deposit-taking financial institution,” but is “actively looking at the mobile payment category.”



ONCE AGAIN, HOWEVER, THE REAL KEY TO MAKING A PAYMENT SYSTEM WORK IS INTEROPERABILITY.

China Mobile is another example. That company acquired a 20 percent stake in Shanghai Pudong Development Bank in 2010, in a move to offer mobile financial services. Yet another example is O2 (a Telefónica subsidiary) applying, also in 2010, for an electronic money license in the UK to offer mobile money transfers and contactless payments.

Looking at the big picture, this trend makes perfect sense. Right now, operators are the ones that have the customer base and brand, and the fact that they are not banks has really been the major stumbling block precluding them from getting into mobile commerce farther, faster. Becoming a bank is a lot of work, but it lets pioneering operators forge ahead without being beholden to the banking industry, which has historically been conservative when it comes to new technology. That attitude has only been amplified by the recent financial crisis.

Banks Becoming Operators

Rabobank became a mobile virtual network operator (MVNO) in the Netherlands when it launched RaboMobi in September 2008. “Virtual” means that Rabobank did not build its own network. Instead, it rents capacity from an existing operator. To the consumer, however, RaboMobi is another operator with its own core plans and phones.



ULTIMATELY, EACH MARKET WILL REQUIRE ITS OWN SOLUTION.

The Polish market has been particularly active, with both Bre Bank and Intelligo Bank entering the MVNO space under the mBank Mobile and Intelligo brands respectively.

In 2011, Spanish financial services provider Bankinter launched its MVNO offering “Movil Directo.” An extension of a service that had previously only targeted banking customers, the new service is open to customers and non-customers alike.

The advantage a bank gains in becoming an MVNO is similar to operators becoming banks: Control. It puts the bank in the driver’s seat, giving it a way to offer mobile commerce services without having to cooperate with local operators. Being an MVNO means a bank can offer a suite of mobile services including voice and messaging. More important for mobile commerce services is the MVNO’s direct control over what handsets it sells, as well as their provisioning, which become ever more significant as we move towards mobile payments. Beyond that, an MVNO license gives banks direct access to the SIM cards in handsets, so if a mobile payment service needs a specially configured SIM or handset, they can do it themselves. They do not have to wait on the operators.

For banks, becoming an MVNO is a better option than being a pure “over-the-top” player such as PayPal, which bypasses

operators completely. The biggest benefit of an over-the-top player is also its biggest limitation. Whilst they can act independently of the underlying telco, they also have little or no influence over it. So if one wants to launch near field communications (NFC) mobile payments and needs a specific handset, it must wait until local operators offer the device in each region. Or if the company wants to install an STK (SIM ToolKit)-based application, it must convince the operator(s) to provision the app (and potentially issue new SIMs). Becoming an MVNO grants much greater control.

Banks + Operators Working Together

Historically, operators have looked to partner with financial institutions, such as the ICICI Bank and Vodafone Essar partnership for financial inclusion in India. And one operator may apply for a banking license in one market, and partner with a bank in another. While Telefónica’s O2 subsidiary applied for an electronic money license in the UK, mentioned earlier, the company also announced a joint venture with MasterCard for the Latin American market.

When banks and operators work together, the resulting partnership can rely on the strengths of both parties. The operator brings its customer base, handsets and the experience of negotiating with suppliers. Operators also know how to properly provision handsets and SIM cards and provide customer support for the technology involved. Banks cannot underestimate the importance and

complexity of this function—though many of them do.

Banks bring a license to the relationship. If they go it alone, operators must apply for a banking license, and they do not always get one. Banks also understand risk management in the financial services industry, which is much different than the risks associated with people making phone calls, and they have the systems to manage complex billing. Billing is something an operator cannot underestimate. Banks bring branded debit and credit cards, which can back up mobile payment accounts. They also bring their network of merchants that they have built over many years.

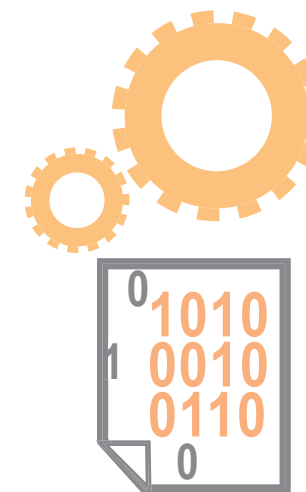
Interoperability

Ultimately, each market will require its own solution, and each solution will depend on the banks, operators, regulations and economics of each region. There is no right or wrong answer.

Once again, however, the real key to making a payment system work is interoperability. Telekom Austria’s paybox mobile payment system has taught us this lesson. The platform must work for everyone and be totally interoperable: Merchants, consumers, corporates, no matter which operator they use, no matter which bank, should all have access.

In Germany, mpass is following the paybox lead, as are initiatives in a few other European countries. Isis, the joint venture between AT&T, T-Mobile and Verizon, is trying to

make interoperability a reality in the United States. Google is running a trial of its mobile wallet offering. PayPal just announced its service in late 2011. The list is not very long because interoperability is a complex thing to do. Mobile operators buying or becoming banks—and vice versa—is not going to solve that issue. In fact, it might take them farther away from interoperability, delaying the cooperation that provides the foundation for any interoperable system. ■■■



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Matthew Talbot is senior vice president of Sybase 365's Mobile Commerce division. Prior to his current role, he was vice president of Sybase 365 in Asia. Before Sybase 365, Talbot was the CEO of Mobile Internet Group (MIG), a leading wireless application service provider and co-publisher with offices in Beijing, Shanghai, Hong Kong, London, Sydney and the United States.

Deciphering the Mobile Commerce Landscape

MOBILE COMMERCE PRODUCTS AND TECHNOLOGIES ARE PROLIFERATING; THINKING ABOUT THEM AS PARTS OF A SYSTEM HELPS MAKE SENSE OF IT ALL.

By Mark Schultz,
Vice President Business Development,
Acta Wireless

The mobile commerce landscape is evolving at a staggering pace. Every day brings announcements about new apps, technologies, partnerships, investments or acquisitions in the mobile arena — whether it's coupons, daily deals, payment technologies, loyalty programs or some combination of all. The contenders are in a mad rush for position, attention and market share. It is clear that the industry is on the cusp of a major disruption and that mobile commerce technology has the potential to transform banking, shopping, money transfer, coupon redemption and other familiar services.

How can you get your arms (and mind) around the competing technologies and players?

One useful idea is to concentrate on the end-to-end mobile commerce value chain instead of its individual segments. The value chain concept emphasizes the interaction between buyer and seller and the necessary components to tie the two together: enablement, incentive and distribution. These three components constitute the building blocks to enable any mobile commerce transaction.

Enablement is the ability to engage in and settle a transaction, initiating or transacting a payment for goods or services.

This ranges from point-of-sale integration—turning today's cash registers into mobile hubs—to more obscure requirements



ONE USEFUL IDEA IS TO CONCENTRATE ON THE END-TO-END MOBILE COMMERCE VALUE CHAIN INSTEAD OF ITS INDIVIDUAL SEGMENTS.

such as risk management, settlement authorization and payment routing.

Incentive is the keystone driving consumer and business behavior through financial and experiential benefits.

This may be the most visible of mobile commerce's offerings and the easiest to understand: The mobile user receives a notice on his device that he can save 20 percent off his next haircut (or movie rental, clothes purchase and so on) by "cashing in" the mobile coupon. The importance of incentive is psychological and clearly understood by merchants, banks and service providers—anyone that does business in the consumer market. All the technology in the world pales next to the necessity of producing desirable and repeated actions derived from the right mix of loyalty, rewards and experiential incentives. Pavlov was right.

Distribution is usually described as "the channel" in traditional marketing, but the term has a broader meaning in mobile commerce.

It encompasses applications, location and/or targeting functionality and marketing—the elements comprising the tip of the arrow that reaches and engages the buyer.



CONSIDERING ENABLEMENT, INCENTIVE AND DISTRIBUTION HOLISTICALLY WHEN THINKING OF MOBILE COMMERCE MAKES A FRAGMENTED LANDSCAPE EASIER TO GRASP.

Considering all three elements holistically when thinking of mobile commerce makes a fragmented landscape easier to grasp. Specific services that have emerged as early mobile commerce winners can be placed into one or more of these categories. For example, a coupon provider provides discounts (incentives) usually through an app on your mobile device (distribution). Consumers realise the value by scanning a coupon at point of sale (enablement). A coupon provider cannot survive by embracing the incentive category only, just as a mobile wallet cannot survive solely as an enablement method without solid distribution and an enticing incentive to use the product.

The major players in enablement, incentives and distribution can be further categorised as follows:

Mobile Banking

This group includes traditional banking services such as checking balances, paying bills through banks such as Bank of America, so-called P2P remittances (person-to-person money transfers through services such as PayPal) topping up pre-paid mobile calling cards and international remittance services

that enable a mobile customer to transfer money to individuals both domestically and internationally, as well as pay bills and shop.

Other players in the mobile banking space include payment networks such as New York Currency Exchange (NYCE) and familiar credit card companies such as American Express, Discover, MasterCard, Visa and the like.

Mobile Payments

Payments may be the first mobile commerce application that comes to many people's minds, thanks to the strides made by services such as Isis and Google Wallet. With the wallet app in your mobile phone, you can simply tap your phone on a reader at properly equipped retail locations and complete the transaction as if you had pulled out a credit card. Near field communications (NFC) is the technology underlying contactless payment transactions. NFC can be enabled on a mobile phone by embedding the chip, inserting it on a Micro SD, or applying it via a sticker or in a protective phone case.

Google Wallet is a free service to retailers, payment networks and banks. Google monetises the wallet by serving targeted ads to end users based on end user data it collects. In late 2011, Google Wallet was only available on Sprint's NFC-enabled Nexus S. Isis, a joint venture of AT&T, T-Mobile and Verizon Wireless, is building a platform that will enable retailers, payment networks and card issuers to join and provide services to their customers. Isis's business model differs



from Google Wallet in that it will likely involve a fee to the platform participants. In September 2011, Isis announced that HTC, LG, Motorola, RIM, Samsung and Sony Ericsson will introduce NFC-enabled mobile devices that will support the Isis platform.

While NFC is a leading technology, alternatives such as QR (Quick Response) codes—mobile bar codes provided by companies such as Scanbuy—light-based communications for coupon redemption from companies like Mobeam and a technology that uses audio tones, are available. These early examples may be the tip of the iceberg, as companies such as Boku, Google Checkout, PayPal and Zong are bringing additional innovations to mobile and online payment services. PayPal's model does not use NFC or the other technologies; rather the consumer uses their mobile devices for payments by entering their mobile number and personal

identification number (PIN) at check out. Another payment option is provided by Square, which provides merchants and retailers with a small, plastic credit- and debit-card reader that plugs into the headphone jack of a smartphone, turning the smartphone into a mobile point-of-sale terminal.

Mobile customers will have multiple options for mobile wallets enabled by differing technical solutions. There is no right mobile wallet or technology, but the



A COUPON PROVIDER CANNOT SURVIVE BY EMBRACING THE INCENTIVE CATEGORY ONLY, JUST AS A MOBILE WALLET CANNOT SURVIVE SOLELY AS AN ENABLEMENT METHOD WITHOUT A SOLID DISTRIBUTION AND AN ENTICING INCENTIVE TO USE THE PRODUCT.

ecosystem does need to work together to enable mobile payments and provide a user experience that is simple and delivers value.

Retail Improvement

Within retail locations offering mobile payments, current options include dedicated networks, aisle-level locations, personalised offers and variations on the tap-and-go concept. The Modiv Shopper, for instance, brings the bar-code scanning process in grocery stores to a hand-held device, which stores discounts and other special offers. Companies such as Linkable Networks are refining the deal-redemption process to target customers with specialized offers.

Other companies, such as Cellfire, CouponCabin, Groupon and mphoria, are helping drive mobile shopping and creating customer loyalty by delivering deals and advertisements to mobile users, some of which can be printed at home or in the retail channel. So-called performance ads from companies like AdMob and Millennial Media provide banners and text ads to mobile Web sites. Incentive and loyalty are key factors in driving consumer adoption of mobile commerce. Starbucks has created its own branded application that combines payments, loyalty rewards, a store finder and social activities such as electronic gifting. Business models range from CPM, which values advertising on a cost-per-thousand impressions basis,

to cost-per-click (CPC), redemption or affiliate bounties.

As more mobile commerce announcements emerge in the months ahead, try considering them in terms of the end-to-end value chain. Although many vertical players are specializing in a component of the value chain, such as couponing (clearly an incentive category), many mobile commerce solutions function across multiple areas. Those that integrate across the three areas of enablement, incentive and distribution—whether alone or through partnerships—are likely to thrive. There will be winners and losers in the early stages of this transformational technology, and having a clear understanding of how individual players fit into the overall mobile commerce landscape is helpful in forecasting the future of mobile commerce. ■■■

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Mark Schultz is vice president business development for Acta Wireless, a leading provider of advisory services, strategic consulting and staff augmentation to some of the leading brands developing and executing mobile strategies. Schultz is a veteran of early wireless leader McCaw Cellular Communications, where he held a number of senior executive positions. With AT&T Wireless, he was responsible for international business development.

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International Airtime Transfer

A COST-EFFECTIVE, HIGH-VALUE COMPLEMENT TO CASH REMITTANCES, INTERNATIONAL AIRTIME TRANSFER MEETS A NEED AMONG MIGRANT WORKER POPULATIONS AROUND THE WORLD.

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By Erik Van Thielen,
Vice President of Marketing and Business
Development, TransferTo

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According to the World Bank, 215 million migrants (UN 2009) transferred an estimated \$325 billion USD to emerging countries in 2010. These figures, which do not include money transferred using informal channels such as Hawala, illustrate how important money transfers are for both the destination countries and individual recipients. The volume and continued growth of international remittances worldwide, particularly in regions hosting large immigrant communities such as the United States, Canada, the European Union, Saudi Arabia and other Gulf Cooperation Council (GCC) countries, South Africa, Malaysia, Russia and many others, have led financial institutions and mobile network operators to identify migrant populations as a key customer segment.



AIRTIME HAS BECOME A NECESSITY IN HOUSEHOLD BUDGETS, AND A HIGHLY VALUED GIFT. AS LONG AS WORKERS FROM EMERGING COUNTRIES MIGRATE TO MORE AFFLUENT COUNTRIES TO FIND WORK, INTERNATIONAL AIRTIME

While various money transfer solutions are available, the fees are high enough that traditional channels are not cost-effective for small amounts (under \$30 USD). A fee of \$5 to \$10 USD for a transfer to Mexico, Nigeria, Morocco or the Philippines may be affordable for a wealthier emigrant or deducted from a larger sum of money, but it is too big a price to pay for a small gift.

Migrant populations need secure options for transferring small amounts. International airtime transfer, where the sender tops up the prepaid mobile phone account of another person, is the only commercially and economically viable solution efficiently addressing this market. Now, why would one send airtime rather than money?

The Value of Airtime

In emerging economies, a large majority of mobile users are on prepaid plans. Airtime, also called top-up or recharge, is prepaid mobile credit that can be purchased at points-of-sale in the form of scratch cards, printed vouchers featuring a personal identification number (PIN) or via direct reload to the prepaid phone. It can also be purchased at ATMs, kiosks or online. Once

payment is received, a data repository stores the credits, which customers consume as mobile voice, messaging or data services. Some mobile operators offer their prepaid customers the option to share the airtime with other prepaid customers that use the same operator.

The development of mobile telephony has had a huge socio-economic impact on the lives of people in emerging markets. Twenty years ago, a worker in Lagos was not able to keep in touch with her relatives living in rural areas. Now, a mobile—and prepaid airtime credits—allows her to do so. A mechanic in Manila does not need to spend a full day in town to check spare parts availability with his suppliers. He can now make a phone call, provided he has sufficient airtime. Airtime has become a necessity in household budgets, and a highly valued gift.

Paving the Way for Airtime Sharing

In the rural areas of most emerging countries, missing or inadequate fixed telephony network infrastructure has not allowed mobile operators to distribute prepaid airtime top-ups through wired payment terminals. Instead, they have adopted a distribution model based on physical prepaid top-up cards.

Because this model led to considerable security and logistical challenges (theft, storage, transport), mobile operators migrated to using direct top-up (also called electronic recharge, Pulsa, e-Load, Pin-less Top-Up, bamba, eTop-Up or recharge electronique,

depending on the country), enabling airtime distribution via mobile phones.

While physical prepaid top-up cards were associated to a few, predefined face values, direct top-up enables smaller and variable amounts, even as low as \$ 0.20 USD.

Where prepaid top-ups and prepaid airtime transfers to third parties were only possible from a retail location or a prepaid card, direct top-up enables mobile phone-based airtime distribution (through the so-called umbrella operators), and allows prepaid customers to share airtime with other prepaid

FIGURE 1: GLOBAL REMITTANCE ACTIVITIES

Top Immigration Countries

United States	42.8
Russian Federation	12.3
Germany	10.8
Saudi Arabia	7.3
Canada	7.2
UK	7
Spain	6.9
France	6.7

Migrant population in millions

Source: UN International Migration 2009

Top Recipients of Migrant Remittance

India	38
China	32
Mexico	27
Philippines	16
Nigeria	9
Romania	8
Egypt	7
Bangladesh	6

In \$US billions

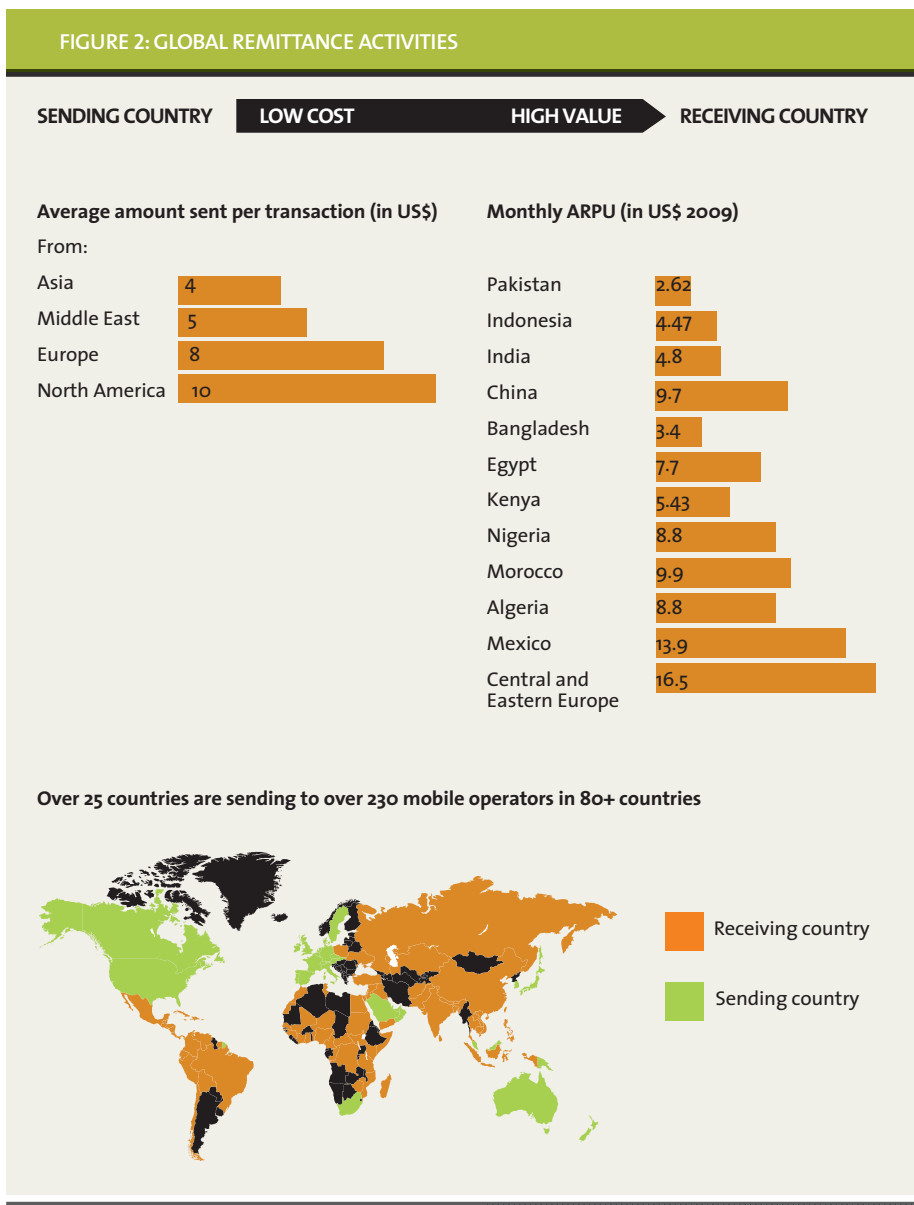
Source: World Bank Migrations and Remittances Factbook 2011

Average Costs (fee only) to Send \$5 (USD)

Spain to Ecuador	6.88
Saudi Arabia to Philippines	7.11
UK to Nigeria	7.35
USA to Mexico	11.43
France to Morocco	12.92
South Africa to Mozambique	29.33

Source: World Bank 2011

FIGURE 2: GLOBAL REMITTANCE ACTIVITIES



customers of the same MNO via SMS or unstructured supplementary service data (USSD).

Phone-to-phone prepaid airtime transfers are now common practice in emerging markets for most mobile phone users. Millions of on-net airtime share transactions are happening daily.

Crossing the Borders

International airtime transfers meet migrant workers' needs, leveraging both the infrastructure offered by the mobile operator's new airtime distribution models in receiving countries and the "low cost, high value" factor of prepaid airtime for the sender. With an average amount of \$8 USD, transfers are mainly used as gifts on special occasions such as religious festivals or birthdays, or a way to ensure that the money sent is used for its intended purpose.

MNO's, retailers and financial institutions in developed markets have identified—and now help address—their migrant customers' needs for accessing convenient, secure and real-time international airtime transfer services while generating substantial additional revenues.

Airtime Remittance Hubs Span Multiple Operators

Transferring airtime internationally from one operator to another requires operators to use a global airtime remittance hub.

Hubs provide a single technical and contractual interface that gives instant access to multiple operators worldwide, enabling any one operator planning to offer international airtime transfer services to cover all relevant migration corridors.

When using a hub, international airtime transfer services do not require the "sending" entity or the "receiving" MNOs to invest in new equipment. The hub itself interfaces with the existing technical environment of its partners, and it enables end customers to transfer airtime from their mobile phones, a retail location or online.

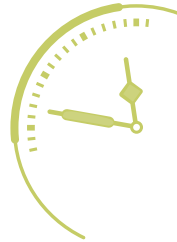
As long as workers from emerging countries migrate to more affluent countries to find work, international airtime transfers will continue to fill a need. Millions of emigrants already send small gifts and assistance to family and friends back home, helping both the individual recipients and the economies where they live. ■■■

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Erik Van Thielen joined TransferTo in early 2008 to manage the company's first deployments in Europe and Africa, and became vice president of marketing and business development in March 2010. Prior to joining TransferTo, Van Thielen spent 10 years in the telecommunications industry as legal counsel at Oberthur Card Systems and various business development roles at Sybase 365.

Is the Waiting Game Over?

MOBILE COMMERCE PRODUCTS AND TECHNOLOGIES ARE PROLIFERATING; THINKING ABOUT THEM AS PARTS OF A SYSTEM HELPS MAKE SENSE OF IT ALL.

By Jess McCloskey,
Chief Marketing Officer,
bCODE



The slow adoption of existing mobile payment technologies is not for lack of trying.

Lots of good ideas have been introduced to the market place, but each one has an Achilles' heel. SMS-initiated wallet payments are challenged by poor usability. Consumers encounter cumbersome and complicated processes using the mobile keypad, which takes longer than paying with a card or cash. Contactless Near Field Communications (NFC) has not overcome a complex service



SUCCESS DEPENDS ON THE ABILITY TO CONTINUE TO DELIVER ON VISION AND NOT LET THE EXCITEMENT OF EMERGING (OFTEN UNPROVEN) TECHNOLOGIES LEAD THE WAY FOR THE SAKE OF TECHNOLOGY.

model that often limits itself to a small handful of deliverable products. Other technology attempts such as QR codes and 1D barcodes have morphed into loyalty and couponing applications due to poor security and accessibility.

Those initiatives have underperformed against forecasts, and for the most part ignored relevancy to the local consumer and the viability of getting a working service into consumers' hands. The most visible mobile payment initiatives service a minority market with hard-to-access, niche or single-use products.

Consumers are keen for mobile payment options yet they are extremely cautious. With a mobile phone that is rarely out of sight, mobile subscribers throughout the world want to conduct more transactions using their phones. They want a trustworthy, robust service that saves time, gets money from A to B effectively, and is inclusive for all types of mobile commerce. Mobile operators have been striving to offer services to meet this pent up desire for years, and banks realise mobile is a sticky channel for their customers. Both sectors have numerous, yet disparate, initiatives such as loyalty schemes, mobile money and advertising.

Consumers want one mobile payment solution that works seamlessly for every transaction and every interaction. And they want it to work every time or they won't trust it and won't adopt it. There is real money in question here for consumers—their hard-earned money.

What is needed is a platform that offers transactional ubiquity for any given market—a platform that allows everyone to communicate, trade and interact in a mobile world and becomes a known, standard reference point. Card providers think NFC may be the answer, yet NFC would capture only say, Visa card holders, their merchant partners and consumers with an enabled mobile device. Satisfying all those factors leads to slow double-digit adoption figures for NFC. That is not ubiquity.

bCode offers an alternative that can make mobile payments available to every person who uses a mobile phone. This mobile payment platform relies on SMS, which 99 percent of the mobile phones support, and merchant terminals with scannable, interactive touchscreens. Consumers use a secure and encrypted SMS text message that represents a bank account, mobile wallet account, ticket or coupon. The consumer scans this code on the merchant terminal, which is a wireless connected point-of-sale or retail self-service device (see Figure 1). In this barrier-breaking business model everyone with a mobile device is a potential user, and retailers, banks, mobile operators, government agencies and others can enter the mobile ecosystems with minimum investment. Merchants and anyone who accepts mobile payments have a ready-to-use alternative to the fee-oriented credit card process.

The largest challenge when launching a new payment mechanism is getting merchants to invest in new terminals and to train their staff. To justify this investment, the new



THE OWNERS OF A UBIQUITOUS INTEROPERABLE ENVIRONMENT, ONE THAT TOUCHES THE PHYSICAL WORLD, WILL GENERATE THE GREATEST RETURNS.

payment mechanism needs to support new services, and so create new value.

The closed-loop nature of solutions such as bCode enables the terminals to support services beyond simple payments, such as couponing, targeted marketing and loyalty. Marketing and redemption statistics can be tracked at the per-customer and per-offer level, delivering valuable new insights for merchants and brands.

SMS Goes to Work

Forward-thinking banks in Southeast Asia are using bCODE SMS instead of plastic cards to reduce operational costs. They can decrease costs an average \$7 to \$10 per consumer, which helps justify the cost of the investment. Because the technology is based on SMS and can be used by 100 percent of the population, the potential cost savings can increase as much as tens of millions of dollars. These use cases prove that the technology is market ready and can generate revenue from day one.

In the Philippines, mobile subscribers are already using two national mobile payment systems, SMART and GCASH. Subscribers are signing up to receive incentives from loyalty

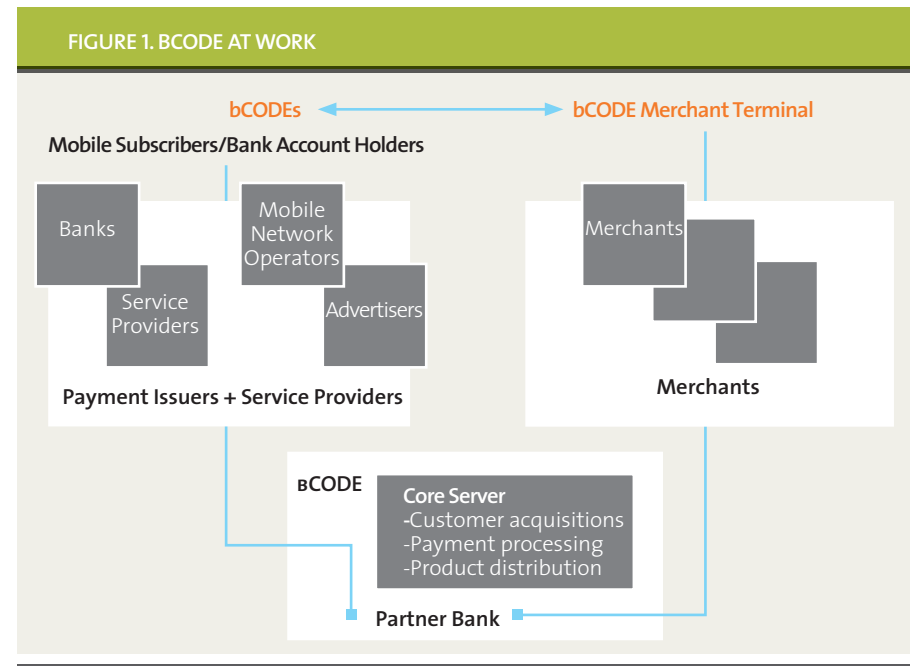
programmes offering cinema ticketing and retail promotions that are redeemable at physical points of presence. The offers increase foot traffic at events and shopping areas, and garner payments for goods and services. Merchants are able to cross sale, upsale and increase customer loyalty by starting with a simple, ubiquitous mobile payment option.

In the United States, mobile operator Sprint and global retailer IKEA have used bCODE for years to develop affordable and effective loyalty programmes that nurture consumers, increasing repeat sales and reducing churn.

Corporations in all industry and government sectors, including those that are not consumer facing, are seeing the light too. They are adopting complimentary uses for bCODE to ease registrations and applications, make payment disbursements and more. Across all sectors, a secure SMS code is increasing transactional usage, making the ecosystem more reliable and increasing mass demand.

Is Technology or Ubiquity the Better Advantage?

A healthy mobile ecosystem is an absolute necessity for mobile transaction success—there are just too many players that need to cooperate. The owners of a ubiquitous interoperable environment, one that touches the physical world, will generate the greatest returns. Wholesale models will emerge, licensing revenues will appear



and an unlimited number of products and services can be launched.

Success depends on the ability to continue to deliver on vision and not let the excitement of emerging (often unproven) technologies lead the way for the sake of technology. Why not harvest the value of what sits before us today? This emerging industry is developing and changing fast with many valuable lessons already learned. Why not rely on a simple ubiquitous standard and find intuitive and compelling ways of driving greater daily transactional usage? Sometimes simple, easy-to-use basics

can be a more elegant solution than a hard-to-use (or share), complicated technology. ■■■

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Jess McCloskey is the chief marketing officer of bCODE and has over 15 years of experience in emerging online, mobile and payments technologies worldwide. She's established and developed business units for telcos and agencies including Digital Advertising and Mobile Money strategies, and was instrumental in establishing O2's first premium SMS brokerage in 2002.

Will NUVO Providers Disrupt mCommerce?

NEW “OVER THE TOP” MOBILE SERVICE PROVIDERS OFFER FREE SERVICES SUPPORTED BY PAID ADVERTISING.

By William Dudley,
Group Director, Product Management,
Operator Services, Sybase 365



SMS ecosystem, as well as provide advanced options for app-to-app capabilities. Users of these new services can have a messaging app with little to no costs, compared to paying for messaging bundles or per message from Mobile Network Operators (MNOs).

The NUVO phenomenon is disruptive to mobile operator services, as they are offering alternative voice and messaging options to subscribers. But will they become a similar disruptive force for mobile commerce and even payments?

Consumer Interest

NUVOs are tremendously appealing to a variety of subscriber demographics. Most NUVOs offer a basic or complete service for free, subsidised by targeted advertising within the app. This model has worked quite well, as many NUVOs are profitable or close to being profitable. Still, the NUVO and OTT communities want to boost revenue by offering in-app purchasing options to a somewhat “captive” audience.

In-app purchasing capabilities are device or operating system (OS) specific, leading to a more fragmented implementation strategy for service providers that offer their services on different platforms. Most multi-device offers present a single, unified offering to their subscribers, instead of offers based on the subscriber’s platform.

Austin Murray, co-founder and president of Gogii, which offers the textPlus brand of services stated: “textPlus is primarily

A new, potentially disruptive phenomenon called Network Unaffiliated Virtual Operators, or NUVOs, has emerged in the North American eCommerce marketplace.

NUVOs—unlike mobile network operators, which provide services on specific mobile operators’ networks—are not affiliated with any specific mobile network operator (they are not a Common Mobile Radio Service or CMRS operator). Instead, the service runs “over the top” of an existing broadband service.

These Over-the-Top (OTT) service providers, using smart applications on smartphones, tablets, iPod touches and even PCs and other connected devices, are providing traditional Person-to-Person (P2P) services such as voice and mobile messaging. The mobile messaging applications use traditional SMS to interoperate with the existing mobile

WHAT IS A NUVO?

NUVO stands for
Network
Unaffiliated
Virtual Operator,
a specific type of Over-The-Top (OTT)
service provider.

NUVOs are person-to-person communications service providers, similar to Mobile Virtual Network Operators (MVNOs), except that MVNOs provide services on specific mobile operators' networks. Examples of U.S. MVNOs include Virgin Mobile (operates on Sprint's network), 7-Eleven Speak Out (operators on AT&T and Sprint's networks) and Boost Mobile (operates on Sprint's former Nextel iDEN network).

NUVOs are unique in that they are not affiliated with a mobile network operator. They provide basic services such as voice, SMS and MMS, as well as various other services over any network—mobile or fixed. NUVOs are typically smart-device-

(smartphones, tablet, iPod touch) based service providers that include companies and services such as Google Voice, Pinger (Textfree brand), Gogii (textPlus brand), MediaFriends (HeyWire brand), Toktumi /Linez, Enflick (TextNow brand), TextMe and fring. The services are equivalent to basic mobile operator services, but network portability enables the companies to provide these services via IP, on a mobile operator's data network, a local WiFi hotspot, or any fixed broadband network, through any IP-enabled device (PC, mobile phone, gaming console, set-top box, DVR, tablet and so on). A common NUVO attribute is that the service requires a new ITU E.164 style telephone number.

The E.164 telephone number is typically assigned to each user or subscriber, who can then interact with others via mobile-style messaging, through voice calls or video calls. Another common NUVO attribute is that they try to interoperate with the existing messaging, video or voice ecosystem. Rather than trying to supplant an existing communications ecosystem, they amend and improve on it. In 2010 and 2011, NUVOs'

scope and influence grew considerably in the United States and Canada with subscriber estimates numbering between 15 to 20 million. Many NUVOs have focused on non-mobile telephone devices such as tablets and iOS devices like the Apple iPod touch. NUVO apps operate on Apple iOS, Android, Windows 7 Mobile and BlackBerry. Some also include browser-based PC services and enable multiple devices to be linked through a single telephone number.

There are two schools of thought around NUVOs in the North American market and other global markets. The first is that NUVOs are a major threat to traditional mobile operators' revenues and influence as subscribers migrate from operator-provided messaging and voice plans to NUVO-based apps and their associated services. Alternatively, NUVO proponents say NUVOs are bringing mobile-style services (such as text messaging) to a variety of non-mobile-telephone devices, thus increasing the scope and reach of text messaging and even voice to devices that could not support such services without a NUVO app capability.



A NUVO AND ITS SUBSCRIBERS ARE
SOMEWHAT LIKE A SOCIAL NETWORK.

a 'freemium' app, whereby we give away the core experience for free, subsidised by advertising. We use in-app commerce to sell our users different products such as alert sounds ad-free, premium phone numbers. We will also use in-app commerce to allow users to purchase voice minutes, and in some territories, messages. In-app commerce tools and solutions are at different stages of maturity on different platforms. As with anything unique to a platform, we have to design and code for it appropriately, which adds to fragmentation and complexity for us." The textPlus subscriber gets a unified experience, regardless of whether the platform is iOS, Android or something else.

The textPlus options illustrate what can be the beginning of other mobile commerce and customer relationship options for NUVOs. NUVOs may provide further access to loyalty and other customer engagement capabilities through the subscriber applications. Texting is still an extremely engaging activity, so if NUVOs can keep subscribers happy with high-quality service and interoperability, then they have a strong audience.

A NUVO and its subscribers are somewhat like a social network. Within this network of users is a common platform—the app that each subscriber uses to engage with other NUVO subscribers or subscribers of other



entities, through standard messaging, such as SMS. Given that this is a common platform for potentially millions of subscribers, it is also a unique opportunity for the NUVO to offer value adds— including loyalty and customer outreach for third parties, as well as a platform to provide monetisation of goods and services—to their subscriber base. Think about it: A NUVO with 10 million subscribers, all using the same app for messaging and voice or other P2P services can lead to an almost unlimited number of creative capabilities. NUVOs have taken the first step, simply by selling ads to third parties with fairly accurate demographics. Consequently, the ads can be specifically targeted.

One potential next step is to engage these users further with loyalty programs or couponing—directly through the app. Again, NUVOs have the advantage of known demographics and usage patterns. Some even know subscriber locations (if the subscribers have allowed it). The possibilities of how this might work are limitless. Enabling subscribers to connect their NUVO accounts with some payment mechanism should be relatively easy. That combination would create a powerful customer engagement device—armed with millions of subscribers who have buying power.

Murray of Gogii also noted: “Subscribers appear to like in-app commerce very much. Many, if not most, of the highest grossing apps on iOS today are freemium—the app is free but customers pay for premium features, using in-app commerce. Remember that most mobile users are already in the mindset of being accustomed to paying for things on mobile—and very often for the same things they would not pay for on the desktop Web. Furthermore, with carrier billing and many of the in-app commerce platforms, their billing credentials are already submitted and it is a simple click to get the content or experience they want. Typically, the cost of these clicks to consumers is pennies to a few dollars, so the barrier to buying is fairly low for most consumers.”

Gene Lew, CTO of MediaFriends echoes these sentiments, “Other [NUVO subscribers] seem to really like having options available to them. Others would actually like more

stuff that could be done through the in-app model.”

MediaFriends and Gogii subscribers like having in-app purchasing options and these opinions are reflective of other NUVO subscribers. Today, these purchases are for advanced app features or additional service capabilities. In a way, it is similar to how premium SMS was used to purchase mobile content such as screen savers and ringtones. Certainly, it is common to see in-app purchases unlock new capabilities like those within mobile games, as well as other capabilities through different mobile apps. In most cases, this purchase is still limited to some virtual capability or enhancements of the mobile service, through the various apps the consumer uses.

Where To?

When comparing the NUVO model’s impact on mobile commerce and P2P communications ecosystem, it is less disruptive to mobile commerce. The model is, though, a great vehicle for customer engagement and loyalty, as are many social networks. In fact, leveraging NUVO services for customer engagement is still in its infancy.

True (some say “ultimate”) mobile commerce or mobile payments involve using the mobile device to pay for tangible goods and services. A NUVO app or service is really not designed for that, nor is the optimal mechanism to do so. But as a mechanism to buy communications features—app



ONE POTENTIAL NEXT STEP IS TO ENGAGE THESE USERS FURTHER WITH LOYALTY PROGRAMS OR COUPONING – DIRECTLY THROUGH THE APP.

customisations, minutes for voice or video calls, or even international messages—it is a wonderful fit. Today’s independent NUVOs are just beginning to explore what they can offer their subscribers. They are truly a disruptive force in P2P communications and provide a needed boost of innovation to how people can communicate. Will they be a force in mCommerce? Probably not. But they could find a role with mCRM. ■■■

William Dudley is head of Sybase Operator Services product group as well as overseeing mobile messaging, FMC, GRX, IPX and IMS product strategy and new product initiatives for all operator services and emerging technologies within Sybase. Before joining Sybase, Dudley was North American Product Manager for CMG’s Wireless Messaging Products. He was responsible for defining the technical and business strategy for all of CMG’s messaging related products. During his time at CMG, he was part of a small, multi-company team that defined the concept of hub-based inter-operator SMS.

3G, 4G – The third (3G) and fourth generations (4G) of mobile technology, characterized by increasing data throughput speeds.

Acquirer – A payment service provider enabling the processing of merchants' transactions' with the issuer through an authorisation and clearing network.

Agent – A person or business that is contracted to facilitate transactions for users

Aggregator – A person or business that is responsible for recruiting new mobile money agents. Often, this role is combined with that of a masteragent, and the two terms are sometimes used interchangeably.

Airtime – The amount of time a subscriber spends using his or her mobile phone

App – Application, here for mobile devices

API – Application Program Interface

ARPU – Average Revenue Per User

ASP – Application Service Provider

B2B – Business to Business

B2C – Business to Consumer

Carrier billing – A form of "remote payment," meaning something is bought online or in any context where a retailer cash register is not used to conduct the transaction. Carrier billing allows users to buy items and bill directly on their mobile or telephone accounts.

Cash in (Top-Up) – The process by which a customer credits his account with cash. This is usually via an agent who takes the cash and credits the customer's mobile money account.

Cash out – The process by which a customer deducts cash from his mobile money account.

This is usually via an agent who gives the customer cash in exchange for a transfer from the customer's mobile money account.

CDMA (Code Division Multiple Access) – Also known as spread spectrum, CDMA cellular systems utilise a single frequency band for all traffic, differentiating the individual transmissions by assigning them unique codes before transmission. There are a number of variants of CDMA.

CFT – Combating Financing of Terrorists

Check 21 – Check 21 refers to "Check Clearing for the 21st Century Act." It's a law that allows banks to handle paper checks electronically.

COD – Cash on Delivery

Contactless payments – Contactless payments refers to transactions that are made by waving an RFID-enabled debit and credit card over a reader at the point of sale, resulting in reduced transaction time. Mobile contactless payments involve the use of NFC-enabled phones to perform the same function.

CPA – cost per action

CRM – Customer relationship management

CVC (Cardholder Verification Code) – encrypted data on a Visa card's magnetic stripe

Data capable – Mobile phones which have the capability to enable transmission of data from a laptop computer or PDA via the phone.

DSD – Direct to Store Delivery

E-cash – Electronic money, often held on a smart card

EDIFACT – Electronic Data Interchange for Commerce & Trade

EFT – Electronic Funds Transfer

EFTPOS – Electronic Funds Transfer at the Point of Sale

EMV – Europay/Mastercard/Visa - the global payment industry specifications for chip-based payment cards. EMV part 1 corresponds with (and generally conforms with) ISO 7816 parts 1-5. The other parts of this specification cover the details of a standard credit/debit application and the requirements for terminals.

eSE – embedded Secure Element

ETSI (European Telecommunications Standards Institute) – The European group responsible for defining telecommunications standards

FCC (Federal Communications Commission) – the U.S. regulatory body for telecommunications

FI – Financial institutions

GPRS (General Packet Radio Service) – standardised as part of GSM Phase 2+, GPRS represents the first implementation of packet switching within GSM, which is a circuit switched technology GPRS offers theoretical data speeds of up to 115kbit/s using multislot techniques. GPRS is an essential precursor for 3G as it introduces the packet switched core required for UMTS.

GPS (Global Positioning System) – a location system based on a constellation of US Department of Defence satellites. Depending on the number of satellites visible to the user can provide accuracies down to tens of metres. Now being incorporated as a key feature in an increasing number of handsets.

GSM – Global System for Mobile communications, the second generation digital technology originally developed for Europe but which now has in excess of 71 per cent of the world market. Initially developed for operation in the 900MHz band and subsequently modified for the 850, 1800 and 1900MHz bands. GSM originally stood for Groupe Speciale Mobile, the CEPT committee which began the GSM standardisation process.

Interoperability – The ability of users of different mobile money services to transact directly with each other. Given the technical, strategic and regulatory complexities that enabling such transactions would entail, no mobile money platforms are to date fully interoperable with each other. However, many mobile money services allow users to send money to nonusers (who receive the transfer in the form of cash at an agent).

MAS – Monetary Authority of Singapore

MCP – Mobile Contactless Payment

MMS (Multimedia Messaging Service) – an evolution of SMS, MMS goes beyond text messaging offering various kinds of multimedia content including images, audio and video clips

MNO – Mobile Network Operator

Mobile banking – When customers access a bank account via a mobile phone and are able to initiate transactions.

Mobile business – Mobile business is any kind of interaction with or within an enterprise system that involves at least one mobile device. Mobile business means supporting highly mobile, geographically dispersed workforces needing immediate,

easy and fast access to business information wherever they may be and anytime.

Mobile commerce, M-Commerce, mCommerce – Mobile commerce is any transaction with a monetary value that is conducted via a mobile telecommunications network. M-commerce is extending E-commerce to a variety of mobile devices.

Mobile money – A service in which the mobile phone is used to access financial services.

Mobile money transfer – A movement of value that is made from a mobile wallet, accrues to a mobile wallet, and/or is initiated using a mobile phone.

Mobile payment (m-payment, mPayment) – A payment where a mobile device (a phone or personal digital assistant, PDA) is used at least for the initiation of the payment order and potentially also for the transfer of funds.

Mobile wallet – An account that is primarily accessed using a mobile phone.

MNVO – Mobile Virtual Network Operator

MVPN – Mobile Virtual Private Network

NACHA - National Automated Clearing House Association is a not-for-profit association that oversees the Automated Clearing House (ACH) Network.

Near Field Communications (NFC) – A set of short-range wireless technologies, typically requiring a distance of 4 cm or less. NFC operates at 13.56 MHz and at rates ranging from 106 kbit/s to 848 kbit/s. NFC always involves an initiator and a target; the initiator actively generates an RF field that

can power a passive target. This enables NFC targets to take very simple form factors such as tags, stickers, key fobs, or cards that do not require batteries. NFC peer-to-peer communication is also possible, where both devices are powered.

NGO - NGO stands for Non-governmental organization which is a legally constituted, non-governmental group or organization, which does not represent any government.

NUVO – Network Unaffiliated Virtual Operators

OBC – Onboard credentials

OTA – Over the air activation (of services and tariff changes)

OTP – One Time Password

OTT – Over the Top

P2B – Person to Business

P2P – Person to person

PDA - Personal Digital Assistant: a hand-held computer

PIN - Personal Identification Number

Point-of-Sale (POS) – The location at which a payment card transaction occurs, usually by way of a device such as a credit card terminal or cash register.

Premium SMS – An SMS message for which the sender pays a higher fee than normal to cover the expenses for a good or service delivered.

Regulator – In the context of mobile money, this typically refers to the regulator who has

supervisory authority over financial institutions within a particular country—usually the central bank or other financial authority.

Remittance – Remittance in the broadest sense refers to payments made to a remote recipient. Often they refer to payments made between countries, such as a migrant worker sending money to relatives in another country.

RFID – Radio Frequency Identification refers to a technology that uses electronic tags on devices and wireless readers as an alternative to bar coding.

Roaming – A service unique to GSM which enables a subscriber to make and receive calls when outside the service area of his or her home network, as in when travelling abroad.

SD – Secure Digital

SE – Secure element

SEI – Secure Element Issuer

SEPA – Secure Euro Payments Area

SEV – Secure Element Vendor

SIM – Subscriber Identity Module

SIM (card) - Subscriber Identity Module card: an electronic card inserted into a cell phone that has personal information about the subscriber.

SLA – Service Level Agreement

SMS – Short Message Service, a text message service which enables users to send short

messages (up to 160 characters in GSM) to other users.

SP – Service Provider

Superagent – A business, sometimes a bank, which purchases electronic money from an MNO wholesale and then resells it to agents, who in turn sell it to users.

UI – User Interface

UICC – Universal Integrated Circuit Card

UMTS – Universal Mobile Telecommunications System

Unbanked – Customers, usually the very poor, who do not have a bank account or a transaction account at a formal financial institution.

Underbanked – Customers who may have access to a basic transaction account offered by a formal financial institution, but still have financial needs that are unmet or not appropriately met (for example, they may not be able to send money safely or affordably).

USIM – Universal Subscriber Identity Module

USSD – Unstructured Supplementary Service Data

VAS – Value Added Services

VoIP – Voice over Internet Protocol

WAP – Wireless Application Protocol

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Acta Wireless, headquartered in Washington, D.C. with offices in Montreal, Canada; Charlotte, North Carolina; and San Diego, California, is a successful early-stage investor and strategic advisory firm focusing on building business in the wireless and telecom convergence sectors. With a staff of more than 50 professionals, Acta Wireless is grounded in a partner-intensive approach built on insight, innovation and investment. Visit actawireless.com

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The Association for Retail Technology Standards (ARTS), a division of the National Retail Federation, is a retailer-driven international membership organisation. ARTS was established in 1993 to develop best practices, technology standards and educational programs through collaboration and partnerships that will enable retailers, their vendors and suppliers to conduct business globally. ARTS standards, products and programs are dedicated to fostering innovation and increasing retailer efficiency. Visit nrf-arts.org

bCODE was invented in 2004, the same year as the launch of FeliCa and the founding of the NFC consortium, to provide the market with an SMS-enabled transactional network that supports mobile commerce in the physical world. bCODE's mobile transactional networks power Sprint Nextel, Globe, Vodafone, Virgin Mobile, Qtel, Screenvision, IKEA, Caesar's Entertainment, Ford, MasterCard, Adidas, Carl's Jr, SM Cinemas, SM Tickets, SM Malls, CeBIT, Singapore Airshow, Golden Village Cinemas, Commonwealth Games, as well as developer partners across 35 countries worldwide. Visit bcode.com

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The GSM Association (GSMA) represents the interests of the worldwide mobile communications industry. Spanning 219 countries, the GSMA unites nearly 800 of the world's mobile operators and more than 200 companies in the broader mobile ecosystem. GSMA's Mobile Money for the Unbanked program was created to accelerate the availability of mobile money services to the unbanked and those living on less than US\$2 per day. Visit gsmworld.com

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Mobey Forum is the global leader in defining a sustainable and prosperous mobile financial services ecosystem. Established in 2000, it brings together leading financial institutions, mobile network operators, mobile handset manufacturers and payment processors and vendors, committed to accelerating the mass-market deployment of user-friendly mobile financial services by promoting open and secure technology standards. Visit mobeyforum.org

The Mobile Marketing Association is a nonprofit trade association; its 700 member companies include agencies, advertisers, handheld device manufacturers, wireless operators and service providers, retailers, software and services providers, and other companies focused on the potential of marketing through the mobile channel. Visit mmaglobal.com

NACHA manages the development, administration, and governance of the ACH Network, the backbone for the electronic movement of money and data. The ACH Network serves as a safe, secure, reliable network for direct consumer, business, and government payments, and annually facilitates billions of payments such as Direct Deposit and Direct Payment. Utilized by all types of financial institutions, the ACH Network is governed by the NACHA Operating Rules, a set of fair and equitable rules that guide risk management and create certainty for all participants. As a not-for-profit association, NACHA represents nearly 11,000 financial institutions via 17 regional payments associations and direct membership. Through its industry councils and forums, NACHA brings together payments system stakeholders to enable innovation that strengthens the industry with creative payment solutions. To learn more, visit www.nacha.org, www.electronicpayments.org, and www.payitgreen.org

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Vivotech, the near field communication (NFC) software and systems company, enables rich mobile commerce solutions for in-store payment, loyalty, marketing and merchandising. Vivotech's NFC software and systems are the broadest, most tested and deployed worldwide. Vivotech provides the key building blocks of the NFC ecosystem: smart applications for enhancing the customer experience, wallet and trusted service manager software and point-of-sale systems. Visit Vivotech.com

wi-mobile is a research group at the University of Augsburg, Germany, with a research focus on mobile financial services, mobile marketing, mobile-integrated business processes and the development of mobile markets. Besides scientific research and academic teaching, wi-mobile executes strategy consulting projects for national and international corporations. Visit wi-mobile.org

Mobile Commerce Guide 2012

STRATEGIES FOR FINANCIAL INSTITUTIONS, MOBILE OPERATORS AND ENTERPRISES
TO IMPLEMENT MCOMMERCE SERVICES IN DEVELOPED AND EMERGING MARKETS

Editorial Direction:

Diarmuid Mallon

Project Management:

Verena Wiszinski

Shahzia Banth

Design:

Boing Design Paris

boingdesignparis@yahoo.co.uk

Developed with help from BaySide Media

baysidemedias.com



SYBASE, AN SAP COMPANY
CORPORATE OFFICE
ONE SYBASE DRIVE
DUBLIN, CA 94568-7902 U.S.A.

sybase.com

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