Simplicity is the Ultimate Sophistication
The Future of Mobile Payments
SIMPLICITY IS THE ULTIMATE SOPHISTICATION – THE FUTURE OF MOBILE PAYMENTS
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Executive Summary

By the end of 2013, according to the GSMA *State of the Industry report for 2013*, there were approximately 219 live mobile money services globally, with mobile money outlets outnumbering bank branches in over 80% of markets included in the survey. By mid-2013, there were over 203 million registered mobile money accounts across the globe.

In this paper, we will evaluate the growth of mobile payments in markets across the globe and the trends governing the evolution of the industry. We will also discuss the focal areas of mobile payments that pose a challenge to increased levels of adoption among consumers and the strategies being implemented to address these challenges.
The Age of the Smartphone

Smartphone penetration into the routine of everyday life has fundamentally altered lifestyles and mechanisms of interaction and communication across the world.

Consumer behavior has been significantly changed, with smartphones becoming an integral, inescapable part of even the most common activities. According to data available in public domain, 4 of every 5 shoppers use smartphones to shop. 55% of all mobile owners access mobile web. 74% use their smartphones to get directions and location information. 73% say that they've used a mobile phone in a store. Apps are even replacing the television, with consumers spending a little over 2 hours on apps and close to 3 hours watching television.

The changes aren't limited to consumer behavior either. Businesses have also been affected by the proliferation of smartphones. Mobile ads account for 7% of most marketing budgets, and ad spending is expected to reach US$ 7.4 billion by 2017. 85% of all merchants say that mobile commerce is a focus—a significant change from 68% in 2012.

The shift across the board is clearly dramatic. The presence of a smartphone supersedes even that of a necessity, which means that there have been significant repercussions on the way consumers view their world, forcing business to adapt to their world view.

The Consumer has Evolved

In essence, the smartphone is responsible for condensing a wealth of information and data, and making it available in a format that is both conveniently portable and simple to use. Research also shows that consumers prize this easy availability of information—mobile search, for example, is expected to generate 27.8 billion more queries than desktop search by 2016.

This has transformed business outreach and customer acquisition & retention models. The need has always been to be wherever the customer is—and customers are currently mobile.

This has had a direct impact on the way and context in which businesses think of the mobile. Marketers, for example, now have to contend with the effective use of mobile ads. Ads on a mobile search engine and search results page, for example, are important—61% of users only see the first page of search results, and ads on that page get the attention of 89% of those users.

The consumer shopping process has evolved as well, with 96% of smartphone users researching products and services before making a buying decision. 35% specifically carry their phones to compare products and pricing before making a purchase. Even channel purchasing has been affected, with 37% making an online purchase after research versus 32% who make in-store purchases.

A modern consumer, therefore, has experienced a perspective shift, moving away from loyalty-based purchasing behavior to making logical, information-based buying decisions.

The Needs of a Modern Consumer

The result of these behavioral adaptations to technological advancements is a consumer used to quick and easy access to information, with a short attention span, a plethora of options, and unprecedented access to knowledge- and information-based resources. As a result, industry evolution has typically been to accommodate the changes in consumer behavior.
Payments is one such industry, caught up in a multi-faceted evolution process, driven by the need to cater to consumers that were displaying an increasing trend of making logical, informed, calculated decisions, balanced on the pillars of convenience and value.

Consumer Demands: Is the Payments Industry Listening?

Consumers are becoming increasingly accustomed to merging their online and offline experiences and are looking at their shopping and payment experiences in the same light. Most purchasing and payment related activities, however, are fragmented—with online and in-store channels representing a complete experience in themselves and nothing bridging the two.

Consumers are, in fact, expecting business to find a way to reduce complexity and minimize disparate actions, if not eliminate them entirely, transforming their experience into universal commerce.

Today, a simple barcode scan with a smartphone on a bottle of medication can result in the consumer receiving a message when the prescription refill is ready to be collected. This level of integration between the offline and online worlds is a consumer's most basic expectation from the payments industry.

Additional needs include collecting, managing, and redeeming loyalty points without plastic and paper, personalized recommendations, target coupons, and location-based offers and discounts among others.

Across the globe, 53% of smartphone users want a seamless shopping and payments experience. So, how far has the industry progressed on delivering that?
Then and Now: The Payments Industry across 20 Years

Twenty years ago, the payment industry was reluctant to accept credit cards. Selling the idea to retailers was easy, because the simple provision of a POS system was enough. Selling the idea to consumers was equally easy, because the credit card was projected as a convenient, any time replacement for cash.

Although the card-and-terminal system came to the fore, and remains there in large part today, other innovations were a far cry from this one in scale and scope of adoption. Subsequent technological iterations were built on top of this system.

Today’s credit and debit card transactions take under 20 seconds. Computer speeds and capacities have grown to accommodate greater transaction volumes. POS equipment has scaled down as hardware R&D has developed over the years. Improved software tracking, monitoring, and reporting, has allowed for better risk management.

The proliferation of credit and debit cards is also tremendous. As of last year, 175.6 million cards have been issued: 55.4 million credit cards, 6.3 million charge cards, 95.7 million debit cards, and 18.3 million ATM-only cards.

The payment card network—built on the strength of cards with a magnetic strip and electronic terminals—was perhaps the first big leap in moving towards a cashless payment system. Although the other innovations took time to see the light of day, their eventual emergence has facilitated a change that moves not just away from cash, but away from physical wallets and purses in their entirety and into the realm of mobile payments.

Despite this, the changes in the financial industry are—and are likely to always remain—glacial. As a direct result, the move away from the physical wallet is taking longer than nearly all expert predictions for the future of the market.

However, the promise of mobile payments is still tremendous.

What Mobile Payments Were Supposed to Be

Mobile payments were intended to revolutionize transactions in the same way that the card-and-terminal system did. In the late 1990s and the early 2000s, mobile payments were a hot topic. In parallel with electronic payment and internet banking facilities, hundreds of mobile payment facilities were introduced across the world. At the time, they were a dismal failure. A potential contributory factor is that the technology itself was not mature enough at the time, resulting in minimal consumer adoption. The developing infrastructure was also a problem, making buy-in from merchants and banks a challenging task.

The evolution of technology over the next decade, particularly in the direction of contactless credit and debit cards, coupled with advances in RFID and NFC, contributed to a resurgence of the interest in mobile payments and an increased awareness of their potential.
Why Mobile Payments Haven't Really Taken Off

While a contributing factor is the slow pace of change in financial industry, there are several other factors that have led to the growth of mobile payments being much slower than it should have been.

The Consumer Problem

Consumer behavior and preferences dictate the demand for any product, service, or solution, and mobile payments is no different in this regard. Participants and transaction volumes ultimately determine the success or failure of mobile payments, and research shows that consumer adoption is not as wide as it should be.

The demographic more open to mobile payments is also fairly narrow, with 63% of 18 to 34 year olds stating that they would be comfortable to make payments using their mobile phones—as opposed to just 35% of individuals above 35 years.

The Merchant Problem

Merchants create the market for financial solutions. Without a POS at merchant outlets, credit and debit cards would have remained little more than a passing fancy.

However, processing payments has become increasingly complex. With dozens of country-specific payment schemes, merchants looking to sell globally may potentially have to account for over 250 payment types, along with languages, local customs, and regional payment systems.

The Payment Service Problem

The primary concern with payment methods that don't involve cash and card have almost always been around privacy. Smartphone technology that is designed for form and functionality, and unlike traditional computing systems, was never created with high data security protocols in mind.

A recent report, Mobile Payments and Consumer Protection in Canada, for example, highlights that while payment credentials (including credit card numbers and PINs) are stored in the secure element of a SIM card, there are no regulated standards to ensure data protection.

The Payment Problem

The more popular modes of payment remain cash, check, debit card, and credit card. In North America, cards are accepted for both macro and micro payments. On the other hand, in Europe, with the exception of Scandinavian countries, cash is still preferred over cards.

Alternative payment systems, such as mobile payments, are being viewed as nothing more than a different channel for traditional cash and card payments. The absence of clear value and deviations from more conventional payment mechanisms has also hindered the growth and development of mobile payments.
Mobile Payments: The Future is Almost Here

Over US$ 4.6 billion worth of transactions are made using mobile money every month, from a total of 224 million monthly transactions. With over 30 million active mobile money users, 520,000 registered agent outlets, and 150 mobile money services, users have a plethora of options.

Yet, are these numbers truly reflective of consumer adoption? According to a report by the Yankee Group, in the United States, a mere 16% of mobile users used a mobile wallet to make a payment in a store. Added to this is the fact that 73% of mobile wallet users actually use their mobiles to make a payment less than 5 times a month.

Despite these statistics, two-thirds of consumers are interested in mobile wallets, suggesting that widespread adoption may not be far away. With the number of options that consumers today have, facilitating widespread adoption and developing and retaining a broad customer base requires that a mobile wallet be far more than a convenient replacement for a traditional wallet.

Most interestingly, mobile payments have the potential to address all of the major concerns that have arisen around the technology, and recent developments show that innovations are already being deployed.

Solving the Payment and Payment Service Problem

What service providers are realizing now is that the value of mobile payments is beyond the transaction. For a consumer, the payment process does not change fundamentally, whether it involves a swipe, a tap, or a wave.

In an attempt to shift perception away from mobile payments simply being a different channel, providers are introducing a variety of value-adds to the process. Among these are highly-targeted, relevant, location-based offers; real-time updates of receipts and account information; and real-time customizable alerts.

In attempting to bring value to the process itself and driving that value along the themes of simplicity and convenience, providers are giving consumers more compelling reasons to change the way they transact.

Another important point to consider is the advancements that are being made in HCE and NFC technology. HCE in particular, by eliminating the hardware-based secure element from the entire transaction and using an emulator instead, reduces the vulnerability of transaction messages to hacking and fraud.

With HCE using a cloud-based secure element to store payment credentials, and data retrieval occurring through tokenized, encrypted packets of information, the security concerns around mobile payments are moving closer towards mitigation.

Solving the Merchant Problem

A significant advantage of mobile payment systems and infrastructure is a steady increase in simplicity and sophistication. Current systems have the capacity to integrate both mobile and online commerce, accommodating a variety of payment methods while simplifying global transactions.

An added advantage is that the common technology platform potentially minimizes the cultural and language challenges of selling to a global market, by easing the process of making transactions.

Finally, the simplicity of the technology itself goes a long way towards improving the customer experience, by improving transaction speeds.

In a report published by the Centre for Economics and Business Research, for example, it was estimated that retailers could have saved £463 million in 2013 by moving from cash, credit, and debit card transactions to mobile...
payments. With mobile payments reducing checkout times—and thus, the overall length of the queue—internet retail sales could have potentially been boosted by £1 billion.

Given that three-fifths of all shoppers abandon a purchase when faced with a long queue, the faster checkout and processing times that mobile payments offer could show dramatic results in boosting sales and customer satisfaction.

Solving the Consumer Problem

Mobile payments are slowly gaining widespread use in both emerging and developed nations.

In emerging markets like Africa, the proliferation of mobile devices but smaller spread of bank accounts is a driving factor for growth, by allowing accessing to financial and payment services. In contrast, in developed markets like Japan and South Korea, mobile payments via RFID were introduced to ease the payment process during mass transit.

Further, mobile payment systems are growing increasingly sophisticated and with more and more merchants joining the fold, consumers are seeing more value in the system. 59% of consumer electronics merchants support mobile payments, 53% in digital goods, 50% in apparel and jewelry, 45% in travel and event ticketing, with 32% in other physical goods.

Merchant adoption will only make it easier for consumers to accept the idea, and coupled with loyalty and reward programs, progress on standards and regulation, and smarter, more personalized apps and payment solutions, consumers have a great deal to look forward to.
Where the Industry is Headed

Overall, the mobile payments industry is headed in a positive direction. Awareness of the challenges with the service as it exists today have prompted providers, merchants, and business alike to increase the depth of their payments system, in an attempt to drive more and more consumers towards adoption.

Personalized Experiences

The combined data of consumer purchasing and interaction experiences allow for definable habits via mobile banking, ticketing, parking, loyalty, shopping, and location-based applications. Apps—and the organizations that develop them—which capitalize on the big data that consumers leave behind can provide more relevant, richer experiences to consumers.

App deployments have already begun to embrace this customer-first and customer-centric approach, shifting away from the more dominant market segment and commoditized delivery mentality.

Major League Baseball, for example, tested Apple's iBeacon at the Citi Field stadium in New York. App users entering the stadium get directions to their seats. When near stores or booths, the app presents for store specific deals. And, depending on whether the user is a first-time visitor or long-term fan, they also get customized offers.

Facedeals, an app from redpepper, uses facial recognition cameras at local businesses, which recognizes consumers, checks them in at that location using the Facebook feature, and then sends a notification to their mobile phones about customized deals, based on their 'Like' history on Facebook.

Businesses have finally started realizing the volumes of data points that they have captured and are finding ways to take action on them—giving consumers greater incentive to actually share information, on the assumption that their experiences will be tailored by it.

Unattended Payments

Taking the concept of self-service one-step further, mobile payment systems could potentially eliminate clerks and tellers, replacing them with payment terminals. Drawing on 24 x 7 x 365 efficiency that only systems can provide, and coupled with technology advancements that may put holograms in retail stores, with mobile payments waiting and long queues could be a thing of the past.

The proliferation and popularity of unattended vending machines is growing worldwide. Common applications of self-service already in the market are internet access terminals, ticket machines, parking meters and machines, photo kiosks, supermarket self-checkouts, food and drink vending machines, bike hiring kiosks and more.

With government support, Nice became the first city in France to actively advocate contactless and cashless payments, with continuous and ongoing support from national and local governments, in conjunction with mobile operators, banks, and the transportation and retail sectors. Residents and visitors alike can use their mobile phones to make payments at restaurants, supermarkets, local stores, buses, and tramways.

The spread of mobile payments across the globe places clear demand on more than just the banking, retail, and payments sectors to adapt to the times. Governmental institutions are following suit as well, opening the doors to widespread developments and adoption in unattended payments through mobile devices.
Cardless ATMs

ATMs are evolving to allow consumers to withdraw by simply entering their mobile number, receiving an SMS with a unique transaction code, which needs to be entered along with the PIN to complete the transaction. Reducing dependence and reliance on debit cards and increasing the importance of the mobile phone might go down very well with consumers.

A major Australian bank launched a cardless cash initiative, a first of its kind in Australia, allowing consumers to withdraw up to $200 a day using just their mobile phones. Users log on to the app, select the amount they want to withdraw, and are issued an 8-digit code (via the app's home screen) and a 4-digit PIN, sent to the mobile phone via text message. Users enter the codes in the ATM to withdraw cash.

A leading bank headquartered in Chicago, ran a pilot for a cardless cash service in mid-2013, using a different mechanism from the Commonwealth Bank. At Wintrust, the user ‘preoders’ the transaction using the bank’s app. At the ATM, after selecting cashless card access, the user scans the QR code on the ATM screen with their mobile phone and the machine dispenses cash and a digital receipt.

Clearly, not only is the concept of cardless ATMs gaining momentum, but experimentation is ongoing in the industry to determine the strongest and most effective mechanism to power the transaction.

Direct Carrier Billing

In emerging markets, many of which lack access to debit and credit cards, direct carrier billing could drive mobile wallet adoption through the roof.

Today, nearly 2.5 billion people do not have an account at a financial institution—equal to 59% of adults in developing economies, 77% of adults earning less than USD 2 a day, and 11% of adults in high income economies.

In developing nations, this presents a tremendous opportunity for mobile payments. For example, in Thailand, with a population of 65 million, 59% of the population is banked, while 78% have access to mobile phones. In the Philippines, with a population of 97 million, the figures are 26% and 53% respectively. And in Malaysia, of 25 million people, 60% are banked while a remarkable 91% have mobile phones.

In some countries, including the United States, direct carrier billing has moved beyond digital content purchases and into alternative payments for ticketing and parking meters. Although micropayments remain a key revenue stream for carriers and larger payment mechanisms are slowly catching on, direct carrier billing presents the possibility of financial inclusion of the unbanked and a smooth customer experience.

With credit card companies unwilling to move into low income markets, carriers are stepping into the void to provide payment services, allowing them to increase their exposure in a potentially lucrative service area, capitalizing on the demand without the challenges of competition.

Mobile Wallet Revamp

Mobile wallets will go from being apps that consolidate payment and financial information, and move towards being solutions that improve the overall customer experience, delivering rewards for making mobile transactions and providing real-time, high-value data, and opportunity feeds.

The revamped mobile wallet is likely to include payment information, receipts, rewards, loyalty programs, tickets, boarding passes, wish lists, budget plans, trackers, and more. Increasing the perceived and actual value of mobile wallets will drive consumers increasingly towards adoption.
Starbucks, for example, recently added digital tipping and shake-to-pay features to its app. The Capital One app eliminates forgotten password problems with Sure Swipe. The USAA app offers users hands-free voice command options. Barclays offers an instant borrowing calculator and a digital lockbox for important documents. Lloyd's provides product comparison charts.

There are clear attempts to innovate across the board, find ways to make the mobile wallet more interesting to use, and drive consumer adoption through genuine value rather than over-the-top marketing and increased hype.

The Mobile POS

Despite the fact that consumers are slowly beginning to find reasons to use their mobiles for payments and transactions, merchant adoption is what will swing the mobile payments industry toward either success or failure. Although many merchants want the mobile POS as an option in their stores, very few have actually deployed one.

Those that have implemented the mobile POS have witnessed increased savings, sales, and customer satisfaction, according to a Yankee Group report, titled Revolutionizing Retail with mPOS. In the survey, Yankee Group found that 32% of merchants in the United States with more than 500 employees have already deployed mobile POS, with another 29% planning to do so.

While smaller merchants are using a dongle-and-smartphone combination, larger retailers are setting up more sophisticated systems. The latter include features beyond accepting payments, and extend to checking inventory, ordering, training sales associates, and making product information available.

The use of the mobile POS also brings in an added level of convenience, reducing checkout lines by allowing staff to take payments from customers while walking around in a store. Not only does this improve overall efficiency, but also allows for better interaction during the payment process, since the pressure of speed is either minimized or eliminated.

Finally, the mobile POS translates to revenue benefits as well. The Yankee Group report estimated that "a high-end retailer with 50 stores, producing US$ 525 in sales per square foot, could generate US$ 1.2 million in additional annual sales by replacing three cash wraps with mPOS."

In a nutshell, merchants not only have a great role to play in driving adoption of mobile payments, but also have clear and viable benefits from making the transition. While adding a mobile POS system will likely be a supplement to existing payments infrastructure, over time other devices could be phased out entirely with the mobile POS acting as a total replacement, given the time, efficiency, and revenue benefits that it generates.
Conclusion

Even Glaciers Make Tremendous Progress!

Despite the slow momentum of the industry, when change does finally rear its head, the effects are dramatic—and change is already visible.

54% of all shoppers would like to use a touchscreen device in stores. 48% would like to use a smartphone while shopping, or to shop on the go. 80% want mobile optimized product information when shopping.

Businesses are also optimizing the mobile payment process—changing consumer behavior from merely browsing when shopping to actually completing the transaction with a mobile. Mobile checkout is likely to become increasingly prevalent, making transactions more transparent and convenient.

Big box retailers are increasingly experimenting with mobile payments, driving growth of technologies and POS systems that support mobile transactions and improve the customer experience. More tablets are being deployed as replacements for conventional POS systems, capitalizing on the trend of sleek, user-friendly devices.

Clearly, the market already exists. With mobile payment transaction values standing at US$ 12.8 billion in 2012 and predicted to increase to US$ 90 billion by 2017, the eventual adoption and success of mobile payments is poised to be a powerful, industry-overhauling milestone for the payments industry.

Evidence of this exists in the fact that Apple has finally gotten on board the mobile payments bandwagon. With an October 2014 release currently slated, the service is designed to allow iPhone 6 and iPhone 6 Plus users to make payments at over 200,000 locations in the United States with just a tap of their phones.

The technology behind the payments leverages a number of key advancements in the mobile payments space: the NFC chip built into the smartphones; tokenization, which keeps the actual credit card numbers from being transmitted wirelessly; Touch ID on the iPhone 6 and skin contact with the Apple Watch as security measures.

Apple is certainly taking mobile payments seriously and, as Tim Cook, Apple’s CEO has said, he expects Apple Pay to “forever change the way all of us buy things.”

Only time will tell how far Apple’s confidence in their platform will translate into business success, but one thing is clear—mobile payments are here to stay.

Who Decides the Future?

How soon will the change happen? And how widespread will that change be? The facts are everywhere, across the internet in discussion forums, blogs, case studies, journal articles, and in white papers like this one. The changes are visible—in incremental amounts—in financial solutions, in banks, with retailers, with operators, and on most mobile phones and app stores today.

But who decides what the next steps are for consumers, retailers, banks, carriers—and for mobile payments in general? The answer is simple:

You do.