INVESTING IN ROBUST MOBILE POS AND MOBILE PAYMENT SOLUTIONS

Facts And Predictions About The Future Of Mobilized Retail Payments
The retail industry is in the midst of a mobile revolution. New mobile computing and communication technologies are affecting how we work, play, communicate and even think about ourselves. Virtually all industries and businesses are concerned about the strategic consequences of this profound change, but perhaps none more than retail, where the emerging consumer mobile lifestyle has the potential for great opportunity gains and also potential risks and costs.

The mobile smartphone has become the most popular device in history. It imbues users with both an emotional and an intellectual sense of empowerment and connection. We have become more and more happily dependent on our increasingly powerful, portable computing devices. These phones and now tablets have become an essential part of our lives. We don’t have to be told not to leave home without them. They are always with us and they are always on.

Smartphone penetration in the U.S. is approximately 50% of mobile devices and growing. Tablet sales are exploding. Gartner estimated that 119 million tablet units were sold worldwide in 2012, a 98% increase over 2011 sales of 60 million units.

On a worldwide basis, there are approximately 4.5 billion mobile subscribers. Globally, more than 1 million new subscribers enter the marketplace every day. There were 615 million mobile wallets in 2011, and it’s estimated that this will grow to 1.4 billion by 2015, according to the Mobile Payments World 2009 Mobile Financial Services Study.
Global growth predictions for mobile payments vary from 350 to 900 million users generating $430 billion to $1 trillion in transaction value by 2015.

- Swift white paper: Seize the Opportunity

Mobile is the payment technology that will see the greatest growth over the next five years. Global growth predictions for mobile payments vary from 350 million to 900 million users generating $430 billion to $1 trillion in transaction value by 2015, as reported in the 2012 Swift white paper titled: Seize the Opportunity.

E-payments and m-payments collectively accounted for an estimated 22.5 billion transactions in 2010. The 2011 World Payments Report noted that e-payments are expected to grow globally to 30.3 billion transactions from 17.9 billion (in 2010–13) while m-payments are expected to grow globally to 15.3 billion transactions from 4.6 billion in the same period.

What do these facts mean in terms of American retail m-commerce growth? What is required? What has to happen? A Creighton University white paper titled: Mobile Payment Adoption in the U.S.: A Cross-Industry Cross-Platform Solution, summarized it this way: "Proliferation of mobile commerce, especially in the business-to-consumer sectors, requires ubiquitously available, globally accepted, easy-to-use, and secure methods of payment. While mPayment is still in its infancy, its acceptance is expected to increase exponentially in the coming years."

**THE UBIQUITY OF SMARTPHONES IS CHANGING THE WAY CONSUMERS BANK AND MAKE PAYMENTS:**

- 21% of mobile phone owners have used mobile banking in the past 12 months;
- An additional 11% say they think they will use it within the next 12 months;
- 12% of mobile phone owners have made a mobile payment in the past 12 months;
- 21% of mobile payment users transferred money directly to another's bank, credit card or PayPal account;
- Mobile payment users are disproportionately represented by younger consumers. Individuals, ages 18 to 29, account for 37% of mobile payment users relative to 22% of all mobile phone users.

Source: Consumers and Mobile Financial Services, March 2012, Board of Governors of the Federal Reserve System
Consumers are becoming more and more familiar and comfortable with using their phones to conduct mobile commerce, from banking and shopping to buying and paying. Our mobile devices have become the logical extension of our online activities, untethered from fixed locations.

The digitalization of commerce is well understood and it has made m-commerce faster, easier and more convenient for consumers. We download apps to customize and personalize our phones to make them more important and useful to us. More than 30 billion applications have been downloaded across Apple’s App Store and Google’s Android Marketplace since their inception, with users downloading more than 2 billion apps per month, according to Tio Networks in a January 2013 report titled: *Mobile Bill Payments*.

**THE CURRENT MOBILE PAYMENT SCENARIO**

Most Americans have become familiar with various forms of digital mobile payments. The American Bankers Association reported that 62% of U.S. adults preferred to bank online rather than at ATMs or in branches — an increase of 36% over the previous year. Bank of America reported that 10 million of its customers use their phones to access their accounts, an increase of three million users in just one year, according to a Gemalto article titled: Digital Dollars — the growth of mobile payments.

These banking and shopping statistics are significant in terms of future mobile payment consumer adoption because consumers are already familiar with and have experienced the ease and convenience of anytime, anywhere control over transaction and payment options.
Why then is it that the current state of retail mobile POS deployment and mobile payment capability is still so uncertain and seemingly chaotic?

Virtually all stakeholders agree that mobile POS solutions and mobile payment will be critically important in the near term. The KPMG 2011 Mobile Payments Global Survey stated: "Mobile payments are evolving rapidly and changing the way consumers and businesses operate. As technology and telecommunications companies roll out mobile payment applications and services, mobile strategies are beginning to transform existing business models in a number of sectors such as banking and retail."

The KPMG survey cited the fact that most companies believe that it will take two to four years for mobile payments to move into the mainstream. With regard to assessing this response, KMPG wrote: "We believe that exploding smartphone growth, new applications, and economic opportunities will grow mobile payments at a much faster rate than our respondents anticipate."

KMPG concluded: "The advantages of mobile payments for consumers, telecom providers, technology vendors, financial services firms, retailers and governments are not theoretical. All these parties are reaping the benefits of mobile payment offerings today, across many regions, or planting the seeds for future growth."

WITH REGARD TO SHOPPING BEHAVIOR, WHEN CONSUMERS WERE ASKED HOW THEY WOULD LIKE TO USE THEIR MOBILE PHONE, THEY CITED THE FOLLOWING:

✓ 48% - to compare prices while shopping
✓ 33% - to receive offers and promotions based on where you are
✓ 31% - to receive and manage discount offers and coupons
✓ 25% - to buy things at point of sale
✓ 23% - to purchase tickets to events

Source: Consumers and Mobile Financial Services, March 2012, Board of Governors of the Federal Reserve System
THE MOBILE POS AND PAYMENT ECOSYSTEM

The classic chicken/egg scenario is inhibiting market growth as retailers wait for the consumer tipping point and consumers wait for widespread retailer acceptance and infrastructure build out. This situation presents obvious opportunity for retail first-mover competitive advantage.

Various combinations and partnerships currently exist among the mobile POS and mobile payment market participants, including a consortium of large retailers called the Merchant Customer Exchange (MCX). MCX was created to develop an m-payment solution with the goal of “offering consumers a customer-focused, versatile and seamlessly integrated mobile commerce platform.”

To date, a number of m-payment solutions have achieved great success in targeting the traditional small business check and cash transaction space. Square and Intuit lead this market with small devices that attach to smartphones. Both companies offer free card readers and then charge a percentage fee of the transacted amount.

According to The Economist, both companies are growing at a rapid rate. “Square has signed up more than one million customers since its launch in 2010, and Intuit’s GoPayments — launched three years ago — says the number of its clients increased by 1,200% last year. The growth of both firms highlights the huge pent-up demand for mobile payments,” as reported in The Economist article titled: The Wealth of Wallets.

Additionally, two prominent companies are conducting mobile wallet payment experiments: Google and PayPal. According to The Economist, PayPal is "arguably the world's biggest bank with over 100 million account holders." Unlike PayPal, Google's mobile wallet offering relies on partnerships with existing banks, allowing customers to store bank-issued cards on their phones. Both companies are interested in more than just facilitating payments. Both recognize the potential in providing dynamic, location-based and spending pattern promotional and loyalty offers.

Many analysts and observers question whether consumers will have just one digital wallet or whether they will have several. What is not in question is the fact that consumers will have one.
THE DEVELOPING PROMISE OF NFC AND EMV CHIP-AND-PIN TECHNOLOGY

The major credit card companies (Visa, Mastercard, Discover and American Express) are focused on moving the retail industry toward NFC EMV Chip-and-Pin smart card technology. To that end, they have mandated EMV acceptance in the U.S. retail marketplace. To ensure retailer acceptance and compliance, they have created both benefits and penalties. For example, Visa expanded its Technology Innovation Program (TIP), to the U.S. effective October 1, 2012, and will eliminate the requirement that eligible merchants annually validate their compliance with the PCI DSS for any year in which at least 75% of the merchant's Visa transactions originate from dual-interface EMV chip-enabled terminals.

To explain this scenario, Visa reported: “To qualify, terminals must be enabled to support both EMV contact and contactless chip acceptance based on NFC technology. Merchants qualifying for TIP can reap meaningful savings through the reduction in costs associated with annual PCI DSS validation, and will have the opportunity to re-invest those savings into additional payment technology infrastructure to support emerging payment innovations and dynamic data processing.”

The penalty imposed will be the establishment of a counterfeit fraud liability shift for domestic and cross border counterfeit card-present POS transactions, effective October 1, 2015. With this liability shift, if a contact chip card is presented to a merchant that has not adopted contact chip terminals, liability for counterfeit fraud may shift to the merchant's acquirer.
This new standard essentially phases out the life of magnetic stripe-only POS in favor of the enhanced security and robust capability of EMV chip technology and contactless and mobile payments.

The migration will be enhanced by the fact that new smartphone models are expected to all have NFC capabilities.

In another joint venture, AT&T, T-Mobile and Verizon have developed ISIS, an NFC solution that will allow customers to use their cards at in-store readers, by "wave and pay and go." At press time, ISIS was in consumer trials in Salt Lake City, Utah, and Austin, Texas.

**THIS NEW ISIS CONTACTLESS NFC POS SYSTEM ACCRUES A NUMBER OF BENEFITS TO CONSUMERS AND RETAILERS ALIKE:**

- NFC card details are scrambled so the unencrypted details are never shown, offering a higher level of security;
- NFC-enabled phones can be easily disabled remotely if stolen or lost;
- Fast, secure contactless payments have the potential to speed up transactions and reduce merchant operational costs;
- Pilot programs reported by a number of sources including Visa, American Express and TowerGroup have shown that contactless payments can result in a 15% to 30% increase in the average transaction value;
- Contactless technology can be delivered via many forms like stickers and key fobs in addition to standard cards;
- Reduces chance that the card will be lost or forgotten or dishonestly "skimmed," because it never leaves the payer's hand;
- For small payments, personal hygiene is enhanced because there is no need to pass a card from hand to hand or touch pin pads or styluses handled by multiple people;
- Faster transactions shorten queuing, thus improving customer satisfaction, increasing revenue and enhancing operational efficiency;
- Contactless payments reduce the costs of handling cash. According to a McKinsey study, the real cost to a merchant of a cash transaction is 1.3%.

*Source: First Data white paper, Contactless Payments: The 'Tipping Point' Is at Hand, January 2010*
WHY EMV CHIP TECHNOLOGY? AND WHY NOW IN THE U.S.?

A Gemalto white paper titled: The Migration to EMV Chip Technology cites three primary reasons why EMV is moving toward saturation in the U.S.:

1. **Physical World Fraud**
   While there are no published fraud numbers in the U.S, the consensus among experts is that physical fraud in the U.S. is above the world average and rising. It has been observed that fraud migrates to those regions that have not yet adopted EMV chip technology. Since most of the world has migrated to EMV, should the U.S. not do so, it would become the primary target of fraud.

2. **Cardholder Inconvenience Abroad**
   With market penetration of EMV technology deployment growing around the world, the magnetic stripe technology becomes more and more archaic. Tens of millions of U.S. cardholders have been inconvenienced abroad over the last few years by attendants at POS refusing cards and even more by not being served at unattended terminals.

3. **Mobile and Contactless**
   Implementing EMV chip technology in the United States will speed up mobile and contactless payments and make them more secure. The devices that accept EMV chip cards are dual contact/contactless devices. By installing these devices to accept EMV, merchants are also readying themselves to accept mobile and contactless payments as well.
Retailers are increasing their focus on POS, and mobile specifically, as they seek to provide a more engaging and efficient customer experience. Boston Retail Partners spells out some of these plans in the 13th Annual POS Benchmarking Survey, published in 2012. The report explored a number of retailer attitudes, opinions and priorities about current POS deployment and future plans.

In asking about top retailer priorities over the next year, it is no surprise that "customer service" (60%) and "multi-channel integration" (52%) are cited as top priorities. Interestingly, 24% cited "associate mobile in-store functionality" as the top priority.

When asked what is most important to customers, 82% cited the generic "customer service" answer, but "efficient processing at the register/speed of service" was cited as very important by 75% of retailer respondents.

In terms of investing in top priorities, 61% of retailers plan to increase spending in "customer-facing mobile solutions," 57% plan to increase spending in POS software and 53% in POS hardware.

With regard to customer-facing mobile solutions, 8% of retailers already have implemented shoppers' smartphones utilized for checkout, with 38% planning to implement in less than two years; and 7% of respondents already have implemented mobile POS, with an additional 52% planning to implement in less than two years.
CONSUMER CONCERNS ABOUT MOBILE PAYMENT TECHNOLOGY

Two primary principles define the acceptance and adoption of any new payment system: security and standardization. Confidence and trust are the keys to success. While consumers rank mobile payment technology high in measures of usefulness, ease of use, convenience and speed, they also report security concerns. The Creighton University consumer survey, *Mobile Payment Adoption in the U.S.: A Cross-Industry Cross-Platform Solution*, reported that 52.7% of consumers do not think that mobile payment is secure, and 48.2% believe that mobile payment will put their privacy at high or very high risk.

In looking at these security issues more deeply, the Creighton University survey found that consumers are most distrustful about the authentication process. More than one third, 35.7%, cited mobile payments’ ability to authenticate the participants of transaction as the greatest concern. Consumers also cite confidentiality as a problem; as many as 27.3% wonder whether transactional data can easily be intercepted or accessed by unauthorized users.

Given these real concerns and their potential to slow mobile payment adoption, the mobile payment value chain will need to develop and maintain channel trust through education and communication efforts, service guarantees, and alerts.

Proactive programs and communication can take steps to reduce and perhaps eliminate consumer security concerns. If proactive efforts are successful, security issues could become a reason that encourages consumer adoption rather than discouraging it.
CASH REGISTER & IMPLEMENTATION ISSUES

Retailers understand that POS is the one function that is critical to their service reputation, customer satisfaction and overall experience. It is the last point of contact and the last opportunity to make a good impression. A great POS experience can be a business differentiator for good or bad.

Mobile POS, armed with mobile payment capability, provides both tactical and strategic benefits, including:

- Delivery of more personal and powerful customer service;
- Improved customer convenience with choice of any payment;
- Elimination of waiting at fixed POS checkout;
- Increased sales and profits;
- Maximization and flexibility of floor space design and sales increase; and
- Reducing the overall cost of POS by moving from fixed to mobile.

In retail, POS occupies the highest priority because it has become the key center of influence. All types of retail organizations continually are challenged to ensure that their POS systems are meeting their critical business needs in terms of handling peak transaction volumes, incorporating new features and functionality, handling information flows across the enterprise, and addressing cost of ownership inflation, labor intensity, standardization and interoperability.
A successful POS transformation should lead to a reliable and flexible ‘points-of-service’ system...it should be able to conceive a POS system that will have an extended life, connect every device with back-office applications that in turn infuse every activity with real-time data.

- Cognizant

With regard to the outcome of a conceived successful POS transformation, Cognizant wrote: “A successful POS transformation should lead to a reliable and flexible ‘points-of-service’ system...it should be able to conceive a POS system that will have an extended life, connect every device with back-office applications that in turn infuse every activity with real-time data. Such ‘points-of-service’ systems should be multipurpose, well connected and extendable across different channels.”

In terms of evaluating implementation proposals, the choice of partnering with the right service providers and implementation specialists can result in significant cost benefits and added value in both innovation and process improvements. Once a pilot program is implemented, usage data should be measured and analyzed to include customer satisfaction, sales volume, market basket size, throughput, transaction cost reduction, and customer and employee feedback.

IN BUILDING THE BUSINESS CASE FOR POS TRANSFORMATION, COGNIZANT IDENTIFIED A NUMBER OF POS CHANGE DRIVERS AND THEIR ATTRIBUTES:

- **Cost**: Spiraling cost of ownership including hardware/software license cost and support cost
- **Operating Issues**: Difficult maintenance, lack of features/functionality, scalability constraints
- **Customer Satisfaction**: Inadequacy to scale to changing customer expectations, inefficient checkout, inadequate CRM/CLP support, lack of personalization factors
- **Strategic Imperatives**: Nonalignment with present organizational goals and changing business scenarios, including industry mandates and competitive measures

Source: Cognizant white paper, The Art of POS Transformation
CONCLUSION

Many retail organizations are now in the process of exploring the next generation of POS technology in an effort to improve customer relationships by getting closer to them. Consumers value speed and convenience like never before. The question is if customers could reinvent your POS how would it change? What would it look like? How would it help you develop better offerings and better ways to build customer loyalty?

In a 2012 *Mobile Payments Guide* article, Ron Hirson, president and cofounder, BOKU said: “No matter how long it takes to realize the potential of NFC, for the foreseeable future we know that most consumers are going to leave the house with two things: their phones and their wallets (likely with at least one card in them). This creates an incredible opportunity to completely change the customer experience of the cardholder by creating an immediate interaction point between consumer, merchant and a host of value-adding apps.”

One of the leading success stories in retail mobile payments is Starbucks, which recently reported that its stores process more than 2 million mobile payment transactions every week. At the end of 2012, Starbucks had more than 100 million mobile payment transactions since the Starbucks mobile app launched in January 2011. Overall, $3 billion has been loaded on to Starbucks cards in 2012, with Starbucks card transactions accounting for more than 25% of sales in U.S. stores.

In a recent Mobile Commerce Daily article, Howard Schultz, president/CEO of Starbucks said: "We believe the rapid adoption of mobile gives us an opportunity to create a unique and much deeper relationship with our customers directly and in the moment like no other consumer brand or retailer. We have the unprecedented ability to reach new customers, create awareness of new products, drive incremental transactions and explore new revenue streams."

In thinking about whether your POS strategy is putting you ahead of trends, a section of a January 2011 McKinsey Quarterly article, *Have you tested your strategy lately?* is instructive: “The emergence of new trends is the norm. But many strategies place too much weight on the continuation of the status quo because they extrapolate from…a time frame too brief to capture the true violence of market forces."

While there currently is much uncertainty surrounding the emerging market of mobile POS and mobile payment, a winning strategy should not just be about where and how to compete, but perhaps more importantly, *when?* Mobile POS solutions incorporating mobile payment options can be a differentiating retail strategy... *Now.*
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