



**Summary of
Mobile Payments Industry Workgroup (MPIW)
Meeting with
Merchants and Mobile Payment Start-ups
September 25, 2012**

**Federal Reserve Bank of Boston
Payment Strategies Group**

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The views expressed in this paper are solely those of the authors and not necessarily those of the Federal Reserve Bank of Boston or the Federal Reserve System.

Overview

The Mobile Payments Industry Workgroup (MPIW) met with representatives from the merchant community and several mobile start-up companies at the Federal Reserve Bank of Boston on September 25, 2012. The objective of the meeting was for MPIW members to better understand the merchant perspectives on mobile payment opportunities and challenges at the point-of-sale (POS). The merchants were represented by a big box store, a pharmacy, a quick service restaurant (QSR), a convenience store, a specialty retailer, a gas station/convenience store, and a transit authority. The mobile start-ups represented providers of white label mobile wallets, cloud and QR code solutions, mobile payment card acceptance, and mobile marketing.

Merchant Discussion

Several key themes emerged from the discussions around mobile payments. Overall, merchants see value and potential benefits in mobile payments, and view the mobile channel as an opportunity worth pursuing. However, they continue to be concerned about the costs associated with mobile payment acceptance at the POS and the risks associated with the security and sharing of consumer data.

Generally, merchants believe that mobile technology can enhance convenience, improve efficiency in business operations, and enrich the customer shopping experience. For QSRs, convenience stores, and transit authorities, the priority is to increase through-traffic rates and speed in the checkout process, particularly during peak business hours when sales volume is highest. Merchants agree that successful mobile payment solutions must be simple and intuitive for staff to learn and require little to no explanation for customers to use. Solutions that do not satisfy these needs and that tend to be clunky will not work.

The value of the mobile channel for merchants extends beyond the payment functionality and lies in the holistic benefits it can provide across all consumer shopping activities. For example, using mobile technology to make a purchase can provide retailers with more information about their customers' shopping behaviors, which can be used for targeted marketing and offers to boost loyalty and sales. A mobile wallet can add consumer value by merging loyalty programs with payments, and in the long-term by adding non-payment services as well. Regardless of how merchants design and develop their mobile solutions, they must convey a clear value proposition to their customers.

Because the mobile market is still evolving, retailers remain cautious about their mobile payment choices and investments. It is too soon to know which of the many competing solutions will be successful. Some merchants prefer to implement just one approach. The implementation of multiple solutions requires a standardized approach from an operations perspective to avoid the need to reconcile different systems that can lead to complications in accounting and back-end processes.

While NFC remains a relevant technology, several merchants maintain their concerns about the costs associated with implementing and processing card-based mobile transactions. Retailers that originally implemented contactless card technology in their stores did not realize a return on investment due to very low consumer adoption. As a result, many retailers are monitoring the progress of NFC before determining whether or not to invest in the technology.

Merchant Strategies and Plans for Implementing Mobile Payment Solutions

The **pharmacy** chain has 7,500 stores and over 70 million active member households in its loyalty program. The chain was an early adopter of contactless cards,¹ implementing the solution to improve the speed of checkout. In 2012, contactless transactions represented less than one percent of total transactions and averaged about \$25-30 per card. The merchant also offers a mobile app that enables customers to store their loyalty cards, search for product information and receive information about sales and coupons, but cannot be used to make payments. Despite their preference for non-card-based mobile payment solutions to reduce PCI compliance and other costs, the pharmacy has activated Google and Isis NFC wallets at selected stores.

The **sporting goods** retailer chain has over 500 stores across the country. The chain has taken a “wait and see” approach before deciding on the optimal mobile payments platform for its business. This approach stems from concerns related to the ability to support multiple alternative payment methods. Furthermore, while their existing POS terminals are NFC-capable, the decision to implement changes to POS systems requires substantial lead time in a cycle that only allows for two technical changes per year. The chain’s current mix of payment transactions is 80 percent credit cards and 20 percent cash, checks, and debit cards, with the volume of debit card transactions increasing.

The **QSR** has over 7,000 franchised restaurants in 36 states. It offers a cloud-based mobile app with loyalty features, digital gift cards, and a QR code linked to a registered prepaid card that can be scanned at the POS to pay for purchases. From a cost perspective, their goal is to reduce interchange fees, keep up with technology and market shifts, and provide consumer-friendly solutions.

The **gas station/convenience store** chain has nearly 600 stores in 11 states. It offers a cloud-based mobile app that enables customers to pay for gas and store items remotely from a mobile phone. Customers who use this mobile app can opt to pay via PayPal or from their checking account.² The app also features discounts on gas purchases. The cost to upgrade gas pumps to NFC is significantly higher than the cost to upgrade POS terminals. That cost and the interchange fees associated with card payments drove the decision to offer their current mobile payment solution.

¹ Contactless smart cards incorporate a chip (microprocessor) that communicates with a card reader through Radio Frequency Identification (RFID) technology. RFID stores and remotely retrieves data using devices called RFID tags, which contain silicon chips to enable them to receive and respond to queries from an RFID reader/writer. Near Field Communication (NFC), a subset of RFID, is a standards-based, short-range (a few centimeters) wireless connectivity technology that enables simple and safe two-way interactions between electronic devices, allowing consumers to perform contactless transactions, access digital content, and connect electronic devices with a single touch. (Source: <http://www.nfc-forum.org>).

² If the consumer chooses to pay with PayPal, he is prompted within the mobile app to log-in to his PayPal account to authorize the transaction. Using PayPal requires a \$100 authorization request on the customer’s account. The customer can also choose to pay from his bank account, which requires the customer to enroll and verify his account to activate this option. The consumer is prompted within the mobile app to enter an email address and PIN to pay and is then prompted to enter the store number on the pump to activate the pump. If the consumer chooses to pay for gas or other items from inside the store, he must select that option in the mobile app, which generates a bar code to pay at the POS.

The **home improvement** retail chain has more than 2,000 stores across the U.S. It was the first retailer to implement PayPal's cloud-based, in-store payment solution. This solution allows customers to make a hands-free purchase at the POS by entering their mobile phone number and a PIN to complete the transaction. In effect, the mobile phone need not be physically present. Additionally, POS terminals at selected store locations in Austin, Texas and Salt Lake City, Utah have been NFC-enabled to accept payments using the Isis Wallet.

The **regional transit authority** serves more than 1.3 million riders on an average weekday.³ Since 2006, the transit authority has been using a contactless, stored value smart card for electronic ticketing to reduce the cost of handling cash. The transit authority launched a closed-loop mobile app in November 2012 to enable riders to purchase commuter rail tickets remotely, which resulted in a 15 percent conversion of fares from physical to mobile tickets. The transit authority provides WiFi back-up on the trains and cellular coverage on the platforms to address contingencies such as the loss of mobile phone service or Internet access that are common to transit. It is also looking at ways to integrate the contactless smart card and mobile payment systems; however, as a government agency, it is new to the mobile channel and slower to adopt.

The **big box retailer** currently has over 4,600 stores in the U.S. It offers a mobile app that allows customers to build a shopping list (either by voice or scanning an item) and a merchandise locator to find goods in the physical store or to order products online. The merchant expressed concerns over the ability to manage payment credentials in an NFC secure element environment, and therefore, supports end-to-end encryption and tokenization to protect transaction data.

Summary of Merchant Issues

The costs to implement new hardware systems and POS terminals are high and the return on the investment to merchants is still unclear. Retailers with high volume, small dollar cash transactions are more concerned about the cost of converting cash to card-based electronic and mobile transactions because of the related transaction fees. Retailers with a franchise model want to ensure that interchange fee structures around mobile payments make sense for their franchisees.

Merchants prefer to see mobile transactions charged at the card-present (CP) rates rather than at the higher card-not-present (CNP) rates, as they believe mobile transactions pose less risk because the mobile phone serves as one level of authentication and is physically present at the POS.

The security of mobile payments is a top priority for merchants; however, they remain concerned about the related costs to implement security and fraud measures. Merchants maintain that mobile technology can improve the expensive and labor-intensive PCI compliance process. They also prefer to have standards that can ensure the security of cardholder data that is stored on the mobile phone and help drive consumer adoption.

Merchants also realize that mobile technology can be leveraged to build customer loyalty by providing targeted promotional offers and delivering enhanced value to consumers, but are concerned about the potential misuse of customer data, particularly when accessed by third parties. Merchants want to

³ March 2013, http://www.mbta.com/about_the_mbta/scorecard/.

maintain ownership of their own customers' data. To support this goal, retailers are pursuing alternative mobile solutions, such as the Merchant Customer Exchange (MCX). This collaborative solution is expected to enable more control over the merchants' respective customer data, keep costs down, and improve the safety and security of the payment.

Start-ups

The mobile start-ups and solution providers discussed various technology solutions that they provide to address the needs of merchants and consumers. Three companies offer white label mobile wallet solutions. Two start-ups provide lower-cost, loyalty-based solutions to merchants, and one company provides mobile marketing and location-based daily deal services.

One start-up offers a cloud-based, white label wallet and payment software solution, which addresses common objectives of merchants, financial institutions (FIs), and payment service providers—branding, security, and cost. Retailers and FIs can integrate the wallet solution into their proprietary mobile apps to enable such capabilities as rewards, offers, ads, and tender steering. The platform works with credit, PIN and signature debit, and prepaid cards. The mobile wallet does not support NFC, and payment credentials are stored in the cloud.

A mobile banking and payment solution provider has developed a new system that integrates a mobile wallet, mobile payments, and mobile banking using cloud technology and the ACH Network to settle transactions. The provider's goal is to address cost and security concerns of FIs, merchants, and consumers by using barcodes that are single-use, dynamic tokens that cannot be replicated. The service is expected to launch in mid-2013.

Another provider offers white label mobile commerce and mobile payment solutions and works with merchants, mobile network operators, banks and card networks, globally. The company's software platform manages the complexities involved with working with multiple handset environments, multiple secure element form factors, multiple trusted service managers, various transaction channels (e.g., NFC and QR code), and also handles all the TRUST (traceability, reliability, usability, security, and testability) aspects of a transaction.

Two start-ups offer solutions to merchants that help reduce payment transaction costs and build customer loyalty.

- One of the companies provides a mobile payment acceptance solution for retail businesses in the form of a plug-in card reader for the mobile device. Initially, the company marketed its product to small business owners and entrepreneurs, many of which could not or would not accept debit or credit cards. (In 2012 there were 26 million U.S. businesses that did not accept credit/debit cards.) The firm is now working to integrate its solution with larger merchant systems. While the company does not currently use NFC, an increase in merchant demand would prompt consideration to add the technology. Recently, the company launched a cloud-based wallet that uses geo-fencing technology to locate customers when they enter a participating merchant's store using the GPS function on their mobile devices.⁴

⁴ The technology also allows customers to locate participating merchants. If the customer has uploaded a personal photo to their application, they can then be identified by that photo which is presented to the cashier at the POS to

- The other company provides a mobile payment solution that uses QR codes and cloud technology. Over 5,000 merchants use this solution. The company offers a unique business model that is tied to a merchant's marketing campaign and is performance-based. Merchants can run customer acquisition and loyalty campaigns in the form of credits for purchases. If a customer completes a transaction at the retailer as a result of the marketing campaign, the start-up assesses a fee equivalent to a percentage of credits redeemed.

Lastly, one start-up business provides location-based deals directly to the mobile device, which can instantly be redeemed by consumers who have enrolled for the service. The business generates merchant revenue through coupon redemptions that are tracked using GPS technology on customer phones.⁵

Summary of Start-up Offerings

Start-up companies provide a diverse array of solutions to meet the various payments needs of merchants and consumers. Some begin by working with small merchants who are faced with challenges to accepting electronic payments. They can help merchants achieve lower implementation and payment acceptance costs with cloud-based solutions that, in addition to accepting card transactions, leverage the ACH Network.

Several start-ups acknowledged that they are prepared to offer NFC solutions in response to any increased demand in the market. For now, these companies are focused on supporting current merchant needs. Their survival will depend on how quickly they can prove their value and achieve scale through the merchant community in order to make the solutions available to consumers.

Conclusion

Merchants agree that there are potential benefits and value in mobile payments but remain concerned about cost, interoperability, and security. Start-ups have developed a variety of innovative solutions, which employ different technologies to address these issues. However, because the mobile payments industry and supporting technologies are nascent, it is premature to predict the success of any one solution. Retailers are working with different partners and experimenting with different mobile payment platforms to find the optimal solution. There is general agreement among merchants and other industry players that technology standards around mobile payments are needed. Standards would support goals for more efficient compliance and interoperability. While NFC is based on a global standard, additional guidelines are needed for the emerging technologies. Sustainable mobile payment solutions must be secure, convenient, efficient, ubiquitous, interoperable, and allow for consumer choice. Ultimately, consumers will drive the acceptance of the broad range of mobile payment solutions and determine the winners and losers in this unfolding market.

The MPIW meeting provided great insight into the merchants' perspectives on mobile payment opportunities and challenges at the POS. As a result, the group decided to invite several merchants to participate as members and represent this important industry segment.

verify the customer and their transaction. The photo recognition essentially verifies and completes the transaction without the need to scan a barcode or present a payment method.

⁵ The consumer must opt-in to allow the service provider to access their GPS to obtain location data.