Developments In EMV And Mobile Bring Payment To New Heights

By Alicia Fiorletta, Associate Editor

Payment processing is a vital step in the sales lifecycle. Whether online or in the store, consumers are completing purchases with credit and debit cards, PayPal, Google Wallet and other digital options. Recent developments and trends in payment and technology have retailers rethinking their payment processes to keep pace with tech-savvy shoppers, as well as upcoming industry mandates.

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These developments include the move to smart cards in the U.S. and retailers' need to comply with Europay, Visa and MasterCard (EMV) — the global standard for smart card processing. They also include growth in Near Field Communication (NFC) technology, and mobile payment applications and hardware, such as those from Google, Square, PayPal and VeriFone.

The continued proliferation of smartphones has caused merchants to consider the enterprise-wide benefits of implementing mobile payment in-store. As of February 2012, 49.7% of U.S. mobile phone subscribers had a smartphone, according to Nielsen research. Based on a survey of more than 20,000 mobile users, the research also revealed that more than two-thirds of consumers who bought a new handset in the last three months chose a smartphone over a feature phone.

As consumers grow more comfortable using their smartphones to browse and buy items, mobile payment will offer a greater opportunity for retailers to improve customer engagement in store locations, according to John Devlin, Senior Practice/Group Director of AutoID and Smart Cards for ABI Research.

"It's not about just serving the customers and allowing payment — it's about integrating this information with customer data to determine what they're doing, where they're doing it, and what their experience is," Devlin said. "At some point, shoppers may be tapping into coupons, loyalty programs and other information while in the store, allowing them to receive offers and gain additional points. It provides a great way to interact with consumers."

Although merchants such as **American Eagle**, **Bloomingdale's**, **Macy's** and **Walgreens** are implementing "tap and pay" tactics with Google Wallet in select locations, other retailers are struggling to follow suit. This lackluster implementation rate may be caused by several factors, including investment and employee training processes, as well as overall consumer interest.

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ABI Research

"I think any perceived security concerns surrounding [the mobile wallet] are going to be resolved soon, but one of the biggest challenges retailers face is with consumer adoption," said David Hogan, Executive Director of Heartland Payment Systems and former CIO of the National Retail Federation (NRF). "Retailers have to determine what incentives they can provide to entice their customers to use their mobile wallet. It's my belief that this mass adoption to mobile is still several years away."

New developments regarding EMV's migration to the U.S., however, are coming to the forefront, driving U.S. merchants to transition to contact and contactless payment options that utilize chip-enabled smart cards. According to ABI Research, an estimated one billion payment cards with contactless capabilities will be shipped globally in 2016, up from just 170 million in 2010. ABI Research also predicted that smart card shipments will overtake mag stripe card shipments by 2015.

Cards embedded with EMV chips enhance payment security and decrease the likelihood that identity and credit theft will occur. The technology already is implemented throughout Europe and other countries worldwide. According to The Smart Card Alliance, in countries such as the U.K. where EMV cards are a standard, card-related fraud is at its lowest levels. Specifically, losses at U.K. retailers have fallen by 67% since 2004.

Best Buy, **Home Depot** and **Walmart** already have announced plans to become EMV compliant, according to recent coverage from Retail TouchPoints. To minimize the risks and maximize investments, U.S. merchants should understand the overall impact of early decision-making and migration to EMV.

"If you look at the credit card, at least in North America, it's ideal for consumers to make a payment quickly and efficiently," Hogan said. "But the traditional credit card is an antiquated form with the mag stripe. The recent announcements from MasterCard and Visa are showing that there's a roadmap to adoption of EMV chip cards in the U.S. soon."

U.S. Merchants Progress To EMV

In the U.S., Visa, MasterCard and Discover all have released regulations and incentives for merchants to support acceptance of EMV chip technology by April 2013. This development encourages U.S. merchants to start revamping their POS hardware to enable contact and contactless payments for "chip and PIN," in which customer identities are embedded in the chip, as well as "chip and signature."

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In August 2011, Visa announced that it would take numerous steps to speed adoption of EMV among U.S. merchants. According to a company announcement, Visa will alter its Technology Innovation Program (TIP) to eliminate the requirement for eligible merchants to validate their compliance with the PCI Data Security Standard for any year in which at least 75% of a merchant's Visa transactions originate from chip-enabled terminals. The credit card company was the first to mandate U.S. acquirers, or payment processors, and sub-processor service providers to support merchant acceptance of chip transactions no later than April 1, 2013.

This move will create a smoother transition to NFC and mobile payment, according to Jim McCarthy, Global Head of Product, Visa Inc. "By encouraging investments in EMV contact and contactless chip technology, we will speed the adoption of mobile payments as well as improve international interoperability and security," McCarthy said in a press statement. "As NFC mobile payments and other chip-based emerging technologies are poised to take off in the coming years, we are taking steps today to create a commercial framework that will support growth opportunities and create value for all participants in the payment chain."

MasterCard also has released a standards roadmap for merchants to implement EMV and revamp their POS hardware to allow contactless payment. In January 2012, MasterCard announced its EMV guidelines, and discussed how the framework will serve as

the foundation for the next generation of products and services developed to enhance the way consumers pay.

"We're moving toward a world beyond plastic, where consumers will shop and pay in a way that best fits their needs and lifestyles — with a simple tap, click or touch in-store, online or on a mobile device," said Chris McWilton, President of U.S. Markets for MasterCard, in a press statement. "Our roadmap represents a transformational shift in the approach to payments and is not simply about EMV and chip and PIN."

To further the adoption of EMV, MasterCard will work with acquirers to ensure infrastructure readiness by April 2013, and will provide merchants that implement EMV-compatible terminals with financial benefits. The company also will ensure all customer-facing touch points are EMV-ready, including ATMs, physical POS, online payment and mobile commerce.

Discover was last of the major credit card brands to reveal its plans to further EMV adoption in the U.S. The company released a statement on March 15, 2012, saying it will mandate D-PAS, its EMV-compliant payment specification, in 2013 for acquirers and direct-connect merchants in the U.S., Canada and Mexico. This initiative will help keep certification and deployment streamlined, leading to an efficient transition for issuers, merchants and acquirers.

Discover's statement also said its EMV deployment efforts already are underway domestically: In January 2012, Discover processed its first U.S. EMV card transactions at enabled Walmart locations. Walmart is certified to process D-PAS in both the U.S. and Canada.

D-PAS has been deployed over the last three years around the world. Discover has more than 1 million smart cards circulating among international issuers, and will further expansion throughout 2012, according to the statement. Discover plans to support all card authentication channels both online and offline, as well as all cardholder verification methods, including chip and PIN, in all commerce channels, both contact and contactless, including mobile payment.

The alignment and collaboration that is taking place between credit card companies, merchants and advocacy organizations, such as the Merchant Advisory Group, reaffirms

the growing importance of EMV in decreasing credit card fraud and improving the efficiency of payment processes, according to Andrew Morris, Director of Market Platform Dynamics.

"Everyone except American Express has expressed a similar timeline for the rollout of EMV across the U.S. They're all giving the same basic dates for acquirers and merchants to comply, although there are some variations of how they're treating incentives and fraud liability shifts," Morris said. "Even the Merchant Advisory group is supporting EMV by coming out and saying that these are issues important to retailers, and discussing how this [migration] should be done. We have alignment, but the discussion now is how retailers should deploy the smart card and whether they should verify the cardholder with a signature or a PIN."

Chip and PIN More Secure Than Chip and Signature

Chip and PIN allows consumers to verify their credit card account and payment with a PIN number, while "chip and signature" provides the option for cardholders to sign for payments. Although the latter option adds flexibility to the purchasing process, it also increases likelihood of fraud.

"The retail industry is burdened with card fraud and resulting chargebacks," Hogan noted. "Merchants prefer chip and PIN over chip and signature because it's a more secure form of payment. If you have a card, and there's a PIN associated with it, then it will be much more difficult for someone else to use your card if it's lost or stolen. The other major benefit of these smart cards is that they're extremely difficult to copy compared to the traditional mag stripe.

"However as merchants make the transition to EMV, they will be presented with the prime opportunity to examine their entire payment infrastructure," Hogan explained. "The challenge will be how do you design a solution with so many competing solutions to choose from? Do you go with Google, PayPal, Isis, Visa Wallet, etc., or create your own closed-loop solution like Starbucks?"

Mobile Wallets And NFC Battle For Retailer Mindshare

During 2011, Near Field Communication (NFC) technology was a hot topic among retailers and solution providers. With smartphone penetration deepening, industry analysts had spotlighted NFC's growing importance among consumers, especially in travel and retail store locations, and its potential for mobile payments.

In summer 2011, Juniper Research revealed in its "NFC Retail Marketing & Mobile Payments Report" that the NFC market was expected to reach $50 billion in revenues worldwide by 2014. Juniper also predicted that as many as 20 countries would be utilizing NFC between 2011 and 2012.

However, NFC has had a slow start, with **Google Wallet** and **Isis** struggling to obtain retailer mindshare. Mobile handset vendors also have failed to release a sufficient amount of NFC-compatible smartphone devices, stalling the market even further.

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- Richard Mader, ARTS

But new predictions from ABI Research indicate that the market will soon increase, with NFC attach rates on smartphones reaching 47% by 2015. Moreover, 552 million NFC-enabled handsets are forecasted to ship in 2016 alone, a substantial increase from 34 million in 2011. New findings provided in Juniper Research's "Mobile Commerce Markets" report, released in March 2012, also point to a promising future for mobile-based transactions, with NFC payments expected to reach $74 billion by the end of 2015.

Yet despite updated forecasts of significant growth in the NFC market, retailers still are struggling to determine the enterprise-wide benefits of revamping POS systems to allow contactless mobile payment. Therefore, it is imperative that mobile hardware and solution providers make the value proposition of investment clear to merchants.

"The issues regarding acceptance of mobile payment rely on interoperability, which still is the biggest risk for merchants" Devlin said. " The issues around getting secure standards to market are gone; now it's a matter of incorporating the point-of-sale terminals, devices and hardware. If things aren't seamless and interoperable, retailers will be much more reticent about supporting NFC. They don't want customers trying to use NFC and have it not work," he stated.

"Last year, discussions among retailers focused on whether mobile payment was for them, what it could provide to an organization, and how retailers can implement it," Devlin added. "Generally, mobile payment wasn't clear to merchants, and it still hasn't been defined effectively. Some retailers want to do it but they're not sure how to approach it and are still unsure of the overall benefits; that part of the message is still missing."

A clear value proposition of leveraging mobile wallets is the direct connection to understanding customer demographics, psychographics, preferences and shopping behaviors, according to Richard Mader, Executive Director of the Association for Retail Technology Standards (ARTS). By linking cross-channel information such as social data,

and browsing and buying history, retailers will be able to deliver more tailored offers and messages to shoppers via their mobile devices, he stated.

"If retailers link payments to loyalty systems, they can capture data about any customer at the point-of-sale," Mader said. "That loyalty connection is going to make mobile payment more effective. Customer convenience is a big factor as well — specifically, the ability to carry all credit and loyalty cards on one device. I think in the near future retailers will be unveiling other innovative incentives for consumers to use a mobile wallet as opposed to a leather one."

Mobile Wallets Struggle To Win Consumer Sentiment

When **Google Wallet** first was released in May 2011, retailers and industry analysts were buzzing about the payment paradigm: consumers' wallets were moving to smartphones, and loyalty and punch cards, coupons and offers would soon follow. Although retailers such as **American Eagle** and **Walgreens** are educating consumers on the perks of the technology, adoption hasn't been as intense as anticipated.

The concept of holding multiple credit and loyalty cards within a single device is a top selling point of digital wallets, but the process of accessing payment information may be inconvenient for consumers, which in turn is hindering adoption.

"If you have your phone, you have to unlock it, wave it in front of the reader, and possibly enter a PIN," Hogan explained. "This actually takes longer versus swiping/tapping a card. I see the benefit of having multiple cards on your mobile wallet, but there has to be more to it for the consumer, and for the merchant, before retailers invest in mobile payment."

Currently, Google Wallet is only available on Samsung Galaxy Nexus phones from Sprint, which is preventing implementation even further. However, Google, Inc. currently is pursuing multiple regulatory measures to purchase Motorola Mobility, for $12.5 billion; this would provide the company with manufacturing operations and allow it to develop its own line of smartphones, according to *Reuters*. The U.S. and U.K. have approved the purchase, while European regulators in China, Israel and Taiwan have yet to finalize their decisions.

Isis also is fighting to pique interest among retailers and consumers with its Isis Cash Card, a "tap-to-pay" technology. This approach to the digital wallet is designed to allow customers to transfer funds from debit accounts and upload credit card information. Currently, Capital One Cash, BarclayCard and Chase Freedom debit and credit cards are compatible with the Isis Cash Card, as well as consumers' loyalty cards and offers from participating retailers. Isis is a joint venture between AT&T, Verizon and T-mobile.

To increase support and adoption among retailers, Isis has partnered with multiple POS solution providers, including VeriFone, Ingenico, ViVOtech and Equinox Payments.

"Isis is trying to gear up for the Isis Cash Card's official launch in stores sometime this summer," Morris explained. "There also has been news from Isis about issuers and wireless network companies coming on board, but no announcements about merchants."

Big-name retailers, including **Home Depot**, **Target** and **Walmart,** are in talks to partner on a merchant-run mobile payment system, which will decrease cost-per-transaction and help retailers be seen as more trustworthy to consumers who are considering purchases via smartphone devices. Currently, there are no further reports regarding the form of mobile payment being deployed, its methodology or technology, nor if this development actually will occur.

"Regardless of whether this merchant-run payment network comes to be, its development is a clear sign that the existing providers [of NFC solutions] haven't provided a value proposition that is appealing enough to the large merchants to feel their needs will be met through NFC," Morris said.

While Google Wallet and Isis are facing multiple hurdles in standing out in the large payment space, their overall reputations are bound to pique retailer interest and provide an opportunity to reach mobilized consumers, according to Mader.

"For the first time ever, we have some really big companies, such as Google, that are interested in what's happening in the mobile payment space, and have the money and clout to go up against the card brands," Mader explained. "However, the real change occurring with mobile is that the consumer is truly in charge. Today's retailers claim to be customer-centric, but if they're not implementing the technology or providing the services consumers want via mobile, social and the web, shoppers are going to go elsewhere."

Starbucks Reaches 42 Million Mobile Payments With Branded App

While many retailers still are striving to determine an optimal strategy, Starbucks has successfully cracked the mobile payment code with a closed-loop, branded approach.

During December 2011, the coffee merchant reached 26 million processed transactions via its Starbucks Card app for iPhone, iPod Touch, Android and BlackBerry, according to recent coverage from *Retail TouchPoints*. Since then, a *VentureBeat* interview with Adam Brotman, Starbucks' Chief Digital Officer, revealed that adoption is growing at a rapid pace: Starbucks already has reached 42 million mobile payment processes across locations in Canada, the U.K. and U.S.

"Starbucks mobilized its pre-paid card, didn't use NFC at all, made its payment offerings better, and did it all on its own. This easy-to-use approach makes the app a wise investment that is beneficial to both the merchant and its loyal customers."

- Andrew Morris
Market Platform Dynamics

The payment app allows customers to load money onto the card through a debit account transfer, and spend it using their mobilized Starbucks Card. Then, baristas simply scan a 2D barcode displayed on the screen to complete a transaction. The app is integrated to loyalty cards, allowing customers to access points and rewards quickly and seamlessly.

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Mobile POS: Changing The Way Retailers Think About Payment

Google Wallet, Isis and other mobile wallet suppliers continue to educate retailers and consumers on the benefits of implementation. At the same time, mobile plug-in and other payment solution providers, such as PayPal, Square and VeriFone, are serving more merchants across verticals.

"There is tremendous new complexity hitting the POS industry. Retailers want to take advantage of all of these new payment applications, including Google Wallet, Isis, PayPal and mobile devices such as tablets, but need an integrated solution."

- Erik Vlugt
VeriFone Systems

In March 2012, **PayPal** unveiled its newest creation, PayPal Here, a smartphone plug-in designed for small businesses, food trucks and tech-savvy consumers. The triangle-shaped, encrypted reader allows merchants to complete credit and debit card transactions with a single swipe. Other features include the ability to photograph a check for payment transmission, and select and add gratuities to transaction totals. To drive increased traffic to local businesses, the app includes a "local" section that shows consumers which nearby merchants accept PayPal. Merchants can track inventory and send invoices through the app. All swipes and transactions are charged a 2.7% fee.

PayPal's newest addition to the mPOS market may be a significant threat to **Square**, which charges a 2.75% transaction fee and allows businesses and everyday users to obtain and make payments via smartphone. The company recently released Square Register, which extends beyond payment processing. The new app, designed to replicate standard cash registers, accepts cash and credit payments, and allows merchants to list menu items and track customer purchases made via iPad. An analytics program is provided to help business make more accurate and efficient decisions regarding store hours, sales, merchandise and more. Similar to PayPal Here, the Pay With Square app, another offering from Square, allows users to order items and complete purchases directly through their smartphones.

During April 2012, Square released statistics honing in on the growing frequency of mobile payments. In fact, the company increased payment volume 25% between March and April 2012, and is processing payments totaling approximately $5 billion a year, according to an article from *Bloomberg*.

In March, **VeriFone**, a notable leader in POS technology, announced plans to enable Isis NFC mobile commerce capabilities in all of its stationary hardware. Although this development spotlights VeriFone as an advocate for mobile payment, the solution

provider also has made inroads in mPOS with its plug-in technology for iPhone and iPad, and its recent acquisition of GlobalBay, a mobile payment platform that features clienteling solutions.

"Every retailer now knows that mobile is a 'must have,' not a 'nice to have,'" said Erik Vlugt, VP of Product Marketing for VeriFone Systems, in a *Retail TouchPoints* article. "There is tremendous new complexity hitting the POS industry. Retailers want to take advantage of all of these new payment applications, including Google Wallet, Isis, PayPal and mobile devices such as tablets, but need an integrated solution. VeriFone operates on behalf of the retailers to ensure existing payment infrastructures and methods work well while integrating new technologies and applications."

To date, retailers such as C. Wonder and GUESS are utilizing VeriFone GlobalBay solutions and technology for iPhone and iPad. As a result, these merchants are taking the appropriate steps to creating more educated associates, as well as more loyal and engaged customers.

Boosting Cross Sells and Upsells With In-Store Mobile Tools

23% of retailers currently have a mobile POS solution deployed, while 11.3% are piloting options.

- Motorola

The small hardware footprint and seamless capabilities of mPOS solutions from PayPal, Square, VeriFone and others have created an ideal opportunity for retailers to free counter space and improve line-busting strategies. According to Motorola's "Mobile POS Study," which gathered survey results from retailers between Q4 2011 and Q1 2012 regarding their mobile investments, 23% of retailers currently have a mobile POS solution deployed, while 11.3% are piloting options.

Retailers including **Macy's**, **Pacific Sunwear**, **Sephora**, and **Urban Outfitters** are trialing and deploying tablet devices in stores to create more memorable and personalized shopping experiences.

By arming store associates with tablets and smartphones, and rolling out stationary self-serve devices, best-in-class retailers can guide shoppers across the buying lifecycle and create more compelling in-store experiences. Features such as clienteling solutions, recommendations, in-depth photos and color options, as well as the ability to purchase out-of-stock items online, make the in-store shopping experience more seamless and enjoyable.

These features and their benefits are among the top goals sought by merchants utilizing or planning to adopt mobile tools in-store, according to the Motorola research. A majority (71%) of retailers cite better customer service as a top tactical goal of mobile POS; 27% hope to increase likelihood of saving sales of out-of-stock items; and 26% anticipate to maximize profit via custom orders and assisted shopping.

"Retailers are turning to tablets to empower store employees with real-time access to information and transaction processing at the point of sale."

- Mike Stinson
Motion Computing

"In today's age of the connected consumer, it's essential for retailers to equip workforces with the tools that keep consumers engaged," said Mike Stinson, VP of Marketing for Motion Computing, an mPOS hardware provider. "Retailers are turning to tablets to empower store employees with real-time access to information and transaction processing at the point of sale. Tablets create a rich POS experience that can include high-quality photos, video and sound along with up-to-the-minute information regarding inventory and special offers."

However, to create successful mobilized retail experiences, store associates must be trained to walk shoppers through every step of the browsing and buying journey, according to Jerry Rightmer, President and CTO of Starmount, also an mPOS software vendor.

"Sales associates and consumers need tools that assist at the point of decision, not just the point of sale," Rightmer said. "Mobile tools should provide product information such as ratings and reviews; current, location-based pricing and promotions; and suggestions on alternate items, up-sells and complementary products." These tools also should offer product availability; searches based on product attributes, price ranges, ratings or manufacturers; and information on store locations, hours and directions, he added. All these capabilities require technologies that extend into the enterprise and offer location-relevant services in real time to a variety of touch points both in and out of the store."

The Future Of Mobile Payment

Consumers are consulting their smartphones more frequently to obtain information, communicate with friends and family, and even make purchases. As these behaviors become more commonplace, retailers must consider the enterprise-wide benefits of utilizing mobile technology in the store, as well as revamping POS hardware to allow contactless payment via credit and debit card, as well as by mobile device.

"Mobile is making the biggest impact on payment and the overall retail experience, is redefining in-store POS, and clearly is the largest catalyst for change," Morris said. "In fact, mobile technology is changing the entire way we think about payment. This redefinition of in-store POS is happening quickly for retailers: already there are scores of retailers using iPads for in-the-aisle purchasing capabilities and clienteling, or implementing an 'Apple store model' for store associates."

Mobile engagement and technology are an integral part of the omni-channel shopping experience. As a result, more retailers will begin to equip tablets and smartphones with mag stripe readers and barcode scanners to enable payment in the aisles.

By utilizing mobile technology, retailers not only create a more compelling and personalized in-store shopping experience, but can gather and assimilate customer data more easily across channels.

"A major trend for retailers in 2012 is the ability to create a seamless, omni-channel experience that couples brick-and-mortar with television, catalog, online, social media or any other channel of a brand," Stinson said. "Tablets help create easy access to consumers' preferences and buying histories, and link that information to in-store specials. This strategy creates a comprehensive retail experience that involves all aspects of the brand, instead of one-off interactions through different channels."

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