

A First Data White Paper

Inside the Mobile Wallet: What It Means for Merchants and Card Issuers

Welcome to the age of Universal Commerce — commerce that is integrated, personalized, secure, open, and smart.

The lines between in-store commerce, eCommerce, and mobile commerce are blurring. Consumers expect a more integrated buying experience that is quick, consistent, secure, and available wherever they happen to be, at anytime, and through any type of device.

In First Data's continuing series on Universal Commerce, this paper explains how the mobile wallet is redefining the relationship between consumers, merchants and financial institutions.

Introduction

In recent years, there has been growing enthusiasm about mobile commerce and mobile payment, which enable consumers to pay for purchases by passing their phone near a point of sale terminal. There are many reasons why mobile commerce has gained so much attention.

First of all, while there are about 1.3 billion active credit and debit accounts in the world today¹, there are approximately 5.3 billion active mobile phone accounts.² Payment-enabled mobile phones could quickly outnumber traditional card-based payment accounts. Of course, this possibility has caught the attention of both merchants and payment account issuers.

Secondly, there is another aspect of mobile payment that opens an entirely new dimension to retail sales. In addition to providing consumers with a new way to make payments, mobile devices represent a new channel for merchants and financial institutions to communicate with their customers. This is because mobile devices are connected—they can send and receive information, run specialty applications, and they are location-aware. This mobile connection enables merchants and financial institutions to send information such as promotional offers to their customers in ways that are more targeted and useful to the consumer. Businesses can also create branded applications (like the Starbucks Card Mobile application) that their customers can freely download. Because every active mobile device is tied to a person with unique shopping preferences, needs, and desires, customer communications can become highly personalized. This idea of connected, customized, real-time marketing presents a new opportunity and competitive challenge to marketers.

Mobile commerce is becoming a reality in a number of places around the world. In Korea, over 63 percent of all consumers have made a mobile purchase, and recent data shows mobile payment is growing globally at a rate of about 50 percent per year.³ Mobile payment is growing rapidly in China as well, and it is available in some European cities.

With all the potential and interest in mobile commerce, and with the obvious advances in mobile handset technology over the past few years, why hasn't mobile commerce achieved wider acceptance by now? Why aren't we using our mobile devices to buy things every day?

Widespread adoption of mobile payments has lagged in the United States, primarily due to the greater complexity of its financial and communications ecosystems. A diverse array of handset manufacturers, mobile network operators, financial institutions, and payment networks have struggled to agree on the economics of a collaborative mobile commerce infrastructure, and they have not yet implemented the necessary standards needed for mobile commerce to flourish. Clearly the industry needs a catalyst to break this impasse.

Google Wallet is Announced

In May 2011, Google announced Google Wallet, a mobile commerce and payment application (with key parts powered by First Data) that would be made available on certain Android phones. In doing so, Google may have provided just the catalyst this industry needs.

Google's announcement is important for several reasons. Most of all, the announcement and subsequent launch in October 2011 was about more than payments. It was about several aspects of commerce coming together into one place to provide more value for consumers and merchants. Google Wallet includes payment, offers, and loyalty all together.

Secondly, Google Wallet was announced by a combination of a technology company (Google), a processor and point of sale leader (First Data), an issuing bank (Citi), and a network association (MasterCard). Each put its expertise and its brand behind this launch to help move the industry forward. Having these powerful brands will undoubtedly help drive popular acceptance by both consumers and merchants.

- Consumers now have access to a mobile commerce solution option supported by major technology and payment brands.
- Merchants now have a compelling reason to upgrade their points of sale so they can accept mobile payment and other commerce services. And, they can think more seriously about their mobile marketing, offers, and communication strategies. For instance, is it possible to build merchant-branded mobile applications that have user functions that integrate with a mobile wallet?
- For card issuers, both merchant and bank, it is becoming obvious that they need to be in the phone to remain competitive. Google has made it clear it wants Google Wallet to be an open platform. This would enable consumers to carry multiple card accounts in a Google Wallet just as they now carry them in their physical wallets. Flexibility and consumer choice is critical to the success of any mobile wallet solution.

While other mobile wallet solutions have already been announced and others will be coming soon, Google and the partnership behind Google Wallet will likely be one of the most critical catalysts to jump starting the mobile commerce industry and driving it towards mass adoption.

Google Wallet Key Players and What They Do

By now you have probably noticed that it takes a number of players to support a robust mobile commerce solution. Here are the principles involved in making Google Wallet work, and the responsibilities of each partner:

- **Google** – In addition to co-developing the Nexus S phone that uses the Android OS, which Google owns, and is the first to work with Google Wallet, Google developed the Google Wallet and Offers applications. The Google Single Tap™ experience is an extraordinary leap forward for commerce at the POS. Google also brings the power of its brand in promoting and supporting Google Wallet.
- **Citigroup** – Citigroup is the first card issuer to integrate its card accounts into Google Wallet. Citigroup will validate Citi cards that consumers enter into Google Wallet, and it will communicate with First Data's Trusted Service Manager to enable accounts securely in Google Wallet.
- **MasterCard** – MasterCard's PayPass is the first contactless payment network to integrate with Google Wallet.
- **First Data** – As the Trusted Services Manager (TSM) for Google Wallet, First Data's core activity involves securely distributing, provisioning, and managing the contactless payment information for consumers on behalf of Google and card issuers. The First Data TSM is also responsible for managing the Secure Element (SE) inside of the Nexus S. First Data is also leading contactless terminalization for small merchants.
- **Sprint** – Sprint is the first mobile network operator to sign on as a partner in Google Wallet. Its role includes marketing and distribution of Google Wallet capable handsets.

Inside the Mobile Wallet

How Payment Works

The fundamental task of a mobile wallet is around making payments using the mobile phone. This functionality has the following technologies that make it work:

- Near Field Communication (NFC) controller and antenna – Enable mobile devices to send account information securely to contactless payment readers at customer check-outs and other points-of-sale, and read contactless-enabled tags placed in advertising collateral and consumer products.
- Secure element – A secure smart card chip inside the phone used for storing and accessing account information. It is separate from the memory where photos, apps, and contacts are stored. Access to personal information in the secure element is protected by additional security layers.
- Electronic wallet application – The application or user interface that allows users to manage accounts and initiate payments from their digital wallet
- Trusted Service Manager (TSM) – The TSM connects payment cards virtually into mobile wallets securely. Over the air and in a matter of seconds, the TSM enables the user to enter their account number into mobile wallets, authenticates with the financial institution, and enables that payment credential to be used from within the mobile wallet.

Smart phones enabled with these technologies allow consumers to migrate all of the “plastic” in their leather wallets such as credit and debit cards, loyalty accounts, gift cards, and more, to a mobile wallet. With account information stored in their handheld device, consumers can make payments with a “tap” of their phone on the contactless readers.

There are a number of basic functions consumers can use to manage their mobile wallets. These include:

- Set and change a PIN number that must be entered to make a purchase.
- Select which card to use for a transaction, and set the default card.
- Check the balance of a prepaid account.
- View history of transactions and receipts.

Provisioning and the TSM

What actually happens during the card provisioning process? The process begins when the consumer enters personal and card account information into the phone. That data goes to the card issuing bank for verification. When the card issuer verifies the account and personal information, it notifies the Trusted Services Manager (TSM).

The TSM is the only entity that can exchange information directly with the secure element in the consumer’s phone. Once the TSM receives notification that the account information is valid, it provisions the phone’s secure element with account data that activates the account for mobile payment made from that phone only. The account information provisioned to the phone’s secure element is similar to the information on the magnetic stripe of a conventional credit or debit card.

Other Mobile Wallet Services

In addition to providing payment functionality, the mobile wallet can support a broad range of additional mobile services, adding further value for consumers who make the switch to e-wallets:

- Search for and then store offers and discounts at participating merchants.
- Check coupons, offers, and status of loyalty programs.
- Select rewards and discount offers to apply to a transaction.
- Receive and store digital receipts.
- And more.

Enabling consumers to conduct transactions with their mobile phones has the potential to give them richer retail experiences and provides them with a single tool for managing complex relationships with multiple merchants and financial institutions. It also provides a powerful new channel for merchants to engage in targeted marketing. How does a typical mobile transaction work? Let's take a look.

A Mobile Wallet Transaction

Using a mobile wallet to make a payment is incredibly simple. It works like this: When it is time to pay, the consumer turns on his or her phone's screen (if the screen is off, when the phone is dormant for instance, the NFC chip will not work), opens the wallet application, enters their pin number, and passes the phone within a few inches of the contactless payment symbol. The payment transaction is then processed just like a conventional card transaction. In addition, relevant offers, discounts, and coupons can be passed from the wallet along with the payment in that same tap of the phone.

Mobile Wallet Implications for Merchants

For many merchants that have been following the topics of contactless payments and mobile commerce, the big questions are all about the cost of upgrading their point of sale card reader equipment so that it can accept contactless payment and when it makes sense to upgrade.

Merchants recognize that upgrading all their equipment would require a significant investment. Old card readers will need to be replaced because they do not have the NFC capability they need to communicate with a commerce-enabled mobile phone. This question of upgrading the point of sale is important, but it may not be the most critical question for merchants. For one thing, electronic payment equipment manufacturers have already begun making their equipment compatible with mobile commerce. VeriFone, one of the world's largest manufacturers of electronic payment hardware, recently announced that all its new point of sale terminals will have NFC built into them.⁶ Merchants that upgrade to this new equipment will only need to invest an additional \$10-\$15 per terminal to download the software that will enable these terminals to read mobile payment information.⁷

Merchants should also be considering other aspects of mobile commerce, because mobile payment is about a great deal more than replacing a card swipe with a phone tap. For merchants, mobile commerce opens a new avenue of marketing opportunity that includes these capabilities:

- **Targeted marketing** – Merchants can take advantage of mobile wallet capabilities to extend personalized marketing offers and promotions directly to customers.
- **Loyalty programs** – Merchants can issue loyalty cards that synchronize with mobile wallets, so that real-time rewards balance information and redemption capabilities reside on the phone.
- **Merchant gift cards** – Merchants can have their gift cards stored in mobile wallets, and customers can opt to have gift card balances automatically applied to purchases. It is also possible for consumers to purchase and reload a gift card from within mobile wallets.

Merchants can take advantage of these mobile wallet capabilities to offer more highly targeted customer service and value incentives. This opens the door to new kinds of co-marketing campaigns and promotions with other local merchants, as well as location-based marketing.

So what should merchants be doing now?

- ✓ Develop a plan for updating point-of-sale equipment. If you are updating your terminal equipment now, it makes sense to start moving to NFC capable terminals. Some vendors are making NFC a standard capability across their product lines—and with Visa's recent announcement, EMV-ready contactless terminals may also become standard.
 - You do not need to update all your check-out lines at once. Even if you have new NFC terminals installed, you can begin by enabling one or two check-out lines by downloading the necessary terminal software. Begin promoting those check-out lines as accepting mobile payments. As more shoppers are able to make mobile payments and the mobile payment lines grow longer, enable more check-out lines for mobile payment.
 - It is important that you not be caught unprepared as mobile payment becomes more popular with consumers. As mentioned earlier, a number of merchants are set up to receive mobile payment today. Shoppers who prefer using mobile payment will shop at merchant locations that accept it.
- ✓ Revisit your loyalty and coupon marketing strategies with mobile wallet functionality in mind, and think about ways to make offerings you can target to more profitable market segments.
- ✓ If you have a branded mobile application or you are planning to develop one, consider opportunities for synchronizing your application's functions with forthcoming mobile wallet applications. This will bring your promotions closer to the point of consumer spend.

Google Wallet is already here, and other mobile wallets are coming soon. Merchants should recognize that with the mobile payment infrastructure now in place and serious solutions coming to market, it is only a matter of time before consumers decide it's something they cannot live without.

Mobile Wallet Implications for Card Issuers

Mobile payment presents both opportunities and new risks for card issuers. Card issuers currently compete for top-of-wallet status in conventional wallets, and it will likely be the same in a mobile wallet landscape. However, the mobile wallet changes the way issuers can promote their payment products to consumers: it now becomes possible to send promotions directly to consumers on the same device they would use to activate accounts and make payment method decisions. There are also unknowns around how loyalty programs automatically synchronized in the same wallet as credit and debit cards impacts consumer spending habits and payment choices.

Though some issuers may be tempted to develop their own mobile payment solutions, they should keep in mind that this will require them to constantly update their technologies—a function that may be better suited to a TSM partner. In addition, market dynamics and considerations around ownership and access to the secure element may not allow a card issuer to offer its own solution to enable contactless mobile payments.

So what should card issuers do now?

- ✓ Think about how you can turn card accounts into mobile payment accounts, and how you can do this for as many consumers as possible.
- ✓ Develop a strategy to take advantage of well-marketed third-party open wallets, while also ensuring that you have some control over the customer experience.
- ✓ Establish a TSM partner that is able to support your payment products as broadly as possible. This means working with a TSM that is not bound to any one mobile carrier, and that has a large network of bank, payment card brand, and merchant business relationships. The TSM partner should also have a sterling security record, and the proven ability to keep up to date with market-driven innovations.
- ✓ Rethink your marketing and promotional strategies in the context of unique opportunities for target marketing and co-marketing that are provided by mobile wallets.
- ✓ Consider new account acquisition strategies in the context of a mobile wallet, where “instant activation” capability tied to direct-to-cardholder marketing is possible.

Are You Ready for the New Era of Commerce?

The year of mobile commerce may be nearly here. Exactly which technology and which companies win is yet to be determined, but the amount of investment and activity in this space has never been greater. The solutions that are set up for mass adoption will likely be the winners.

For example, Google has already announced plans to expand into more markets, work to attract more payment card brands, and work to attract mobile network operators. Google has also expressed strong interest in making Google Wallet available to phones outside the Android family, including iPhones and Blackberries.

At the same time, mobile wallet applications from an array of other providers are being prepared for release. There is considerable evidence from around the world that given the right mix of consumer access and merchant acceptance, mobile payment quickly becomes a very popular way to transact business. As mobile payments take off, merchants and card issuers should be ready. Once consumers decide they want to trade in their leather wallets for mobile wallets, they will flock to whoever can provide the technology and accept the payments.

Sources:

¹ First Data analysis of multiple data sources.

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⁶ Brown, Christopher. "Verifone to include NFC in all new POS terminals." *Near Field Communications World*, March 3, 2011

⁷ "VeriFone Sees a Potential Bonanza in Mobile Wallets Tied to NFC." *Digital Transactions*, June 2, 2011



The Global Leader in Electronic Commerce

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