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Financial Technology Partners LP FTP Securities LLC

Apple Unveils Apple Pay *Comprehensive Overview and Implications*



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I. Executive Summary



Apple Unveils Apple Pay

Executive Summary

Apple's entrance into the payments space has the potential to be highly disruptive ...

... however, the structure of Apple Pay preserves the role of the incumbent players in the payments value chain

On September 9, 2014, Apple unveiled the new iPhone 6 along with Apple Pay, Apple's new way to make payments using iPhones at the point-of-sale or within apps




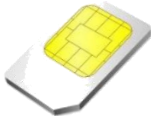


- Apple's entrance into the payments space has the potential to be highly disruptive given the company's substantial assets including roughly 40% of the smart phone market in the U.S., a loyal customer base, more than 800 million iTunes accounts on file (which include payment information), its Touch ID authentication system and a balance sheet flush with billions of dollars in cash ... however, the structure of Apple Pay (at least version 1.0) preserves the role of the incumbent players in the payments value chain including issuers, merchants and processors and could actually create greater opportunities for other online and mobile payment providers
- Adoption of mobile payments has been relatively slow in the U.S., but given Apple's consumer popularity and a groundswell of industry support, Apple has brought mobile payments front and center to consumers and merchants, potentially providing the spark to ignite widespread, ubiquitous usage and acceptance of mobile payments
- While Apple has initially partnered with a number of networks, issuers and merchants, actual usability of Apple Pay at its initial launch will still be limited as more than half of the market uses Android, a number of the largest merchants that are partnered with MCX (including Walmart) are not signed up to accept Apple Pay and Apple Pay will only work with the new iPhone 6's or older iPhone 5's paired with the new Apple Watch, which is not scheduled for release until next year
- Based on various press reports, Apple will be receiving ~15 basis points on every Apple Pay transaction, which will reduce the revenue issuers would otherwise receive through interchange

II. Description of Apple Pay



Apple Unveils Apple Pay

Description of Key Terms

Term	Definition	
Near Field Communication (NFC)		<ul style="list-style-type: none">■ NFC enables simple two-way interactions between electronic devices, allowing consumers to perform contactless transactions■ Technology is compatible with existing contactless card infrastructure■ Enables devices to share information at a distance that is less than 4 centimeters maximum
Quick Response Code (QR Code)		<ul style="list-style-type: none">■ Type of two-dimensional, machine-readable optical label that has the capability of storing a large amount of information■ Used to store financial account information, such as payment addresses, cryptographic keys and transaction information
Tokenization		<ul style="list-style-type: none">■ Tokenization encrypts actual payment information and converts it to a randomized string of numbers, ensuring the safety of sensitive payment details, such as card numbers, expiration dates and security codes■ Information is stored in a virtual vault system; if the vault is compromised, the hackers will only be able to steal the scrambled data
Secure Element		<ul style="list-style-type: none">■ The secure element is a dynamic environment in which application code and data can be securely stored and administered; it resides in a highly secure chip inside the phone and provides delimited memory for each application■ NFC applications that involve financial transactions or certain marketing applications (e.g., coupons and loyalty) may require a “secure element”
Apple Passbook		<ul style="list-style-type: none">■ Enables user to store airline boarding passes, movie tickets, gift cards and credit and debit cards within the application■ iPhone 6 and iPhone 6 Plus owners will be able to use their iSight mobile camera to capture and add their credit / debit card information to Passbook■ Available on in all iPhone or iPod Touch devices running on iOS 6 or later
Touch ID		<ul style="list-style-type: none">■ Apple's Touch ID fingerprint technology features an authentication protocol to validate cardholders' identity at the point of checkout■ To use Touch ID, user places their thumb on the home button of their phone■ Feature is available on iPhone 5S, iPhone 6 and iPhone 6 Plus models



Apple Unveils Apple Pay

How Paying with Apple Pay Works at the Point-of-Sale



- User can add a card to Passbook by uploading it from their existing iTunes account or by taking a picture of their Visa, MasterCard or American Express card with the Apple iSight camera
- Apple verifies the user's information with their bank and adds the card to Passbook
- Account goes through a tokenization process and is assigned a random string of numbers
- Encrypted account number is stored in the secure element within the phone

- Purchaser selects a card to use for the transaction through Passbook and places their thumb over the home button of their device
- Touch ID verifies the users' thumbprint as an authentication protocol for fraud protection

- User taps or waves the top of their iPhone 6 to the payment terminal after Touch ID verifies their identity
- Phone beeps, creates a small vibration and an on-screen "payment accepted" notification is shown to show the completion of the transaction

Apple is leveraging its existing ecosystem assets -- large installed customer base including 800 million+ iTunes accounts, Touch ID technology -- along with a new tokenization / security process to enable consumers to easily and securely make payments with their iPhones

Disruption at the point-of-sale should be limited because many merchants are already enabled for NFC payments and EMV mandates should further accelerate NFC acceptance



Apple Unveils Apple Pay

Apple Pay “Tap-to-Pay” Device Compatibility

Initial availability of Apple Pay’s “tap-to-pay” feature is limited to the United States and through the iPhone 6, iPhone 6 Plus or via an Apple Watch paired with either of these phones



iPhone 6 iPhone 6+

Phone or paired watch



iPhone 6 iPhone 6+

However, Apple iPhone 5, 5C and 5S users will be able to utilize Apple Pay via a paired Apple Watch



iPhone 5 iPhone 5C iPhone 5S

Phone and paired watch





Apple Unveils Apple Pay

Apple Pay Key Partners

Apple already lined up an impressive list of payment ecosystem partners prior to the launch of Apple Pay

Note that Apple only disclosed usability of Visa, MasterCard and American Express cards with Apple Pay initially, but reports suggest that Discover and China UnionPay cards will be enabled as well

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Issuers

- ✓ Partnered with the six major card issuers in the U.S., which represent 83% of credit card purchase volume



Networks

- ✓ Works with the major credit and debit card network brands



In-Store Merchants

- ✓ Accepted in over 220,000 stores accepting contactless payments



In-App Merchants

- ✓ Enables users to make purchases within the following apps; more participating stores and apps are expected



Source: Apple website, Want ChinaTimes.

(1) Want China Times, "NFC-supported Apple Pay to work with China UnionPay", September 12, 2014.

(2) Digital Transactions, "As Questions Linger, Discover Says 'Me Too' to Apple Pay", September 10, 2014.



Apple Unveils Apple Pay

Apple Pay Key Technologies

By throwing its support behind NFC, Apple is leveraging a technology that many merchants and issuers are already familiar with in the U.S. and abroad

Apple Pay is viewed as highly secure through the use of tokenization and the lack of transmission of actual credit / debit card numbers

NFC

- Utilizes an NFC chip that communicates secure, encrypted payment credentials
- Allows users to tap their phone or Apple Watch against a contactless point-of-sale system to make a purchase through their NFC equipped Apple device
- NFC radio antennae is built across the top of the iPhone 6, iPhone 6 Plus and inside the Apple Watch
- Merchants and issuers are familiar with NFC technology through contactless cards and the Google Wallet, which are based on NFC



Touch ID / Tokenization / Security

- Touch ID verifies user identity
- Account number goes through a tokenization process and is encrypted, converting the information into a random string of numbers
- Utilizes a one-time, unique number per transaction to ensure privacy
- Specific credit / debit card information is never shared with the merchant
- Apple does not store the details of user accounts and transactions; recent transactions are stored in Passbook for consumer convenience only
- Enables users to remove their cards from Passbook remotely through the Find My iPhone App



Apple Unveils Apple Pay

Sample Apple Pay Transaction Economics

Sample Apple Pay Transaction



Consumer Purchase Amount

\$100



\$97.50

Net to Merchant

\$2.50

Total Processing Fees

- Interchange represents fees paid to banks from merchants for handling credit / debit card payments
- *Apple is reportedly capturing ~15 basis points of the interchange pie in Apple Pay transactions, thus reducing revenue that would have otherwise gone to issuers*
- The economics for merchants, networks and acquirers / processors will reportedly remain unchanged in Apple Pay transactions



\$2.50	Total Processing Fees
\$1.75	Interchange
\$0.60	Merchant Acquiring / Processing Fees
\$0.15	Network Fees

Logos for CHASE Bank of America, First Data. VANTIV, and VISA MasterCard are shown below the table.



Apple Unveils Apple Pay

Comparing Apple Pay and Google Wallet – Two Versions of NFC



Background	Apple introduced Apple Pay on September 9, 2014, at its Fall Keynote Presentation	Google introduced the NFC-based Google Wallet in May 2011; in November 2013, the Company eliminated the secure element aspect of the wallet to a host card emulation (HCE) protocol for storage and retrieval of payment information
Technology	The Apple iPhone 6 and Apple Watch product lines are NFC-based and utilize the a secure element in the phone to store the users' sensitive payment information	Many Android-powered devices that offer NFC functionality already support NFC card emulation; HCE is another method of card emulation that does not require the secure element and allows any Android application to emulate a card and talk directly to the NFC reader; utilizes cloud-based storage
Overview	The card to be emulated is stored in the secure element in the device. When the user holds the device over an NFC terminal, the NFC controller in the device routes all of the data from the reader directly to the secure element. After the transaction is complete, an application can query the secure element directly for the transaction status and notify the user.	Through HCE, the data is routed to the host CPU on which the applications are running directly – instead of routing the NFC protocol frames to a secure element.
Diagram	<p>The diagram shows an Apple Device with a Host CPU at the top, a Secure Element at the bottom left, and an NFC Controller at the bottom right. A double-headed arrow connects the Host CPU and the Secure Element. A double-headed arrow connects the Secure Element and the NFC Controller. A red arrow points from the NFC Controller to an external NFC Terminal. The device is represented by a rounded rectangle, and the terminal is a grey rectangle with a curved antenna symbol.</p>	<p>The diagram shows an Android Device with a Host CPU at the top and an NFC Controller at the bottom. A double-headed arrow connects the Host CPU and the NFC Controller. A red arrow points from the NFC Controller to an external NFC Terminal. The device is represented by a rounded rectangle, and the terminal is a grey rectangle with a curved antenna symbol.</p>



Apple Unveils Apple Pay

Comparing NFC and QR Code / Cloud-Based Solutions

NFC-Based Solutions



- NFC used by Apple Pay utilizes a secure element in the phone for information storage; however, host card emulation (HCE) NFC processes, such as used by Google Wallet, store information in the cloud
- Secure element on the handset is either on a SIM-card, Micro-SD card or embedded chip in the phone
- Investment required by merchants to upgrade POS equipment to accept NFC mobile payments
- EMV card / terminal upgrades in the U.S. will give merchants mobile NFC payment capability and lower fraud-loss expense
- Designed initially to give carriers more control / leverage to extract “tolls” for routing transactions from the handset to the network, however, Apple and Google have both been able to work around this
- Preserves current card-based processing infrastructure – only shifts transfer of data to the POS from card to phone
- Significant delays in the rollout of NFC in the U.S. caused by banks / carriers inability to agree on business case / revenue sharing as well as limited consumer demand
- Apple Pay’s utilization of NFC likely to spur more widespread adoption of NFC

QR Code / Cloud-Based Solutions



- Deemed to be highly secure through storage of sensitive consumer ID / payment data in the cloud
- Sensitive information flows from the cloud to the mobile device in an encrypted fashion through tokenization or other means
- Limited need to invest in / modify retailers’ existing POS infrastructure; only requires a QR-code scanner
- Not dependent on wireless carriers, device manufacturers or card brands
- Easier to wrap / integrate value-added loyalty services and product information around the core payment functionality in the same app
- Solution requires users to launch a wallet application on the phone to communicate with the merchant’s POS terminal – potentially slower than NFC in the checkout lane
- Only requires data connection; may require camera



Apple Unveils Apple Pay

Apple Pay Value Proposition and Potential Challenges



Value Proposition for Market Participants

Consumers

- Apple is advertising Apple Pay as faster and more secure for consumers compared to swiping traditional payment cards
- While not highlighted in the initial Apple Pay unveiling, the ability to combine loyalty / offers / rewards with mobile payments will likely enhance the value and incentive for consumers to pay with their phones

Merchants

- Apple Pay brings a new level of security to the merchant community thus reducing vulnerability to data breaches
- Apple Pay could stimulate incremental sales as consumers are replacing cash with mobile payments

Issuers

- Participating issuers ensure that consumers can use their cards in Apple Pay
- New levels of security should reduce fraud

Apple

- Added incentives for consumers to purchase Apple products
- New revenue opportunity: Apple reportedly getting a cut of interchange fees of around 15 basis points per transaction

Potential Challenges for Apple

Limitations on Available Devices

- Apple Pay only works on newer iPhones so only a subset of Apple customers will be able to use Apple Pay, at least initially

Limitations on Merchant Acceptance

- Apple has initially partnered with an impressive list of merchants, but many large merchants (particularly those that have joined MCX) have not agreed to accept Apple Pay
- In-store merchants will also have to be enabled to accept NFC payments; many large merchants already have NFC-enabled terminals, but many small merchants do not

Limitations on Card Issuer Coverage

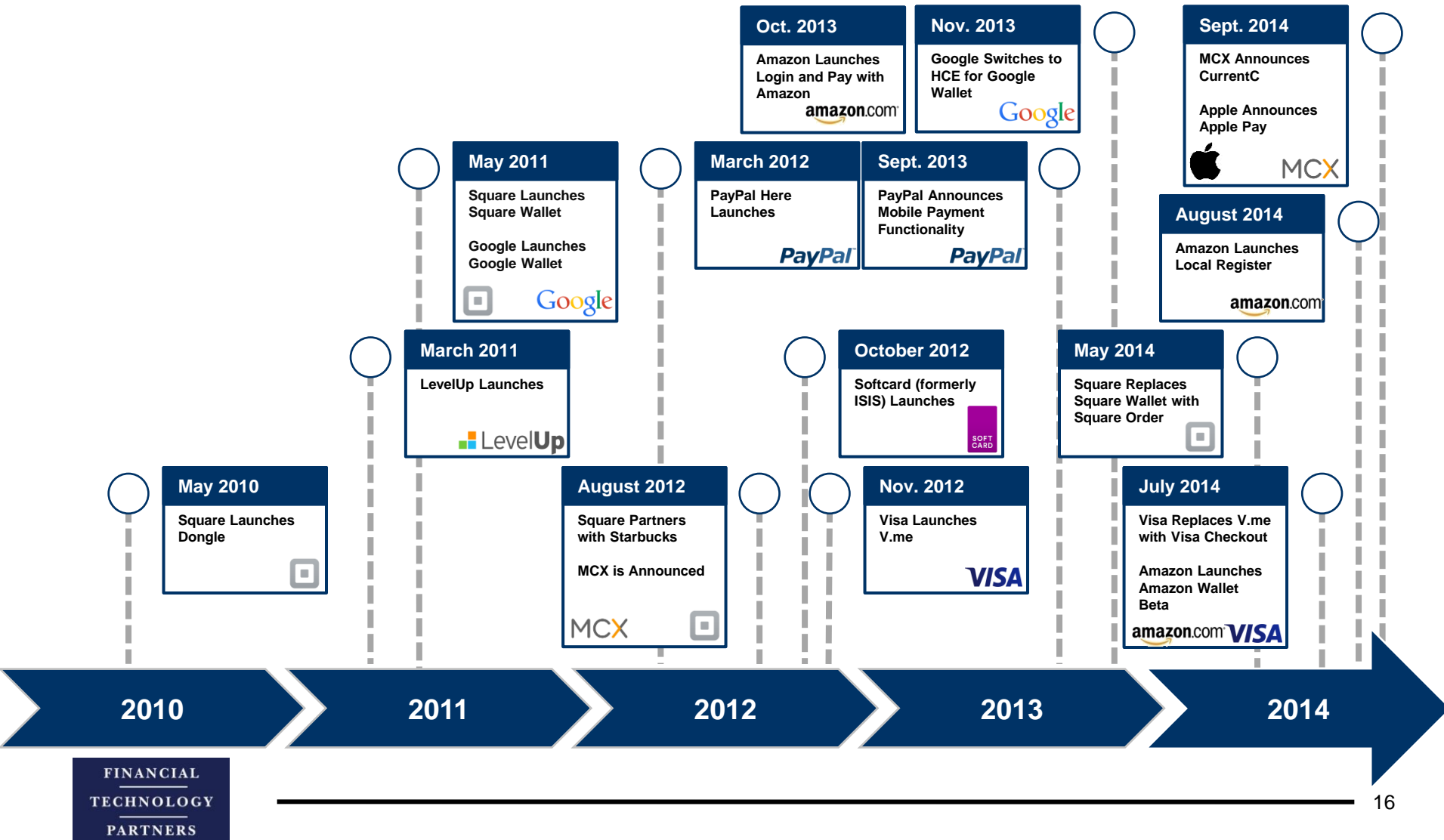
- Apple has initially partnered with banks covering 83% of credit card purchase volume in the U.S., but this still leaves millions of consumers of other banks not able to use Apple Pay, at least initially

III. Mobile and Online Payments Landscape



Apple Unveils Apple Pay

Selected Events in Online / Mobile Payments





Apple Unveils Apple Pay

Selected Online / Mobile Payment Providers



- In July 2014, Amazon launched Amazon Wallet Beta on the Google Play store
- Pre-installed on the Amazon Fire Phone and focuses on gift, loyalty and membership cards; Amazon Wallet creates a QR code that is scanned by the merchant
- Does not support mobile payments – users can not add their credit and debit cards into their Amazon Wallet
- The Company requires a user to be signed into their Amazon account for the wallet to work
- Enables users to view their gift card balance at a number of retailers, including: BJ's Restaurants, Buffalo Wild Wings, Guitar Center, The Cheesecake Factory and AMC Entertainment



- Google launched its NFC-based wallet in 2011 and folded Google Checkout into it; in August 2012, the Company announced that the Google Wallet Offering was updated to a cloud-based system
- In November 2013, Google switched to host card emulation (HCE) for Google Wallet, which allows Android devices to emulate cards and financial institutions to host payment accounts in the virtual cloud
- Provides for the mobile storage of credit and debit, loyalty, offers and gift cards
- Allows users to pay in-store, online and transfer money to anyone with an email address – the integration of Google Wallet with Gmail in May 2013 enabled users to send money through Gmail attachments at no charge
- Enables merchants to add their loyalty programs through the Wallet Objects API; allows sellers to acquire new users by showcasing their programs in the Google Wallet application



Apple Unveils Apple Pay

Selected Online / Mobile Payment Providers (cont.)



- LevelUp is a mobile payment and loyalty platform built to help businesses take advantage of the shift to mobile payments; over 14,000 businesses use LevelUp to accept mobile payments and run their customer rewards programs
- On September 9, 2014, the Company revealed an integration into Apple's Passbook and support for NFC and enhanced smartwatch device support in LevelUp's new scanners
- LevelUp supports the following mobile platforms and technology: Apple, Android, Windows Phone, NFC, QR Code, iBeacon, smartwatches, Apple Passbook and Google Wallet
- Raised \$21mm in financing in 2012 – the Company is backed by Google Ventures, Balderton Capital, Highland Capital Partners, DreamIT Ventures, Bantam Group, Continental Investors and Transmedia Capital



- Digital wallet platform created by retailers led by Walmart, 7/11 and Target with the intention of simplifying and securing their customers' shopping experience
- In September 2014, MCX launched CurrentC, its mobile payment network
- The mobile application works with most existing POS and payment terminals, allowing merchants of all sizes to enter the mobile payments movement
- Consumers will be able to gain access to the entire CurrentC network through the CurrentC app or through participating merchants' mobile applications that utilize the CurrentC functionality⁽¹⁾
- User information will be stored in its cloud vault – the app uses a token placeholder to facilitate transactions
- At full scale, the application will be accepted in more than 110,000 merchant locations across the country and offer merchant loyalty programs and instant coupon savings



Apple Unveils Apple Pay

Selected Online / Mobile Payment Providers (cont.)



- Introduced in September 2013, PayPal's mobile app enables users to wirelessly transfer money from their account to a PayPal merchant
- Mobile app also enables users to tap into savings at hundreds of stores
- In 2013, the Company reported \$20bn spent globally on mobile devices with the mobile application
- PayPal is expected to release Beacon in 2014, which is a USB-enabled dongle that is compatible with most leading POS systems and allows merchants to receive payments from customers with the PayPal mobile app
- PayPal has historically not been focused on NFC as a payments technology; will be interesting to see how the Company responds in light of Apple Pay's reliance on NFC
- Softcard, formerly known as ISIS, was formed as a joint venture among major telco carriers including AT&T, T-Mobile and Verizon
- The Softcard Mobile Wallet is a free app that allows users to pay with their NFC-enabled phone anywhere contactless payments are accepted
- On September 9, 2014, the Company announced that it will actively work with Apple to integrate Softcard on the iPhone in 2015 – using a secure SIM-based hardware solution
- Users can add their American Express, Chase or Wells Fargo credit cards to their Softcard Wallet
- Compatible with Android platform phones equipped with NFC and an enhanced SIM card with a secure element from the users' carrier; iPhone users are required to use the Isis Ready Case with a built-in NFC antennae



Apple Unveils Apple Pay

Selected Online / Mobile Payment Providers (cont.)



- Square was founded in 2009, enabling small merchants to process debit and credit payments by sending them a proprietary card reader that can be attached to a mobile phone or tablet
- According to press reports, the company is in process of raising additional capital at a \$6bn valuation ⁽¹⁾
- The Company introduced Square Wallet in 2011, but pulled the app from the Apple App store and Google Play in May 2014
- Prior to the removal of the app, Square Wallet allowed users to upload their payment information, gift cards and loyalty cards to their account; this enabled the user to pay Square merchants wirelessly through the app
- Square partnered with Starbucks in 2012, when the Seattle-based coffee chain agreed to accept Square Wallet payments and use Square as its merchant processor ⁽²⁾
- Starbucks launched its mobile card payment app in early Spring 2009
- The Company's QR code-based mobile card app enables users to pay at the register by scanning their unique QR code and earn rewards
- Users can upload their Starbucks gift card to the app or load their mobile card with their credit or debit card
- Customers continue to embrace Starbucks' mobile application in increasing numbers
- Starbucks' CEO, Howard Schultz, considers the digital platform to be instrumental in building brand loyalty
- The Company reports 12mm active users of the mobile app in North America as of July 2014
- Mobile payments account for over 15% of all transactions in the U.S. company operated stores; Starbucks processes 6mm mobile transactions on average in the U.S. per week



Apple Unveils Apple Pay

Selected Online / Mobile Payment Providers (cont.)



- Visa released V.me in November 2012 – rebranded and re-launched as Visa Checkout in July 2014
- Visa Checkout is a digital payment service designed to simplify the checkout experience using a secure, single sign-on across channels and devices using a customer's preferred payment method
- Enables users to register any major credit or debit card to their account to allow for instant purchases to Visa network merchants
- Utilizes fraud-monitoring systems and tokenization to ensure the safety of sensitive payment information
- On September 9, 2014, Visa announced that it is supporting consumer payments through the Visa Token Service, which facilitates secure consumer payments with the new iPhone 6, iPhone 6 Plus and Apple Watch ⁽¹⁾



Apple Unveils Apple Pay

Samsung Acquires LoopPay



Acquisition of LoopPay positions Samsung to offer its own mobile wallet solution, competing with ApplePay and others

Samsung holds 25% of the global market for smartphones, selling nearly 75 million devices in Q4 2014 ⁽¹⁾



Transaction Overview

- On February 18, 2015, Samsung Electronics announced that it had agreed to acquire LoopPay
 - Details of the transaction were not disclosed
- LoopPay will join Samsung to strengthen the company's overall efforts to provide users with seamless, safe, and reliable mobile wallet solutions
- LoopPay has developed a patented Magnetic Secure Transmission (MST) technology that enables existing magnetic card readers to accept payments from devices embedded with the technology
 - MST technology has the potential to work in approximately 90% of existing point-of-sale terminals
- Samsung had previously invested in LoopPay helping to fund the development of the MST technology; other investors included Synchrony Financial and Visa
- LoopPay's founders, Will Graylin and George Wallner, will join Samsung's mobile division

Selected Quotes in Response to Announcement

WSJ

Christophe Uzureau, a VP of research at Gartner, specializing in mobile payments, said the key question would be whether Samsung has "the muscle and the commitment" to build a full-scale platform and to foster the right relationships with financial-services firms, and not offer a product that is "purely a reaction to Apple Pay."

USA TODAY

"Samsung's acquisition of LoopPay signals how serious it is about building and launching a competitive mobile payments system in the United States. It also likely gives Samsung exclusive access to LoopPay's technology, which enables mobile payments to be made at merchants who haven't upgraded their point-of-sale technology to support newer contactless payment methods like NFC — of which there are many."

Bryan Yeager, eMarketer analyst

TE

"In December of last year, Re/Code reported that Samsung was in negotiations with LoopPay regarding development of an Apple Pay competitor. At the time, the arrangement sounded more like a partnership than an acquisition, but Samsung clearly saw the benefit of bringing the Boston-based company entirely in-house to further its interests."

TE

"Samsung is set to launch its 2015 flagship Android smartphone at MWC on March 1, when we expect to see a Samsung Galaxy S6 unveiling. It's possible that tech developed in tandem with LoopPay will make an appearance with new smartphone hardware, though the fruits of this new union also might not be ready for launch just yet."

Source: LoopPay press release, WSJ, Bloomberg, Forbes, Tech Crunch, USA Today.

(1) Forbes



Apple Unveils Apple Pay

Samsung Acquires LoopPay (cont.)



Samsung intends to embed LoopPay's technology into its phones, enabling them to be used for mobile payments at a much wider number of merchants compared to NFC-based solutions such as ApplePay

LoopPay Overview

CEO: Will Graylin
Headquarters: Boston, MA
Founded: 2012

- LoopPay's patented Magnetic Secure Transmission (MST) technology turns in-store payment terminals where consumers would normally swipe a credit card into contactless readers
 - Works at approximately 90% of retail locations globally
 - No special equipment needed to accept payments with LoopPay-enabled smartphone or other devices
- Cards can be securely stored on the phone in the mobile wallet through a dongle device
 - LoopPay supports 10,000+ issuers, thousands of credit and debit cards along with most gift, loyalty, private label, prepaid and campus cards
- The platform adheres to the highest level of payment card industry security
- The solution verifies ID of each user during sign up process; security algorithm prevents fraudsters from swiping in other people's cards into their LoopPay device
- In 2015, the Company is planning to deliver secure tokenization / one time use card data from Visa and other players in the payments ecosystem
- Technology can be embedded in numerous form factors including charge cases for iPhones, most Android phones, fobs, and watches for less than \$1

Mobile App / Dongle



Core Technology



LoopPay invented a technology that wirelessly transmits the same magnetic signal from a payment card to a merchant's existing mag strip-only or EMV chip card terminals

Selected Form Factors with LoopPay Technology



CardCase / Case



Charge CardCase



LoopPay Card



KeyChain Fob

IV. Market Reaction

CEO Q&A



Apple Unveils Apple Pay

CEO Q&A – Bios



- Seth Priebatsch is the Founder and Chief Ninja of LevelUp
- Previously served as the Chief Ninja of SCVNGR, a mobile gaming platform that encourages players to discover new places and activities
- LevelUp is a mobile payment and loyalty platform built to help businesses take advantage of the shift to mobile payments; over 14,000 businesses use LevelUp to accept mobile payments and run their customer rewards programs



- Dennis Jones is the CEO of Judo Payments and currently serves as an Advisory Board Member of Travel Keys, an online travel broker
- Graduated Stanford University Graduate School of Business in 2009
- Previously founded V-Cath, a medical device start-up focused on endotracheal tube improvement
- JudoPay is a UK-based payments company that provides a mobile marketplace payments solution



- Jason Gardner is the Founder and CEO of Marqeta, a provider of card-processing and mobile technologies for companies across multiple sizes, disciplines and geographies
- Jason founded Marqeta in 2010 after serving as president and a member of the board of directors at PropertyBridge – a provider of rent payment platforms for property managers – which he co-founded in 2004
- Jason is a regular speaker at electronic payment industry events and has authored numerous articles for industry trade publications



Apple Unveils Apple Pay

CEO Q&A with Seth Priebatsch, LevelUp



Seth Priebatsch
Chief Ninja

“

Apple Pay changes the mobile payments landscape by doing what Apple does best, dramatically shifting customer's behavior in an instant. On Monday, mobile payments were a "nice-to-have". At the end of the keynote on Tuesday, they were a "must-have".”

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Please describe LevelUp's business for us.

LevelUp is a mobile payment and loyalty platform built to help businesses take advantage of the shift to mobile payments. Over 14,000 businesses use LevelUp to accept mobile payments and run their customer rewards programs. LevelUp provides businesses a universal infrastructure to enable their iPhone, Android and Windows Phone wielding customers to pay with their phones (with a simple NFC tap or QR scan) and automatically engage with their loyalty programs. Merchants save on payment processing, collect valuable customer analytics and seamlessly administer sophisticated and trackable customer acquisition and loyalty programs. For customers, LevelUp represents a simple, fast way to pay with their phones and save. Because LevelUp integrates seamlessly into Passbook and Google Wallet, LevelUp shows up right next to a customer's regular credit cards, making paying with LevelUp a simple and familiar, but highly rewarding, payment experience. And most importantly, one that's better for the customer and the merchant.

How do you see Apple Pay changing the mobile payments landscape?

Apple Pay changes the mobile payments landscape by doing what Apple does best, dramatically shifting customer's behavior in an instant. On Monday, mobile payments were a "nice-to-have". At the end of the keynote on Tuesday, they were a "must-have". Apple's mobile wallet, Passbook, is a great opportunity for merchants and consumers alike in that it's going to force the shift to mobile payments. But like any opportunity, it has to be properly capitalized on. For merchants, there's no real difference when customers swipe to pay with their credit card, or tap to pay with their credit card. The big difference is that now all customers will start from a digital wallet, rather than a leather wallet. And unlike the physical wallet, individual merchants can compete in the digital wallet by providing their own mobile payment solutions. What LevelUp provides is exactly that – the mobile payment infrastructure to enable merchants to provide a universal mobile payments system that works with both iOS and Android, but also helps them save on fees, collect valuable analytics and reward their best customers intelligently.

What do you see as the risks and challenges for Apple in launching a mobile payments scheme?

Apple has positioned themselves really well in this in that they're not actually launching a brand new mobile payments infrastructure, but rather a mobile wallet, and making it just open enough to have lots of other stakeholders vested in ensuring that it catches on. Visa, MasterCard, Amex, LevelUp and a bunch of others all want Apple's mobile wallet to catch on and shift customers' behavior...albeit for slightly different reasons. The card brands want it to catch on because it guarantees their foothold in the mobile wallet world. LevelUp wants Passbook to become the default starting place for customers to pay because it enables us to compete on equal footing with the big card brands.

The other big challenge that Apple will face is from merchants. Apple Pay is basically like swiping a credit card, so there's no (current) downside to merchants, but also no upside to push it to customers. I say no "current" downside because sophisticated merchants will realize that Apple Pay (and the credit-card-centric ecosystem in general) lock them in to ever-increasing rates. Sure, there's no rate change right now, but Apple is taking 25bps from the issuers on each swipe. That's 25% of the issuer's revenue per transaction taken away in an instant. There's no way that'll stand long-term, but the issuer's have a natural way to get it back... simply raise the rates. Over time, Apple's entrance into the mobile wallet space means that rates will simply have to rise to account for their new share of the transaction. Given LevelUp's focus on lowering fees (and our unique payment infrastructure to enable that) we view this as a positive development, because it sharpens the focus on fee-reducing mobile payment methods.



Apple Unveils Apple Pay

CEO Q&A with Seth Priebatsch, LevelUp (cont.)



Seth Priebatsch

“**Interestingly, because Apple Pay is basically just a digitized (NFC) version of the existing credit card system and runs on the same Visa/MC/Amex rails, it succeeding will really be just a continuation of the status quo. The issuers, processors, card brands, POS companies, terminals etc... will all remain the same.**

”

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Were you surprised by anything in Apple's announcement with regards to Apple Pay?

Honestly, not hugely. This move makes a ton of sense for Apple and is something that we've been predicting for quite some time. We never knew which iPhone generation would become the wallet, but it was guaranteed from the moment that LevelUp entered the space. It's always been our intent to play well with whatever open wallet Apple (and Google) chose to provide.

How do you see the mobile payments landscape evolving with regards to broad based wallets vs. merchant specific apps and wallets? What does Apple Pay mean for Google Wallet?

To some degree, I think the difference between a broad wallet (like Apple Pay and Google Wallet) and individual payment apps will fade away. With iBeacon in place at a merchant, a payment token is going to appear on screen when I walk into the store. Whether that payment token is housed in Passbook or an individual app will become hard for me as a consumer to know... and as a customer, I certainly won't care. Probably everyone will live in the aggregated wallet, just as a matter of convenience, but offer their own apps for richer functionality... for example in the restaurant world things like location-finders, menus, order-ahead and loyalty/rewards tracking.

I think that Apple Pay means that Google Wallet will end up looking a lot more like Passbook in the near future, an open wallet into which multiple payment methods... including LevelUp... will be stored.

If Apple Pay is successful, who do you see as getting the most benefit and who could be the most disrupted?

Interestingly, because Apple Pay is basically just a digitized (NFC) version of the existing credit card system and runs on the same Visa/MC/Amex rails, it succeeding will really be just a continuation of the status quo. The issuers, processors, card brands, POS companies, terminals etc... will all remain the same.

The biggest beneficiaries I think will be platforms that can offer a better payment infrastructure to merchants and consumers... one that exists within Passbook alongside credit cards, but offers more rewards, more analytics, lower rates etc... Apple has just told merchants that everyone's going to be paying with their phones anyways, so it's natural for merchants to want to make the most of that shift and that positions companies who can provide infrastructure to support that well.

The biggest losers? Honestly, not too many because it leaves the ecosystem pretty much as is. I guess merchants could stand to lose in the long-term because rates will inevitably rise, and they're not getting anything out of the new mobile payments ecosystem by default. That being said, it does give them equal-footing to offer payment alternatives to consumers, so with inaction, merchants probably lose, but with action, they could stand to win big.



Apple Unveils Apple Pay

CEO Q&A with Seth Priebatsch, LevelUp (cont.)



Seth Priebatsch

“**Our new scanners support both NFC and QR Code (along with iBeacon for local messaging). We've always been transport layer agnostic. What matters about mobile payments is the ability to lower interchange, provide analytics and offer trackable rewards and loyalty.**”

How do you see Apple Pay impacting LevelUp?

Overall it's very positive. We've been waiting (patiently...) for Apple to finally tell the world that mobile payments are here. On Tuesday, they did just that. And they did it in a way that (per usual Apple strategy) enables a whole new wave of innovation. By keeping Passbook open to alt-payment networks like LevelUp, they've given us equal footing with the big four card companies. And by hastening the shift to mobile payments, they've moved it right to the top of the priority stack for merchants, meaning that they're going to be looking to capitalize on this shift by getting real advantage from mobile payments, namely in the form of 1) lower fees 2) better analytics and 3) trackable loyalty and campaigns. LevelUp's aim from day one has been to provide that infrastructure to merchants. Before our biggest hurdle was convincing merchants to get ready for mobile payments. With Apple's announcement, it's no longer something that might happen in the future, it's happening right now and merchants need to be ready for it.

LevelUp has historically utilized QR codes whereas Apple Pay is based on NFC technology – what does this mean for LevelUp? Will LevelUp users be able to complete transactions using Apple Pay (NFC + Touch ID)?

Our new scanners support both NFC and QR Code (along with iBeacon for local messaging). We've always been transport layer agnostic. What matters about mobile payments is the ability to lower interchange, provide analytics and offer trackable rewards and loyalty. How the data gets from the phone to the terminal is the least important part of the process so we'll always support whatever's out there. LevelUp users will indeed be able to use Touch ID and NFC to pay with LevelUp with our new scanners.

How will LevelUp's loyalty and marketing functionality along with its payments value proposition (lower interchange) work within Apple Pay's ecosystem?

LevelUp's loyalty and marketing functionality is complementary to the ecosystem that Apple has launched... so it'll work pretty seamlessly. Now, within Apple's mobile wallet, you'll see your Amex, Mastercard, Visa and also a payment card ("pass") for LevelUp or any of the merchants running LevelUp. When you pay with LevelUp from within Passbook, customers will accrue/redeem loyalty rewards and merchants will save on interchange and gain valuable analytics. The biggest shift we predict is an increase in adoption of mobile payments in general, which should lift all mobile payment programs, Starbucks, LevelUp, etc...

How will LevelUp leverage Apple Pay to bring additional benefits to its consumer and merchant customers?

We're really excited about the ability to use Touch ID to make payments even more secure in iOS 8. Of course, being able to place LevelUp within Apple's new mobile wallet alongside traditional credit cards is also going to be a great additional benefit, if only for the simplicity and awareness that it'll generate. Our hope is that Apple Pay increases the focus on mobile payments as the solution to bring merchants and customers closer together and LevelUp is excited to be one of the leading infrastructure providers to enable that.

Thank you Seth.



Dennis Jones
CEO

“

We are continuing to see a proliferation of payment methods. In a best case scenario, Apple Pay could have 3-5% of the potential mobile purchasers in a year. This means that any mobile app supporting payment will need to continue supporting a host of payment methods ”

Apple Unveils Apple Pay

CEO Q&A with Dennis Jones, JudoPay

Please describe JudoPay's business to us.

Judo makes paying on mobile fast, simple and secure for customers on all devices.

How do you see Apple Pay changing the mobile payments landscape?

Apple Pay's biggest contribution is agreeing to a standard and providing broad based visibility into the importance of mobile payments that will fuel Retailer and Merchant investment. It's equivalent to a central bank saying 'rates will be flat for years to come'. So we will see a faster adoption of paying by mobile phone, similar styles of payment supported by Android and other devices.

What do you see as the risks and challenges for Apple in launching a mobile payments scheme?

Let's be clear with what Apple is doing: they are supporting previously announced standards of ways of payment for both card present situations (NFC) and card not present (Scheme tokenization/HCE). They have smartly stayed on the side of making it easier for their customers to pay and outside of the more difficult side of managing merchant participation in accepting payment methods. I will be interested to see how the use and sharing of data evolves over time as the data and card tokenization are keys to unlocking further value in the relationship between consumers and merchants.

Were you surprised by anything in Apple's announcement with regards to Apple Pay?

No. The writing has been on the wall for quite some time on how Apple was going to participate in the ecosystem. Rumors like their aborted takeover of Square support the notion that they realized the Acquiring side of the equation was too potentially damaging to their reputation and brand.

How do you see the mobile payments landscape evolving with regards to broad based wallets vs. merchant specific apps and wallets? What does Apple Pay mean for Google Wallet?

The term wallet is not well used nor understood. There is no value in simply storing card information if it can't be used--note the decline of businesses like Lemon Wallet.

We are continuing to see a proliferation of payment methods. In a best case scenario, Apple Pay could have 3-5% of the potential mobile purchasers in a year. This means that any mobile app supporting payment will need to continue supporting a host of payment methods. Whether a consumer stores their card information with Apple, Google, Amazon, or others, many will still opt to not store their payment method. Some will opt to use PayPal. Others will look to do bank to bank transfers. The key for merchants is making it easy for all consumers to pay regardless of how they want to pay. Entering card details onto apps doesn't need to be difficult, it's just that most companies adopt an e-commerce centric model instead of adapting to the design and usability needs of mobile consumers.



Dennis Jones

“ **Near term, Apple Pay is not very disruptive. It plays within the existing Visa/MC/Amex ecosystem**

Longer term is the more interesting question where Apple Pay could use any potential market share to disrupt how payments are made, reducing the number of transactions passing through the networks ...

”

Apple Unveils Apple Pay

CEO Q&A with Dennis Jones, JudoPay (cont.)

Google Wallet failed to take off because merchants didn't integrate the solution. The key with Apple's announcement is, again, the confidence it provides merchants to invest in mobile and integrate multiple ways of paying. Payment service providers like judo will help make this easy for merchants by packaging multiple payment methods together.

Slightly hidden in this question is the future of aggregator apps that allow consumers to pay across multiple businesses vs. individual merchant apps that focus on a single retailer. This is not an either or question, but a case of complimentary services. Aggregator apps will be used to purchase at smaller retailers and at the businesses where consumers have a lower purchase frequency/loyalty. Merchant specific apps are used by the merchant's most loyal 20% of customers who drive 80% of their revenue. By building an app that uniquely meets their needs, the business problem solved is complimented by the payment simplification.

If Apple Pay is successful, who do you see as getting the most benefit and who could be the most disrupted?

Near term, Apple Pay is not very disruptive. It plays within the existing Visa/MC/Amex ecosystem. Acquiring banks and payment service providers roles are not disrupted. Because some transactions will shift from card not present rates (CNP) to card present rates, there will be some movement in margin for the schemes who, particularly in Europe, have been focusing on CNP for profits. Issuing banks see margin shifts (which makes entry into Europe difficult under the current economic model), but still play a key role. What it does do is take the wind out of the sails of alternative payment mechanisms that were being aided by the difficulty of paying within the rails without using service providers like judo to simplify.

Longer term is the more interesting question where Apple Pay could use any potential market share to disrupt how payments are made, reducing the number of transactions passing through the networks (e.g. by creating declining balance systems vs. single payment systems), to initiate services to merchants, and other potential outcomes. But none of those are clear at this stage, and there are a large number of vested interests with power in the space that make any future outcome very difficult to predict. What I will tell you is anyone who thinks Apple has truly disrupted payments doesn't understand payments.

Apple Pay appears focused on POS and mobile transactions on Apple devices. Do you see Apple Pay spreading to all online commerce? How could Apple make these transactions more secure on non-Apple devices?

The biggest advantage of Apple Pay is that it provides card present rates for card not present situations. This will proliferate and push the standards of NFC and HCE to ensure that payments initiated by mobile devices are seen for what they are--more secure than paying with even chip and pin payments. Mobile phones are computers in our pockets with access to an incredibly rich amount of data that can be used to authenticate and secure transactions. Apple Pay helps support this logic and will lead to further innovation in ensuring secure payment without using legacy systems like Chip & PIN or 3D Secure.



Dennis Jones

“**Apple Pay creates a huge opportunity for judo by encouraging investment in mobile by the large merchants that we focus on. We will add Apple Pay as a payment method option into our integration kits and make it easy for merchants to stay on top of a fast moving ecosystem.**”

Apple Unveils Apple Pay

CEO Q&A with Dennis Jones, JudoPay (cont.)

What differences do you see between Apple Pay's potential impact in Europe vs. the U.S.?

The business model is difficult to make work in Europe as it is currently structured. In the US, Apple is monetizing its service by paying issuing banks a small (but meaningful) percentage of each transaction. The offset for US banks is reduced fraud expenses. In Europe, however, issuing bank margins are significantly lower and already being squeezed by regulator-imposed reductions in interchange. It is difficult to see these issuing banks being willing to pay similar amounts to Apple for securing a transaction that is already deemed quite secure using processes like judoShield or more traditional 3DSecure. This is likely to delay any rollout in Europe and then may lead to a different business model for monetizing the solution.

Further, outside of the UK, payment methods are already highly fragmented and frequently outside of the 'rails' of Visa & MasterCard. For card not present transactions, this may make Apple Pay less relevant, particularly in markets where digital commerce is already dominated by bank to bank payment methods like the Netherlands and to a lesser extent, Germany.

How do you see Apple Pay impacting JudoPay specifically?

Apple Pay creates a huge opportunity for judo by encouraging investment in mobile by the large merchants that we focus on. We will add Apple Pay as a payment method option into our integration kits and make it easy for merchants to stay on top of a fast moving ecosystem. Judo helps all customers pay quickly and securely whether they are on an iPhone 6, iPhone 3, Android or even Windows device.

How could Apple Pay enhance or detract from JudoPay's value proposition to merchants?

Judo is the only mobile focused payments provider in Europe. Our business is to stay on top of developments in the mobile ecosystem whether they relate to payment methods, security concerns or compatibility. Our value proposition continues to be making paying on mobile faster, easier, more secure. Apple Pay has simply made more merchants confident in investing in mobile today and will continue to look to judo to ensure that the business problems their apps solve are supported by payment methods that disappear into the background.

What is your game plan to leverage Apple Pay's entrance into the market?

We will integrate Apple Pay as a payment method in each of the markets we operate as it is available as an option alongside paying directly with card or with other payment methods we support in each specific market.

Thank you Dennis.



Apple Unveils Apple Pay

CEO Q&A with Jason Gardner, Marqeta

+MARQETA



Jason Gardner
Founder & CEO

“***The coalition that Apple has built has changed the mobile payments landscape even before the device has even shipped. While it may still take some time for merchants and consumers to fully adopt Apple Pay and NFC, Apple’s move has now set the technology standard for mobile payments.***”

FINANCIAL
TECHNOLOGY
PARTNERS

Please describe Marqeta’s business to us.

Marqeta is a leading issuer processor and program manager for card and mobile-based payments. Marqeta has introduced two significant technology products this year based on its award winning technology platform; +M Powered, for branded card and mobile products, and +M Inside, for networks and issuers to embed Marqeta technology into existing card and mobile products. Numerous large enterprise clients depend on Marqeta for its groundbreaking issuer processor platform. In addition to high-availability processing, the platform can power a host of specialty applications, including advanced restrictions, dynamic authorization, CPG brand loyalty, banking platforms, loyalty, gifting, filtering and targeted spend for both B2B and B2B2C models.

How do you see Apple Pay changing the mobile payments landscape?

When Touch ID was introduced with the iPhone 5S, it became clear that it was time to solve for mobile payments at the point of sale (POS). The ultimate solution is a hardware/software combination that allows POS hardware vendors, carriers, payment networks, financial institutions and issuers to work in concert. Apple Pay gets all of these companies to work together for the betterment of the end consumer. The coalition that Apple has built has changed the mobile payments landscape even before the device has even shipped. While it may still take some time for merchants and consumers to fully adopt Apple Pay and NFC, Apple’s move has now set the technology standard for mobile payments.

What do you see as the risks and challenges for Apple in launching a mobile payments scheme?

The greatest headwinds Apple will face are regulatory. Payments in general are a very heavily regulated industry and now Apple has entered the fray. There is already talk of Durbin regulatory compliance, Apple access to personally identifiable information (PII), (Apple has already commented that they don’t collect any) and the impact on state laws regarding consumer privacy. I always thought Apple would enter the payments business at the same time wondering why such a high margin company would enter such a low margin business.

Also, Apple Pay will not have huge adoption out of the gates because of the lack of merchant support, it’s estimated that only 220,000 stores are set up to accept Apple Pay. That’s only 5.5% of the 3.6 million retail locations in the US. A significant reason for low merchant adoption is cost. The POS hardware that actually contains NFC technology to enable Apple Pay costs a few hundred dollars. Add the time associated with worker training, plus little customer demand for mobile payments and Apple Pay has quite the challenge ahead of it.

Merchant and consumer adoption aside, Apple knows there is a big business in payments. I am sure Apple understands that the risks and challenges are well worth it.



Apple Unveils Apple Pay

CEO Q&A with Jason Gardner, Marqeta (cont.)

+MARQETA



Jason Gardner

“**For Marqeta, Apple Pay brings our clients and their constituencies the best mobile wallet experience available. The impact is very positive. What we would like to see is the opportunity for instant issuance. In this scenario, the consumer could provision their card within the Apple Pay environment without the need to receive plastic.**”

FINANCIAL
TECHNOLOGY
PARTNERS

Were you surprised by anything in Apple’s announcement with regards to Apple Pay?

I was surprised that Discover Network wasn’t in the lineup of payment networks. It was a missed opportunity for Discover and for Apple.

How do you see the mobile payments landscape evolving with regards to broad based wallets vs. merchant specific apps and wallets? What does Apple Pay mean for Google Wallet?

What we saw with Apple Pay is the gold standard when it comes to mobile wallets. It is the absolute purest implementation I have seen. Tokenization will reduce risk and fraud while ushering in the next opportunity to pay. However, this implementation is ultimately an Apple only solution that must leverage Touch ID. If Apple lets other wallets leverage it, this would certainly allow for an ideal consumer experience while truly monetizing the platform for Apple. This could cut out PayPal and Google from true adoption at the POS in the near term. As I stated earlier, Apple Pay will not have huge adoption out of the gates because of the lack of support at the POS and by issuers and banks. This might be the opportunity Google needs. However Apple’s adoption and implementation of NFC is perfect. This was something that Google desired when the Google Wallet launched, however they couldn’t get it done with NFC because of competition from carriers and handset manufacturers. Google has now moved to Host Card Emulation (HCE) as their mobile payment standard to circumvent carriers. This means that consumer data for Google Wallet will be hosted on Google servers. This might be tough for some consumers to accept. Also, let’s not rule out Amazon and Alipay. The next 12 months will be truly something to watch.

If Apple Pay is successful, whom do you see as getting the most benefit and who could be the most disrupted?

If Apple Pay is successful it will be Apple that benefits the most. It has created a new revenue stream for itself and it will sell an enormous amount of new handsets. The most disrupted will be the consumer. Apple Pay isn’t free. There is a cost to Tokenization that the networks will charge and ultimately that cost will be passed on to the consumer. Apple Pay requires hardware and software upgrades across the payments ecosystem and those costs will be passed on to the consumer as well. Ultimately mobile wallets are just another way to pay. However, I do believe it will all be worth it.

How do you see Apple Pay impacting Marqeta?

For Marqeta, Apple Pay brings our clients and their constituencies the best mobile wallet experience available. The impact is very positive. What we would like to see is the opportunity for instant issuance. In this scenario, the consumer could provision their card within the Apple Pay environment without the need to receive plastic. This will not happen in the short term as the merchant adoption for Apple Pay is in the low single digits. However, the opportunity is there and it’s quite significant.



Apple Unveils Apple Pay

CEO Q&A with Jason Gardner, Marqeta (cont.)

+MARQETA



Jason Gardner

Marqeta technology is quite unique in the payments landscape. The company invented the ability for almost any card or mobile wallet to have an unlimited number of stored value accounts. These accounts in the mobile wallet world could represent just in time gifts, credits, micro-balances, alternative currencies, restricted spend, etc.

”

How can Marqeta leverage mobile payments to bring additional value to consumers, merchants and issuers?

Marqeta technology is quite unique in the payments landscape. The company invented the ability for almost any card or mobile wallet to have an unlimited number of stored value accounts. These accounts in the mobile wallet world could represent just in time gifts, credits, micro-balances, alternative currencies, restricted spend, etc. The use cases are many. Within mobile wallets, the technology negates the need to add a physical card. The balances or restrictions could be added instantly to manage everything from teen-spend to B2B money movement and numerous B2B2C opportunities across the payments spectrum. Marqeta strongly believes in a federated or network of network approach to issuing and processing transactions.

Is there an opportunity for Marqeta to enhance Apple Pay's ecosystem by leveraging Marqeta's technology capabilities?

Yes, Apple Pay could have an opportunity where each merchant could have their own account with the Apple Pay consumer wallet without the need for the consumer to add a card. The consumer could also create their own micro-wallets and share them with others on Apple Pay and create restrictions on how and when they could be spent. Finally, Marqeta could provision a centralized accounting infrastructure to the Apple Pay wallet, combining consumers' cards with several of the various use cases above, linking the card(s) attached to iTunes to a host of use cases in the wallet. We could also provide a similar platform for developers who want to create apps linked to the Apple Pay wallet. Just think about the positive implications.

How will cards / accounts leveraging Marqeta functionality work within the Apple Pay ecosystem?

The consumer will be able add Marqeta enabled cards to the Apple Pay wallet. Ultimately, using instant issuance, they would be able to add any additional account as well. The consumer would hold Touch ID to pay. It's straightforward, as all Marqeta-powered payment cards would behave like any other in the Apple Pay ecosystem.

Thank you Jason.

Industry Support for Apple Pay



Apple Unveils Apple Pay

Industry Support for Apple Pay

Apple is receiving a groundswell of support from its partners, who appear eager to align themselves with the tech giant

No other mobile scheme has received this much initial support and fanfare, thus heightening its chance of success



Wells Fargo and Apple Pay: Making on-the-go payment simple and convenient

Dear [REDACTED],

Life is mobile. Increasingly, we're connecting, sharing, and making our way through the day with the help of our mobile phones. That's why we're excited to be part of Apple Pay™.

Apple Pay allows you to store and use your Wells Fargo credit or debit card in a digital form in the new iPhone® 6 and iPhone 6 Plus — making on-the-go payment simple and convenient. With Apple Pay, this technology will be available at over 200,000 stores, restaurants, and more in the near future.

A simple, secure¹ way to pay for Wells Fargo card holders

We've worked with Apple to ensure you can take advantage of this convenient new way to pay. Your Wells Fargo card and Apple Pay let you:

- Add your card simply by using your iPhone 6 or iPhone 6 Plus camera
- Make contactless payments in person at participating stores
- Authorize payments with just the touch of your finger using Touch ID™
- Benefit from Zero Liability protection¹ against liability for promptly reported unauthorized card transactions

Apple Pay will work with most of our consumer and small business cards, including Wells Fargo Visa®, and Wells Fargo MasterCard® Credit, Debit, and Prepaid cards, and with our new Wells Fargo Propel American Express® cards.



Apple Unveils Apple Pay

Industry Support for Apple Pay (cont.)



“ We are fully capable of processing Apple Pay transactions should you choose to accept Apple Pay in your app. Braintree is here to help you support Apple Pay in addition to the other global payment experiences you need for your business to thrive on iOS, Android and the Web.”

“We are thrilled that Apple has thrown its weight behind mobile payments. Millions of customers and businesses will soon be introduced to mobile payments for the first time, setting the scene for a major behavioral shift. Today’s long-expected announcement will not just change consumer behavior around mobile payments, but also set a new tone for businesses. In a single day, mobile payments makes the jump from a nice-to-have to a must-have.”



“ First Data’s support of Apple Pay will also allow businesses and their app developers to go to market quickly with powerful new apps allowing payment with a single touch. Apple Pay has transformed mobile payments in a way that our clients will love, and will have an impact on the industry like never before. First Data’s support of Apple Pay marks another milestone in First Data’s transformation from a payments processor to a solutions provider.”

“TSYS announced today its role to support secure transactions and facilitate enablement for issuers, merchants and app developers in processing transactions from Apple Pay. TSYS’ support of Apple Pay is a landmark opportunity for us and demonstrates our people-centered approach to payments for all parties in the payments ecosystem.”





Apple Unveils Apple Pay

Industry Support for Apple Pay (cont.)



"Today's announcement of Apple Pay is important to the industries NCR serves as it drives forward mobile payment technology, and with it, the ability for more secure digital payments and enhanced digital marketing capabilities. With Apple Pay, Apple has transformed mobile payments and will have an impact on the industry like never before."

"We think that today's announcement by Apple to support NFC is very significant and sets the stage for rapid scale adoption of mobile commerce. We would like to let you know that we are actively working with apple to enable Softcard on the iPhone in 2015 – using an integrated secure SIM-based hardware solution."



"By supporting tokenization capabilities, Fiserv ensures that its financial institution clients can play an integral role in the mobile payments ecosystem. For example, tokenization capabilities are required for cards to be used through the newly announced Apple Pay service, which will enable mobile payments at a variety of physical and online merchants and service providers."

"As a trusted payments advisor, Vantiv is ready to help our merchant and financial institution clients and our thousands of partners to quickly enable Apple's new payment solution. The new system will provide an innovative mobile payment option in-app and at the point-of-sale, which will enhance the way consumers purchase goods."



"Today, we're adding support for Apple Pay. Apple Pay facilitates frictionless credit card payments on iOS devices, eliminating the need for any manual entry by the customer. Credit card details are not stored on the device or by Apple, and payments are authorized with the Touch ID sensor."



Apple Unveils Apple Pay

Industry Support for Apple Pay (cont.)



“JPMorgan Chase has been pleased to collaborate on Apple Pay to create a better, faster and safer payments system, which puts the customer first, creating an exceptional customer experience for consumers and merchants. Everyone wins” – Jamie Diamond, CEO

“We’re providing our customers with tools to make their financial lives better, including our 30 million digital banking customers. For them, better means simple and convenient. Apple Pay is another exciting move in that direction.” – Brian Moynihan, CEO



“Apple Pay is a strong offering in those areas and we know our customers want and need this option as they live their increasingly digital lives. Delivering an exceptional experience was critical as we worked with Apple. Giving our customers the ability to make safe and secure payments when, where and how they want is a primary focus.” – Jim Smith, Head of Virtual Channels



“As we focus on U.S. Bank’s future, we will continue to grow our mobile technology in order to keep pace with the current and next generation of banking customers, and anticipate how to make our products and services more convenient. Working closely with Apple to bring Apple Pay to U.S. Bank customers across the country aligns with our legacy of simplifying customers’ lives, developing exceptional banking products and services, and our ability to make cultural connections with current and future customers through the utilization of technology in innovative and practical ways.” – Richard Davis, Chairman, President, CEO



Source: Company press releases.



Apple Unveils Apple Pay

Industry Support for Apple Pay (cont.)



“We know mobile is becoming the front door to Target, and we’re focused on creating the best possible mobile experiences for our guests. We’re thrilled to support Apple Pay to streamline how our guests pay in the Target app – this absolutely makes purchasing from Target’s mobile app easier than ever.” – Jason Goldberger, Senior Vice President

“It’s not a threat because we don’t build a credit card, we don’t build a payment device at all. They’re [Apple] building something that allows a credit card to be used in another place, but they’re not building a terminal. We are a terminal, a register and we accept payments, so there’s no threat, there’s no competition there at all.” – Jack Dorsey, CEO



“There’s been a lot of press about security, and it’s only natural for that to be a concern for folks, there might be more of a headwind than what we were originally anticipating. There’s a reasonable chance that this could be successful. [Apple] has kind of a track record of creating things people don’t know that they want and then all of a sudden it’s a must-have thing” – Matt Schulz, Senior Industry Analyst

“Apple has a unique ability to be the tipping point for the mainstream adoption of technology. We’ll see both consumers and merchants move to adopt mobile payments very quickly.” – Marc Castrechini, Vice President of Product Management



Investment Community Reaction to Apple Pay



Apple Unveils Apple Pay

Investment Community Reaction to Apple Pay – Apple

Stock Price



Selected Analyst Commentary

- *“Apple Pay is a much needed positive catalyst for mobile payments adoption and a win for collaboration between technology and regulated payment leaders/incumbents to put out a simple, secure solution, understanding the degree of difficulty to do so is high. Stock-wise: positive for Visa, MasterCard, VeriFone, neutral for merchant acquirers, negative for eBay.” – J.P. Morgan*
- *“While customer adoption rates in the mobile payment industry have been slow to date, we believe Apple’s strategy and Apple Pay offering could help accelerate this market.” – Canaccord Genuity*
- *“We are keen to know whether or not there is an advertising opportunity that could help provide a second level of revenue beyond the pure payments opportunity... the pivot toward software and services and the rise of a more comprehensive enterprise strategy could help Apple re-brand as more than just a hardware company, which could help the stock’s multiples (for example, payment-related companies garner higher multiples).” – Barclays*
- *“We believe that Apple Pay is a feature that should help Apple products and provide some small help to the bottom line. Apple is initially focused on payments... but we think that Apple will do more with the mobile wallet, such as sending and receiving payments, loyalty programs, gift cards, and store offers.” – BMO Capital Markets*



Apple Unveils Apple Pay

Investment Community Reaction to Apple Pay – eBay

Stock Price



Selected Analyst Commentary

- “While many features of Apple Pay were anticipated, certain features like credit card inclusion and strong merchant coverage at launch were somewhat more negative than expected from PayPal’s perspective... We believe Apple Pay will not be the merchant of record, but with a better user experience than PayPal at POS, Apple Pay competitive risk is likely to remain an overhang on eBay shares in the near term.” – J.P. Morgan
- “PayPal’s heyday as the big guy on the payments block could be nearing its end with Apple’s plan to bundle payment technology in its long-awaited smartphones.” – Topeka Capital Markets
- “While the launch of Apple Pay with potentially ~800M iTunes store accounts raises the specter of major competition for PayPal, we view the announcement as more of a negative headline with limited impact on revenue growth over the near / medium term... Apple’s announcement and continued weakness in eBay’s core Marketplaces may increase pressure on management / board to consider alternatives, including a potential spin-off of PayPal sooner rather than later.” – Citi
- “Before Apple’s announcement it was unclear what, if any, role PayPal would have in an Apple payment system. There were some rumors that PayPal could even be a part of it. Investors are disappointed by the lack of an Apple mention. The ChannelAdvisor sales report didn’t help.” – Morningstar



Apple Unveils Apple Pay

Investment Community Reaction to Apple Pay – VeriFone

Stock Price



Selected Analyst Commentary

- *"We believe that Apple's launch of Apple Pay could drive an accelerated or 'compressed' cycle in the US. While the NFC/EMV capability may not yet be 'turned on,' we believe that most of the value, and incremental upside, is captured when the terminal is sold. While some investors use an installed base of 12–13 mm units, we believe that VeriFone's 'true' market is ~7–8 mm, which excludes very small merchants and specialized implementations."* – J.P. Morgan
- *"The fact that Apple is promoting NFC as the technology for mobile payments is a big positive for VeriFone, not to mention Apple will be putting VeriFone terminals in their own stores."* – Wedbush Securities
- *"As the largest vendor of point-of-sale terminals in the U.S., VeriFone should benefit as merchants now have another reason to upgrade terminals to accommodate Apple Pay's NFC tech. Again, we believe less than 15-20% of U.S. terminals are equipped with NFC."* – J.P. Morgan
- *"The introduction of the capability on Apple's iPhones will help drive adoption of the technology across phones and stores, which may boost VeriFone's terminals sales. The fact that Apple is promoting NFC as the technology for mobile payments is a big positive for VeriFone, not to mention Apple will be putting VeriFone terminals in their own stores."* ⁽¹⁾ – Wedbush Securities



Apple Unveils Apple Pay

Investment Community Reaction to Apple Pay – Visa, MasterCard

“Apple Pay is a card friendly solution, developed in collaboration with the networks and banks, with no ACH or alternative funding sources. Network standards like NFC are peppered throughout the solution and make a strong case for tokenization where big banks, Visa, MasterCard can act as administrators to ensure participation in secure digital payments. Lastly, given proxy model, Apple does not appear to be positioning itself to monetize payment data at the expense of the networks or banks. Apple made it very clear that it will not store transaction info.” – J.P. Morgan

Stock Price

Monday, September 8th

Tuesday, September 9th

Wednesday, September 10th



Stock Price

Monday, September 8th

Tuesday, September 9th

Wednesday, September 10th



V. Appendix

Industry Statistics



Apple Unveils Apple Pay

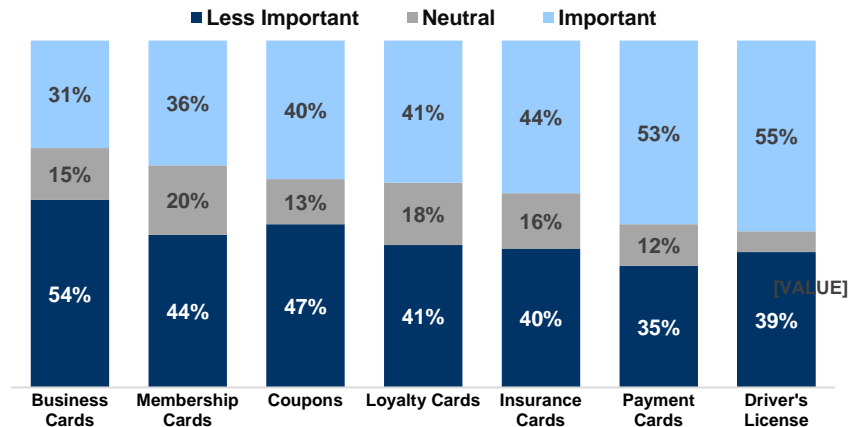
Industry Statistics – Mobile Wallets

Mobile phones are a more ubiquitous and powerful commerce device than the PC; there are 5x more phones than PCs and mobile phones know who the user is, where the user is located, stores user purchase / search history and is always with the user

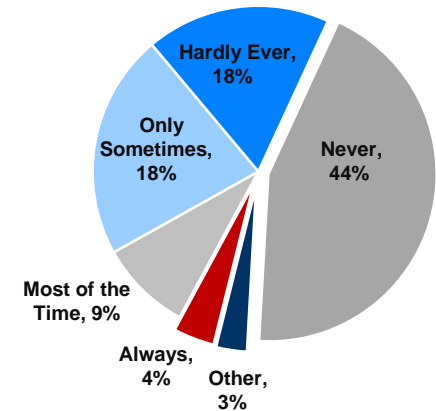
Mobile Wallet Use Consideration

- Mobile commerce can play a key role in physical store sales, which exceed online purchasing by nearly 10x; mobile technology has the potential to transform the in-store retail shopping experience ⁽¹⁾
- Wallet adoption / enrollment leads to control of potential revenue streams from payments and ability to leverage transaction data to develop direct consumer relationships through targeted marketing and loyalty programs
- Studies show mixed consumer attitudes on the use of mobile wallets, but Apple's entrance may help influence consumer opinion

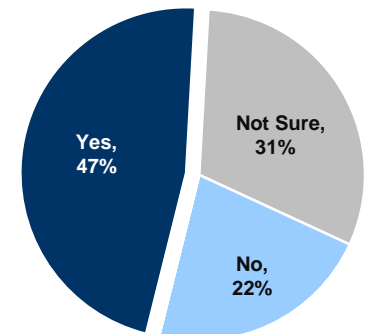
"Please rank the likelihood of adding the items listed below to your mobile wallet if all security issues were removed." ⁽³⁾



"If you could use your cellphone to pay for things you would buy everywhere, how often would you do so?" ⁽²⁾



"Would you consider using a mobile wallet more if you could have all the components of your current wallet / purse in your mobile device?" ⁽³⁾



Source: Kleiner Perkins Caufield Byers, Creditcards.com, TSYS.

(1) Kleiner Perkins Caufield Byers research, "Top 10 Mobile Internet Trends", Mary Meeker and Matt Murphy.

(2) Creditcards.com, "Pay by Smartphone? Consumers Wary, Poll Says", Tony Mecia.

(3) TSYS, "What's Missing? Creating a Comprehensive Mobile Wallet Solution", Chris Colson.



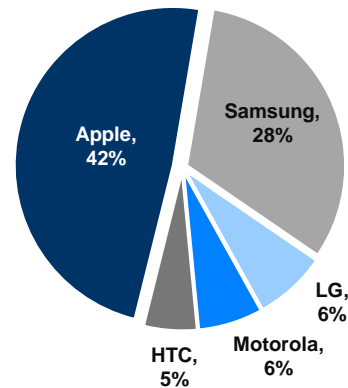
Apple Unveils Apple Pay

Industry Statistics – NFC Capable Devices, Mobile Payments

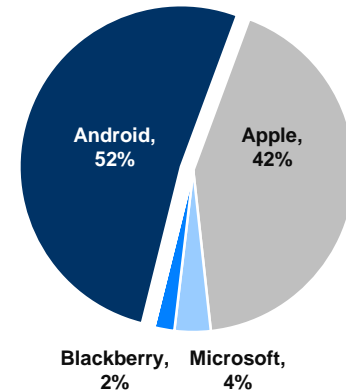
Android is a leader in terms of smartphone platform market share; Apple is the top smartphone OEM maker, holding 40% of the market

Number of installed NFC-ready POS terminals is forecast to reach 44.7 million by 2017 – in North America, 82% of POS terminals are expected to be capable of processing NFC transactions by the same year⁽⁴⁾

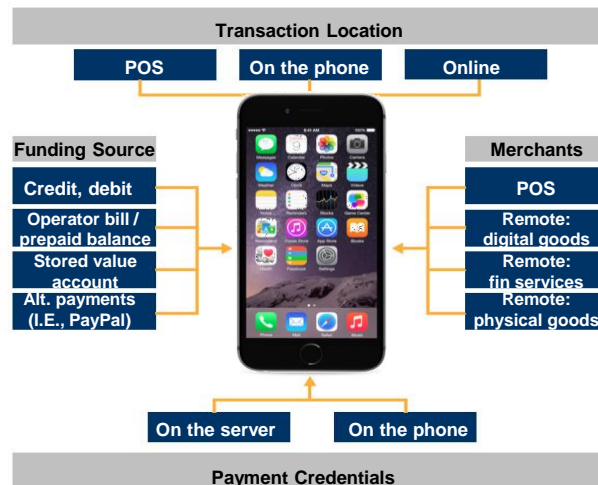
Smartphone OEM Market Share ⁽¹⁾



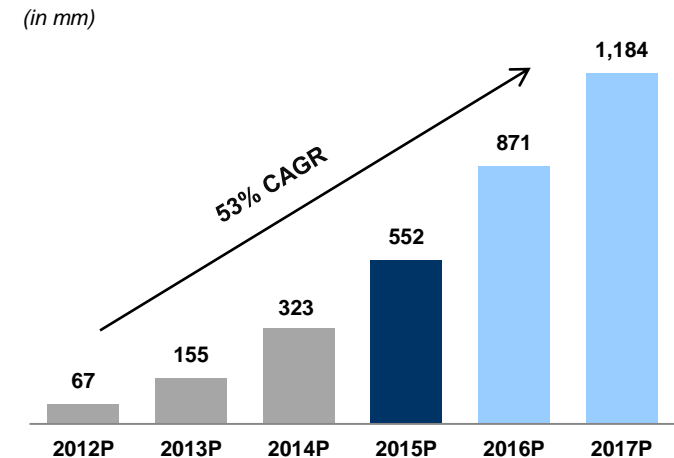
U.S. Smartphone Platform Market Share ⁽¹⁾



Overview of NFC Device ⁽²⁾



NFC Global Smartphone Forecast ⁽³⁾





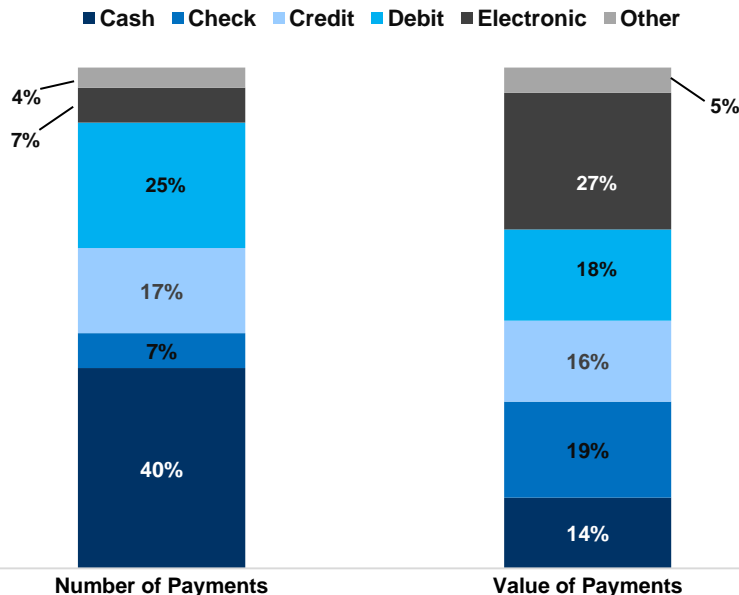
Apple Unveils Apple Pay

Industry Statistics – Payment Instrument Use in the United States

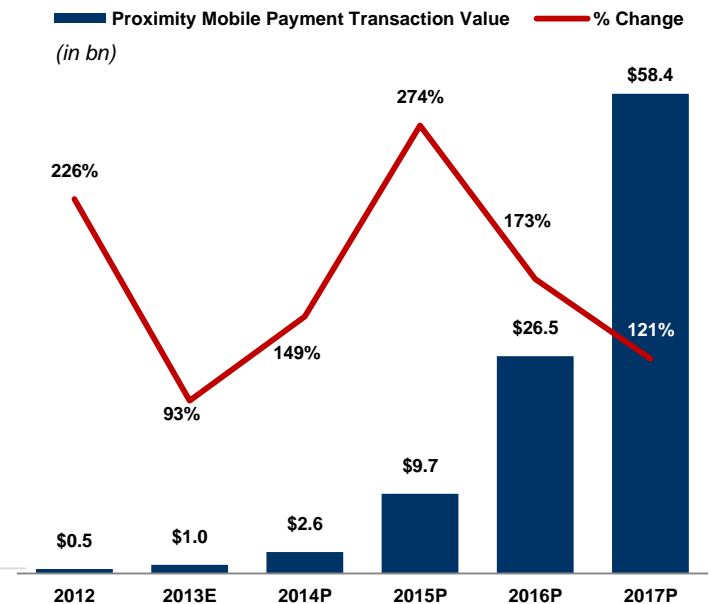
- For low-value payments, consumers in the United States still prefer to use cash; electronic and check payment instruments are used mostly in larger payment amounts
- The average value of a cash transaction is \$21, compared with \$168 for checks and \$44 for debit cards⁽¹⁾
- Cash use in the United States is an important factor to consider in the success of the mobile wallet industry; for example, Apple Pay's partnership with McDonald's may familiarize the consumer public with using mobile wallets, which emulate debit and credit cards, for smaller transactions

Momentum in mobile payments is expected to continue with total global mobile payments volume expected to increase from \$172bn in 2012 to \$721bn in 2017 (CAGR = 38%)

Share of Transactions by Payment Instrument in the United States



U.S. Proximity Mobile Payment Transaction Value ⁽²⁾



Overview of FT Partners

Overview of FT Partners

The FT Partners Senior Banking Team

Name / Position	Prior Background	Experience / Education	Years of Experience
Steve McLaughlin <i>Founder, CEO and Managing Partner</i>		<ul style="list-style-type: none"> Formerly with Goldman, Sachs & Co. in New York and San Francisco from 1995-2002 Formerly Co-Head of Goldman Sachs' Financial Technology Group (#1 market share) Wharton M.B.A. 	19
Larry Furlong <i>Managing Director</i>		<ul style="list-style-type: none"> Formerly with Goldman, Sachs & Co. in New York, London and Los Angeles beginning in 1995 Wharton M.B.A. 	19
Greg Smith <i>Managing Director</i>		<ul style="list-style-type: none"> Formerly award winning Equity Research Analyst at Merrill Lynch / J.P. Morgan / Sterne Agee Recent coverage included V, MA, GPN, HPY, FIS & FISV among others 	17
Miguel Uria <i>Director</i>		<ul style="list-style-type: none"> Formerly with Credit Suisse Technology Investment Banking Wharton M.B.A. 	19
Tim Wolfe <i>Director</i>		<ul style="list-style-type: none"> Formerly with Goldman, Sachs & Co. beginning in 2000 40 Under 40 M&A Advisor Award Winner 2013 Harvard M.B.A. 	12
Andrew McLaughlin <i>Director, Research & Business Development</i>		<ul style="list-style-type: none"> Leads FT Partners' Research and Business Development Team Formerly with Deloitte Consulting 	8

Overview of FT Partners

Award-Winning Investment Banking Franchise Focused on Superior Client Results

FT Partners has been recognized as Investment Banking Firm of the Year and regularly achieves Merger and Financing Deal of the Year recognition



M&A Advisor Awards

- | | |
|------|--|
| 2014 | <ul style="list-style-type: none"> ■ Equity Financing Deal of the Year ■ Professional Services Deal of the Year, Above \$100mm |
| 2012 | <ul style="list-style-type: none"> ■ Dealmaker of the Year ■ Professional Services Deal of the Year, Above \$100 mm |
| 2011 | <ul style="list-style-type: none"> ■ Boutique Investment Bank of the Year ■ Deal of the Decade ■ <i>10 Deal of the Year Nominations Across 9 Categories</i> |
| 2010 | <ul style="list-style-type: none"> ■ Upper Middle Market Deal of the Year, Above \$500 mm ■ IT Services Deal of the Year, Below \$500mm ■ Cross-Border Deal of the Year, Below \$500mm |
| 2007 | <ul style="list-style-type: none"> ■ Dealmaker of the Year – Steve McLaughlin ■ Business to Business Services Deal of the Year ■ Computer and Information Technology Deal of the Year, Above \$100mm ■ Financial Services Deal of the Year, Above \$100mm |



- | | |
|-----------|---|
| 2006-2008 | <ul style="list-style-type: none"> ■ Steve McLaughlin consecutively ranked (2006, 2007 and 2008) among the top Bankers in Financial Technology |
|-----------|---|



Middle Market Financing Awards

- | | |
|------|--|
| 2008 | <ul style="list-style-type: none"> ■ Equity Financing Dealmaker of the Year – Steve McLaughlin ■ Information Technology Deal of the Year ■ Financial Services Deal of the Year |
| 2006 | <ul style="list-style-type: none"> ■ Financing Professional of the Year – Steve McLaughlin ■ <i>Financing Deal of the Year - Equity</i> ■ <i>Financing Deal of the Year - Debt</i> |

Overview of FT Partners

Proven Track Record of Success Across the Payments Sector

<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its role as strategic and financial advisor to</p> <p>MERCURY® in its cash sale to</p> <p>vantiv for total consideration of approximately \$2,000,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>MERCURY® in its approximately 60% majority sale to</p> <p>SILVERLAKE for aggregate consideration of approx. \$ 900,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>judo in its growth financing with</p> <p>ROUTE SIXTY-SIX VENTURES for total consideration of approximately £6,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>KUBRA in its 80% majority sale to</p> <p>HEARST corporation</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>cardsPRING in its sale to</p> <p>twitter</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>OZFOREX FOREIGN EXCHANGE SERVICES in its Initial Public Offering valuing the equity at approximately A\$480,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>
<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as strategic and financial advisor to</p> <p>CIBC in its strategic investment in</p> <p>Delta with additional participation from</p> <p>MasterCard Bain Capital Ventures Alm Capital Services for approximately \$70,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>VERUS in its sale to</p> <p>sage for cash consideration of approximately \$ 325,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>CentralPayment® in its Strategic Investment by</p> <p>TSYS® for total consideration of approximately \$ 100,000,000+</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>FLEET ONE in its cash sale to</p> <p>wex for total consideration of approximately \$ 369,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>NMI NETWORK MERCHANTS INC. in its growth investment by</p> <p>BregalSagemount for a total valuation of nearly \$ 200,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>century PAYMENTS in its sale to</p> <p>WorldPay a portfolio company of</p> <p>Advent International BainCapital</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>
<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its role as strategic and financial advisor to</p> <p>TRANSFIRST® in its cash sale to</p> <p>Vista Equity Partners from</p> <p>WCAS \$1,500,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>jack henry & ASSOCIATES INC. in its acquisition of</p> <p>iPay Technologies for total consideration of approximately \$ 300,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>YAPSTONE™ ePayments as a Service in its minority investment led by</p> <p>ACCEL PARTNERS For total consideration of approximately \$ 50,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>VeriFone THE WAY TO PAY™ in its \$177,000,000 Initial Public Offering valuing the equity at approximately \$ 650,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>PROPAY™ in its sale to</p> <p>TSYS® \$ 100,000,000+</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>	<p>Financial Technology Partners LP FTP Securities LLC is pleased to announce its exclusive role as sole strategic and financial advisor to</p> <p>lynk in its sale to</p> <p>The Royal Bank of Scotland for cash consideration of approximately \$ 525,000,000</p> <p>FINANCIAL TECHNOLOGY PARTNERS</p> <p>The Only Investment Bank Focused Exclusively on Financial Technology</p>