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# The mobile wallet imperative for credit unions

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co-founded Digital Insight which offers internet-based services to financial institutions. As founder, member of the board of directors and CEO, he performed all tasks necessary to successfully grow the company from zero to over US\$100m in revenue and from two to 500 employees in six years. Specifically, he conceived the idea, wrote the business plan, raised seed capital and venture capital, established the business model, set pricing, led the sales team, designed the product, set market positioning, evangelised the solution, presented at industry conferences, set the sales and reseller strategy, took the company public, assisted with M&A and evaluated opportunities for international expansion. Future Banker Magazine honoured him as one of the top 25 most influential personalities in the financial services industry in the year 2000. In 2001 he sold his stake in Digital Insight. The company he founded was bought by Intuit in early 2007 for US\$1.35bn, and currently has over 800 employees and 1,800 financial institutions as clients. Most recently he has been CEO of hospitality-focused mobile payment service Tabbedout, and General Manager of bank products for prepaid financial services company Green Dot (NYSE: GDOT), a leading provider of banking and payments services for a broad base of the US consumers. He is also an adviser, investor and board member of several software technology related entrepreneurial ventures, including Los Angeles-based mobile payment company DoubleBeam. During the late 1980s and early 1990s he served as Financial Analyst for Lehman Brothers in NYC for two years, VP Strategy and Plans for core financial institution software vendor XP Systems (sold to Fiserv) and CFO for AT&T Employees Federal Credit Union for five years.

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**Abstract** Mobile wallets are poised to be the next disruptive force in financial services. With a number of mobile wallet platforms available, it is important that credit unions develop an effective wallet strategy that aligns with their objectives and their members' expectations and needs. This paper outlines key considerations for CEOs that will help you navigate the marketplace and chart a course that will help you reach your revenue-creation and relationship-building goals.

**KEYWORDS:** mobile wallet, credit union, mobile payments, mobile marketing, mobile banking

## WHY MOBILE WALLETS MATTER TO CREDIT UNIONS

Credit unions are different banks in that they are a financial cooperative, owned by their members. The purpose of credit unions is to provide better rates, benefits and more personalised service to the members, and thus credit union members tend to be very faithful to the financial institutions. Credit unions range in assets up to the largest in the US, Navy Federal Credit Union, which

recently was listed as having US\$70bn in assets and nearly 5.7 million members.

Change is coming for credit unions and other financial institutions. CEOs must develop effective strategies to meet the challenge this change brings and to capitalise on the opportunity it presents.

Time and again, industries — including financial services — have been disrupted when analogue products have become digital, and another digital change is underway. Just

as mobile banking transformed the way that members conduct business, mobile wallets are poised to revolutionise the way consumers buy goods and services at the point of sale (POS). This transformation will further disrupt credit unions revenue streams, put pressure on credit unions to meet the mobile demands of increasingly tech-savvy members and leave credit unions that do not create a mobile wallet strategy at a significant competitive disadvantage in the marketplace.

### WHAT IS A MOBILE WALLET?

Functionally for credit union members, mobile wallets are similar to a physical wallet. By presenting a mobile device with a wallet app at a POS, consumers complete a transaction electronically just as if they had swiped a physical card. Advanced mobile wallets can store payment cards, loyalty cards, reward programmes and coupons, and provide other features that can be used at the time of purchase. The mobile wallet interacts with the POS or e-commerce channel to complete a payment and automatically provides for net settlement of offers associated with the wallet. With fully secure mobile wallets, no payment credentials are passed from the phone.

### THE MOVEMENT TOWARDS MOBILE

Although mobile banking has been available for over a decade on web-enabled devices or via SMS, the ever-increasing popularity of smartphones — which are now the dominant form of mobile phones sold worldwide<sup>1</sup> — have propelled mobile into mass-market territory.

Today, over 50 per cent of the US adults bank online,<sup>2</sup> and that percentage is ten points higher among younger adults aged 18–25. Moreover, one in five US households is ‘underbanked’, according to KPMG. Against this backdrop, mobile banking is expanding five times faster than internet banking<sup>3</sup> and is listed by credit union executives as the most important user interface (UI) for expanding

member service and growing business. Mobile access is always on and always present, and offers direct two-way connection with members that is responsive to their history, location, preferences and more.

Mobile wallets build on the growing popularity of mobile banking and are a natural addition for your members. Although physical card payments still dominate POS transactions, mobile payment transaction volume is forecast to climb steadily to US\$721bn by 2017.<sup>5</sup>

Propelled by the entry of Apple Pay into the marketplace and the additions of Android Pay, Samsung Pay, CurrentC, Chase Pay and, imminently, Walmart Pay, mobile wallet usage will undoubtedly grow in the months ahead. The number of mobile payments made via near-field communication or other contactless, ‘proximity’ technology is expected to grow to 57 million users by 2018 — a five-fold increase from 2013.<sup>6</sup>

This increase — and the sudden surge in media hype about mobile wallets — has created a sense of urgency for credit unions to establish a comprehensive mobile wallet strategy.

### A RISING TIDE

Mobile payments and wallets represented a US\$430bn market in 2015. With the recent launch of so many notable competitors, the time for credit unions and other financial institutions to act on mobile wallets is now. The vast majority of consumers would prefer to receive mobile payments services from their primary financial institution — but clearly the financial institutions must provide those services to capitalise on that preference.

Apple’s supply creates demand for all mobile payment types. Or in other words, all boats will rise with the rising tide—if you have a boat. If you don’t, you’re likely to get wet, maybe even have trouble keeping your head above water.

— Richard Crone of Crone Consulting LLC

## MAKING AN ENTRANCE

Chase Pay will shake up the financial ecosystem in 2016, demonstrating that it is possible to reduce charges to the merchant and provide features that matter more to consumers than replacing the credit card swipe. Walmart Pay will also launch in 2016. Both will use QR codes at the physical POS to enable payments. Both have a more merchant-friendly business model that includes a fixed processing fee, integration of existing merchant loyalty programmes and indemnification of the merchant against any consumer-initiated fraud. Chase customers will be auto-enrolled into Chase Pay with the card that they use most frequently. That means that 94 million US consumers will be (potentially) walking around with their smartphones, a Chase Pay app and a Chase card as their top of wallet, go-to card for payment across any channel, including in-store. Chase also announced a portfolio of technology providers who will integrate with Chase Pay and work at a long list of merchants, setting a new standard for financial institution-branded wallets.

## LEARNING FROM THE PAST

As happened in the publishing, music and film industries, financial services are shifting to digital delivery on mobile devices, magnifying the importance of the mobile UI. The importance of having a credit union-branded mobile solution is illustrated by the history of both e-commerce and electronic banking.

As credit unions look to the future of mobile wallets and decide what to do, there are historical parallels that can be drawn that point strongly to the need for credit unions to retain their own brand in the process regardless of the path they choose or the solution they adopt. A detailed discussion of this topic can be found in the appendix to this paper, but a brief overview will provide context to help you create a forward-facing mobile wallet strategy.

## Lessons from the 1990s: Intuit and AOL

In 1995, financial institutions opened their online systems to Quicken, allowing customers to download balance and transaction data into their Quicken software. However, once users set up their default connection to their financial institutions, they received a 'Quicken' experience, and the financial institution brands were lost in the user experience.

Similarly, in 1997 America Online (AOL) launched its 'Banking Center'. Again, financial institutions signed on, only to see their brand diminished by the 'AOL experience'. Financial institutions spent millions to be on the first screen of Banking Center, believing it would keep them top of mind with current customers and attract new customers. It did not work. Within a few short years, institutions abandoned AOL in favour of their own branded banking websites.

Today, credit unions and financial institutions may feel compelled, even pressured, to support third-party wallets or participate in Apple or Samsung Pay. In some cases, doing so will provide short-term upside. However, as history shows, such relationships diminish the credit union brand, ultimately causing credit unions to develop their own branded solutions.

## MOBILE WALLET PARALLELS TO ELECTRONIC BANKING HISTORY

Powerful technology companies in the mobile wallet space have many advantages, but today members still prefer their credit union when it comes to their financial needs.

How valuable is that trust, and would offering members a credit union-branded mobile wallet help maintain and leverage it? What happens to that unique relationship if a credit union exclusively puts its products inside Apple Pay or another third-party mobile wallet? How important is it to control the data and leverage member consumption history?

Luckily, financial institutions have been here more than once over the past 20 years, providing some guidance in answering these questions.

### **Intuit (Quicken, personal financial management)**

In 1995, Intuit sought to improve its personal financial software package, Quicken, by creating the 'Quicken financial network'. Intuit successfully argued that the ability to aggregate customers data from multiple financial institutions would help those same financial institutions remain relevant. As a result, financial institutions opened their online financial systems to Quicken, allowing customers to download balance and transaction data into their software.

However, once users set up their default connection to their financial institutions, they received a 'Quicken' experience, and the financial institution brands were lost in the user experience. Unintentionally, Quicken financial network was the catalyst for financial institutions' launching their online financial services as those institutions realised that they were being disintermediated.

### **America Online (Banking Center, online financial services)**

By 1997, America Online (AOL) had millions of subscribers logging into their service 30–40 times per month, delivering content aggregated from a variety of sources. When AOL realised its most profitable customers spent a disproportionate amount of time in the personal finance channel, it launched 'Banking Center'. The Banking Center provided subscribers a gateway to their favourite online banking service from the 'convenience' and 'security' of their AOL session.

Given connectivity and UI limitations at the time, AOL could present only five financial institutions on the Banking Center's main screen. This ignited a competition

and bidding war for prime position among financial institutions. These financial institutions spent millions to be on the first screen, rationalised by the belief that this would keep them top of mind with current customers and attract new customers. Financial institutions that did not make the cut were offered a standard agreement to participate, but their customers would have to click past these top five bank logos to connect with them.

The Banking Center was little more than an emulation of the financial institutions' online banking service. The user experience was all about AOL and offered marginal opportunities to introduce value-added services, such as opening a new account or paying bills.

Despite its drawbacks both economically and experientially, financial institutions justified the relationship by the assumption that AOL subscribers were more profitable and less likely to leave the financial institution if this service was enabled.

However, within a few years, financial institutions downgraded their partnership with AOL and replaced it with an aggressive promotion of their own branded banking websites and incentivised their customers to bypass AOL altogether to access their service.

In many ways, this ability to go 'over the top' signalled the turning point for AOL, since consumers ultimately preferred to connect with their financial institutions directly.

In the cases of Intuit and America Online, the relationship between the financial institutions and the technology company broke down for the following reasons:

1. **Control:** Financial institutions lost control of the enrollment process, valuable data and direct relationship with their customers.
2. **Access:** Customers could access their financial institutions only through the technology company's platform, which disenfranchised other customers

(eg Quicken versus Microsoft Money, AOL versus Prodigy and so on).

3. Revenue: Financial institutions gave up revenue spreads, believing they could make up for it by acquiring new customers, cross-selling to existing ones and/or retaining their most valuable customers.
4. Experience: Financial institutions realised they subordinated both their brands and the user experiences they considered important to differentiating themselves in the marketplace.

Fast forward to today, and history seems to be repeating itself. The UI and user experience delivered by third-party wallet providers is focused on their brand, with a credit union's brand merely a tab in the interface — or lost altogether in the case of Apple Pay.

Ultimately, loss of branding with prior third-party banking solutions became the catalyst for credit unions and other financial institutions to develop their own branded solutions. This is an important consideration in developing a complete, forward-looking mobile strategy.

## OPTIONS IN AN EVOLVING MARKETPLACE

In a rapidly evolving mobile market, credit unions and other financial institutions must choose between three options: do nothing, embrace a third-party wallet solution, or create their own branded wallet solution.

### Do nothing

Credit unions and other financial institutions can choose not to support mobile wallets for their members. By choosing not to be fully engaged in mobile transaction technology, however, they risk losing both members and revenue.

Historically, credit unions and other financial institutions have not lost members

or customers en masse because of the hassle and cost of switching. In an increasingly electronic banking climate, however, it has become easier to change institutions, and the costs of doing so have come down. Callahan & Associates reports that 68 cents of every dollar of current non-interest income (NII) is at risk for credit unions.<sup>7</sup> This is primarily due to the changing regulatory and legislative environment, and covering the shortfall will be extremely difficult for credit unions that cannot replace conventional fee-based sources of NII.

Credit unions will lose members if those members can get services they need — including mobile wallets — better, faster or cheaper elsewhere. Attrition may not happen suddenly. Instead, credit unions behind the game in mobile will begin to see a gradual loss of members over time. New entrants into the mobile payments space that support credit union members' payment preferences and position themselves upstream on their mobile devices will begin to siphon off dollars and, ultimately, the members' business altogether. The realisation that members are leaving may not come until it is too late.

More than half of Millennials indicate they are willing to switch financial institutions for a mobile payment capability.<sup>8</sup> Millennials are entering their peak borrowing years and have a payment preference for debit — both of which benefit a credit union's bottom line. Attracting Millennials is especially important since the average age per credit union account holder has increased to over 49 years — and the fastest growing account type for many credit unions is deceased accounts.<sup>9</sup>

Use of mobile wallets is highest among younger consumers, who represent the next generation of credit union members. Individuals aged 18–29 account for 36 per cent of mobile payment users, while individuals aged 30–44 account for an additional 33 per cent of mobile payment users — 69 per cent in total.<sup>2</sup>

The Millennial generation is influenced by their friends and social media, which

ties into the capabilities of mobile devices and apps. They are also attracted to innovative approaches to banking and financial management being offered by new entrants into the marketplace that are unbound by the constraints of traditional brick-and-mortar branches.

For instance, the average age of user of the Acorns app, which allows consumers to automatically invest small amounts of money from purchase round-ups and scheduled account withdrawals, is just 25. Acorns attracted over 100,000 accounts in less than three months after its introduction, and more than half of them were opened as a result of ads or user posts on Facebook or Twitter.<sup>10</sup>

Credit unions and other financial institutions that choose not to support mobile wallets also risk falling further and further behind in trying to regain lost revenue. Interchange, the lifeblood for many financial institution checking account offerings, is coming under increasing pressure. In recent years, credit unions with less than US\$10bn in assets have earned about half their total revenue for demand deposit accounts from debit card interchange.

As 2013 came to a close, the PIN debit networks such as NYCE, STAR, Pulse, Accel, and others, however, started promoting to merchants a 'least-cost' routing option for non-petroleum transactions less than US\$50, without a PIN. Known as PINless debit, this new payment routing undermines an important revenue stream for credit unions. In fact, it is not uncommon that 80 per cent or more of debit transactions for a credit union now qualify for this lower-cost routing by the merchants. Mobile wallets provide an opportunity to make up for lost interchange revenue if the right strategy is followed.

### **Embrace a third-party wallet**

There are hundreds of mobile wallets being touted, and it has become clear that no single solution will dominate the marketplace

in the near future. Apple Pay is making headlines; however, financial institutions such as Capital One, BarclayCard and Bank of America and retailers such as Starbucks, Subway and the retailer consortium MCX (Merchant Customer Exchange) have not abandoned their mobile payments strategy simply because Apple has launched one.

Financial institutions may elect to embrace a third-party wallet solution either to meet member demands or as a stop-gap measure simply to be able to present something to the marketplace. As history has shown, relinquishing control of the interface in a third-party platform, however, creates significant problems for any financial institution.

### *A middleman in member relationships*

Credit unions' unique strength in financial services is an intense focus on building relationships with their members.

Although deciding to support a third-party wallet may be part of a credit union's strategy, CEOs must realise that they abdicate control of the UI — and, potentially, the user experience — with a third-party platform. The Apple Pay user experience is focused completely on the Apple brand, as is Google Wallet on the Google brand, PayPal on the PayPal brand and so on. A credit union's brand is merely a small tab in a long list or, in the case of Apple Pay, completely invisible during the standard payment process.

### *More mouths to feed*

Choosing a third-party mobile wallet introduces several new 'mouths to feed' in the payments revenue stream for financial institutions. In the case of Apple Pay, this includes interchange costs paid to Apple, which global investment banking firm Jefferies reports to be 15 basis points per credit transaction and a half-cent per debit.<sup>11</sup> There are also tokenisation fees to



Visa, MasterCard and American Express for provisioning tokens in the iPhone secure element, charges for referencing the account credentials mid-transaction for every payment and processor charges to Apple, Visa and MasterCard. There will also be levies from processors for the new accounting and billing systems for paying Apple for Apple Pay transactions as well as Visa and MasterCard as the token service providers (TSPs).

Additionally, credit unions may be faced with new, significant member service costs, particularly in the case of Apple Pay. With Apple Pay, credit union CEOs should consider how important it is that they support whatever device members want to use and the number of different devices that are presented at merchant locations.

### **Create a credit union-branded mobile wallet**

The current momentum behind mobile wallets, highlighted by the launch of so many big-brand competitors, presents an opportunity for credit unions to create a mobile wallet strategy that includes a credit union-branded UI. A branded wallet accomplishes several main objectives.

#### *Enhances member relationships*

In creating a wallet strategy, a credit union or financial institution should utilise a white-labelled solution that keeps the credit union brand front and centre with their members. If members see their credit union's brand every day, they are more likely to remember it for important financial decisions.

Having a branded wallet solution also allows credit unions more ways to interact with members: informing them of new loan rates, making them aware of new services being offered or simply wishing them happy holidays. When credit unions control the wallet, they control the interface and can get their message out any way they wish.

A branded solution also allows a credit union to capitalise on integration with its mobile banking, core processing and other systems, which is not currently possible through Apple Pay or other third-party wallet platforms.

This integration supports several relationship-building and revenue-generating opportunities, such as the following:

- Automatically populating member information and card data to the wallet app and vice versa
- Providing real-time balance information through the wallet app
- Supporting push marketing, such as offering instant credit upgrades or loans to members at the POS, which generates revenue for the credit union
- Enabling members to perform personal financial management tasks that involve multiple systems, such as account reconciliation, more easily
- Security and fraud alerting direct to the member

Credit unions are experts at providing great service, value and content to members. A branded mobile wallet is an essential part of building on those capabilities in an electronic banking environment.

#### *Generates more revenue*

In a branded wallet, a credit union can promote the use of its own forms of payments to maximise interchange revenue and minimise fees from outside providers.

UBS Global Research claims that presenting self-marketing and actionable offers represents the biggest opportunity for mobile wallets — a US\$120bn market. Being able to access and connect with the member at the moment just before, during and after the payment transaction in the online experience allows credit unions to leverage the delivery of just-in-time information and marketing.

Mobile wallets will generate new revenue streams through preference-driven, opt-in ads and offers. For instance, a credit union could promote a product or service on behalf of a merchant and get paid per click or receive a fee if a sale is made. The mobile wallet, however, can provide a promotional platform that does more than just confirm impressions for advertising on a traditional cost per thousand (CPM) basis, states Crone Consulting. Because the mobile wallet is interactive, the activated offers and interactions can be sold on a cost per click (CPC) basis the same way that Google, Yahoo and all other context-sensitive internet advertisers do today.

Additionally, offers viewed and activated in a mobile wallet can be used to generate proven net new sales for a retailer or consumer packaged goods (CPG) provider and thus command cost per acquisition (CPA) promotional premiums from the advertiser in the way that Google, Groupon, LivingSocial and many others do. This opt-in, preference-driven mobile advertising and offer business represents a net new revenue stream generated outside the financial institution's current fee-based model by generating new revenue from CPG, product manufacturers and retailers.

### *Immense upside potential*

The revenue potential associated with ads and offers is roughly double what a typical financial institution generates in gross revenue per year from a demand deposit account or approximately equal to the gross revenue per credit card account. Third-party intermediaries and new entrants are investing heavily to develop and launch their own mobile wallet capabilities to capture this revenue, but, unlike financial institutions, their business model is built on disloyalty and is rendering competitive ads and offers to the highest bidder. This is what financial institutions forfeit if they do not activate mobile payment within their mobile banking

app. They also surrender their opportunity to offer customers valuable financial tools and guidance as they make purchase decisions, with the added risk of being further commoditised and disenfranchised by their customers.

Having a technology-agnostic solution solves complexity, cost and control issues by supporting multiple mobile payment acceptance methods and enables the widest range of mobile commerce interoperability, both technically and commercially. Having an app that focuses on both Android and iOS phones ensures that significant percentages of members are not left out. And, it ensures that the wallet can take advantage of continually evolving communication, security and other capabilities of mobile devices.

### *Supports all devices and methods*

In this diverse environment of devices and payment methods, what is most important for credit unions is that their mobile wallet strategy be process- and device-agnostic at the POS. Credit unions should adopt a wallet app that is built on a future-proofed, cloud-based common interface that can be easily adjusted to support any device-pairing technology and multiple payment processes.

Having a technology-agnostic solution solves complexity, cost and control issues by supporting multiple mobile payment acceptance methods and enables the widest range of mobile commerce interoperability, both technically and commercially. Having an app that focuses on both Android and iOS phones ensures that significant percentages of members are not left out. And, it ensures that the wallet can take advantage of continually evolving communication, security and other capabilities of mobile devices.

Apple has hedged its bets on the usage of Near Field Communication (NFC) technology, which dates back more than a decade and has been hyped as the gateway to



enabling mobile payments. In 2011, Google introduced Google Wallet, its NFC-linked payments service that has been added to many smartphones running its Android operating system, but that initiative has failed to gain significant traction. Smaller merchants in particular have been reluctant to install the NFC systems, which can cost US\$300–US\$500 per device.

Paydiant is a white-label mobile wallet platform that uses QR codes to initiate POS payments. QR codes are the most common method of making mobile POS payments today. According to the most recent data, 39 per cent of people who make mobile POS payments scan QR codes, 18 per cent use a mobile app that does not require scanning or tapping, 14 per cent use a method that requires waving or tapping a device and the remaining percentage is split into the single-digits across other methods.<sup>14</sup>

MCX is a company created by a consortium of notable US retailers, including Walmart, Target, Best Buy and others, overall accounting for approximately US\$1tn in annual sales. MCX has developed a mobile payment system called 'CurrentC' that is built on the Paydiant platform.

No costly POS hardware upgrades are required with the Paydiant solution. It works with all smartphones since the POS simply displays a QR code on a tablet, alternate screen or paper receipt that consumers read with the camera on their phone. The phone connects with the cloud for authorisation and sends approval to the merchant.

### *Protects security and privacy*

When working through intermediaries — who may be planning to make money from transaction data — credit unions lose a degree of control, although their own technology teams may be charged with safeguarding data in third-party platforms. Credit unions offer members the best assurance of data security and privacy protection through their own branded wallet.

Tokenisation is a key element in a mobile payment security strategy and provides a method for third-party enablement through NFC, QR or other wallet payment methods. It also reduces the risk of fraud in digital channels such as e-commerce. Tokenisation is complementary to Europay, MasterCard and Visa.

Wallet platforms that store users' sensitive financial information in a PCI compliant cloud vault rather than locally on the mobile device provide a more secure payment experience than do traditional methods. Apps should also use a token placeholder to facilitate transactions instead of constantly passing the data between the user, merchant and financial institution. This approach creates a comprehensive, layered approach to information security.

Token management across the different platforms is a key challenge and something that must be addressed as part of a mobile wallet strategy. Enlisting the card networks to manage tokenisation of payment credentials will be complex, confusing and expensive for most credit unions.

By adopting a mobile wallet that will act as a credit union-owned and -operated TSP, a credit union can reduce the cost and complexity of managing multiple tokenisation standards and acceptance methods, and keep itself in control of the security of members' information.

## **SECURITY AND TOKENISATION**

In the mobile payment ecosystem, tokenisation generally refers to the process of replacing Primary Account Numbers (often referred to as a PAN, a credit card number, a debit card number and so on) with some other value, for the purpose of obfuscating or altogether eliminating the PAN from many of the historically vulnerable areas of the payment ecosystem.

Tokenisation is being applied to facilitate secure mobile payments via NFC, QR codes and other mobile payment-enablement

technologies. The aim is to reduce fraud risk within the mobile device, at the POS, in the merchant back-office, within the card-not-present environment and at numerous other points throughout the payment ecosystem outside of the secure and battle-hardened firewalls of the issuer.

One popular tokenisation approach relies on encryption and special processing to obfuscate the PAN before it is stored on a mobile device or shared with a merchant. These tokens are very difficult to decipher and, therefore, more secure than an in-the-clear PAN, such as the number printed on the front of a credit card. These tokens can also be limited to a single use or short time frame, thereby further reducing their usefulness should they be compromised. These tokens must ultimately be reverse-engineered or decrypted back into a PAN to facilitate the payment. Because these tokens represent a specific payment account, the same way a PAN does, they are referred to as 'account tokens'.

A notable benefit of some account tokens is that they can retain the format of a standard PAN, thereby reducing the changes required to the POS, in turn reducing barriers to acceptance. These are called 'format-preserving account tokens'. A potential drawback is that conforming to the existing hardware and software in the ecosystem also perpetuates some of the existing flaws. Another drawback is that this type of tokenisation requires the use of a complex, fee-based tokenisation service provided by the card networks. Apple Pay has adopted such an approach, suggesting that they believe the benefits outweigh these concerns.

Another tokenisation approach, one that keeps consumers' sensitive financial information in a PCI compliant cloud vault rather than locally on the mobile device, substantially reduces number of devices and environments where sensitive data must be maintained and secured. In fact, the PAN can be eliminated from the consumer *and* the

merchant environments entirely with such an approach while simultaneously enabling a rich interaction and consumer experience.

These tokens, referred to as 'session tokens', do not refer to a PAN or account, and instead serve only to match a mobile device with a POS device for the duration of a single transaction. The consumer selects the payment account in a direct interaction between the mobile device and the PCI compliant cloud. The PAN, encrypted or otherwise, is never shared with the POS or the mobile device. Settlement can occur only if the unique session data from the merchant match the session data from a specific mobile device. The TSP can be contracted independently of the card networks. This allows for a competitive TSP pricing landscape. A potential disadvantage to this approach is that it may require some changes in the ecosystem. MCX and many non-MCX merchants have chosen and are committed to this type of approach, suggesting that they believe that the benefits outweigh the additional investment.

By adopting a mobile wallet that will act as a credit union-owned and -operated TSP, a credit union can control the cost and complexity of managing multiple tokenisation standards and acceptance methods and maintain tighter control than ever before over the security of members' information.

### **Two approaches: Account- and session-based tokens**

1. Account-based tokens — a Credit Card Number or PAN (encrypted or not) or any other key or code that represents a specific payment account. Apple Pay employs a highly secured type of account tokens.
2. Session-based tokens — do not represent an account or person, but instead represents a session that is established between a mobile device and a POS for the purpose of facilitating a single

transaction during a limited time frame. Paydiant employs a very sophisticated implementation of session tokens.

In the case of Apple Pay, the token represents a specific payment account. Even if it is temporary, dynamic and/or encrypted, it represents an account, which makes it an account token. Account tokens are referred to as high-value tokens, because they act as a key to an account.

In the case of Paydiant, the token represents a session. A session token serves one and only one purpose, which is to verify that a POS and a mobile device are in a cloud-facilitated 'session' together for one transaction. During the session, the PAN is never shared with either device, whether a transaction occurs or not. For these reasons, session tokens are considered low-value tokens.

Both tokenisation schemes are far more secure than the current system. Apple has done a lot to insure that their account tokens are extremely secure (such as adding a dynamic component). So the fact that they are account tokens alone should not imply that they are especially insecure . . . only that they are high-value tokens that represent a specific account. A Paydiant token does not represent an account. It represents the matching of a POS and a mobile device for the purpose of conducting business for a limited time. These tokens cannot be decrypted into a PAN because they do not represent an account, which is why they are low-value tokens.

## A WINNING STRATEGY

To recap, financial institution teams have three possible strategies to consider. They can choose to do nothing, embrace a third-party wallet or create a credit union-branded mobile wallet. While each path has merits, providing a financial institution-branded wallet to members allows for increased control over interchange revenue, costs, data and member loyalty while providing

better long-term upside. For credit unions or other financial institutions that choose to have a branded mobile wallet, they may consider white-label mobile wallet offerings or developing their own, with other mobile wallet service providers. We recommend having team-leads involved in strategy from finance, technology and marketing as the mobile wallet will be a benefit to each area but also require some level of resources, depending on whether the institution opts to develop from scratch or leverage a service provider to help. For those teams wishing to eliminate the cost and time to hire and train additional development resources and experts in the area of mobile wallets, service providers will help a great deal.

A diversity of devices, acceptance methods and tokenisation standards means credit unions may need to support multiple mobile wallet options. However, they must do so with a strategic road map that focuses on membership retention and revenue-generating capabilities that keep members engaged and loyal. Their strategy should also include a credit union-branded wallet.

Financial institutions cannot afford to let card associations and third-party intermediaries control their destiny and the relationship with the member in the mobile payments race. Although every credit union has unique needs, a branded mobile wallet and payments app is the best way to market a credit union to members as innovative, trustworthy and always available to meet their needs.

Also important to credit unions, as more consumers migrate to mobile apps for managing their financial lives, advanced functionality available through mobile wallets provides a means to replace lost interchange revenue and grow a member base. Mobile payments hold the key to increasing member loyalty, active account longevity and transaction frequency and to accessing new revenue streams that can be derived from mobile marketing and actionable offers at the POS.

Some leadership teams will opt to be early adopters of one or more mobile wallet platforms and others wait to see how the market plays with merchant and consumer adoption. The reality is that the market is moving more quickly than most major financial shifts, and financial institutions should be prepared to make the shift, now or down the road. Perhaps most importantly, no one can protect your membership and your assets like you can. By including a credit union-branded, platform-agnostic solution within your mobile wallet strategy, you can demonstrate your commitment to member service and support for their mobile payment needs, regardless of the type of mobile device they are carrying today or in the future.

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14. Federal Reserve. (2014) 'Consumers and mobile financial services 2014'. (a) Graph page 4: Forecast includes worldwide payments made through a mobile device including merchandise purchases, mobile transfers, ticketing, bill payments and other transactions. (Original source: Goldman Sachs Monetizing Mobile Money 2013, p. 26.) (b) Graph page 5: Forecast includes point-of-sale transactions made by using a mobile device as a payment method, including scanning, tapping, swiping or checking in with a mobile device at the point of sale to complete transaction; excludes purchases of digital goods on mobile devices, purchases made remotely on mobile devices that are delivered later on and transactions made via tablets. (Source: emarketer.com, September 2014.)