



# Advanced Payments Report

2015







# Global Experts in Payments Consulting

Edgar, Dunn & Company (EDC) is an independent global financial services and payments consultancy. Founded in 1978, the firm is widely regarded as a trusted advisor to its clients, providing a full range of strategy consulting services, expertise and market insight.

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### Published April 2015

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### American Express Introduction

## Introduction

### Paul Fabara, President – Global Banking and Global Network Business, American Express

When we look back on 2014, much of what was discussed in last year's Advanced Payments Report is now taking shape. Traditional and non-traditional payments companies, such as payment networks and handset manufacturers, are collaborating together. Common standards, like tokenisation, are being developed to drive global interoperability; and there is a continued focus on the getting the customer experience right.

Looking at this year's survey reflecting the latest perceptions, credit card networks are seen as holding the keys to innovating and driving growth in the mobile payments industry. The focus on credit card networks driving innovation is a change from the past, when mobile network operators, PayPal and other financial institutions were viewed as the primary influencers of change. However, the payments

sector grew in prominence in 2014, as seen by the plethora of new products, features and capabilities that were launched. The speed at which this sector changes makes it a whirlwind to keep up with, let alone get ahead of—but this is what makes it exciting.

To become and remain relevant in a universal commerce world, credit card networks, mobile network operators, financial institutions, and merchants alike need to adapt as quickly, if not more, as the technological developments themselves. This year we are likely to see a renewed focus and momentum behind mobile commerce with the launch of new ApplePay solutions and HCE capabilities; a strong contactless infrastructure serving as an underlying framework for driving mobile commerce and new customer behavior; and even more heightened focus on security – as data breaches increasingly continue to grab headlines – which is critical for any successful mobile payment solution alongside customer experience, value proposition and interoperability.

Security goes beyond being a matter of mobile payments versus card payments—it is about the customer. Ensuring that customers feel secure is critical to the overall customer experience. No matter how our customers choose to make a payment, they should feel it is easy to make a payment and that their card data and personal information is safe throughout the transaction.

Through every evolution, it is critical that we not only deliver what our customers need today but also think ahead about what they might need tomorrow. By anticipating the consumers' needs, thinking outside the box, deploying solutions, and pivoting when necessary, all of us in the industry will – together – drive innovation and change.





### 1. Industry Opinion

# Industry Opinion

The Advanced Payments Report (APR) 2015 provides views and perspectives on the state of payments and is based on views shared by industry executives, observers, and analysts.

The APR is not a consumer survey; it is a survey that collects, analyses, and presents responses from 590 industry senior executives from the Americas, Europe and Asia Pacific on the general direction of the payments industry. Survey respondents include industry stakeholders in banking, card payment networks, technology providers, MNO's, device manufacturers and others.

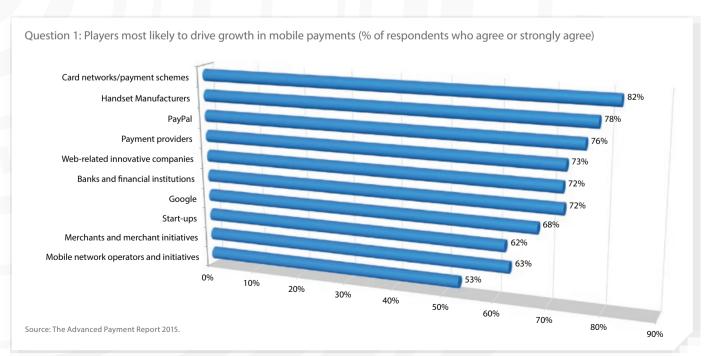
For continuity with previous years, a number of survey questions relate to mobile payments but the APR covers all types of advanced payments made over all electronic channels and all types of connected devices such as personal computers, tablets, or phones.

### A Shift in Thinking

This year's survey highlights a repositioning of industry opinion:

- Card networks such as American Express, MasterCard, or Visa take top position in the "league table" of stakeholders perceived as the engines of growth in digital and mobile payments
- Just below are the manufacturers of mobile handsets and devices
   such as Apple, Samsung, or HTC
- Established alternative players, like PayPal, previously at the top
  of the league table have fallen to third place
- Initiatives led by Mobile Network Operators (MNO's) and by merchants are at the bottom of the table.

MNO's own and control the subscriber identity module more commonly known as the SIM – long considered by many to be the best choice for the "secure element," where credit card information can be securely stored for making payments, ensuring a central role for





### 1. Industry Opinion

MNO's in the emerging mobile payments eco-system. But now mobile payments have become less of a priority for MNO's in key markets.

In the United States, Softcard, the major mobile payments initiative led by the MNO's launched in 2013 is set to be discontinued with Google acquiring most of its intellectual property. In the United Kingdom, a mobile payment / commerce joint venture led by the major MNO's was discontinued in 2014.

In the second half of 2104, the roll out of Apple Pay garnered significant market interest and breathed new life into the emerging area of mobile payments that had stalled.

With Apple Pay card networks offer new, sophisticated tokenisation solutions, which allow the use of digital tokens to authenticate and retrieve customers' card details.

It is reported that 1 million cards were registered with Apple Pay in the United States within 72 hours of its launch. Tim Cook, CEO of Apple, declared at the company's earning call in January that 2015 will be the year of Apple Pay.

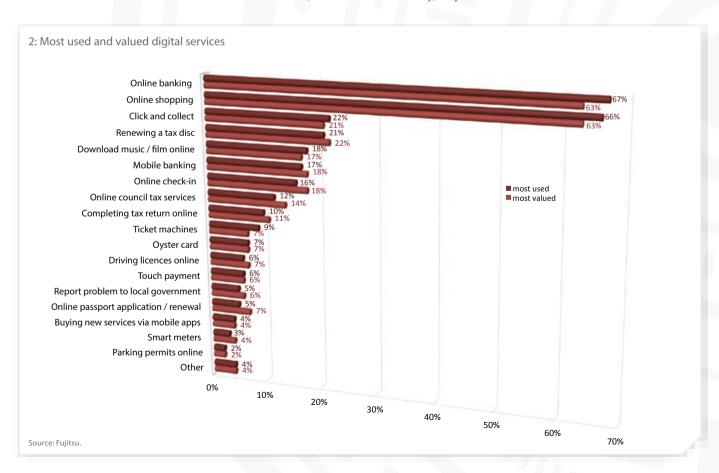
Will Apple Pay give the digital and mobile payments industry a much needed boost?

There is reason to be optimistic. Consumer attitudes to digital services are gradually changing and some, such as online banking, are now considered mature or mainstream and no longer viewed as alternative or emerging.

This is a welcome trend, which will enable innovators to introduce new and enhanced services to consumers who are already familiar and comfortable with interacting online.

### Digital Channel Maturity and Competition

Several years ago, online banking and payments were considered novel. Today, they are necessities. This success has more to do with





familiarity, trust, convenience, and consistency of service, rather than any novel features never before seen in the world of payments.

Consumers are slow to migrate from an existing trusted channel – from the way they have always done things – to something new that they have to learn.

In a recent survey about digital services in the United Kingdom commissioned by Fujitsu, of all the services available and used online, two stand out: Online banking and Online Shopping. Nearly two thirds of those surveyed said they value these above others. In terms of popularity, these services win hands down because they offer clear value to users.

The success of new digital services will also not just pivot on deployment of sophisticated technologies, invention of advanced computer algorithms, or the development of entirely new features or services. It will be driven by how customer needs are met in a convenient, simple and secure manner.

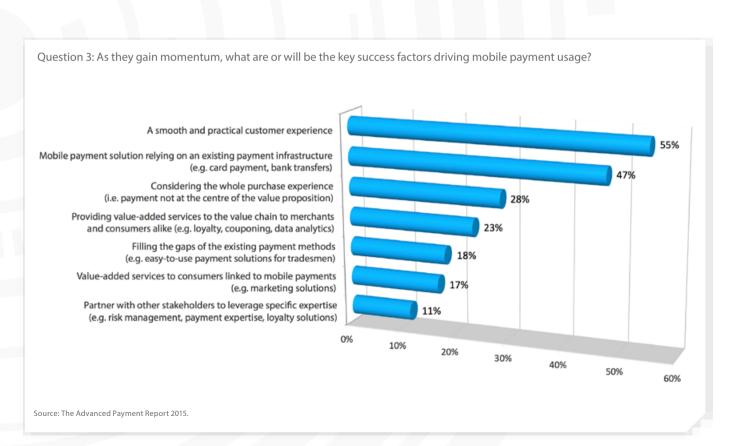
Digital channel maturity for banking and payments does not mean that existing players such as banks, card issuers and money transfer operators can grow complacent.

Customers have more choice and are more aware of what services meet their needs and whether something new is worth "adopting" – learning something new.

Regulators in many markets are making it easier for new entities to enter the payments industry to make it more competitive and innovative.

### But, the fundamentals remain the same

Our survey, as in previous years, indicates that industry opinion on what is required to develop a successful mobile payment service remains the same. Smooth or "frictionless" consumer interaction designed to work intuitively consistently scores at the top of the table for key success factors.





### 2. Digital Wallets

### Atoms to Bits

In his 1995 book Nicholas Negroponte, the founder of MIT's Media Lab, wrote that with the internet there will be a transformation in our lives from "atoms to bits." Atoms represent the hard physical qualities of real things we use like a book or newspaper to their virtual formats like an e-book or e-newspaper. The digital wallet is the transformation of the physical wallet's atoms to bits.

### Consumer Convenience

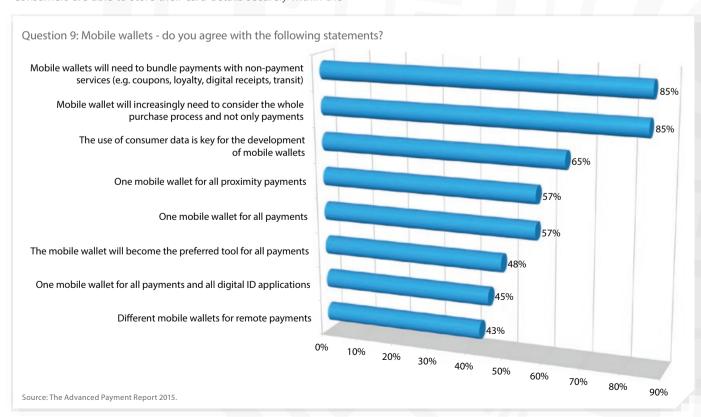
Digital wallets offer convenience and ease of use. When shopping online, a buyer does not need to enter payment card or bank account details to make payments but simply selects a preferred payment instrument from those already stored in the wallet. No need to enter card details individually at every retailer site.

A digital wallet can be loaded on a mobile device, which can then be used to pay for things at shops or at automatic pay stations. Consumers are able to store their card details securely within the digital wallet – whether on the device itself or on the cloud –and access the wallet to make contactless payments at POS terminals.

An essential success factor for digital wallets – or any emerging payment instrument –is to ensure the entire purchasing process is designed for ease of use. If it is difficult to load a payment card on a digital wallet, cumbersome to enter long card numbers and personal details on a small mobile phone screen, or if the customer has to wait in line (even though the payment itself takes only a fraction of a second), an overall poor consumer experience will ensure a quick demise of the digital service.

### Theory of Everything

The most valuable element of a digital wallet is not the payment feature. Real value comes from storing all those things that are placed in a physical wallet. A digital wallet can hold everything from credit cards to paper coupons to tickets for sporting events to airline boarding passes and train tickets – in "bits," not atoms.





This "bundling" can also be enhanced by location based services. As you arrive at an airport, the digital wallet can find your digital boarding pass using geo-fencing technology, or if you are at a retail store, the wallet may be able to display the store's loyalty card and also any coupons that you may have that could be redeemed for a discount as you are about to pay for your purchases.

When it comes to digital wallets, consumer convenience and the benefit of bundling are highlighted as the two features most valued by respondents to the 2015 survey.

### Apple Advances

With the announcement of Apple Pay in September 2014 there has been renewed interest in the digital wallet idea which had been unduly and prematurely branded as yet another great solution looking for a problem. Whether Apple will become the dominant player in an industry that has great potential but has not lived up to its promise, remains to be seen.

Apple already stores payment card details of hundreds of millions of consumers for making payments via its online iTunes store. Its Passbook bundles together digital "bits" generated by compatible apps that get loaded on to the wallet. These digital bits – boarding passes, coupons, tickets or whatever they might be – get updated as information changes like the balance on a prepaid store account card. Apple Pay works with Passbook to make digital or physical payments.

Physical payments are made at contactless POS terminals using





### 2. Digital Wallets

Apple phones and devices with NFC features using an innovative tokenisation service which enables a digital token on the mobile device to be linked to confidential card data stored securely outside of the device. This gets around the problem of storing credit card data on the device itself which has been a stumbling block in the path of mobile contactless payments for several frustrating years since the technology was originally considered for use in payments.

The combination of the cool factor that seems to be permanently attached to the Apple brand and Apple's Passbook "everything" app – which ensures Apple Pay is able to bundle payment as well as non-payment services – positions Apple as a key contender in the digital wallets industry.

In the United States, card issuers pay a fee to Apple Pay so that their cardholders are able to use Apple Pay. However, card issuers outside the United States in a number of markets will find it difficult to pay similar fees as their payment transaction revenues are increasingly being slashed due to the reduction in multilateral interchange fees (MIF's) – the fees paid by acquiring entities to card issuers to defray the costs of completing payment transactions.

### PayPal – Payment Only

PayPal, the very successful on-line payment method, is a wallet of sorts. Users can link their payment cards or bank accounts to their PayPal accounts to make payments online. There is no need to first "fund" or prepay your PayPal account.

Critics claim that PayPal is not a complete wallet. It does not digitally store the "other" wallet contents – loyalty cards, coupons and tickets.

While PayPal has been testing physical in-store payments in different markets, it is almost solely used for making online payments.

### Amazon Retreats

Just as quietly as it was introduced in the summer of 2014, Amazon withdrew its digital wallet in January 2015. Users could store their payment as well as loyalty cards and vouchers on the wallet. It came preinstalled on its Fire phone but the phone did not sell as well as expected.

Amazon wallet is another payment service that Amazon lost patience with. It had previously discontinued its person-to-person web mail service in the United States called "WebPay" for lack of demand. Some years back Amazon also scaled down and then discontinued an SMS based payment service called TextPayMe.

But Amazon remains a pioneer of the online ordering process through its one-click buying service and continues to make inroads as a major payment services player.

### Google Wallet Holds Course

Google Wallet is a complete wallet and has been available for some time, though only in the United States. But despite being well designed, the service is far from gaining a significant number of transactions.

It has not been short on innovation, and many interesting features have been developed and rolled out such as the option to link gmail accounts allowing users to send money through gmail attachments.

Google also embraced Host Card Emulation (HCE) technology which makes it possible to store confidential payment card data on the cloud instead of on a secure element on the mobile device.

### New Announcements – Samsung Pay

Samsung announced Samsung Pay which combines NFC and Magnetic Secure Transmission (MST) technology to enable payments at terminals which may or may not accept contactless payments. It will be rolled out initially in the United States and South Korea in the summer this year and to other regions including "Europe and China" at a later stage.

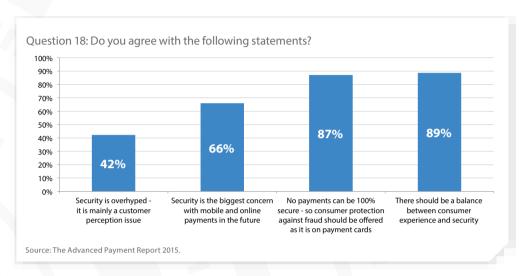
MST technology was developed by LoopPay, a US technology startup, which was recently acquired by Samsung. LoopPay is working on enabling the solution at EMV terminals.



### 3. Security & Consumer Authentication

### The security dilemma

Reliable security is essential for the integrity of any new payment system. The results of our 2015 survey echo the results of previous years. Whilst convenience is a key benefit for mobile commerce solutions, our survey respondents consistently stressed the importance of balancing the consumer experience against security. Survey respondents agree that no new payment method can



be 100% secure but it is important to develop a process that will limit these losses. The challenge for new payment solutions will be to convince consumers that they will be as well protected against fraud as if they used a payment card. Ultimately, any successful mobile commerce services must find a fine balance between security and convenience.

# Biometric authentication – a step closer to reality

Biometric identification technology has been around for a while but is generally limited in its applications in everyday life, other than for critical services such as ePassport control.

Furthermore, our survey respondents have generally ranked biometric technology as an unlikely candidate to drive mobile commerce; however there were exciting developments in 2014 that suggest biometrics may yet play a key role in the future of mobile commerce.

Fingerprint scanners established in earlier versions of the iPhone and Samsung phones have shown their potential with the advent of Apple Pay. The seamless transaction process created using 'touch ID' and NFC is a considerable

step-up from previous NFC based mobile wallets and payment apps.

The success of the solution is illustrated by the fact that two thirds of contactless transactions in the U.S. are now Apple Pay.

Biometric authentication is not limited to fingerprint scanning and trials of other approaches have been taking place. Barclays in the United Kingdom is a leading developer of alternative authentication methods and has offered voice authentication for a number of years through analysis of 50 characteristics of the human voice. VeinID technology is the latest offering to Barclays' corporate customers and works by recognising vein patterns on a customer's fingers.

A recent pilot for voice and facial recognition cited a success rate of 98%. Whilst the figures are an improvement, the technology

is not yet suitable for real world application. Another key consideration for biometric authentication is whether consumers will be happy to complete the inconspicuous photo shoot or voice command in order to complete a transaction. With the emergence of Apple Pay, the more subtle fingerprint scanning solution may hold the most promise for mobile payments.



### 4. Technology

2014 brought greater clarity as to what technologies are best suited for mobile and also how they can interact to build upon the strengths of each. This year's survey identified four key trends within the mobile technology space:

- NFC will continue to be the platform of choice for mobile
- Tokenisation will be a critical component
- Cloud based models offer significant promise
- Winning solutions will leverage multiple technologies

# NFC continues to be the preferred technology for mobile proximity payments

When asked which technology is most likely to drive mobile proximity commerce going forward, over 70% of this year's survey respondents selected NFC based technologies, including both hardware (SIM/embedded chip) and software (HCE) based solutions.

- This represents a 28% increase over prior surveys, a significant convergence of industry opinion on NFC compared to prior years (45% last year compared to 73% this year.
- Most other technologies, including BLE (Bluetooth Low Energy),

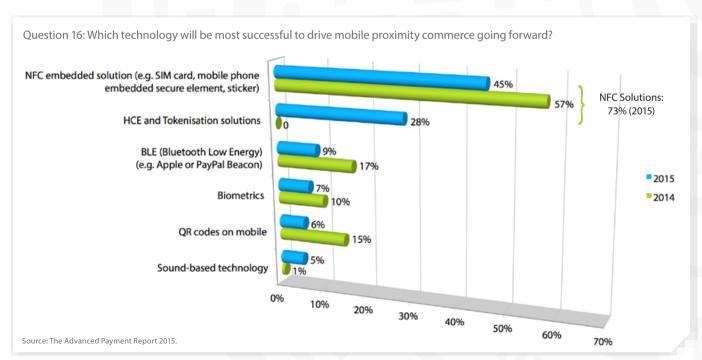
Biometrics and QR (Quick Response) codes, lost ground. Combined, the survey results, showed a decline from 42% to 27% with only sound based technologies showing an increase.

No longer are there headlines saying NFC is dead or that NFC stands for Not for Commerce. NFC has gained traction that will likely continue because (1) it's a proven technology that is robust and can meet industry transaction reliability requirements; (2) industry standards exist so that transactions are interoperable across the world; and (3) it leverages the existing payments infrastructure.

Additionally, Apple Pay and the recently announced Samsung Pay, with easy to use consumer and retailer interfaces, are generating more interest among both consumers and retailers.

# Tokenisation is becoming a critical component

The roll out of tokenisation by the major schemes promises to improve payment security for the future. Tokenisation is the practice of replacing the actual funding account number with a substitute (or proxy) which can be another set of numbers of equivalent length or an image, such as a bar code. The actual account data is stored





securely in a token vault. As a result, merchants do not store or see a customer's sensitive payment information thus reducing the chance of fraud in the event of a data breach at retailers. Any data stolen as a result of a merchant or processor data breach will not provide access to the underlying account, rendering the data useless for hackers or fraudsters.

One key area where tokenisation benefits can be derived is in the online commerce world. EMV does a great job at addressing counterfeit fraud within face to face commerce, but previous solutions to enhance e-commerce security have proven to be awkward requiring additional steps for both consumers and merchants. Tokens may be a viable solution for this challenge.

Tokens are not new. PayPal has always had a de facto tokenisation model where the PayPal account stands in for the underlying payment account. Starbucks, the most successful mobile payments application globally, is based on the use of bar codes. Virtual cards or one time use cards, which replace the underlying account number with one that can be limited to specific merchants, dollar amounts and/or time periods, are utilised heavily in corporate purchasing accounts. Square Wallet uses the consumer's picture as a token and connects the transaction with the payment information stored securely in its payments vault. Leading acquirers have offered their own customised solutions for several years as a means to protect data at rest and data in transit and reduce PCI compliance issues. In addition there are several vendors providing token solutions.

What has been missing has been an open standard that will enable interoperability of the tokenised solutions. EMVCo released the first standards in 2014. Questions remain however surrounding who the token vault provider can and should be and how much such solutions will cost.

Apple Pay's use of tokenisation combined with its fingerprint ID provides a layer of security without impacting the consumer experience. It is a tangible application of the technology that we expect to see more widely deployed within the mobile payments context.

# Cloud based models present an alternative solution for mobile

The question of where the customer's account credentials would be securely stored has been an ongoing discussion within the mobile industry for years. Specifically, the business models surrounding each potential option have been a hurdle to the development of the mobile ecosystem.

- MNOs believed that the SIM chip was the logical location and wanted to be paid a premium for access to their chip. Softcard, the US wallet offered by a JV of the major MNOs, uses this model.
- Handset manufacturers offered an alternative for storing card data in embedded chips.
- Starbucks, Level Up and Pay by Square are examples of early adopters of cloud based payment options.
- Last year, Google enabled HCE (host card emulation) within its Android KitKat 4.4 operating system allowing payment credentials to be stored in the cloud while enabling access to the mobile phone's NFC capabilities without using either an embedded chip or the SIM. HCE has long been available for Blackberry. Many industry experts expect to see further developments leveraging HCE in 2015.
- Apple Pay stores payment credentials outside of the device and transmits tokens to be presented at the point of sale either by NFC, or in the case of Samsung Pay, a magnetic secure transmission will be used if an NFC accepting terminal is not available.





### 4. Technology

When asked which is the most suitable candidate for storage of the payment credentials, this year's participants voted overwhelmingly for some form of software based secure element. Confidence in software based storage has grown from 24% just two years ago to 62% this year. Belief in embedded chips has fallen slightly over the same period, while the SIM and other options have fallen more precipitously.

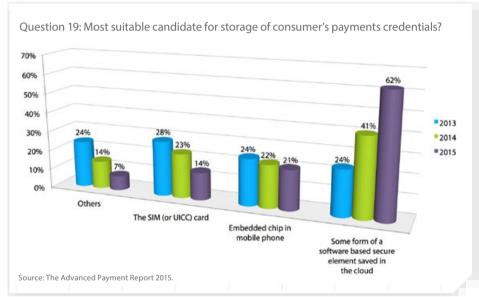
The implications are significant. The winners are likely to be the payment brands, card issuers' platform vendors and token vault providers who can offer flexible, cost effective and secure mobile solutions.

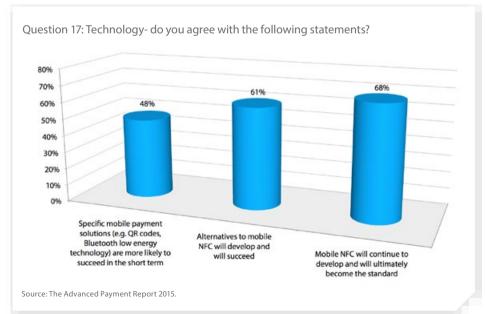
# Multiple technologies are interacting to provide the best user experience

Last year we posed the concept that maybe the right question to ask is "not which technology will win, but how will these technologies interact and co-exist." This year's Survey results indicate that the industry has high confidence that NFC will ultimately become the standard (68%) and that alternate technologies will succeed (61%). These are not necessarily in conflict.

Apple Pay provides a great example of how this can work: Biometrics are used for authenticating the account holder; the payment credentials are tokenised; and the token is stored on the embedded chip while the actual account data is stored securely outside of the device.

NFC is used to communicate between the phone and the POS. The combination of technologies that can enhance the security and provide a positive customer experience will have the highest chance of success.







# The American Express Network — Innovating for Success

The American Express Network is building distinctive, value-added products and world-class services in the digital and mobile commerce space – delivering innovative capabilities to help grow and drive your business forward.

Connect with the American Express Network and discover more at **amexglobalnetwork.com**.





### 5. Connected Commerce: low current impact but high future

For the second year in a row, we analysed the impact of "connected commerce", defined as events or transactions initiated from a connected object such as a car, a TV or a wearable device.

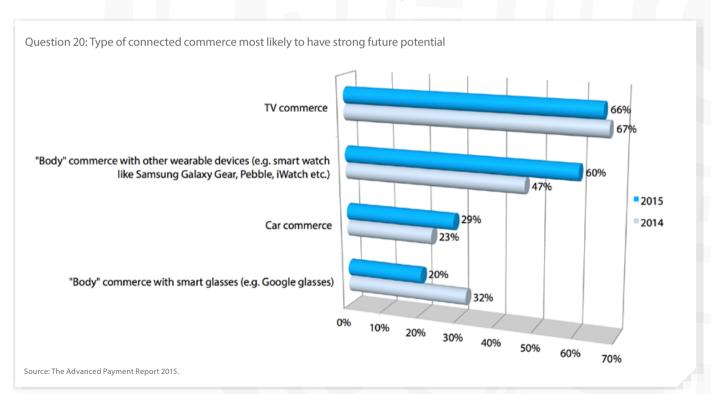
Connected devices can be worn as accessories and perform specific tasks like displaying alerts and messages or recording information (e.g. location, speed, distance).

These can exist in a variety of formats, including smart glasses (e.g. Google Glass), watches (e.g. iWatch, Pebble, Samsung Galaxy Gear), bracelets (e.g. FitBit) and shoes (e.g. Nike). Connected commerce is still embryonic but things are changing rapidly.

### Changes in the perception of "Body commerce"

■ TV commerce has been around for some time, and survey respondents continue to clearly see significant potential in its future growth.

- For "Body" commerce with smart glasses (e.g. Google glasses), respondents have indicated a significant decrease in interest to 20% in 2015 from 32% in 2014. This is linked to the disappointment of the discontinuation of Google Glass¹. Smart glasses are meant to provide timely and important information to the user and are capable of performing basic tasks, like checking messages or receiving navigation instructions. Google announced in January 2015 that it will stop selling Google Glass, highlighting the difficulty to innovate with wearables and the ability to enable commerce with wearables even more so.
- The survey revealed positive industry perceptions relating to "Body" commerce in the context of wearable devices other than smart glasses such as smart watches (iWatch, Pebble, Samsung Galaxy Gear, etc.) which were positively perceived by 60% of our survey respondents in 2015 compared to 47% in 2014. This is not surprising as the announcement that Apple's iWatch will work with its new Apple Pay wallet has created high expectations.
- The potential of in-car commerce, described as a transaction enabled



<sup>&</sup>lt;sup>1</sup> http://techcrunch.com/2015/01/19/today-is-the-last-day-to-buy-google-glass/



in a car like updating GPS or purchasing a movie for children, moved up from 23% in 2014 to 29% in our 2015 survey. As people expect to make their day as useful as possible, it almost becomes natural to consider using the time when commuting by car to think, plan activities (e.g. cinema tickets) and complete transactions (e.g. buy music), as long as it doesn't interfere with the driver's concentration. Connected cars are not commonplace but once Internet connectivity becomes more widely and cheaply available on the move, it is expected that car commerce will grow and expand significantly. This is evidenced by the many initiatives and pilots led by mobile network operators, car manufacturers, and payment companies.

### Bullish expectations but no results yet

Expectations related to connected commerce may surprise. Analysts project that Apple could sell as many as 60 million iWatches in its first 12 months in the market – high expectations

that some would consider highly optimistic.

Google Glass is another example of a tech experiment which has not delivered because of a lack of a completely polished product and lack of concrete, helpful and varied applications.

For wearables to become popular for connected commerce there is a need to focus on the key success drivers of any new digital service: user experience, convenience, and a clear value proposition.

### Internet of Things

Wearables are in very early stages but they hold great promise of becoming a new means of communication and interaction.

The Internet of Things is set to become the next wave in the development of the Internet with the potential to connect 28 billion "things" to the Internet from 2020, ranging from bracelets, home appliances and cars.





### 6. Social Commerce

The rise of social commerce has been predicted for many years now, the concept seemed inevitable. With the emergence of large social networks such as Facebook and Twitter, which have surpassed 1.4 billion and 280 million active monthly users respectively, it was only a matter of time before retailers and social networks themselves took advantage of it.

However, it quickly became apparent that the "how" was not so easy to solve. How should consumers purchase something when checking their Facebook or Twitter feed? Should they be given a link directly to the store? Should they follow a URL to a unique landing

page? Should merchants open up virtual store fronts within each social network? Many solutions to these problems were tried, tested and discarded – inevitable victims of the failure to attract customer interest and attention.

### The Buy Button

Last year saw some interesting developments in social commerce: the emergence of the "Buy Button," most prominently launched on Facebook, Twitter and Tumblr. Buy buttons facilitate direct purchases with a simple click on a merchants' post or tweet. In the case of both Twitter and Facebook, the buy buttons are being powered by the San Francisco based start-up, Stripe.

In the case of Twitter, the network is launching an in-feed commerce initiative, allowing users to make purchases without leaving their





twitter stream, whilst Facebook will embed their buy button into both ads and posts on the social network.

Buy buttons solve a key problem with social commerce – measuring the return on investment (ROI) on media initiatives. They have the potential to directly connect our interactions on social media to actual transactions, something almost all previous iterations have failed to reliably offer.

Social media is impulsive by nature, especially on services such as Twitter, which leaves a relatively short window in which to capture consumer attention. Capitalising on the real-time nature of social media is vital in securing high conversion rates and generating sales.

### Analytics, an opportunity and a challenge

Similar to all social media based marketing strategies, social commerce is backed by extensive analytics. Social media is in a strong position to give retailers access to a rich and varied vein of data. A crucial aspect of social commerce will come from correctly analysing relevant data which should precede the development of a specific sales campaign or roll out strategy. With the wealth of data social media offers, it is important to understand what data is relevant and what isn't to avoid costly analysis of reams of data likely to yield nothing.

The importance of "knowing your audience" cannot be underestimated and successful management of this opportunity could mean the difference between success and a missed opportunity.

### Not Just for eCommerce

Social commerce is not just an online activity and companies have started to boost their brick-and-mortar sales by integrating social elements. Nordstrom's integration with Pinterest shows that the benefits are both online and offline. Noting Pinterest's strength for retail curation and user created wish lists, they began highlighting items in-store that were popular on Pinterest – by adding a physical "Popular on Pinterest" tag. Launched as a pilot in January 2013, this experiment proved so successful that every Nordstrom store in the

US now showcases its most popular items on Pinterest in this way. Shop assistants are equipped with an in-house app and update items daily.

### The future of social commerce

Social commerce has strong potential. If buy buttons become commonplace in social media they could act as a new selling channel for formal and informal merchants, simplifying the consumer shopping experience.

Recent moves by social players indicate the importance they attach to social commerce. These include Twitter's recent acquisition of CardSpring, a payments infrastructure company, and Pinterest's partnership with eCommerce platform Shopify.





### 7. Big Data – Big Deal?

This year's survey results about Big Data and Data Analytics were pretty much the same as last year's. Perhaps because not a lot has changed in the world of big data analysis.

Questions continue over just how to implement big data and data analytics. Concern about privacy continues on the part of both consumers and those who would like to have more data about the consumer. Concerns include both how privacy is defined and how it can be protected.

The E.U.'s determination that people have a 'right to disappear' from the Internet is just the most striking example of how the concern over privacy noted in last year's report continues as an issue.

Where the other problems lie is also becoming clear as more and more banks, retailers, advertisers and other organisations get involved with analysing big data sets

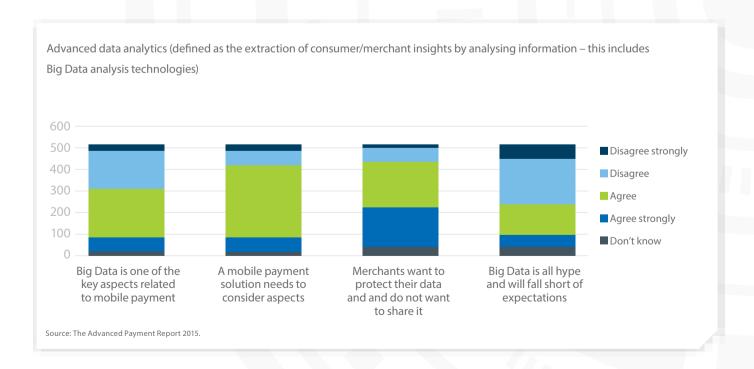
### Data Collection

Every year more and more data is created. It would seem that collecting the data would be easy. But collecting it in a meaningful way – in a way that it can be analysed usefully – continues to vex those who know there is value locked inside the data.

The collection problem is mostly a problem of differences of definition and context. Just what is sufficient to identify a person?

The full set of data needed for identifying a specific individual with a high degree of surety is never all collected in any one commercial interaction, other than perhaps at account opening. After that it becomes a problem of taking partially identifiable data collected in various interactions with a customer and trying to determine if it is the same person.

The use of loyalty card numbers will do the job within any retailer or other organisation, but with no central directory of such numbers, knowing if Jane at the grocery store is the same Jane at the restaurant is difficult to determine to a useful level of surety.





### From Correlation to Insight

When an individual can be identified across various touch points the problem becomes one of making sense of the data. Jane may show a pattern of buying doughnuts when she shops for groceries. And Jane shows a preference for a certain type of restaurant. But what does this mean? And how can it be used to either sell her more wine or get her to try a new restaurant?

### From Insight to Meaning

Correlating the days on which Jane buys wine with the days that she goes to a restaurant (and for that matter, with the weather on each day) would not be hard. But again, what does it mean? A good statistician can tell us how likely or unlikely it is that the correlation is random or not, but knowing that it is unlikely or that it is random still doesn't let one reach an actionable conclusion.

### From Meaning to Action

When big data analytics is able to tease out meaning, the question then becomes what to do. Knowing that patterns may reveal behaviour in a limited way still leaves retailers, bankers and others with the task of figuring out what the opportunity is to take profit-producing action.

What is needed is for the analysts to start specifying how the data is captured. Where this has been done the promise of big data and data analytics is being proven to be real and as this approach of going from the data collection to the analysis spreads, the promise of big data analytics comes closer.

Analysing large data sets will prove to be a real boon to understanding customer behavior. And it will come to fruition. It's just not here yet.





### 8. Reinvention of ACH Payments

# A new challenger in mobile retail payments

The technology available today enables us to connect and interact with everything and everyone in the world in real-time; whether it is a video call to a friend thousands of miles away or instantly answering your own curious questions with online search engines.

The demand for an instant response couldn't be more relevant when considering payments – which begs the question – why is this not yet the case?

A typical debit card transaction at a retailer is immediately authorised if the consumer has sufficient funds and the retailer

receives a payment guarantee. The funds are sent to

the retailer and the consumer's account is debited. The receipt of funds by the retailer can take place any time from the following working day to several days after the transaction depending upon contractual terms and conditions.

Traditional ACH (Automated Clearing House) payments have never been suitable for payments as, unlike card networks, they are unable to provide an instant guarantee of payment required for merchants to release goods or services.

However the advent of real-time ACH infrastructure threatens to change this, offering consumers and merchants the ability to complete payments in real or near real time.

Our survey respondents consistently indicate that mobile internet payments and mobile P2P payments will



become widely accepted in the future. New fast ACH payment systems will be at the heart of such payments offering immediate transaction completion.

### What is Real-time?

The term 'real-time payment' is thrown around a lot as the industry's latest buzzword but it is important to understand the true meaning of 'real-time payment'. A good starting point is to understand whether the payment infrastructure is actually real-time or if it's simply a real-time messaging service that runs parallel to existing non real-time infrastructure.

iDEAL, GiroPay and Sofort are examples of popular online realtime payment methods in Europe. Whilst these services offer real-time payment confirmation (by checking funds availability in real-time) the payment is processed through existing non realtime infrastructure.

UK's 'Faster Payment Service' and Sweden's 'Payments in Real time' are examples of real-time infrastructure in which payments are instantly credited and debited to their respective accounts. Payments are settled intraday with a number of daily settlement cycles depending on the system. Mexico, Singapore, South Africa, and Denmark are amongst the 15 countries with faster payment infrastructures. Common features we see in these systems include:

- 24/7 system availability
- Immediate notification of payment (confirmation or rejection)
- Instant funds availability for receivers
- Periodic intra-day interbank settlement

It is important to note that in the current systems, while clearing is close to real-time, settlement is typically undertaken in multiple cycles during the day.

### On the rise

The first such system was established back in 1973 in Japan. However, of the 15 faster payment systems in operation today, only 13 have been in existence since 2000.

Looking at 2015 and beyond we see this pace accelerating with 14 more systems planned across the globe.

The development of many of these systems has been actively encouraged by governments eager to make the economy more efficient through migration of cash transactions to electronic means.

### Advanced Payments Back-bone

Faster Payments in UK for example provides the backbone over which new mobile payment services such as PayM and Pingit have been developed. Pingit was developed by Barclays Bank enabling mobile payments. PayM was launched in 2014 and enables users to link their current accounts to their mobile numbers and send and receive up to £250 per day.

Swish is the Swedish equivalent and was launched in December 2012 utilising Bankgirot's Payments in Real time as the back-end infrastructure. Users can link their current accounts to either a mobile number for P2P payments or to Swish numbers for retail payments. The number of users has grown from 0.5 million in 2013 to around 2 million as of December 2014.

Zapp is the latest UK mobile payment service due for launch in 2015 and will offer online retail payments. It will be embedded in a member bank's mobile banking applications and will facilitate online purchases wherever the 'Zapp' acceptance mark is present. Zapp is expected to launch at the physical POS in the next 12-18 months.

Today ACH payments are used for Account to Account (A2A), bill, mortgage and payroll payments by consumers and businesses alike. Real time ACH is providing the rails for a new wave of innovation in retail payments and is enabling alternative retail payment solutions to develop and compete with both cash and debit card transactions.



### 9. Why Going Digital is the New Path...

# ...to Customer Engagement

Respondents agree that the imminent convergence of loyalty and payments via digital channels will shape the end-to-end digital experience

The traditional way of building loyalty, designed around rewarding purchases and spending, has been facing great challenges from rapid digitalisation resulting in higher intensity and greater variety of customer interaction, with almost 3 billion web users in 2014 (about 40% population penetration) and mobile data usage projected at 35% of total online usage<sup>2</sup>.

Today, detecting and tracking customer behaviour in online and mobile channels and building rewards for these new types of interactions has become the key customer engagement question. In response companies started building less complicated, more integrated and far more engaging loyalty programmes that enhance the customer experience.

For smaller companies with lower margins and little infrastructure to support a loyalty programme, digital rewards that go beyond stamp cards and volume discounts have become a cheaper, targeted and much more effective alternative. The shift from a purchase-based to engagement-based model brings new ways of understanding how loyalty and rewards will re-shape the way providers design their services in the future.

mobile data usage projected at 35% of total online usage<sup>2</sup>

While the concept of digital rewards began with e-coupons, it has now reached a level where companies aim to deliver personalised rewards via preferred digital channels to their customers. This digitisation of loyalty starts with moving a portion of customer engagement to digital platforms, where customers can have a more personalised form of interaction with the brand. Integrating, managing and tracking digital engagement provides companies with a detailed view of the customer journey and allows them to focus on soft user actions rather than pure value spent.

From a business model perspective, digital rewards mean more than just the distribution and redemption of rewards via digital channels; integrating loyalty with other purchase elements (such as in-store recognition, ordering and payments) enables companies to build a holistic digital platform experience and increase channel profitability.

# Integrate digital channels to the customer journey

By integrating social, web and mobile channels into a single customer journey, companies can establish more effective digital engagement platforms capable of serving online purchases and two-way interaction as well as rewards distribution and redemption. A consistent and seamless cross-channel experience is not only a nice-to-have feature for customers but also allows companies to build a complete picture of the customer journey by tracking and recording customer behaviour along these channels.

### Keep it personalised

Leveraging user data is the key to providing more personalised offers that could potentially maximise reward relevancy and redemption. Companies can provide smarter rewards that take

<sup>&</sup>lt;sup>2</sup> KPCB Internet Trends 2013 and 2014, Kleiner Perkins Caufield & Byers



into consideration more than just lifetime value such as purchase history, preferred payment methods, declared interest and digital interactions (such as browsing habits, checkout completion rate, response to marketing impressions) and combine them with other contextual factors including location and societal trends.

### Keep up with the mobile game

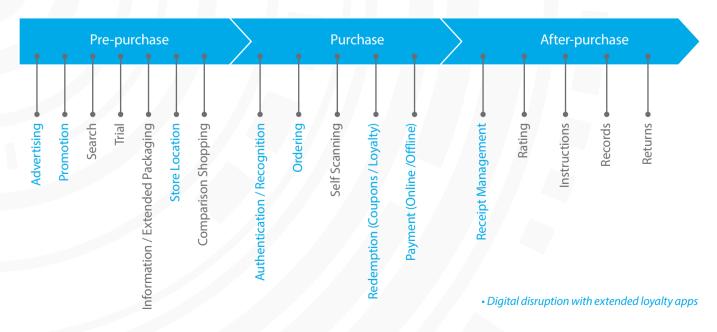
With exponential mobile growth it is important that retailers continue integrating customer engagement into the mobile channel; a Juniper Research report suggests that mobile coupon users will exceed 1 billion in 2019 from just over 500 million in 2014<sup>3</sup>. With the rise of mobile loyalty apps, digital couponing has become more meaningful with real-time, location based offers and in-store mobile redemption options.

The next move for retailers will be along the value chain; retailers are actively seeking new ways to integrate mobile payments with loyalty. 66% of respondents in this year's Advanced Payments Survey stated that payments integrated with loyalty, coupons and e-receipts will be the leading value-added services for mobile wallets that are most likely to be used by consumers.

### Utilise powerful partnerships

Where a stand-alone loyalty programme might be easy to manage, it is critical to on-board value-adding external partners when it comes to driving loyalty on the back-end of digital platforms. By partnering with social networks, MNOs and PSPs, merchants will be able to command the full purchase cycle.

- Lancôme Elite Rewards members can earn points for sharing products and for connecting with the brand on social networks (Facebook, Instagram, and Twitter). Points also accrue when programme members watch makeup tutorials on Lancome.com or check in at events via Foursquare.
- The UK food-on-the go retailer Greggs partnered with PayPal for their 'Greggs Rewards' mobile payment app where customers can top up their account balances with PayPal and also get specific rebates and bonus credits for their PayPal account top ups.
- American Express card members who are enrolled in the Membership Rewards programme in the US can choose to earn 2x points for their Uber rides with the help of a simple mobile integration.



<sup>&</sup>lt;sup>3</sup> Mobile Coupons: Strategies, Opportunities & Forecasts 2012-2017, Juniper Research



### 10. Increasingly Digital Remittances

# Remittances: huge, growing and profitable market

Traditional players such as banks or money transfer operators (MTO's) like Western Union or MoneyGram are now competing with a plethora of new players using different channels, value propositions and focusing on specific segments.

Some of the key reasons why the remittances space continues to be attractive:

- Remittance is a huge market globally, with the World Bank estimating that formal remittances account for \$608 billion in 2015 with informal remittances adding an estimated 30% to 40% to the size of the market
- Remittances have also shown resilience and continued to grow despite the economic crisis, with an expected annual growth rate of 5% forecast to 2017
- Established MTO's enjoy healthy profitability margins

# New entrants entering the market with digital solutions

There have been relatively high barriers to enter the remittance market: large networks of cash-in agents and cash-out locations plus the heavy and costly regulatory burden to comply with KYC (Know Your Consumer) and AML (Anti-Money Laundering) regulations.

However, the advent of new technologies (Internet, smartphones, new forms of payments) and the change of regulations (e.g. Payment Services Directive in Europe) have facilitated the development of new value propositions in the remittances market:

Non-bank actors such as TransferWise now focus on corridors between developed markets to offer transparent, cheaper and high quality account-to-account remittance services, which

- established players did not previously offer. Looking at the \$58 million raised by TransferWise in January 2015, it seems that investors perceive high growth potential for this sector!
- Other actors such as Azimo provide alternative payment methods and propose a mix of cash, bank accounts and payment cards for cash-in or cash-out to cater for specific needs of senders and recipients. Leveraging Internet-based services, account-to-cash or card-to-cash solutions are becoming increasingly popular to target remittances from developed countries to developing countries. These add convenience to the sender who does not need to physically go to an agent to initiate the money transfer.

Rather than covering the whole remittance value chain, new entrants are focusing on specific aspects of a remittance solution.

Some offer a digital cash-in solution (e.g. Internet account) or partner with large existing distribution networks for the first mile (e.g. post-offices, super-markets, banks) and for the last mile (local banks, post offices, or a network of small shops).

### Incumbents innovating

Edgar, Dunn & Company's analysis has shown that new entrants compete on three key differentiating factors of a remittance service: convenience, efficiency and costs.

The latter aspect means that fees and/or exchange rates offered by new players are significantly lower than established players (banks and money transfer operators).

As these new entrants started to gain market share, incumbents began to adapt their strategies in four core areas:

 Price: depending on corridors, methods of funding and distribution channels, incumbents have modified their price strategies to better compete with new entrants but this has eroded their margins



- Product: a high proportion of remittances are initiated by migrants and money transfer operators have realised that money transfer is only one service among others they could offer to the migrant population. This resulted in product diversification and partnerships to offer new services like phone cards or bill payments. Leveraging their key strengths (typically large networks for cash-in), money transfer operators have complemented their core offering and strengthened the relationship and the trust built with their customers
- Distribution channel: traditional money transfer operators realised that they needed to go beyond their brick-and-mortar network to compete with new entrants. Digital distribution channels such as online solutions or kiosks have now become the backbone of their digital strategies to decrease distribution costs and increase customer reach
- Payment method: although cash will remain one of the most popular payment methods used for both cash-in and cash-out, MTO's understand the necessity to roll out new digital channels and leverage non-cash payment methods such as bank account or card solutions. This is also true for recipients who may prefer to receive money on a bank account, a card or an online wallet such as PayPal or mPESA.

Online wallets are indeed considered to play an increasing role in digital remittances. Western Union announced in January 2015 a partnership with Apple Pay to fund and initiate money transfers.

While the extent and the result of this partnership remain to be seen, this illustrates that the development of mobile payment solutions like Apple Pay in the US or mobile money in Africa may play a key part to propel fully digital remittances which may change the remittance market dynamics significantly.





### 11. How to Make Your Way into the...

# Emerging-to-Emerging Market Commerce

Financial services in emerging-markets continue building up market-specific innovation and business models that could reshape competition and regional trade flows.

Our survey findings this year are consistent with those of previous years. An overwhelming majority of respondents agree that mobile<sup>4</sup> payments are well suited to serve the payment needs of developing / emerging markets and will grow at rates above those for more developed markets which have mature payment systems.

Many economists have been forecasting about the inevitable rise of emerging markets: stellar economic growth rates, an expanding middle class, and a strong youth population will all help in enabling these markets to outshine the power centres in North America and Europe and present opportunities for financial institutions.

While a number of promising emerging nations are now encountering significant challenges, the outlook continues to be bright. A study by PwC indicates that between 2002 and 2010, emerging-to-emerging markets trade flow growth rate (excluding Mexico, Russia and CIS) has been double that of developed-to-emerging markets trade<sup>4</sup>.

Emerging markets are growing from within, creating their own blueprints for innovation backed with regional, non-traditional flows of capital. This progress makes it harder for Western financial institutions to tap into market opportunities without careful planning and execution.

# Rocket Internet: How to think digital and partner regional

A master builder with a "clone – operate – transfer" model for online businesses, Rocket Internet took its time to enter the emerging markets where they now command a large footprint. Starting out with the founding of regional divisions – Latin America Internet Group (LAIG) and Africa Internet Group (AIG) in 2012 – Rocket aimed to leverage existing business models and capabilities to meet the demands of the region.

These regional hubs were followed by Middle East and Asia Pacific Internet Groups (MEIG and APIG respectively) in 2013 and 2014, further expanding Rocket's reach. They raised \$500 million to support their start-ups in these regions in 2013, operating in more than 40 countries and also having a profound effect on the respective start-up and e-commerce ecosystems with transferred knowledge and accelerated development<sup>5</sup>.

Where e-commerce and financial technology solutions are the core drivers of this expansion, joint ventures with leading telecom operators (e.g. MTN, Millicom, Ooredoo) in each region also helped accelerate the delivery of complex region-specific solutions.

Last year Philippine Long Distance Telephone Company (PLDT) invested \$445 million for a 10% stake in Rocket; companies plan to combine PLDT's mobile payments and remittance platforms with Rocket's global technology platform to provide products and services for the "unbanked, uncarded and unconnected" population in Asia<sup>6</sup>.

### M-PESA: How to stay true to the region's needs

The Safaricom initiative M-PESA continues to inspire mobile payment solutions for the emerging markets, following its enormous success in Kenya catering to its 11.6 million active monthly customers and over \$1 billion monthly transaction volume<sup>7</sup>.

This success is signalling sustainable growth in much needed m-payments solutions in the region and like last year more than 80% of survey respondents agree that emerging markets will register faster development in advanced payments.

<sup>4</sup>Capitalising on the rise and interconnectivity of the emerging markets, PwC. Note that the analysis is based on World Trade Organisation (WTO) data <sup>5</sup>Rocket Internet press release and website, 2014 • <sup>6</sup>PLDT press release, 2013 • <sup>7</sup>M-PESA half-year results for 2013-2014, GSMA Mobile Money for Unbanked



M-PESA is not just a payments solution; the company extended its business model by serving as an infrastructure provider to an increasing number of organisations (partners with 140 financial institutions and 1400 billing services) in the region for making basic services and utilities (e.g. in energy, health and education) as well as other banking services (e.g. loans) more accessible.

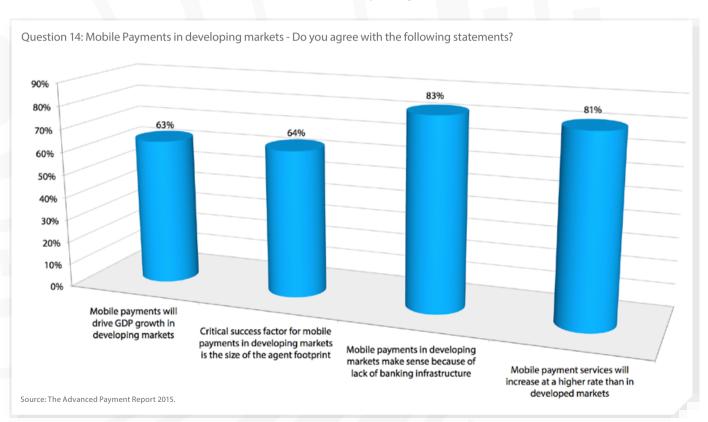
An important example of these partnering efforts is with M-Shwari, the savings and credit product from Safaricom and Commercial Bank of Africa (CBA) that has now reached 2.4 million active users with a \$9.3 million loan balance<sup>1</sup>.

The expansion of offerings indicates m-Pesa's efforts to address the needs of the unbanked customers beyond simple remittance services as well as the needs of other companies that would otherwise have required investing in necessary infrastructure and service to reach these customers.

# Transferwise: How to extend a good solution to emerging economies

Transferwise, founded in 2011, is a UK based peer-to-peer online money remittance service that offers heavily discounted prices for cross border transfers. Relying on their innovative peer-to-peer model to reduce costs, Transferwise redirects the money to the recipient of an equivalent transfer going in the opposite direction (coupling transfer from A to B with transfer from B to A) and therefore removing the exchange rate costs.

In an effort to expand their disruptive solution to the emerging markets, Transferwise recently added the Indian Rupee to its supported currencies and even without a significant marketing effort, the Indian Rupee now accounts for a significant portion of their total transaction volume. Transferwise continues expanding by adding new currencies from Southeast Asia and South America<sup>8</sup>.



<sup>&</sup>lt;sup>8</sup>Transferwise website



### 12. Retailers' Perspective

# Payments continue to be a hot topic

Payments continue to be a hot topic with retailers. Consumers have an increasing array of choices when making a payment and have greater choice and control over the channel through which they wish to transact. Cash, plastic cards, contactless, e-wallets, m-wallets, and bank transfers are all contributing to the payment mix that both consumers and retailers must now consider and support.

Retailers are also placing greater emphasis on what consumers experience in-store or online and how they treat marketing information whilst browsing, researching, making decisions and purchasing at the point-of-sale or on the checkout page.

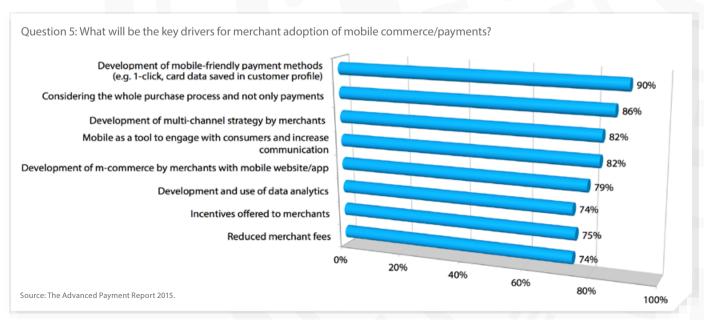
The sheer volume of information available to retailers is unprecedented, even for brands that have years of experience analysing customer data. Monetising data will be key for retailers.

Retailers are also introducing free Wi-Fi, in-store kiosks, and arming their sales staff with mobile devices. These devices allow staff to better serve web-savvy customers face to face and introduce a new point of interaction that could be in the changing room or where the shopper happens to be browsing. For consumers there will be a greater blurring of the lines between online and offline retailing. The design of the traditional "pay here" checkout desk or point of sale is undergoing a complete rethink.

### **Key Topics**

Many multichannel retailers are continuing to focus on payments to reduce costs, improve customer service and differentiate their services. Several key trends are apparent:

- An integrated multichannel strategy is key to growth
- The payment mix is at the heart of an integrated multichannel strategy
- Security and compliance are a core component of any successful retailer strategy





### Integrated multichannel strategy

Retailers already recognise that by developing an integrated multichannel strategy they can provide a differentiated shopping experience for customers, leading to additional benefits and sales growth. However, there are challenges for prospective retailers who are embarking on the road to an integrated multichannel retailing strategy.

Many retailers sell through multiple channels, both physical and virtual; however, it is the degree to which these channels are integrated that indicates the strength of a multichannel retailing strategy.

This year's Advanced Payments Survey also showed retailer support for integrated multichannel strategies, particularly in the context of mobile – 82% of respondents cite the development of a robust multichannel strategy as a key driver for merchant adoption of mobile commerce and payments.

### The payment mix

Retailers need to differentiate themselves in a highly competitive environment and the payment mix can become a key factor for consideration in designing payment strategies. Retailers are certainly aware of this and are carefully selecting the right mix of payment methods in order to best serve their customers. Mobile point-of-sale (mPOS) is consistently a hot topic when considering

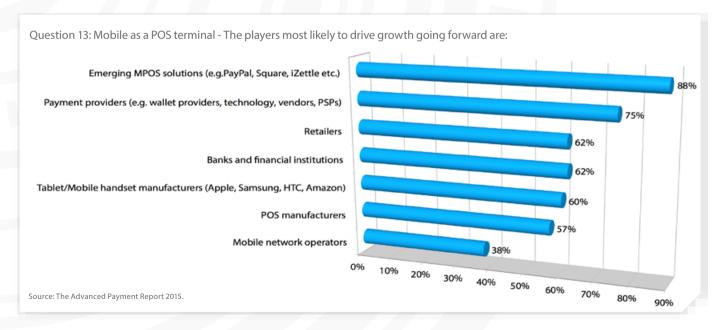
payments acceptance and many industry stakeholders believe that retailers are well positioned to drive growth. 62% of our survey respondents indicated that retailers were a likely player to drive growth of mobile as the POS. In addition to this, according to EDC's recent annual retailer survey, retailers strongly acknowledge the significance of different forms of payment.

### Security and compliance

The retail industry is diverse, extremely competitive and faced with rapidly changing consumer needs and behaviour.

There is a requirement to ensure a continuously improving customer service and experience supported with strong brand identity and customer loyalty. Alongside this, retail IT infrastructure is both complicated and widely distributed. It spans stores with POS terminals, self-service, information systems and back office systems as well as the additional complications that accompany sales channels such as online and mobile.

Retailers have to strike a balance between reducing risk, costs and maintaining security. Balancing these areas can be particularly challenging. In today's retail environment security issues – data breaches, unscheduled downtime and even compliance penalties – can greatly impact consumer confidence and the bottom line.



# Facilitating the Future of Payments

# The American Express Network — Delivering a Platform for Innovation

The American Express Network is bringing together a diverse community of business partners and technology providers to create connections and deliver innovative payment solutions in the digital and mobile commerce space. Utilizing our global experience and world-class network, we can help you build valued customer relationships and business success.

Connect with the American Express Network and discover more at **amexglobalnetwork.com**.

