White Paper:
Mobile Commerce in Retail: Loyalty and Couponing

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Introduction

Background – the Retail Value Proposition

In the *Mobile Commerce in Retail* White Paper published in July 2013, the GSMA outlined a compelling vision of how mobile commerce could transform retailing and the practical steps that Mobile Network Operators (MNOs) can take today. It explores how MNOs can cooperate with other operators, retailers, trade associations, town improvement initiatives and policy makers to create the holistic proposition consumers are looking for.

This paper builds on that White Paper to explore in more detail how mobile commerce can transform consumers’ experience of loyalty programmes and associated couponing. It also considers how mobile-enabled loyalty programmes can enable a merchant to build a much deeper and more rewarding end-to-end relationship with its customers.

The structure of this paper

The paper is divided into six sections:

- New opportunities for consumer engagement
- Loyalty and couponing today
- Creating a compelling customer journey
- The opportunities for MNOs
- The key enablers for mobile loyalty and couponing
- Next steps.

The objectives of this paper

- Outline how the digital world provides a wealth of new ways to understand and interact with the customer and complement traditional methods of engagement
- Consider the potential of mobile loyalty programmes and coupons to engage and retain new and existing customers and build brand affinity
- Explain how MNOs can combine multiple technologies to meet merchants’ and brands’ objectives and create a compelling loyalty experience for their customers
- Highlight the key technical and business enablers that need to be in place to deliver a compelling mobile loyalty and couponing programme.

Target audience

- MNOs
- Retailers, restauranteurs, hoteliers, entertainment providers, parking providers and other merchants and their membership associations
- Loyalty providers
- Payment service providers
- Equipment vendors, systems integrators, infrastructure suppliers.
Executive Summary

The opportunity

Loyalty programmes and couponing are at the heart of many merchants’ customer engagement strategies. Supported by advanced mobile technologies and services, a loyalty programme can build a sense of affinity between consumers and brands and merchants, leading to greater customer retention, interaction and sales.

MNOs can help merchants or brands use multiple datasets to make loyalty programmes directly relevant to individual consumers. With the explicit permission of the individual, a broad array of contextual data captured by the MNO, such as location, direction of travel and web browsing history, can be analysed and used to provide relevant information and offers to customers in real time via the mobile networks and contactless technologies. With the right contextual information, a merchant can effectively give customers a ‘VIP experience’ that makes them feel like they are receiving special treatment.

Merchants and brands can use mobile apps and websites, SMS (Short Message Service), MMS (Multimedia Messaging Service), NFC (Near Field Communication), QR (Quick Response) codes and other mobile technologies to deliver personalised and immediately relevant offers, messages and information. Contactless technologies can be supplemented by in-store digital touchpoints and interactive shelf-edging.

The role of the mobile wallet

As individual consumers interact with many different merchants and brands, they need a straightforward and consistent approach to organising digital vouchers, loyalty programmes, payment cards, tickets and other items. A mobile wallet, essentially a digital container, can meet that need. The mobile wallet can also enable consumers to browse their coupons and ‘activate’ them ready for use.

It places coupons on their SIM card, which acts as a secure element, so that they can be read by an NFC-enabled PIN entry device functioning in card emulation mode or an NFC reader.

Much like physically walking along the high street, the mobile wallet can act as a ‘street’ that provides access to many different stores’ promotional information – the merchant and brand applications also running on the device. Ideally, the composition of the ‘street’ will change with the context, such as the consumer’s location, the time of day and whether they are working or relaxing. For example, in the morning, the wallet might highlight the apps of local cafes and coffee shops, while in the evening it might highlight the apps of local restaurants.

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To create the best customer experience, the merchant needs to be both in the ‘street’ (wallet) and have a ‘store’ (a merchant application on the handset’), giving the user the flexibility to begin an interaction in the wallet and then explore further by using the merchant’s app.

A MNO could use a mobile wallet as a bridge between merchants and brands’ own apps and the consumer, optimising the user experience. The focus would be on making it as simple as possible for merchants and brands to engage with consumers and vice versa. For example, a mobile wallet could enable a consumer to register for a new merchant loyalty programme with a single click, utilising authentication services provided by the operator as the enabler.

**Closing the loop of interaction**

MNOs can help merchants and loyalty providers to draw a direct correlation between their loyalty programmes and coupon distribution and actual sales – i.e. close the loop. For example, mobile technologies, such as NFC, can help merchants and brands determine the effectiveness of a specific campaign by registering the redemption of coupons and loyalty points at point of sale.

Moreover, the MNO can also facilitate the expiry of unused coupons and loyalty points (known as breakage). The MNO can also feed expiry data back to merchants and brands ensuring they have up-to-date information on how many outstanding coupons and loyalty points are in the hands of consumers.

**Potential business models**

If they add significant value to the loyalty and couponing market, MNOs will be able to generate new revenues. For example, MNOs could potentially monetise the following services:

- Delivery of service updates into the mobile wallet and the merchant app
- Provision of customer care and operational management
- Redemption of promotional offers and campaign support
- Redemption of loyalty points or coupons (including the business-to-business data flow)
- Provision of reporting and analytics in real-time, enabling dynamic promotions to be turned on and off
- Facilitating a merchant app download via a MNO link
- Provision of brand advertising within the mobile wallet
- Activating an offer on behalf of a brand or a merchant
- Enable single-click sign up for loyalty programmes
- Provide loyalty and couponing as part of a tiered end-to-end mobile commerce offering.

A MNO could use a mobile wallet as a bridge between merchants and brands’ own apps and the consumer, optimising the user experience.
**Key considerations for the value chain**

Each element of the value chain needs to work together to create a compelling service experience. First and foremost, a mobile loyalty solution needs to be able to identify consumers rapidly at point of sale so they can accumulate reward points and redeem coupons without having to wait. Consequently, the solution will need to be able to work offline, as well as online, so the consumer isn’t waiting for the service to connect to a server or gateway, and enable the merchant to process these interactions in batches.

At the same time, the solution needs to give consumers the option of redeeming or not-redeeming valid coupons. It could also give the merchant the flexibility to make offers in real-time in line with their business rules.

The interactions between MNOs and merchants need to be underpinned by business relationships and rules, as well as technical enablers, such as application programming interfaces (APIs) and a software development kit (a SDK).

**The need for a consistent approach**

Merchants and brands want to use the same processes and data flows to engage all their customers and potential customers, so MNOs in a national market should consider working together to develop a consistent approach to loyalty and couponing. A consistent approach will generate economies of scale across the value chain. Similarly, the use of open standards for technical delivery can engender consistency and simplicity, helping extend the reach of loyalty programmes and generate scale. For example, MNOs could make it easier for consumers to sign up for multiple loyalty programmes by ensuring that their mobile wallets use the same interfaces to register a consumer’s personal details.

The use of a consistent approach across MNOs will also enable merchants’ store staff to quickly become familiar with how customers can use their mobile handsets to collect and redeem loyalty points and coupons. By using the same technical enablers and processes across industries, MNOs will also make it easier for consumers to use their mobile handsets to engage with multiple loyalty programmes and coupons. The mobile wallet could enable consumers to manage every aspect of the customer journey including parking and entertainment, as well as shopping, loyalty, coupons and payments.

**Next steps**

If they aren’t already, MNOs in each market could discuss adopting a common approach to mobile loyalty and couponing based on the GSMA’s work in this area. Both handset vendors and point of sale infrastructure vendors could be involved in these discussions to ensure that their equipment can support the proposed technical architecture.

The GSMA is developing a technical specification for loyalty and couponing to be published early in 2014. The GSMA is also working with MNOs to secure a go-to-market commitment for this technical specification in multiple countries in 2014.

The mobile wallet could enable consumers to manage every aspect of the customer journey including parking and entertainment, as well as shopping, loyalty, coupons and payments.
New Opportunities for Customer Engagement

Merchants and brands’ objectives

Merchants and brands are looking to differentiate themselves and increase the size of their customer base and create deeper and stronger relationships with existing customers that will enable them to cross-sell and up-sell additional products and services. Loyalty programmes and coupons – the focus of this paper – are at the heart of many merchants’ customer engagement strategies. Advanced mobile technologies and services are now opening up opportunities to make loyalty and couponing more relevant and compelling for consumers.

Meeting consumers’ needs

The GSMA’s Mobile Commerce in Retail White Paper, identified six distinct stages within the customer journey at which retailers and brands can use mobile networks and services to engage with consumers. These stages are planning, outward travel, in-store, transacting, post transaction and return travel. At each stage, consumers can benefit from specific kinds of information and are receptive to particular kinds of marketing (see Figure 1). For example, a consumer who has just bought a camera would likely welcome a message flagging that they have earned enough loyalty points to qualify for a 20% discount on a compatible lens.
A well-run loyalty programme can act as a robust framework in which to deliver personalised and compelling information and offers at the most appropriate stage of the customer journey using mobile technologies and services. In the subsequent sections of this paper, we outline how a combination of mobile and contactless connectivity can enable a loyalty programme to become far more automated, interactive, convenient, relevant and easy-to-use for consumers.

At each stage, consumers can benefit from specific kinds of information and are receptive to particular kinds of marketing.
Loyalty and Couponing Today

The role of loyalty

Merchants have been using loyalty programmes for decades. They are generally designed to enable a structured and long-term engagement in which customers are incentivised to remain loyal to a specific merchant or group of merchants or brand. Incentives might take the form of discounts, special offers, rebates, points or prizes.

Successful loyalty programmes generally:

• Motivate customers within a specific or adjacent market to return often and make frequent purchases
• Reduce churn
• Improve brand affiliation.

But loyalty programmes also have another purpose. Crucially, they are a mechanism to enable merchants and brands to obtain knowledge about both individual customer behaviour and aggregate customer behaviour. They can use that knowledge to engage with individuals in context through email, social networks, web sites, mobile apps or another mechanism. For example, a supermarket might send a customer who regularly buys red wine on a Friday evening a voucher offering a 20% discount on cheese an hour before the customer typically arrives at the till. A merchant can also use the aggregate data collected by loyalty programmes to gain insights into consumer behaviour, such as how frequently individuals buy a specific product.

In a bricks and mortar context, most merchants’ loyalty programmes require the customer to present a plastic card at point of sale. This step enables the consumer to collect loyalty points and the merchant to collect transactional data for that customer. In a growing number of cases, these cards are being supplemented by mobile applications, which can use contactless technologies, such as NFC or a QR code, to enable the consumer to both accumulate and redeem points at point of sale. Note, smaller merchants may take a more basic approach, simply stamping a card each time the consumer buys a product or a service. In this case, the merchant isn’t collecting much data on the consumer and the purpose is simply to incentivise consumers with rewards for remaining loyal to a particular merchant.
Types of loyalty programmes

There are two major types of loyalty programme:

Coalition loyalty programmes serve multiple merchants, sometimes spanning several vertical sectors. Consequently, consumers can spend and redeem loyalty points across multiple merchants. Examples of coalition loyalty programmes include Nectar and Avios.

Merchant/brand-funded loyalty programmes are run by a single merchant and typically support engagement with a single brand, but they may also involve cross-brand partnerships. The management of these programmes is generally contracted out to a third party. Examples of individual brands running loyalty programmes include Nestle, Citi, Hertz, British Airways, Lego, Kraft, Chipotle Ordering, Coke, Pepsi, Marriott, Vue, Cineworld and Asos. Major retailers running loyalty programmes include Subcard, Starbucks, Shell, BP, Monsoon, Coles, Vodafone, B&Q, Debenhams, Tesco, Auchan, Casino, Metro Group and DeSpar.

My Starbucks Rewards: A highly-successful loyalty programme

Starbucks runs a widely used loyalty programme called ‘My Starbucks Rewards’, enabling the global chain of coffee shops to capture valuable data on a large proportion of its customer base. The Starbucks programme combines loyalty with payments and technology to provide its customers with both value and convenience. Consumers can also use a Starbucks mobile app, tied to the Starbucks Card, on a smartphone to make payments and accumulate loyalty points. Consumers can also store value on the Starbucks Card.

• Nearly 25% of Starbucks transactions in the US are logged by the programme, while in China, that figure is 35%
• In 2012, Starbucks customers used the card to prepay for more than $2.9 billion worth of future purchases
• Starbucks mobile app is now used for 10% of all Starbucks transactions in the US.

The broader loyalty market

Not all loyalty programmes are as successful or as sophisticated as that of Starbucks. As loyalty programmes have lost some of their novelty value, time-pressed consumers have become reluctant to go to the trouble of registering their details or carrying yet another plastic card. As a result, it can be difficult for loyalty programmes to attract new members.

Even active members of loyalty programmes frequently neglect to bring the relevant cards when they go shopping or forget to take them out of their wallet at point of sale. As most programmes are not using mobile technology to capture customers’ location data, merchants don’t know who is in their store until the customer reaches the point of sale, by which point it is generally too late to attempt cross-selling or up-selling.

Moreover, there is limited, if any, sharing of information on consumer behaviour between individual loyalty programmes meaning that most merchants have a narrow and incomplete picture of their customers. Although coalition loyalty programmes have a broader view of an individual’s behaviour, they rarely have a complete picture of the consumer’s preferences and predispositions.

Multiple third parties, such as Bopsy, Perka, Groupon, Fidall, Apple’s Passbook, Lemon Wallet, SAP and Foursquare, are using a combination of loyalty wallets and QR scanning to try to address the issues outlined above. But none of these players have attracted the critical mass of merchants necessary to make their proposition really attractive to consumers.

Although coalition loyalty programmes have a broader view of an individual’s behaviour, they rarely have a complete picture of the consumer’s preferences and predispositions.
The role of couponing

Although many coupons are issued entirely independently of loyalty programmes, these two marketing tools can complement each other very effectively. In fact, coupons can be an integral part of the customer engagement process for both brands and merchants. Although coupons can be used as an one-off incentive from a brand or retailer to change a consumer’s behaviour, they can also be used to initiate and sustain an on-going relationship within the framework of a loyalty programme. For example, a clothes retailer might offer a consumer a 15% off voucher if they register for the store’s membership card.

Coupons are issued in many different ways, such as via direct mail, hand outs, in a pack, on a pack, in an advertisement, via the Internet or email, on shelf pads, inside a magazine and bounceback (a coupon distributed following a customer services call as a goodwill gesture).

Low levels of coupon redemption

In 2012, brands distributed 310 billion traditional consumer packaged goods coupons worth $484 billion in the US market, but just 1% of these were redeemed, according to Inmar’s Coupon Trends 2012 Year End Report. The most popular distribution mechanism was free-standing inserts in publications. In the US market, the average potential savings for each consumer in 2012 was $1,535, however the average consumer only took advantage of $10.75, according to the report. In the US, food-related coupons (41% of all coupons) are twice as likely to be redeemed as non-food coupons.

The advent of digital coupons

Digital coupons (e-coupons) are in their infancy: The Internet accounts for just 0.1% of coupon distribution, as do electronic shelf coupons, which are dispensed from a box attached to the shelf near the product for immediate use. Similarly, mobile networks and services account for less than 0.1% of coupon distribution.

Excluding print-at-home coupons, 27 million digital coupons were redeemed in the US in 2012. The average redemption rate of digital coupons was 11.2% – eleven times higher compared to conventional coupons, according to the Inmar report. By 2015, distribution of digital coupons in the U.S. will rise by 898% Inmar predicts, and will have a total face value of $150 billion. At the same time, the traditional couponing market is set to decline slowly over the next few years (for example, Inmar forecasts that distribution of free standing inserts will decline by 3% by 2015). However, traditional coupons will continue to co-exist with digital coupons for the foreseeable future.

What MNOs are doing today

Many MNOs are deploying mobile commerce services that support loyalty and couponing. Examples include the SK planet’s Smart Wallet in South Korea, Weve’s joint venture in the U.K., the Isis mobile commerce joint venture in the US and KT’s MoCa wallet platform.

SK planet’s Smart Wallet

SK planet, SK Telecom’s internet services arm, launched its Smart Wallet in South Korea in June 2010 and, by April 2013, it had 2.5 million active users per month. To redeem coupons stored in the Smart Wallet and collect loyalty points, consumers use barcodes and QR codes with an expiry date. SK planet says that many Korean merchants don’t yet have the necessary contactless infrastructure to support NFC, but the wallet will support NFC transactions in future. Some 220 service providers support the wallet and it can be used in 80,000 locations across Korea.

SK planet earns revenue when a service provider issues a membership (loyalty) card for use inside the wallet. The service provider pays about 50 U.S cents to register a card and then 10 cents each time the card is used.

Isis™ – a US-based joint venture

A joint venture between AT&T Mobility, T-Mobile USA and Verizon Wireless, Isis has developed a suite of mobile commerce services for banks and merchants. Following a successful pilot in Salt Lake City and Austin in October 2012, Isis is now expanding to the rest of the US.

To set up the Isis™ Mobile Wallet, the consumer needs to have an NFC handset and a compatible SIM card and to download the Isis™ Wallet software. When the consumer first signs up, they receive offers from participating merchants. To continue receiving offers, the consumer needs to ‘follow’ the appropriate merchant in the directory within the wallet. Some merchants’ websites and NFC-enabled posters also have a ‘clip to Isis’ feature that enables consumers to select an offer and have it delivered directly to their wallet. During the pilot, two-thirds of active users opted-in to receive offers and messages from their favourite brands, following an average of seven brands each.

Consumers can use their Isis™ Wallet to pay by holding the phone against a compatible point of sale terminal, which will then send a transaction confirmation to the wallet. They then follow any further instructions on the payment terminal. For some merchants, that single tap will also enable the consumer to redeem any pre-selected offers and accumulate relevant loyalty points. In other cases, the consumer will need to show the offer barcode or numeric code to the store staff.
KT’s MoCa Wallet

KT, a leading MNO in South Korea, had more than two million subscribers for its MoCa Wallet by April 2013. KT says the service appeals to Koreans because they can store their membership (loyalty) cards in the wallet rather than having to carry multiple plastic cards.

The consumer can download loyalty cards and coupons into their MoCa wallet through a simple one-click process. If the merchant has a compatible point of sale terminal, coupons can be redeemed via NFC when the consumer makes a purchase. Otherwise, the merchant scans a barcode on the digital loyalty card or coupon displayed on the consumer’s phone. The wallet tracks how many loyalty points the consumer has with each merchant, their valid coupons and their payment cards. The wallet can also show how far the consumer is from a particular merchant, together with directions to the closest outlet on a map. KT says that 33 retail brands are using the MoCa Wallet to support their loyalty programmes and deliver coupons.

Weve – a UK-based joint venture

A joint venture between Everything Everywhere, O2 and Vodafone in the UK, Weve use the mobile networks to deliver offers to opted-in consumers on behalf of brands and merchants. Weve is now developing a single mobile wallet architecture that will be available to any MNO in the UK and is due to be launched in the first half of 2014. Weve’s website says: “With Weve, businesses can do a single commercial deal and a single piece of technical integration that will enable their consumers to transfer their card-based data into their mobile wallets; saving businesses significant amounts of time, money and technical resources, while making life as easy as possible for their customers.”

The Weve architecture will be designed to enable a MNO’s wallet to exchange information with retailers’ apps and handle loyalty programmes in a consistent way that consumers will become accustomed to. Weve, which has said its wallet architecture will support NFC, barcodes and QR codes, is working with point of sale vendors to integrate support for its technical architecture into their terminals.

The consumer can download loyalty cards and coupons into their MoCa wallet through a simple one-click process. If the merchant has a compatible point of sale terminal, coupons can be redeemed via NFC when the consumer makes a purchase.
Creating a Compelling Customer Journey

How to engage the customer

For merchants and brands, a successful loyalty programme will prompt consumers to reach out (either digitally or physically) to interact with the merchant or brand. Ideally, the loyalty programme will build up a sense of affinity with the brand or merchant and the consumer will seek to engage on a regular basis.

There are several different ways in which a MNO can help a merchant or brand build that sense of affinity. These approaches, which can be used separately or in combination, depend upon the smart use of multiple datasets to make a loyalty programme directly relevant to the individual consumer. With the right contextual information, a merchant can effectively give customers a ‘VIP experience’ that makes them feel like they are receiving special treatment.

**Contextual loyalty** combines historical information, such as a consumer’s previous purchases, usage of the mobile network and declared interests, with contextual factors, such as the time of year, the time of day, the weather, the individual’s current location and societal trends. This data is aggregated and analysed in real-time to enable the delivery of immediately relevant information and offers to the consumer. In this case, the focus is on ensuring the information and offers are appropriate in the context, thereby engaging the consumer and maximising the success of the campaign for the merchant.

**Social loyalty** utilises social media, such as Facebook and Twitter, as a mechanism to maintain a dialogue between merchants and brands and their customers. For example, consumers might use their social media ID to check in to web sites or physical stores. In this case, mobile technologies and services, such as location identification, identity authentication, SMS, MMS and NFC, can be used to enrich the two-way interaction.

**Trending** refers to the aggregation of data from mobile networks with data on consumers’ purchasing patterns on an anonymous basis to identify trends that can be used to shape and refine marketing programmes.

**Delivery and interactivity mechanisms**

Both contextual and social loyalty programmes can make extensive use of the mobile medium to engage with consumers. Mobile networks can help to establish a consumer’s location in real-time, while merchants and brands can use mobile apps and websites, SMS, MMS, NFC, QR codes and other mobile technologies to deliver personalised and immediately relevant offers, messages and information. QR codes and NFC technologies, in particular, can make it straightforward for the consumer to use their handset to interact in-store. In the case of an NFC device supporting the Single Wire Protocol, the SIM card inside the handset can be used as a secure element to protect sensitive data and offer a simple user experience. Contactless technologies can be supplemented by in-store digital signs and interactive shelf-edging. In some cases, the merchants and brands may want to enrich the in-store experience using gamification techniques in which consumers can score points and win awards for completing certain tasks.
The role of the mobile phone and the mobile wallet

Mobile phones are fast becoming an essential shopping tool for consumers. Almost 70% of Americans used their mobile devices to look up information while in retail stores between Thanksgiving and Christmas 2012, according to a survey of 6,200 people by customer experience analytics firm ForeSee.

Mobile devices are increasingly facilitating commerce both inside and outside bricks and mortar stores. As flagged in the previous section, merchants and brands are beginning to enable consumers to use applications running on smartphones to manage their loyalty programmes, view their accounts, select rewards and declare their preferences.

As individual consumers interact with many different merchants and brands, they need a straightforward and consistent approach to organising digital vouchers, loyalty programmes, payment cards, tickets and other items.

A mobile wallet, essentially a digital container can meet that need. The mobile wallet can also enable consumers to browse their coupons and ‘activate’ them ready for use.

It places coupons on their SIM card, which acts as a secure element, so that they can be read by an NFC-enabled PIN entry device functioning in card emulation mode or an NFC reader.

As well as enabling the user to manage a broad portfolio of mobile commerce services, mobile wallets are typically designed to enable the user to manage information securely via the SIM card in their device.

The user experience of a mobile wallet

Much like walking along the high street, the mobile wallet can act as a ‘street’ that provides access to many different ‘stores’ – the merchant and brand applications also running on the device. Ideally, the composition of the ‘street’ will change with the context, such as the consumer’s location, the time of day and whether they are working or relaxing.

For example, in the morning, the wallet might highlight the apps of local cafes and coffee shops, while in the evening it might highlight the apps of local restaurants. To create the best customer experience, the merchant needs to be both in the ‘street’ and have a ‘store’, giving the user the flexibility to begin an interaction in the wallet and then go deeper by using the merchant’s app (see Figure 2).
Merchants and brands generally want a consumer to actively choose to redeem a coupon or loyalty points so they can draw a direct link between their marketing and buying behaviour. The wallet should, therefore, require of consumer to ‘activate’ a coupon so it is ready for use (note, the wallet may prompt a consumer to activate a coupon by providing contextual information). As the merchant and brand can track which coupons or offers are not used, they can refine future campaigns, benefiting the consumer who will then be marketed more effectively in line with their buying behaviour; likes and dislikes.

When the consumer activates the coupon, the wallet activates it on to the consumer’s SIM card, where it can be recognised by an NFC-enabled PIN entry device (a PED) working in card emulation mode. The coupon could also be flagged as activated on the home screen of the mobile wallet. The introduction of new technologies, such as Bluetooth Low Energy, into retail systems could change this step by alerting a consumer to relevant coupons as they enter the store. However, the merchant will continue to require feedback upon the selection and redemption of the coupon. Currently, the way to enable this is to make use of a PED card emulation mode, which the SIM card replicates in the handset, so the two devices can talk to each other.

At the start of a transaction, an NFC-enabled PED will be configured to recognise a coupon. When the consumer taps their phone against the PED to redeem the coupon, the till will show the new balance prior to making a payment. The mobile wallet or application will then indicate that the coupon has been presented and displays the consumer’s default payment card. The PED is now reconfigured to recognise a payment card. The consumer taps their handset again to make the payment and, if required, keys in a PIN to confirm the transaction. The wallet then confirms the transaction and assuming the handset has connectivity, will receive a digital receipt from the merchant’s CRM system. Note, some implementations vary from this approach, with digital receipts being given via another tap, writing directly back to the handset. If the merchant requires a fast throughput, this step can also be done over a wireless or mobile network once the customer has moved away from the till at an appropriate time.

Figure 3 illustrates this process in more detail, highlighting where additional taps could be used to facilitate the reward of loyalty points and other value added services.

**AN EXAMPLE OF HOW A CONSUMER COULD RECEIVE AND REDEEM A COUPON**
In the UK the GSMA inputs to the cross-industry NFC Delivery Steering Board (NFC-SB), which has developed a model etiquette for the use of NFC at point of sale and other points of contact (e.g. ticketing). The GSMA has contributed to the UK-based NFC Steering Board’s POI (point of interaction) Etiquette document, which includes the diagram in Figure 4 breaking down the steps required to activate, validate and redeem a coupon or loyalty points at point of sale. Note, the POI Etiquette is designed to be NFC-independent – applicable to the use of any device that provides the customer with the ability to use multiple applications at the point of interaction, irrespective of how the connection is achieved. In other words, the POI Etiquette is intended to be valid when the mobile phone uses QR Codes, WiFi, Bluetooth or another form of connectivity, as well as NFC.

The NFC Steering Board’s POI Etiquette considers three modes of use:

1. **Single function**: In this mode, the interaction is delivering a pre-defined service with a single interaction, such as enabling the use of payment card below the threshold required for PIN entry, the validation of a transport ticket, the presentation of a coupon or loyalty ID. In this mode, the focus is on speed and convenience.

2. **Pre-configured**: This sub-mode supports the pre-selection and configuration of one or more functions (i.e. couponing, loyalty etc.) and converts multiple single function interactions into a single interaction. Note, this approach requires the standardisation of the interfaces between a handset and the point of interaction device.

3. **Interactive**: In this sub-mode, the customer needs to complete multiple steps to implement a function or functions. For example, the customer may need to enter a PIN to authorise a payment above a certain threshold or actively select a coupon.

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**A BREAKDOWN OF THE STEPS IN THE NFC STEERING BOARD’S POINT ON INTERACTION ETIQUETTE**

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<th>Lifecycle management</th>
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<td>Customer device set-up</td>
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- **Recruit customer**: Identify customer, Register identity, Device provision, Application availability, Application load, Service provider priority, Location acceptance.
- **Customer device set-up**: Pre-interaction app configuration, ‘Tap to tell’ and select, Customer identity verification.
- **Use**: Pre-interaction, Connection mode, Device activation, Pre-interaction support configuration, Tap to tell and select, Customer identity verification, Approval, In-session service configuration, Customer offer acknowledgement, Authorisation, Confirmation of interaction success, Confirmation of interaction failure.
- **Customer support**: Portability, Lost & stolen.

**Figure 4**
In this document, we are describing the use of the pre-configured mode to strike a balance between enabling the active participation of the consumer and speed and convenience.

The MNO’s wallet could also enable consumers to sign up for a loyalty programme simply by pressing a single button. The wallet would then provide the loyalty programme with the consumer’s personal details.

The role of merchants’ and brands’ apps

A well-designed merchant or brand app will enable a consumer to browse through products and services, order online, download vouchers, find bricks and mortar stores, check their loyalty balance, view past transactions and read reviews. It could also act as a conduit for personalised messages, offers and information, which would also be visible in the mobile wallet when they are immediately relevant.

Coupons, offers and loyalty points can also be configured to be visible in the merchant or brand’s app, as well as the wallet. This hybrid approach is explained in the Mobile Commerce in Retail White Paper.

The merchant app could also enable a consumer to scan the barcodes or the NFC tags on products before adding them to their shopping basket. As they scan each item, the mobile wallet could alert the consumer to the presence of any applicable coupons. When the consumer has finished shopping, they could tap their handset against a point of sale terminal to register the total cost of the items in their basket. The consumer could then use their mobile wallet to redeem any applicable coupons and pay for the goods.

The MNO’s wallet could also enable consumers to sign up for a loyalty programme simply by pressing a single button. The wallet would then provide the loyalty programme with the consumer’s personal details.
Understanding the context – what to deliver when

As discussed in the first section of this paper, the customer journey can be broken down into six key stages: At each stage of this journey, a mobile handset can act as a conduit for relevant information and offers, enabling both passive and interactive engagement (see Figure 5).

For example, in the planning stage, a consumer might receive an alert by text message based on their previous transaction history (passive) or they might browse through their wallet looking at specific offers (interactive).

Geo-location technologies may enable a MNO to observe where the consumer is moving in the store (passive), while the consumer might activate a particular coupon by moving it onto their SIM card ready for use (interactive). Each interactive step and some passive steps generate valuable data that can signal to the MNO or merchant what the consumer plans to do next.

In the appendix, we detail two use cases demonstrating how mobile technologies and loyalty programmes can work together to enhance the consumer experience. These use cases describe passive and interactive engagements at various stages of the customer journey.

POTENTIAL INTERACTIONS AT DIFFERENT STAGES OF THE CUSTOMER JOURNEY
6. The Opportunities for MNOs

A proposition to support loyalty programmes

A MNO can play a pivotal role in enabling the kind of compelling customer journey outlined in the previous section and in the appendix. With the explicit permission of the individual consumer, contextual data captured by the MNO, such as location, direction of travel and web browsing history, can be analysed and used to provide relevant information and offers to customers in real time via the mobile networks and contactless technologies.

The mobile wallet could act as bridge between merchants and brands’ own apps and the consumer, optimising the user experience. The focus would be on making it as simple as possible for merchants and brands to engage with consumers and vice versa. For example, a mobile wallet could enable a consumer to register for a new merchant loyalty programme with a single click. The wallet could also use geo-location information to highlight coupons and offers that can be redeemed in the immediate vicinity. Figure 2 and the use cases in the appendix provide more information on the multiple ways in which a mobile app, a mobile wallet, loyalty programmes and coupons can be combined to engage with individuals across the customer journey.

Closing the loop of interaction

MNOs can also help merchants to draw a direct correlation between their loyalty programmes and coupon distribution and actual sales – i.e. close the loop. For example, mobile technologies, such as NFC, can help merchants and brands determine the effectiveness of a specific campaign by registering the redemption of coupons and loyalty points at point of sale. The MNO can also give merchants and brands real-time information on how many coupons and loyalty points are being redeemed, enabling them to adjust their marketing campaign accordingly (see Figure 6).

The mobile wallet could act as bridge between merchants and brands’ own apps and the consumer, optimising the user experience.
As merchants typically want their customers to make an active choice to redeem a coupon, a MNO’s wallet could require a consumer to activate a specific coupon by moving it onto the SIM card. Once it has been activated in this way, the coupon can be redeemed at a PIN entry device via the card emulation mode used for contactless debit and credit card payments. As well as enabling straightforward redemption, this approach enables the merchant to see which coupons appeal to consumers. As the SIM indicates which MNO is facilitating the coupon redemption, the operator can charge a commission for the service.

In summary, the manual activation of coupons by the consumer places the shopper in control. This gives merchants and brands clear signals as to the consumers’ preferences; when they want to be contacted and how.

The MNO can also facilitate the expiry of unused coupons and loyalty points (known as breakage) automatically removing them from the wallet when they are no longer valid, so they can’t be transferred to the SIM card for use.

The MNO can also feed expiry data back to merchants and brands ensuring they have up-to-date information how many outstanding coupons and loyalty points are in the hands of consumers.

Similarly, the real-time transfer of data enabled by mobile technologies and services can prevent the fraudulent use of coupons and loyalty points that have either expired or have already been redeemed.

In summary, MNOs can help merchants and brands manage specific marketing campaigns by giving them real-time information on how many consumers are engaging with the campaign and how many sales are taking place as a result. The merchant or brand can use that data to refine the campaign as necessary.
Need for a consistent approach

Merchants and brands want to use the same processes and data flows to engage all their customers and potential customers, so MNOs in a national market could work together to develop a consistent approach to loyalty and couponing. A consistent approach by MNOs will generate economies of scale across the value chain. Similarly, the use of open standards for technical delivery can engender consistency and simplicity, helping extend the reach of loyalty programmes and generate scale. For example, MNOs could make it easier for consumers to sign up for multiple loyalty programmes by ensuring that their mobile wallets use the same interfaces to register a consumer’s personal details.

The use of a consistent approach across MNOs will also enable merchants’ store staff to quickly become familiar with how customers can use their mobile handsets to collect and redeem loyalty points and coupons. By using the same technical enablers and processes across industries, MNOs will also make it easier for consumers to use their mobile handsets to engage with multiple loyalty programmes and coupons. The mobile wallet could enable consumers to manage every aspect of the customer journey including parking and entertainment, as well as retail and brands (see Figure 7).

MNOS COULD USE A CONSISTENT TECHNICAL FOUNDATION ACROSS DIFFERENT VERTICALS
The use of a consistent technical foundation across different sectors will also enable merchants to benefit from MNOs’ economies of scale. However, this foundation could leave scope for merchants to innovate and create their own distinctive proposition. Whereas the mobile wallet could enable a consumer to activate and redeem coupons and loyalty points in a consistent way across merchants and sectors, the merchant or brand could use their own app to provide a richer and more interactive experience.

The Digital Couponing Specification from GS1
To create a consistent consumer experience, the GSMA is working with GS1, an international not-for-profit association with member organisations in more than 100 countries. GS1 sets the standards for barcodes and eCommerce, and has widespread support among retailers and their suppliers around the world.

The GSMA technical specification for mobile loyalty and couponing, which is due to be published early in 2014, draws on GS1's digital coupon specification to specify how a mobile coupon can be created and the roles and actors required to facilitate each step of the process: The creation, the publishing, the acquiring and offer, the redemption, the clearance and the reporting back to the various actors. The areas highlighted in green in Figure 8 shows the process steps that will be covered in the GSMA specification. As the GSI couponing specification reflects brands’ and merchants’ requirements, the GSMA sees it as the baseline implementation standard.

The use of a consistent approach across MNOs will also enable merchants’ store staff to quickly become familiar with how customers can use their mobile handsets to collect and redeem loyalty points and coupons.
Potential business models
If they add significant value to the loyalty and couponing market, MNOs will be able to generate new revenues. For example, MNOs could potentially monetise the following services:
- Delivery of service updates into the mobile wallet and the app wallet
- Provision of customer care and operational management
- Redemption of promotional offers and campaign support
- Redemption of loyalty points or coupons (including the business-to-business data flow)
- Provision of reporting and analytics in real-time
- Facilitating a merchant app download via a MNO link
- Provision of brand advertising within the mobile wallet
- Activating an offer on behalf of a brand or a merchant
- Enable single lick sign up for loyalty programmes
- Provide loyalty and couponing as part of a tiered end-to-end mobile commerce offering.

HOW THE GSMA’S TECHNICAL SPECIFICATION RELATES TO THE GS1 DIGITAL COUPONING SPECIFICATION

![Diagram showing the sequence of steps for set-up and communication, discovery and acquisition, presentment, validation and redemption, and reporting and financial settlement.]

Figure 8
The Key Enablers for Mobile Loyalty and Couponing

Overview of the loyalty and couponing eco-system

Within the loyalty and couponing ecosystem there are essentially three key domains – the MNO domain, the merchant domain and the brand domain. Colour-coded by domain, figure 9 shows the different elements generally required to deliver sophisticated mobile loyalty and couponing services.

Within this ecosystem, a merchant would have the flexibility to interact with a consumer directly (for example, via email or face-to-face in store), via their mobile app and via the MNO’s wallet. A merchant could also interact with MNOs individually and/or via an aggregated MNO platform, such as that established by the Weve joint venture in the UK or the Isis™ joint venture in the US (see Figure 10).

Similarly, a brand would be able to interact with a consumer directly, via their own mobile app, via a merchant’s app and via the MNO’s wallet. Like a merchant, a brand could interact with MNOs individually and/or via an aggregated MNO platform (see Figure 11).

Figure 12 combines Figures 10 and 11 to give an overview of the interactions across the ecosystem.

A merchant would have the flexibility to interact with a consumer directly.
THE DIFFERENT ELEMENTS OF THE MERCHANT ECOSYSTEM

Figure 9

HOW MERCHANTS CAN INTERACT WITH OTHER ELEMENTS OF THE VALUE CHAIN

Figure 10
HOW A BRAND CAN INTERACT WITH OTHER ELEMENTS OF THE VALUE CHAIN

Figure 11

COMBINED VIEW: HOW MERCHANTS AND BRANDS INTERACT WITH OTHER ELEMENTS OF THE VALUE CHAIN

Figure 12
Key considerations for the value chain

Each element of the value chain needs to work together to create a compelling service experience. First and foremost, a mobile loyalty solution needs to be able to identify consumers rapidly at point of sale so they can accumulate reward points and redeem coupons without having to wait. Consequently, the solution will need to be able to work offline, as well as online, so the consumer isn’t waiting for the service to connect to a server or gateway, and enable the merchant to process these interactions in batches.

At the same time, the solution needs to give consumers the option of redeeming or not-redeeming valid coupons. It would also give the merchant the flexibility to make offers in real-time in line with its business rules. Moreover, as discussed in the previous section, a merchant or brand should have the flexibility to provide loyalty and couponing services via their own app, via the mobile wallet or both.

To ensure completing a transaction is straightforward for both consumers and store staff, the process needs to be consistent across wallets, phones, MNOs infrastructure providers and merchants. Consistency across multiple providers will enable consumers to become familiar and comfortable with mobile loyalty and coupons, while ensuring equipment vendors can gain economies of scale. To that end, mobile applications should, as much as possible, use standard technology and protocols. Similarly, a point of sale terminal should use a standard set of messages and procedures to interact with both consumers and store staff. Figure 13 shows the visual and audio cues, together with the text messages, that the NFC Steering Board recommends across the three modes of interaction discussed in the section: Creating a Compelling Customer Journey.
Merchants’ requirements
In addition to the generic considerations outlined above, merchants will typically be looking for a mobile loyalty and couponing solution to be flexible enough to:

• Support existing retailer loyalty, offer and coupon schemes
• Support vouchers, gift cards and receipts, as well as loyalty and couponing
• Require a consumer to actively choose to redeem a coupon or loyalty points so the merchant can draw a direct link between their marketing and change buying behaviour
• Support the expiration of unused coupons and loyalty points
• Be able to run on existing contactless reader hardware via a firmware upgrade, while requiring minimal field maintenance
• Be service content-agnostic, supporting the GS1 digital coupon standard, as well as merchants, brands and agencies’ own campaigns and data formats
• Be able to interact with multiple retailer and loyalty schemes within the same core application protocol
• Be able to continue functioning if the point of sale terminal loses connectivity
• Enable the redemption of coupon or loyalty points ‘offline’, even though online mode will be needed to award loyalty points to consumers
• Enable data capturing and sharing between parties as per commercial agreements
• Enable the merchant to access real-time analytics and data
• Be able to address a high percentage of merchant footfall
• Enable the merchant’s own app to be the primary conduit for the customer experience.

Brands’ requirements
Furthermore, brands will typically be looking for mobile loyalty and couponing solutions to:

• Require a consumer to actively choose to redeem a coupon or loyalty points so the brand can draw a direct link between their marketing and changed buying behaviour
• Support the ability to make joint offers with a specific merchant
• Enable the brand to engage directly with the consumer
• Enable engagement via a mobile wallet, a merchant app or a brand app
• Support existing brand loyalty, offer and coupon programmes
• Enable the brand’s coupons and loyalty programmes to be applied at the point of sale of participating merchants
• Support the expiration of unused coupons and loyalty points
• Enable data capturing and sharing between parties as per commercial agreements.
Implications for MNOs

To meet the requirements of merchants and brands outlined previously, MNOs will need to take a flexible approach, while limiting both the cost and complexity of their solution. Most operators will use the SIM card as the primary mechanism for securing mobile loyalty and couponing services.

The MNOs are generally configuring the SIM card to support card emulation mode on the PIN entry device (the PED) and the handset, so the merchant doesn’t have to further adapt infrastructure designed to work with contactless plastic cards. As discussed in the previous section, a MNO also needs to configure their wallet so that consumers have to actively move a coupon or loyalty card onto the SIM card, so that it can be redeemed at the PED in card emulation mode (so-called activation). In the same vein, the MNO needs to ensure that expired coupons or loyalty cards (so-called breakage) are removed from the wallet and cannot be moved to the SIM card.

As discussed in the previous section, a MNO should give merchants and brands the option of interacting with members of their loyalty programme via their own apps or via a mobile wallet or a combination of the two. Ideally, the MNO will provide a framework of options that enables the merchant to select how they want to interact with customers. At the same time, the mobile loyalty solution could be designed to scale rapidly to support hundreds of merchants, so that consumers quickly become accustomed to managing loyalty programmes and coupons on their handsets.

The technical specifications for mobile loyalty and couponing being developed by the GSMA envisage that a generic value added services applet will be either pre-loaded or loaded over-the-air onto SIM activation to MNO SIMs. This applet will act as a control mechanism for activation or redemption of coupons and loyalty points using card emulation mode at the point of interaction. This generic applet will also enable the merchant or brand to create and manage their own SIM-based coupons and loyalty programmes using a MNOs’ SDK without having to involve trusted service managers at each stage of the process.

Most operators will use the SIM card as the primary mechanism for securing mobile loyalty and couponing services.
**Point of sale considerations**

As outlined in the merchants’ requirements section, a mobile loyalty and couponing solution needs to cause minimal, if any, disruption to the merchant’s existing point of sale infrastructure. To that end, it should, where possible:

- Be interoperable across multiple point of sale terminals and loyalty platforms from multiple vendors
- Utilise existing hardware as much as possible and require minimum field maintenance
- Utilise existing point of sale data communication channels with minor updates to message flows
- Have no impact on any previous PCI accreditation status for vendor or merchant
- Be capable of receiving basket, loyalty and coupon information from a NFC device in a single tap. (However, the actual payment would involve a separate tap)
- Be fast – for some retailers the time it takes to interact at point of sale is a key consideration.

Although the award of loyalty points will need to take place in ‘on-line’ mode at the PED, coupon and loyalty point redemption must be able to take place when the PED is ‘offline’.

- Ideally, the merchant’s PIN entry device (the PED) should support:
  - Card emulation mode
  - An upgrade to support Value Added Services (VAS) application protocol
  - Merchant ID
  - Support for multiple coupons / loyalty IDs
- Ideally, the merchant’s electronic point of sale (ePOS) should support:
  - Existing in-house loyalty and couponing processes;
  - Upgrades depending upon its individual technical implementation between the ePOS, loyalty and payment services
  - Interaction between the PED and the payment services infrastructure.
- The loyalty platform needs to:
  - Accept the existing loyalty ID, with a MNO identifier attached
  - Deliver data back to the ePOS within current roles and responsibilities.

**Alternative merchant architectures**

If a merchant uses payment service providers (PSPs) to fulfil loyalty and couponing, there are some potential complications. Depending on the merchant’s implementation, there could be a need to provide a re-routing of the loyalty/coupon services into the wallet to close the loop. Each service would need to be identified on an individual basis. MNOs will need to take a consistent approach to this re-routing to ensure the closing of the redemption.

In cases where the merchant’s PED is not connected to the merchant’s ePOS or till systems, the merchant may require an additional device to facilitate the transfer of loyalty and coupon information and value-added services, regardless of whether they are enabled by QR codes, barcodes, NFC or another mechanism. This additional device would enable the consumer’s handset to transfer loyalty and coupon data to the merchant’s ePOS (see figure 14).
In some cases, the merchant’s PED is connected to payment service provider software residing in the ePOS, but not to the merchant’s coupon and loyalty management systems. In this case, there will need to be some back-end integration that enables the payment service provider to transfer the loyalty and coupon information into the appropriate merchant servers (see Figure 15).
AN EXAMPLE OF TRANSFERRING LOYALTY AND COUPON DATA VIA THE PAYMENT SERVICE PROVIDER

Figure 15

Enabling interactions between MNOs and merchants

The interactions between MNOs and merchants need to be underpinned by business relationships and rules, as well as technical enablers, such as application programming interfaces (APIs) and a SDK.

On the technical side, the validation of a coupon or loyalty programme requires a number of APIs to enable data to flow between the consumers’ handset, the point of sale terminal, the wallet and the merchant’s app. Ideally, the APIs should:

- Define the communications protocol
- Support card emulation mode to a contactless terminal
- Define the messages passed between interfaces and devices
- Provide a common communication mechanism and application protocol
- Define key data within the whole architecture that supports integration into the merchant’s architecture.

Figure 16 shows a reference architecture with the APIs that could be used to facilitate interaction between the merchant and mobile domains. More information will be provided in the GSMA technical specification for mobile loyalty and couponing, which is due to be published early in 2014.
AN EXAMPLE OF TRANSFERRING LOYALTY AND COUPON DATA VIA THE PAYMENT SERVICE PROVIDER

The role of the software development kit
MNOs need to provide merchants and brands with a software development kit (a SDK) that will enable them to easily create functions within their own apps that can exchange data with the operator’s mobile wallet. The SDK could also enable merchants and brands to support the provision of value added services (VAS) within their own app domain that can then activate services in the SIM card for interaction at the PED. The SDK could also provide a common set of functions (e.g. storing and redeeming a coupon, making a payment and awarding loyalty points) for interaction between the merchant’s app, the wallet and the point of sale terminal.

Restructuring retailers’ internal systems
To take full advantage of the benefits described in this paper, some re-architecture of retailers’ internal systems may be required. Although this document is not designed to specifically cover these points and the internal architecture will be specific to each retailer, there are two guiding principles that we can infer from our research:

- Retailers may need to expose coupons redeemed in store in real-time to external entities
- There may need to be the provision of validation and the application of business rule logic as a centralised service that can be offered to the retailer’s store and web infrastructure.

Figure 16
Next Steps

If they aren’t already, MNOs in each market could discuss adopting a common approach to mobile loyalty and couponing based on the GSMA’s work in this area. Both handset vendors and point of sale infrastructure vendors could be involved in these discussions to ensure that their equipment can support the proposed technical architecture.

MNOs can also actively support the GSMA’s work around mobile loyalty and couponing. The GSMA is:

- Developing a technical specification for loyalty and couponing that will be published early in 2014
- Working with MNOs to secure a go-to-market commitment for this technical specification in multiple countries in 2014
- Working with MNOs, equipment vendors, tier 1 retailers, payment service providers and other stakeholders to convey a common message with regards to the technical implementation of mobile loyalty and couponing
- Working with town and city planners to align tier 2 and tier 3 retailers around the same implementation
- Working with GSI to align the technical specifications between the mobile and merchant/brand sectors
- Undertaking market engagement around NFC-enabled loyalty and couponing in multiple countries
- Planning to distribute this positioning paper and the technical specification as widely as possible through other industry bodies
- Engaging with the ecosystem at GSMA-led events and other events to promote its technical specification and proposition
- Exploring how data analytics related to loyalty and couponing can bring further benefits to MNOs and retailers
- Preparing to develop a second set of technical specifications related to mobile loyalty and couponing.

In addition to this paper, the GSMA has published the following documents:

**White Papers:**
- GSMA Mobile Commerce in Retail July 2013
- GSMA Summary Document Mobile Commerce in Retail July 2013
- Mobile and Online Commerce, Opportunities provided by the SIM October 2013

**Case Studies:**
- GSMA Case Studies: Mobile Wallets featuring SK planet, KT, Turkcell, Isis and Gemalto, September 2013
- GSMA Case Study: NFC Roaming Interface, May 2013

**Technical Documents:**
- GSMA Technical Document: NFC Core Wallet Requirements Version 2, August 2013
- GSMA Technical Document: Service Provider Toolkit, August 2013
- GSMA Technical Specification: Mobile Loyalty and Couponing, January 2014
Appendix

A customer journey for the merchant

In this section, we give an example of how a fashion retailer could use a combination of a loyalty programme, coupons, mobile device a mobile wallet and NFC connectivity to provide a new customer with a compelling experience. The sections in italics describe the data flows that enable each interaction. Note, this example, which describes one possible approach, is not intended to be exhaustive.

Planning

Riding on a bus, Laura is browsing the web on her smartphone, looking for a dress for an upcoming party. On one fashion retailer’s web site, she sees an offer: “Sign up for our loyalty programme and you’ll receive a 20% discount coupon”. Laura clicks on the registration button, prompting her mobile wallet to open. Her mobile wallet displays a message asking her if she would like to download the retailer’s app to her phone and the associated membership card, together with the 20% coupon, to her mobile wallet. She clicks ‘yes’ and the downloads begin.

The fashion retailer’s CRM system sends a request to Laura’s MNO asking it to authenticate Laura’s identity and her location via her SIM card. The operator sends a message to Laura’s wallet asking her to confirm she wants to download the app and join the retailer’s loyalty programme. When she clicks ‘yes’, the MNO’s wallet server sends a message to the retailer’s CRM system, providing Laura’s personal information. The wallet server also requests delivery of the membership card, the mobile app and the coupon. The CRM system also sends the MNO’s wallet server details of the locations where the coupon can be redeemed.

Outward travel

During her lunch break the following day, Laura receives an alert from her wallet – one of the fashion retailer’s branches is nearby. She clicks on the message, opening the retailer’s app, which shows her the location of the store and offers her 100 loyalty points if she visits today.

In-store

Laura makes her way to the store and checks in by tapping her handset against a reader next to the doorway. The retailer’s app welcomes her to the store and notifies her that she has received the 100 loyalty points. Her mobile wallet displays a message asking if she is planning to spend the 20% discount. Laura clicks ‘yes’.

When Laura taps her NFC phone against the NFC reader, the reader notifies the retailer’s app that she has checked-in to the store, prompting it to award the loyalty points and notify her mobile wallet. The wallet app recognises that Laura has checked into a location where she can spend the coupon and displays the message asking if she would like to redeem it on this visit. When she clicks ‘yes’, the wallet moves the coupon onto the SIM card so it can be redeemed in the next applicable transaction.

Using location information from the mobile phone network or GPS and the data showing the location of the fashion retailer’s branches, the wallet notifies Laura she is in the vicinity of the fashion retailer’s store. That triggers it to display a message. When Laura clicks on the alert, the wallet triggers the retailer’s app to open. The wallet notifies the app of Laura’s location, prompting it to call up a map and make the offer of 100 loyalty points.
Laura makes her way to the store’s dresses section, where a poster invites her to tap a reader for advice and information. After touching her handset against the poster, the retailer’s app asks Mary to input her size and the type of dress she is looking for. It then shows her images of the party dresses in her size that are in stock at this store. Next to each image, the app shows her how many loyalty points she would earn if she bought that dress.

When Laura taps her NFC phone against the NFC-enabled poster, the reader notifies the retailer’s app that Laura is looking at dresses, prompting it to ask for her size and preferences. The app then uses the mobile network to communicate with the retailer’s logistics system and check which dresses in Laura’s size are in stock at this specific store. According to how many of each dress are in stock, it offers Laura an appropriate number of loyalty points for making the purchase (the retailer has configured its app server to offer more loyalty points for items that are in plentiful supply).

Transaction
Laura chooses one of the dresses, tries it on and decides to buy. She heads over to the check-out, where the store assistant keys in the balance and invites her to tap her handset against a PoS terminal. When she taps the PED, the till registers that she wants to redeem the coupon and shows her the new balance, inviting Laura to tap again to confirm the transaction. Laura duly does so and enters her PIN number.

When Laura taps her NFC phone against the NFC PED to buy the dress, her wallet automatically sends the till her preconfigured coupon. Using card emulation mode, the till recognises the valid coupon and shows the new balance. When Laura taps her phone again, the wallet uses the debit card information stored on her SIM card, combined with the PIN code, to authenticate her identity to the pin entry device and complete the transaction.

Post transaction
Once the transaction is complete, Laura’s wallet displays a digital receipt that shows she now has been rewarded with 200 loyalty points with the fashion retailer and inviting her to view items that accessorise with the dress. Laura clicks on the link in the receipt, prompting the retailer’s app to open. The app shows her some accessories that might go with the dress she has just bought. But Laura has to get back to work, so she heads out of the store.

Having being updated over the air via the mobile network, the mobile wallet notifies the retailer’s app of the transaction. The app uses the mobile network to synchronise the transaction with the retailer’s CRM system over the air, which then triggers the app to generate an electronic receipt, containing information about the loyalty points and the link to the matching accessories. The app sends this receipt to the wallet.

Later that day, soon after she leaves work, Laura receives an alert from her wallet – it has just received a coupon from the fashion retailer offering her a 20% discount on accessories and double loyalty points if she makes a second purchase today. Laura clicks on the coupon so it is ready for use and heads in the direction of the fashion retailer’s store.

Using location data from the mobile network, Laura’s mobile wallet notes that she has now left work, prompting it to check whether any of the loyalty programmes she belongs to wants to make her an offer. The fashion retailer’s CRM system responds by sending through the 20% discount coupon, which is configured to expire seven hours later. The wallet notifies Laura of the coupon’s arrival. She clicks on the coupon and the wallet moves it onto the SIM card, so it will be redeemed against the next applicable transaction.
Planning
Reading his news feed on Facebook on his PC, Stefan sees that one of his friends has recommended a new energy drink. Stefan clicks on a link in his friend's status update, which takes him to the manufacturer's Facebook page, which offers to send him a coupon for a free sample. Stefan fills in his mobile phone number and the name of his MNO and, soon afterwards, he receives a message from the mobile wallet on his phone asking if he would like to download the coupon. He clicks ‘yes’ and the coupon arrives in his wallet.

The manufacturer’s CRM system sends a request to Stefan’s MNO asking it to authenticate his identity and his location via his SIM card. The MNO sends a message to Stefan’s wallet asking him to confirm he wants to download the coupon. When he clicks ‘yes’, the MNO’s wallet server sends a message to the manufacturer’s CRM system, requesting delivery of the coupon. The CRM system also sends the MNO’s wallet server details of the locations where the coupon can be redeemed.

Outward travel
Later that day, Stefan is meeting his girlfriend for lunch. On his way to the restaurant, his wallet buzzes with a message telling him that he is passing a cafe where he can use his coupon for the energy drink.

Using location information from the mobile phone network and the database showing the location of the outlet accepting the manufacturer’s coupons, the wallet notes that Stefan is in the vicinity of a cafe where he can redeem the coupon. It then alerts him with a message.

Transaction
As Stefan has plenty of time, he heads into the cafe and orders a glass of the energy drink. When he taps his phone against the cafe’s point of sale terminal to pay, his wallet asks him if he would like to use the coupon. He clicks yes and taps the point of sale terminal again. The new balance shows zero and the transaction is complete. The wallet displays a digital receipt with a link inviting him to download the drink manufacturer’s mobile app.

When Stefan taps his NFC phone against the NFC point of sale terminal to pay for the drink, his wallet displays the coupon and asks Stefan if he would like to use it. When he clicks yes, the wallet moves the coupon onto the SIM card. After he taps his phone again, the point of sale terminal, using card emulation mode, recognises the coupon and shows the new balance. The wallet uses the mobile network to inform the manufacturer’s CRM system that Stefan has redeemed the coupon. The CRM system sends the wallet a digital receipt with the link to its mobile app. Meanwhile, the cafe’s supply chain system registers the use of the coupon and adds it to a database, which will invoice the drinks manufacturer at the end of the month.

Post transaction
Stefan tries the drink and likes it. But he has to run to meet his girlfriend at the restaurant. During the meal, his girlfriend takes a call from her mum, so Stefan checks his Facebook news feed. There is a friend request from the energy drink maker. He accepts and the manufacturer sends him a message inviting him to join its loyalty programme, which would entitle him to a free energy drink once a month. Stefan clicks ‘yes’ and the manufacturer uses his Facebook profile to register him for the loyalty programme. After he has confirmed the details in the registration form, Stefan receives a message from his mobile wallet asking him to confirm that he would like to download the drinks manufacturer’s app and membership card. He clicks ‘yes’ and the app arrives on his phone and the card and a coupon for a free drink in his wallet.

A customer journey for a brand
In this section, we give an example of how a sports drinks brand could use a combination of social networking, mobile and NFC connectivity to sign up a new customer for its loyalty programme. The sections in italics describe the data flows that enable each interaction. Note, this example, which describes one possible approach, is not intended to be exhaustive.
Knowing that Stefan has redeemed the coupon, the manufacturer sends him a friend request via Facebook. When he accepts, he receives a message with details of the loyalty programme. After he agrees to join, the manufacturer uses his Facebook profile to fill in the registration form, asking him to confirm the details. The manufacturer’s CRM system, which already has Stefan’s mobile phone number and the MNO’s name, sends a request to his operator asking it to authenticate his identity and his location via his SIM card. The operator sends a message to Stefan’s wallet asking him to confirm he wants to download the app and join the manufacturer’s loyalty programme. When he clicks ‘yes’, the MNO’s wallet server sends a message to the retailer’s CRM system, requesting delivery of the membership card, the mobile app and a coupon for a free drink that month.

Transaction

As Stefan heads into a sports centre to play five-aside football, his wallet alerts him that the centre’s cafe sells the energy drink. Stefan offers to buy all of his team-mates one of the drinks before the game. When he taps his phone to pay, his wallet asks him if he would like to use the coupon. He clicks yes and taps the phone again. The till displays the new balance. Stefan taps his phone again to confirm the transaction. His wallet displays a digital receipt, showing him that one of the drinks was free and inviting him to click on a link for a special reward. He clicks on the link and he is offered a download of a music track he listened to on Spotify that day and ‘liked’ on Facebook.

Using location data from the mobile network and the data on stockists of the energy drink, Stefan’s mobile wallet notifies him he is near an outlet where he can get a free drink. When he taps to pay, the wallet automatically asks him if he would like to use the coupon. When he clicks ‘yes’, it moves the coupon on to his SIM card so it can be recognised by the PED in card emulation mode. When he taps his phone again, the till recognises the coupon and displays the new balance. When Stefan taps his phone again, the wallet uses the debit card information stored on his SIM card to authenticate his identity to the PED and complete the transaction. The wallet notifies the drinks manufacturer’s app of the transaction, which then uses the mobile network to synchronise the transaction with the manufacturer’s CRM system. The CRM system sends the app an electronic receipt, containing the link to the free download. (The CRM system had registered the fact that Stefan liked the music track on Facebook). The app then sends the receipt to Stefan’s wallet.

If they aren’t already, MNOs in each market could discuss adopting a common approach to mobile loyalty and couponing based on the GSMA’s work in this area.
About the GSMA
The GSMA represents the interests of mobile operators worldwide. Spanning more than 220 countries, the GSMA unites nearly 800 of the world’s mobile operators with 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in industry sectors such as financial services, healthcare, media, transport and utilities. The GSMA also produces industry-leading events such as Mobile World Congress and Mobile Asia Expo.

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