



Personal Data



au WALLET Case Study

October 2014

Contents

Executive summary	2
1. Introduction to KDDI	3
2. KDDI's authentication platform: au ID	4
3. Building on au ID to launch au WALLET	6
The strategy behind au WALLET	6
The au WALLET proposition	7
4. Key partners for au Wallet	10
MasterCard – aiming to outperform cash	10
5. The consumer experience	12
Shopping online and in-store	12
Earning WALLET Points	12
Charging	12
The au WALLET app	12
Conclusions	14

Executive Summary



KDDI's au ID authentication platform is at the heart of the Japanese operator's 3M Strategy - the provision of multi-use, multi-network and multi-device offerings. Arguably the single most successful operator-provided identity solution in existence today, au ID enables a single customer identity to be used across all of KDDI's offerings, including a growing suite of digital commerce services. By the end of August 2014, KDDI had issued 20 million au IDs to customers.

au Smart Pass

One of the best examples of the 3M Strategy in action is KDDI's au Smart Pass service, which enables consumers (authenticated by au ID) to use multiple devices to access a variety of apps, web content, coupons, security services and a digital storage locker, for a fixed price of 372 yen (US\$3.4) per month, excluding tax. The service also supports content for use in the physical world, such as concert tickets, coupons for local restaurants and stores. As of August 2014, au Smart Pass had amassed a customer base of 11 million unique subscribers, up from 7 million a year earlier.

au Simple Payment

When they are shopping online at participating merchants, KDDI customers can charge transactions to their cellular bill using the au Simple Payment service. Again, the consumer is authenticated using their au ID. KDDI earns 12% of the total value of digital content and 5.8% of the total value of physical goods.

au WALLET

KDDI is also using au ID to authenticate consumers accessing its new au WALLET service. Launched in May 2014, au WALLET enables consumers to store value in an account and then use it to complete transactions electronically. KDDI has teamed up with MasterCard to enable consumers to use au WALLET in a vast range of online and bricks and mortar stores. Consumers can log into the au WALLET app or web site using their au ID and check or top up their balance.

To encourage usage, KDDI rewards customers loyalty points each time they complete a transaction via au WALLET. KDDI has reached agreement with 21 merchants, operating 20,000 stores, to provide consumers with additional points when they use au WALLET in these stores. For KDDI, au WALLET opens up a new revenue stream - the mobile operator earns a small commission on each transaction completed using the service. By providing rewards for usage, the service is also designed to increase consumers' loyalty to KDDI and its au suite of services. As of the end of August 2014, just 112 days after launch, more than five million consumers had applied for au WALLET. "It has grown very rapidly - faster than we expected," says Toshitake Amamiya, Vice President, Chief Operating Officer, Advanced Business Development at KDDI. "We are creating a market that didn't exist a year ago," adds Robert Luton, Division President of MasterCard Japan. MasterCard believes au WALLET will be one of its largest prepaid card programmes in Asia Pacific, Middle East and Africa.

Today, consumers swipe the au WALLET magnetic plastic card to complete transactions in stores. As more merchants install point of sale equipment that can support contactless transactions, future iterations of au WALLET may enable consumers to make a payment by tapping their handset against a reader.

Combining mobile and financial services

The early success of au WALLET also demonstrates how mobile operators and financial service providers can team up to create a compelling proposition. To reduce fraud related to payment transactions, MasterCard is working with mobile operators to enable two factor authentication in which a transaction can only be completed if the shopper authenticate themselves using something they own and something they know. "For example, a card number may only be valid if it is used with a particular handset," says Mr. Luton. "The mobile operators own and operate the infrastructure that can provide the second level of security."

1. Introduction to KDDI

Founded in 2000 by the merger of DDI and KDD and IDO, KDDI operates both mobile and fixed line networks and is the only integrated communications network in Japan. Branded au, its mobile cellular services are delivered via a 3G network launched in 2003 and a LTE network launched in September 2012.

One of the largest telecoms companies in Asia by revenue, KDDI says it had 29.1% of the Japanese mobile market, 12% of the fibre-to-the-home market and 53% of the cable television market at the end of September 2014. In the year ending March 31, 2014, KDDI generated an operating income of ¥663.2 billion (US\$6.08 billion) from revenues of ¥4.33 trillion (US\$39.73 billion).

Under the au brand, KDDI operates a number of subsidiaries, including au Insurance, a mobile-based general insurance provider established jointly by KDDI and Aioi Nissay Dowa Insurance, and "Jibun Bank", a mobile bank jointly established with the Bank of Tokyo-Mitsubishi UFJ.



2. KDDI's authentication platform: au ID



Under the leadership of CEO Mr. Takashi Tanaka, KDDI is pursuing a “3M Strategy” - the provision of multi-use, multi-network and multi-device offerings. KDDI's au ID authentication platform, which enables a single customer identity to be used across these offerings, is a fundamental component of this strategy. The au ID service acts as a gateway to a portfolio of services from both KDDI and third parties. By the end of August 2014, KDDI had issued 20 million au IDs to customers.

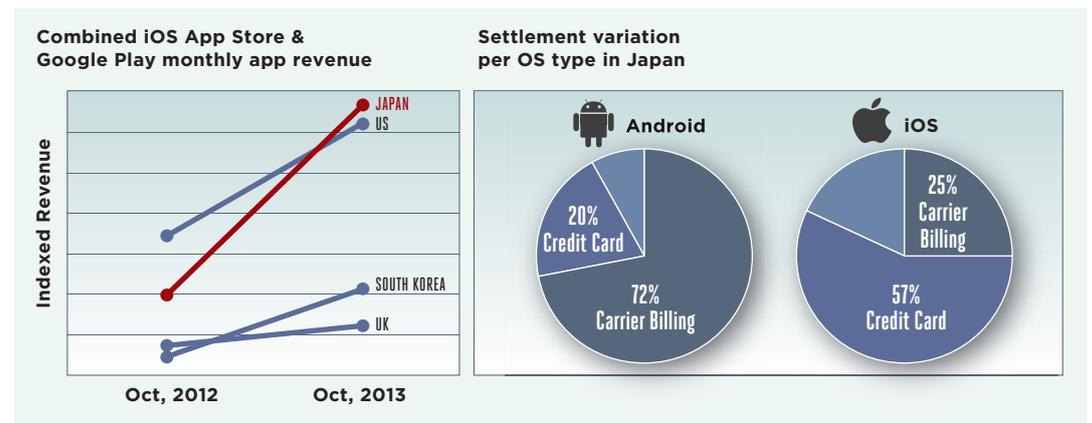
KDDI's 3M strategy is designed to provide customers with content and services, via the most suitable networks and devices, whenever and wherever they want. In practice, this means a consumer should be able to access the same services on a PC connected to a fixed fibre network as they can on a smartphone connected to a LTE network.

KDDI is implementing its 3M strategy by rolling out a series of innovative customer propositions. For example, au Smart Pass enables consumers to enjoy a variety of apps, web content, exclusive coupons, security services and a digital storage locker of 50GB, for a fixed price of 372 yen (US\$3.4) per month, excluding tax. Underpinned by the au ID platform, au Smart Pass can be used on multiple devices and multiple networks.

Since 2013, the au Smart Pass service has evolved beyond the online environment to provide content for use in the physical world, including advance reservation of concert tickets, coupons for local restaurants and stores, as well as loyalty points for purchasing digital and physical goods through KDDI's carrier billing mechanism, au Simple Payment. As of August 2014, au Smart Pass had amassed a customer base of 11 million unique subscribers, up from 7 million a year earlier.

Moreover, KDDI has enhanced the underlying functionality of Smart Pass to include financial settlement (add-to-bill, for service providers that did not have access to an e-commerce engine), amongst other things. In Japan, carrier billing is widely used by consumers to pay for smartphone applications, particularly for those running on the Android operating system (see graphic). Service providers pay KDDI 12% of the total value of digital content and 5.8% of the total value of physical goods bought via the au Simple Payment solution.

SETTLEMENT MEANS FOR PURCHASE OF SMARTPHONE APPLICATIONS



Sources: App Annie report of December, 2013 (<http://inbound.appannie.com/japan-spotlight-revenue-inflection-point/>), Mobile Content Forum as of Mar 2012

The operator has also opened up the au ID platform – by publishing application programming interfaces (APIs) that enable service providers outside of the Smart Pass ecosystem to effectively hand off subscriber management to KDDI, and become an integrated part of the broader au ID enabled environment.

In essence, au ID is now a “federated identity” service: The customer creates an unique au ID which can be used to login to KDDI’s own services as well as to other third party services by linking the ID of the third party website to the au ID. In this way, customers do not have to register for each individual third party site and then remember credentials for each one – instead they create a single identity with KDDI, and third parties trust KDDI to handle authentication and identity management.

The unification of multiple subscriptions under a single identity has also allowed KDDI to streamline customer support and apply big data analytics to provide smarter, more tailored propositions.



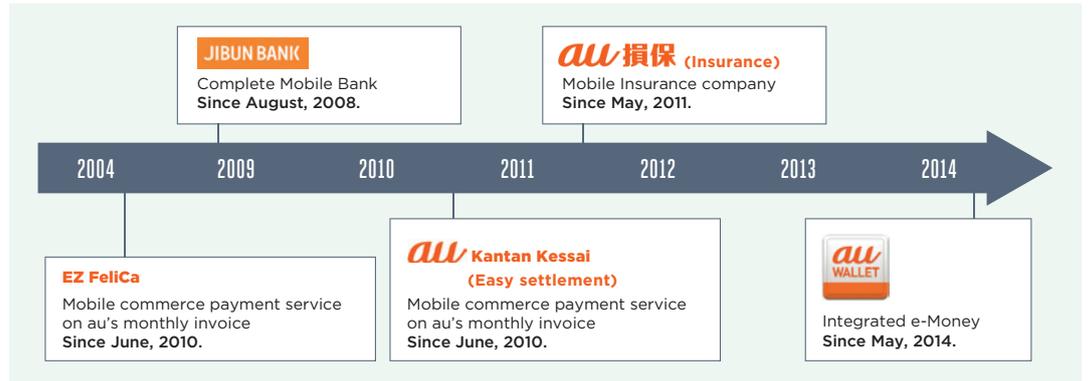
3. Building on au ID to launch au WALLET



The strategy behind au WALLET

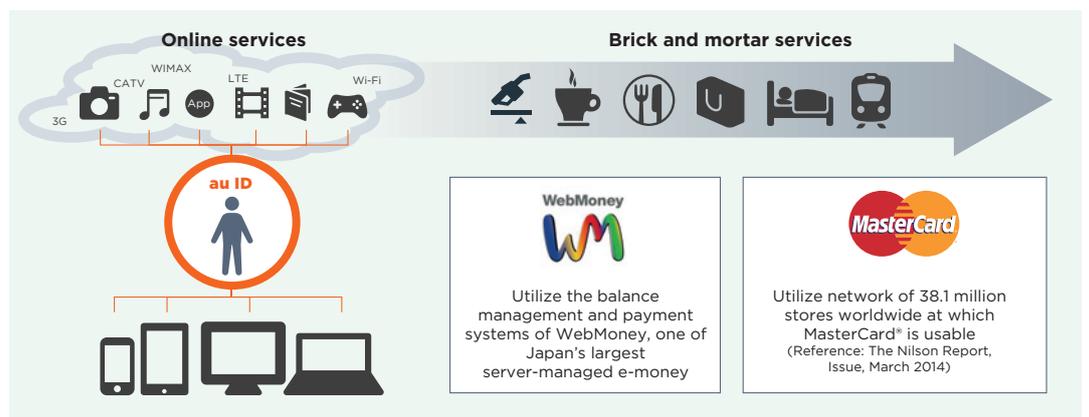
KDDI has been active in the financial services market for about a decade, beginning with the launch of the contactless mobile payments service EZ FeliCa in 2004 (see graphic). In 2008, KDDI entered into a joint venture with the Bank of Tokyo-Mitsubishi UFJ, Ltd. to establish Jibun Bank, which provides financial services through mobile handsets, PCs, ATMs and call centres, rather than through a conventional bank branch.

KDDI'S MOBILE FINANCIAL SERVICE HISTORY



KDDI identified an opportunity to use the au ID platform to enhance its multi-faceted financial services offering. Aiming to compete with cash (the primary means of completing transactions in stores in Japan), KDDI developed au WALLET – a service that enables consumers to store value in an account and then use it to complete transactions electronically. It also teamed up with MasterCard and WebMoney to enable consumers to use au WALLET in the vast range of stores, both in the physical world and online, which accept payments from MasterCard cards (see graphic). To encourage usage, KDDI and MasterCard also decided to reward consumers with loyalty points each time they complete a transaction via au WALLET.

CREATION OF A NEW ECONOMIC SPHERE BY DEVELOPING AU WALLET WITH PARTNERS



For KDDI, au WALLET opens up a new revenue stream – it earns a small commission (the card issuer commission) on each transaction completed using the service. By providing rewards for usage, the service is also designed to increase consumers' loyalty to KDDI and its au suite of services.

Ultimately, it may be possible for KDDI to earn additional revenues from merchants in return for enticing consumers into their stores. KDDI is partnering with individual merchants (au WALLET advantage stores) to enable consumers to earn additional points when they use au WALLET to complete transactions in their stores. Merchants could also benefit from a potential reduction in the usage in cash, which is costly to handle and can slow down the throughput at tills as consumers and shop assistants juggle change.

Together, au WALLET and au Smart Pass have the potential to become a platform for a broader mobile commerce proposition. Both au Smart Pass and au WALLET are generating valuable data about consumers' preferences and behaviour that KDDI can use to develop new service propositions.

KDDI is also creating links between au Smart Pass and au WALLET. Through au Smart Pass, for example, consumers can receive exclusive coupons and discounts that are valid for specific au WALLET advantage stores. Since August 2014, consumers have also been able to use the au Smart Pass app to check their au WALLET balance and make top ups (see graphic).

SERVICE LINKAGE GIVES USERS BENEFITS



The au WALLET proposition

In May 2014, KDDI and MasterCard announced the launch of the au WALLET service. Supported by a smartphone app and a conventional plastic payment card, au WALLET enables consumers to load money into a prepaid account and then use the account to make purchases both online and in bricks and mortar stores.

The involvement of MasterCard enables KDDI's "au" mobile network subscribers to use the prepaid account to complete transactions at any of the 38.1 million merchants worldwide that accept MasterCard payment cards, either offline or online, in more than 210 countries¹. KDDI uses the au ID system to help authenticate au WALLET users and enable customers to add funds to their au Wallet accounts. The consumer uses their au ID to log into the au WALLET app or web site where they can check their balance or make a top up.

1. A 4% overseas service fee is incurred for overseas use.



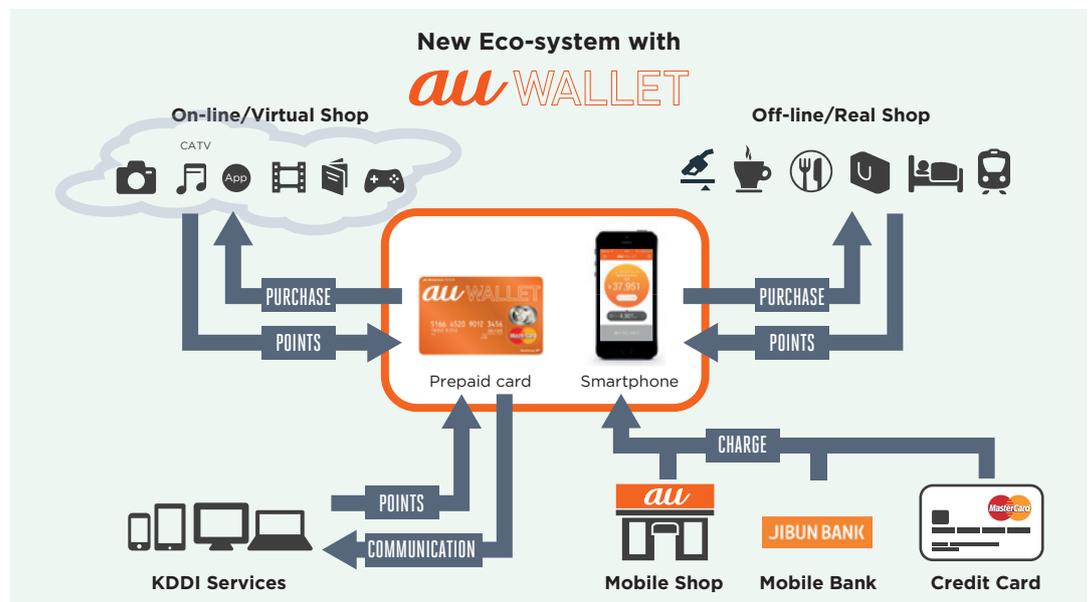
In Japan, nearly all large merchants and many small shops in Japan accept MasterCard and therefore, auWALLEET. The au WALLEET can be used to make purchases at the 4,000 websites in Japan that support the WebMoney settlement system. WebMoney, Japan's largest server-managed e-money service, provides an account management system that enables users to check how much money they have on the card.

Today, consumers swipe the au WALLEET magnetic plastic card to complete transactions in stores. As more merchants install point of sale equipment that can support contactless transactions, KDDI may enable consumers to use au WALLEET to make a payment by tapping their handset against a reader.

KDDI and MasterCard decided to make au WALLEET a prepaid service to ensure that Japanese consumers were comfortable using the service and wouldn't have to fill in the application forms necessary to obtain credit. "In the Japanese transaction market, cash is the main tool," says Toshitake Amamiya, Vice President, Chief Operating Officer, Advanced Business Development. "A prepaid card is similar to cash. Customers feel comfortable with it. To obtain a credit card, some users would need to go through several procedures, so prepaid is easier to set up." Any KDDI customer can set up an au WALLEET card account without any credit evaluation, as long as they have an au ID.

Under the au WALLEET reward programme, cardholders receive au WALLEET Points for every purchase made with the card. They also receive au WALLEET Points when they use KDDI's mobile services. Earned points can be used to charge au WALLEET cards for future shopping, to offset monthly communication charges or for discounts when upgrading a mobile phone or adding service options (see graphic).

INTEGRATED E-MONEY - AU WALLEET



Consumers can earn additional points by using au WALLET to pay at 7-Eleven convenience stores, pharmacy chain Matsumoto Kiyoshi, and other “point advantage” stores. Today, KDDI has recruited 21 merchants with approximately 20,000 stores into the point advantage network, which it plans to expand further still.

Consumers can use their au ID to log into the au WALLET app or au website and top-up their au WALLET account, check the remaining balance, check points, view usage history and locate point advantage stores. KDDI allows postpaid mobile subscribers to top up their service via the au Simple Payment service, which charges the transaction to their cellular bill – settling the balance at the end of the month at the same time as they pay for their conventional telecoms usage. In this way, KDDI is, in effect, enabling customers to access a small amount of credit. Consumers can also top up their au WALLET balance in several other ways (see section 5).

The mobile operator is using its retail network to promote the au WALLET service to consumers and demonstrate how they can use it. As of the end of August 2014, just 112 days launch, more than five million consumers had applied for an au WALLET. “It has grown very rapidly – faster than we expected,” says Toshitake Amamiya, of KDDI.

“We are excited to expand our value chain with the launch of the au WALLET card which will provide Japanese consumers with seamless, convenient and secure payment experiences both in-store and at online stores,” said Takashi Tanaka, President of KDDI, at the time of the service launch in May 2014. “Through our partnership with MasterCard, our customers will be connected to a global acceptance network that enables them to shop at millions of merchants around the world.”



4. Key partners for au Wallet

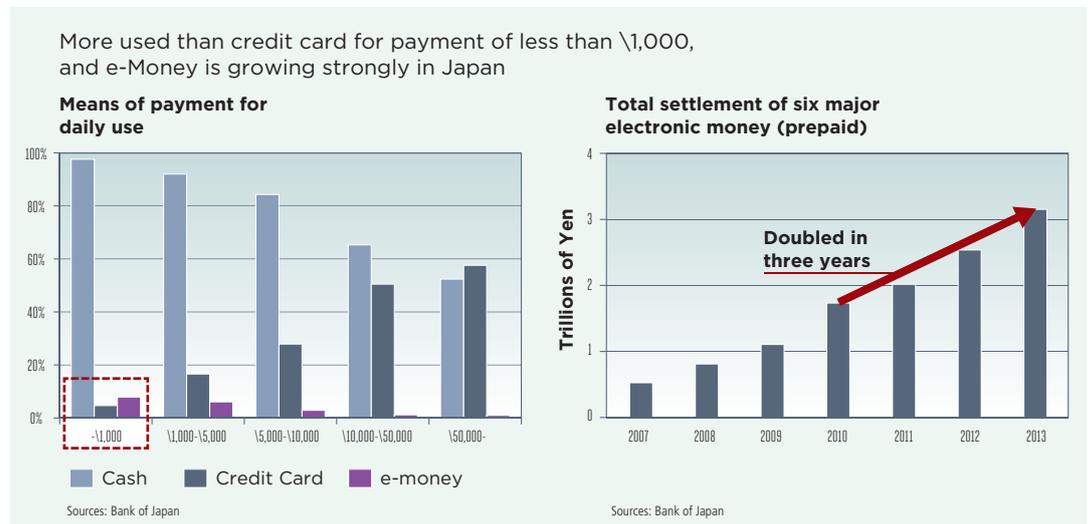


MasterCard - aiming to outperform cash

One of the key goals of the financial services industry is to increase the volume and value of electronic payments and displace cash, which is expensive to handle. In Japan, as in Germany, cash is still widely used for consumer to business payments – it accounts for about 80% of transactions by volume and almost 50% by value, according to MasterCard estimates. “In Japan, the crime rate is very low, so the perception of the risks of cash is low,” says Robert Luton, division president of MasterCard Japan. “And the hidden costs of cash are not clear in Japan, as in other markets.”

Although the electronic money market in Japan is growing steadily, fuelled in part by usage in the public transport system, cash continues to account for the vast majority of small payments (see graphics). Mr. Luton believes growth in electronic payments will accelerate in Japan as credit, debit and prepaid cards become more popular.

E-MONEY IN JAPAN



Train Ticket and Transit
Over 70M*1 people use e-train ticket system

Retail Chain
Over 180M*2 transactions /month occur at two major retail chains

e-Money became the fundamental platform in these 10 years

Source: *1 The Consumer Credit Monthly Sep 2012, *2 Nikkei Dec 2013

One of the most effective ways to expand usage of electronic payments is to entice more consumers to open prepaid accounts in which they can store value.

In 2013, MasterCard, which operates a global payments processing network, saw the gross dollar value of its prepaid card business grow 40% in Asia, Middle East and Africa (APMEA). Prepaid cards, which require a consumer to load cash in advance, generally don't need to comply with credit regulations and can be set up easily and quickly.

"With prepaid, we can include a larger part of the world's population," says Mr. Luton. "If there is a requirement for the issuance of credit, it can exclude people. In Japan, for example, you need to have a verifiable income to qualify for credit."

MasterCard's goal is to "outperform cash" by providing consumers with services that are safer, easier to use and more rewarding. The au WALLET proposition resonates with consumers because it combines ease-of-use with rewards, says Mr. Luton. "It is easy to check your balance, load and reload," he adds. "And the rewards are easy to obtain and use." Moreover, the involvement of MasterCard ensures that au WALLET is widely accepted by merchants, making it a convenient alternative to cash.

Mr. Luton says that the au WALLET service has had the response MasterCard hoped for with high levels of adoption continuing beyond the initial promotion. "We are creating a market that didn't exist a year ago," he says. MasterCard believes au WALLET will be one of its largest prepaid card programmes in Asia and Africa.

Contactless to come?

The decision to support the au WALLET service with a plastic card reflects the fact that the contactless payment network is nowhere near as extensive as the contact payment network in September 2014, Mr. Luton said. "We wanted to have the magnetic stripe option to enable universal acceptance." However, he noted the number of merchants accepting contactless payments is expanding rapidly. By the second quarter of 2014, 2.5 million merchant locations in 66 countries could accept payments via MasterCard or Maestro contactless cards or devices.

In June 2013, MasterCard announced that it planned to deploy 410,000 NFC contactless payment terminals in Japan over the next three years using its PayPass proposition. In Japan, PayPass enables consumers to use a MasterCard or compatible handset to make payments under 10,000 yen without having to provide a signature.

MasterCard is also deploying its MasterPass wallet proposition, which is designed to enable consumers to store multiple debit, prepaid and credit cards on a mobile handset and then use them to complete transactions both online and in-store. In time, the au WALLET service could be integrated into a broader MasterPass wallet supporting an array of payment options.





The importance of two-factor authentication

Wherever possible, MasterCard advocates the use of so-called second factor authentication, (in which two mechanisms, such as a plastic card and a PIN code are used to authenticate a transaction) to reduce fraud related to payment transactions. Mobile operators can play a major role in enabling this second factor. “With the significant data breaches coming about, it is clear that a password is not enough to protect anything valuable,” says Mr. Luton. “It is all about second factor authentication. For example, a card number may only be valid if it used with a particular handset. The mobile operators own and operate the infrastructure that can provide the second level of security.”

At the Mobile World Congress in 2014, MasterCard announced that it is working with technology provider Syniverse to use the mobile networks to help reduce the risk of fraud associated with payment card transactions outside the consumer’s home market. The two companies plan to develop an opt-in service that will authorise card transactions for users only if they have their mobile device switched on in a specific geo-location abroad. This service aims to reduce the likelihood of a consumer’s payment card being used without their knowledge or having their own transactions unnecessarily declined when trying to make purchases in another country.

MasterCard believes there will be far more innovation in the mobile payments space. “au WALLET is a good example of what is possible, but this is just a first step. We are just scratching the surface,” says Mr. Luton. “The technology is already there. It is about getting all the partners lined up for consumers and merchants and putting the business models in place.”

In fact, MasterCard believes mobile operators can play a significant role in helping the financial services industry reach more consumers and expand use of electronic payments. It is partnering with several different mobile operators adopting commercial arrangements best suited to creating a compelling consumer experience.

In the case of KDDI, Mr. Luton notes that the au WALLET service is benefitting from the mobile operator’s large customer base, extensive distribution capabilities and high level of technological sophistication, which “enabled it to make au WALLET a differentiated experience, which we value a great deal.” He also notes that KDDI’s focus on building a long-term relationship with customers is a good match with MasterCard’s business philosophy.



5. The consumer experience



Shopping online and in-store

A consumer can use their au WALLEET account to pay for goods and services online. Different merchants have different transaction requirements, so the payment process can depend on the specific shop and how the consumer accessed the site. Online, a consumer typically enters the 16-digit number on the au WALLEET plastic card, together with additional information, such as the card expiry date. In a physical store, the consumer simply swipes their plastic card and, sometimes, provides a signature.

Earning WALLEET Points

For every ¥1,000 (excluding tax) consumers spend on KDDI's mobile communications services, they earn 10 au WALLEET points. Every ¥200 (including tax) spent using the au WALLEET account, earns 1 au WALLEET point and every ¥100 (including tax) spent via au Simple Payment earns 1 au WALLEET point. In some stores, called Point Advantage stores, consumers can earn additional points. In September 2014, au WALLEET subscribers shopping in all stores within the au Shopping Mall could also earn between 1 to 40 points on every ¥100 (including tax) they spend.

Charging

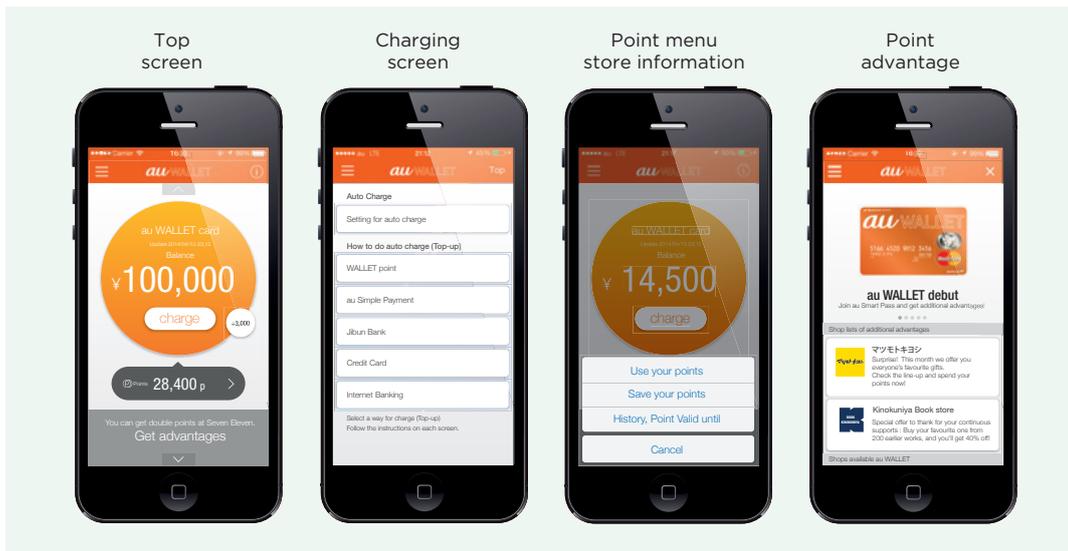
Users can add up to ¥100,000 into their au WALLEET account (up to ¥25,000 per charge). Consumers can add funds to an au WALLEET account in several different ways:

- Via their mobile phone bill enabled by au Simple Payment (using au WALLEET app or au WALLEET website or). Note, this top-up can be completed in real-time, enabling a consumer to immediately use the top-up to make a purchase in a store or online.
- Via Jibun Bank, if they have a Jibun bank account (using au WALLEET app or au WALLEET website)
- Via au retail stores using cash
- Once a month using accumulated WALLEET points or au points (using au WALLEET app or au WALLEET website)
- Via credit card with the MasterCard (R) mark or with the Visa mark issued by Credit Saison or UC Card (using the au WALLEET app or au WALLEET website).

There are no commission charges for any of these charging methods.

The au WALLEET app

The au WALLEET app is available for both Android and iOS smartphones and tablets. The au WALLEET app enables consumers to top up their account via their mobile phone bill using the app whenever they have an internet connection – the top-up happens almost immediately, enabling the consumer to complete a transaction straightaway (see graphics).



A consumer view

"I love the au WALLEET service. I use it every weekday to buy a lunchbox from a convenience store. If the payment value is low, I just have to swipe my card – I don't need to sign as well. At the weekend, I use au WALLEET in the supermarket instead of a credit card. I also use it online with my Amazon account."

"Au WALLEET is accepted in just about any store. That is the most important point about the card. I hate using cash, which is a hassle. I can also get points for using au WALLEET, which are attractive to me, as I can use them to top up."

"I use the relevant app on my iPhone to charge the card with funds from my account with Jibun Bank. The funds appear almost immediately. In future, I would also like to be able to pay using my phone, so there would be no need for the plastic card. And I would also like to be able to use au WALLEET to buy products from vending machines."

Kento Izumi in Tokyo

Conclusions



Effective authentication enables successful services

KDDI's 3M strategy - the provision of multi-use, multi-network and multi-device offerings - is heavily reliant on its au ID authentication platform, which enables a single customer identity to be used across multiple offerings, devices and networks. By making it easy for consumers to authenticate themselves across a range of devices and networks, the au ID solution is a highly effective gateway to an expanding portfolio of services from both KDDI and third parties.

KDDI is implementing its 3M strategy by rolling out a series of innovative customer propositions. Underpinned by the au ID platform, KDDI's au Smart Pass and au WALLEET services are simple to use across multiple devices and multiple networks. As of the end of August 2014, just 112 days from launch, more than five million consumers had applied for an au WALLEET, highlighting how an effective authentication platform can help make a mobile wallet a compelling proposition for consumers.

These value added services are enabling KDDI to build stronger, deeper relationships with customers, potentially reducing churn and increasing revenues. In each case, KDDI has used au ID to make the services widely accessible and easy for consumers to set up and use.

Mobile payment services need to be easy and rewarding to use wherever consumers shop

In the case of au WALLEET, KDDI's decision to work with MasterCard and support the service with a plastic card has proven to be correct - the MasterCard card enables au WALLEET to be used to make payments in the majority of Japanese retail stores, including those that can't yet accept contactless payments.

au WALLEET's initial success is also due to its ease-of-use - the au ID authentication system has made it simple for consumers to top-up their account via a range of different methods. The popularity of the service is also partly due to KDDI's decision to reward consumers with points for usage. Again, this reward scheme is straightforward to use - points are automatically issued without consumers having to present an additional card or fill in forms.

Although there is clearly a cost attached to providing reward points, these incentives drive usage and help KDDI and MasterCard to accumulate data that they can then use to further enhance the au WALLEET proposition and generate more usage. In this way, the au WALLEET service can benefit from a flywheel effect.

Mobile operators need to build sustainable upstream relationships with merchants

Crucially, KDDI is also making the au WALLEET proposition attractive to merchants. The service enables merchants to attract new customers from KDDI's large subscriber base and encourage in-store spending by awarding additional reward points. KDDI is seeking to support both online and offline merchants as much as possible to develop a sustainable ecosystem that meets consumers' needs and serves the common good. To that end, the operator aims to build lasting, mutually rewarding relationships with service providers.

It takes sustained effort to create attractive authentication and digital commerce services

Although mobile operators already have many of the assets and capabilities required to authenticate subscribers and roll out related services, developing a compelling proposition takes time and money. Believing au ID could be a source of competitive advantage, KDDI and its partners have made significant investments in business development, new IT systems, security and educating subscribers.

Mobile and financial service providers can create significant value by working together

More broadly, the partnership between MasterCard and KDDI highlights how financial services players and mobile operators can work together to create a compelling mobile payments proposition that is both secure and easy-to-use. Both parties bring important assets and strengths to the partnership, thereby creating a service that can immediately gain traction with consumers and merchants.





Personal Data

Floor 2, The Walbrook Building
25 Walbrook, London EC4N 8AF UK
Tel: +44 (0)207 356 0600

personaldata@gsma.com
www.gsma.com

©GSMA October 2014