IS OEM-PAY THE FUTURE OF CONTACTLESS?

Whitepaper

JUNIPER RESEARCH

1.1 Contactless Cards: Market Status

The contactless payment card offers an array of benefits to both retailer and consumer, most notably:

- faster throughput at the POS (Point of Sale) terminal, potentially leading to increased sales;
- reduced operating costs from cash handling.

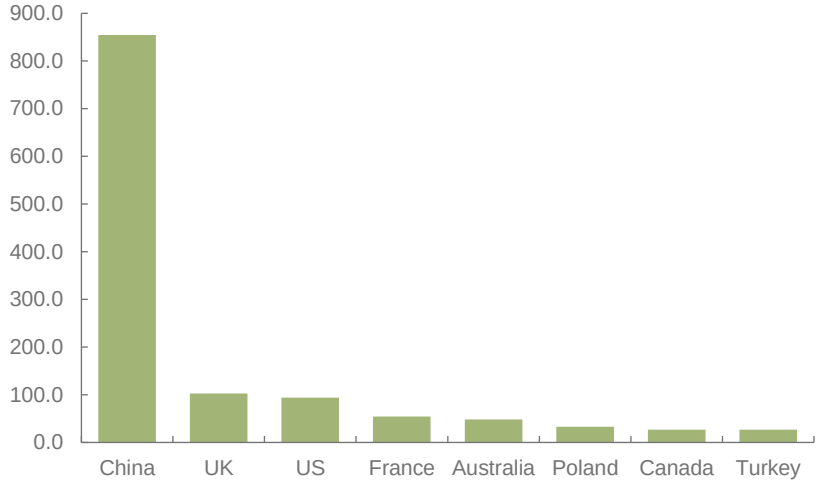
In most markets, the contactless card has been the first consumer engagement via 'tap and go'. However, to succeed the contactless card needs the attendant payment infrastructure to be upgraded to support contactless transactions, thus requiring co-operation from the various stakeholders in retail payments.

Contactless technology is so called as the user fulfils a transaction by tapping a card (or handset) against a Chip & PIN machine, rather than inserting a card into it. Information is transmitted from an antenna in the card via RFID (Radio Frequency Identification) over a maximum distance of 10cm; those in use in the UK are based on the international proximity card standard ISO/IEC 14443.

While the cards do not necessarily need to be physically inserted into a CHIP & PIN reader, the card reader may occasionally require such insertion for verification, either: a) when the specified payment floor limit (eg $50) has been exceeded and additional authentication is required; or b) as a 'spot-check' designed to deter fraudulent usage.

According to Juniper's latest contactless data tracker, the number of contactless payment cards issued globally reached 1.68 billion in 2016, up from 1.13 billion in 2015. However, only 55% of these were actively used for card payments in 2016.

Figure 1: Number of Contactless Cards Issued, Selected Markets in 2016 (m)



Source: Juniper Research

1.1.1 Contactless Card Adoption in the US

While contactless cards were available in the country from the mid 2000s, these employed the MSD (Magnetic Stripe Data) standard. With the contactless MSD card, payment occurs in a similar manner to the traditional contact mag-stripe card, although the payment mechanism whereby the on-card chip generates a code which can be verified by a

card issuer's systems, is more secure than that of a traditional card, in that it prevents replay attacks (as no transaction can be performed twice) and card cloning or skimming.

Furthermore, retailers, wary of the cost of migrating, were reluctant to upgrade their terminals to include MSD contactless. By 2011, 7 years after the first MSD cards were introduced in the US, less than 2% of US retailers offered contactless payment options.

However, as of December 2016, Juniper estimates that only 8% of total payment cards in circulation in the US were contactless-enabled; this translates into just under 100 million cards. It is unsurprising that contactless payment adoption is being seeded by Apple Pay in this market.

1.1.2 UK Contactless Spending Doubles in 2016

Despite a slow start, contactless payments have dramatically taken off in the UK over the past 2 years, making it one of the fastest growing markets in the world.

In fact 2015 was the first year in which cash usage slowed to the extent that it was less than 50% of all total transactions by volume for the first time in the UK. According to Payments UK, card transactions will exceed cash transactions in the country by 2021.

In June 2016, the UKCA (UK Cards Association) announced that the amount spent by UK consumers using 'contactless' payment methods had outstripped last year's total by the end of June; ie around £9.27 billion ($12.3 billion) was spent over 1.1 billion transactions during H1 2016 using contactless cards and mobile devices.

By the end of 2016, the contactless payment transaction value had soared to £25.2 billion ($34 billion), more than doubling from £7.7 billion ($11.8 billion) reported for the 12 months ended December 2015; 2.9 billion contactless transactions made in 2016.

1.2 Mobile Contactless & Wearables: Market Status

1.2.1 Introduction

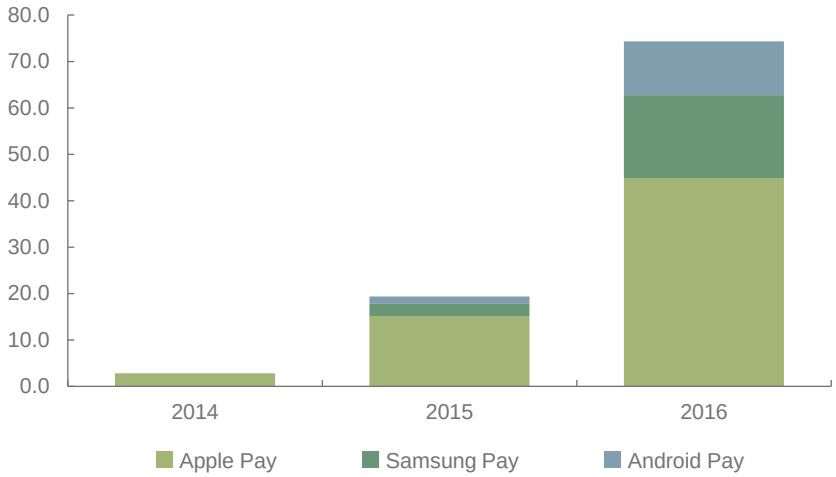
Since the start of 2015, the contactless wallet space has developed significantly:

- That year was the first full calendar year of activity for Apple Pay in its home market and the launch of its service in the UK, Australia and Canada.
- Another leading OEM (Original Equipment Manufacturer), Samsung, introduce its own NFC (Near Field Communication) payment service.
- It was the year when activity based around HCE (Host Card Emulation) scaled up significantly, with more than 50 banks engaged in commercial deployments and, crucially, with Google relaunching its wallet in the form of Android Pay.

Subsequently, Apple, Samsung and Google have all expanded their range, by the end of 2016, the services were available in 13, 12 and 9 markets respectively. Between them, they have rapidly scaled their active user base, which reached an estimated 74 million by the end of 2016.

However, as the OEMs and OTTs (Over-The-Top players) have flourished, MNO (Mobile Network Operator) NFC ventures have failed to achieve critical mass and most have been abandoned. This section explores the opportunities for those that remain and also MNO NFC opportunities in emerging and developing markets.

Figure 2: Mobile Contactless User Base (m), Apple Wallet, Samsung Pay & Android Pay, 2014-2016



Source: Juniper Research

Finally, Juniper expects PayPal, already near ubiquitous in the online space, to rapidly develop a portfolio of contactless payment and loyalty solutions that will allow it to compete effectively for market share.

1.2.2 Beyond Retail Payments: New Services Emerge

Given the digital adoption in markets such as the UK, there is great opportunity for the charity sector to utilise contactless payments and digitise transactions.

Figure 3: Contactless Charity Boxes

Source: Barclaycard

In the UK and Ireland, for example, Visa is working with organisations to trial charity donation boxes fitted with contactless readers. According to Barclaycard, 11 charities began a 4 month trial in September 2016 using 100 of the contactless boxes. It was also reported that consumers using contactless credit cards paid 3 times as much as the average cash donor. Average transactions were reported to be around £3.07 ($3.82), compared to £1.00 ($1.24) average cash donations.

We believe that charity boxes along with other initiatives already in places such as bars and restaurants, will continue to grow at an incredible pace alongside the mobile contactless payment segment.

1.2.3 Smart Wearables Future

At present, using wearables for payments is understandably minimal, given the limited number of models available with the facility and the relatively small installed base of capable devices. As with HCE, a number of leading players (OEMs) are now seeking to ensure they support a range of form factors beyond cards and smartphones.

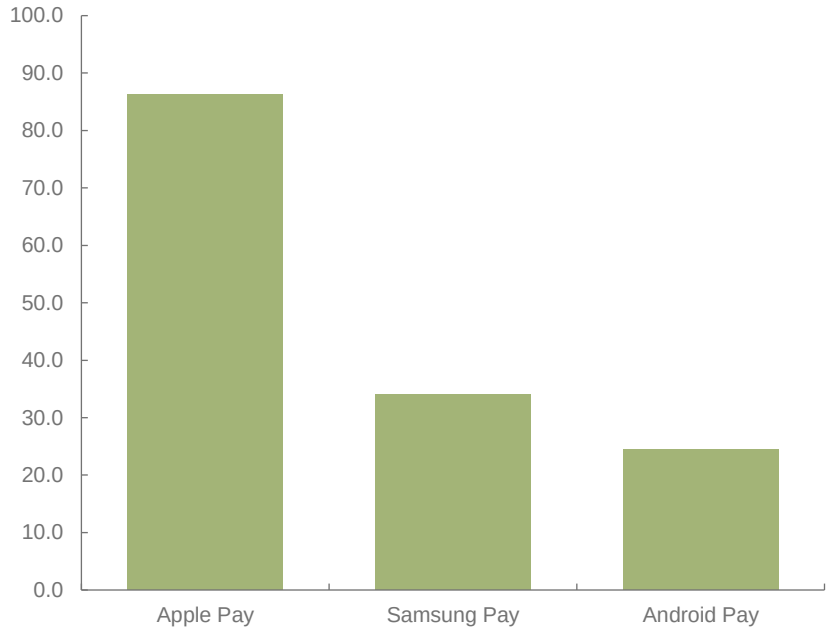
Juniper expects that while the sector would take several years to reach critical mass, the long term opportunities for watches and wristbands is huge. We believe that as OEMs increasingly integrate payment functionalites on a number of IoT devices, market adoption for smart wearables making payments will gain significant traction in the long term.

1.3 Forecast Summary: Apple Pay, Samsung Pay, Android Pay

Juniper Research, estimates that the number of OEM-Pay contactless users, including Apple Pay, Samsung Pay, and Android Pay, will exceed 100 million for the first time during H1 2017, before surpassing 150 million by the end of this year.

According to Juniper's latest estimates, the combined market share of Apple, Samsung, and Google (via Android Pay), increased from 20% in 2015 to 41% in 2016, as a proportion of total mobile contactless payment users. Juniper forecasts that this will rise to 56% by 2021, as the trio's combined user base exceeds 500 million.

Figure 4: Number of Apple Pay, Samsung Pay, & Android Pay Contactless Payment Users 2017



Source: Juniper Research

Case Study

1.4 Case Study & Interview: Mastercard

Juniper interviewed Christophe Zehnacker, Head of Strategic Digital Partnerships, Mastercard, in March 2017

i. Background

Founded in 1966, Mastercard is a technology company in the global payments industry. The company operates an international payments network (the Mastercard Network), facilitating the processing of payments transactions. Mastercard processes these through its network of issuer customers in more than 150 currencies in over 210 countries and territories.

ii. Market Positioning: Contactless

Mastercard launched its contactless cards under the PayPass brand in 2006; the branding was subsequently ended in August 2015. By the end of 2007, there were approximately 20 million PayPass cards in issue worldwide, a number which rose to 88 million by the end of 2010. MasterCard has not disclosed any details since that date.

However, Zehnacker confirmed that Mastercard has seen astonishing growth in contactless payments: 'Driven by our mandate to enable all POS terminals in Europe to be contactless capable by 2020, we have made great progress over the past 12-24 months, especially in Europe. In 2015, we passed the 1 billion transaction mark for European Mastercard transactions processed by our network; we are in the range of several billions for 2016.'

Zehnacker provided Juniper with the latest data demonstrating Mastercard's contactless growth:

- On the card enablement side, Mastercard had a contactless presence in 54 countries in Europe by end of 2016, up from 41 in 2015.
- In terms of contactless acceptance, Mastercard had a presence in 50 European countries by the end of 2016, up from 42 in 2015.
- 1 in 4 (25%) Mastercard/Maestro cards issued in 2016 were contactless. The number of contactless cards and devices increased by 16% in Q4 2016 compared to Q4 2015.
- Mastercard also reported an increase in active contactless payment usage, a 96% y-o-y (year-on-year) increase in card usage in 2016.
- Meanwhile, merchant acceptance increased by 69% y-o-y in 2016. Globally, Mastercard has over 6 million merchant locations (not terminals); a large proportion of them are in Europe.
- In terms of contactless transactions, Mastercard reported several billion payment transactions in 2016. The number of transactions grew by 118% y-o-y in Europe, about double that of North America (Canada 60% and US 49%).
- Meanwhile, an increase in the number of active users translated to a 143% y-o-y growth in terms of volume spend. In Europe, the total number of contactless transactions was 23% of all processed transactions.

Case Study

Mastercard also reported around 80 million active Masterpass enabled consumer wallets in 2016.

In terms of mobile contactless payment, Mastercard is processing tens of millions of contactless transactions. Zehnacker commented: 'When it comes to mobile and wearables, we are witnessing huge growth in contactless adoption, but not the same level of usage compared to plastic, due to different maturity levels.'

'A lot of work is happening behind the scenes, with a number of "large" consumer brands expected to launch key wearable products later this year, using MDES (Mastercard Digital Enablement Service), Mastercard's tokenisation offering,' he added.

In October 2016, FitPay and Mastercard announced a partnership to integrate FitPay's contactless payment platform with MDES. Mastercard also partners with GM and IBM to bring Mastercard payments to cars.

Mastercard launched MDES in September 2014. Beyond providing access to digital wallets such as Apple Pay, Android Pay, Samsung Pay and IoT devices, the MDES tokenisation solution enables merchants to convert bank card numbers into tokens.

iii. Juniper's View

Mastercard's position as a leading global payment network means that it holds a central position in the payments value chain. It can leverage the tokenisation offering to improve security and potentially adoption of Masterpass.

Mastercard is very optimistic about the future for wearable payments; Juniper also expects the company to focus on expanding its reach in developing markets.

Figure 5: Masterpass

Source: Mastercard

Order the Full Research

The new study, **Contactless Payments: NFC Handsets, Wearables & Payment Cards 2017-2021**, covers the 3 key sectors of payments, coupons and ticketing, and focuses on sector opportunities, competitor analysis and important market developments.

Key Features

- **OS-Pay Market**: Analysis and 5 year forecasts for contactless wallet adoption, including Apple Pay, Samsung Pay and Android Pay.
- **Juniper Leaderboard**: 12 leading contactless payments providers compared, scored and positioned on the Juniper Leaderboard matrix.
- **Interviews**: Unique insights into the views of the leading players across the contactless payments, ticketing and couponing value chain, including FitPay, Gemalto, Giesecke & Devrient, Mastercard, Oberthur Technologies, Rambus, Visa and Vodafone.
- **Sector Dynamics**: Provides an in-depth evaluation of the contactless payment ecosystem, highlighting developments across the key segments of Contactless Payment Cards & POS Infrastructure; Contactless Mobile Retail Payments; Smart Wearable Payments; NFC Ticketing; NFC Coupons.
- **Benchmark Industry Forecasts**: Understand the size of the contactless payments, ticketing and coupons markets and where the growth will take place including, adoption, users, service revenue and much more, for 8 global regions and 16 key country markets.

What's in this Research?

1. **Executive Summary & Core Findings** – Research report summarising key trends, competitive analysis and market forecasts, allied to a series of strategic recommendations for players across the value chain (PDF).
2. **Market Trends & Competitive Landscape** - Strategic analysis of market dynamics, drivers and trends, together with vendor capability assessment and matrix of payment providers (PDF).
3. **Market Sizing & Forecasts** – Analysis by region and sector, together with five year forecasts for key metrics, including active users, transaction volumes and values (PDF).
4. **Interactive Forecast Excel** – Highly granular dataset comprising more than 15,000 datapoints, allied to What-If Analysis tool giving user the ability to manipulate Juniper's data (Interactive XL).

Publications Details

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