Tapping into Contactless Payments

This whitepaper is an extract from:

Contactless Mobile Payments
NFC, iWallet & Host Card Emulation 2014-2018

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1. Introduction

Since 2011, expectations have been high that mobile contactless payments, enabled via NFC (Near Field Communications) would rapidly gain traction. This has not come to pass. Disagreements and uncertainties over business models and standards, combined with a failure to communicate the benefits of a transition to contactless, led to what Juniper termed a 'vicious cycle of indifference' towards NFC. Limited and small-scale deployments (often as beta launches that have yet to become commercial) have meant there is little opportunity to increase consumer awareness of the technology, let alone create a critical mass of active users. With awareness and usage levels so low, retailers felt there was little incentive to install NFC-capable terminals at the POS (Point of Sale). Meanwhile, despite the fact that many smartphone models now have NFC chipsets, Apple's decision not to proceed down the NFC path has been a further blow to the industry.

2. Driving the Transition to Contactless

Contactless technology is so called as the user fulfils a transaction by tapping a card or handset against a Chip & PIN machine, rather than putting 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, either:

- When the specified payment limit (eg $50) has been exceeded and additional authentication is required, or

- As a 'spot-check' designed to deter fraudulent usage

2.1 Rising Contactless Infrastructure and Card Deployments

For contactless payments to gain mass adoption, it is essential that the supporting infrastructure (POS terminals) and cards/handsets (to make the payments) are available to consumers. Over the past 12-18 months, the number of cards and terminals in deployment has increased markedly. For example, in France, the number of contactless cards in issue rose from 2.5 million to 21 million between July 2012 and February 2014; at the same time, contactless POS terminals rose from 66,000 to 166,000.

The consensus amongst a number of our interviewees was that as consumers become more comfortable with using a payment device to 'tap' for payment, that in turn will spur growth in the NFC handset payment market. Thus, the contactless cards are in effect 'seeding' the market for the handset payments.

2.2 The Rise in Mobile Banking

From a specifically handset-centric perspective, the rise in mobile banking adoption has extremely positive connotations for contactless payment. At the end of 2013, Juniper Research estimates that there were approximately 64 million mobile banking users in North America and a further 89 million users in Western Europe. This growth in adoption is part of the wider consumer trend towards app adoption: in the same way that the public has embraced remote purchases of physical goods via the handset and the tablet, their relationship with their banks is becoming increasingly 'mobile'. For banks, as for retailers, the mobile is now a 'must-have' engagement channel.

3. Ecosystem Disruption: Emergence of HCE

HCE (Host Card Emulation) enables an application to replicate the functionality of a SE (secure element) in an NFC-based transaction or interaction. In this way, the app becomes a virtual smartcard, with the SE being remotely hosted. In addition, applications can use a Reader Mode to function as readers for HCE cards and other NFC-based transactions.

The introduction of NFC platforms based around HCE rather than a physical SE has potentially seismic implications for NFC stakeholders, given that it would reshape both the value chain and the attendant business models.

3.1 Implications for MNOs

The key asset for MNOs (mobile network operators) under the prevalent model is the NFC SIM SE. Although management of the SE on the mobile device will in most cases use the MNO's network, it is not automatically the case that an MNO will play an active part in the NFC retail payment ecosystem. It may, for example, simply be a distribution channel for NFC-enabled handsets. However, this 'dumb' role is exactly what MNOs have tried to avoid across many mobile fronts, but they have been faced with the challenge of how to be involved profitably.

To do this, MNOs have sought to leverage not only the technical advantages of the SIM SE, in terms of user payment service portability, but also the intrinsic billing and customer care relationship with the mobile user that the SIM embodies.
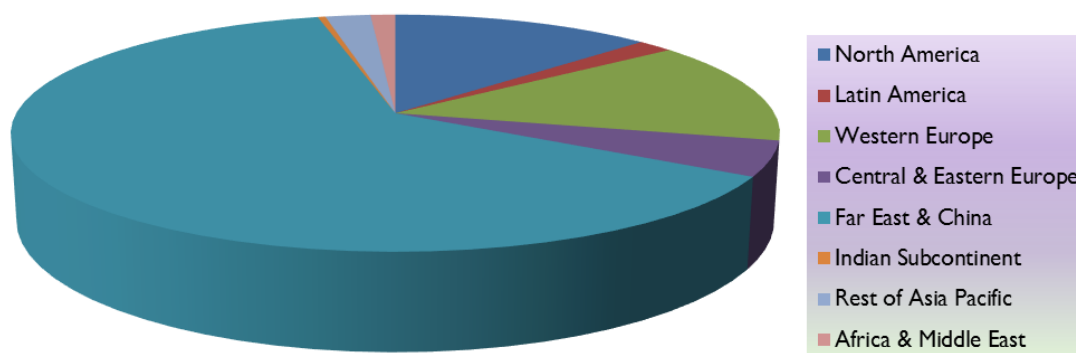
However, the removal of the SE from the equation significantly weakens the grip of the MNOs on the value chain. Despite large scale initiatives behind the SE element based model by industry associations such as the GSMA, there is a very real danger that the business model underpinning MNO/SE-driven NFC is simply too complex (and, for various other stakeholders, too costly) to implement.

4. Market Forecasts: Total Contactless Payment Users

Juniper forecasts that the number of contactless transactions via mobile handsets will exceed 9.9 billion globally by 2018, up from just over 3 billion this year.

The report found that 2 key disruptive factors, HCE and the anticipated launch of Apple's iWallet, were likely to spur contactless growth in the medium term. HCE transforms an app into a virtual smartcard, so that for NFC transactions, the SE no longer has to be physically present in the handset. Meanwhile, it is looking increasingly likely that Apple will introduce an iWallet in Q4 2014, which enables secure contactless payment via BLE (Bluetooth Low Energy) and a second air interface. It argued that Apple's entry into proximity payments would drive growth in the wider contactless space by increasing consumer awareness of the mechanism, indirectly benefitting adoption of NFC.

Figure 1: Total Mobile Contactless Transactions Split by 8 Key Regions in 2018: 10 Billion

Legend:
- North America
- Latin America
- Western Europe
- Central & Eastern Europe
- Far East & China
- Indian Subcontinent
- Rest of Asia Pacific
- Africa & Middle East

Source: Juniper Research

Order the Full Report

Contactless Payments: NFC, iWallet and Host Card Emulation, 2014-2018

The Research

- **This Fourth edition** of Juniper's market leading report assesses the opportunities for NFC stakeholders and explores the key trends and drivers across the contactless space.

- **An In-depth assessment** of the primary challenges facing the industry and the impact on the ecosystem of disruptive factors such as HCE (Host Card Emulation) and Apple's iWallet.

- **Extensive analysis** on the viability of prevalent and emerging contactless business models.

- **Invaluable insights** from interviews with the leading players across the contactless payments industry, including Ingenico, NXP, Oberthur, Proxama, SAP, SimplyTapp, VeriFone and Visa Europe.

- Available in **pdf** and **Excel** format

What's New in this Report?

- **New IFxl (Interactive Forecast Excel)**
    - 50 tables, 6 What-if-analyses and over 3,000 Data Points.
    - Country-level forecasts for NFC handset adoption by 36 countries (including China, France, Germany, UK, US and South Korea).

- **The Report**
    - New benchmark forecasts on the mobile contactless industry including 36 tables and 36 charts.
    - New forecasts for Contactless NFC and iWallet payments.
    - Three exclusive forecast chapters on Payments, Ticketing & Coupons.

Publication Details