



hochschule aschaffenburg
university of applied sciences

Mobile Payments: the Second Wave

**Presentation at the
Payments Drift Forum, University of Warsaw**

8 September 2016

Malte Krueger

Hochschule Aschaffenburg

University of Applied Sciences

1. “M-payments”: an elusive concept

“M-Payments: a clear definition is missing

Use of the mobile phone as

- a plastic body,
- an identifier (using the SIM),
- an authentication device,
- a communication channel,
- a computer and
- a payment terminal.



2. The first m-payment wave

Great expectations

The first wave roughly went in **parallel with the dotcom boom**.

The dotcom crash in the year 2000 also marked the end for many m-payment initiatives.

The first m-payment boom was driven by **three related developments**:

- the ongoing spread of mobile telephony,
- the expected expansion of m-commerce and
- the dotcom boom



2. The first m-payment wave

Things did not work out as expected

The **mobile internet** was sloooooow (remember WAP?).

There hardly was any **content**.

Use of the mobile phone at the physical POS was cumbersome.

Paybox as an example:

- Consumer provides merchant with his mobile phone number
- Merchant transfers payment data to Paybox.
- Paybox calls payer on his/her mobile phone.
- Payer authorises the payment with the Paybox PIN.

3. The second m-payment wave: technology

The rise of NFC

Spread of **NFC terminals** – a development strongly driven by EMV implementation

Rising number of **cards** equipped with contactless

Rising number of **mobile phones** equipped with contactless

Big success of **Apple Pay**

Samsung and Google following



3. The second m-payment wave: technology

Host card emulation (HCE)

The **standard mPOS model**:

Card data are stored on a secure element (SE)

- on the SIM card (model 1),
- on an embedded SE of the phone (model 2) or
- on a micro SD card (model 3).

HCE can be used to side-step the necessity of an SE in the phone by “**putting the SE in the cloud**”.

No dependency on mobile operators.

BUT: Strong position of mobile OS providers.

3. The second m-payment wave: technology

The spread of smart phones and the rise of the mobile Internet

The payment requirements of e-commerce have been met to an astonishing degree by **existing payment systems**: cards, direct debits, credit transfers and even cash (!).

But there are **some new comers**: PayPal, iDeal, Sofort, ...

The same may happen in the world of m-commerce.

We may see that the market is mostly covered by existing means of payments.

At the moment: many offerings: **“War of the Wallets”**

4. The second m-payment wave: some success stories

M-Pesa

M-Pesa is not really “second wave”.

M-Pesa and similar schemes appearing in Africa are a development in their own right.

But M-Pesa **often serves as a showcase.**

M-Pesa has converted prepaid mobile accounts into **rudimentary bank accounts.**

M-Pesa depends on a **large agent network** that allows users to convert cash into M-Pesa funds (e-money) and vice versa.

M-Pesa is providing a **hugely beneficial** service for its users.

BUT: Little need for M-Pesa In markets with developed banks.



4. The second m-payment wave: some success stories

Apple Pay



Launch of “Apple Pay” in the US in October 2014.

Expanding to other countries.

Apple Pay relies on Apple’s Touch ID for authentication, a secure embedded chip and tokenization.

Cards are replaced to some extent by smartphones.

But the **traditional players** of the large four-party card schemes are not replaced.

Apple receives a fee of 0.15% from card issuers in the US.

This fee has made **international expansion difficult**.

4. The second m-payment wave: some success stories

Square



Use of the mobile phone as a **low-cost payment terminal**.

Connected with a low-cost card reader.

Successful use of the **sub-acquiring model**: small merchants do not need to enter into an explicit contract with an acquirer.

In Europe, the Square business model has been copied by a number of companies such as Adyen, iZettel, SumUp, Payleven and Streetpay.

This new model makes the **range of potential card acceptors** becomes much larger.

Question marks: security, business case

5. Mobile P2P (mP2P)

Is there a role for mP2P in the developed world?

New companies are **expanding fast**.

The US upstart Venmo, in particular, is in a strong position.

It has been taken over by PayPal.

mP2P is also likely to profit from **real-time bank transfers**:

- Swish in Sweden
- Express Elixir and BlueCash in Poland, “Pay by bank” UK

Big question mark: Is there a **business case**.

Swedish banks have postponed their plans to introduce transaction-based fees.

6. Mobile operators on the side-lines?

A lot of action but the results have been limited

To be sure, there have been **some successes**:

Operator billing for digital goods and services.

M-Pesa provides some basic banking services to the unbanked.

Apart from that,

→ **many failures** already in the 1st m-payment wave.

More recent failures: softcard (US), mpass (Germany)

Proposed JV in the UK did not take off.

But mobile operators seem to be undeterred.

7. European policy

Main approach: ex ante co-ordination

Important elements of the **EU political approach**:



- Resolution of the **European Parliament** on “Card, Internet and mobile payments” (2012)
- The **EU Commission’s** Green Paper on “an integrated European market for card, Internet and mobile payments” (2011)

The **EP’s wish list** (based on the Commission’s Green Paper):

- mandated EU-wide acceptance
- standards and a co-ordinated implementation effort
- a good governance model giving all stakeholders have a say
- a common governing body setting security requirements

7. European policy

Co-operate! – But not too much!



While favouring a co-ordinated approach, European policy makers have been **suspicious of co-operation**.

Antitrust concerns have frequently led to investigations that cost market participants valuable time.

Already **during the first** m-payment wave, regulators scrutinized the Spanish m-payment JV “Movilpago”

In the recent past when “Project Oscar”, a planned JV of Everything Everywhere, Orange and Vodafone, became subject to an **“in-depth investigation” of the European Commission**.

7. European policy

Security regulations



Anti-trust is not the only concern.

Policy makers are also prescribing **ever-more detailed security measures** that PSPs have to implement.

In the area of m-payments:

ECB: “Recommendations for the security of mobile payments”,
Draft document for public consultation.

EBA: “Consultation Paper. On the draft Regulatory Technical Standards specifying the requirements on strong customer authentication and common and secure communication under PSD2”

8. Conclusions

The future of m-payments is still uncertain

- Is there a **market need** for new payment instruments?
- Will smart phones significantly **replace cards** at the POS?

As far as policy goes, the approach favoured by the European Commission to look for a co-operative solution ex ante (“with all stakeholders”) is a **blueprint for standstill**.

True, **common standards** are important.

But in the product space, **proprietary solutions** seem to be much more successful.

This is a market-based “**trial-and-error approach**” rather than an attempt to fix everything ex ante.

Thank you.

Malte Krueger

Hochschule Aschaffenburg
Würzburger Str. 45
D-63743 Aschaffenburg
Tel.: +49 6021 4206 787
E-Mail: malte.krueger@h-ab.de



hochschule aschaffenburg
university of applied sciences