

**Central Banking Events:
Effective Oversight of
Payment and Settlement Systems
Clare College, Cambridge, UK**



New media and non-banks

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*All payments are transportation of funds
(= transfer from payer account to payee account)*

Payer account

Payee account



- ◆ Basic requirements and development needs
 - transportation (processing) cost efficiency
 - delivery speed
 - security
 - user interface efficiency
 - user integration support

**All kind of service
providers face
same challenges**

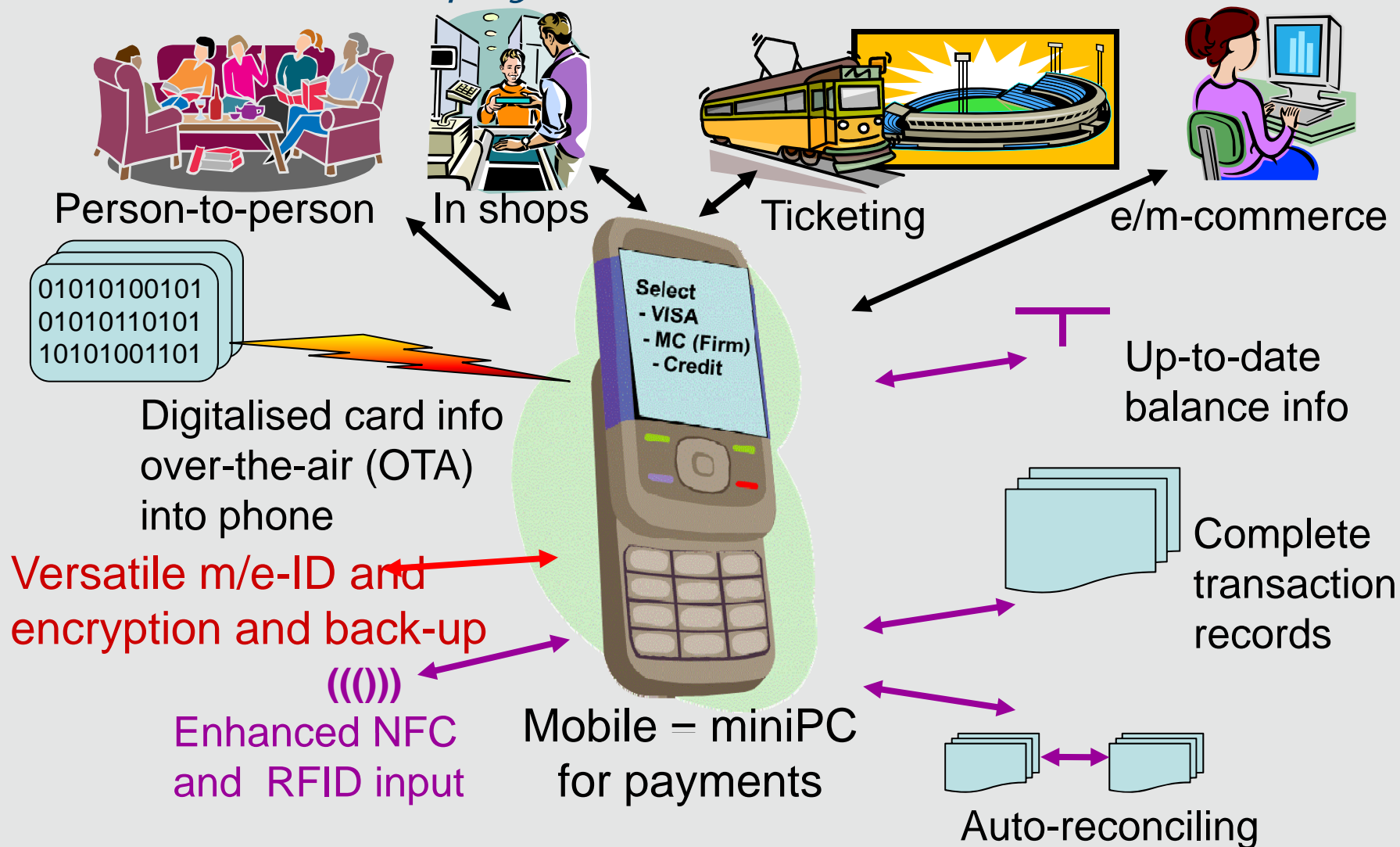
***Payments are non-interesting but mandatory tasks when due
(although some of us try to postpone them as much as possible)***

Service level failures of old service providers give new entrants opportunities

- ◆ Network reach
 - Limited global and C2C reach and large unbanked population
- ◆ Transportation costs
 - Current charges are high compared with general web-level
- ◆ Delivery speed
 - Current batch speed of 1-2 days below real-time e-expectations
- ◆ Security
 - E-banking solutions are often inconvenient and unsecure
- ◆ User interface efficiency
 - Current “clumsy” proprietary standards without global web-reach
 - Request for easy-to-use “web-native” e-/m-platforms
- ◆ User integration support
 - Request for more automation and increased data content

***Who and when will a new e/m-generation
of payment services be provided?***

Potential mobile phone and m-payment enhancements – the dominant payment instrument of the future?



Increased convenience, speed and security at lower costs

Future requirements for successful payment services

1. Simple user-interface ('show-balance', accept/make payment)
2. Continuous availability, here and now 24/7
3. Global addressing and reach (email and IBAN in parallel)
4. Simple real-time processing based on program libraries
5. Cost and charges at 'internet/email' level, extras only for value-added services
6. Open network structure (or monopoly provider)
7. Increased 'limitless' customer data content (open and encrypted)
8. Synergies via real-time linkages to other processes in other systems (ordering, ticketing, invoicing, etc)
9. Solid e-security and e-identification

**Same requirements
for all service providers**

Legacy systems need to be replaced by re-engineered modern technology, as everything else in the e-world

*The legacy payment industry is captured by
a 'zero-sum cannibalism' dilemma*

**Customer with
fixed volumes
(= externally given
as payments are
complementary
products)**



**Banks need to
agree on developments
= network requirement**



**Customer forced to use
available legacy solutions**



**New solutions will 'eat'
volumes of old solutions
without new revenues
but with new investments**

***Improving customer services will in most cases
increase banks' investment costs,
reduce margins on current volumes and thereby
reduce overall profits as hidden revenues are fixed.***

***Legacy service providers are often better off by
a "wait and see" strategy in the current market setup.***

New entrants face network barriers

- ◆ **Licensing/regulatory requirements** support legacy service providers (but regulations seem to become more liberal)
- ◆ **Infra/network participation rules** pose barriers (but openness requirements seem to become more popular)
- ◆ The payment service business model based on **hidden/embedded pricing and cross-subsidies** is the major entrance barrier (ie new entrants cannot show their efficiency or rely on cross-subsidies allowing revenue streams)
- ◆ **Customers are reluctant** to move all or even a major part of their payments to new entrants (changing bank is a major undertaking)

Successful new entrants need to follow a business model

- With synergies and cross-subsidies from other business lines and (or)***
- Sufficiently high customer (integration) cost-savings to provide pricing possibilities at costs and***
- With a sufficient “own” network of interlinked customers***

*Technically a major improvement is feasible,
but there is a lack of a promoting business model*

- ◆ How to get legacy service providers and/or new entrants to invest?
- ◆ Legacy service providers face major business restructuring needs (new systems, new distribution network, new personnel needs) cutting costs and changing business models
- ◆ New entrants have challenges in building the network and processing platforms but also to acquire customer trust

***Late start up delays social benefits,
but which are the successful authority means
for development acceleration?***

*The old and known risks
from the paper and batch world
will be transferred to the e-world.*

*However, they will come in new digital shapes
of which little experience available.*

*Any system has its technical and operational
vulnerabilities.*

*Criminals are attracted by all kinds of money,
also its new digital e/m-forms.*

The importance of dependencies has grown rapidly

1. Consolidation
 - More central points with large impact
2. Specialisation
 - A small number of experts managing large world-wide systems
3. Automation
 - The capacity of manual back-ups are not sufficient
4. Integration
 - Everything affects everything, a small critical part can turn down big systems
5. Software-based infrastructure
 - There are seldom true back-up programs and databases, just copies of the production versions
6. Process control
 - Back-up process and testing only made for single and probable problems
7. Globalisation
 - Dependence on global actors and their supplies
8. Rapid technology developments
 - Back-up solutions are also out-dated rapidly

Quarterly economy and privatisation reduce back-up investments

Authority/oversight challenges

- ◆ **Increased globalisation**
 - How to oversee multinational and foreign service providers?
- ◆ **Higher speed/shorter reaction times**
 - Do we need real-time oversight?
- ◆ **More consolidation**
 - How to ensure competition and efficiency in mono/oligopolies?
- ◆ **Deeper integration among participants**
 - How to ensure integration works correctly in exceptional situations?
- ◆ **Increased interdependence**
 - How to control critical components and ensure effective back-ups?
- ◆ **Larger risks of wider contagion**
 - How to identify critical relationships and ensure proper risk controls?
- ◆ **Greater complexity of markets and infrastructures**
 - How to understand/test market reactions to exceptional situations and authority actions in those?

Need for in-depth studies, preparations and simulations

Understanding 'old' electronic risks

- ◆ High availability is essential as paper-based contingency measures cannot handle big volumes
- ◆ Rapid transmission of errors throughout the integrated system requiring automated correction routines
- ◆ Hardware, software and communication back-ups are necessary (software back-ups are seldom implemented)
- ◆ Dependence of key components and personnel
- ◆ Electronic terrorism and criminality
- ◆ Errors and attacks resulting in gradual destruction of back-ups and databases
- ◆ Customers' varying know-how of electronic security
- ◆ Personnel's trust in the 'system', system's trust in the personnel (need for electronic 'four eyes' implementation)

Old risks with a new appearance and requiring new tech (not necessarily high tech) know-how

Authority challenges/dilemmas in mobile payments

1) Global services vs national authorities

- Domestic systems disappear
- Dependence of foreign systems increase, authority mandates?
- Authority cooperation at embryonic level only, coordination body?

2) Synergic efficiency vs closed segmented industries

- Synergies via combining expanded data and processes
- Synergies via increased competition and by providing payments for non-banked, using other “account” networks than bank networks

3) Open service competition vs regulated industry stability

- Open competition often neglects externalities (systemic risks)
- Under-estimation of back-up needs and indirect losses
- Hidden and monopoly pricing disadvantages

4) Individual freedom vs enforced e-identification

- Anonymity and lack of audit trail provoke criminal usage
- Privacy needs to be respected, but e-identification is protective
- Regulatory bias/arbitrage results in distorted competition

Authorities need to ensure that past regulatory policies are maintained for new services but also recognize new needs and benefits and avoid inefficiencies

*The direction of developments
seem to be quite clear,*

*but the pace of developments
seem very blurry*

*except for being very slow
in the past.*

More information in BoF publication A:111

*Harry Leinonen: Payment habits and trends
in the changing e-landscape 2010+*

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Thank you for your attention.

Questions?

