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Review of the International Landscape of Innovation in Payments and Insights for UK Payments

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Summary Findings

An Accenture report commissioned by the Payment Systems Regulator

Contents

1. Foreword

In this report Accenture has scanned worldwide innovations in payments for the UK Payment Systems Regulator (PSR). We reviewed over 100 payments innovations from simple consumer apps to major infrastructure changes, and payments policy initiatives. We have focused on their motives, key features, interactions and the policies used. We have reviewed each innovation to identify its impact and relevance for UK payments.


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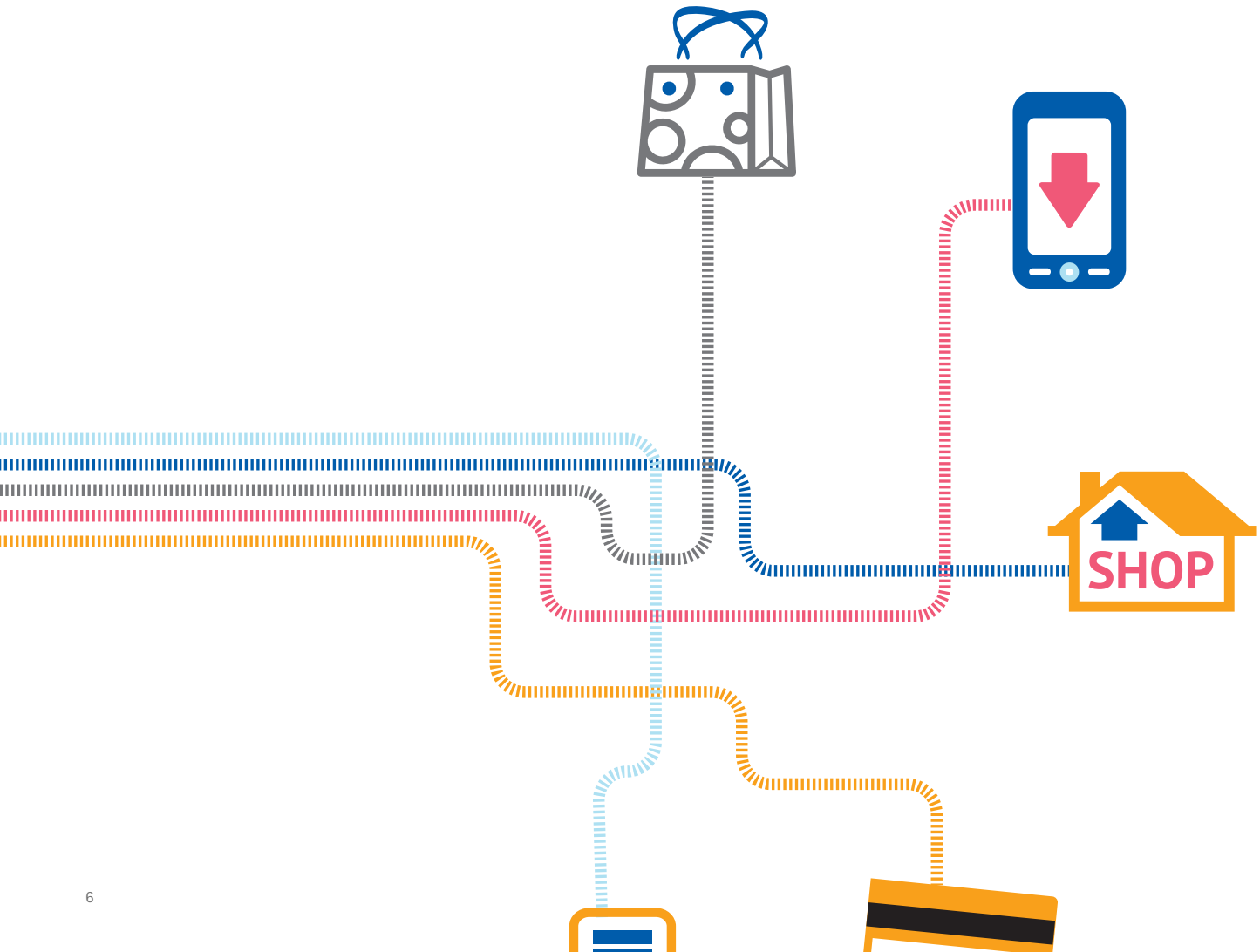
2. Introduction

Following the Call for Inputs issued by the Financial Conduct Authority in April 2014, the PSR has mobilised and entered into an initial period of evidence gathering and informal engagement with industry participants. Formal consultation on its proposed regulatory approach is scheduled for the autumn of 2014. A key area of focus for the PSR during this initial period is a review of innovation in payments, in particular focusing on innovations outside the UK. This review is aimed at helping the PSR achieve its three core objectives:

- Promoting effective competition in payment systems and the services they provide to service users
- Promoting payment system development and innovation
- Ensuring that payment systems are operated and developed in a way that takes account of, and promotes the interests of, service users.

The PSR has engaged Accenture to gather facts, evidence and, where appropriate, stakeholder views on innovation in payments from around the world. The purpose of this report is to:

- Document evidence on payments innovation from around the world, including analysis of lead actors, incentives, benefits delivered, barriers and policy tools used
- Inform PSR policymaking to support its objectives of promoting competition, innovation and the interests of service users.



3. Methodology

For this study we have reviewed the most recent developments in payments innovation worldwide. To support the analysis and classification of these innovations, we defined a Payments Innovation Methodology, which is comprised of three main elements:

- Value chain – a framework defining participants and processes in the payments and cards ecosystems that could be affected by a particular innovation
- Taxonomy – a list of key attributes that allow us to classify the types of innovation. This includes lead actor, incentives, barriers, benefits, etc
- Categorisation – a method to categorise examples of payments innovation informed by two key criteria: the impact of the innovation in the geography where it was launched and its relevance to the UK.

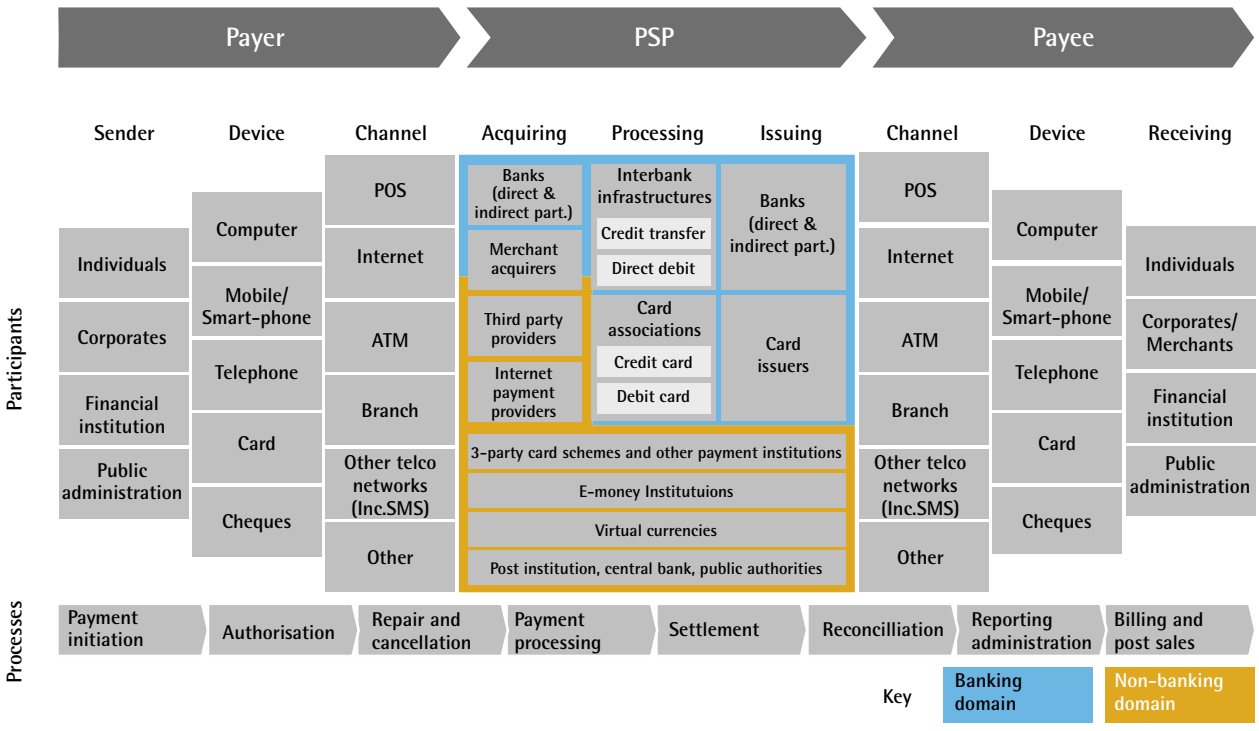
Value chain

The Payments Innovation Value Chain provides a framework which defines the key participants and processes that could be impacted by an innovation. For each innovation, the value chain has been used to inform where innovation is happening and who is being impacted by it.

There are two key elements to the value chain:

- Participants – there are three categories of participants: the Payer, who sends the payment; the Payment Service Provider (PSP) who facilitates the payment; and the Payee, who receives the payment. The PSP includes the lead actor launching the innovation. For each innovation, the different participants have been documented, as have both the incentives (the rationale behind the launch of an innovation – from the point of view of the PSP) and benefits (the impact of the innovation on end-users – the Payee and Payer).
- Processes – these describe the main activities of the payments lifecycle. For each innovation, we have described which activities are impacted, beginning with payment initiation through to completion of a payment (including billing and post sales activities). Processes are a left to right flow across the value chain.

Figure 3.1: Payments Innovation Value Chain



Taxonomy

The Payments Innovation Taxonomy provides a list of key attributes which have been used to classify the types of innovations seen worldwide. These attributes help to categorise trends in innovation; for example the actor driving innovation, the incentive/ underlying business case for certain types of innovations and the barriers experienced by different participants.

The key attributes used are summarised in Table 3.1.

Table 3.1: Payments Innovation Taxonomy Categories

Taxonomy category	Category definition
Public Policy	Policy from government agency/financial regulator enabling payment or cards innovation
Area	Business area where the innovation case has taken place (cards; interbank payments; e-money)
Innovation Area	Specific area where the innovation case has taken place (payment infrastructure innovation, e.g. Bankgirot; end-user innovation enabled by infrastructure innovation, e.g. Swish; end-user innovation not dependent on infrastructure innovation, e.g. Google wallet)
Payment Funding Method	Funding type impacted by the innovation case (cash; prepaid; debit; credit)
Innovation type	Product group impacted by the innovation case (internet payments; mobile payments; card payments; electronic invoicing and bill payment; infrastructure)
Main Usage	Main usage/interaction impacted by the innovation case (P2P; P2B; B2B; Government payments)
Access Channel	Access channel impacted by the innovation case (POS; internet; telco; branch; ATM; other)
Access Device	Access device impacted by the innovation case (computer; mobile/tablet; telephone; card; other)
Access Technique	Access technique impacted by the innovation case (remote; contact; contactless)
Lead Actor	Lead actor or actors responsible for driving the innovation (interbank scheme; sponsor bank; agency bank; PSP; card issuer; card scheme; merchant acquirer; telco)
Driver	Primary driving factor behind payment/cards innovation (competition; cooperation – banks only; cooperation – banks and non-banks; cooperation – non-banks only; other)
Policy Toolkit	Policy tool used by government or regulators in driving the innovation, or policy tool that followed in response to first-mover activity
Value Chain Step Impacted	Step(s) of the payments value chain impacted by the innovation
Payer Benefit	Benefit delivered to the payer by the innovation (new payments option; ease of use; speed up payment processing; protection against default; acceptance by card merchants; lower costs; enhanced data privacy)
Payee Benefit	Benefit delivered to the payee by the innovation (reduced cost of cash handling; reduced cost of payment processing; improved sales; improved liquidity management)
Incentives	Financial or commercial benefit delivered to the actors leading the innovation (increased revenues through new services; increased revenues through service differentiation; achieving governmental goals; lower cost of payment processing; lower cost of cash handling)
Payment Service Provider Barriers	Barriers to launching the innovation faced by the PSP (need to incentivise industry collaboration; network effects in a two-sided market; lack of standards and interoperability; presence of legal issues; lack of access to payments infrastructure; high cost of investment to set up alternative infrastructure)
Payee/Payer Barriers	Barriers to using the payment innovation faced by the Payee/Payer (lack of security; lack of trust; lack of customer protection; high cost of membership; high cost of implementation)
Impact Score	Measure of the impact that the innovation has in the geography where it was launched
UK relevance Score	Measure of the relevance of the innovation case to the UK

Categorisation

The Categorisation Matrix describes the method used for our analysis to categorise examples of payments innovation seen worldwide.
Two key criteria were used:
1) a measure of the impact of the innovation in the country/geography where it was launched; and **2**) the relevance of the innovation to the UK.

Innovations were included in our list of cases where certain criteria were met for each category. The criteria used to assess impact and UK relevance are described opposite:

Innovations were assigned an overall impact and UK relevance score based on the criteria described above. Specifically, innovations were assigned medium impact and/or relevance where two criteria were met; a high impact and/or relevance where five criteria were met; and a highest impact and/or relevance where seven or more criteria were met.1 This data was used to produce an innovation summary matrix as illustrated in Figure 3.2 right.

Figure 3.2: Innovation Categorisation Matrix (Illustrative)

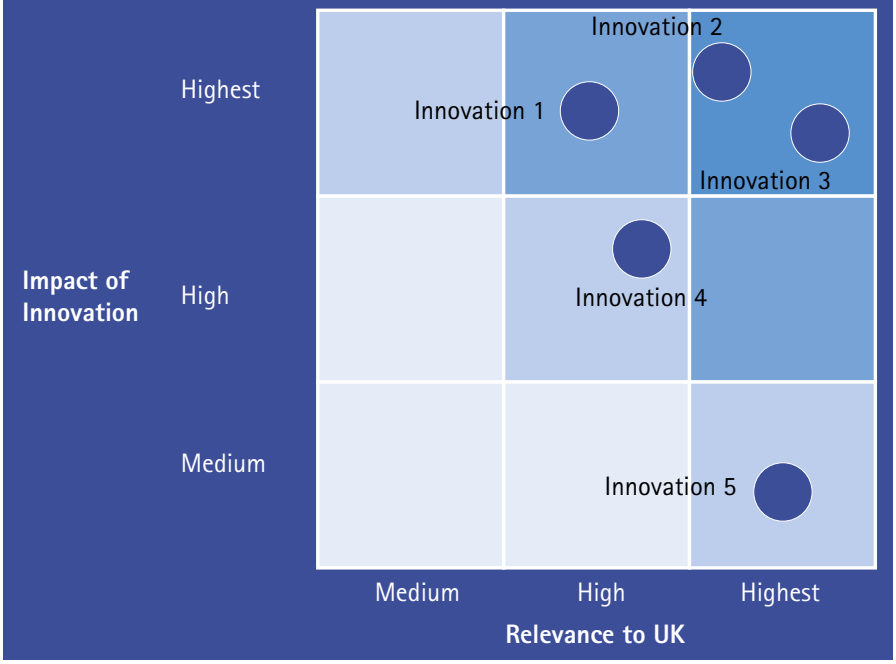


Table 3.2: Impact and UK Relevance Criteria

Impact score	UK relevance score
Criteria:	**Criteria**
• currently/could be adopted by a significant proportion of consumers	• currently not available but could be adopted by a significant proportion of consumers in UK
• currently/could affect a significant proportion of online/mobile transactions	• currently available/being rolled out in the UK
• currently/could be offered by majority of online merchants	• exploits real-time
• currently/could be offered by majority of in-store merchants	• enables information-rich payments
• currently/could be adopted quickly	• can leverage existing UK interbank infrastructure
• displaces cash	• would drive development of new UK infrastructure and enhancements
• enables new digital digital business models	• significantly better and different to existing UK payment propositions
• currently/could be preferred payments consumer instrument in-country	• can be embedded in digital commerce and operate across channels
• currently/could be cross-border solution (3+ countries)	• requires low investment from UK merchants
• example of successful cross-industry/ government collaboration	• focused on corporate payments, financial supply chain and/or SMEs

1 Certain case studies have been included to provide a broad base of innovation examples in emerging areas such as corporate payments. We have also included a selection of failure cases where lessons learned were important for UK payments.

4. Emerging trends in payments

The global payments industry is large and growing. More than 300 billion transactions are processed each year.[2] These are increasingly in the form of electronic payments, which are displacing the use of cash, with card payments accounting for the largest proportion of e-payments in all geographies (see Figure 4.1).

Changing consumer behaviours

Consumer behaviours are changing. In the area of retail payments, consumer behaviours are strongly driven by consumers' demand for payment instruments that are more secure, efficient and convenient. Over the past decade, easier access to the internet via mobile phones and smartphones has changed the way individuals communicate, including the way they send and receive money. The web and mobile have generated new payment instruments which allow consumers to pay for remote purchases in new and different ways. They have also provided new, alternative ways to initiate transactions, for example using mobile phones instead of traditional payments cards.

Growth of online commerce has been a prominent factor in driving customer behaviours. In many countries, online commerce already accounts for 10% of the total value of retail commerce and 5%-7% of total transaction volumes.[3] Identifying the benefits for consumers and merchants involved in these transactions opens up new opportunities for payment innovators. Cards have historically been the main instrument for online purchases; however, where alternatives to card instruments have been introduced, these can quickly become the preferred payment option for online purchases. In the Netherlands, for example, online banking e-payment service iDEAL was launched in 2005 and has become the most popular online payment method, capturing more than 50% of online payments and accepted by over 80% of online merchants by 2013.[4]

More recently mobile phones have begun to influence the way consumers pay, using a multitude of mobile apps for both remote and proximity payments. The widespread usage of smartphones[5] by consumers combined with hyper-growth rates[6] for contactless card transactions is opening up new territory for mass adoption of mobile payments at point-of-sale (POS) over the coming years.

2 Accenture Research analysis on BIS and ECB data

3 Accenture Research analysis and estimates on various sources (European Commission, ECB, BIS, Juniper Strategy & Research, WorldPay, Visa, UK Payments Council)

4 Payment Observer, "iDEAL – The Most Popular Online Payment Method in the Netherlands", May 23, 2012 http://www.paymentobserver.com/online-payment-ideal-netherlands-4899

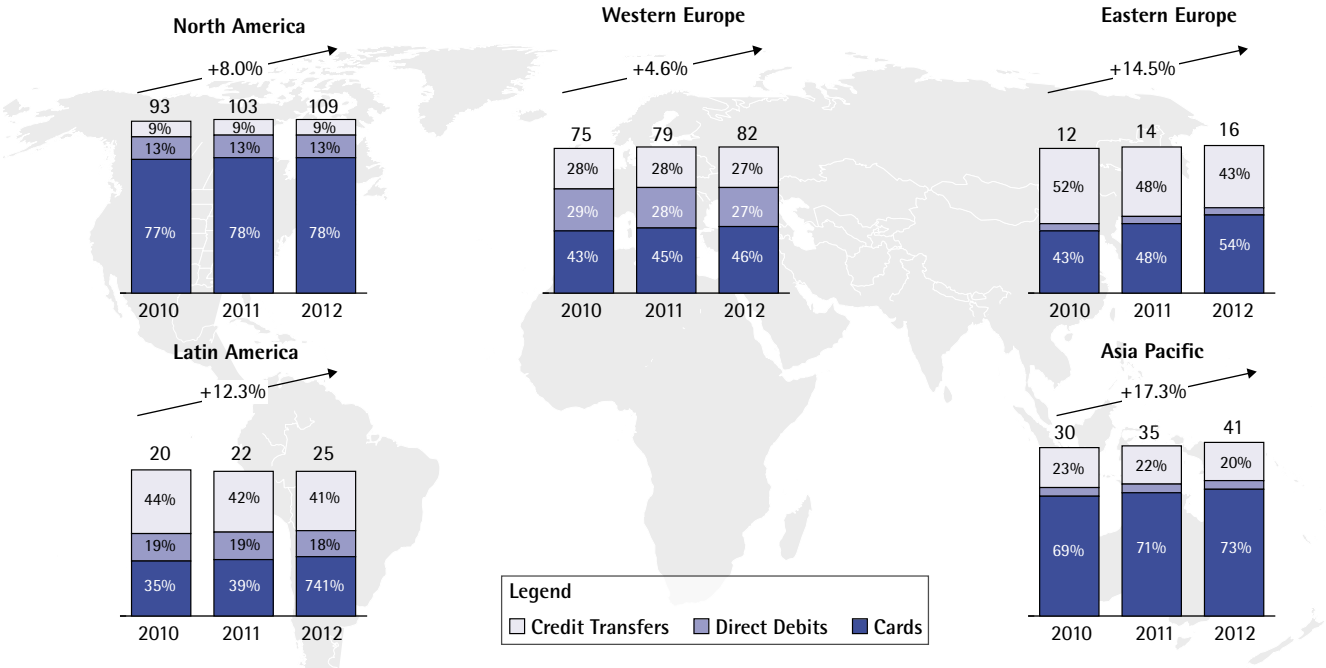
5 International Telecommunications Union, "World Telecommunication/ICT Indicators database", June 2014 http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

6 Visa Europe, "European contactless spend grows six fold in 12 months", September 25, 2013 http://www.visaeurope.com/en/newsroom/news/articles/2013/european_contactless_spend.aspx

Figure 4.1: Global e-payments growth (2010–2012)

E-payments product breakdown

(Bn of transactions)



LATAM–Brazil, Mexico; **APAC**–Australia, China, India, Japan, Korea, Singapore

Source: Accenture Research analysis on BIS, ECB and central banks data

Alongside this expansion, the payments industry is undergoing a transformation driven by changing consumer behaviours, the maturation of new technologies and the emergence of non-bank PSPs. This section describes these trends in greater detail.

Maturation of information technologies

New information technologies are emerging and maturing in the payments industry and are changing the consumer experience. Equally, new technologies are opening up opportunities for merchants, banks and other PSPs to adapt their payment services and infrastructures.

The adoption of Near-Field Communications (NFC) terminals, the emergence of mobile POS, and maturation in retailers' mobile apps are examples of how these technologies are changing experiences. The website NFC World monitors worldwide developments in NFC technology and reports daily on cases studies and trials from around the world. At end-July 2014, the website had reported more than 1,000 NFC-based initiatives, the majority of which were local or national solutions.[7] At a global level, there are already more than 70 mobile POS providers, some of them operating across multiple countries.[8] At the same time, digital wallet initiatives have been announced by all major card schemes and by several telecommunication companies. Starbucks processes 14% of its transactions[9] from customers using its mobile app, and MCX (under development in 2014) has signed up 70 prominent US brands processing $1 trillion in payments annually.[10]

One final trend in technology maturation is toward the rising adoption of real-time payment processing, increasingly based on XML format and the ISO 20022 international standard. This use of a common messaging standard speeds up payment processing by improving payment system harmonisation across borders – serving to meet the demand from consumers and corporates for faster payment services. As of July 2014 there were more than 30 payments systems[11] worldwide migrating to the ISO 20022 standard, and 15 real-time retail payment systems already live or about to be launched.[12]

7 NFC World, "NFC trials, pilots, tests and live services around the world" http://www.nfcworld.com/list-of-nfc-trials-pilots-tests-and-commercial-services-around-the-world/

8 MasterCard, "Mobile POS Self-certified solution providers", June 2014 http://www.mastercard.com/corporate/_assets/img/features/MPOS_Self-Certified_Solutions.pdf

9 Starbucks, "Starbucks 34th Annual Growth Stock Conference", June 11, 2014

10 MCX, "MCX Adds Paydiant to Power Mobile Payments and Expands QSR Reach with Wendy's", February 12, 2014, http://www.mcx.com/images/mcx-press-021214.pdf

11 ISO 20022, http://www.iso20022.org/

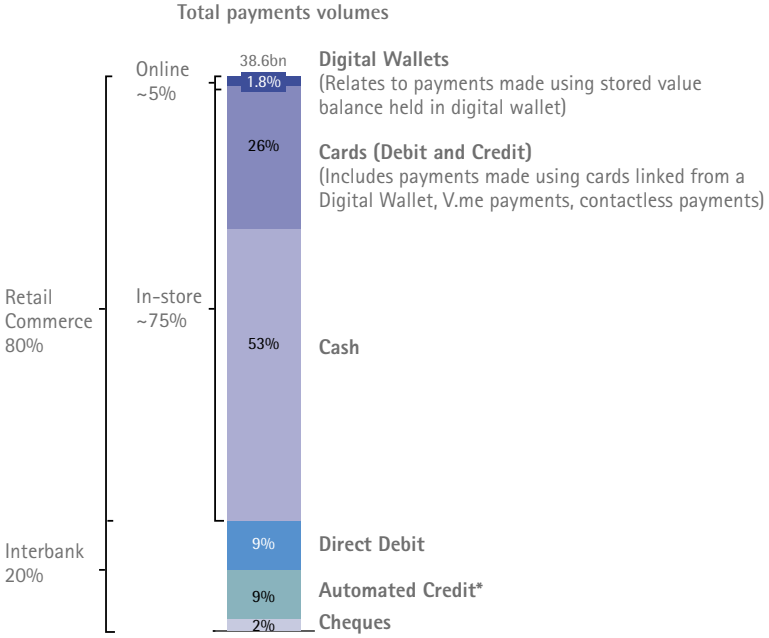
12 Clear2Pay, "Flavours of fast – A trip around the world in immediate payments", 2014

Emergence of non-bank providers

Traditional banks have typically been at the forefront of the payments ecosystem, through direct access to payment infrastructures and card associations. However, their incumbent position is being challenged in many economies by the emergence of alternative payment providers which include retailers, telecommunication providers, technology companies, start-ups and others.

Alongside traditional payment products offered by banks – which include credit transfers, direct debits and cards – alternative payments instruments such as online stored value accounts, prepaid cards, online banking e-payments and e-invoicing are being developed by non-banking providers and are being progressively adopted by consumers, corporates and merchants to solve specific needs. As an example, payments made using stored value digital wallets made up approximately 2% of total UK payments in 2013, up from nil a few years ago (see Figure 4.2), and is expected to triple by 2020.[13]

Figure 4.2: UK payments systems in 2013



Source: Accenture Research analysis on UK Payments Council, WorldPay and PayPal data

*includes FPS and CHAPS payments

13 Accenture Research analysis and estimates on UK Payments Council, WorldPay and PayPal data

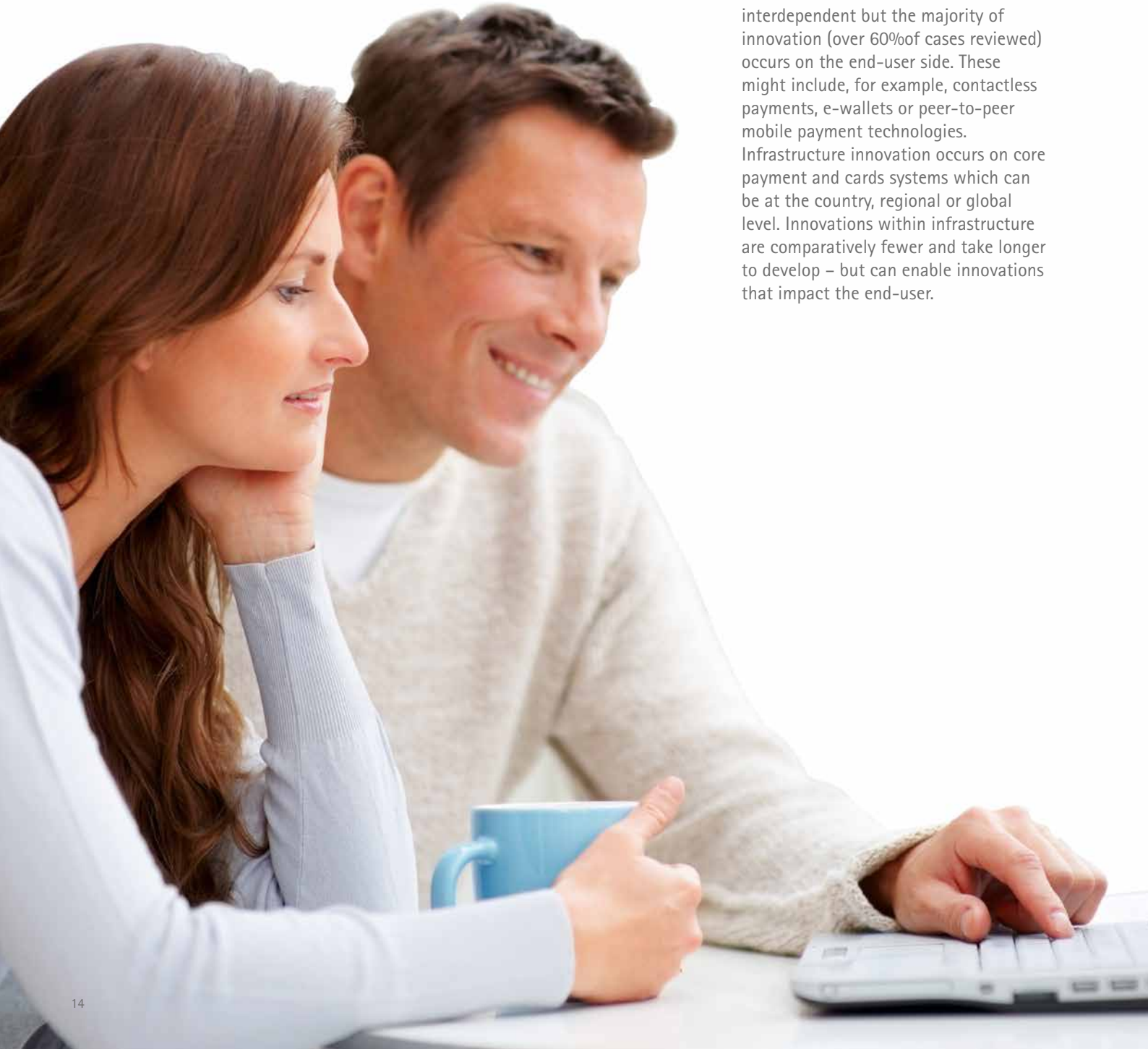
5. Worldwide scan of payments innovation

Payments innovations are being launched all around the world by small companies, banks, card companies, PSPs, and non-financial institutions such as retailers alike. We see substantial innovation taking place at stores, online, on mobiles and through the middleware systems and backend infrastructures that connect payers, PSPs and payees.

5.1 What is innovation?

We define payments innovation as something new within the payments landscape – it need not be radical – but something that is new, different and which delivers on an incentive for the innovator and a benefit for users.
We have reviewed over 100 payment innovations for this report from a wide selection of countries and companies.

We identified two broad categories of payments innovation – end-user and infrastructure. The two are interdependent but the majority of innovation (over 60%of cases reviewed) occurs on the end-user side. These might include, for example, contactless payments, e-wallets or peer-to-peer mobile payment technologies. Infrastructure innovation occurs on core payment and cards systems which can be at the country, regional or global level. Innovations within infrastructure are comparatively fewer and take longer to develop – but can enable innovations that impact the end-user.



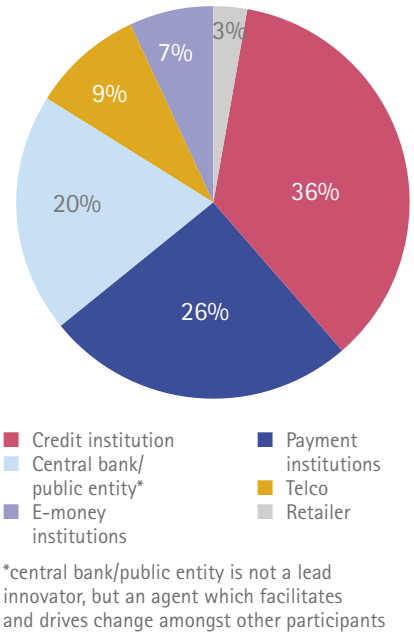
5.2 Who innovates?

Innovators range from small start-ups such as Traxpay, Klarna and Jumio, established companies diversifying into payments such as ExxonMobil, traditional banks such as Royal Bank of Canada and non-financial institutions including retailers such as Starbucks and telcos such as NTT Docomo in Japan. This section discusses the principal actors leading the development and launch of payments innovations.

Of the wide range of payment innovations reviewed worldwide, 36% were launched by credit institutions, a category which includes banks. 9% of innovations were launched by telcos and 26% by payment institutions – a category which includes third party providers, internet services providers and acquirers.

Figure 5.1

Actors leading payments innovation; innovations outside the UK
% of cases within category listed as primary actor leading launch of innovation



*central bank/public entity is not a lead innovator, but an agent which facilitates and drives change amongst other participants

Figure 5.2

Incentives for payments innovation; innovations outside the UK
% of cases within category listed as primary incentive for launching innovation

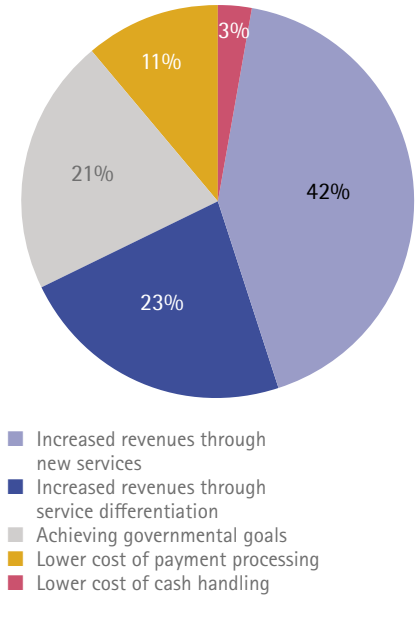
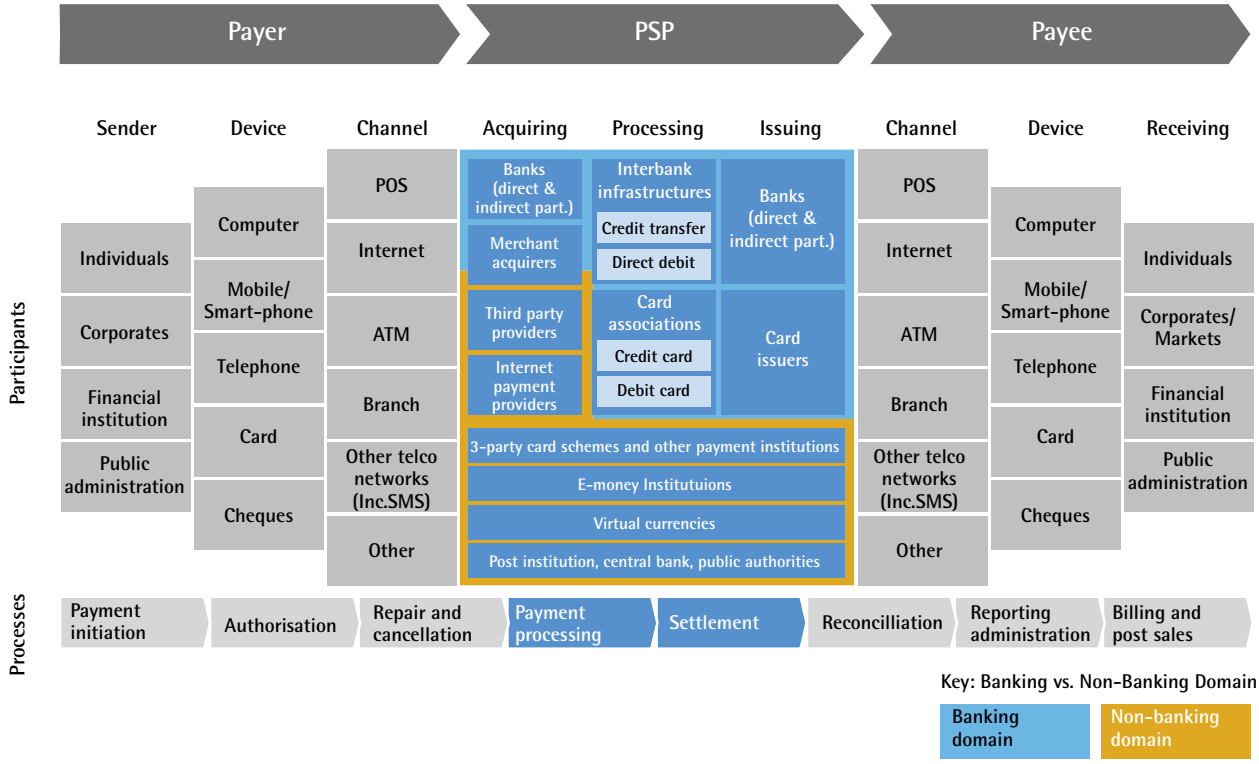


Figure 5.3: Scope of the payments value chain attributed to a PSP



5.3 What are the incentives for innovation?

Innovation typically occurs because there is a financial or commercial benefit delivered to the actors leading the innovation. This section describes the five common incentives for the launch of payments innovation identified in this study. These include:

- Increased revenue through new service offerings (42% of cases)
- Increased revenue through service differentiation (23% of cases)
- Achieving governmental goals (21% of cases)
- Lower cost of payment processing (11% of cases)
- Lower cost of cash handling (3% of cases)

The principal reason for launching an innovation is increased revenue, with 65% being driven by this incentive. Increased revenues through new services accounts for 42% of overall cases, whilst 23% – led primarily by banks – are cases of revenue increase through differentiation of existing services.

Strategic cost reduction accounts for 14% of cases in total, and innovations which stem from government or other regulatory bodies as an initiator/ facilitator – but which are not necessarily delivered by those bodies – account for over 20% of cases (see Figure 5.2).

Incentives are attributed to a PSP, the lead actor launching the innovation. The scope of incentives therefore covers acquiring, processing and issuing elements of the value chain, as described in Figure 5.3 above.

5.3.1 Increased revenues

Increased revenues through new services

Payment institutions – which include card issuers, merchant acquirers, payment processors, internet payment services providers and third party providers – account for over 45% of new revenue streams created through new services. These participants (who can be either existing players or start-ups) are driving new revenue streams alongside banks, with many focused on innovations in payment initiation.

For new revenue streams, different business models and value propositions are emerging –in many cases consumers are not charged any upfront fees and merchants primarily pay providers for such services.

Examples of where revenue is being generated through new services:

- **E-wallets** such as PayPal provide consumers with a secure way to pay online, allowing customers to avoid sharing sensitive data to third parties. For PayPal, merchants pay a fee of approximately 3%-5%[14] of the value of transactions plus additional fees for currency conversion and cross-border payments.
- **E-invoicing services** such as Klarna in Sweden offer new ways to pay online without the use of cards. Klarna allows consumers to pay after the goods are received rather than upfront. The service offers a payment guarantee as well as debt collection services.
- **Direct account authorisation services**, such as SOFORT Banking and Trustly, enable consumers to pay online using their bank account by generating a credit transfer. They offer European e-merchants an alternative way to accept cross-border payments in euros from customers without credit or debit cards. Such services are cheaper than cards because a card transaction carries liquidity risk both for the merchant and for the payment system. A merchant fee is still charged, which is typically lower than card fees.
- **Mobile carrier billing services** such as Boku provides a mobile payment platform and carrier network that enables consumers to pay using their mobile phones, with the charge appearing on the consumer's mobile phone bill. No bank accounts or registration are required, providing a frictionless checkout experience.
- **Mobile point-of-sale innovations** led by companies such as Square and iZettle who have launched dongles enabling professionals and small merchants to accept cards using their smartphones. Payments are initiated by customers through the card reader on any smartphone or through a tablet without the need for connection to traditional payment infrastructures.
- **Other industries**, the telecommunications industry in particular, are leading payment service creation in their search for new revenue opportunities. For instance, Softcard[15], a mobile wallet joint venture created by AT&T Mobility, T-Mobile and Verizon aims at launching NFC m-payments in the US to capitalise on the opportunity offered by mobile commerce and advanced loyalty services.
- **Cross industry collaboration** such as banking and telecommunications, seeking to monetise data through analytics services and offering merchants mobile commerce services both pre-sales and post-sales, like loyalty programmes, vouchers and coupons. La Caixa, Santander and Telefonica are seeking to leverage their combined banking and telco expertise to create an online community and a digital wallet. The online community is expected to drive sales by connecting retailers to consumers through offers, discounts and promotions. The wallet will store card details and will serve as identification in stores and for making purchases online. P2P by mobile number will also feature.

14 PayPal.com Merchant Services – Fees, July 2014

15 This wallet solution was formerly known as ISIS

Increased revenues through service differentiation

Payments innovation can also be a way to differentiate from competitors, offer a better customer experience and drive cross selling. This is the second area of revenue incentives and accounts for 23% of innovation cases covered in our analysis of worldwide innovations. Banks feature prominently in this category – they are taking current payment services and developing new offerings based on existing services. But service differentiation is also a powerful incentive to innovate for players from other industries such as retailers, who may choose to develop solutions independently or in collaboration with other players.

Looking at remote/online payments and as shown by the examples below, service differentiation is a key incentive both for consumer-to-business and consumer-to-consumer segments:

- In the C2B segment, iDEAL and MyBank enable banks to offer their customers an alternative to cards when paying for online purchases.
  - iDEAL is an online payment authentication system launched in the Netherlands in 2005. Three major Dutch banks collaborated for the launch and in 2006 ownership was transferred to Currence, the scheme owner of all national payment instruments in the Netherlands. Today the solution is the preferred payments choice for online purchases in the Netherlands and accounted for 142.5 million processed transactions in 2013 from 47 different affiliated payments services providers.[16]
  - MyBank is an initiative aimed at developing a pan-European solution to allow consumers to pay for shopping via the internet without sharing account details. The programme was launched by EBA Clearing in March 2013. MyBank is currently live in 143 banks, with another 300 banks planning to join during 2014. MyBank supports SEPA Credit Transfers and the e-mandates used for SEPA Direct Debits.
- In the C2C segment, several initiatives have emerged:
  - Commonwealth Bank of Australia has developed Kaching, an innovative mobile solution that takes advantage of mobile capabilities and enables users to pay anyone using just their mobile number, e-mail address or Facebook contact, and also provides customers all the functionality of CBA's online banking capabilities.
  - OCBC Bank in Singapore announced in May 2014 it will allow its customers to transfer money through its Pay Anyone app, allowing senders to authenticate funds transfers using Facebook.

The need to differentiate from competitors through innovation has also reached into in-store payment innovations:

- A consortium of six Polish banks launched mobile payment application IKO which uses a secure PIN code which is used to authorise POS in-store payments and ATM withdrawals (the service is also used for P2P transfers and online shopping).
- Starbucks collects 11% of sales through its mobile app. The Starbucks card app is a closed loop mobile app which was launched in 2009. Smartphone users display a barcode on their device screen and the barista scans it at the POS. The payment is deducted from funds linked to the user's Starbucks Card account, which can be topped up through the app.

16 Ecommerce in holland, "Strong increase in use of payment scheme iDEAL", May 1, 2014 http://www.ecommerceinholland.com/?page_id=15

5.3.2 Lower costs

Strategic cost reduction is the second key category of incentive for payments innovators – collectively, cost reduction incentives account for 14% of cases. There are two areas that innovators are focusing on to drive out cost: cash handling and payment processing.

Lower cost of cash handling and usage

The first is a reduction in cash handling and usage. Cash can be an expensive means of payment for merchants and the PSP, with costs adding up throughout the whole cash cycle: from production costs, transportation costs, insurance costs, handling of cash, counterfeits, security and loss of interest. The cost of cash depends on the participant involved, but some innovations are focused on displacing the cost of cash through the development of alternatives.

Examples from our worldwide scan include:

- **In-store payments**. Contactless payments, including contactless cards and NFC-enabled mobile devices, migrate low value payments from cash to non-cash forms. The Canadian Bankers Association has issued guidelines for NFC payments that focus on open mobile wallets and consumer data protection in response to a federal government taskforce request for industry collaboration. This has led to the development of NFC payment services at POS by several Canadian banks.
- **Mobile-payments**. Peer-to-peer mobile payment services such as IKO and Swish deliver lower cash handling costs for banks, as consumer-to-consumer cash transactions are displaced by mobile-initiated electronic transactions.

Lower cost of payment processing

The second area of cost reduction is focused on reducing the cost of payment processing. These innovations are occurring in four key areas:

- Merchant-led services which present an alternative to cards and avoid interchange card fees. MCX, for example, is a consortium of US retailers building a private payment scheme with the primary objective of reducing their spending on interchange fees. It is a card-based wallet which allows consumers to use a payment instrument within a limited network of stores whilst allowing merchants to collect funds.
- Cheque imaging and remote cheque depositing, which reduce the cost of processing cheques. Check 21 in the US is a service which allows users to scan cheques and transmit the scanned images and/or clearing house data to a bank for posting and clearing. In 2009 a regional US bank for the first time began permitting customers to deposit cheques with a smartphone.
- Infrastructure innovations which improve straight-through processing, reduce the number of payment formats, reduce maintenance costs, allow more information to be transmitted and increase interoperability among different payment systems. For example, the new SIC4 Swiss interbank system is being aligned with ISO 20022. The schedule calls for participating institutions in the payment system SIC to migrate to SIC4 towards the end of 2015. The institutions will have from March 2016 until late 2017 to adjust their payments transactions to the new ISO 20022 standard. After the second quarter of 2018, the current SIC standard will no longer be supported.
- Electronic bill payment innovations look to reduce the cost of processing payments by eliminating paper-based billing. Zoomit, for example, a joint initiative by Belgian banks, is an electronic billing facility linked to online banking applications, where payers can receive, check, file and pay bills directly in their online banking environment.

5.3.3 Achieving governmental and regulatory goals

A third incentive is achieving governmental goals, a category which includes just over one fifth of cases in this review. This includes innovations which stem from government or regulators as an initiator or facilitator – but which are not necessarily delivered by those organisations. Examples include faster (or immediate) payment systems, electronic billing and national digital wallet solutions.

Examples of where we see this occurring:

- **e-commerce**
  - National mobile wallets. These migrate payment for public services onto mobile phones and other digital tools, helping move towards digital payments. The Dubai national wallet for example is a project created by the Federation of UAE banks on behalf of the banking sector for the Smart Government Initiative 2021, which seeks to migrate all key public services on mobile phones and other digital tools by 2021.
  - Electronic billing. These include electronic invoice presentment and payment solutions, helping move towards digital billing methods. The SADAD Payment System was established by the Saudi Arabian Monetary Agency as the national electronic bill presentment and payment service provider for Saudi Arabia. Similarly, a nationwide electronic bill presentment and payment platform has been launched by the government of Jordan which allows users to receive and pay bills electronically from computers, ATMs and POS terminals from all over Jordan.
- **Infrastructure innovations**. This includes the development of real-time payment systems and migration to international technology and messaging standards to facilitate interoperability and drive economy-wide gains.

Infrastructure innovations identified in our scan of worldwide innovations include:

Europe

- Sweden – In 2010 Bankgirot, a local clearing house, launched the Payments in Real Time system to support the vision of a cashless society promoted by the Swedish central bank. The real-time payments system has enabled Swedish banks to develop Swish, a mobile app for P2P payments.
- Poland – In 2012 Express ELIXIR, a real-time payment clearing system available 24x7, was introduced by the Polish national clearing house, KIR, based on central bank settlement.
- Denmark – Since 2012, Nets, a provider of payments, cards and information services, has been working on behalf of the Danish banking sector on the implementation of a fast payment system based on central bank settlement and oversight. This is the final part of an on-going modernisation of the Danish payments infrastructure promoted by Danmarks Nationalbank, the Danish central bank[17].
- Europe – In 2012, Eurosystem – the eurozone monetary authority – announced migration to the ISO20022 messaging standard by November 2017 for Target2, the interbank scheme for high value payments[18].

Asia Pacific

- India – following a revision to the payment system by Reserve Bank of India in 2005, the local automated clearing house NPCI launched the Immediate Payment Service in 2010, which is a real-time payment system based on central bank settlement[19].
- Australia – following the Reserve Bank of Australia's payments system review in 2012, the Australian Payments Clearing Association (APCA) is now leading the New Payments Platform programme with the goal of implementing a real-time payment system in Australia by 2016[20].
- Japan – the Bank of Japan has redesigned its RTGS interbanking system to ensure ISO 20022 XML compliance.

Latin America

- Mexico – SPEI is the real-time hybrid settlement system for high and low value payments directly operated by the central bank.
- Chile – In 2002 the Chilean government granted the local bank-owned ACH, Centro de Compensacion Automatizado (CCA), a regulatory mandate to eliminate float in the original online payment system that was introduced. CCA then developed the Transferencias en Línea (TEF) in 2008 to allow Chilean consumers and businesses to initiate fast retail payments with response time required within 10 seconds15.

17 "Faster Payments in Denmark", Monetary Review 3rd Quarter 2012 Part 1, Dansmark Nationalbank

18 ECB, "ISO 20022 strategy for Target2", 2013, https://www.ecb.europa.eu/paym/t2/shared/pdf/professionals/outcome_second_user_consultation.pdf??bfb16b4141aadd332515228d35198597

19 National Payments Corporation of India, "About us", http://www.npci.org.in

20 Clear2Pay, "Flavours of fast – A trip around the world in immediate payments", 2014

5.4 Who else benefits from innovation?

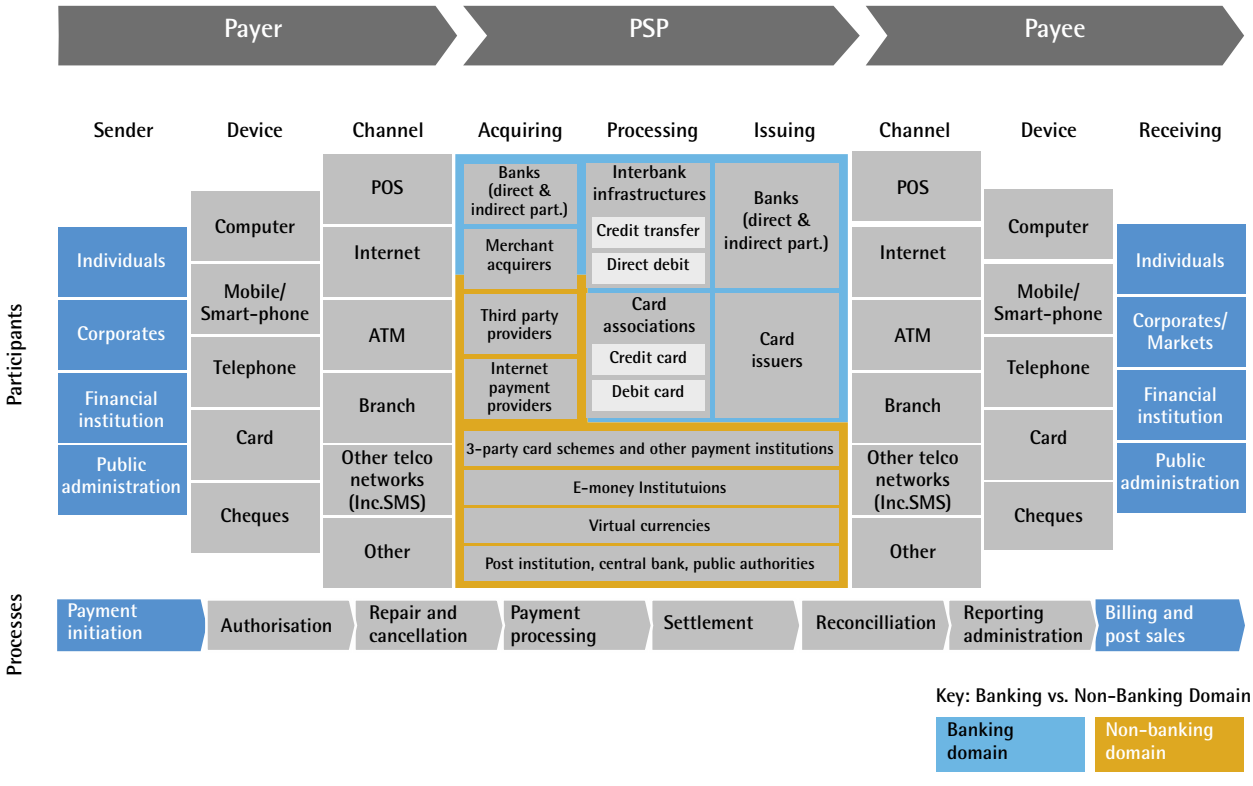
In addition to the PSP itself, the benefits derived from innovation also apply to those sending a payment – the payers – and those receiving a payment – the payee. These are not necessarily those participants driving or leading innovations, but they are the end-users impacted by them and in the majority of cases innovations include individuals, corporates or merchants. Benefits influence the incentives already discussed, since larger end-user benefits will positively influence demand for payment innovations. This section describes the benefits for both payer and payee.

Benefits for Payer

In the majority of innovation cases reviewed, the payer is an individual – a customer. The primary benefits experienced are:

- **New payment option (43% of cases).** A new payment option presents a new method of payment for the customer. New payment options accounts for the majority of payment innovations worldwide. Mobile wallets represent a new option for the customer to initiate a payment. Often connected directly to the merchant (e.g. Starbucks) or a standalone wallet linked to debit and credit cards (Google Wallet), they present a new method for the individual. Merchant-led closed loop payment networks – such as MCX, a consortium of US merchants – demonstrate this new method at scale. Direct current account billing services present a new (often newly branded) option for initiating a payment online or through a mobile device. Carrier billing is a new payment option allowing customers to pay for goods via their mobile operator.
- **Faster payment processing (combined 21% of cases).** This describes an improvement for an individual or business facilitated by faster payment systems – and the overlay services that sit on top, which only operate as fast as the system they rely on. In this study we have identified over 10 faster payment system innovations from around the world. These systems – which differ one from the other – deliver faster processing cycles, often posting payments to accounts within minutes, and longer available hours to process payments during the day. SPEI in Mexico, for example, settles payments every few seconds.

Figure 5.4.1: Scope of the payments value chain for payers and payees



- **Ease of use (combined 19% of cases)**. This describes an improvement on the customer experience – making payment initiation and customer authentication faster requiring fewer credentials. The emergence of contactless payment schemes for low-value purchases at retail points of sale, including through the use of NFC and Blue Tooth Low Energy, account for new innovations in this category. This category also includes new features of mobile applications which allow users to send money via new channels including Facebook, e-mail or SMS text message. Lower friction payments are also being made possible by cheque imaging, a service which allows cheques to be scanned and transmitted to banks for posting and clearing.
- **Protection against fraud and default (8% of cases)**. Services that allow customers to store personal information or card credentials in a secure and limited number of locations encourage consumer protection. PayPal, for instance, is a closed loop network which provides a secure way to pay for online purchases without requiring customers to share card credentials with third parties providers.

Benefit for Payee

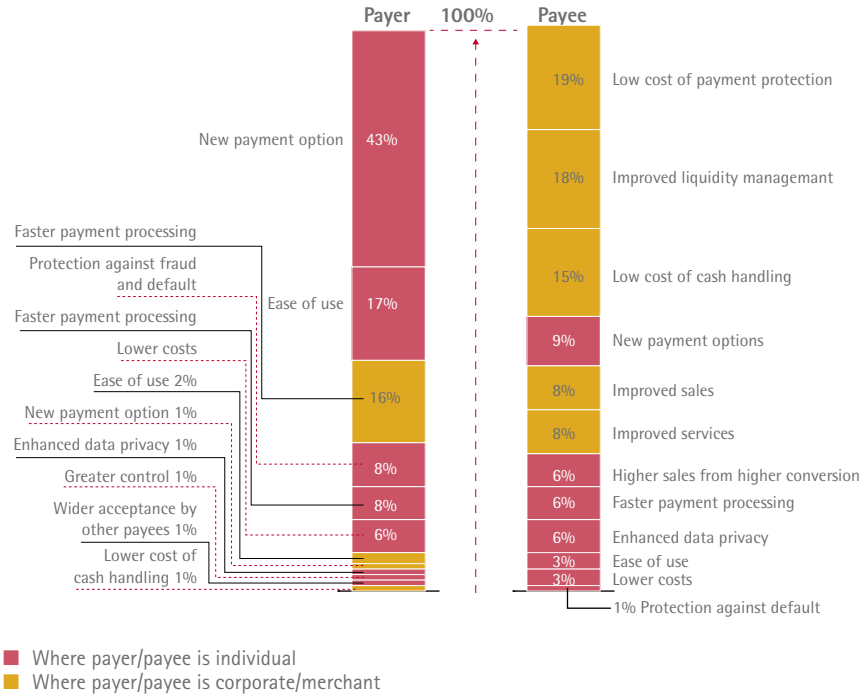
In the majority of innovation cases reviewed – over 75% – the payee is a merchant or corporate. The primary benefits experienced are:

- **Lower cost of payment processing (19% of cases)**. The majority of cases cite a lower cost of processing a payment as the primary benefit delivered to the payee. For example, innovations such as iDEAL and MyBank offer direct authorisation, which is a lower cost alternative to the cost of accepting card payments. Fees for online credit transfers are significantly lower than the merchant service charge levied by acquirers for 'card not present' payments.
- **Improved liquidity management (18% of cases)**. These include innovations that help businesses manage liquidity better, by clearing available funds in near real-time. For example, real-time payment systems such as Express ELIXIR in Poland or SPEI in Mexico help businesses and corporate customers manage liquidity better, offering immediate cleared funds and information about the execution or rejection of the transaction, with a settlement guarantee.
- **Lower cost of cash handling (15% of cases)**. These include innovations that displace the use of cash and which provide benefits for both merchants and banks. Adoption of NFC standards – as in the case of the NFC consortium in Canada – is a step toward migrating away from cash for many businesses, as NFC at POS is typically used for low value transactions, presenting an alternative to coins and cash. The Dubai national wallet is another example of cash displacement, which is expected to generate savings for consumers, merchants and public authorities.

- **Improved sales (8% of cases).** This includes cases that deliver an improvement in conversion rates, improved cross-selling, or reaching new customer segments. POLi, for instance, is an online debit payment system for retail transactions which redirects the purchaser from the merchant's or biller's website to the purchaser's internet banking module. By using this service, merchants can access a significantly greater consumer base by reaching consumers who do not have a credit card or prefer not to use them online. An internet payment gateway such as Adyen allows merchants to accept payments from anywhere in the world, across multiple channels. In doing so, Adyen provides e-merchants with access to a wide range of payment methods – and a larger customer base.

Figure 5.4.2

Benefits faced by payer/payee; innovations outside the UK
% of cases with category listed as primary enefir



5.5 What are the common barriers to innovation?

For Telcos, the cost to create a new payments system is lower than the cost to set up other, non-payment systems – such as mobile 3G, fixed line and satellite networks, however several barriers exist which limit innovative solutions from being launched by PSPs and adopted by payers and payees. For example, in 2004 the NFC Forum was founded by leading phone manufacturers to develop standards for NFC to enable proximity payments and other services. After a decade, however, NFC payment transactions account for just a small portion of all retail transactions.

In our research we identified a single primary barrier to each innovation faced by the PSP, as well as features which restrict or potentially restrict adoption of the innovation by either payers or payees. This section outlines these barriers and features in greater detail.

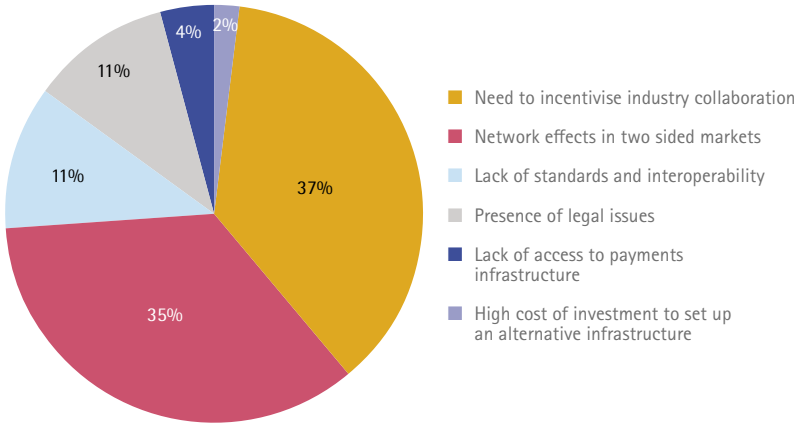
Barriers faced by PSPs

Payments services providers can be hampered by six main barriers to launching innovations. Figure 5.5.1 describes the categories of barrier identified in our review of payment innovations.

- **Need to incentivise industry collaboration (37% of cases).** The need to incentivise industry collaboration is the most common barrier faced by PSPs. iDEAL is an example of successful collaboration amongst industry players; SEPA is an example of very slow industry collaboration since the European Commission had to issue a specific regulation to ensure the adoption of new standards.

Figure 5.5.1

Barriers faced by PSP; innovations outside the UK
% of cases within category listed as primary barrier

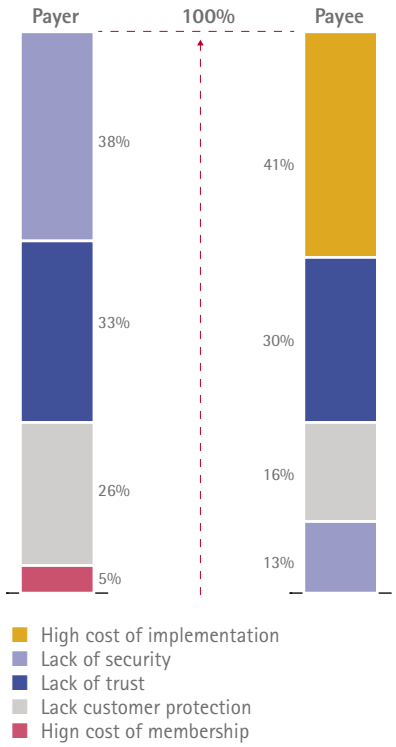


- **Network effects in a two sided market (35% of cases).** Where there are two distinct user groups in a payment transaction (payer and payee) who need to adopt the innovation for it to be successful, this can create a barrier. For example, a product needs to be easily adopted by payers whilst at the same time creating sufficient demand to drive scale of adoption and recover cost of investment in order for it to be successful. Mobile wallets require both consumer adoption and merchant acceptance; overcoming this barrier can require coordination of multiple stakeholders to ensure adoption at both ends of the payment cycle, as in the case the Belgacom Mobile Wallet initiative.
- **Lack of common standards and interoperability (11% of cases).** In the payments industry, where activity is based on several different payment systems that operate on different messaging standards, standards convergence plays a crucial role in developing greater interoperability. A lack of standards may limit scale and make the business case for innovation less clear. For example, third party PSPs such as SOFORT Banking and Trustly need to develop individual interfaces for each bank relationship – a single online banking interface would enable access to multiple banks through the use of a common standard.
- **Presence of legal issues (11% of cases).** Regulation may expand or reduce the set of potential business cases for new services by affecting the potential demand for payment innovations or their expected costs. The presence of legal issues due to an unclear legal framework – one which states the rights, responsibilities and liability regimes of all players involved in a payments ecosystem – can increase uncertainty and therefore inhibit payment innovation. For example PSD2 aims at filling a legal vacuum for payment innovations such as direct current account billing services which are currently not included in the existing regime.
- **Lack of access to infrastructure (4% of cases).** Lack of direct access to payment systems and infrastructure for alternative payment providers can stifle innovation. For example, if a PSP is not a direct member of a payment system, it may not be able to exert strong influence over changes required at the central infrastructure to implement an innovation. These systems are generally owned by banks. With Paym for example, PSPs without direct access to either FPS or LINK cannot utilise Paym to offer innovative services to their customers. Skrill, for example – a global e-money service that allows payments to be made

Figure 5.5.2

Barrier sfaced by payer/payee; innovations outside the UK

% of cases with category listed as primary barrier



over the internet – has agency access to FPS in the UK, but is not a direct member, potentially limiting its ability to innovate with real-time payments

- **High cost of investment to set up an alternative infrastructure (2% of cases)**. Innovations often require substantial fixed investment costs, without any guarantee that the new product, process or system will attract sufficient demand or establish itself vis-à-vis rivals over the long-run. The high cost to set up an alternative payments system can be prohibitive for start-ups and smaller players. Payment infrastructures, such as CHIPS – a US net settlement network for large value payments – required a high level of investment to set up. Having an alternative to card infrastructures would help companies such as Square to expand and process payments across a lower cost network, but for now they are wholly dependent on existing infrastructures

Features that result in low Payer and Payee adoption levels

Our research showed that there were four main factors which restricted adoption levels by payers and payees, creating a barrier for innovators:

- **Lack of trust in branding or in a new payment system (33% of cases for payers, 30% for payees)**. This category accounts for the most common feature faced by payers and payees combined. It includes for example cases where payers avoid adoption of a new payment instrument if pricing is unclear, if they are concerned about hidden fees or if they are uncomfortable using an unfamiliar, new third party service provider. For instance, payers could be reluctant to use their bank account to pay online with direct account authorisation services and prefer instead to use money stored in pre-paid accounts, such as e-wallets. Similarly, payees could be reluctant to accept new payment instruments if the PSP is unfamiliar or if the new service has a high incidence of fraud. Electronic direct debits – which require payers to authorise the payee to make a payment collection – are for example particularly prone to fraud.
- **Lack of customer protection (25% of cases for payers, 16% for payees)**. Where there is a lack of a clear liability regime, settlement rules or payment guarantee. Payers may be reluctant to store funds for future purchases in accounts that are not insured by central banks or through regulation, or may be reluctant to use a payments service without clear dispute rights. For example, customers may be reluctant to use closed loop merchant-led payment systems such as MCX if the merchants' liability regime is not clear in respect of default. Payees may not accept a payment instrument if the scheme does not provide a payment guarantee for the purchase or for specific rules on float. For instance, with pay-on-delivery services such as Klarna, merchants require a clear liability regime to identify responsibility if the goods are not delivered on time or in good condition.
- **Lack of security of IT infrastructure (38% of cases for payers, 13% for payees)**. With mobile P2P services, consumers may have concerns about their financial exposure if their phone is lost or stolen. In this case payers may be reluctant to use a new service if there are concerns about weak data privacy and security of personal information. Payees – particularly where they are a merchant – may have security concerns about a new service such as NFC.
- **High cost of membership (5% of cases for payers) or implementation (41% of cases for payees)**. This includes the cost implications of joining a new scheme or adopting a new service. Payers may find membership costs, such as upfront fees and transactions fees, disproportionate to the benefit received. Payees may be required to sustain high costs of implementation, for example to renew their POS terminals or to update existing applications.

5.6 What policy tools are used by governments and regulators to manage innovation in other countries?

Through our review of 100 worldwide payments innovations we identified a set of policy tools used by governments, central banks and regulators to drive innovation. These have been synthesised to produce a toolkit of the most common tools used by regulators. The policy tools range from formal (changing regulations) to informal (dialogue and moral suasion).

Over 40% of cases we reviewed involved a level of monitoring by governments or regulators – but the innovation has been led without regulatory intervention. Policy tools used frequently are the setting of a new legal framework and setting new standards, with each category accounting for 19% of cases. This is followed by setting a vision (15% of cases) and pricing (4%) and licences (2%).

Policy tools used by other governments and regulators to manage innovation

Changing regulations:

- Setting standards/interoperability – ensuring the integrity, security and wider adoption of new payments technologies (e.g. migration to ISO20022 with SEPA). In Canada the regulator was active in setting standards and creating the forum for companies interested in delivering NFC. In Mexico, Singapore, Germany, Sweden and Australia the regulators are setting up new real-time payment infrastructures (many adopting ISO20022 standards) with defined access and messaging protocols.
- Setting deadlines – driving the development of services by setting deadlines (e.g. SEPA end-date regulation). In Nigeria the central bank set deadlines for the delivery of services around its mobile payments platform auction of licences to ensure an active ecosystem started promptly among participants.
- Setting new legal framework – validating new business models in payments (e.g. PSD2, e-money directive). In India the central bank has been active in setting the terms of operation between banking entities to ensure competition and affordability. This applies standards of operations and pricing to banks, and sets frameworks for emerging services, such as mobile payments.
- Issuing licences – issuing licences for the launch of a new technology or service to drive faster adoption (e.g. Nigeria mobile payments licence competition, e-wallet in Philippines). In the Philippines the central bank issued licences for the establishment of mobile payment services to ensure trust and adoption among the user base. Initial pilot licences were available, but detailed scrutiny (of activities like KYC/AML) and approval were required before the issue of a full production licence.
- Controlling pricing – controlling pricing to reduce uncertainty and increase investment (e.g. interchange cap regulation). Setting pricing for new services early allows new entrants to invest, build services and execute their business plans against new infrastructure. In Sweden (for Swish), Germany (SOFORT Banking), and Australia (NPP), pricing of services was set by the body establishing the new service to ensure participation with known service costs.

Dialogue and moral suasion:

- Setting vision – setting goals that drive a behaviour or desired outcome (e.g. NFC standards in Canada, real-time payments system in Sweden). There is a group of countries which sees payments as a critical financial infrastructure and uses a vision to coordinate activities and policy. Sweden has set a goal to be cashless by 2020 – moving from physical money to digital payments. Nigeria has a particularly strong drive around payments – with its policy actions (reducing large-value cash payments, issuing licences for mobile payments, and developing central switches) supporting a desire to be one of the top 20 financial nations.

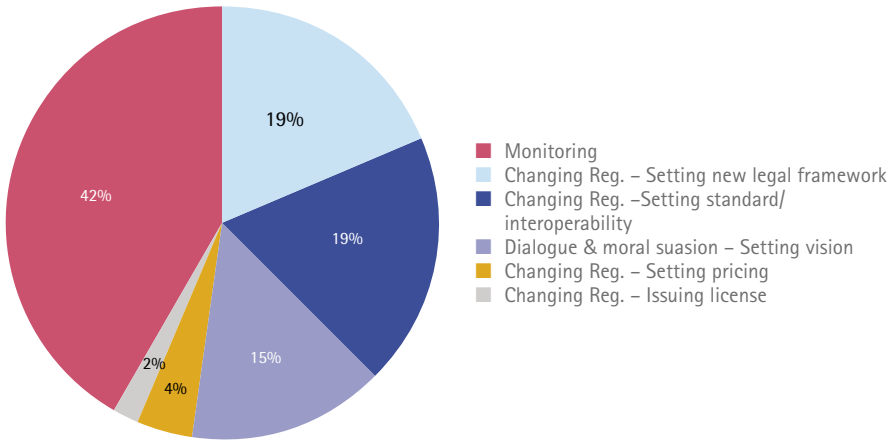
- Advocacy – engaging in discussion with other regulatory and/or industry bodies to influence policy (e.g. Nordic collaborations on shared infrastructure). Representing a country's payments systems and operations to external agencies and policy setting bodies is important to ensure a range of views are considered. Policy can be shaped through dialogue and description of critical national components or approaches. In the Nordics, maintaining sovereignty over payment systems is a trade-off with the cost of shared infrastructure between the nations – and Nordic forums allow individual country views to be incorporated.

Monitoring:

- Monitor– monitor, observe, scan; allow the industry to drive innovation (e.g. Boku carrier billing service, Kaching mobile solution by CBA in Australia).
- In addition to setting rules and standards, regulators monitor new developments to understand the need for new regulation and controls. In Dubai, the emergence of mobile payments platforms driven by separate mobile operators appeared to be driving a fragmented service for users. After initial monitoring, the regulator set new standards for mobile payments consolidating activity.

Figure 5.6

Policy tools used; innovations outside the UK
% of cases where policy tool was used



- Inspections – verifying that emerging business models do not put customers, payments ecosystems and financial stability at risk (e.g. AML/KYC checks).
- Some regulators are tasked with ensuring compliance with licences and standards. Typically these are driven from AML and KYC compliance, but can also include pricing checks and inspections of agent activity. In Kenya the regulator took great care in ensuring the operation of the agent networks (to ensure fair operation and liquidity given the reliance on M-Pesa systems).
- Producing reports and payments statistics – tracking payment developments (e.g. Kenya Central Bank tracking mobile payments access and new services after M-PESA). The regulator or central bank can be pulled into competition and fairness challenges, and be asked to adjudicate, or to ensure level playing fields. Tracking contentious parts of the industry (such as access to agent networks and pricing in Kenya – where M-Pesa operated with a significant position) allows the regulator to describe the reality rather than the claims or views held about the operation of the industry.

Imposing sanctions:

- Setting penalties – controlling behaviour through penalties and charges for non-compliance with rules (e.g. European Commission threats of fines to Visa and MasterCard for interchange fees). Central banks and regulators are vested with powers to fine and remove entitlements to operate. Sometimes the threat is sufficient, triggering compliant behaviour ahead of fines and litigation: on interchange, the European Commission investigation into Visa, MasterCard (interim) deemed charges too high and threatened punitive fines; ahead of deadlines, interchange fees were changed avoiding the regulator's sanctions.

New legal framework and standards

Two frequently used policy tools used are a new legal framework and standards:

- **Setting new legal framework**
  This occurs where governments give recognition to a new service or business model through a new legal framework. For example, in order to progress the adoption of cheque imaging in 2002, the Monetary Authority of Singapore amended the nation's Bills of Exchange Act and issued the Bills of Exchange (Cheque Truncation) Regulations to facilitate the establishment of Cheque Truncation System. Similar policy frameworks were employed in the US (Check 21) and Canada (Canadian Bills of Exchange Act). Another category of innovation where a new legal framework is driving innovation is the recognition of third party payment providers. Through PSD2 the European Commission is elaborating a legal framework for third party payment providers such as SOFORT Banking. The regulation specifically addresses security requirements, builds a liability regime, and addresses customer protection with the goal of improved access to payment account services.
- **Setting standards/interoperability**
  Setting new standards ensures the integrity, security and wider adoption of new payments technologies. The Canadian Bankers Association issued guidelines for NFC payments in 2012 that focus on open mobile wallets and consumer data protection in response to a federal government taskforce request for industry collaboration. Three Canadian banks (RBC, CIBC and TD Canada Trust) have launched NFC debit/credit service since the publication of the guidelines.

5.7 What are common policy responses to barriers faced by PSPs?

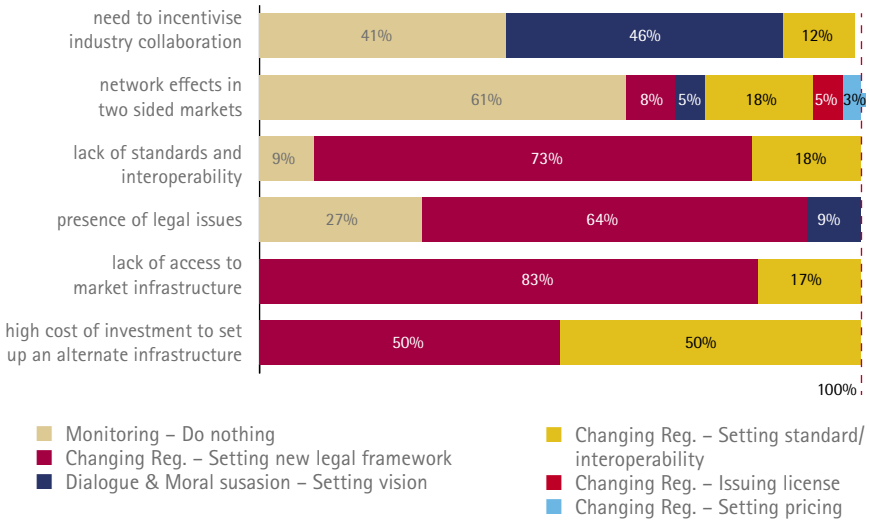
In our analysis, we identified the most common policy tools that featured in barriers that were overcome by PSPs (see Figure 5.7). This section describes these findings in greater detail:

- Vision setting is the most common policy tool used to overcome a lack of industry collaboration. Initial attempts at driving adoption of NFC in Japan (e.g. Osaifu-Keitai from NTT Docomo) were driven by technology-based competitive advantage from a single company. As NFC emerged in other countries, coordinated approaches emerged to drive faster adoption. In Canada, a vision was set (part of the Grow Canada initiative) for a coordinated approach to NFC. A report from the Canadian Federal Government's Task Force for Payments System Review called for collaboration between banks and mobile carriers on NFC. It also included coordination to develop real-time payment systems. Riksbanken, the Swedish central bank, is driving Sweden toward a cashless society by 2020, and in order to pursue this vision it worked with Bankgirot, the Swedish ACH, to set up the Payments In Real Time system.
- A new legal framework also features prominently as a policy tool, used particularly to address cases where there is a lack of standards or the presence of legal issues. Through PSD2, for example, the EU Commission is expected to elaborate a legal framework for third party payment providers such as SOFORT Banking and Trustly – specifically addressing security requirements, the building of a liability regime and addressing customer protection with the goal of open access to payment account services.

- Setting common standards/ interoperability featured in overcoming barriers such as industry collaboration, network effects and a lack of standards. In line with the global trend to migrate payment systems onto the unified ISO payment standards, governments are seeking to overcome collaboration barriers by adopting the richer XML-based financial services messaging format ISO 20022. These are being implemented locally: the ISO 20022 Implementation Guidelines for Swiss interbank messages, for example, were revised at the end of 2013 in order to comply with a global standard. Another example of standard setting overcoming this type of barrier is Smart Government in the UAE. The initiative aims to encourage government departments and state-owned companies to provide efficient and transparent services through mobile phone applications to consumers. To achieve this, the government has provided mandatory standards and optional best practices guidelines which should be adopted by departments (e.g. for web presence and eServices delivery) and to standardise the most common features of any eService provided by a department for the purpose of electronic service delivery.
- Setting pricing can correct some market failures, such as the anti-competitive dynamics between card schemes, lowering the cost of payments processing for merchants and subsequently for consumers.

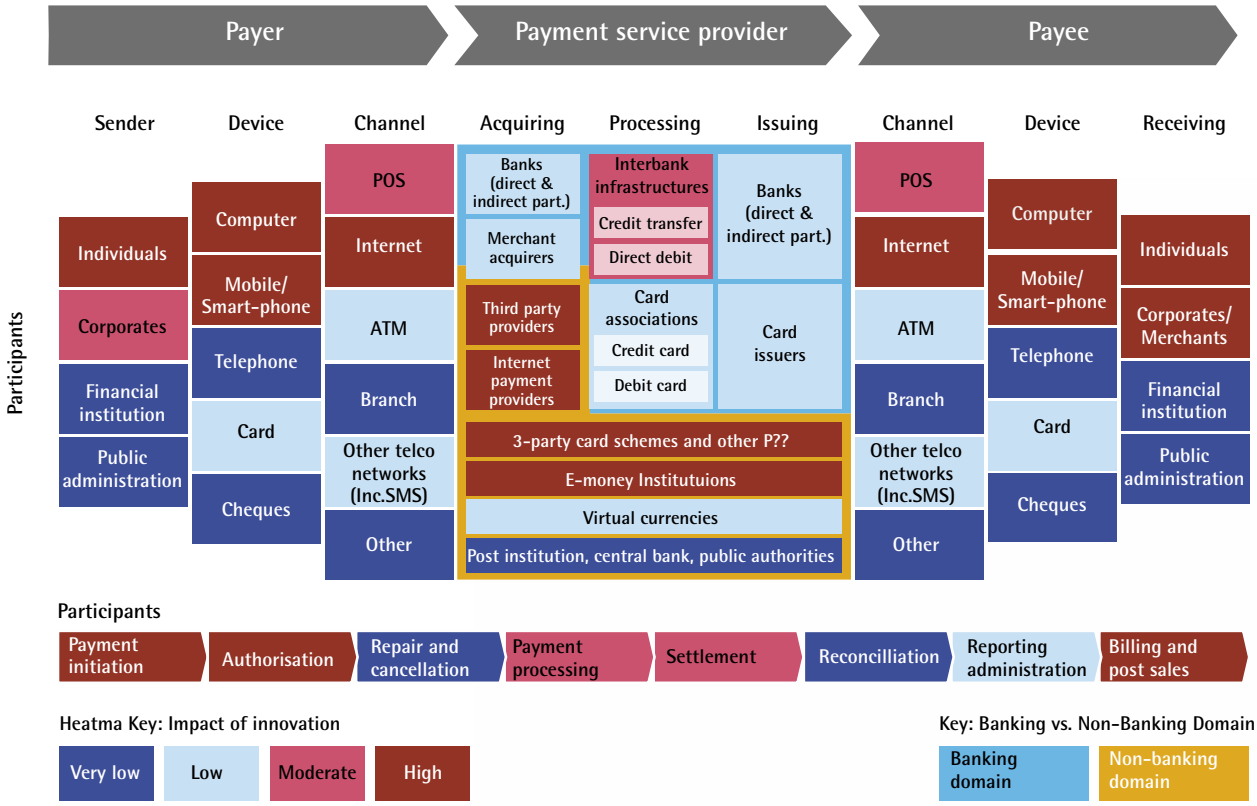
Figure 5.7

Barriers faced by PSP and policy responses to launch innovation; innovations outside the UK
% of cases within barrier listed and with policy tool response



Value Chain: Where is innovation happening?

Figure 5.8 A view of the value chain



The Payments Innovation Value Chain helps to identify where innovation is happening and who is delivering it. This has been used to create a heatmap of innovation, to show where innovation is occurring according to our scan of case studies worldwide, and how often the element of the value chain features.

Payment user

- C2B and C2C segments account for >95% of innovations
- Many of these are enabled by new technologies focused on end-user innovations – in some cases however infrastructure innovations are enabling downstream end-user innovations such as faster payment schemes enabling real-time services (Swish)

Device

- 60% of innovations involve mobile phones and 18% are cross channel solutions enabling payments using both smartphones and computers

Payment system

- 17% of innovations involve interbank infrastructures with initiatives launched to process payments in real-time (10%) to adopt international standards (4%) and to support processing of online payments by banks (3%)

PSP

- >40% of innovations have been launched by non banks such as payment institutions and e-money institutions
- Mobile payment operators and internet gateways are the most active innovators seeking to take advantage of e-commerce growth and the adoption of smartphones

Channel

- >55% of innovations are internet-based and c.25% occur at point-of-sale – these innovations lower processing costs (e.g. Square) and are focused on reducing use of cash/cheques/cards (e.g. NFC initiatives in Canada and Spain)

Process

>70% of cases impact payment initiation, authorisation; c. 50% are processing and settlement innovations

- A second tier of cases (>40% e.g. Boku, Klarna) bring improvements to the end user's billing experience through a new payment option, with others providing new reporting and analytics services (e.g. Square's B2B data service)

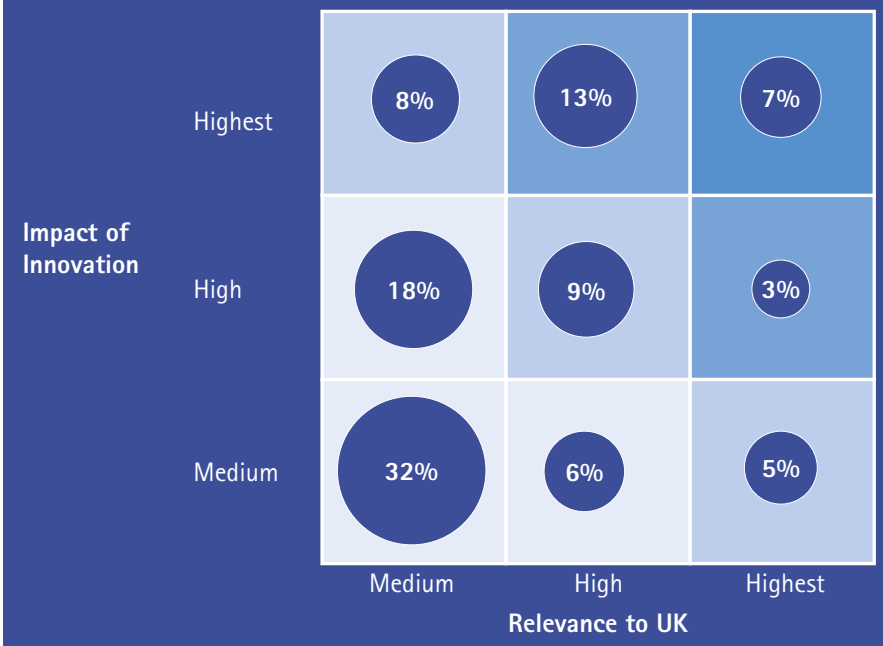
Categorisation: what are the most impactful and relevant innovations?

The Payments Innovation Categorisation Matrix provides a method to benchmark, rank and categorise examples of payments innovation informed by two key criteria: the impact of the innovation in the geography where it was launched and its relevance to the UK.

Of the 100+ cases surveyed we identified the following:

- 7% of cases were found to have the highest UK relevance and highest impact in the launch country. These innovations included, for example, Swish, a Swedish current account payment for mobile/online transactions, Kaching, a mobile banking application enabling P2P payments and the NFC Consortium in Canada.
- 13% had highest impact in the geography where they were delivered with a high relevance for the UK. This category included, for example, online banking e-payment services such as SOFORT Banking, Interac Online, internet payment gateways such as Adyen, and new stored value accounts for online purchases, such as PayPal.

Figure 5.9 Innovation Categorisation Matrix



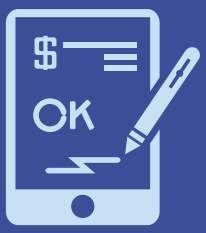
- 9% of cases had both a high impact and relevance. These included global e-money service providers such as ClickandBuy which allow payments to be made over the internet and electronic billing services such as Zoomit and SIX Paynet E-bill.
- 3% of cases were highest relevance to the UK and high impact in the launch country. These include Trustly for online payments in Sweden, and Square for mPOS.

Summary Findings

The Payments Innovation Taxonomy provides a list of attributes which inform the classification of the types of innovations, for example by lead actor, incentives, barriers, benefits. From this analysis we have defined two broad categories of payments innovation – end-user and infrastructure – and, within these, five types of payments innovation:

End-user innovation

1. **Card payments:** innovations that present a new way to use or accept cards from users for card present transactions (e.g. contactless cards, mobile point-of-sale solutions such as Square)



3. **Mobile payments: this covers three areas:**
   - Mobile payments using traditional bank accounts (e.g. Swish, IKO)
   - Mobile payments using a mobile phone bill collection process (e.g. Boku, GCASH)
   - Mobile payments using prepaid accounts (e.g. PayPal, Belgacom-BNPP, MCX)

2. **Internet payments: this covers four areas:**
   - Online banking e-payments (e.g. iDEAL, MyBank, and POLi)
   - Overlay services (e.g. SOFORT Banking)
   - E-money (e.g. PayPal, Click&Buy, Skrill)
   - Internet payment gateways: Adyen, Ogone, Skrill Global Collect

4. **Electronic invoicing and billing payment:** innovations that improve the billing experience (e.g. Klarna, Cheque imaging in Singapore)

Infrastructure innovation

5. **Improvements in infrastructure: this covers three areas:**
   - Real-time payments processing (e.g. Bankgirot)
   - Vision for a cashless system (e.g. Nigeria cashlite, Sweden)
   - Adoption of international standards (e.g. adoption of ISO20022 with SIC4, SEPA, Japan)

Appendix 1

List of innovations considered in this analysis

Case Title	Case Summary
Adyen	Internet payment services provider
AfterPay	Post-payment e-invoicing service in the Netherlands using iDEAL
Bancontact/Mister Cash App	Mobile phone app, launched May 2014
Bango	Provider of web technology that enables commerce on the mobile web for world's biggest app stores and digital merchants
Bankgirot	Retail real-time interbanking payments system
Belgacom Mobile Wallet	Bank and telco ecosystem for payments and loyalty
BillMeLater	Post-paid e-invoicing service offered through PayPal that offers consumers an instant and reusable credit line to make purchases and be billed later
BillPay	Specialist in securing and processing online, high-risk payments, assuming all risk and debt claim management for the online merchant
BioCatch e-commerce biometrics	Use of behavioural biometrics to authenticate visitors to banking and e-commerce sites
Bitcoin US	Use of cryptocurrency as fiat
Bitpay	Bitcoin payment solution
Blackberry/Enstream NFC platform	Development of secure NFC platform capable of provisioning sensitive payment card credentials into any handset for multiple Canadian bank mobile applications
Boku	A mobile payment method which bills purchases from third party vendors through a mobile network operator (carrier billing)
Caixa-Santander-Telefonica	NFC initiative in Spain
Canada NFC Consortium	Government-driven NFC consortium of payment standards in Canada
Cashlite	Nigerian policy to drive digital payments vs cash
Cheque imaging	Online/mobile image-based cheque clearing system in Canada
Cheque imaging in Singapore	Online image- based cheque clearing system in Singapore
Cheque imaging in USA	Online image-based cheque clearing system (Remote deposit capture)
Chipknip	Electronic cash system used in the Netherlands, where ATM cards issued by banks have smart cards that can be loaded with value via Chipknip loading stations next to ATMs
Chips	US net settlement network for large value payments
CIBC NFC	NFC-enabled mobile wallet which supported by two major network operators in Canada (CIBC credit card payments with Visa or MasterCard)
ClickandBuy	Global e-money service that allows payments to be made over the internet
Debit card caps	Durbin legislation for debit processing
Digicash	Beacon mobile payments system using SEPA Credit Transfer
Dubai national wallet	Resolving multiple mobile payments initiatives
Dwolla	Payment network for e-money exchange via e-mail, phone number, LinkedIn, Twitter, and between Dwolla users
EBPP in Jordan	Launch of national Electronic Bill Presentment and Payment system in Jordan
ELV	Electronic direct debit adopted by German merchants
European interchange fee regulation	European debit/credit caps on interchange fees
European two factor authentication	Incoming European legislation to strengthen internet payments
Express ELIXIR	Real-time payment processing via RTGS system SORBNET

Case Title	Case Summary
FAST Singapore	Singapore real-time payments system
Case Title	**Case Summary**
Faster Payments consultation	Federal Reserve plans to implement real-time payments scheme
Fica	Introduction of AML KYC to support mobile payments
Fingerprint biometrics in France	France's national interbank network (Groupement des Cartes Bancaires CB) evaluation of the use of fingerprint biometry in payment transactions
FPS	UK Faster Payments Service
GCash	Electronic wallet service linked to a mobile phone (SMS-based)
Giropay	Online banking e-payments authorisation in Germany
GoCardless	API service for bank transfers allowing businesses/individuals to connect to the direct debit network
Google Wallet	NFC and card based mobile wallet
Hana SK Card	Hana SK Card: mobile credit card payments
HOFINET	South Korea Real time
iDEAL	Current account authorisation service in the Netherlands (online/mobile)
IKO	Current account authorisation service in Poland (online/mobile)
Immediate Payment Service – IMPS	India real-time payments system
Interac Online	Current account authorisation in Canada
ISIS	Consortium for mobile and NFC payments
iupay!	Spanish wallet
Japan migration to ISO20022 XML	Bank of Japan redesign of real-time gross settlement interbanking system to ensure it is ISO 20022 XML compliant
Jumio	Online and mobile payments and identity verification service
Kaching	Mobile banking application enabling P2P payments
Kenya	Kenya Central Bank tracking mobile payments access and new services after M-PESA
Klarna	Pay on delivery system for online purchases
Luup	UK mobile payment solution
Mambo	Australian project aimed to create a single identity for online payments across banks (example of failure)
MCX	Consortium of US retailers building private payment scheme
Mexico SPEI	Real-time gross settlement payment system in Mexico
MintChip	Crypto-currency linked to the Canadian dollar developed by the Royal Canadian Mint
Mobile money competition	Kenya central bank regulates competition through pricing
Mobile payments licence competition	Nigerian central bank competition for mobile payments licences
MobilePay	Mass P2P mobile payment solution
Monitise	Mobile B2B payment solution provider
MyBank	Europe-wide current account authorisation (online/mobile)
NETS Real Time 24x7	Danish real-time processing
NFC Pass	Orange supports debit card payments on its NFC mobile payments solution (April 2014)

Case Title	Case Summary
NFC payments in China	Mobile network operator China Telecom is to launch an NFC mobile wallet in China in cooperation with more than 12 financial institutions
Nigerian central switch	Requirements for all Nigerian payments to route over Nigerian switch
Nordic infrastructure	Finland, Sweden, Norway agreeing to use common payment infrastructures
NPP Australia	Australian real-time payment system
NTT Docomo & MasterCard	NTT Docomo and MasterCard bring global mobile NFC payments to Japanese users
O2 Wallet	Failed mobile payment solution
OCBC/G3 Facebook payments in Singapore	Use of wholesale payments infrastructure for retail payments
Oi Paggo	Mobile payment scheme using credit cards in Brazil
Orange QuickTap	Failed mobile payment solution
Osaifu-Keitai global NFC payments	Smartphone-enabled NFC payment service developed by Japanese mobile network operator NTT Docomo working through MasterCard PayPass
Paddle	Smartphone app that stores your payment credentials for online/mobile payments
Payleven	Cashless mobile chip and pin available internationally
Paym	Mobile to bank account payment service
PayPal	New store value account uses for payments online and mobile
paysafecard	Prepaid card that allows for secure payment over the internet by entering a 16-digit PIN rather than card credentials
Pingit	Leading UK mobile P2P solution from Barclays
Pingping	Electronic micropayment system available in Belgium provided by Belgacom which allows users to make purchases via mobile
POLi	Retail payments system for debit payments over the internet
PosteMobile	Mobile payment offering that combines traditional voice, data and texting, with an innovative range of financial services, information and devices, m-payments, m-banking and m-commerce
PostFinance Mobile	Mobile payment service using SMS and/or phone call
Qiwi	Instant cash payments for internet, mobile and TV bills at terminals provided by payment agents
Real-Time Clearing - RTC	South Africa real-time payments system
Royal Bank of Canada NFC	NFC-enabled mobile wallet that stores customers' card details in the cloud for debit or credit card payment using Visa PayWave or Interac Flash
SADAD	Electronic invoice presentment and payment in Saudi Arabia
SafetyPay	E-payment system that allows all customers to make online purchases worldwide directly through bank account
SIC4 Switzerland	Swiss interbank scheme that has adopted XML-based financial services messaging format/ISO 20022
SIX Paynet E-bill	Cooperative EBPP service across accounts at different banks
Skrill	Global e-money service that allows payments to be made over the internet
SOFORT banking	Overlay services in Germany that enables consumers to pay online using their bank account
Square	Mobile POS device and payments service
Starbucks	Mobile payments and loyalty app
Stripe	Innovative developer payment tools
SumUp	Allows merchants to accept debit and credit card payments with mobile device

Case Title	Summary
Swish	Swedish current account payment for mobile/online transactions
Tap2Pay	DNB and Telenor to roll out national NFC payments platform (November 2013)
Target2	EU interbank scheme for high value payments that has adopted XML-based financial services messaging format/ISO 20022
TD Bank NFC	NFC-enabled mobile wallet which can make up C$50 payments at any Visa PayWave terminal, the first offering supported by all three major network operators in Canada
Transferencias en Línea	Chile real-time payments system
Transfi	Mobile app using QR codes for P2P payments
Traxpay	B2B store of value and authentication of payments
Trustly	Third party overlay service enabling current account authorisation adapted for mobile devices and tablets
US EMV implementation	US implementation of chip & pin (no liability shift)
Weve	Competition commission view on mobile industry payment solution
Yandex	Online payment system based on e-money accounts and e-wallets (P2P/P2B)
Zengin Systems	Japen real-time payments system
Zapp	UK current account payment for mobile/online
Zoomit	Electronic billing facility linked to online banking applications, where payers can receive, check and file their bills in their online banking environment
Zuger Kantonalbank app	Real-time QR payments system
3MNOs & MasterCard in Germany	Collaboration between Deutsche Telekom, Telefónica Deutschland and MasterCard

Appendix 2

Glossary of terms

Term	Definition
Acquirer	See merchant acquirer
Chip and Pin	Chip and PIN is the brand name adopted by the banking industries in the United Kingdom and Ireland for the rollout of the EMV smart card payment system for credit, debit and ATM cards. The word "chip" refers to a computer chip embedded in the smartcard; the word PIN refers to a personal identification number that must be supplied by the customer. "Chip and PIN" is also used in a generic sense to mean any EMV smart card technology which relies on an embedded chip and a PIN. APACS oversaw and guided the transition of debit cards to chip and pin in the UK with the APACS Card Payments Group and its members instrumental in the development of chip and PIN, making the UK the first country in the world to complete the rollout of this global standard. The APACS Card Payments Group has been replaced by the UK Cards Association.
Credit institution	A category of Payment Service Provider which includes banks and building societies.
Direct account authorisation service	Third party online payment method which enables consumers to pay using a credit transfer directly from a bank account (e.g. SOFORT Banking)
Four party model	In a four-party card payment model the four parties are the payer, payee, issuer (card, account) and acquirer, where the issuer and acquirer are different entities. The payment system in this model does not directly issue cards or acquire transactions.
Infrastructure innovation	Innovations to core interbank or cards Payment Systems, such as the development of real-time/near real-time payment systems (e.g. Bankgirot, Faster Payments System)
Interbank systems	Payment Systems used for the processing of financial transactions between member banks (including cheque transactions and ATM)
Interchange fee	A transaction fee payable in the context of a payment network by one participating financial institution to another, for example fees charged by a cardholder's bank (the 'issuing bank') to a merchant's bank (the 'acquiring bank') for each sales transaction made at a merchant outlet with a payment card. For ATMs, interchange is typically paid by the issuing bank to the ATM provider (ATM acquiring bank).
ISO20022	ISO 20022 is the ISO Standard for Financial Services Messaging. It describes a Metadata Repository containing descriptions of messages and business processes, and a maintenance process for the Repository Content. ISO20022 is adopted for XML messages by many financial systems e.g. SEPA payments in the Eurozone
Issuer	Bank or other provider that offers card association branded payment cards directly to consumers. Sometimes can be used generically for the bank providing bank accounts.
Merchant acquirer	Bank or other provider that provides merchants with services (terminals, card/payment processing, internet gateway etc) that allow them to accept payments - at point-of-sale, ecommerce, mail order, telephone. Typically, they support credit or debit card payments, but increasingly non-card alternatives payments.
Overlay services	Services available to consumers that make use of payment systems, providing a new way of triggering or receiving transactions.
Payee	Party who receives a payment and can include individuals, corporates, financial institutions or public administrations.
Payer	Party who send a payment and can include individuals, corporates, financial institutions or public administrations.

Term	Definition
Paym	Paym is an interbank service (database) that allows customers of participating banks/building societies to make secure payments to account holders of other participating banks or building societies using their mobile number (which becomes a substitute for account details).
Payment institution	Defined in the Payment Services Directive as a legal person (i.e. must be incorporated, no private individuals or sole traders) that has been granted authorisation in accordance with Regulation 18 of the European Communities Regulation 2009 to provide and execute payment services throughout the European Community. Payment Institutions must register with the FCA. Examples include: three-party card schemes, acquirers, money transfer operators/remitters, foreign exchange payment providers, mobile payment operators, payment processing service providers, card issuers, third party providers, internet payment providers.
Payment service provider	A payment service provider is an entity that provides services to enable the transfer of funds using a payment system to stakeholders who are not participants of that payment system. For example, banks and building societies provide payment services to customers. Payment service providers include both firms with direct access to payment systems and those with indirect access. They can be: an authorised payment institution, a small payment institution, an EEA authorised payment institution, a full credit institution, an electronic money institution, the Post Office Limited, the Bank of England, the Government and public authorities.
Payment system	A system operated by one or more entities to enable the transfer of funds between participants – also known as a payment scheme. Typically consists of a brand, rules and standards used by all participants.
Payment systems operator	An entity responsible for managing and operating a payment system (e.g. payment scheme). Often the infrastructure (technology, communication networks) is run separately by an infrastructure provider.
PSP	see payment services provider
RTGS system	Real Time Gross Settlement system. A system to transfer funds where transfer of money or securities takes place from one bank to another on a real time for the full amount (gross means without offsetting incoming funds against outgoing funds).
Scheme	The set of rules, standards and branding that make up a payment system.
Service user	A user of payment systems including direct, indirect participants and end users (consumers, corporates, small businesses etc)
SWIFT	Society for Worldwide Interbank Financial Telecommunication which operates an interbank messaging network for messages that facilitate the transfer of financial transactions (e.g. payments, securities).
Three party model	In a three-party payment system for card payments, the company operating the network interfaces directly with merchants and consumers, in addition to processing transactions, issuing cards and enlisting merchants to accept those cards.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 293,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$28.6 billion for the fiscal year ended Aug. 31, 2013. Its home page is www.accenture.com.

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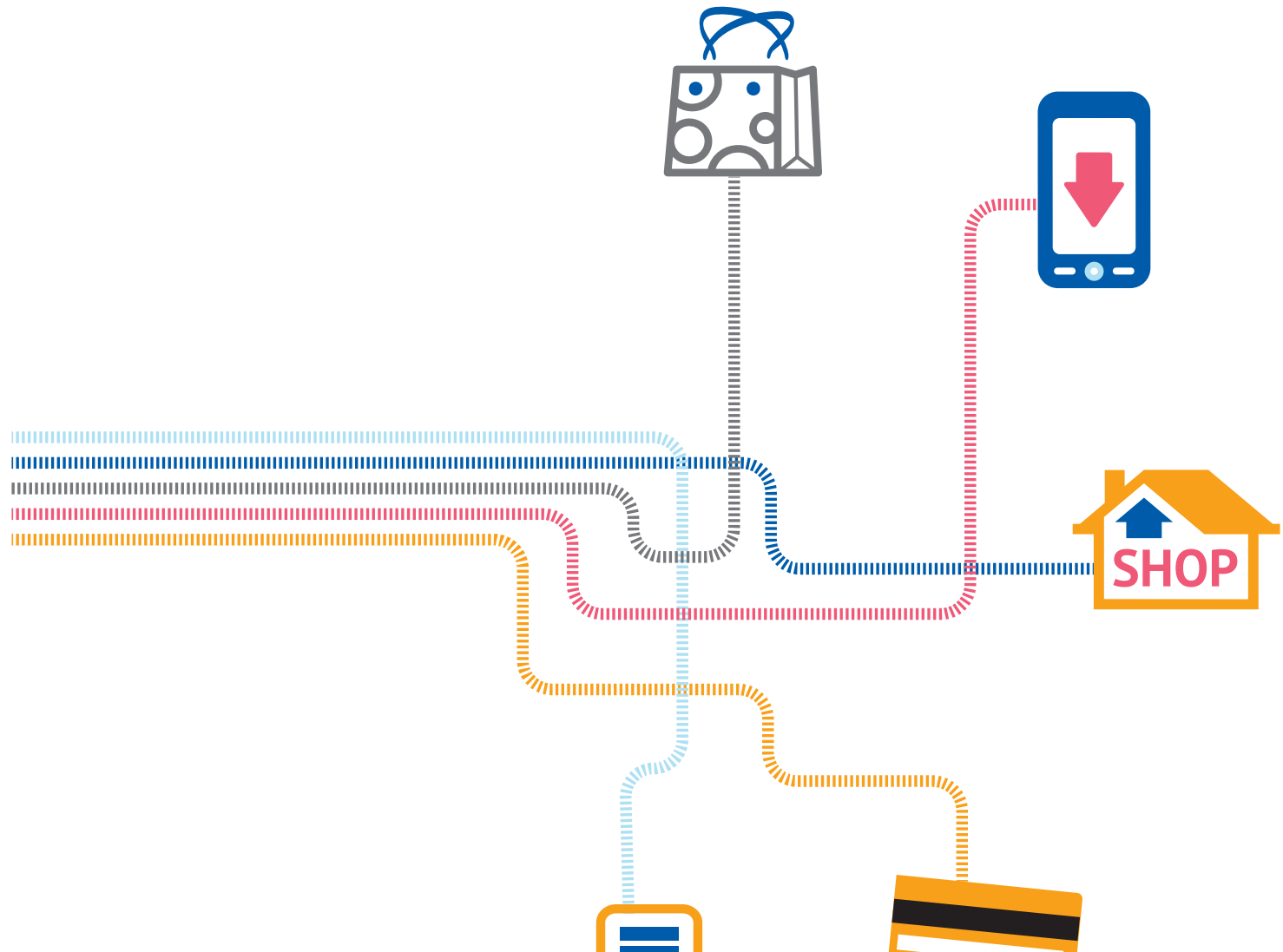

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A Review of the International Landscape of Innovation in Payments

Accenture research commissioned by the Payment Systems Regulator

Case Studies - August 2014

High performance. Delivered.

Purpose of the document

- The document presents research and analysis of 40 case studies of payments innovation worldwide, commissioned by the Payment Systems Regulator
- The case studies have been selected by Accenture and the Payment Systems Regulator team from a list of 100+ candidates

List of payments innovations

North America

- Bitcoin (US)
- Boku (US)
- Canada NFC Consortium (Canada)
- Chips (US)
- Google Wallet (US)
- MCX (US)
- PayPal (US)
- SafetyPay (US)
- Softcard (US)
- SPEI (Mexico)
- Square (US)
- Starbucks (US)
- Traxpay (US)

Europe

- Adyen (Netherlands)
- Bankgirot (Sweden)
- Belgacom Wallet initiative (Belgium)
- Caixa-Santander-Telefonica (Spain)
- ELV (Germany)
- Express ELIXIR (Poland)
- Giropay (Germany)
- iDeal (The Netherlands)
- IKO (Poland)
- Klarna (Sweden)
- MyBank (Europe)
- SIC4 (Switzerland)
- SOFORT banking (Germany)
- Swish (Sweden)
- Target2 (Europe)
- Trustly (Sweden)
- Weve (UK)

Asia Pacific

- GCash (Philippines)
- Hana SK Card (South Korea)
- Kaching (Australia)
- OCBC Pay Anyone (Singapore)
- Osaifu-Keitai (Japan)
- POLi (Australia)

Rest of the World

- Cashless policy (Nigeria)
- Dubai national wallet (UAE)
- EBPP in Jordan (Jordan)
- Oi Paggo (Brazil)

Sections

- **Europe**
- North America
- Asia Pacific
- Rest of the World

Adyen: over 200 payments methods supported

Providers of internet payments, such as Adyen, do not have access to interbank payments systems in the UK

Overview

Innovation Case Overview

Headquartered in Amsterdam, Adyen is a leading, multichannel payment company. Adyen provides a fully outsourced payment solution which enables merchants to accept payments from anywhere in the world. It supports all relevant sales channels, including online, mobile and POS , and can process 227 different payment methods, 187 transaction currencies and 14 settlement currencies used across six continents

Policy reference: Payments Services Directive

Country Overview (NL vs UK)

Cash penetration: 48% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitant: 349
(UK: 273) transactions per year
Internet penetration: 97% (UK: 73%) of population
Mobile penetration: 84% (UK: 87%) of population

Payments / cards country trends: the Dutch payments economy is one of the most developed with high penetration of e-payments and e-commerce and several online payments processors headquartered there due to favourable legislation and infrastructure. iDEAL is the main methods for online and interchange fees are lower than elsewhere

Characteristics

Business Characteristics

Area: Cards, bank payments and e-money
Innovation area: Wholesale-enabled end user innovation
Product group: internet/mobile payments
Funding type: Combined
Main usage: C2B

Technology Characteristics

Access channel: Internet, POS
Access device: computer, mobile/ smartphone
Access technique: remote

Initiating factors:

Lead actors: payment institution - Internet payment services
Partnerships: none
Catalyst: customer change
Facilitator: e-commerce growth
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payments options
Merchant benefit: improved sales

Lessons for PSR

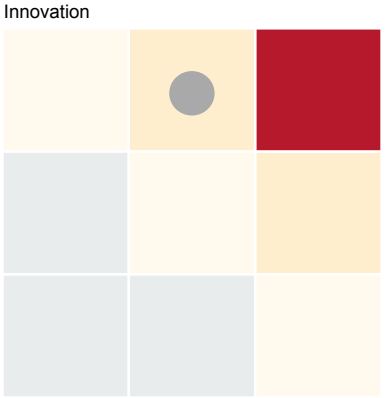
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** competition
- **Value chain step impacted:** Payment Processing, Settlement

Categorisation

- **Impact rationale: highest,** Adyen processed more than $14 billion payment transactions in 2013 – a 40% increase over 2012 taking advantage of the growth of e-commerce and mobile payments at global level

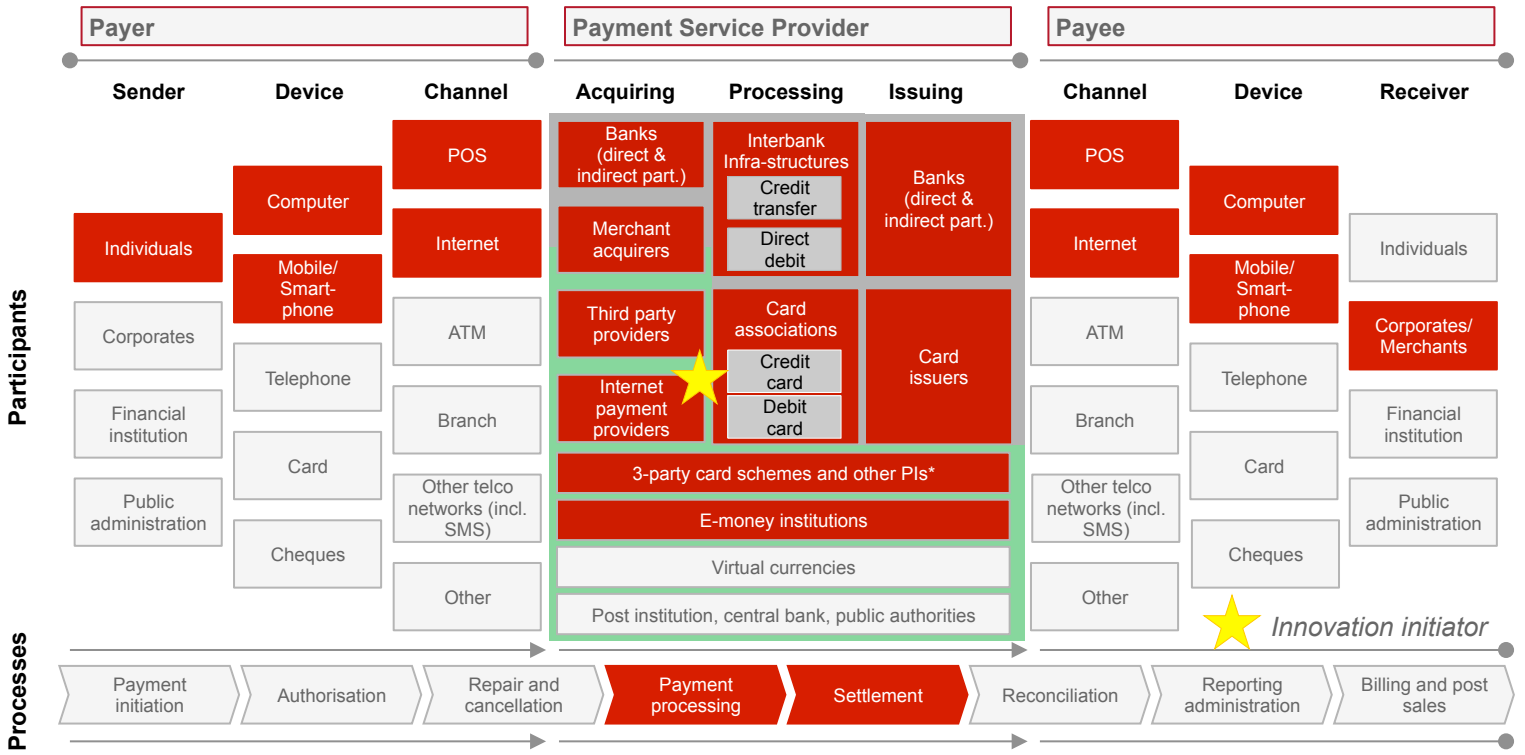
- **Relevance rationale: high**, lack of access to interbank payments systems to provide consumers a way to pay for online purchase using their bank account



Source: BIS, ECB, World Bank, corporate website

Adyen: over 200 payments methods supported

Adyen: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: Adyen allows consumer to pay online using a wide range of payment options (cards, e-wallets, online banking e-payments)

PSP incentives

- **Increased revenues:** provides merchants with the access to more than 200 different payment methods worldwide

Payee Benefits

- **Improved sales:** due to accepting more payment methods: accessing to a wide range of payments methods e-merchants can reach a wider customer base worldwide

Policy toolkit

- **Setting new legal framework**
- Payment Services Directive has recognised providers of online payments services as payments institutions
- licenced payments institutions have to comply with high security standards, customer protection guidelines and capital requirements

Process

- Adyen through its unique platform processes payments from any sales channel including online, mobile and POS
- This allows merchants to reduce the cost of cash handling supporting online sales and cost of payment processing accepting more convenient payment methods
- Merchants can apply online, select the service and create a single connection to the platform

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Bankgirot: Payments in Real-Time system

Bankgirot is a real-time payments system owned by Swedish banks

Overview

Innovation Case Overview

Bankgirot's real-time payment system was launched in November 2012 and provides an open and independent environment allowing for maximum flexibility for transaction volumes and payment ceilings, in real-time. The new system allowed six Swedish banks to develop the Swish app, the first real-time payment application through mobile and Internet

Policy reference: PSD, Finansinspektionen, Payment Service Act

Country Overview (Sweden vs UK)

Cash penetration: 27% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitant: 351
(UK: 273) transactions per year
Internet penetration: 94% (UK: 73%) of population
Mobile penetration: 88% (UK: 87%) of population

Payments / cards country trends: Swedish payments area is extremely mature: only 27% of purchases nationally, not including e-commerce, are made with cash. Many institutions in the country simply don't accept cash anymore (bus systems) and bills and coins are just 3% of the total economy of Sweden

Characteristics

Business Characteristics

Area: bank payments
Innovation area: Wholesale cards/ payment innovation
Product group: infrastructure & security
Funding type: bank account
Main usage: bank to bank

Technology Characteristics

Access channel: internet
Access device: computer, mobile/ smartphone
Access technique: remote

Initiating factors:

Lead actors: credit institution (incl. payments systems)
Partnerships: banks with banks
Catalyst: New policy/government strategy
Facilitator: infrastructure available
Incentives: achieving governmental goals

Impact factors:

Payer benefits: faster payment processing
Payee benefits: improved liquidity management, improved services

Lessons for PSR

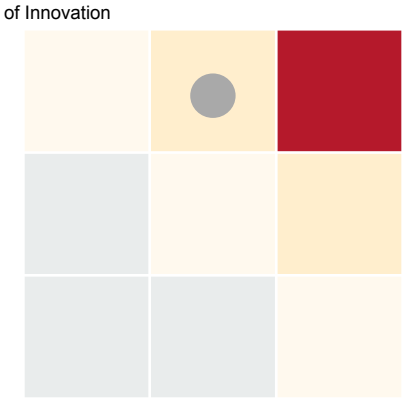
Summary

- **Policy toolkit: Setting vision**
- **Driving factor:** Government/regulation
- **Value chain step impacted:** Payments processing, Settlement transmission

Categorisation

- **Impact rationale: highest,** the system has quickly become central to the Swedish payments infrastructure, processing the majority of retail payments

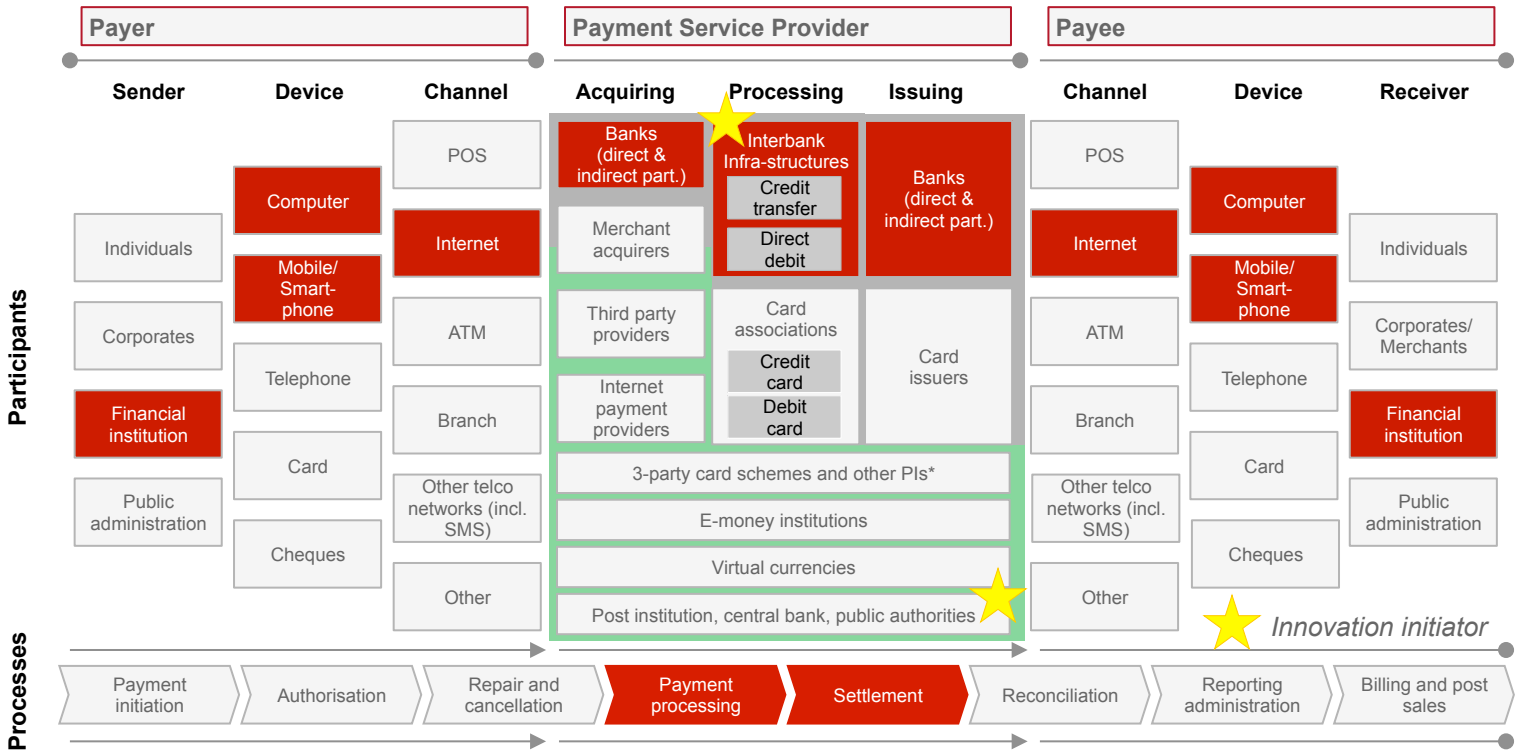
- **Relevance rationale: high,** as the system is similar to real-time payments systems in the UK e.g. Faster Payments Service



Source: BIS, ECB, World Bank, Celent "Celent Model Bank 2014- Part A" April 2014 , corporate website

Bankgirot: Payments in Real-Time system

Bankgirot: innovation impact across the payments value chain



Payer Benefits

- **Faster payment processing**: transactions are processed and settled within a few seconds

PSP incentives

- **Achieving governmental goals:** banks can offer consumers and corporates real-time payment services

Payee Benefits

- **Improved services:** funds are immediately available for use by the beneficiary
- **Improve liquidity management** for corporates and merchants thanks to real time settlement

Policy toolkit

- **Setting vision**
- Swedish central bank, is driving Sweden toward a cashless society by 2020
- In order to achieve objective it worked with Bankgirot, the Swedish ACH, to set up the Payments in a real time scheme, which requires participant banks to back real-time transactions (Swish occurs in real-time and is made possible by the new scheme)

Process

- Payments in Real Time operates in an open and independent environment allowing for maximum flexibility in transaction volumes and payment ceilings.
- Processing and settlement of payments used to take a day or longer to process; now they take 15 seconds
- Liquidity risk is eliminated – rather than posting payments to the account to be held for several days to clear,

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Belgacom/BNP Fortis Wallet initiative: Sixdots - Bank and telco ecosystem for payments and loyalty

Sixdots is mobile commerce initiative open to all operators and to all banks

Overview

Innovation Case Overview

JV between BNP Fortis and Belgacom to create the first example of 'in-app commerce' – integrating mobile payments, virtual ticketing, e-couponing and loyalty programmes. The solution integrates all necessary functions for a full shopping experience within the merchant app. Expected high penetration within Belgium that will allow for a large amount of transaction data to be monetised. Trial in late 2013, roll out 2014

Policy reference: none

Country Overview (Belgium vs UK)

Cash penetration: 59% (UK: 60%)
Banked population: 96% (UK:87%)
E-trxn per inhabitants: 226 (UK: 293) transactions per year
Internet penetration: 84% (UK: 73%) of population
Mobile penetration: 90% (UK: 87%) of population

Payments / cards country trends: in Belgium, cards are the main instrument used for retail payments, although alternative payments are gaining pace within e-commerce activity. PayPal and Dutch iDEAL are the most popular among online payments methods

Characteristics

Business Characteristics

Area: cards
Innovation area: Wholesale cards/ payment innovation
Product group: mobile payments
Funding type: Debit
Main usage: C2B

Technology Characteristics

Access channel: Other telco networks
Access device: mobile/smartphone
Access technique: remote

Initiating factors:

Lead actors: credit institutions, Telcos
Partnerships: MNO requires bank
Catalyst: service possible
Facilitator: mobiles
Incentives: increased revenues through new services

Impact factors:

Customer benefits: wider acceptance by other payees
Merchant benefits: Improved services

Lessons for PSR

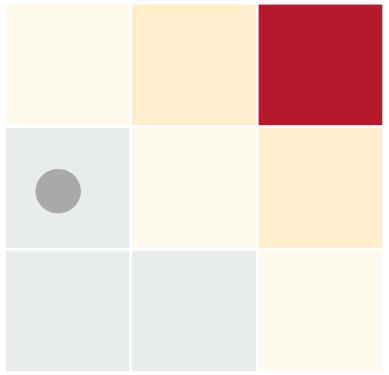
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** cooperation – banks and non-banks
- **Value chain step impacted:** Payments acquisition, Payments authorization, Payment processing, Settlement transmission

Categorisation

- **Impact rationale: high,** potentially high penetration in Belgium since the Belgacom/BNP Fortis partnership enables both partners to access 75% of the Belgian population

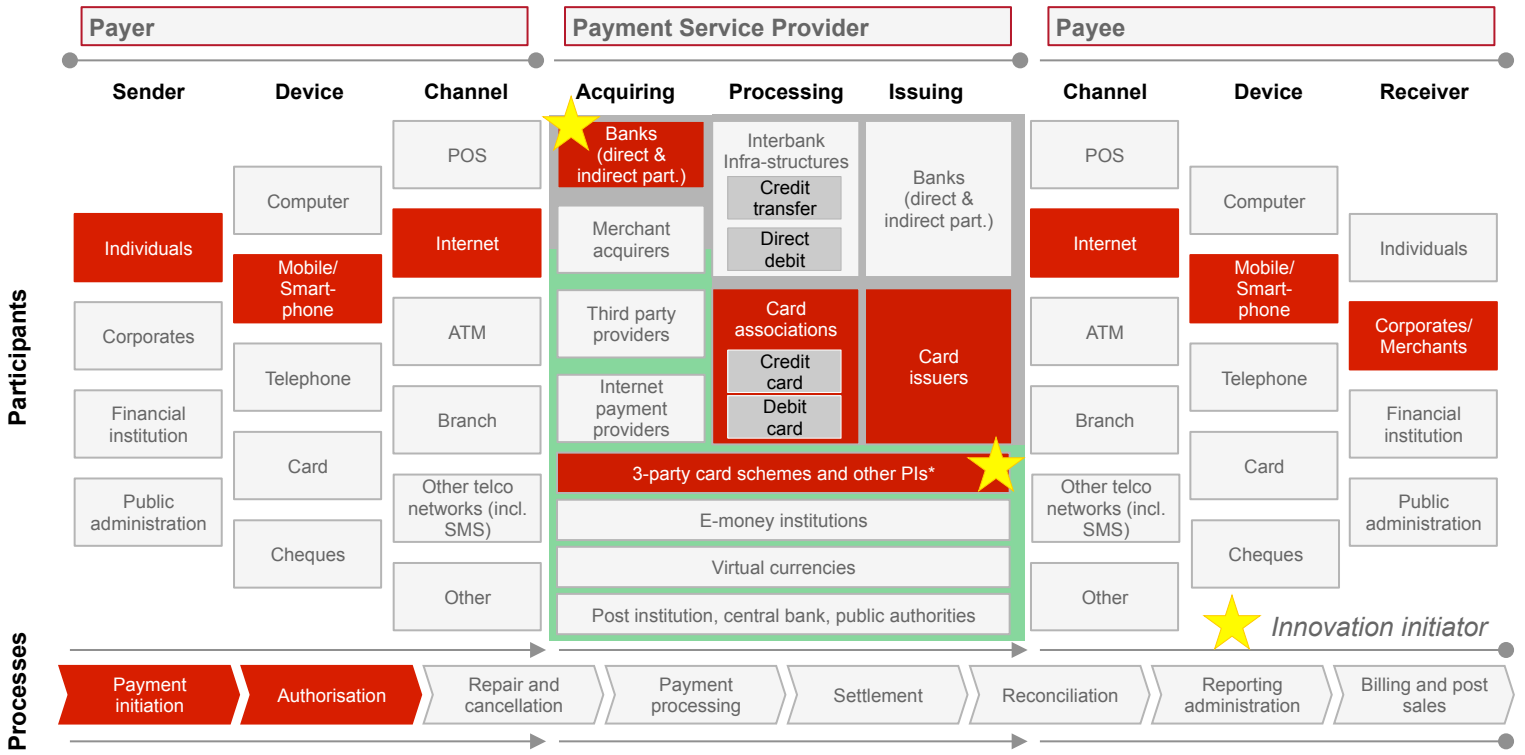
- **Relevance rationale: medium,** in the UK partnerships between bank entities and telcos has never been able to achieve scale (e.g. QuickTap by Barclaycard-Orange)



Source: BIS, ECB, World Bank, Celent "Celent Model Bank 2014- Part A" April 2014, corporate website

Belgacom/BNP Fortis Wallet initiative: Sixdots - Bank and telco ecosystem for payments and loyalty

Sixdots initiative: innovation impact along the payments value chain



Payer Benefits

- **Wider acceptance by other payees**: mobile wallet is open to any subscriber in the country with a smartphone and debit or credit card (not just from BNP Paribas Fortis)

PSP incentives

- **Increased revenues through new services:** creating a digital ecosystem for merchants

Payee Benefits

- **Improved services**: merchants joining the platform can start to offer card payments through mobile, ticketing services, coupons and loyalty programs

Policy toolkit

- **Monitoring**
- The initiatives has been approved by local authorities as compliant with existing industry regulations in Belgium and the European Union
- Further regulatory requirements could come from new mobile payments security standards proposed by ECB in November 2013, which could be implemented by February 2017

Process

- The joint venture offers a mobile application that customers can download for free
- It is based on an open ecosystem and is accessible to any Belgian smartphone user with a bank/credit card from any Belgian bank and a mobile data plan from any Belgian Mobile operator
- Merchant can develop the app offering coupons, ticketing and loyalty cards

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Caixa/Santander/Telefónica: mobile payments initiative in Spain

JV will offer m-payments, peer-to-peer money transfers and customer identification for online purchase

Overview

Innovation Case Overview

Joint Venture by CaixaBank, Santander and Telefónica (equally shareholders) that will leverage their telco and banking expertise to create an online community and a digital wallet. The online community will boost sales by connecting retailers to consumers for offers, discounts and promotions. The digital wallet will store all cards and will serve as identification in stores and for making purchases online. P2P by mobile number is also a feature

Policy reference: Payment Services Directive

Country Overview (Spain vs UK)

Cash penetration: 76% (UK: 60%)
Banked population: 93% (UK: 87%)
E-trxn per inhabitants:125 (UK:293) transactions per year
Internet penetration: 72% (73%) of population
Mobile penetration: 84% (87%) of population

Payments / cards country trends: Despite the economic conditions in Spain, e-commerce is a growing part of the economy. Most payments are made by card, with bank transfers and e-wallets also forming significant parts of the payments landscape.

Characteristics

Business Characteristics

Area: cards
Innovation area: end user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: prepaid
Main usage: C2B, C2C

Technology Characteristics

Access channel: Internet
Access device: mobile/smartphone
Access technique: remote

Initiating factors:

Lead actors: credit institution, telcos
Partnerships: Bank requires MNO
Catalyst: service possible
Facilitator: mobiles
Incentives: increased revenues from service differentiation

Impact factors:

Customer benefit: protection against fraud and default, new payment option
Merchant benefit: improved sales

Lessons for PSR

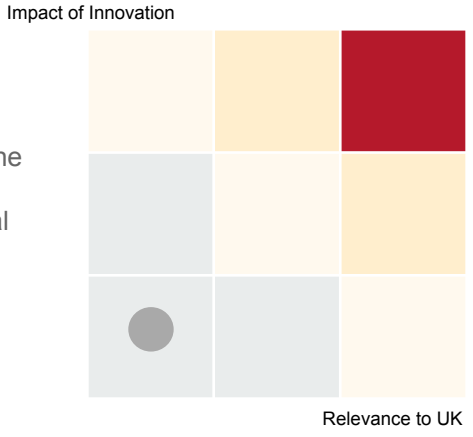
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** Cooperation – banks and non banks
- **Value chain step impacted:** Payment Initiation, Card Authorisation

Categorisation

- **Impact rationale: medium,** several competing digital wallet providers already exist or are very likely to emerge in Spain in the near future

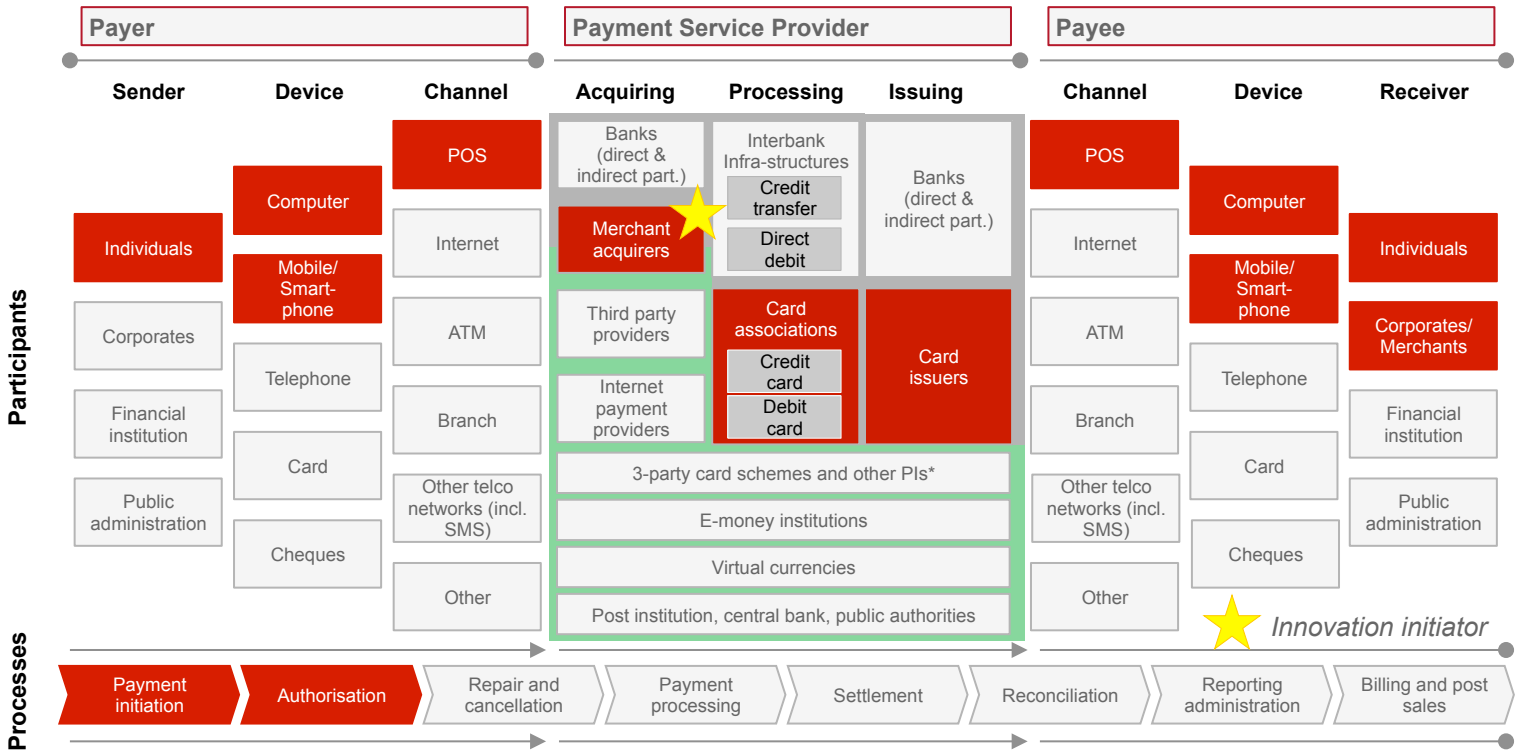
- **Relevance rationale: medium,** relevance for the UK since there are similar local solutions proposed by MNOs (e.g. Weve)



Source: BIS, ECB, World Bank, European Commission, corporate website, press search

Caixa/Santander/Telefónica: mobile payments initiative in Spain

JV Caixa – Santander - Telefónica : innovation impact along the payments value chain



Payer Benefits

- **New payment option:** to pay in store alternative
- **Protection against fraud and default:** since the solution does not require sharing of sensitive data with a third party

PSP incentives

- **Increased revenues through new services**
- **Lower cost of cash handling:** migrating cash to digital
- **Improved reputation:** as payments innovator

Payee Benefits

- **Improved sales**: merchants are connected to consumers for offers, discounts and promotions

Policy toolkit

- **Monitoring**
- European Commission has cleared under the EU Merger Regulation the creation of the Joint Venture
- Investigation revealed that several competing digital wallet providers already exist or are very likely to emerge in Spain in the near future, ensuring an adequate competitive environment.

Process

- The digital wallet will allow users to upload the details of their payment cards into the digital wallet and use the uploaded information to make secure online payments to merchants of the virtual community via static and mobile internet connections
- For P2P payment services, the digital wallet will include a virtual prepaid payment card issued by a financial institution

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

ELV: widely used payment online method in Germany

ELV is an electronic direct debit system that has been adopted by German merchants

Overview

Innovation Case Overview

ELV is an electronic direct debit system that is relatively cheap (compared to credit cards) and is suitable for one-time payments (immediate payment and swift settlement). ELVs require the customer to authorise the merchant to make the payment collection, which can occur electronically, orally, by e-mail or through a web interface set up by the merchant

Policy reference: local payments regulation and PSD

Country Overview (Germany vs UK)

Cash penetration: 75% (UK: 60%)
Banked population: 98% (UK: 87%)
E-trxn per inhabitant: 222
(UK: 293) transactions per year
Internet penetration: 82% (UK: 73%) of population
Mobile penetration: 87% (UK: 87%) of population

Payments / cards country trends:
Germany is one of Europe's largest e-commerce areas with turnover around 50 EUR bn. Alternative payments (e.g. ELV, GiroPay, SOFORT Banking, PayPal) are the most commonly used payment methods for online shopping – credit card use is declining

Characteristics

Business Characteristics

Area: Bank payments
Innovation area: Wholesale cards/ payment innovation
Product group innovations in the use of cash/card payments
Funding type: Bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: Computer
Access technique: Remote

Initiating factors:

Lead actors: credit institution
Partnerships: None
Catalyst: Customer change
Facilitator: Infrastructure available
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of payment processing

Lessons for PSR

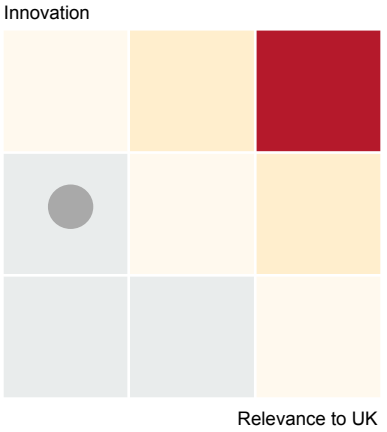
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** Cooperation - banks only
- **Value chain step impacted:** payments processing, settlement

Categorisation

- **Impact rationale: high,** ELV is a widely used payment method in Germany adopted for 22% of online purchases (by volume).

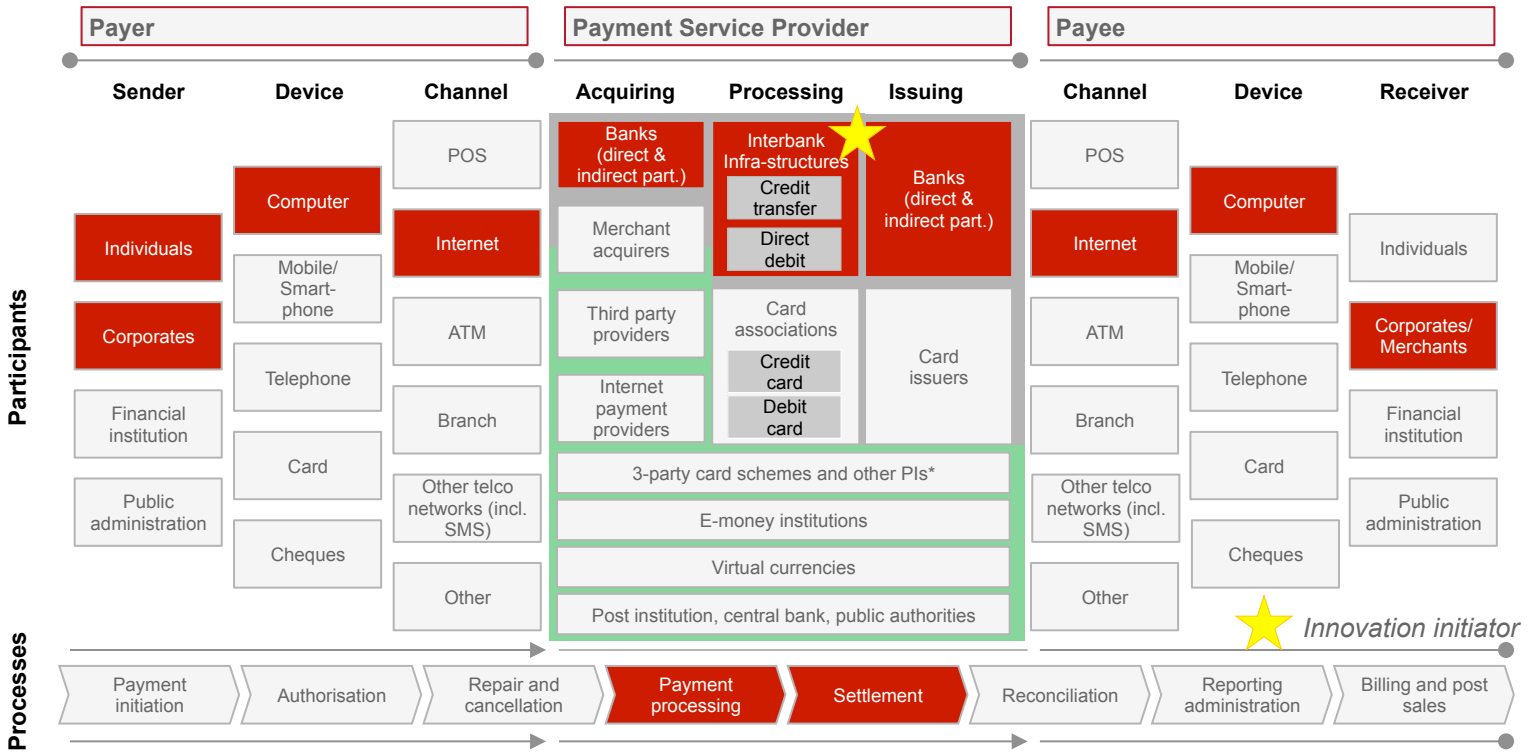
- **Relevance rationale: medium,** due to the already high penetration of debit cards both for online and in-store payments in the UK



Source: BIS, ECB, World Bank, About-Payments, WorldPay "Your Global Guide to Alternative Payments 2014", corporate website

ELV: widely used payment online method in Germany

Electronic direct debit adopted by German merchants



Policy toolkit

- **Monitoring**
- No specific policy intervention required

Process

- The shopper enters his/her account number and bank code, authorising the merchant to make the payment collection
- Messaging can be sent electronically, provided orally to the merchant or sent by e-mail or through a web interface set up by the merchant
- The shopper's account is then debited directly by the merchant, even for one-off payments
- Since banks do not first perform a balance check on the shopper's account this can lead to charge backs if the shopper does not have sufficient funds to cover their transaction

Payer Benefits

- **New payment option:** widely available option for debit payment preference, and presents an alternative to card based transactions at lower cost to the merchants

PSP incentives

- **Increased revenues through service differentiation:** provides a payment solution for remote and face to face payments

Payee Benefits

- **Lower cost of payment processing:** since ELV payments are cheaper than cards
- **Lower cost of cash handling:** migrating transaction from cash to ELV

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Express Elixir: Immediate Payments System in Poland

accenture

Express ELIXIR payments in Poland are settled in real-time via SORBNET

Overview

Innovation Case Overview

Express ELIXIR is an immediate payments clearing system in Poland. It is available 24x7x365 and has been offered since June 2012. The National Clearing House (Krajowa Izba Rozliczeniowa), the system operator, processes almost all interbank transfers in Poland. With Express ELIXIR, funds are transferred directly from the sender's account to the recipient's account without the use of intermediaries accounts

Policy reference: no policy reference

Country Overview (Poland vs UK)

Cash penetration: 90% (UK: 60%)
Banked population: 70% (UK: 87%)
E-trxn per inhabitants: 77 (UK: 293) transactions per year
Internet penetration: 66% (UK: 73%) of population
Mobile penetration: 75% (UK: 87%) of population

Payments / cards country trends:
Poland's payments scene is dominated by bank transfers, which are carried out through multiline model as Przelewy24, PayU as well as through monoline banks' systems iPKO, Alior Sync,. In contactless card technology Poland is one of the most dynamically growing areas in Europe

Characteristics

Business Characteristics

Area: bank payments
Innovation area: Wholesale cards/ payment innovation
Product group: Infrastructure & security
Funding type: not applicable
Main usage: bank to bank

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: central bank, credit institutions – payment system
Partnerships: Bank with banks
Catalyst: technology introduced
Facilitator: Infrastructure available
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: faster payment processing
Merchant benefit: improved liquidity management

Lessons for PSR

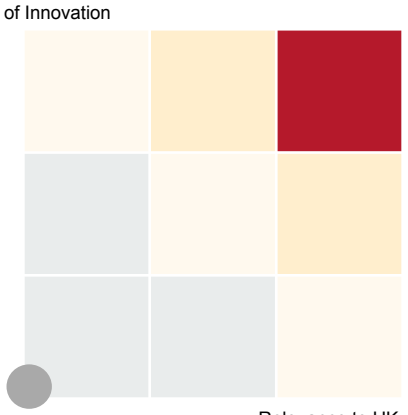
Summary

- **Policy toolkit: Setting vision**
- **Driving factor:** Cooperation - banks only
- **Value chain step impacted:** Payment Processing, Settlement Transmission

Categorisation

- **Impact rationale: low,** take up of Express ELIXIR has been disappointing both in terms of bank participation (only 8 banks) and volumes (less than 1,000 transactions per day). Without a central bank mandate, the majority of Polish banks have not been able to make the business case to offer Express ELIXIR payment services

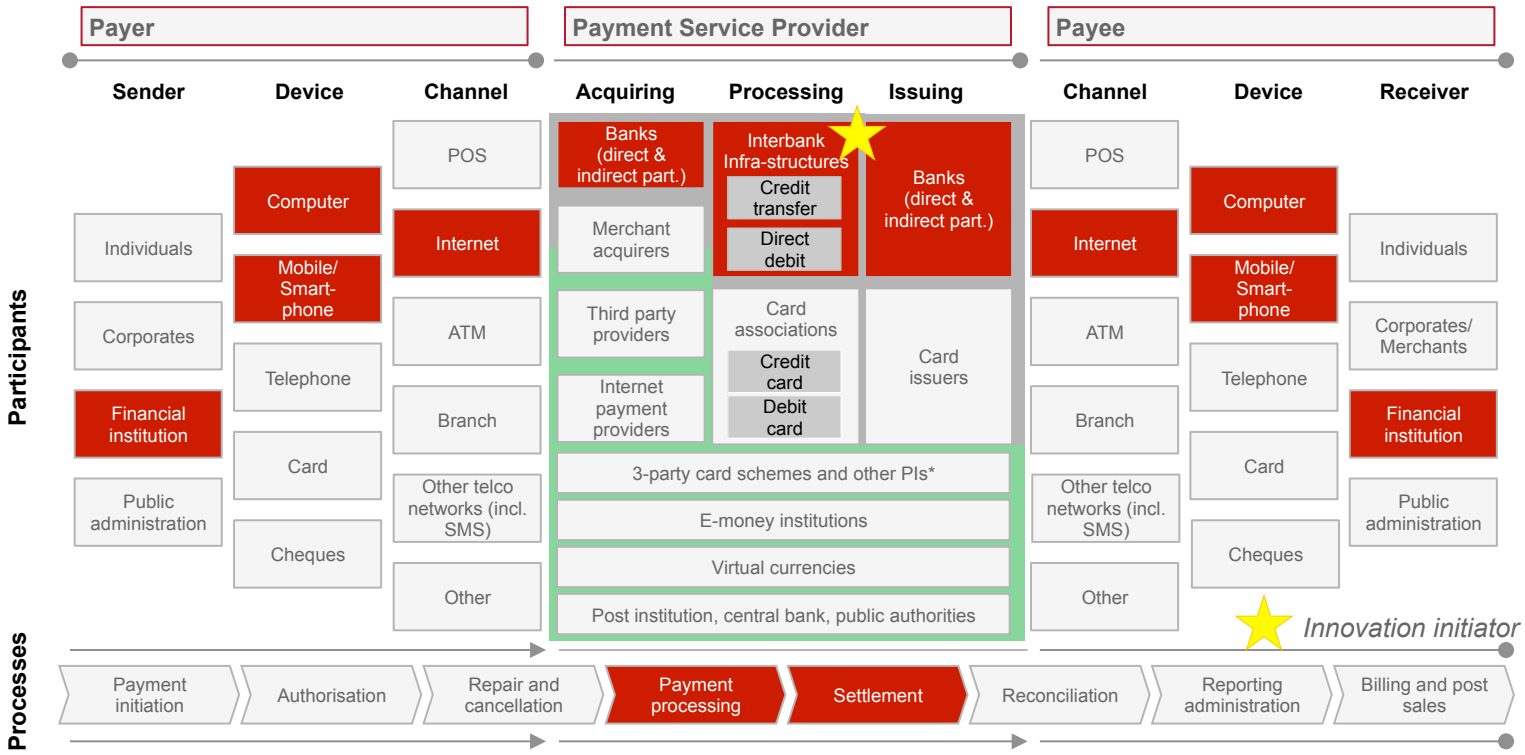
- **Relevance rationale: low,** since real-time processing capabilities are already offered by Faster Payments in the UK



Source: BIS, ECB, World Bank, corporate website

Express Elixir: Immediate Payments System in Poland

Express Elixir: innovation impact along the payments value chain



Payer Benefits

- **Faster payment processing**: funds are transferred directly from the sender's account to the account of the recipient, without intermediaries accounts, payments are settled within 15 seconds, available 24/7/365

PSP incentives

- **Achieving government goals:** system support m-payments, and using an internationally-recognised message format as an exchange standard
- **Improved reputation:** for banks as payments innovators

Payee Benefits

- **Improved liquidity management:** better management of payments for corporate customers, immediate information about the execution or rejection of the transaction with settlement guarantee

Policy toolkit

- **Setting vision**
- Government vision for immediate payments clearing system for PLN transactions
- Future plans for layering additional services on the system including the use of alternative identifiers for mobile payments, integration with a planned national P2P mobile service and the possible addition of direct debits

Process

- Immediate transfers are realised only in PLN and only between banks in Poland
- Payments are settled immediately (within 60 seconds)
- Elixir Express was implemented in 8 banks, and banks determine the price of the service (3-15 PLN)
- The maximum single value of transaction is determined by bank, however cannot exceed the set maximum value (currently 100,000 PLN)

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Giropay: Online banking e-payments authorisation in Germany

Giropay allows customers to make purchases online using direct transfers from their bank account

Overview

Innovation Case Overview

Giropay is an e-payment system in Germany based on online banking. Introduced in February 2006, the payment method allows customers to make purchases online using direct transfers from their bank account. The system is similar to the iDEAL payment system in the Netherlands

Policy reference: Payment Services Directive

Country Overview (Germany vs UK)

Cash penetration: 75% (UK: 60%)
Banked population: 98% (UK: 87%)
E-trxn per inhabitants: 222
(UK: 293%) transactions per year
Internet penetration: 82% (UK: 73%) of population
Mobile penetration: 87% (UK: 87%) of population

Payments / cards country trends:
Germany is one of Europe's largest e-commerce economies with turnover around 50 EUR bn. Alternative Payments (e.g. ELV, GiroPay, SOFORT Banking, PayPal) are the most commonly used payment methods for online shopping – credit card use is declining

Characteristics

Business Characteristics

Area: bank payments
Innovation area: wholesale enabled end-user innovation
Product group: internet payments
Funding type: bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: credit institutions(incl. payment systems)
Partnerships: bank requires PSP
Catalyst: service possible
Facilitator: infrastructure available
Incentives: increased revenues through new services

Impact factors:

Payer benefit: new payments option, enhance data privacy
Payee benefit: lower cost of payment processing

Lessons for PSR

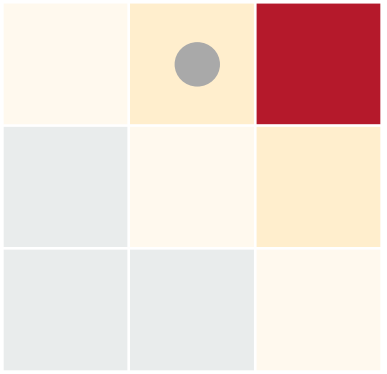
Summary

- **Policy toolkit: Setting standard / interoperability**
- **Driving factor:** Competition
- **Value chain step impacted:** Payment acquisition, Authorisation, Payment processing, Settlement transmission

Categorisation

- **Impact rationale: highest,** Giropay is the most popular form of online payment in Germany (by users) and similar to the iDEAL system in the Netherlands. It is trusted by over 24 million shoppers in Germany and supported by more than 1,500 banks

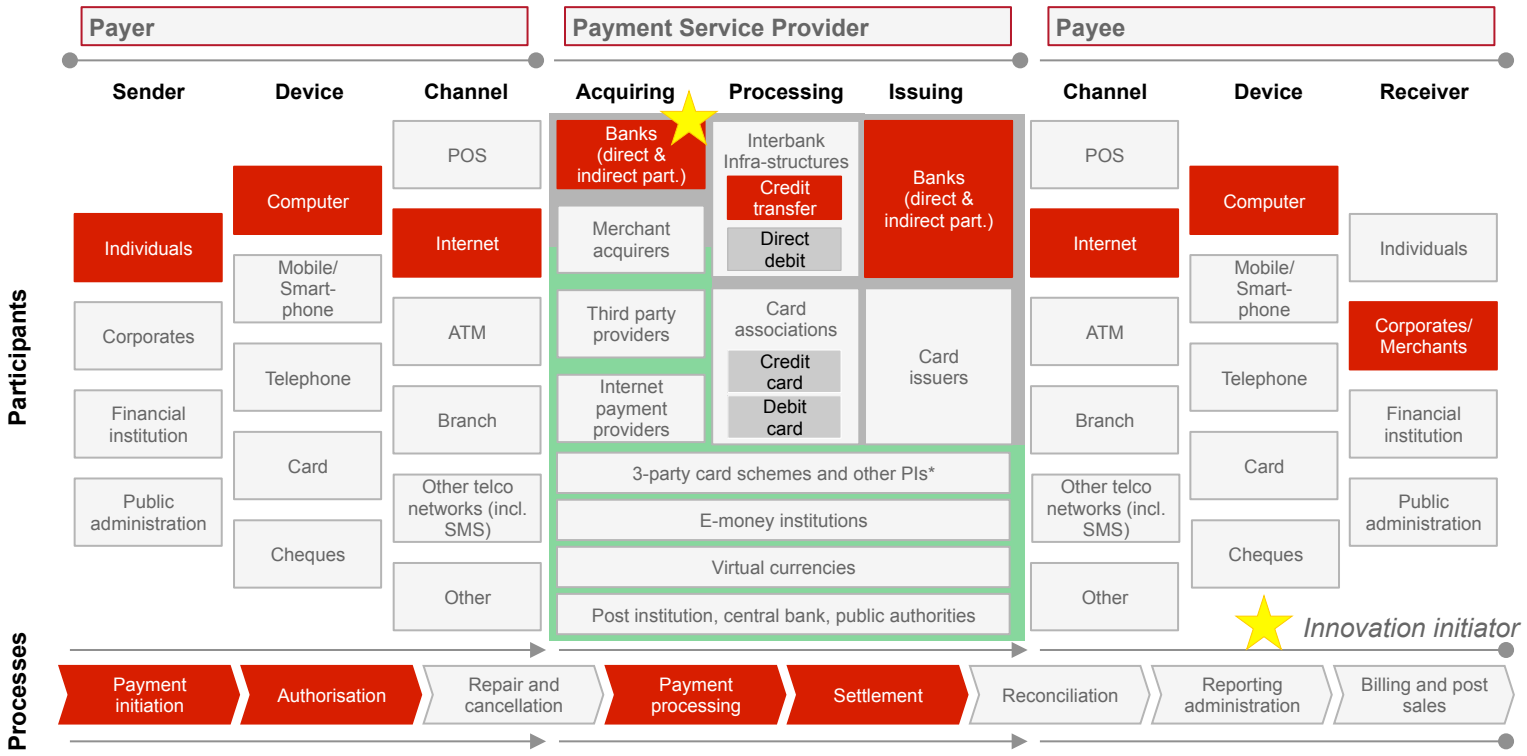
- **Relevance rationale: high,** online bank e-payments are more secure and convenient than cards for merchants. Zapp in the UK will be a similar solution



Source: BIS, ECB, World Bank, About-payments, E-Commerce Europe, Worldpay "Your Global Guide to Alternative Payments 2014", corporate website

Giropay: Online banking e-payments authorisation in Germany

Giropay: innovation impact along the payments value chain



Payer Benefits

- **New payment option:** consumers can pay online using funds stored in their bank accounts
- **Enhanced data privacy**: consumers do not need to share sensitive information with third parties

PSP incentives

- **Increased revenues through new services:** with Giropay banks can offer payment services to e-merchants
- **Improved reputation:** for banks as payments innovators

Payee Benefits

- **Lower cost of payment processing:** Giropay adoption reduces the volume of card transactions (incl. reversals and chargebacks) and minimises the risk of online fraud due to high online security standard

Policy toolkit

- **Setting new legal framework**
- New standards to be included in the EU's PSD2 cover activities by third party providers, which includes Giropay
- These standards address issues which may arise with respect to consumer confidentiality and convenience, liability and security
- New standards also bring more competition to e-payments

Process

- Merchant offers Giropay as payment method and consumer selects Giropay and selects his bank
- Consumer is redirected to his bank's login page
- Participating bank displays transaction data and customer enters account number/PIN
- Bank authorises transaction in real-time and merchant receives real-time confirmation of the payment by the bank

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

iDEAL: Dutch current account authorisation (online/mobile)

iDEAL enables customers to authorise use of funds in their current accounts for online and mobile purchases by directing them to bank account websites or mobile applications to confirm payment

Overview

Innovation Case Overview

iDEAL is an online payment authentication system launched in the Netherlands in 2005. Three major Dutch banks collaborated to launch IDEAL and in 2006 ownership was transferred to Currence, the scheme owner of all national payment instruments in the Netherlands. Today the solution is the preferred payments choice for online purchases in the Netherlands

Policy reference: PSD, Nederlandsche Bank, CPSS

Country Overview (The Netherlands vs UK)

Cash penetration: 48% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitant: 349
(UK: 273) transactions per year
Internet penetration: 97% (UK: 73%) of population
Mobile penetration: 84% (UK: 87%) of population

Payments / cards country trends: the Netherlands is among the most developed economies when it comes to payments, with a high penetration of e-payments and e-commerce. Due to a high adoption of iDEAL for online purchases non-bank payment solutions such as e-wallets have not had a mass adoption

Characteristics

Business Characteristics

Area: bank payments
Innovation area: Wholesale cards/ payment innovation
Product group: internet/mobile payments
Funding type: Debit
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: computer/mobile/ smartphone
Access technique: remote

Initiating factors:

Lead actors: credit institutions
Partnerships: banks requires PSP
Catalyst: customer change
Facilitator: e-commerce growth
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: new payments option, enhanced data privacy
Merchant benefit: lower cost of payment processing

Lessons for PSR

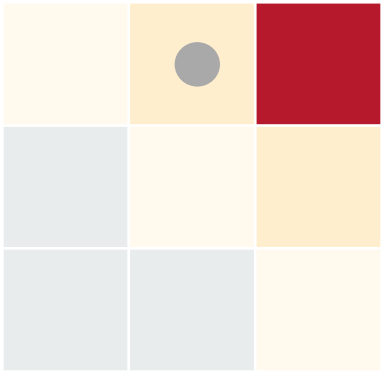
Summary

- **Policy toolkit: Setting standard/interoperability**
- **Driving factor:** cooperation - banks only
- **Value chain step impacted:** payment acquisition, authorisation, payment processing, settlement transmission

Categorisation

- **Impact rationale: highest,** successful scheme, as all 10 major banks in the Netherlands participate in iDEAL. It began by processing 4.5 million transfers in 2006 has grown to 142.5 million in 2013 from 47 different affiliated payments services providers

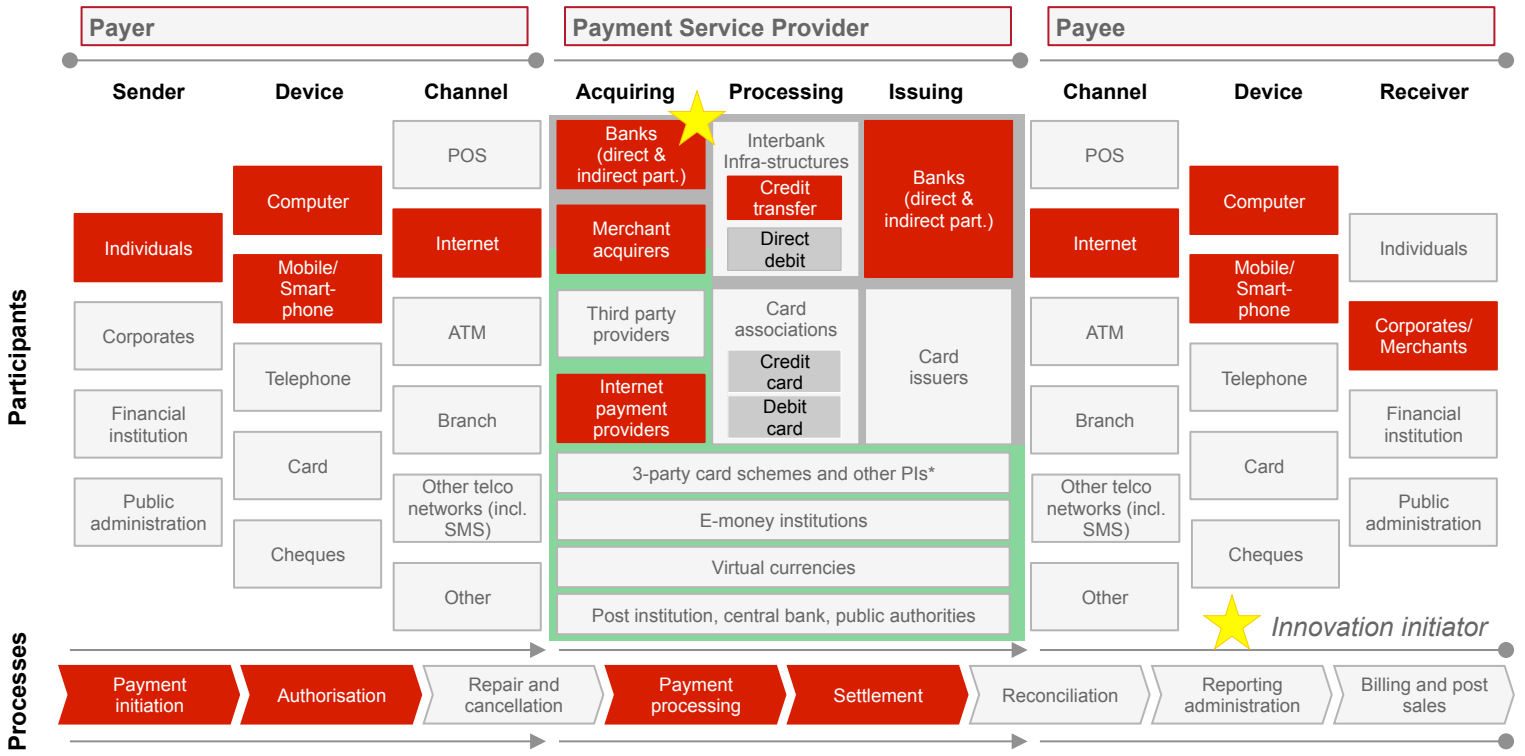
- **Relevance rationale: high,** online bank e-payments are more secure and convenient than cards for merchants. Zapp in the UK will be a similar solution



Source: BIS, ECB, World Bank, About-payments, E-Commerce Europe, Worldpay "Your Global Guide to Alternative Payments 2014", corporate website

iDEAL: Dutch current account authorisation (online/mobile)

iDeal: innovation impact across the payments value chain



Payer Benefits

- **New payments option**: consumers can pay online using funds stored in their bank account
- **Enhanced data privacy**: consumers don't need to share sensitive information with third parties

PSP incentives

- **Increased revenues through service differentiation**, with iDeal banks can offer payment services also to e-merchants
- **Improved reputation:** for banks as payments innovators

Payee Benefits

- **Lower cost of payment processing**: iDeal adoption reduces the volume of card transactions (including reversals and chargebacks) and minimise the risk of online fraud thanks to its high online security standard

Policy toolkit

- **Setting standard/ interoperability**
- The requirements laid out in iDEAL's rules and regulations have been set up by Nederlandsche Bank, the Dutch central bank, under the the European Payment Services Directive
- This includes the core principles for Systemically Important Payment Systems adopted by the ECB

Process

- Merchant offers iDEAL as payment method, and consumer selects iDEAL and selects his bank
- Consumer is redirected to bank's login page, and bank displays transaction data
- Customer enters account number and signs the transaction digitally using a two factor authentication token
- Bank authorises transaction in real-time, and consumer is redirected back to the merchant page

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

IKO: current account authorisation in Poland (online/mobile)

IKO is a mobile payment authorisation service which uses a code to enable customers to authorise all types of mobile payments — physical POS, ATM withdrawals, online merchants, and C2C transfers

Overview

Innovation Case Overview

Joint venture equally owned by 6 Polish Banks (Alior, Millennium, BZ WBK, mBank, ING and PKO BP) utilising PKO Bank's IKO 4G mobile banking app. The solution was launched in March 2013 and is based on a code which allows customers to authorise all types of mobile payments — physical POS, ATM withdrawals, online merchants, and P2P transfers

Policy reference: Payments Services Directive

Country Overview (Poland vs UK)

Cash penetration: 90% (UK: 60%)
Banked population: 70% (UK: 87%)
E-trxn per inhabitant: 77 (UK: 293) transactions per year
Internet penetration: 66% (UK: 73%) of population
Mobile penetration: 75% (UK: 87%) of population

Payments / cards country trends: Poland's payments scene is dominated by bank transfers, which are carried out through multiline model as Przelewy24, PayU as well as through monoline banks' systems iPKO, Alior Sync,. In contactless card technology Poland is one of the most dynamically growing economies in Europe

Characteristics

Business Characteristics

Area: bank payments
Innovation area: wholesale cards/ payment innovation
Product group: mobile payments and internet payments
Funding type: bank account
Main usage: C2B, C2C

Technology Characteristics

Access channel: POS, Internet, ATM
Access device: mobile/smartphone
Access technique: remote

Initiating factors:

Lead actors: credit institutions
Partnerships: banks with banks
Catalyst: technology introduced
Facilitator: mobiles
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: new payment option, enhanced data privacy
Merchant benefit: lower cost of payment processing

Lessons for PSR

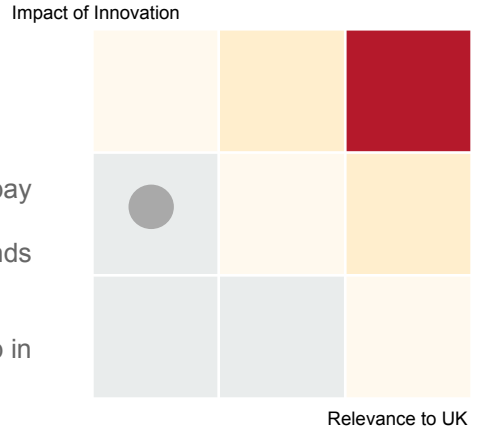
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** cooperation - banks only
- **Value chain step impacted:** payment acquisition, authorisation, settlement transmission

Categorisation

- **Impact rationale: high,** the largest Polish banks (Alior, Millennium, BZ WBK, mBank, ING and PKO BP) have joined the initiative during the first year following the launch of IKO in March 2013, bringing total users of IKO to 125,000

- **Relevance rationale: medium,** enabling customers to pay online and in store using funds stored in their bank account, similar to Zapp in the UK

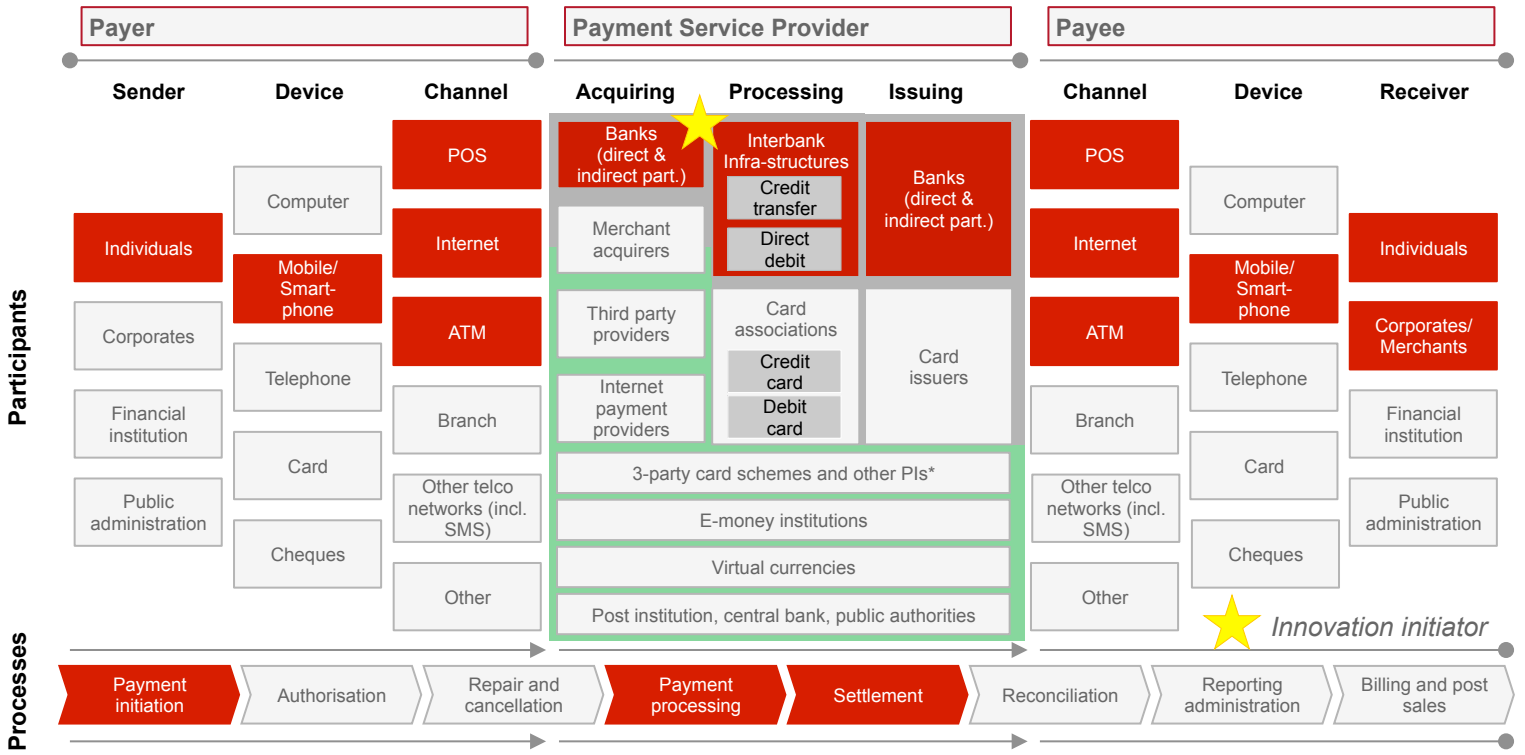


Source: BIS, ECB, World Bank, Celent, E-Commerce Europe, corporate website

IKO: current account authorisation in Poland (online/mobile)

accenture

IKO: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: IKO enables customers to pay for online and in store payments with funds coming directly from their current account
- **Enhance data privacy**: customer don't need to share sensitive information

PSP incentives

- **Increased revenues through services differentiation:** by migrating low value payments from cash to digital methods
- **Improved reputation:** of banks as payment innovators providing a better customer experience

Payee Benefits

- **Lower cost of payment processing**: Fees for online credit transfer are significantly lower than the merchant service charge levied by acquirers for card not present payments, due to the lack of liquidity risk

Policy toolkit

- **Setting new legal framework**
- Polish regulators provided the legal framework to launch IKO
- It has just been approved by local authorities as compliant with existing industry standards and regulations in Poland

Process

- For POS payments customer has to: login to the app, read the IKO code from the main screen of the application, enter IKO code on the post terminal, confirm the transaction on the phone and then the details of the transactions will appear on the phone
- For C2C payments customers has to: login to the application, choose the option P2P, fill the P2P form, confirm the transactions

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Klarna: “pay on delivery” system for online purchases

Klarna is an invoice-based solution allowing consumers to shop without having to share sensitive financial information and pay when the goods purchased are delivered

Overview

Innovation Case Overview

Established in 2005, Klarna is a Swedish provider of secure payment services to e-stores in Europe. Its payment services have been implemented by more than 18,000 online shops in Europe, mainly in the Nordics. Klarna e-invoicing service enables online shoppers to pay on the delivery of goods, offering merchants a payment guarantee – taking on the full risk of billing (e.g. risk of customer not being able to pay, risk of fraud, etc)

Policy reference: VAT Directive (2001/115/EC), Book-keeping Act and oth.

Country Overview (Sweden vs UK)

Cash penetration: 27% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitant: 351
(UK: 273) transactions per year
Internet penetration: 94% (UK: 73%) of population
Mobile penetration: 88% (UK: 87%) of population

Payments / cards country trends: The Swedish payments area is extremely mature: only 27% of purchases in Sweden are made with cash. Many institutions in the country simply don’t accept cash and many enterprises have more than 70% of their invoices through EDI and web-EDI.

Characteristics

Business Characteristics

Area: e-invoicing
Innovation area: end user innovation (not wholesale-enabled)
Product group: internet payments
Funding type: bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: computer, mobile/ smartphone
Access technique: remote

Initiating factors:

Lead actors: payment institution – internet payment service providers
Partnerships: none
Catalyst: customer change
Facilitator: e-commerce growth
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option, enhanced data privacy
Merchant benefit: lower cost of payment processing, higher sales

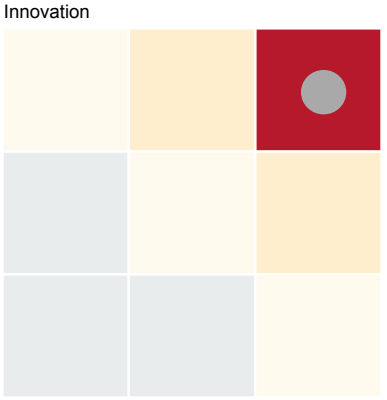
Lessons for PSR

Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** competition
- **Value chain step impacted:** Billing and customer services

Categorisation

- **Impact rationale: highest,** Klarna processes 10% of online transactions in Europe, serving 25 million customers and 43,000 online merchants in 14 European countries – serving over 50% of all German online merchants

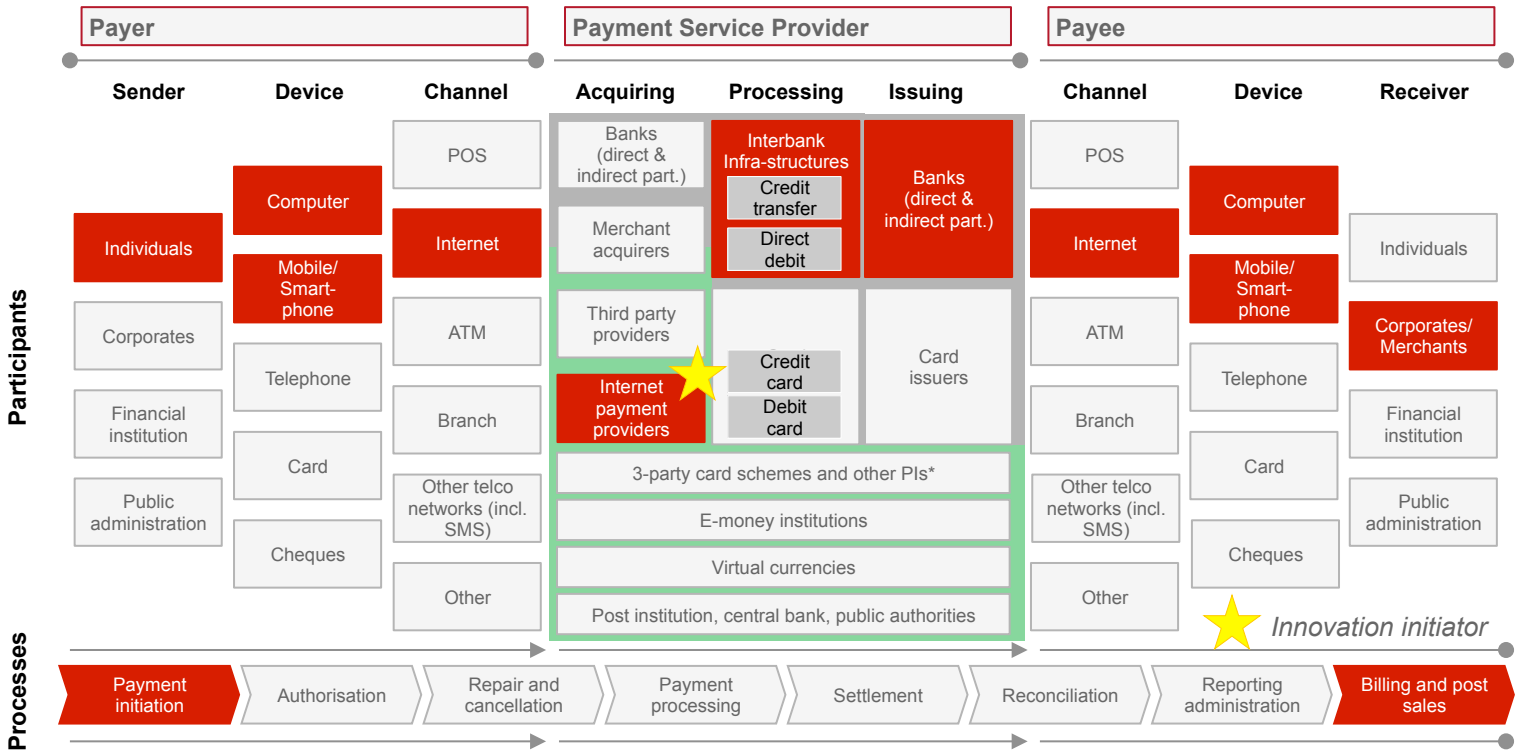


- **Relevance rationale: highest,** the introduction of an e-invoice platform would have a significant impact since in the UK just 8% of all SME turnover is processed through e-invoicing

Source: BIS, ECB, World Bank, E-Commerce Europe, Eurostat, corporate website

Klarna: “pay on delivery” system for online purchases

Klarna: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: Klarna allows consumers to shop online without using cards
- **Enhanced data privacy:** payers are not required to share sensitive information such as credit card details

PSP incentives

- **Increased revenues**: Klarna has been launched to take advantage of growing e-commerce in Sweden, addressing fraud that online shoppers and merchants commonly face

Payee Benefits

- **Lower cost of payment processing:** Klarna offers a service that is cheaper than accepting cards
- **Higher sales from higher conversion**: paying with Klarna is quicker for customers and safer than cards

Policy toolkit

- **Setting new legal framework**
- There is currently a regulation in place covering e-invoicing in Sweden’s Book-Keeping Act
- In relation to archiving of e-invoices an amendment was made to the Tax Payment Act, according to which the invoices must be kept unaltered and readable during the entire storage period

Process

- Online shoppers choose to pay by invoice through Klarna, an instant credit check is then conducted and Klarna creates an invoice
- Klarna manages the entire billing lifecycle, dealing with reminders and debt collection, and payment guarantees to e-store merchants
- Customers approve the payment when goods are received, either through direct debit or credit transfer

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

MyBank: Europe-wide current account authorisation (online/ mobile)

MyBank is a pan-European online banking e-payment solution, enabling consumers to pay for shopping via the internet or mobile channels directly from their bank accounts, without sharing their account details

Overview

Innovation Case Overview

MyBank is an initiative aimed at developing a pan-European online banking e-payment solution which allows consumers to pay for shopping via the internet without sharing account details. It was launched by EBA Clearing in 2013 and is currently live with 143 banks, with another 300 planning to join during 2014. MyBank supports SEPA Credit Transfers and e-mandates used for SEPA Direct Debits

Policy reference: Payment Service Directive

Country Overview (Europe vs UK)

Cash penetration: 65% (UK: 60%)
Banked population: 91% (UK: 87%)
E-trxn per inhabitant: 326
(UK: 293) transactions per year
Internet penetration: 77% (UK: 73%) of population
Mobile penetration: 85% (UK: 87%) of population

Payments / cards country trends:
European countries differ considerably in the maturity of their payment areas, those with the best balance of ACH and card transactions tend to have more non-cash transaction. But, growth is common in both mature and less developed countries

Characteristics

Business Characteristics

Area: bank payments
Innovation area: end user innovation (not wholesale-enabled)
Product group: Internet payments
Funding type: bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: credit institution
Partnerships: bank requires PSP
Catalyst: customer change
Facilitator: e-commerce growth
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: new payments option, enhanced data privacy
Merchant benefit: lower cost of payment processing, improve sales

Lessons for PSR

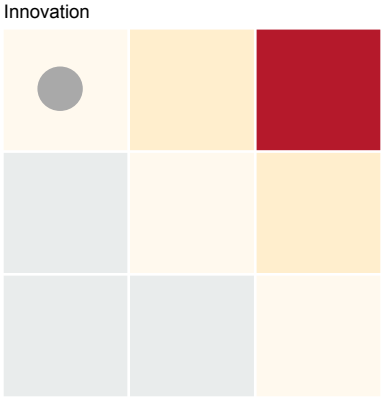
Summary

- **Policy toolkit: Setting standard/interoperability**
- **Driving factor:** cooperation – banks only
- **Value chain step impacted:** payment authentication and authorisation

Categorisation

- **Impact rationale: highest,** currently 143 banks are participating in MyBank, with 300 more planning to join by the end of 2014. Participant banks are mainly based in France, Italy and Spain where there are no alternatives to card and e-wallets to pay online

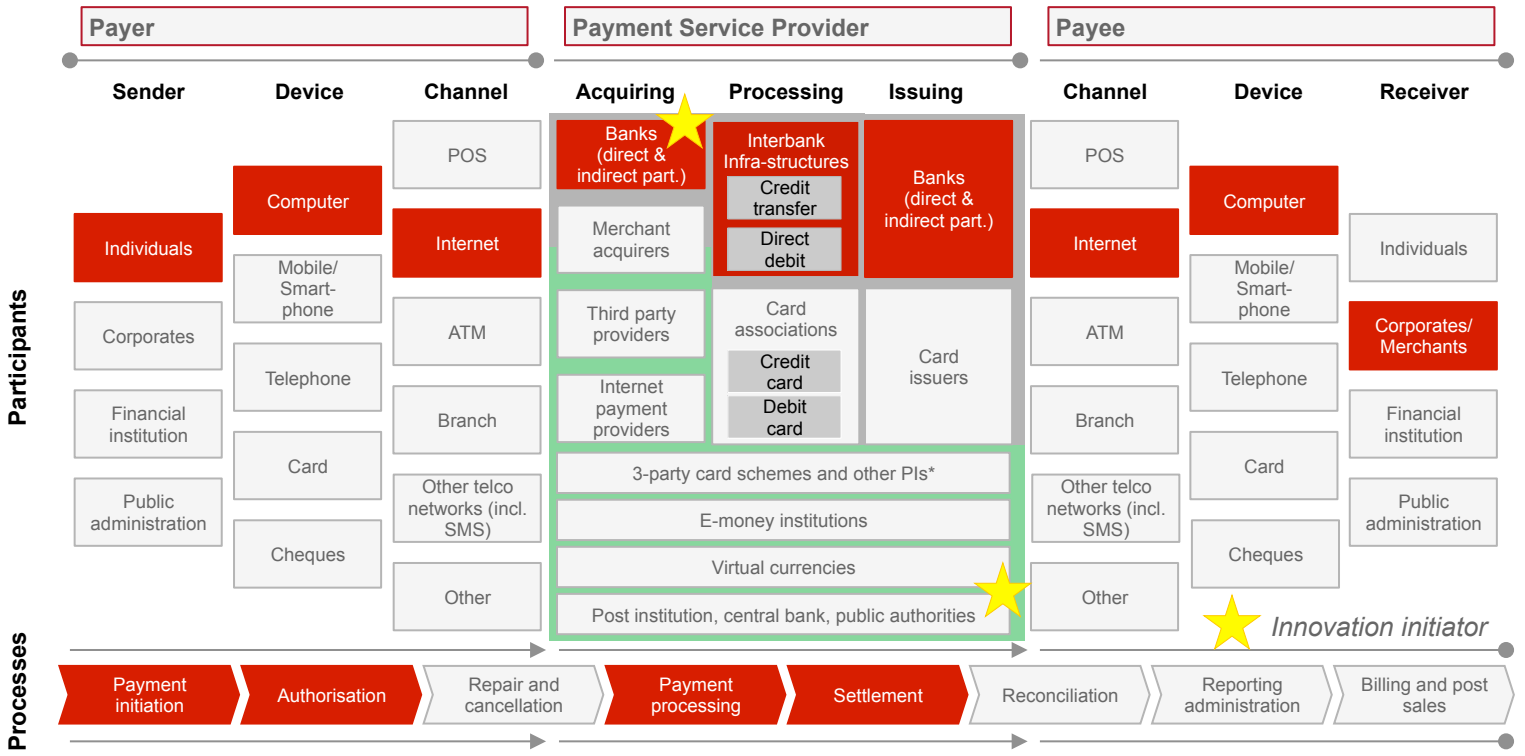
- **Relevance rationale: medium,** online bank e-payments are more secure and convenient than cards for e-merchants, but are not available in the UK yet



Source: BIS, ECB, World Bank, EBA Clearing, Eurostat, corporate website

MyBank: Europe-wide current account authorisation (online/ mobile)

MyBank: innovation impact across the payments value chain



Policy toolkit

- **Setting standard/ interoperability**
- The new service will be made available for banks and licenced payment institutions in line with PSD
- European Commission through its PSD2 proposal is going to provide a more stringent legal framework to services asking consumers to fill in their online banking credentials

Process

- Merchant offers Mybank online and consumer selects MyBank and selects participant bank
- Consumer is redirected to bank login page and participating bank displays transaction data
- Customer enters account number and signs the transaction digitally using two factor authentication
- Bank authorises transaction and consumer is redirected to the merchant page

Payer Benefits

- **New payment method:** customers pay for their online purchases via their regular online banking module
- **Enhanced data privacy**: Mybank does not share bank details with third party merchants

PSP incentives

- **Increased revenues through service differentiation:** with Mybank banks can offer a payment method for online purchases
- **Improved reputation:** for banks as payments innovators

Payee Benefits

- **Lower cost of payment processing**: Immediate authorisation reduces risk of fraud and charge-backs
- **Improve sales:** enabling acceptance of cross border payments from online shopper without credit card

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

SIC4: Swiss interbank scheme that has adopted XML-based financial services messaging format / ISO 20022

SIC4 is the fourth generation in Swiss interbank clearing that has adopted XML-based financial services messaging format / ISO 20022

Overview

Innovation Case Overview

SIC4 is the new Swiss interbank system that is aligned with ISO 20022, with participating institutions in the payment system required to migrate to SIC4 by end of 2015. The institutions will have from March 2016 until late 2017 to adjust their payments transactions to the new ISO 20022 standard; and after the second quarter of 2018, the current SIC standard will no longer be supported

Policy reference: International Standard ISO 20022

Country Overview (Switzerland vs UK)

Cash penetration: 69% (UK: 60%)
Banked population: n/a
E-trxn per inhabitants: **187**
transactions per year n/a (UK: 293)
Internet penetration: n/a
Mobile penetration: n/a

Payments / cards country trends:.
Payment cards, both credit and debit, have substantially gained in popularity in the last decade. Followed by innovative payment instruments, incl. contactless and prepaid payment cards, mobile phone payment instruments and solutions for payments in e-commerce

Characteristics

Business Characteristics

Area: bank payments
Innovation area: wholesale cards/ payment innovation
Product group: : Infrastructure & security
Funding type: not applicable
Main usage: bank to bank

Technology Characteristics

Access channel: Internet
Access device: Computer
Access technique: Remote

Initiating factors:

Lead actors: central bank, credit institution - payment systems
Partnerships: banks with banks
Catalyst: technology introduced
Facilitator: infrastructure available
Incentives: achieving government goals

Impact factors:

Customer benefit: Faster payment processing
Merchant benefit: Improved liquidity management

Lessons for PSR

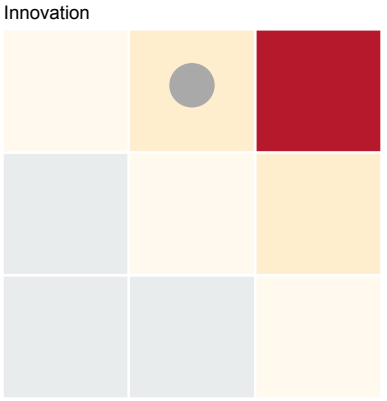
Summary

- **Policy toolkit: Setting standard/interoperability**
- **Driving factor:** Cooperation- banks only
- **Value chain step impacted:** Payment Processing, Settlement Transmission

Categorisation

- **Impact rationale: highest,** all connected banks face significant changes to their payment processing logic and underlying infrastructure in order to comply with new requirements

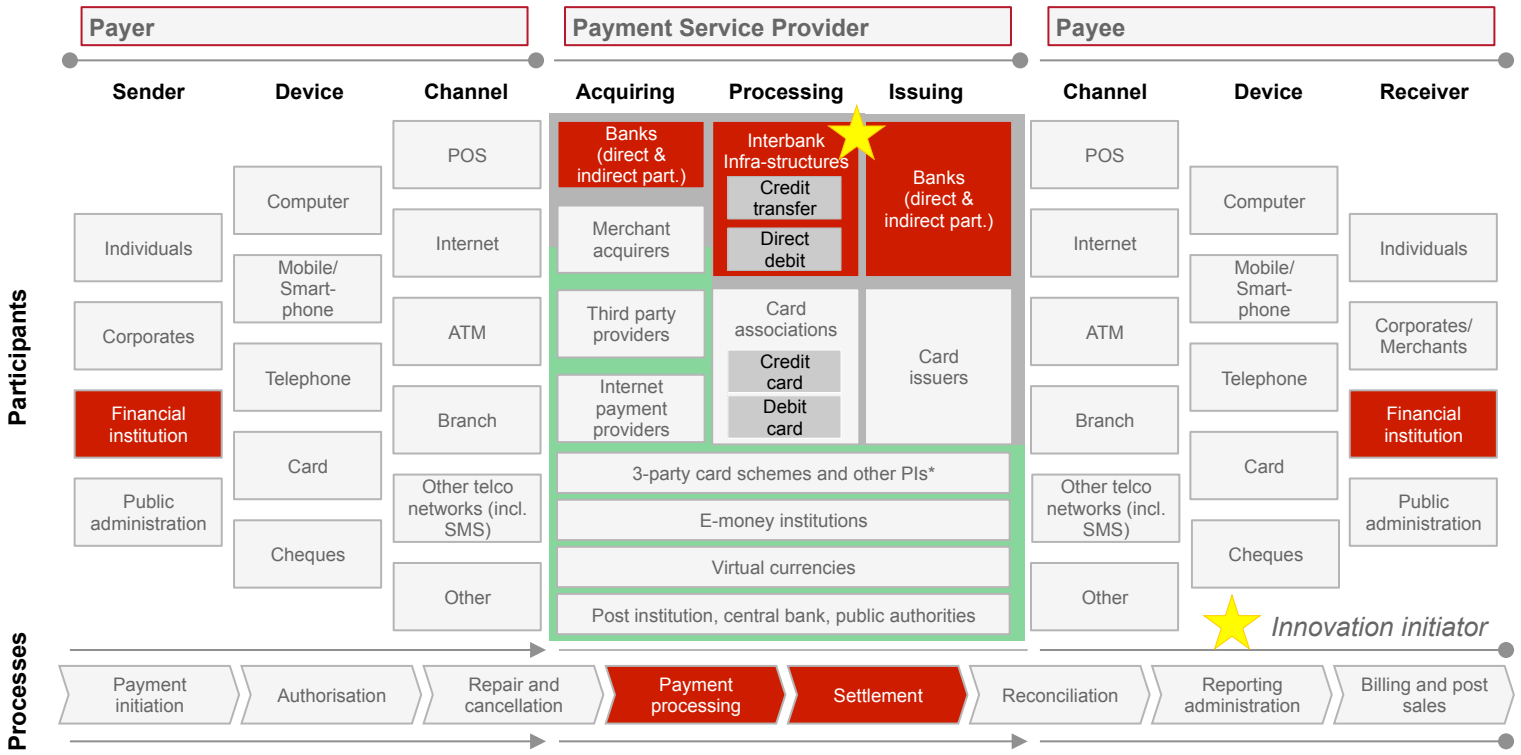
- **Relevance rationale: high,** since UK payments systems (including Faster Payments) are not currently aligned to ISO 20022 standards



Source: BIS, ECB, World Bank, corporate website

SIC4: Swiss interbank scheme that has adopted XML-based financial services messaging format / ISO 20022

SIC4: innovation impact along the payments value chain



Payer Benefits

- **Faster payment processing**: as communication throughout the chain is being done in the same language, the processing time shortens and reduces the number of errors

PSP incentives

- **Achieving governmental goals**: SIC4 is positioning the Swiss domestic payment system as innovative, flexible and efficient, to enable better integration with regional and global payment schemes

Payee Benefits

- **Improved liquidity management:** by centralisation and standardisation of payment processing

Policy toolkit

- **Setting standard / interoperability**
- Aligning to the global trend in the migration of payment systems onto the unified ISO 20022 payment standards, SIC is about to adopt the richer XML-based financial services messaging format

Process

- The new architecture will be based on ISO 20022 messages to enable interoperability with SEPA, T2S and CLS; must support legacy message formats; must support multi-currency capability
- The SIC standards will continue to be supported through a transition period
- FIN standards will be supported by SWIFT until their end of life

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

SOFORT Banking: overlay services in Germany

accenture

SOFORT Banking is an overlay payments solution that enables consumers to pay online using their bank account

Overview

Innovation Case Overview

SOFORT Banking is an online payment method which works on direct account authorisation, providing an immediate and direct transfer of funds. The service is mainly adopted in Germany but already available in ten EU countries and since its launch in 2005, approximately 45 million transactions have been processed. More than 25,000 merchants currently use SOFORT Banking

Policy reference: Payments Service Directive 2 (proposal)

Country Overview (Germany vs UK)

Cash penetration: 75% (UK: 60%)
Banked population: 98% (UK: 87%)
E-trxn per inhabitant: 222
(UK: 293) transactions per year
Internet penetration: 82% (UK: 73%) of population
Mobile penetration: 87% (UK: 87%) of population

Payments / cards country trends:
Germany is one of Europe's largest e-commerce economies with turnover around 50 EUR bn. Alternative payments (e.g. ELV, GiroPay, SOFORT Banking, PayPal) are the most commonly used payment methods for online shopping – credit card use is declining

Characteristics

Business Characteristics

Area: bank payments
Innovation area: end user innovation (not wholesale-enabled)
Product group: internet payments
Funding type: bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: payment institution – third party payment providers
Partnerships: none
Catalyst: customer change
Facilitator: e-commerce growth
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of payment processing

Lessons for PSR

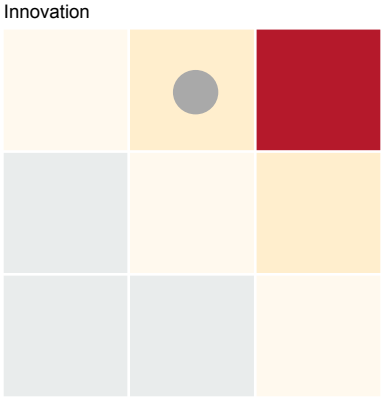
Summary

- **Policy toolkit: Setting new legal framework and advocacy**
- **Innovation driving factor:** competition
- **Value chain step impacted:** payments initiation

Categorisation

- **Impact rationale: highest,** SOFORT Banking is a successful scheme, with over 20,000 banks across Europe currently affiliated with SOFORT Banking, although customer adoption is still marginal, a legal framework for alternative payment methods will improve uptake

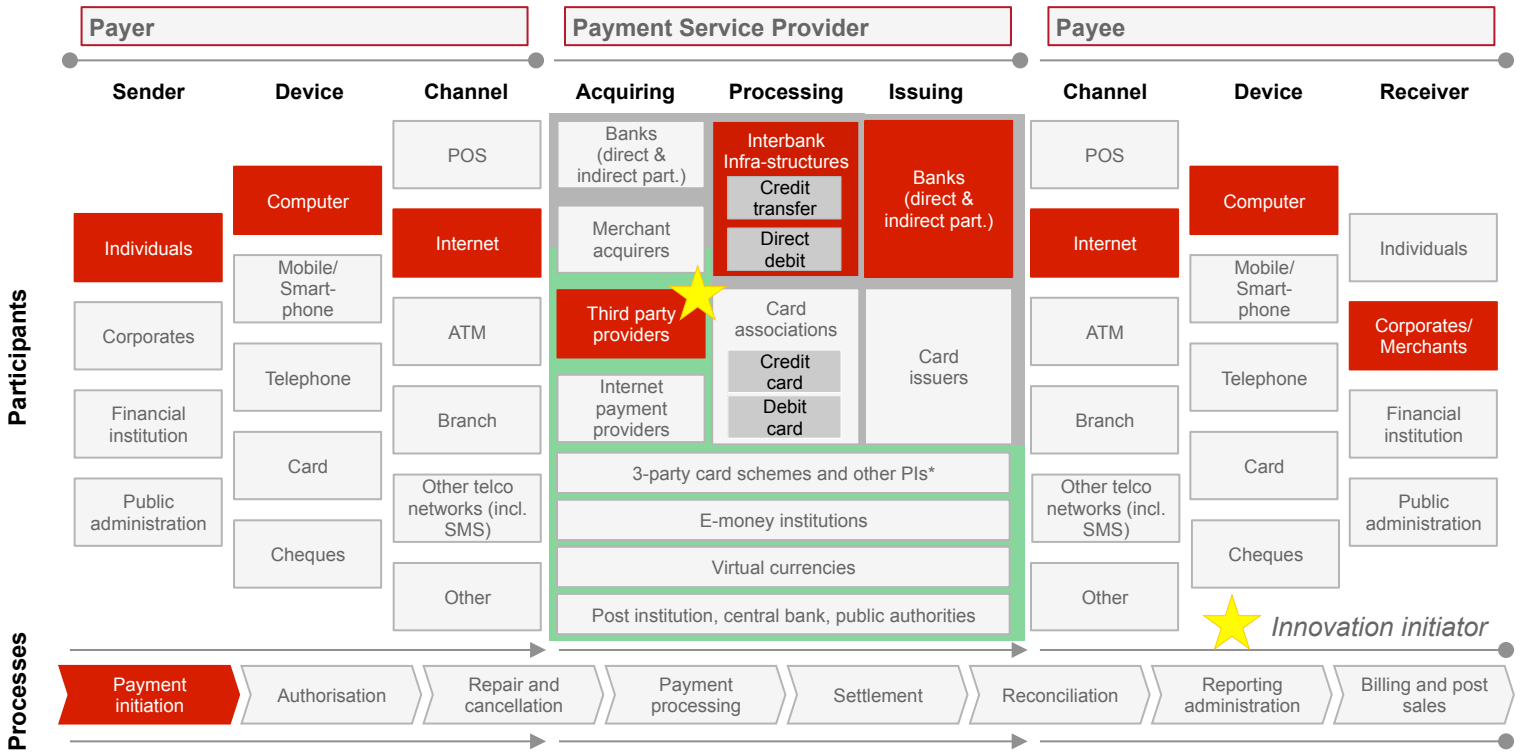
- **Relevance rationale: high,** a specific legal framework is required in the UK, which is expected through PSD2



Source: BIS, ECB, World Bank, Worldpay "Your Global Guide to Alternative Payments 2014", About-payments, European Commission, Eurostat, corporate website

SOFORT Banking: overlay services in Germany

SOFORT Banking: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: SOFORT Banking enables customers to send payments fast and directly to the payee using online banking login details; possession of a debit or credit card is not required

PSP incentives

- **Increased revenues through new services**: SOFORT Banking has been launched to take advantage of the growing e-commerce activity in Europe

Payee Benefits

- **Lower cost of payment processing:** fees for online credit transfers are significantly lower than merchant service charges for card not present transactions, due to the absence of liquidity risk

Policy toolkit

- **Setting new legal framework**
- Through PSD2 the European Commission is elaborating a legal framework for third party payment providers such as SOFORT Banking – specifically by addressing security requirements, building a liability regime, and addressing customer protection with the goal of open access to payment account services

Process

- Online customers select the SOFORT Banking option to pay online and are redirected to a secure SOFORT Banking website
- The customer enters their online banking credentials to initiate the payment
- SOFORT banking authenticates the customer's credentials and initiates the online banking payment using funds stored in their current account

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Swish: Swedish current account payment for mobile/online

With Swish users sign on to online banking at participating banks in Sweden and link their bank account number to their mobile phone number. Customers can send money directly from one bank account to another

Overview

Innovation Case Overview

Swish is a mobile payment platform launched in December 2012 in Sweden, by banks to compete with mobile operators. It enables instant payments from one bank account to another via mobile phones between affiliated banks. The largest Swedish banks are taking part in the initiative (Danske Bank, Handels-banken, Länsförsäkringar Bank, Nordea, SEB, Skandia Bank, Swedbank and the Savings Banks)

Policy reference: PSD, Finansinspektionen, Payment Service Act

Country Overview (Sweden vs UK)

Cash penetration: 27% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitant: 351
(UK: 273) transactions per year
Internet penetration: 94% (UK: 73%) of population
Mobile penetration: 88% (UK: 87%) of population

Payments / cards country trends: the Swedish payments area is extremely mature: only 27% of purchases nationally, not including e-commerce, are made with cash. Many institutions in the country simply don't accept cash anymore (bus systems) and bills and coins are just 3% of the total economy of Sweden

Characteristics

Business Characteristics

Area: bank payments
Innovation area: wholesale-enabled end user innovation
Product group: mobile payments
Funding type: bank account
Main usage: C2C

Technology Characteristics

Access channel: internet
Access device: mobile/smartphone
Access technique: remote

Initiating factors:

Lead actors: credit institution (incl. payments systems)
Partnerships: banks with banks
Catalyst: technology introduced
Facilitator: infrastructure available
Incentives: lower cost of cash handling

Impact factors:

Customer benefit: new payments option, Ease of use
Merchant benefit: faster payment processing

Lessons for PSR

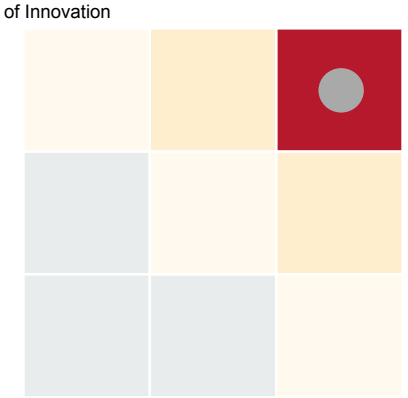
Summary

- **Policy toolkit: Setting vision**
- **Driving factor:** cooperation - banks only
- **Value chain step impacted:** Payment acquisition, Payment processing, Settlement transmission

Categorisation

- **Relevance rationale: highest,** successful scheme, with largest Swedish banks participating in Swish. There are no out-of-network recipients, so signing up for the service is not required. Payments are immediately received

- **Impact rationale: highest,** as Swish uses a real-time payments scheme to offer an innovative service. Pingit, Paym and Zapp enable P2P payments in the same way through Faster Payments

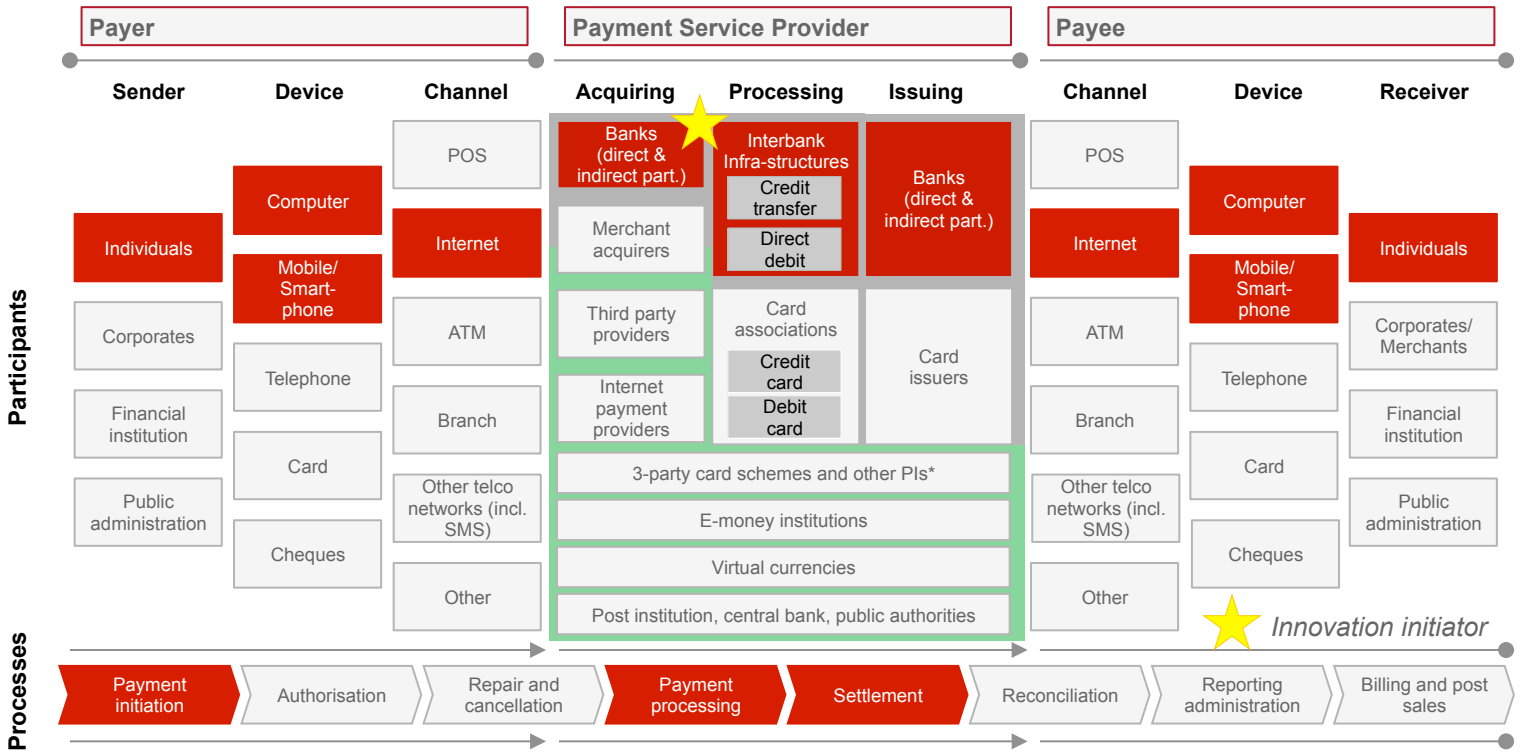


Source: BIS, ECB, World Bank, Celent "Celent Model Bank 2014- Part A" April 2014, corporate website

Swish: Swedish current account payment for mobile/online

accenture

Swish: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: alternative to credit transfer and cash
- **Ease of use**: to initiate a payment only the mobile telephone number of the recipient is required

PSP incentives

- **Lower cost of cash handling:** for banks as consumer to consumer transaction cash are displaced
- **Improved reputation:** of banks as payment innovators

Payee Benefits

- **Faster payment processing**: payee can receive funds in his current account in real time regardless of bank
- **Ease of use**: to receive payments it is enough to download the app

Policy toolkit

- **Setting vision**
- Swedish central bank is driving Sweden toward a cashless society by 2020
- In order to achieve this objective it worked with Bankgirot, the Swedish ACH, to set up the Payments In Real Time scheme, which requires participant banks to back real-time transactions (Swish occurs in real-time and is made possible by the new scheme)

Process

- To sign up to Swish service, users sign on to online banking at the participating bank and link their bank account number to their mobile phone number
- To make a payment, just the mobile telephone number of the recipient is required
- Swish also removes the need to remember long account numbers and passwords

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Target2: EU interbank scheme that will adopt XML-based financial services messaging format / ISO 20022

TARGET2 will replace all the payments-related SWIFT MT message types that it uses with their equivalent MX counterpart

Overview

Innovation Case Overview

As result of an extensive user consultation which began in 2010, the Eurosystem detailed its strategy for the migration of TARGET2 to the ISO 20022 payment standard. All SWIFT FIN MT standards currently used in TARGET2 will be replaced by ISO 20022 equivalent. All message types will be replaced at the same time at the occasion of the SWIFT standard release in November 2017.

Policy reference: International Standard ISO 20022

Country Overview (Europe vs UK)

Cash penetration: 65% (UK: 60%)
Banked population: 91% (UK: 87%)
E-trxn per inhabitants: 326
(UK: 293) transactions per year
Internet penetration: 77% (UK: 73%) of population
Mobile penetration: 85% (UK: 87%) of population

Payments / cards country trends:
European countries differ considerably in the maturity of their payment areas, those with the best balance of ACH and card transactions tend to have more non-cash transaction. But, growth is common in both mature and less developed countries

Characteristics

Business Characteristics

Area: bank payments
Innovation area: wholesale cards/ payment innovation
Product group: Infrastructure & security
Funding type: not applicable
Main usage: bank to bank

Technology Characteristics

Access channel: Internet
Access device: Computer
Access technique: Remote

Initiating factors:

Lead actors: central bank, credit institution - payment systems
Partnerships: banks with banks
Catalyst: Technology introduced
Facilitator: Infrastructure available
Incentives: Lower cost of payment processing

Impact factors:

Customer benefit: Faster payment processing
Merchant benefit: Improved services

Lessons for PSR

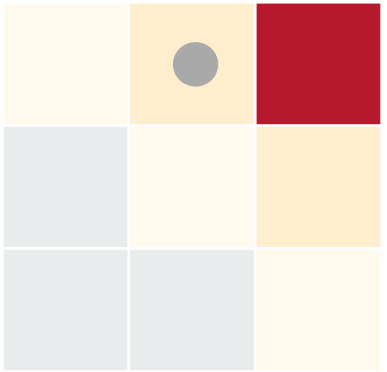
Summary

- **Policy toolkit: Setting standard/interoperability**
- **Driving factor:** Cooperation- banks only
- **Value chain step impacted:** Payment Processing, Settlement Transmission

Categorisation

- **Impact rationale: highest,** cost savings are expected through operational optimisation. The system is expected to provide a platform for further payments innovations. TARGET2 is the first SWIFT-based HVPS to migrate to ISO 20022 and will serve as a benchmark for the industry.

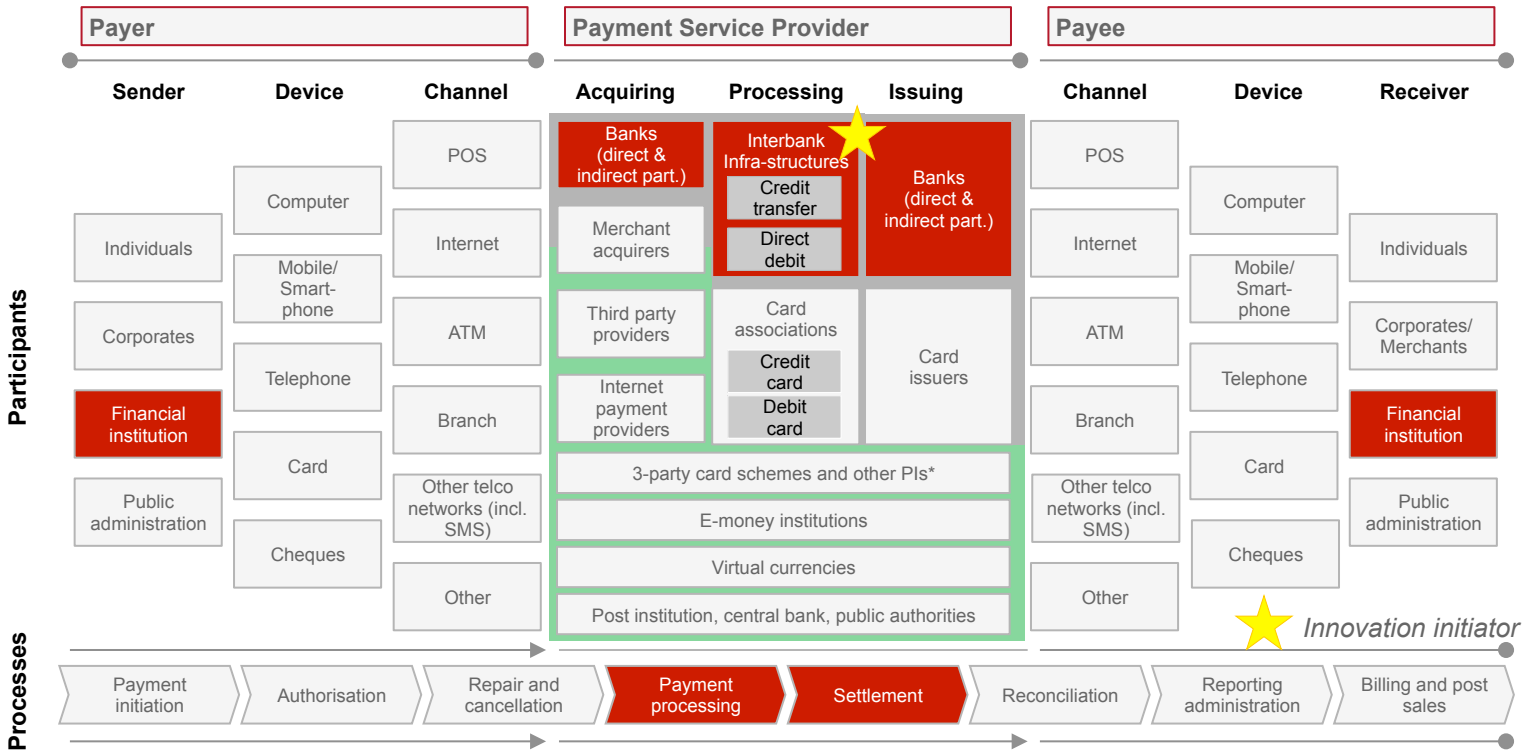
- **Relevance rationale: high,** since UK payments systems (including Faster Payments) are not currently aligned to ISO 20022 standards



Source: BIS, ECB, World Bank

Target2: EU interbank scheme that will adopt XML-based financial services messaging format / ISO 20022

Target2: innovation impact along the payments value chain



Payer Benefits

- **Faster payment processing**: as communication throughout the chain is being done in the same messaging language, the processing time shortens and reduces the number of errors

PSP incentives

- **Lower cost of payment processing**: improved straight through processing, reduction of number of payment formats, reduced maintenance costs of old formats, more information can be transmitted and stored, interoperability among different payment systems

Payee Benefits

- **Improved services:** a wider usage of ISO in TARGET2 would create synergies for all stakeholders and contribute to higher efficiency

Policy toolkit

- **Setting standard / interoperability**
- Target2 migration to ISO 20022 will represent an essential milestone in the advancement for TARGET2, secure the system's long-term sustainability, and be a major catalyst contributing to further harmonisation within the European payment through acceptance of the ISO 20022 standard

Process

- All older SWIFT FIN MT standards currently used in TARGET2 for payment purposes will be replaced by their MX equivalent
- All payment message types will be replaced simultaneously with the release planned for November 2017
- "Old" MT and "new" MX standards will not coexist and TARGET2 will not offer any conversion feature

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Trustly pan-European online banking e-payments

Trustly makes online payments convenient, simple and safe for both the merchant, the consumer and the bank.

Overview

Innovation Case Overview

Stockholm-based Trustly provides its online and mobile payment service through bank account in six European countries: Denmark, Estonia, Finland, Poland, Spain, and Sweden. The company plans to add Italy and Norway in the near future, and will be rolling out to France, Germany, the Netherlands, Portugal and the United Kingdom within 2015.

Policy reference: Payment Services Directive (PSD, 2007/64/EG)

Country Overview (Sweden vs UK)

Cash penetration: 27% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitant: 351
(UK: 273) transactions per year
Internet penetration: 94% (UK: 73%) of population
Mobile penetration: 88% (UK: 87%) of population

Payments / cards country trends:
Swedish payments area is extremely mature: only 27% of purchases nationally, not including e-commerce, are made with cash. Many institutions in the country simply don't accept cash anymore (bus systems) and bills and coins are just 3% of the total economy of Sweden

Characteristics

Business Characteristics

Area: Bank payments
Innovation area: End user innovation (not wholesale-enabled)
Product group: internet payments
Funding type: Bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: Computer/mobile/ smartphone
Access technique: Remote

Initiating factors:

Lead actors: payment institution - third party providers
Partnerships: None
Catalyst: Customer change
Facilitator: e-commerce growth
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option
Merchant benefit: higher sales from higher conversion

Lessons for PSR

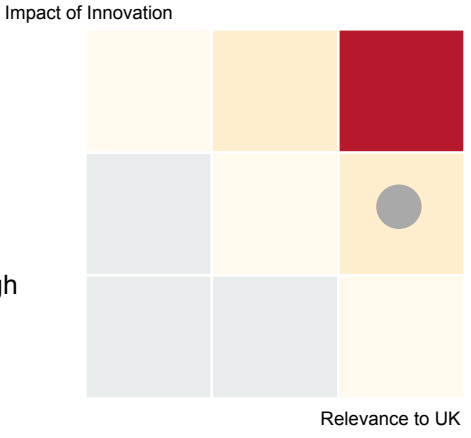
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** Competition
- **Value chain step impacted:** payments initiation

Categorisation

- **Impact rationale: high,** Trustly is a successful scheme, with over 43 banks across 7 countries in Europe although customer adoption is still marginal but growing: it processed 8 million payments in 2013 , up from 4 million at the end of 2012

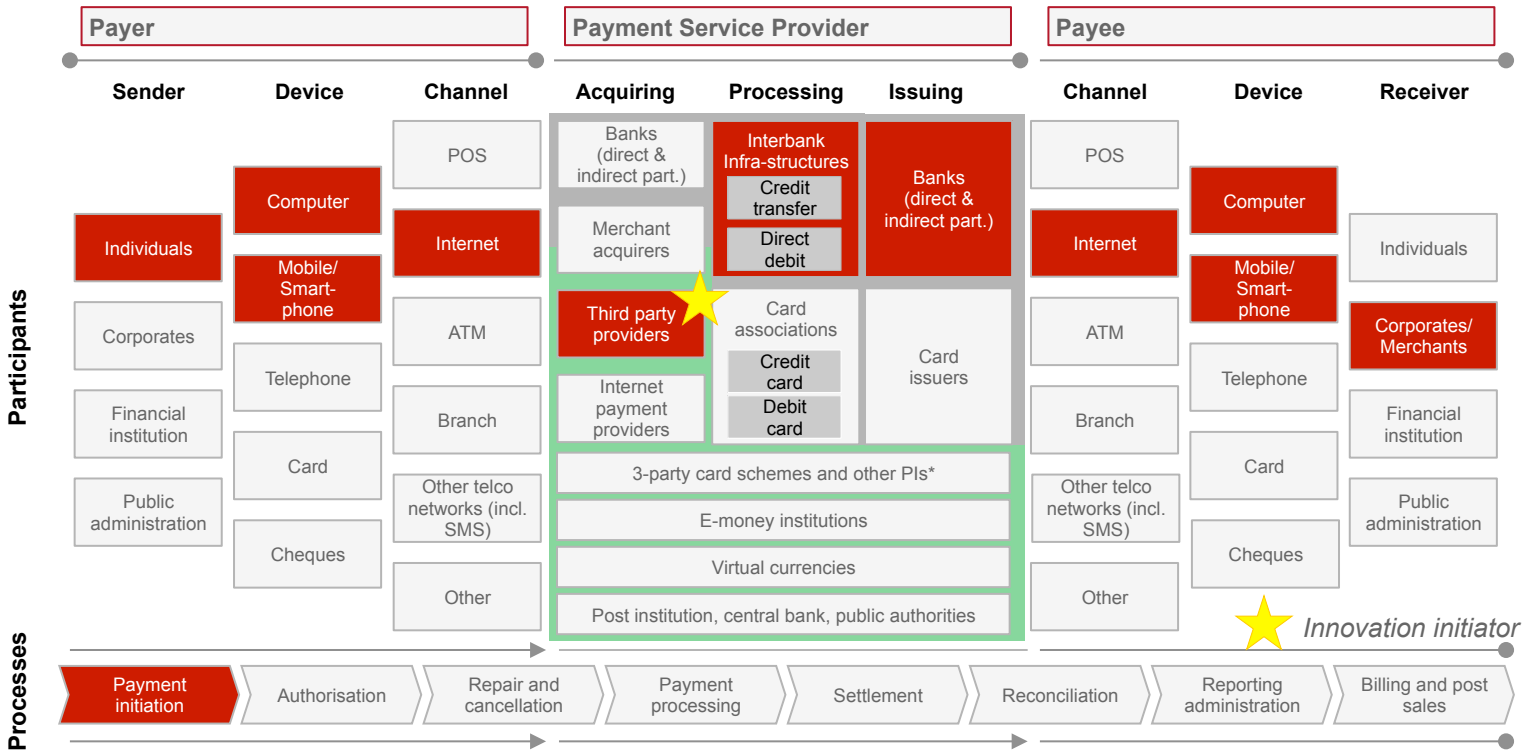
- **Relevance rationale: highest,** a specific legal framework is required in the UK, which is expected through PSD2



Source: BIS, ECB, World Bank, national central bank, corporate website, European Payments Institution Federation

Trustly pan-European online banking e-payments

Trustly: innovation impact along the payments value chain



Payer Benefits

- **New payment option**: Trustly enables customers to send payments fast and directly to the payee using online banking login details; possession of a debit or credit card is not required

PSP incentives

- **Increased revenues through new services**: Trustly has been launched to take advantage of the growing e-commerce activity in Europe

Payee Benefits

- **Higher sales from higher conversion** reaching foreign customers without credit card
- **Lower cost of payment processing:** fees for online credit transfers are significantly lower than cards

Policy toolkit

- **Setting new legal framework**
- Trustly is a licenced Payment Institution authorised and under the supervision of the Swedish Financial Supervisory Authority.
- It is also an European Payment Services Provider (PSP) licence in accordance with the Payment Services Directive

Process

- The consumer pays using Trustly by providing the regular online bank credentials
- Funds are transferred from the consumer's account to Trustly's recipient account for merchant funds in the same bank
- Trustly immediately notifies both the consumer and the merchant of the completed payment
- The merchant can immediately ship the goods.
- The merchant settles the payment

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Weve: telco JV to support mobile marketing and m-wallets

Weve is a JV between the three largest UK mobile network operators for digital services and contactless payments through partnership with MasterCard

Overview

Innovation Case Overview

Weve is a joint venture between the UK's three largest mobile network operators (EE, Telefonica UK/O2 and Vodafone UK) who represent over 80% of UK mobile customers. The JV was formed by the three shareholders to create and accelerate the development of mobile marketing and wallet services in the UK; a partnership with MasterCard opens the opportunity for contactless payments

Policy reference: Payment Services Directive

Country Overview (UK)

Cash penetration: 60%
Banked population: 87%
E-trxn per inhabitants: 293 transactions per year
Internet penetration: 73% of population
Mobile penetration: 87% of population

Payments / cards country trends:
Highest level of European e-commerce activity. Customers mainly use cards services. E-wallets are the next most popular payment method, with PayPal handling the majority of such transactions. Growing popularity of mobile payments with active participation of local banks

Characteristics

Business Characteristics

Area: cards
Innovation area: end user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: Debit
Main usage: C2B

Technology Characteristics

Access channel: POS
Access device: Mobile/smartphone
Access technique: Contactless

Initiating factors:

Lead actors: Telco
Partnerships: Other
Catalyst: customer change
Facilitator: Mobiles
Incentives: increased revenues through new services

Impact factors:

Customer benefit: New payment option
Merchant benefit: Improved sales

Lessons for PSR

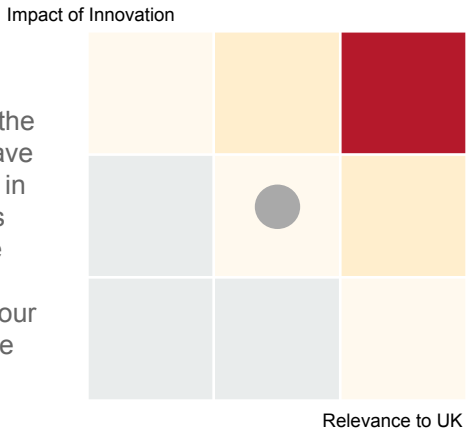
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** cooperation - non banks only
- **Value chain step impacted:** Payments acquisition, Card Authorization

Categorisation

- **Impact rationale: high,** although Weve did not release all its products during in its first year of activity, it earned £13m in revenue in 2013 only from its mobile messaging product, giving it high potential

- **Relevance rationale: high,** Weve aims to bypass some of the obstacles that have slowed progress in mobile payments by using a single platform across three of the the four largest UK mobile networks

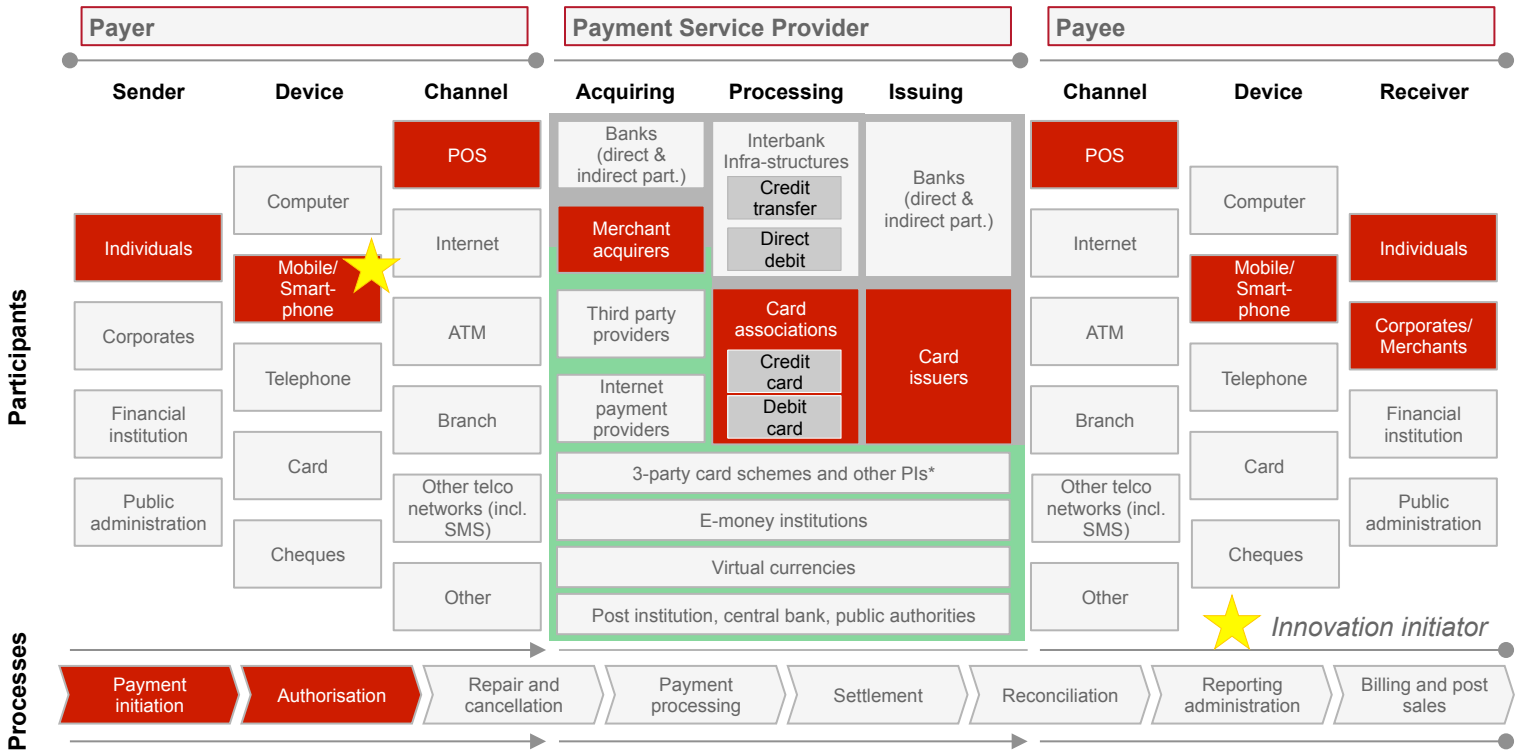


Source: BIS, ECB, World Bank, corporate website, European Commission

Weve: telcos JV to support mobile marketing and m-wallets

accenture

Weve: innovation impact along the payments value chain



Payer Benefits

- **New payment option**: Weve enables consumers to use their mobile phones for daily transactions, such as claiming an advertised offer, collecting loyalty points or paying bills

PSP incentives

- **Increased revenues through new services**: the JV's services will be open to all operators and MVNOs, third parties, banks, retailers and any participant seeking to engage in mobile commerce

Payee Benefits

- **Improved sales:** Merchants have an incentive to accept the digital currency as fees are lower than typically imposed by credit card processors

Policy toolkit

- **Monitoring**
- Weve (previously named Project Oscar) was identified by European Commission as a potential concern in the nascent mobile payments segment
- The Commission concluded in 2012 that the joint venture is not likely to impede competition in Europe

Process

- Weve provides consumers with a simple and secure shopping experience, allowing them to purchase goods and services using their handsets in-store (using contactless technology) and online
- With contactless payments already an established payment mechanism in the UK, the impact on the value chain will be limited to payment acquisition and customer authentication

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Sections

- Europe
- **North America**
- Asia Pacific
- Rest of the World

Bitcoins in US: use of cryptocurrency to pay

Bitcoin is a virtual currency which runs on a decentralised payment system allowing peers to send payments to peers or merchants without the use of a financial institution as an intermediary

Overview

Innovation Case Overview

Bitcoin is the world's first and the most popular virtual currency and was launched in 2009. Bitcoin is a decentralised payment system that allows peers to send payments to peers or merchants without using a financial institution as an intermediary. The Bitcoin "mining" process presently creates 25 Bitcoins every 10 minutes, so that 21million limit will not be reached until the year 2140

Policy reference: IRS regulations 2014

Country Overview (US vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitant: 376
(UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the bulk of those payments. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Characteristics

Business Characteristics

Area: bank payments
Innovation area: Wholesale cards/ payment innovation
Product group: internet/mobile payments
Funding type: bank account
Main usage: C2B, C2C

Technology Characteristics

Access channel: internet, POS, ATM
Access device: computer, mobile/ smartphone
Access technique: remote, contactless

Initiating factors:

Lead actors: consumers
Partnerships: none
Catalyst: customer change
Facilitator: legislation changed
Incentives: lower cost of payment processing

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of cash handling and payment processing

Lessons for PSR

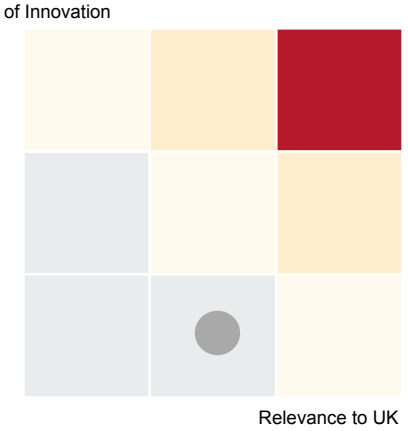
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** competition
- **Value chain step impacted:** payments initiation, payment authorisation, payment processing, settlement

Categorisation

- **Impact rationale: medium,** commercial use of bitcoin is currently small compared to its use by speculators, which has fuelled price volatility

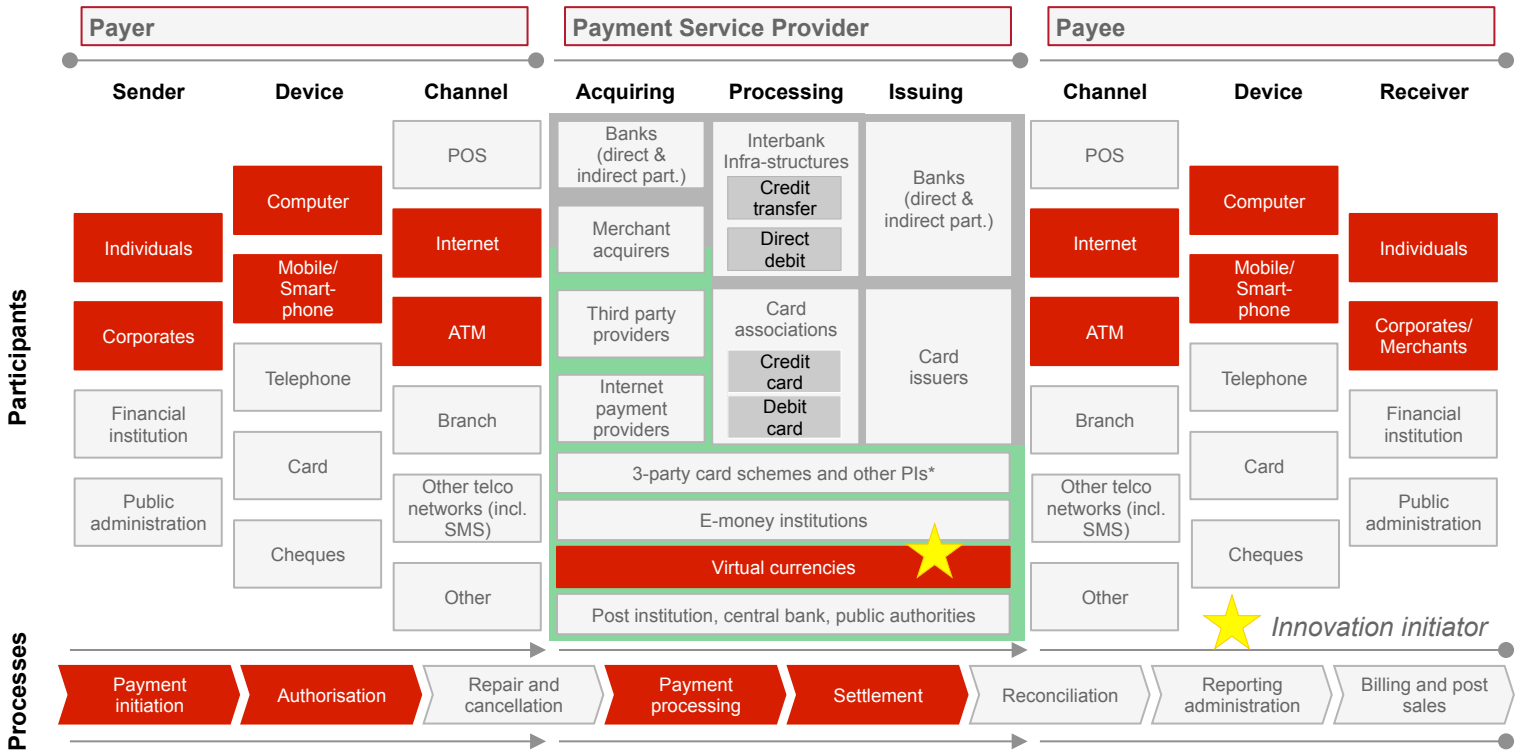
- **Relevance rationale: high,** the UK's position on digital currencies is not yet clear, but this has not stopped multiple bitcoin operators from incorporating in the UK



Source: BIS, ECB, World Bank, Bitcoin.org, WorldPay "Your Global Guide to Alternative Payments 2014"

Bitcoin in US: use of cryptocurrency to pay

Bitcoin: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: currently used for both P2P and P2B payments and present an alternative payment instrument for consumers

PSP incentives

- **Lower cost of payments processing:** settlement of virtual currencies is free and therefore the total cost of processing is likely to be lower than alternative payment types
- **Improved reputation:** as payment innovator

Payee Benefits

- **Lower cost of cash handling and payment processing**: merchants have an incentive to accept the digital currency because fees are lower than typically imposed by credit card processors

Policy toolkit

- **Monitoring**
- IRS regulations issued in March 2014 preclude bitcoins from being used as an alternative currency. Bitcoin is treated with the same rules used to govern stocks and barter transactions.
- To comply with these tax regulations, buyers and sellers must log all bitcoin transactions and report them at tax time

Process

- To initiate a Bitcoin trxn, users require a bitcoin address and a private key
- The Bitcoin network processes trxns – bitcoins are sent from a wallet to the wider bitcoin network and from there miners verify the transaction, put it into a transaction block available to all
- Bitcoins can be traded on exchanges and payments can be initiated across the internet from one user to another using appropriate software

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Boku: Carrier billing

Boku is a carrier-billing service that provides a mobile payments platform, enabling consumers to pay merchants by charging to their mobile phone bill

Overview

Innovation Case Overview

Launched in 2009, Boku provides a mobile payments platform enabling consumers to pay using their mobile phone. Boku carrier-billing enables consumers to make a purchase online by only using their mobile phone number with the charge appearing on the mobile bill. No bank accounts or registration are required, providing a frictionless checkout experience

Policy reference: not applicable

Country Overview (USA vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitants: 376 (UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the majority. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Characteristics

Business Characteristics

Area: bank payments
Innovation area: end user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: postpaid
Main usage: C2B, C2C

Technology Characteristics

Access channel: internet
Access device: computer, mobile/ smartphones
Access technique: remote

Initiating factors:

Lead actors: payment institution – mobile payment operator
Partnerships: none
Catalyst: customer change
Facilitator: e-commerce growth
Incentives: Increased revenues through new services

Impact factors:

Customer benefit: new payment option, Ease of use
Merchant benefit: : improved services

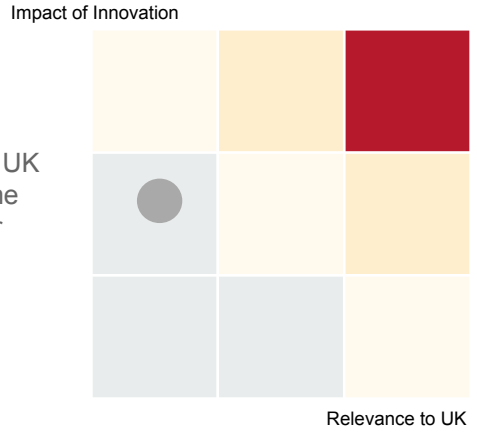
Lessons for PSR

Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** competition
- **Value chain step impacted:** Payment initiation, Payment Authorisation, Payment Processing, Settlement,

Categorisation

- **Impact rationale: high,** Boku, which started in the US in 2009, has become a global mobile payments network servicing 68 countries through more than 250 carrier partners. The service is flexible working both through online/mobile channels and at POS (through NFC stickers)

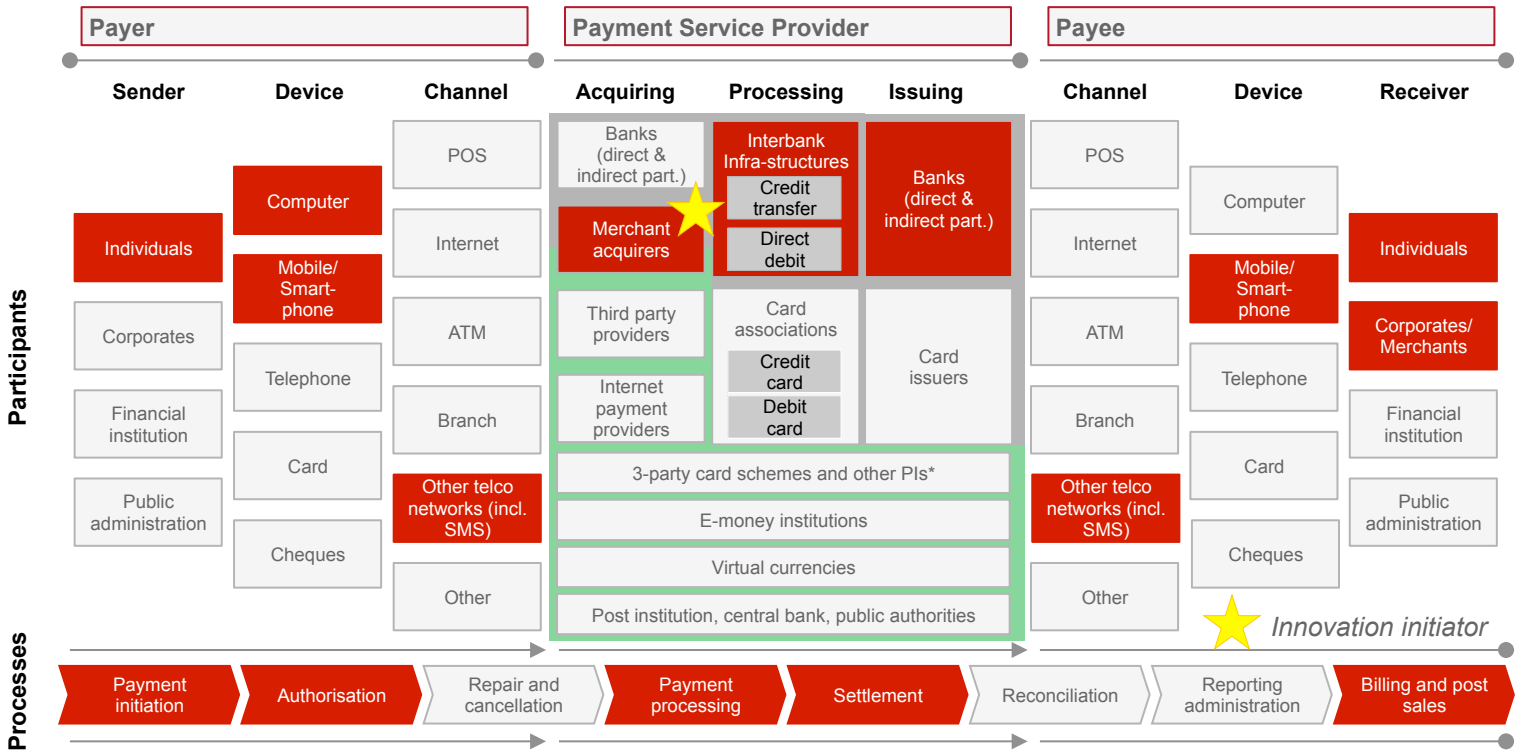


- **Relevance rationale: medium,** Boku operates in the UK and shows some the potential for carrier billing to provide an alternative payment instrument

Source: BIS, ECB, World Bank, corporate website, WorldPay "Your Global Guide to Alternative Payments 2014"

Boku: Carrier billing

Boku: innovation impact along the payments value chain



Payer Benefits

- **New payment option:** new postpaid billing service allowing for payment of service after consumption
- **Ease of use**: no bank accounts or registration are required, providing a frictionless checkout experience

PSP incentives

- **Increased revenues through new services**: Boku earns revenue on a per-transaction basis

Payee Benefits

- **Higher sales:** higher sales from higher conversion
- **Improved services**: ability to connect with mobile subscribers anywhere and create easy to manage loyalty programs and leverage analytics

Policy toolkit

- **Setting new legal framework**
- Boku has obtained regulatory approval for the extension of the Boku Payments Platform in the European Union in the form of an e-Money licence
- EU approval indicates that Boku's mobile payments platform meets the stringent security and regulatory requirements of the FCA

Process

- Payments are initiated by customers on any mobile or internet connection device
- The acquiring bank offers the customer the option to pay by mobile, and authorisation must occur through the customer's mobile phone
- Customers are billed through their mobile phone carrier

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Canada NFC Consortium

In 2012, the Canadian Bankers Association issued guidelines for NFC payments in response to a report by a Federal Government Task Force which called for collaboration between banks and MNOs in mobile payments

Overview

Innovation Case Overview

The Canadian Bankers Association issued guidelines for NFC payments in 2012 that focus on open mobile wallets and consumer data protection in response to federal government taskforce request for industry collaboration. Three Canadian banks (RBC, CIBC, TD Canada Trust) have launched NFC debit/credit service since publication of guidelines

Policy reference: Federal Government Task Force for Payments System Review

Country Overview (Canada vs UK)

Cash penetration: 66% (UK: 60%)
Banked population: 96% (UK: 87%)
E-trxn per inhabitant: 286
(UK: 293) transactions per year
Internet penetration: 89% (UK: 73%) of population
Mobile penetration: 71% (UK: 87%) of population

Payments / cards country trends:
Cards are the preferred payment method in Canada, accounting for 65% of online transactions. However, e-wallets have a significant portion of online activity (23.2%), which is in turn dominated by PayPal (22%). Bank transfers make up 3.3% of online transactions, whilst 8.5% is accounted for by other payment instruments (e.g. cash on delivery)

Characteristics

Business Characteristics

Area: cards
Innovation area: End user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: combined, debit and credit
Main usage: C2B

Technology Characteristics

Access channel: POS
Access device: mobile/smartphones
Access technique: remote

Initiating factors:

Lead actors: credit institution (incl. payments systems).
Partnerships: banks requires MNO
Catalyst: service possible
Facilitator: mobiles
Incentives: lower cost of cash handling

Impact factors:

Customer benefit: ease of use, faster processing
Merchant benefit: lower cost of payment processing

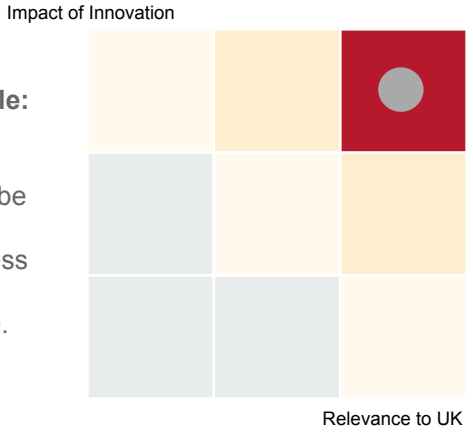
Lessons for PSR

Summary

- **Policy toolkit: Setting vision**
- **Driving factor:** cooperation - banks only
- **Value chain step impacted:** payment initiation, authorisation, payment processing, settlement, billing and customer service

Categorisation

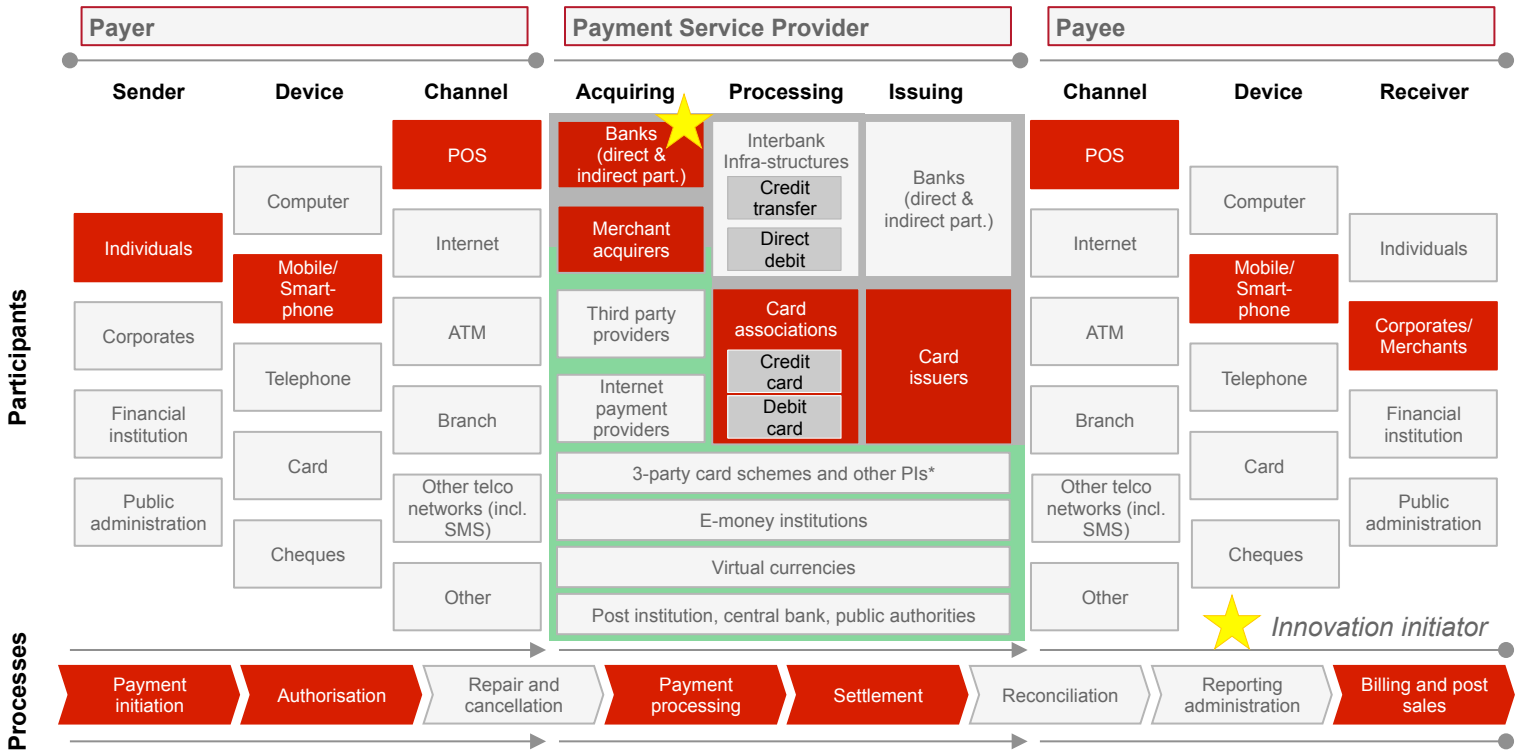
- **Relevance rationale: highest,** the technology has significant support from major Canadian merchants, as well as from consumers in Canada
- **Impact rationale: highest,** NFC technology has the potential to be deployed in the UK as contactless infrastructure is already in place.



Source: BIS, ECB, World Bank, Canadian Bankers Association

Canada NFC Consortium

Canada NFC Consortium: innovation impact across the payments value chain



Payer Benefits

- **Ease of use**: customers can pay without sharing merchants their card credentials
- **Faster payments processing**: NFC contactless technology is faster than CHIP & PIN card payments

PSP incentives

- **Lower cost of cash handling**: migrating low value transaction from cash to non cash banks can reduce the cost of cash
- **Improved reputation** of banks as payments innovators

Payee Benefits

- **Lower cost of cash handling**: NFC adoption by merchants is a step to migrating away from high cost cash, as transactions are low value
- **Improve service**: introduce a quicker option reduces queues for check out

Policy toolkit

- **Setting vision**
- Report of the Canadian Federal Government's Task Force for Payments System Review called for collaboration between banks and mobile carriers; Canadian banks issued a response to the Task Force
- The Department of Finance expanded the Code of Conduct for cards to include mobile payments

Process

- Within payment initiation, standards are focused on mobile NFC technology-initiated transactions, including contactless reader/POS requirements
- Within authorisation the report issues guidelines for the issuing bank to authorise an NFC payment, and within billing and customer service standards for the issuance of electronic receipts

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

CHIPS: US net settlement network for large value payments

CHIPS is a privately operated real-time system for transmitting and settling U.S.-dollar payments among its participating banks

Overview

Innovation Case Overview

CHIPS is a privately operated, real-time, multilateral, payments system typically used for large dollar payments.
CHIPS is owned by financial institutions, and any banking organization with a regulated U.S. presence may become an owner and participate in the network. It combines best of two types of payments systems: the liquidity efficiency of a netting system and the intraday finality of a RTGS.

Policy reference: Dodd-Frank Wall Street Reform, Consumer Protection Act

Country Overview (USA vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitants: 376 (293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends:
Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the majority. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Characteristics

Business Characteristics

Area: bank payments
Innovation area: Wholesale cards / payment innovation
Product group: Infrastructure & security
Funding type: not applicable
Main usage: bank to bank

Technology Characteristics

Access channel: Internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: credit institution – payment system
Partnerships: Banks with banks
Catalyst: Service possible
Facilitator: Infrastructure available
Incentives: lower cost of payment processing

Impact factors:

Customer benefit: faster payment processing
Merchant benefit: improved liquidity management

Lessons for PSR

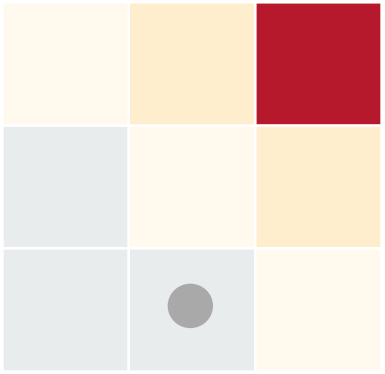
Summary

- **Policy toolkit: Setting standards/interoperability**
- **Driving factor:** Cooperation – banks only
- **Value chain step impacted:** Payment Processing, Settlement Transmission, Reconciliation

Categorisation

- **Impact rationale: medium,** small number of participants , only the largest banks dealing in U.S. dollars participate in CHIPS. However, many small banks have accounts at CHIPS-participating banks to send and receive payments.

- **Relevance rationale: high,** similar to UK net settlement network – Clearing House Automated Payment System (CHAPS)

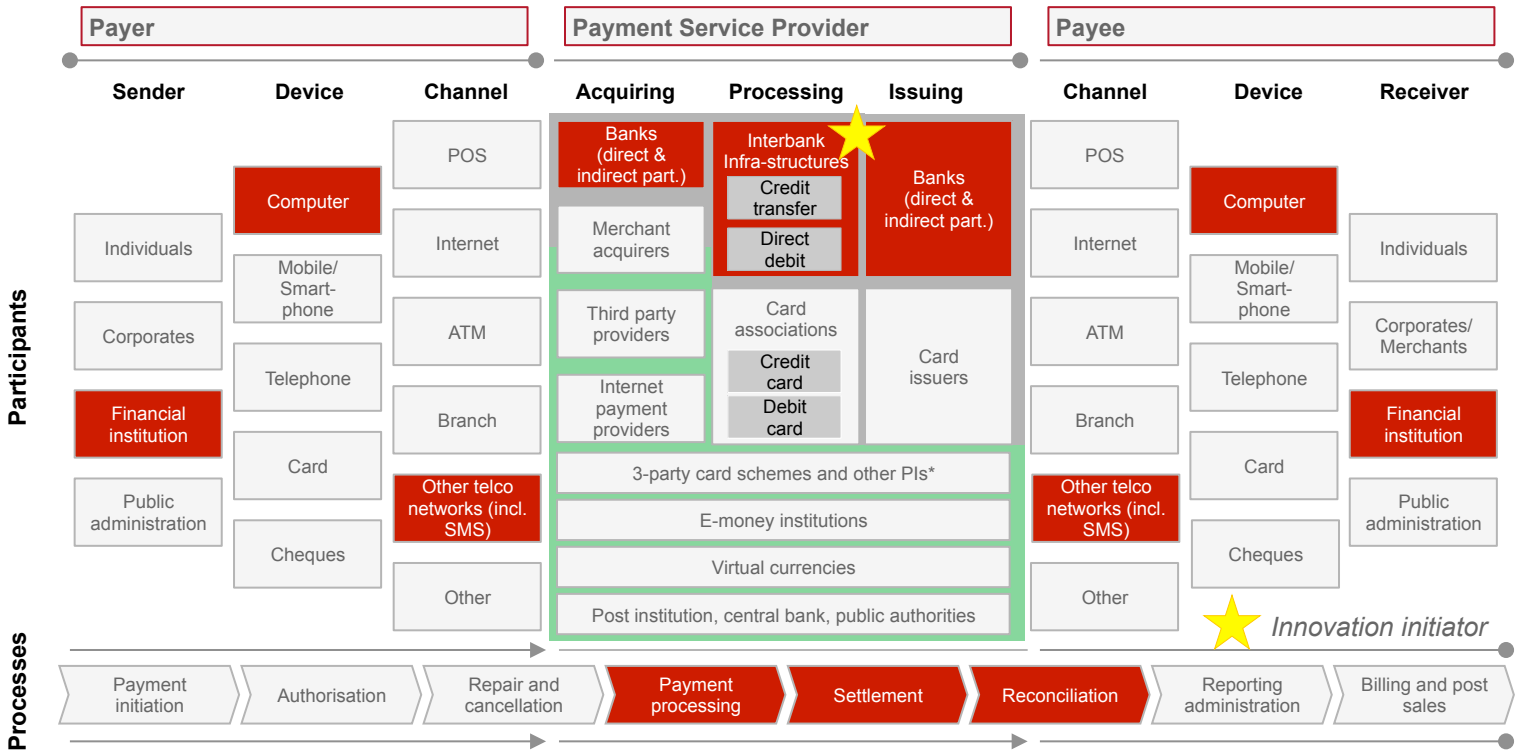


Source: BIS, ECB, World Bank, corporate website

CHIPS: US net settlement network for large value payments

accenture

CHIPS: innovation impact along the payments value chain



Payer Benefits

- **Faster payment processing**: transactions are settled in real-time, 20 hour processing day, fast payments regardless time zone

PSP incentives

- **Lower cost of payment processing:** CHIPS is less expensive (both by charges and by funds required)

Payee Benefits

- **Improved liquidity management:** multilateral offsetting capability helps banks clear more, larger payments using fewer dollars. In fact, just 85$bn of prefunding can clear 1,5$ trn in payments each day

Policy toolkit

- **Setting standards/ Interoperability**
- CHIPS is owned by FIs, and any banking organization with a regulated U.S. presence may become owner and participate in the network
- It is operated by The Clearing House Payment Co and is subject to supervision and examination by the Federal Reserve and other federal bank supervisory agencies

Process

- At 9 pm CHIPS account opens at FED, banks prefund the day's payments
- When prefunded is complete banks send and receive payments throughout CHIPS 20h processing day
- Using algorithm, CHIPS matches and offsets payments and releases in real time
- After 5pm no more payments are accepted
- CHIPS notified banks of the required funding to clear all remaining payments and than releases remaining payments

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Google Wallet: NFC and card-based mobile wallet

Google Wallet allows its users to store on their mobile debit and credit card and perform payments via NFC technology

Overview

Innovation Case Overview

Launched in May 2011 in the US, Google Wallet is a free mobile app that allows its users to store debit, credit and loyalty cards on mobiles and perform payments via NFC technology. Initially the app only worked with MasterCard Pay Pass but since August 2012 it has expanded support to Visa, MasterCard, Discover

Policy reference: not applicable

Country Overview (USA vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitants: 376 (293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the majority. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Source: BIS, ECB, World Bank, corporate website

Characteristics

Business Characteristics

Area: cards
Innovation area: End user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: Combined
Main usage: C2B, C2C

Technology Characteristics

Access channel: POS, Internet
Access device: Mobile/smartphone
Access technique: Contactless

Initiating factors:

Lead actors: payment institution – Internet payment services
Partnerships: Other
Catalyst: Technology introduced
Facilitator: Mobiles
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option, Ease of use
Merchant benefit: new payment option, lower cost of payment processing

Lessons for PSR

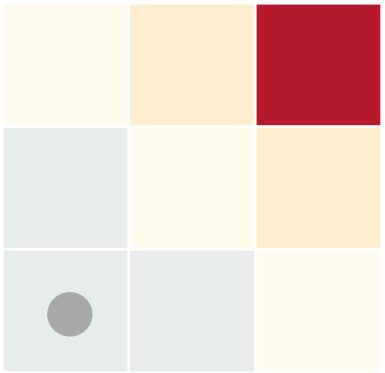
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** Competition
- **Value chain step impacted:** payment acquisition and authentication

Categorisation

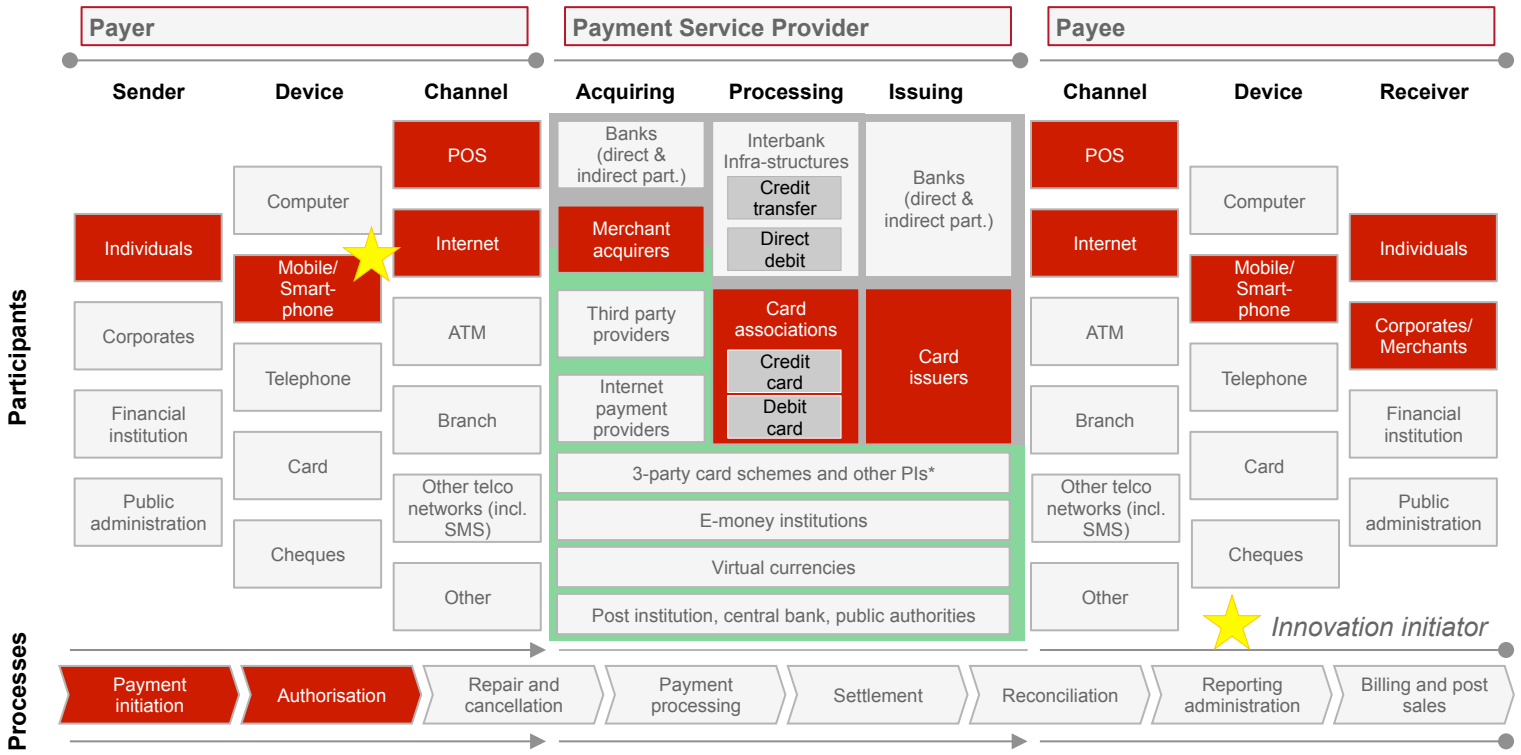
- **Impact rationale: medium,** so far Google Wallet has had disappointing results due to limited support from MNOs (who are committed with Softcard), limited support from large merchants and concerns about Google's utilisation of in-store data. However, Google has demonstrated a willingness to revise its product to generate greater demand.

- **Relevance rationale: medium,** although NFC-enabled payments in-store have not achieved scale in the UK, contactless transactions are growing at 200% year-on-year



Google Wallet: NFC and card-based mobile wallet

Google Wallet: innovation impact along the payments value chain



Payer Benefits

- **New payment option:** C2C transfers to anyone in the US with an email address and in-store payments via NFC technology at select merchants
- **Ease of use**: Wallet app integrates various loyalty programmes and merchant offerings in one place

PSP incentives

- **Increased revenue through new services**: Google earns revenue by selling ads for the app and aims to collect in-store customer transaction data to provide advanced analytics services to merchants

Payee Benefits

- **New payment option**: Google Wallet provides an alternative way to collect payments and make C2C transfers
- **Lower cost of payment processing**: Google does not currently charge merchants for payments made via Google Wallet

Policy toolkit

- **Monitoring:** No specific policy intervention required
- However, there are a number of privacy concerns on the storing of payment information, transaction details, payment attempts and other sensitive data captured by Google

Process

- Google Wallet was designed as an open platform. Payment networks, carriers, and banks have been invited to join and participate in the system
- Payments are initiated using mobile NFC technology embedded in a smartphone via a contactless reader/ POS terminal

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Softcard: Consortium for mobile and NFC payments

Softcard is a mobile wallet joint venture between AT&T, T-Mobile, and Verizon, and is based on NFC technology that allows users to pay by tapping their mobile device to a payment terminal

Overview

Innovation Case Overview

Softcard is a joint venture between AT&T, T-Mobile and Verizon aimed at launching NFC m-payments in the US. The consortium was announced in 2010 and Softcard is now managing a nationwide TSM infrastructure and the setup of a complete NFC ecosystem including issuers, PSPs, acquirers and merchants

Policy reference: not applicable

Country Overview (USA vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitants: 376 (UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends:
US customers overwhelmingly pay for e-commerce goods and services by card (over 70%). E-wallets are also a significant method of payment, with PayPal unsurprisingly representing the bulk of those payments

Characteristics

Business Characteristics

Area: Cards
Innovation area: Wholesale-enabled end user innovation
Product group: Mobile payments
Funding type: Combined (credit and debit)
Main usage: C2B

Technology Characteristics

Access channel: POS
Access device: mobile/smartphone
Access technique: contactless

Initiating factors:

Lead actors: Telco
Partnerships: MNO requires PSP
Catalyst: Technology introduced
Facilitator: Mobiles
Incentives: Increased revenues through new services

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of cash handling

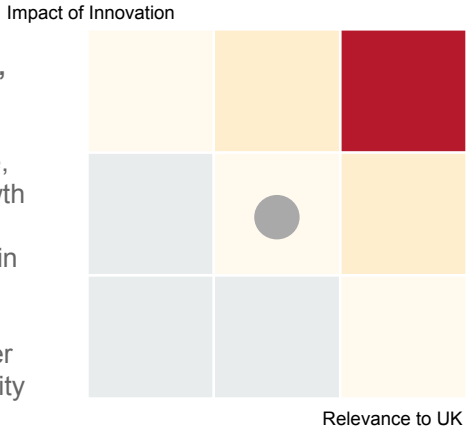
Lessons for PSR

Summary

- **Policy toolkit**: **Monitoring**
- **Driving factor:** Cooperation - non banks only
- **Value chain step impacted:** Payment initiation, Authorisation, Transaction processing, Settlement

Categorisation

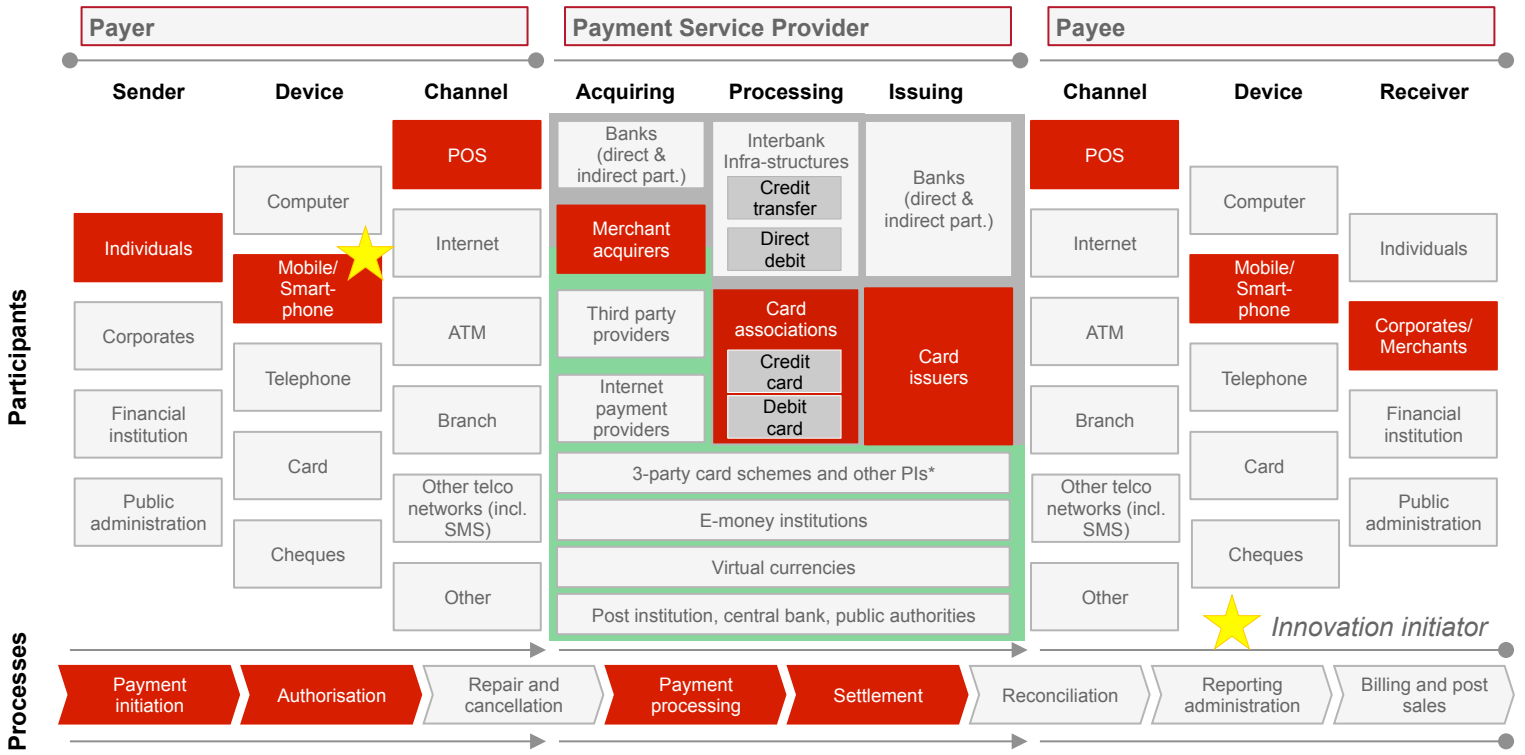
- **Impact rationale: high,** currently around 100,000 retailers support the NFC-based wallet. NFC is a commonly used technology for in-store mobile payments in the US, however one limiting factor for this service is that retailers and consumers require additional hardware and software. There is now a drive to integrate NFC technology into mobiles for the purpose of payment
- **Relevance rationale: high,** the presence of NFC at POS is already in place, driving the growth of contactless card payments in the UK. Zapp in the UK is expected to offer an NFC capability at POS



Source: BIS, ECB, World Bank, corporate website

Softcard: Consortium for mobile and NFC payments

Softcard: innovation impact along the payments value chain



Payer Benefits

- **New payment option:** mobile app that allows goods and services to be paid for via smartphone using NFC; also used for store credit and loyalty cards

PSP incentives

- **Increased revenues through new services**: telcos that launched Softcard are seeking to diversify into payment services, adding a new revenue stream to core services

Payee Benefits

- **Lower cost of cash handling**: NFC adoption by merchants is a step to migrating away from high cost cash, as transactions are low value

Policy toolkit

- **Monitoring**
- The initiative has been approved by US regulators as being compliant with existing industry regulations
- Policy learnings from NFC consortium in Canada can be applied to the US case

Process

- Payments are initiated using mobile NFC technology embedded in a smartphone via contactless reader/ POS terminal
- During transaction processing payments are authenticated using a SIM card or sticker which uses a secure element
- Softcard also leverages a Trusted Service Manager to provision and manage secure mobile NFC services

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

MCX: consortium of US retailers building private payment scheme

Merchant Customer Exchange (MCX) is a mobile commerce joint venture offering consumers a customer-focused, versatile and seamlessly integrated mobile-commerce platform

Overview

Innovation Case Overview

MCX is a mobile commerce joint venture of leading US retailers announced in August 2012 offering a new platform for smartphone-based transactions. Development of the mobile wallet is underway, with an initial focus on a solution that will offer merchants a customisable platform with the features and functionality needed to best meet consumers' needs. The application will be available through virtually any smartphone

Policy reference: not applicable

Country Overview (US vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitant: 376
(UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the majority. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Characteristics

Business Characteristics

Area: e-money
Innovation area: wholesale cards/ payment innovation
Product group: mobile payments
Funding type: prepaid
Main usage: C2B

Technology Characteristics

Access channel: other
Access device: mobile/smartphone
Access technique: contactless

Initiating factors:

Lead actors: retailers
Partnerships: none
Catalyst: service possible
Facilitator: legislation changed
Incentives: lower cost of payment processing

Impact factors:

Customer benefits: new payment option, wider acceptance at stores
Merchant benefits: lower cost of payment processing

Lessons for PSR

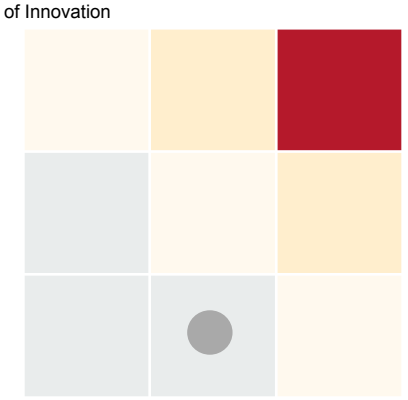
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** cooperation - non banks only
- **Value chain step impacted:** payment acquisition, authorisation, payment processing, settlement transmission

Categorisation

- **Impact rationale: medium,** MCX is expected to have a large penetration among the top 100 US retailers with more than 70 prominent brands in the US with 110,000 locations that process more than $1 trillion in payments annually

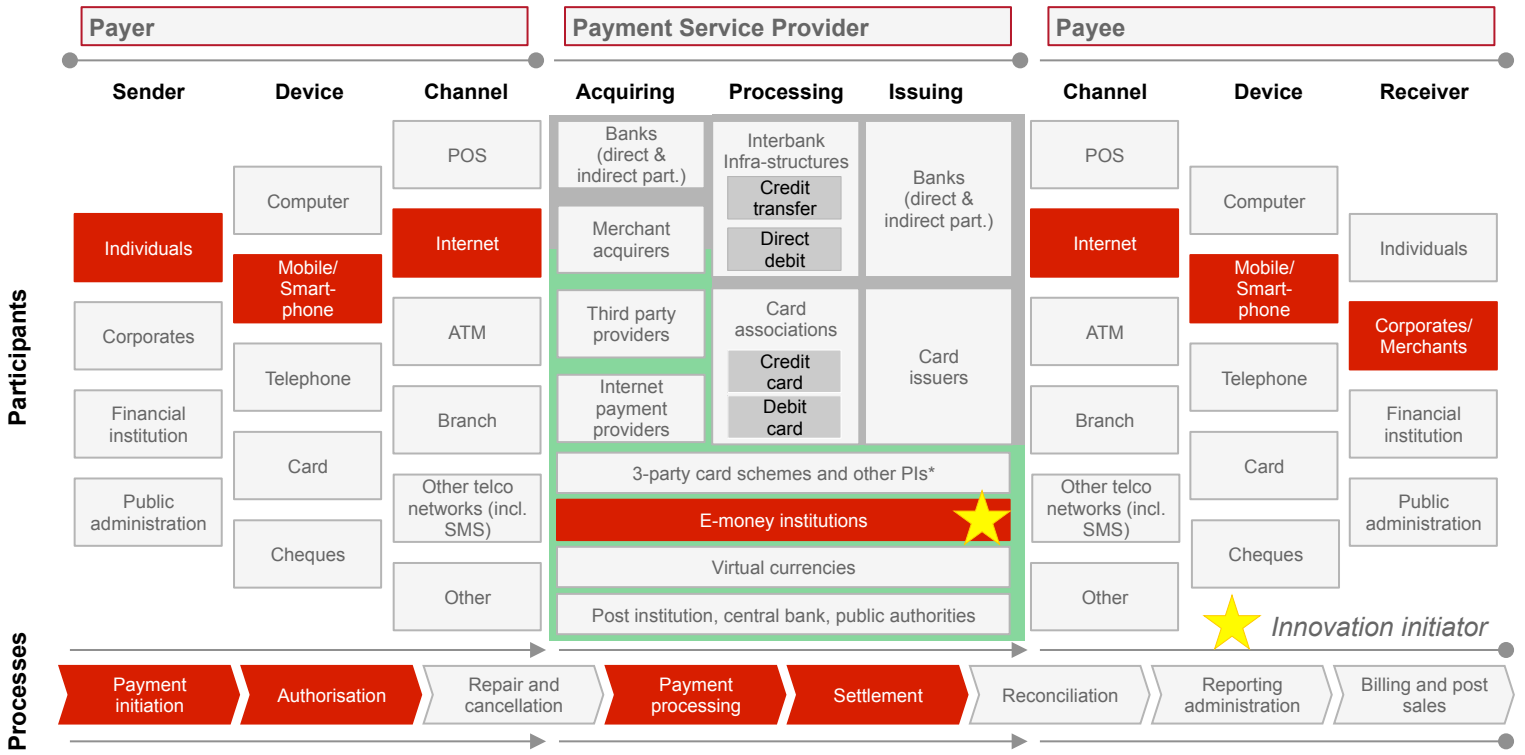
- **Relevance rationale: high,** the top 5 retailers in the UK can easily achieve enough scale to develop a similar payments platforms



Source: BIS, ECB, World Bank, corporate website, Celent "The Rise of a New Bank account?" September 2013

MCX: consortium of US retailers building private payment scheme

MCX: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: payers can benefit from an alternative payments instruments to card and cash for in-store purchases
- **Wider acceptance by other payees**: with more than 70 prominent brands

PSP incentives

- **Lower cost of payment processing:** merchants can reduce their spending on interchange fees to accept cards
- **Increase revenues though service differentiation:** offering value added services (i.e.: m-couponing etc.)

Payee Benefits

- **Lower cost of payment processing**: has the potential to lower costs of processing payments for retailers
- **Improve sales:** offering better loyalty programme leveraging on advanced marketing analytics tools

Policy toolkit

- **Monitor**
- MCX is a store card based payments solution, which enables both consumers to use payments instruments within a limited network of shops and branches whilst allowing merchants to collect funds
- Example of a well defined legal framework clarifying risk, liabilities for PSPs within a limited network

Process

- MCX would encourage its customers to register store cards they may have for specific retailers participating in the MCX network. They are also discussing how they can draw the payments directly from the bank accounts.
- The platform will be based on API to enable MCX members to integrate complete mobile wallet capabilities and value-added services into their mobile applications.

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

PayPal: store value account for online payments

PayPal is a global e-commerce business allowing payments and money transfers to be made through the internet and is now expanding its reach into physical stores

Overview

Innovation Case Overview

PayPal, wholly owned subsidiary of eBay, provides the largest online payment service. Its services include P2P transfers using any email address or mobile phone number, and an e-wallet bundled app incorporating bank and card payments, loyalty redemption, credit lines with in-store shopping capability. 50% of PayPal's processed transactions are in the US

Policy reference: FED regulation in US, E-money Directive in EU and local reg.

Country Overview (US vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitant: 376
(UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the bulk of those payments. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Characteristics

Business Characteristics

Area: e-money
Innovation area: Wholesale cards/ payment innovation
Product group: internet payments
Funding type: prepaid
Main usage: C2B, C2C

Technology Characteristics

Access channel: POS, internet
Access device: computer, mobile/ smartphone
Access technique: remote

Initiating factors:

Lead actors: e-money institutions
Partnerships: none
Catalyst: customer change
Facilitator: e-commerce growth
Incentives: increased revenues through new services

Impact factors:

Customer benefit: protection against fraud and default
Merchant benefit: improve sales

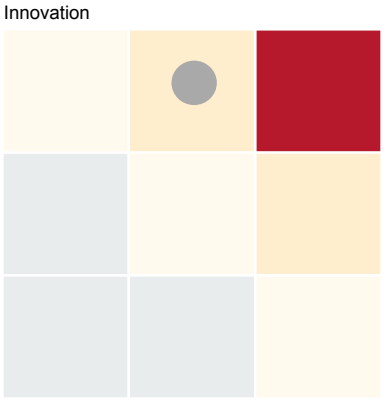
Lessons for PSR

Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** competition
- **Value chain step impacted:** payment initiation, authentication, payment processing, settlement transmission, repair and reconciliation, customer services and billing

Categorisation

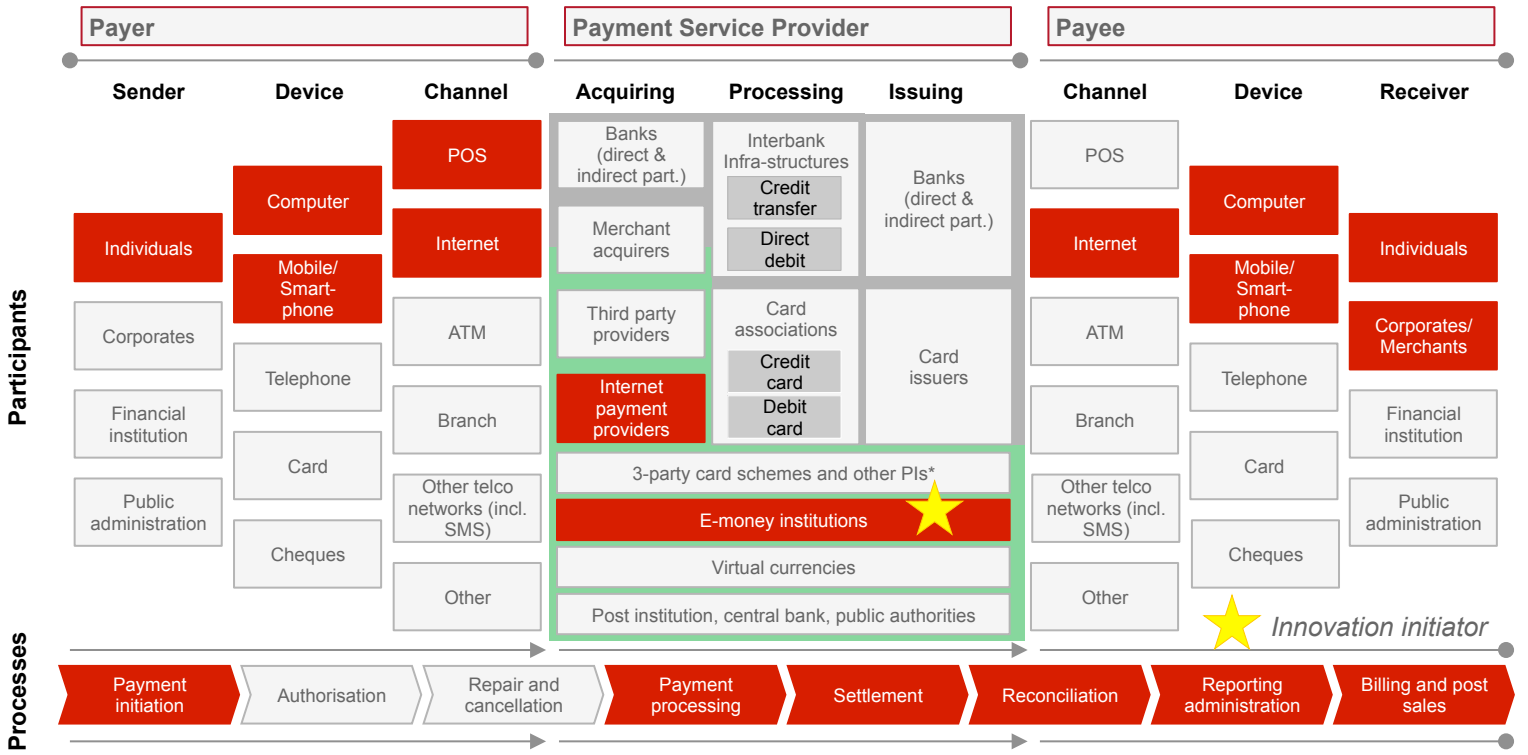
- **Impact rationale: highest**, PayPal has over 148 million active accounts in 26 currencies and across 193 economies, processing more than 9 million payments daily
- **Relevance rationale: high**, PayPal has an Industry share of approx. 25% in online payments in the UK and has also launched a mobile app for in-store purchases



Source: BIS, ECB, World Bank, corporate website

PayPal: store value account for online payments

PayPal: innovation impact across the payments value chain



Payer Benefits

- **Protection against fraud and default**: PayPal is a closed loop network preventing customers from having to share card credentials with third parties
- **Ease of use**: just a password is required to pay

PSP incentives

- **Increased revenues through new services**: PayPal provides an alternative payment method to cards for online purchases, particularly for credit card payments for cross-border online transactions

Payee Benefits

- **Improved sales**: PayPal provides merchants with an alternative way to collect cross-border payments
- **Higher sales from higher conversion:** a frictionless process drives higher conversion as customers only require a password

Policy toolkit

- **Setting new legal framework**
- In Europe the legal framework for issuers of electronic money was provided by the E-money Directive in 2007
- Issuers of e-money have to obtain a licence and comply with specific capital requirements (initial capital of €350,000 and never below 2% of average outstanding balance of e-money)

Process

- PayPal is a "3-party" online payment scheme which uses a pre-paid account
- Selecting PayPal to pay online, customers are redirected to a secure interface where they are authenticated with e-mail address and password
- Customers then approve the payment and receive an immediate confirmation by e-mail and a balance update

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

SafetyPay: convenient international payments direct from bank account

E-payment system that allows all customers to make online purchases worldwide directly through their bank account

Overview

Innovation Case Overview

SafetyPay is a real-time global payment solution that enables individuals to make secure online payments to merchants worldwide, directly from their bank account, from their local bank account and in the currency of choice

Policy reference: PSD and other local regulation

Country Overview (USA vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitants: 376 (293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets are a significant method of payment, with PayPal representing the bulk of those payments. Rapid growth of m-commerce, smartphones are still mainly used for researching products, while tablets for purchases

Characteristics

Business Characteristics

Area: Bank payments
Innovation area: End user innovation (not wholesale-enabled)
Product group: internet payments
Funding type: Bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: payment institution - third party providers
Partnerships: none
Catalyst: Customer change
Facilitator: e-commerce growth
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of payment processing

Lessons for PSR

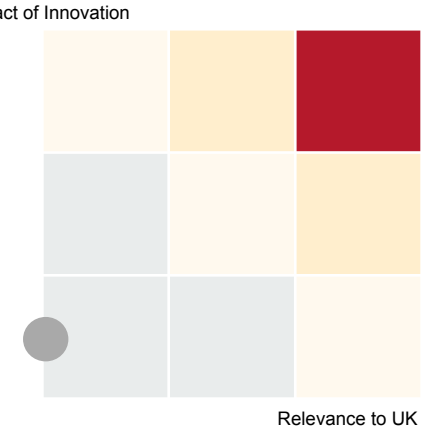
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** Competition
- **Value chain step impacted:** payments initiation, authorisation

Categorisation

- **Impact rationale: medium,** SafetyPay has grown to be accepted by thousands of merchants in more than 10 countries worldwide since its launch in 2007

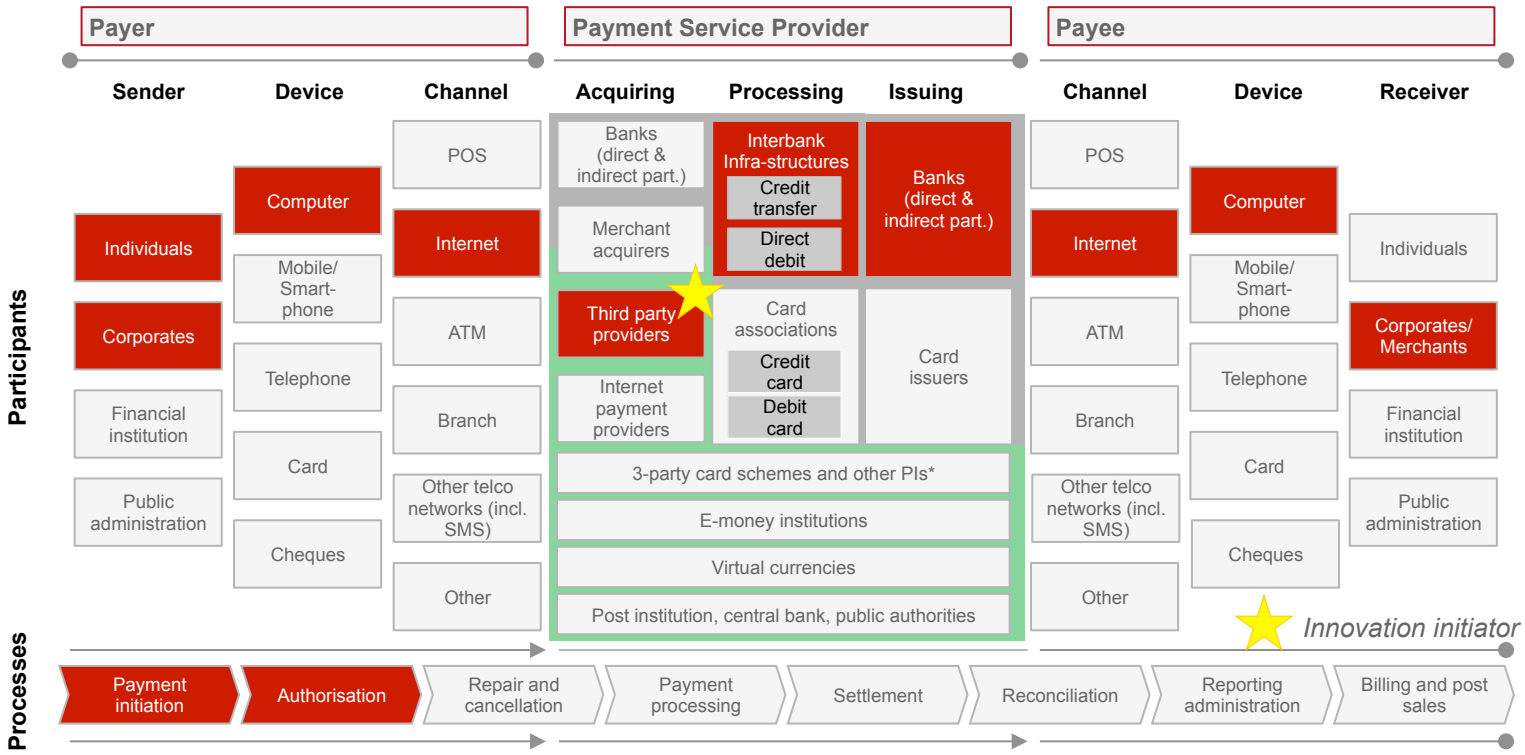
- **Relevance rationale: low,** due to the high penetration of credit cards used in cross-border online payments



Source: BIS, ECB, World Bank, corporate website, about-payments.com

SafetyPay: convenient international payments direct from bank account

SafetyPay: innovation impact along the payments value chain



Payer Benefits

- **New payment option:** enabling cross border purchases without using a credit card

PSP incentives

- **Increased revenues through new services:** Safetypay has been launched to take advantage of growing e-commerce activity worldwide

Payee Benefits

- **Lower cost of payment processing:** since no card use and liquidity risk
- **Higher sales from higher conversion rate**: enabling merchants to accept payments from customers abroad without credit card

Policy toolkit

- **Setting new legal framework**
- Through PSD2 the European Commission is elaborating a legal framework for third party payment providers addressing security requirements, building a liability regime, and addressing customer protection with the goal of open access to payment account services
- SafetyPay owns a PSD licence required to operate in Europe

Process

- Online customers select the Safetypay option to pay online and are redirected to a secure website
- The customer enters online banking credentials to initiate payment
- SafetyPay authenticates the customer's credentials and initiates the online banking payment using funds stored in their current account

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

SPEI: Real-time gross settlement payment system in Mexico

SPEI is a real-time gross settlement system handling both high and low-value payments.

Overview

Innovation Case Overview

SPEI (Sistema de Pagos Electrónicos Interbancarios) is a near real-time settlement system launched in 2004. The system is used for both large-value and low-value transactions, such as payrolls and P2P transfers. SPEI processes nearly 100% of the Mexican federal government's payments. Since 2012 social security pension payments have been disbursed via SPEI

Policy reference: Rules Of The Interbank Electronic Payments System

Country Overview (Europe vs UK)

Cash penetration: 99% (UK: 60%)
Banked population: 27% (UK: 87%)
E-trxn per inhabitants: 25
(UK: 293) transactions per year
Internet penetration: 56% (UK: 73%) of population
Mobile penetration: 71% (UK: 87%) of population

Payments / cards country trends:
Mexicans rely on banking providers in payment transactions: 30.5% are paid for by card, with a further 29.9% made by bank transfers. Alternative payment methods have a significant foothold, e-wallets are used to pay for 17% of transactions, of which PayPal takes 14.2%.

Characteristics

Business Characteristics

Area: bank payments
Innovation area: wholesale cards/ payment innovation
Product group: Infrastructure & security
Funding type: not applicable
Main usage: bank to bank

Technology Characteristics

Access channel: Internet
Access device: Computer
Access technique: Remote

Initiating factors:

Lead actors: central bank, credit institution - payment systems
Partnerships: banks with banks
Catalyst: Technology introduced
Facilitator: infrastructure available
Incentives: lower cost of payment processing

Impact factors:

Customer benefit: faster payment processing
Merchant benefit: improved liquidity management, improved services

Lessons for PSR

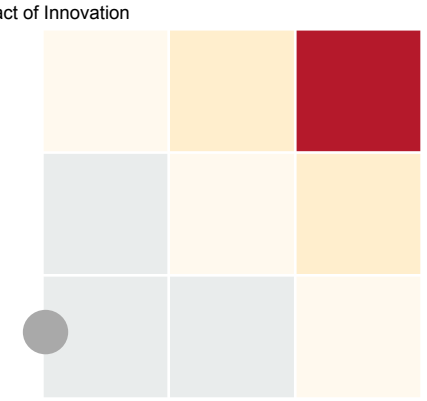
Summary

- **Policy toolkit: Setting standard/interoperability**
- **Driving factor:** Cooperation - banks only
- **Value chain step impacted:** Payment Processing, Settlement Transmission

Categorisation

- **Impact rationale: medium,** SPEI real-time payments is available to all types of customers and for a broad set of payment types: P2P, B2B, P2B, B2P, high and low value, mobile payments. SPEI settles an average of around 700,000 transactions per day. The federal government disburses most of its payments, including payrolls, through SPEI

- **Relevance rationale: low,** since real-time processing capabilities are already offered through Faster Payments in the UK

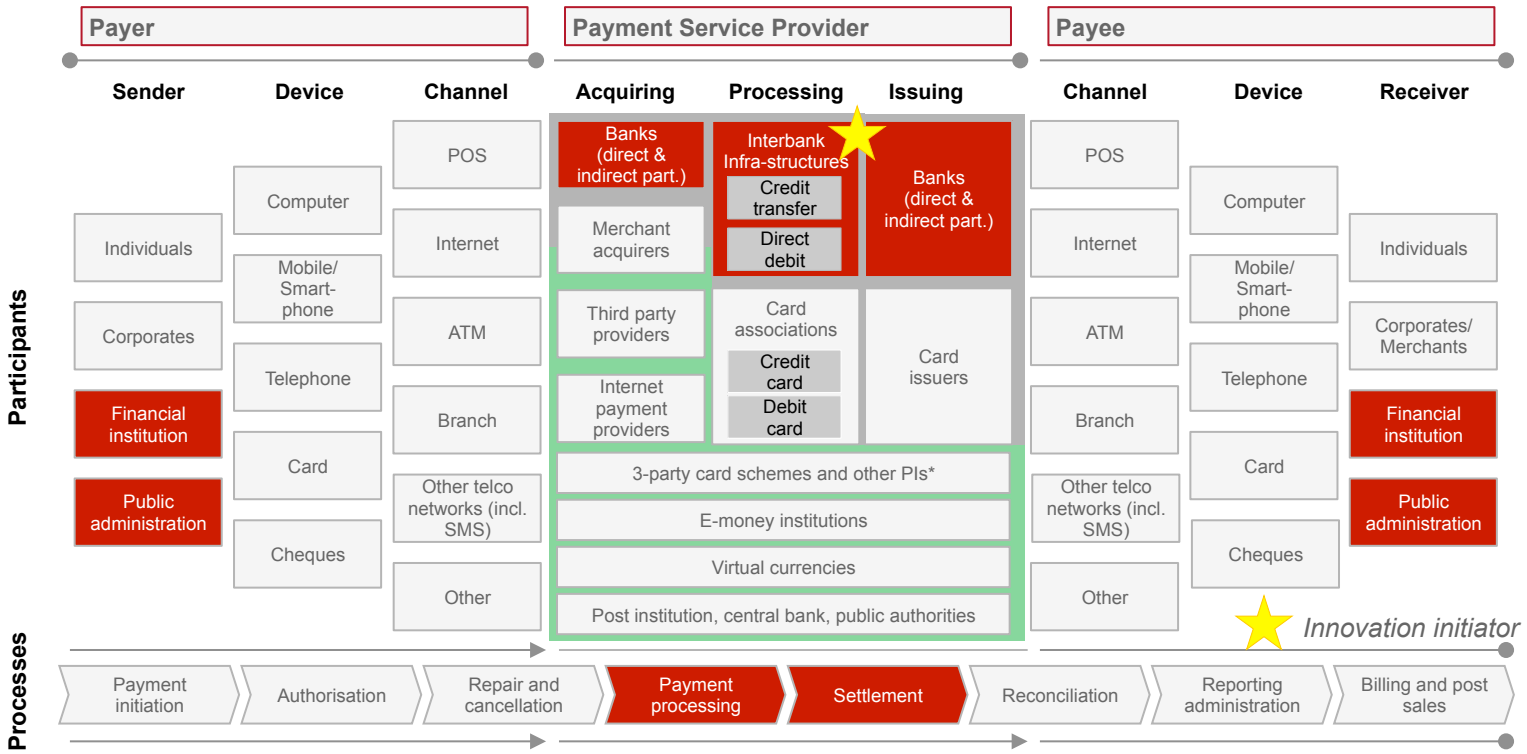


Source: BIS, ECB, World Bank, Mexico national central bank website

SPEI: Real-time gross settlement payment system in Mexico

accenture

SPEI: innovation impact along the payments value chain



Payer Benefits

- **Faster payment processing:** SPEI clears payments every few seconds; maximum speed of posting to account is 1 minute, average of 5 seconds end-to-end

PSP incentives

- **Achieving governmental goals:** Low prices for SPEI participants and their customers (MXN$0.50 per transaction), no transaction amount limit, blurring the line between a large and a small value payment system

Payee Benefits

- **Improved liquidity management**: multilateral netting algorithm helps participants to reduce liquidity needs
- **Improved services**: plans to support m-payments without requiring the sharing of account information

Policy toolkit

- **Setting standard / interoperability**
- The Central Bank has set message standards and protocols, end-user pricing parameters, and processing standards (banks must offer real-time transfers to clients through e-banking systems and must credit the beneficiary within 30 seconds of receiving the message)

Process

- SPEI is a hybrid system, clearing operations every few seconds and settling immediately on the participants' SPEI cash accounts
- SPEI accounts open and close the day with zero balances, and participants can transfer funds into their SPEI account at any time, via an online connection
- At the end of day, positive balances in SPEI are credited to banks' accounts at the central bank

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Square: Innovation in POS device

Square is a merchant services aggregator – the Square Reader was the first product released by Square, and is used to accept credit card payments by connecting to a mobile device's audio jack

Overview

Innovation Case Overview

Launched in 2009, the Square Reader was the first product released by Square, Other services / products offered by Square include Square Stand (tablet card reader stand), Square Market (Online shopping), Square Order (mobile/ online purchasing from small businesses), Square Cash (P2P cash transfer)

Policy reference: California Payments Regulation 2010 (TBC)

Country Overview (USA vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitants: 376 (UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the majority. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Characteristics

Business Characteristics

Area: cards
Innovation area: end user innovation (not wholesale-enabled)
Product group: Innovations in the use of card payments
Funding type: combined (credit and debit)
Main usage: C2B

Technology Characteristics

Access channel: POS
Access device: card
Access technique: Contact

Initiating factors:

Lead actors: payment institution - acquirers
Partnerships: None
Catalyst: technology introduced
Facilitator: mobiles
Incentives: increased revenues through new services

Impact factors:

Customer benefit: lower costs, Ease of use
Merchant benefit: lower cost of payment processing, improved services

Lessons for PSR

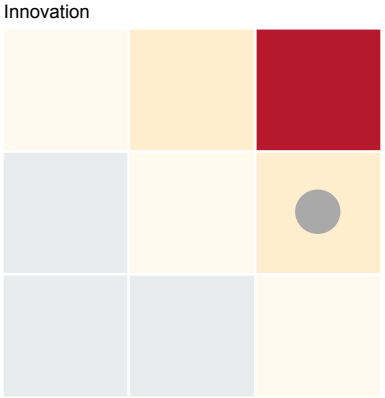
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** Competition
- **Value chain step impacted:** Payment initiation, Authorisation, Payment processing, Settlement

Categorisation

- **Impact rationale: high,** Square has had a major impact on cards activity in the US, having grown to service more than 500,000 merchants between 2009 and 2013. It has also expanded internationally and now operates in 50 US states, Canada and Japan

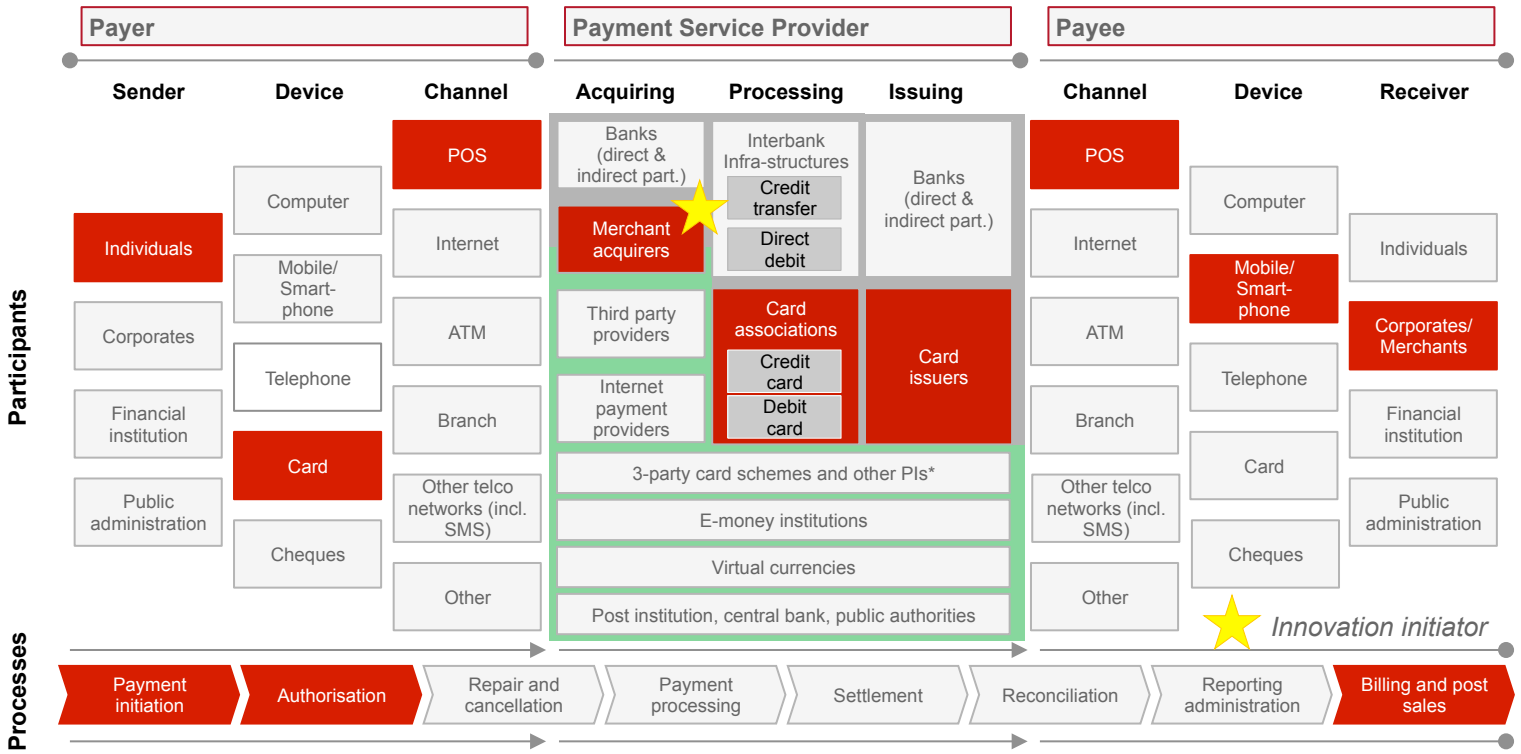
- **Relevance rationale: highest** relevance for the UK, shows the potential for increasing competitiveness in merchant acquiring



Source: BIS, ECB, World Bank, corporate website

Square: Innovation in POS device

Square: innovation impact along the payments value chain



Payer Benefits

- **Lower cost:** small businesses and professional are not required to pay initiation or processing fees like using credit transfer
- **Ease of use**: quicker than initiating a credit transfer

PSP incentives

- **Increased revenues through new service:** Square generates revenue from interchange but also from its hardware sales (Square Card Reader, Square Stand)

Payee Benefits

- **Lower cost of payment processing**: interchange fees lower than other card payments, only 2.75%,
- **Improved services:** Square links the receipt information (email or phone number) with the buyer's payment card.

Policy toolkit

- **Setting new legal framework**
- Square is case in innovation driving regulation
- Square was required to obtain a banking licence in California after a law passed in 2010. In Illinois, Square was issued a cease and desist order after it began conducting new activities, e.g. offering electronic gift cards – it subsequently obtained a banking licence

Process

- Payments are initiated by customers on any mobile / smartphone device through the Square Reader or Square Stand
- J.P. Morgan Chase is Square's acquiring bank and routes the transaction to the issuing bank for authorisation
- Paymentech processes transactions for Square during payment processes – Square pays interchange fees to Paymentech and the issuing bank

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Starbucks: closed loop mobile app based on card

Starbucks provides a digitized version of loyalty card in a wallet solution where consumers can upload funds and pay at POS

Overview

Innovation Case Overview

Starbucks card app is a closed loop mobile app which was launched in 2009. Smartphone users display a barcode on their device screen and the barista scans it at the point of sale. The payment is deducted from funds linked to the user's Starbucks Card account, which can be topped up through the app. The app is also available in the UK

Policy reference: none

Country Overview (US vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitant: 376
(UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: Over 70% of US customers pay for e-commerce by card. E-wallets represent a significant proportion, with PayPal accounting for the majority. Rapid growth of m-commerce is expected in the US. Smartphones are still mainly used for researching products, while tablets are increasingly used for purchases

Characteristics

Business Characteristics

Area: cards
Innovation area: end user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: combined
Main usage: C2B

Technology Characteristics

Access channel: POS
Access device: mobile/smartphone
Access technique: contactless

Initiating factors:

Lead actors: retailers
Partnerships: none
Catalyst: service possible
Facilitator: mobile
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: new payment option, ease of use
Merchant benefit: lower costs of cash handling, improve services

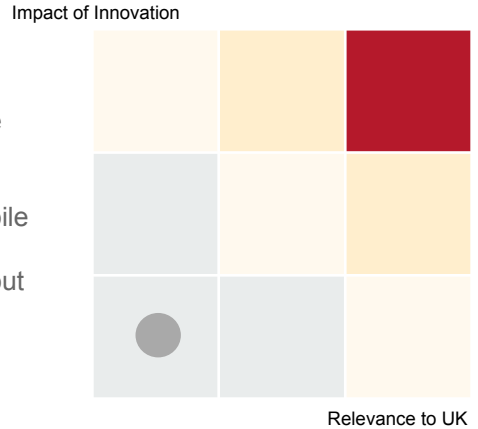
Lessons for PSR

Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** competition
- **Value chain step impacted:** Payment initiation, Card authorisation

Categorisation

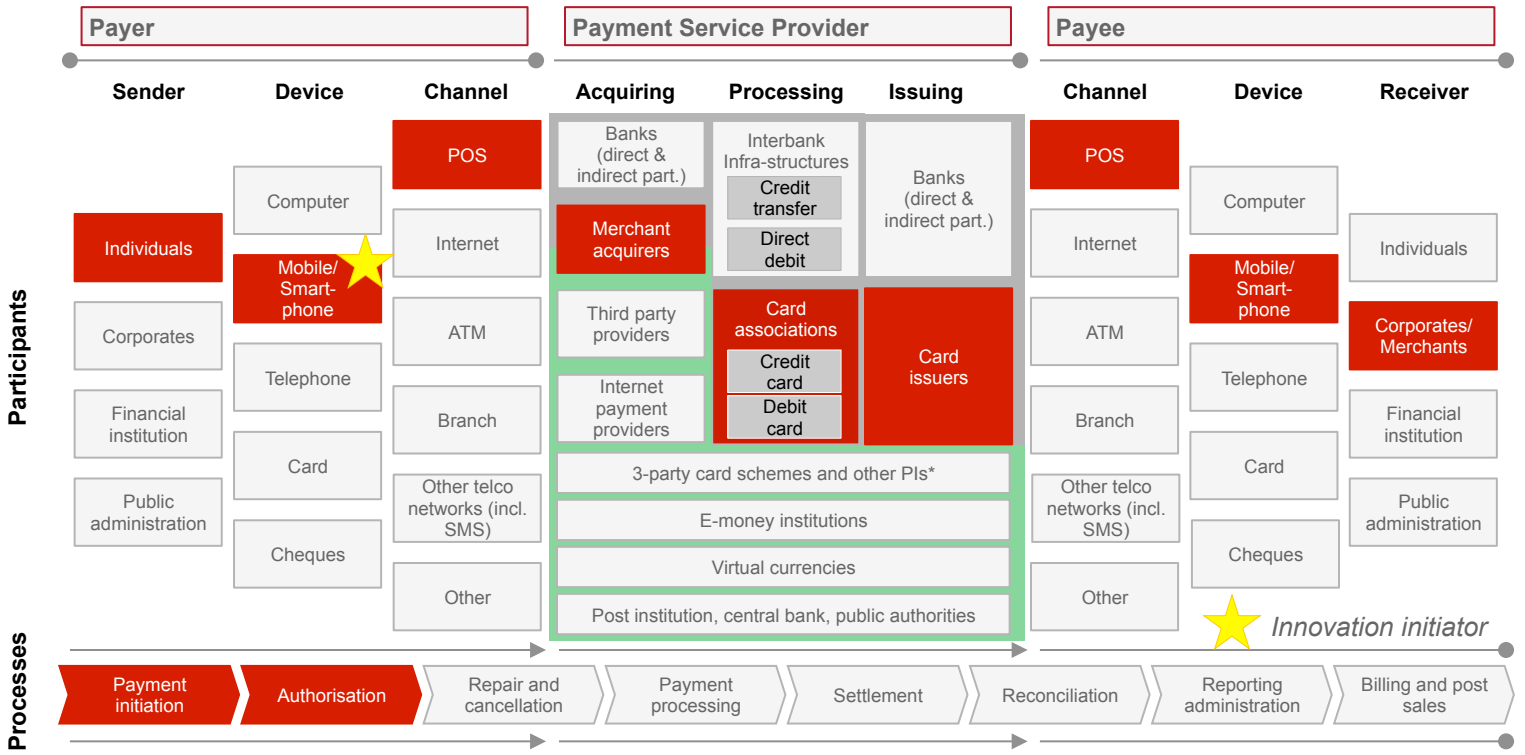
- **Impact rationale**: **medium,** the Starbucks app is a good illustration of how m-commerce can drive value if a retailer properly integrates it into existing programs. Its mobile payments app now accounts for nearly 10% of its US business, and payments volumes grew from 2 to 4 million a week from 2012 to 2013.
- **Relevance rationale: medium,** some large retailers have already developed mobile app to facilitate remote check out



Source: BIS, ECB, World Bank, corporate website

Starbucks: closed loop mobile app based on card

Starbucks: innovation impact across the payments value chain



Payer Benefits

- **New payment option:** customers have an alternative to cards and cash to pay in store
- **Ease of use**: customers can pay without swipe or tap their cards

PSP incentives

- **Increased revenues through service differentiation** improving customer experience, loyalty and cross selling
- **Improved reputation** as innovator

Payee Benefits

- **Lower cost of cash handling**: migrating low value payments from cash to digital
- **Improve services** making check out faster and avoiding queues

Policy toolkit

- **Monitoring**
- No specific policy intervention required in the US when launched
- With different customer authentication requirements worldwide the app may requires some changes in the user experience to be launched outside US

Process

- Starbucks app allows consumers to pay through their phones, check their balance and track rewards.
- A barcode scanned at the point-of-sale register is used to read the stored dollar value on a user's virtual card to deduct the cost of a purchase.
- Contactless QR payments are already an established means of payment on payment acquisition and customer authentication

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Traxpay: a secure and real-time B2B payments method

Traxpay offers business to business payments platform faster and cheaper than paper based systems (letter of credit, cheques, international trade documentation, etc.)

Overview

Innovation Case Overview

Traxpay offers business to business payments in real-time 24 hours a day. It is an Electronic Data Interchange platform enabling businesses to exchange information electronically much faster, more cheaply and more accurately than is possible using a paper-based system. Payments travel with any sort of documentation that buyers or sellers consider useful.

Policy reference: not applicable

Country Overview (USA vs UK)

Cash penetration: 39% (UK: 60%)
Banked population: 88% (UK: 87%)
E-trxn per inhabitants: 376 (UK: 293) transactions per year
Internet penetration: 83% (UK: 73%) of population
Mobile penetration: 78% (UK: 87%) of population

Payments / cards country trends: 64 percent of US corporations still use cheques as their primary payment vehicle

Characteristics

Business Characteristics

Area: Bank payments
Innovation area: End user innovation (not wholesale-enabled)
Product group: EBPP/Corporate payments
Funding type: Bank account
Main usage: B2B

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: payment institution - payment processing service providers
Partnerships: none
Catalyst: technology introduced
Facilitator: infrastructure available
Incentives: increased revenues from new services

Impact factors:

Payer benefit: faster payment processing, Ease of use
Payee benefit: improved liquidity management, lower cost of processing

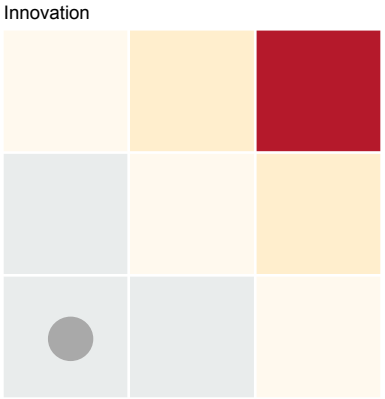
Lessons for PSR

Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** competition
- **Value chain step impacted:** Payment Initiation, Payment Authorization, Repair and Cancellation, Reconciliation, Reporting Administration, Billing and Customer Service

Categorisation

- **Impact rationale: medium,** Traxpay has not achieved scale like other alternative providers but is attracting investors and gaining industry recognition quickly
- **Relevance rationale: medium,** in the UK £300bn in payments are settled using B2B payments platforms, accounting for roughly two thirds of total e-commerce sales*

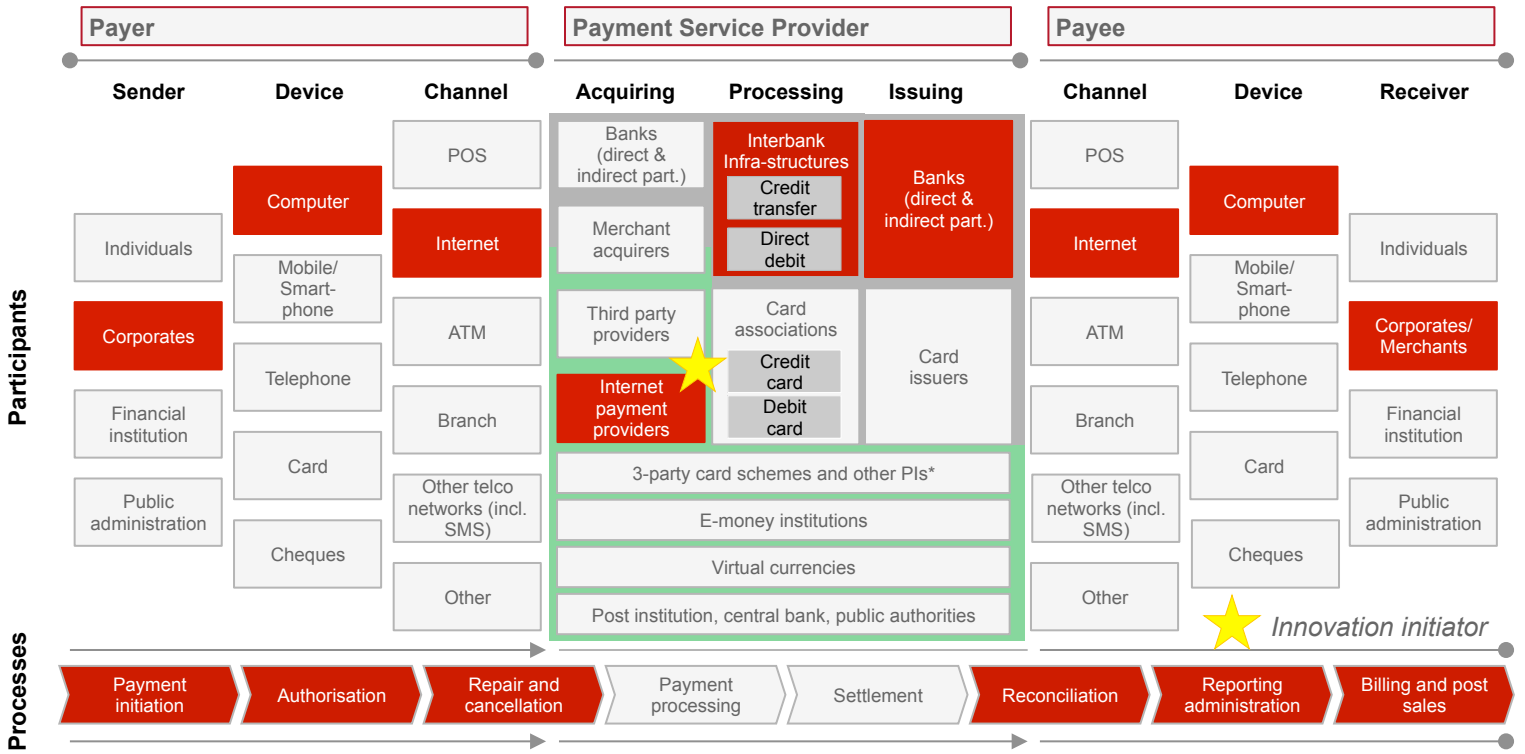


Source: BIS, ECB, World Bank, corporate website

*data is from 2012

Traxpay: a secure and real time B2B payments method

Traxpay: innovation impact along the payments value chain



Payer Benefits

- **Faster payment processing:** Traxpay offers a smarter payment solution and a superior check-out experience
- **Ease of use:** due to direct integration in online portals

PSP incentives

- **Increased revenues through new services**: Traxpay aims to capture a share in B2B payments from banks by providing unique blend of payments, enterprise software and banking expertise

Payee Benefits

- **Improve liquidity management:** due to faster payment processing, funds are transferred in real-time – even after banking hours, on weekends/holidays
- **Lower cost of payment processing:** B2B transactions free of charge

Policy toolkit

- **Monitoring**
- No specific policy intervention required

Process

- Payments are sent via a Traxpay account at Net-m Privatbank in Germany, which ensures 100 percent collateralisation at the Bundesbank (German central bank), ensuring that funds are safer than any other bank account
- Funds are paid out when the buyer agrees to the invoice and has received the goods, and unlike credit card payments, payments via Traxpay are non-revocable

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Sections

- Europe
- North America
- **Asia Pacific**
- Rest of the World

GCash: SMS-based mobile payments

accenture

GCash allows users to maintain cash reserves in an electronic format accessible via their mobile phones

Overview

Innovation Case Overview

GCash was launched by Globe Telecom in 2004. It is an electronic money concept which allows users to make purchases, pay and receive domestic payments and receive remittances by converting their actual money to electronic money and electronic money into actual money at any of the Globe's Cash In and Cash Out Center/Outlets, via the mobile phone.

Policy reference: local regulation

Country Overview (Philippines vs UK)

Cash penetration: 98% (UK: 60%)
Banked population: 27% (UK: 87%)
E-trxn per inhabitants: na
Internet penetration: 36% (UK: 73%)
Mobile penetration: 72% (UK: 74%)

Payments / cards country trends: Around 70% of the Philippine population remains unbanked/under-banked. The use of mobile phones gained focus in the Philippines especially among the low-income groups.

Characteristics

Business Characteristics

Area: e-money
Innovation area: End user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: prepaid
Main usage: C2C, C2B

Technology Characteristics

Access channel: Other telco networks, internet, ATM
Access device: mobile/smartphone
Access technique: remote

Initiating factors:

Lead actors: Telco
Partnerships: none
Catalyst: service possible
Facilitator: mobiles
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option
Merchant benefits: lower cost of payment processing

Lessons for PSR

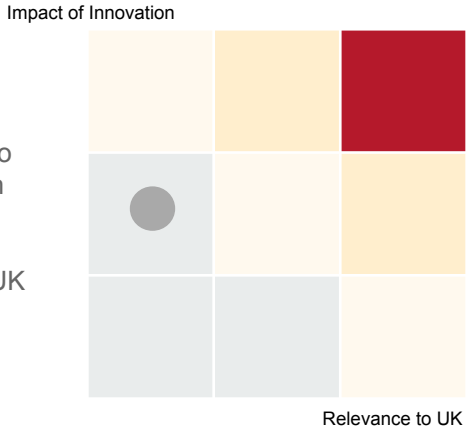
Summary

- **Policy toolkit: Issuing licence**
- **Driving factor:** Competition
- **Value chain step impacted:** Payment Initiation, Payment Authorisation, Payment Processing, Settlement Transmission

Categorisation

- **Impact rationale: high,** GCASH was able to offer an inexpensive and convenient cashless retail payment option that especially benefits low-income customers– particularly in the provincial areas of the country.

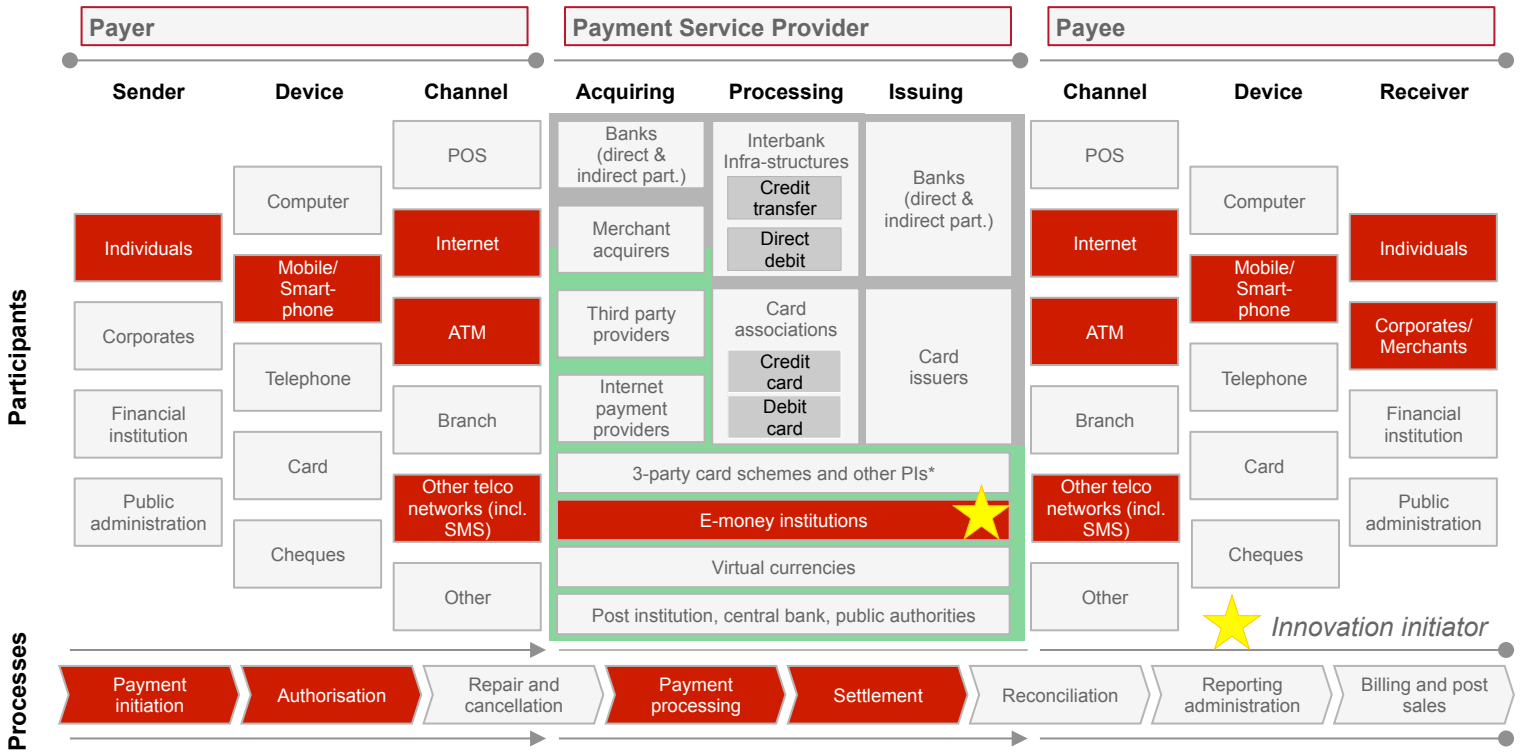
- **Relevance rationale: medium,** relevance due to the already high adoption of non cash payments instruments in UK



Source: BIS, ECB, World Bank, corporate website, Celent "Mobile payment in South Korea" January 2013

GCash: SMS-based mobile payments

GCash: innovation impact along the payments value chain



Payer Benefits

- **New payment option**: offer cash-less and card-less micropayments over mobile phone, incl. purchase of goods and services, C2C payments, domestic and international remittances, etc.

PSP incentives

- **Increased revenues through new services**: GCash presents nonbank-based model of banking and has provided the unbanked with banking opportunities/facilities. It has extended the reach and opportunity for rural banks in the area of micro- finance.

Payee Benefits

- **Lower cost of payment processing**: Merchants offer cashless payment option to customers, while avoiding the 3% merchant discount fee.

Policy toolkit

- **Issuing licence**
- The Bangko Sentralng Pilipinas has enabled mobile money success through their progressive regulations.
- Enabling mobile operators to offer e-money, empowering non-banks to perform cash in/out and providing legal certainty to formalise rules have all contributed to success

Process

- Globe Telecom has created its own ledger system facilitating information within its customers and also runs its proprietary settlement system that connects to all commercial banks in the Philippines.
- GCASH has remained an open platform that is able to enter into bi-lateral agreements with many banks for specific transactions or target customers.

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Hana SK Card: mobile credit card payments

In the competitive South Korean credit card area, Hana SK Card has aggressively pushed its brand in the mobile credit card arena achieving nearly a million of users in three years and a industry share of 80%

Overview

Innovation Case Overview

Hana SK is the credit card arm of SK Telecom, a South Korean mobile carrier, which provides its customers with credit cards for online and offline purchases. Despite being a minor players in credit card business with just a industry share of 4%, Hana SK is a pioneer in the mobile credit card segment where has a industry share of 80%

Policy reference: local credit card regulation

Country Overview (South Korea)

Cash penetration: n.a.
Banked population: n.a.
E-trxn per inhabitants: n.a. transactions per year
Internet penetration: n.a.
Mobile penetration: n.a.

Payments / cards country trends: South Korea—with its population of 50 million people— has 40 million smartphone subscriptions, with more than 50% of devices being NFC-enabled. In addition there are already 16 different m-payments options for mobile users

Characteristics

Business Characteristics

Area: cards
Innovation area: End user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: credit
Main usage: C2B

Technology Characteristics

Access channel: POS
Access device: mobile/smartphone
Access technique: contactless

Initiating factors:

Lead actors: credit institution – card issuer
Partnerships: other – credit card issuer and MNO
Catalyst: customer change
Facilitator: mobiles
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option, Ease of use
Merchant benefit: improved services

Lessons for PSR

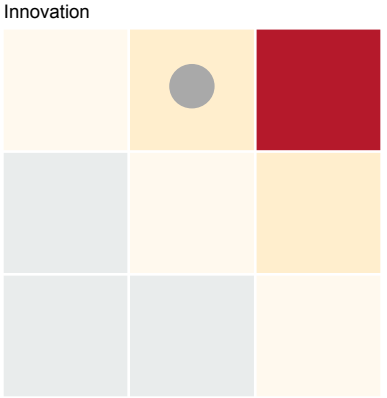
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** Competition
- **Value chain step impacted:** Payments initiation, authorization

Categorisation

- **Impact rationale: highest,** Hana SK Card mobile transactions has growth at 600% in 2013 , processing more than £60 million for 850K users with a industry share of 80% in the mobile credit card segment

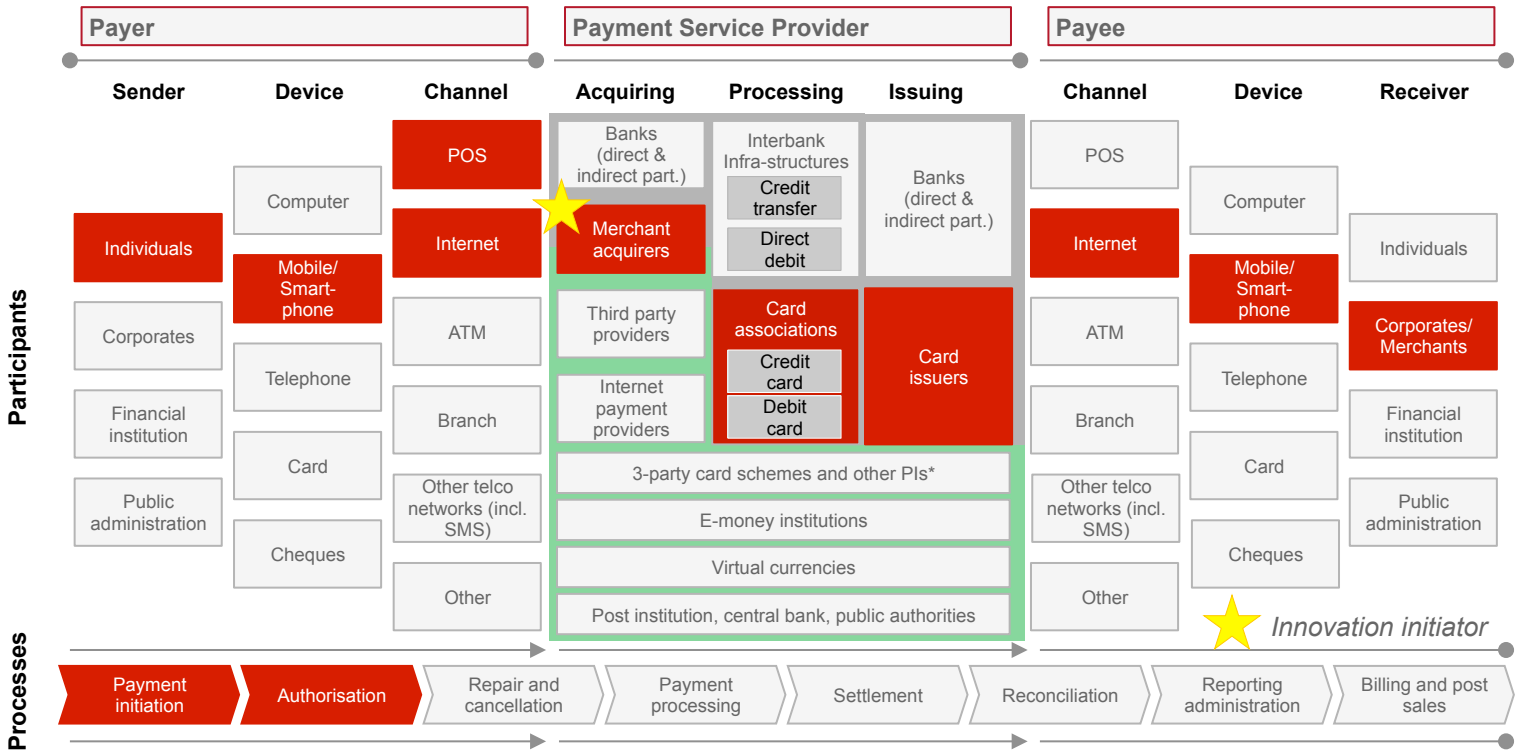
- **Relevance rationale: high,** although in the UK NFC-enabled payments in store have not achieved scale contactless transactions are growing at 200% year-on-year



Source: BIS, ECB, World Bank, corporate website, Celent "Mobile payment in South Korea" January 2013

Hana SK Card: mobile credit card payments

Hana SK Card: innovation impact along the payments value chain



Payer Benefits

- **New payment option** enabling to customer to pay with credit card using their phone
- **Ease of use**: users to initiate payments need only to insert card PIN

PSP incentives

- **Increased revenues through new services** enabling cardholders to use their credit cards also tapping their mobile phone at POS

Payee Benefits

- **Improved services**: payment funds are guaranteed, and funds are immediately available for use by the beneficiary

Policy toolkit

- **Setting new legal framework**
- Regulation is stringent requiring that a mobile credit card can be issued only with a plastic credit card, but the Ministry of Finance is revising the application process
- In addition the Communications Commission has articulated a goal of increasing NFC payment terminal numbers by 60% of current levels by 2015

Process

- After downloading the firm's smartphone application, a user can register his or her Hana SK Card mobile card, the only information they have to input when making a payment is their PIN
- The user no longer has to remove the card from a wallet or purse, or even punch in the card number. Simply armed with a smartphone after inserting the PIN in the mobile app users can make payments at NFC enabled POS

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Kaching: m-banking application enabling P2P payments and contactless payments

Kaching, developed by Commonwealth Bank of Australia, interfaces with consumers' personal contacts, enabling the end-user to make P2P payments to mobile, email and Facebook contacts

Overview

Innovation Case Overview

Commonwealth Bank of Australia have developed innovative mobile solutions that take advantage of mobile capabilities to create a greater customer experience, with over 4.5m apps downloaded (as of February 2013), Kaching enables users to pay anyone using just their mobile number, email address or Facebook contact, and also provides customers all the functionality of CBA's online banking capabilities

Policy reference: local regulation

Country Overview (Australia vs UK)

Cash penetration: 62% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitant: 339
(UK: 293) transactions per year
Internet penetration: 72% (73%) of population
Mobile penetration: 98% (87%) of population

Payments / cards country trends:
The consumerisation of smartphone technology, the increased adoption of the digital wallet and innovation at the point of sale are changing payments behaviours. The central bank is also implementing a real time payments systems to support innovation

Characteristics

Business Characteristics

Area: bank payments
Innovation area: end-user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: bank account, cards
Main usage: C2C, C2B

Technology Characteristics

Access channel: internet and POS
Access device: mobile/smartphone
Access technique: remote and contactless

Initiating factors:

Lead actors: credit institutions
Partnerships: none
Catalyst: service possible
Facilitator: mobiles
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: new payment option, greater control
Merchant benefit: ease of use, lower cost of cash handling

Lessons for PSR

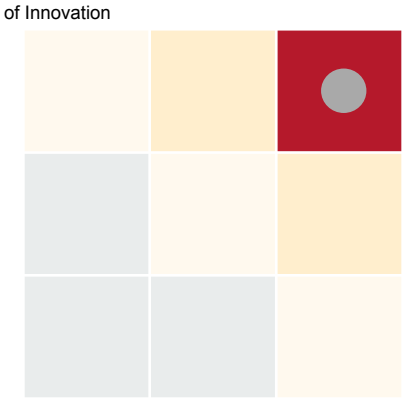
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** competition
- **Value chain step impacted:** Payment initiation and authentication

Categorisation

- **Impact rationale: highest,** Kaching handled over AU$9 billion in transactions in 2013 with more than 4.5m of users downloading the app since its launch in July 2012

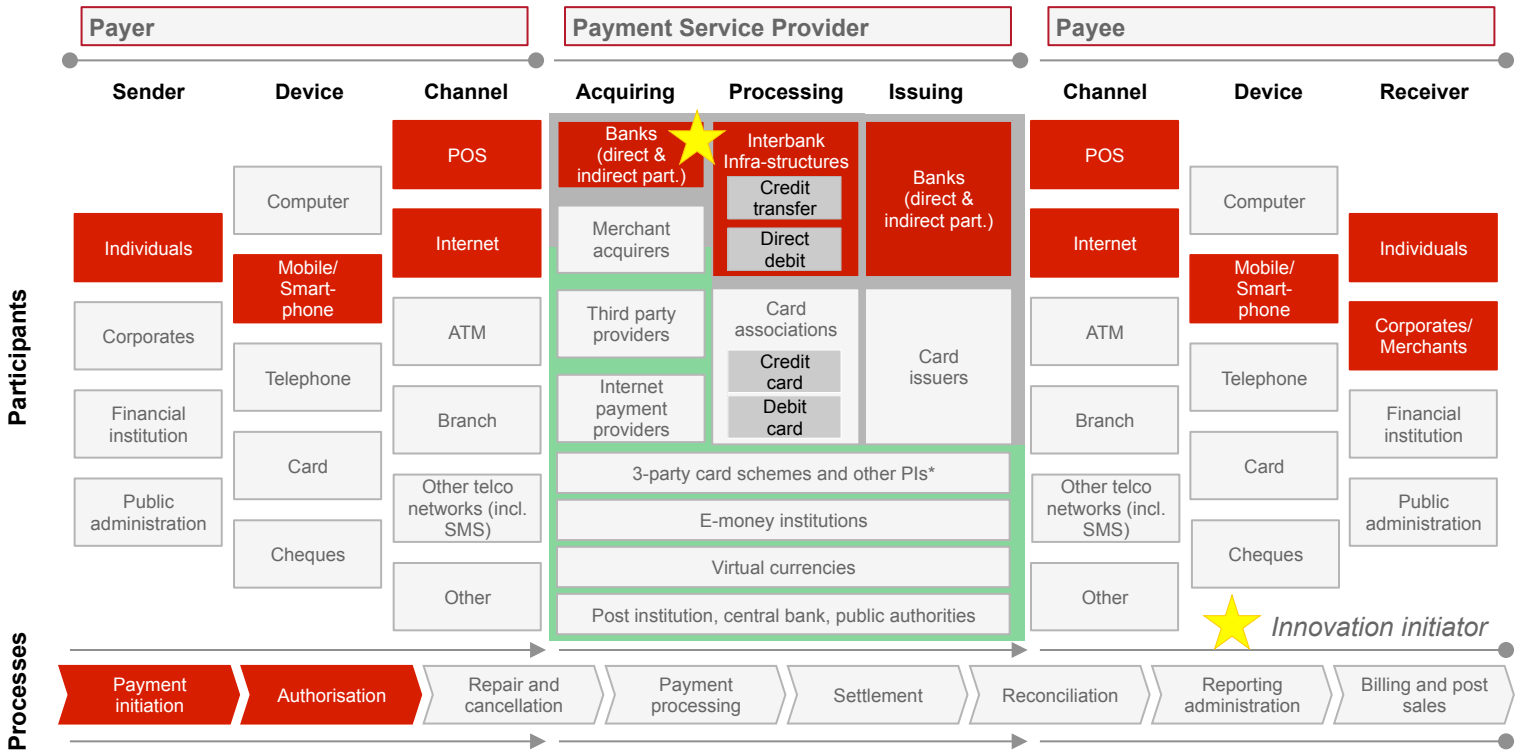
- **Relevance rationale: highest,** in the UK mobile banking solution enabling P2P payments are already provided by major banks



Source: BIS, ECB, World Bank, corporate website

Kaching: m-banking application enabling P2P payments and contactless payments

Kaching: innovation impact across the payments value chain



Payer Benefits

- **New payment option**: alternative payment method to cash and credit transfer
- **Greater control**: push payments with customers authorizing instead of being authenticated like a pull payment.

PSP incentives

- **Increased revenues through service differentiation:** by migrating low value payments from cash to digital methods and using new way s for customer authentication (social media, mobile number, email)

Payee Benefits

- **Ease to use**: consumers can receive payments just downloading the app
- **Lower cost of cash handling** for merchants migrating low value payments from cash to digital

Policy toolkit

- **Monitoring**
- The initiative has just been approved by local authorities as being compliant with existing industry regulations in Australia

Process

- The app provides a faster initiation process for other functionalities – log on is faster, using a 4-digit PIN; customers can use shortcuts to check balances etc.
- The app works with fully encrypted passwords but customers can also obtain a quick balance by a simple swipe
- For in store payments after activating the app users can pay tapping their mobile on the c-less card reader at the POS

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

OCBC Pay Anyone – Facebook payments in Singapore

Use of real time infrastructure and an alternative way to authenticate receivers for retail payments

Overview

Innovation Case Overview

In May 2014 OCBC has launched a new micro-payment service that enables customers to transfer funds using Facebook, mobile and email.
OCBC Pay Anyone, a new smartphone-based service, allows payments of up to S $100 to any bank account in Singapore.
The services use G3 real time payments system launched in 2013

Policy reference: not applicable

Country Overview (Singapore vs UK)

Cash penetration: n.a. (UK: 60%)
Banked population: n.a.(UK: 87%)
E-trxn per inhabitants: n.a. (UK: 293) transactions per year
Internet penetration: n.a. (UK: 73%) of population
Mobile penetration: n.a.(UK: 87%) of population

Payments / cards country trends:
Singapore is a mature payments economy both in term of end users innovation and infrastructure having launched recently its real time payments systems (G3)

Characteristics

Business Characteristics

Area: Bank payments
Innovation area: Wholesale-enabled end user innovation
Product group: Internet/mobile payments
Funding type: Bank account
Main usage: C2C

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: credit institution
Partnerships: none
Catalyst: Technology introduced
Facilitator: Infrastructure available
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit Ease of use
Customer benefit: faster payment processing

Lessons for PSR

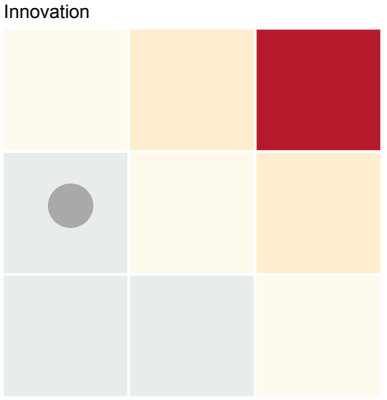
Summary

- **Policy toolkit: Setting vision**
- **Driving factor:** Competition
- **Value chain step impacted:** payments initiation, authorization, payments processing and settlement

Categorisation

- **Impact rationale: high** Singapore has the highest rate of daily Facebook use, and the innovation represents a direct appeal to consumer trends in the country

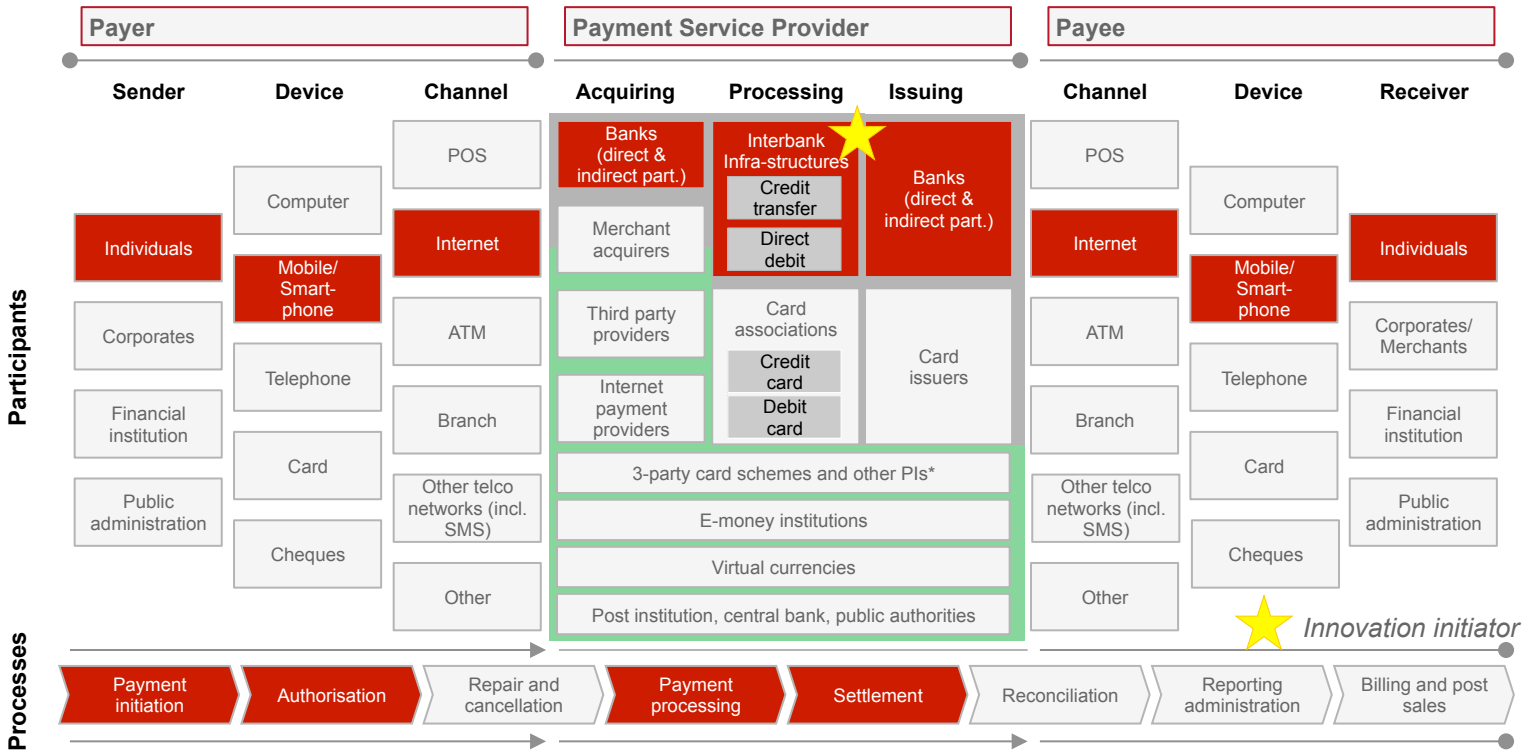
- **Relevance rationale: medium,** providing alternative way to authenticate payments users using alternative identifiers is currently a hot topic



Source: BIS, ECB, World Bank, corporate website

OCBC Pay Anyone – Facebook payments in Singapore

OCBCPay Anyone: innovation impact along the payments value chain



Payer Benefits

- **Ease of use:** since limited customer authentication is required
- **Faster payments processing**

PSP incentives

- **increased revenues through service differentiation:** offering a quicker way to transfer money
- **Improved reputation** as payments innovator

Payee Benefits

- **Ease of use:** since a limited customer authentication is required
- **Faster payments processing**

Policy toolkit

- **Setting vision**
- G3 replaces the existing Singapore's eGiro payment system that dates back to the 1980s and improves the service offering by providing real-time payment processing and automation of direct debit authorisations (eDDA)

Process

- All the sender has to do is to select a payee from his contact list on his mobile phone, email or Facebook, key in a password and send payment.
- The recipient will need to key in his bank account details and enter the same passcode to complete the transaction.
- OCBC says the system adheres to security standards for online banking and fund transfers.

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Osaifu-Keitai global NFC payments

accenture

Smartphone-enabled NFC payment service developed by Japanese mobile network operator NTT Docomo

Overview

Innovation Case Overview

NTT Docomo launched an e-wallet service Osaifu-Keitai for its mobile phones in 2004 based on the "FeliCa communications protocol," one of the NFC standards. Osaifu-Keitai services include electronic money, identity card, loyalty card, fare collection of public transits (including railways, buses, and airplanes), or credit card. Partnership with Mastercard PayPass to be used outside Japan

Policy reference: not applicable

Country Overview (Japan vs UK)

Cash penetration: 88% (UK: 60%)
Banked population: 96% (UK: 87%)
E-trxn per inhabitants: n.a. (UK: 293) transactions per year
Internet penetration: 89% (UK: 73%) of population
Mobile penetration: 86% (UK: 87%) of population

Payments / cards country trends: Japan was one of the first countries to launch mobile payments and NFC, and given high adoption continues to drive new developments and revisions to the technologies.

Characteristics

Business Characteristics

Area: cards
Innovation area: End user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: combined
Main usage: C2B

Technology Characteristics

Access channel: POS
Access device: mobile/smartphone
Access technique: contactless

Initiating factors:

Lead actors: Telco
Partnerships: other
Catalyst: technology introduced
Facilitator: mobiles
Incentives: increased revenues through new services

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of cash handling

Lessons for PSR

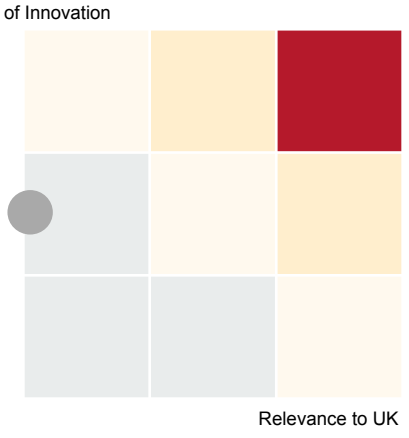
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** competition
- **Value chain step impacted:** payments initiation, authorisation

Categorisation

- **Impact rationale: high,** although it was developed by NTT DoCoMo, the system is also supported by other mobile phone operators, making it the de facto standard mobile payment system in Japan

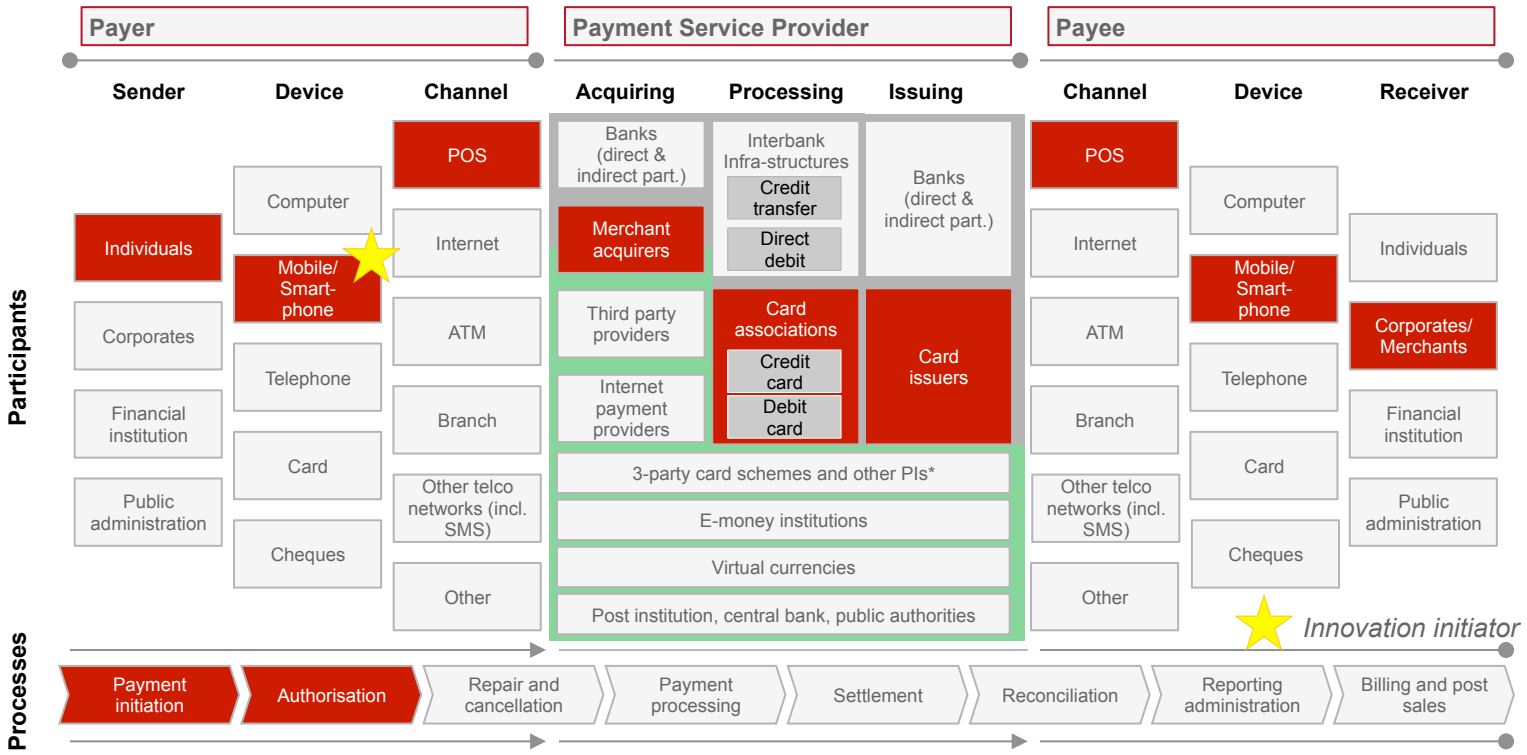
- **Relevance rationale: low,** a similar solution such as Orange QuickTap struggled to reach scale



Source: BIS, ECB, World Bank, corporate website

Osaifu-Keitai global NFC payments

Osaifu-Keitai: innovation impact along the payments value chain



Payer Benefits

- **New payment option**: offer cash-less and card-less micropayments over mobile phone, incl. purchase of goods and services,C2C payments, also abroad

PSP incentives

- **Increased revenues through new services**: NTT Docomo launched Osaifu-Keitai looking for to add new revenues streams on their core services

Payee Benefits

- **Lower cost of cash handling**: NFC adoption by merchants is a step to migrating away from high cost cash, as transactions are low value

Policy toolkit

- **Monitoring**
- No specific policy intervention required

Process

- Payments are initiated using mobile NFC technology embedded in a smartphone via a contactless reader/ POS terminal
- During transaction processing payments are authenticated using a SIM card or sticker which uses a secure element. Aside from using SE, the solution also leverages a Trusted Service Manager to provision and manage secured mobile NFC services

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

POLi: retail payment system for online debit payments

POLi (Pay OnLine) is an Australian payment service that enables consumers to pay online from their internet banking via a seamless automated process.

Overview

Innovation Case Overview

A retail payment system for debit payments over the internet. POLi redirects the purchaser either from the merchant's website or a biller's bill to the purchaser's internet banking. After the purchaser has logged in, POLi populates a "pay-anyone" transaction with all payment details, allowing the purchaser to complete the payment. POLi enables ease of reconciliation for merchants

Policy reference: exemption from ASI Commission

Country Overview (Australia vs UK)

Cash penetration: 62% (UK: 60%)
Banked population: 99% (UK: 87%)
E-trxn per inhabitants: 339
(UK: 293) transactions per year
Internet penetration: 72% (73%) of population
Mobile penetration: 98% (87%) of population

Payments / cards country trends:
The consumerisation of smartphone technology, the increased adoption of the digital wallet and innovation at the point of sale are changing payments behaviours. The central bank is also implementing a real time payments systems to support innovation

Characteristics

Business Characteristics

Area: Bank payments
Innovation area: Wholesale cards/ payment innovation
Product group: internet payments
Funding type: bank account
Main usage: C2B

Technology Characteristics

Access channel: internet
Access device: computer
Access technique: remote

Initiating factors:

Lead actors: payment institution - third party providers
Partnerships: none
Catalyst: customer change
Facilitator: legislation changed
Incentives: Increased revenues through service differentiation

Impact factors:

Customer benefit: new payment option
Merchant benefit: improved sales

Lessons for PSR

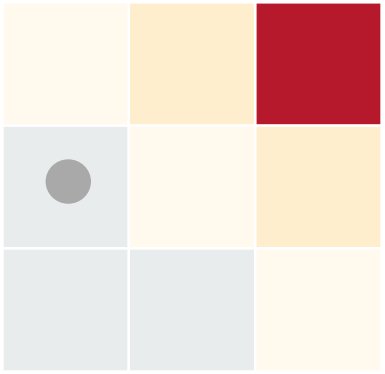
Summary

- **Policy toolkit: Setting new legal framework**
- **Driving factor:** Competition
- **Value chain step impacted:** Payments acquisition, authorization, reconciliation

Categorisation

- **Impact rationale: high**, POLi currently processes in excess of 1 billion dollars per year in payments and is trusted by a variety of Australia's most respected companies

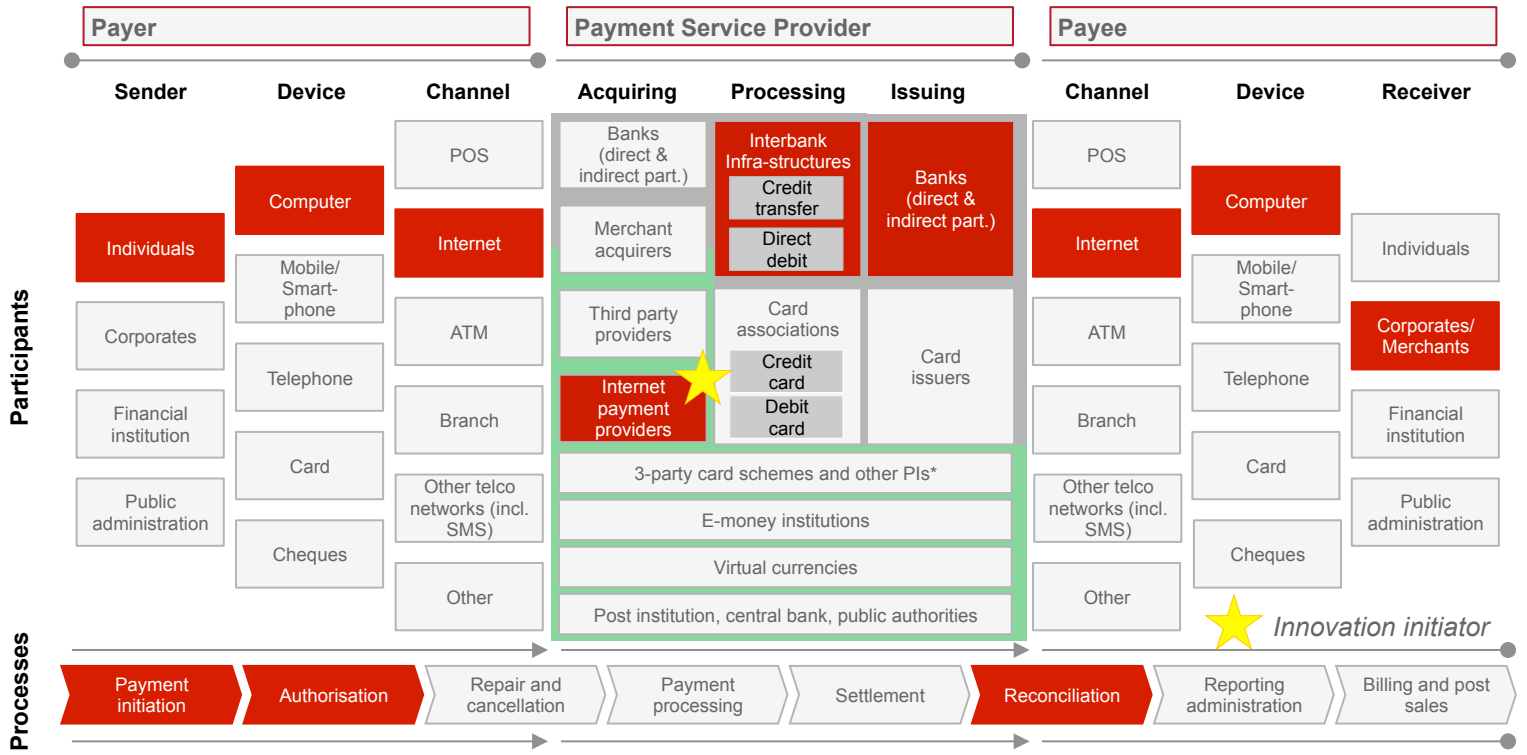
- **Relevance rationale: medium,** customers and merchants in UK could benefit from solutions enabling to pay online using online banking account



Source: BIS, ECB, World Bank, corporate website

POLi: retail payment system for online debit payments

POLi: innovation impact along the payments value chain



Payer Benefits

- **New payments options** enabling online shoppers to pay using funds stored in their bank accounts

PSP incentives

- **Increased revenues through service differentiation**: with Poli banks can offer payment services also to e-merchants

Payee Benefits

- **Improved sales**: e-merchants can access a significantly wider customer base by reaching those consumers who do not have a credit card or prefer not to use them online

Policy toolkit

- **Setting new legal framework**
- Since the mid-2000s, reforms of the access arrangements for card schemes have focused on promoting competition
- POLi Payments has an exemption from the Australian Securities & Investments Commission for the requirement to hold a financial services licence

Process

- POLi is not a bank but an independent provider of innovative web-based transaction services and software.
- Consumers don't need to register to use POLi so it never captures sensitive information such as user name and passwords. Using cleared funds from their debit accounts to make the payment, consumers get an instant receipt at the completion of the POLi transaction

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Sections

- Europe
- North America
- Asia Pacific
- **Rest of the World**

Cash-less policy: Nigerian policy to drive digital payments vs cash

Central Bank of Nigeria announced its Cash-less policy in 2011, intended to reduce consumer cash usage in the country

Overview

Innovation Case Overview

The Central Bank of Nigeria (CBN) has introduced cash processing fees, licences for cash-in-transit companies, guidelines POS implementations to reduce the usage of cash and drive the development and modernisation of the payment system, reduce the cost of banking services, drive financial inclusion and improve the effectiveness of monetary policy

Policy reference: The Cash-less policy 2011

Country Overview (Nigeria vs UK)

Cash penetration: >95% (UK: 60%)
Banked population: 26% (UK: 87%)
E-trxn per inhabitants: n.a. transactions per year
Internet penetration: 29% (UK: 73%) of population
Mobile penetration: 51% (UK: 87%) of population

Payments / cards country trends: high cash penetration (>90% of transactions), low financial inclusion, limited ATM network, high costs of payments services and double digit e-payments growth.
In 2013, CBN initiated a formal assessment to modernise the payments area and achieve global standards

Characteristics

Business Characteristics

Area: bank payments
Innovation area: Wholesale cards/ payment innovation
Product group: innovations in the use of cash/card payments
Funding type: not applicable
Main usage: C2B

Technology Characteristics

Access channel: ATM
Access device: Other
Access technique: Contact

Initiating factors:

Lead actors: public entities
Partnerships: none
Catalyst: New policy/government strategy
Facilitator: legislation change
Incentives: lower cost of cash handling

Impact factors:

Customer benefits: not applicable
Merchant benefits: lower cost of cash handling

Lessons for PSR

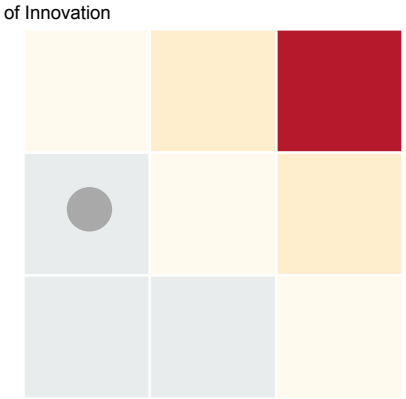
Summary

- **Policy toolkit: Setting pricing**
- **Driving factor:** regulations
- **Value chain step impacted:** not applicable

Categorisation

- **Impact rationale: high,** the new policy initially launched in in Lagos State from January 2012 has been extended to other 5 cash intensive states (Rivers, Kano, Abia, Ogun and Anambra) at the end of 2013 as a result of the success recorded in states where the policy had been implemented.

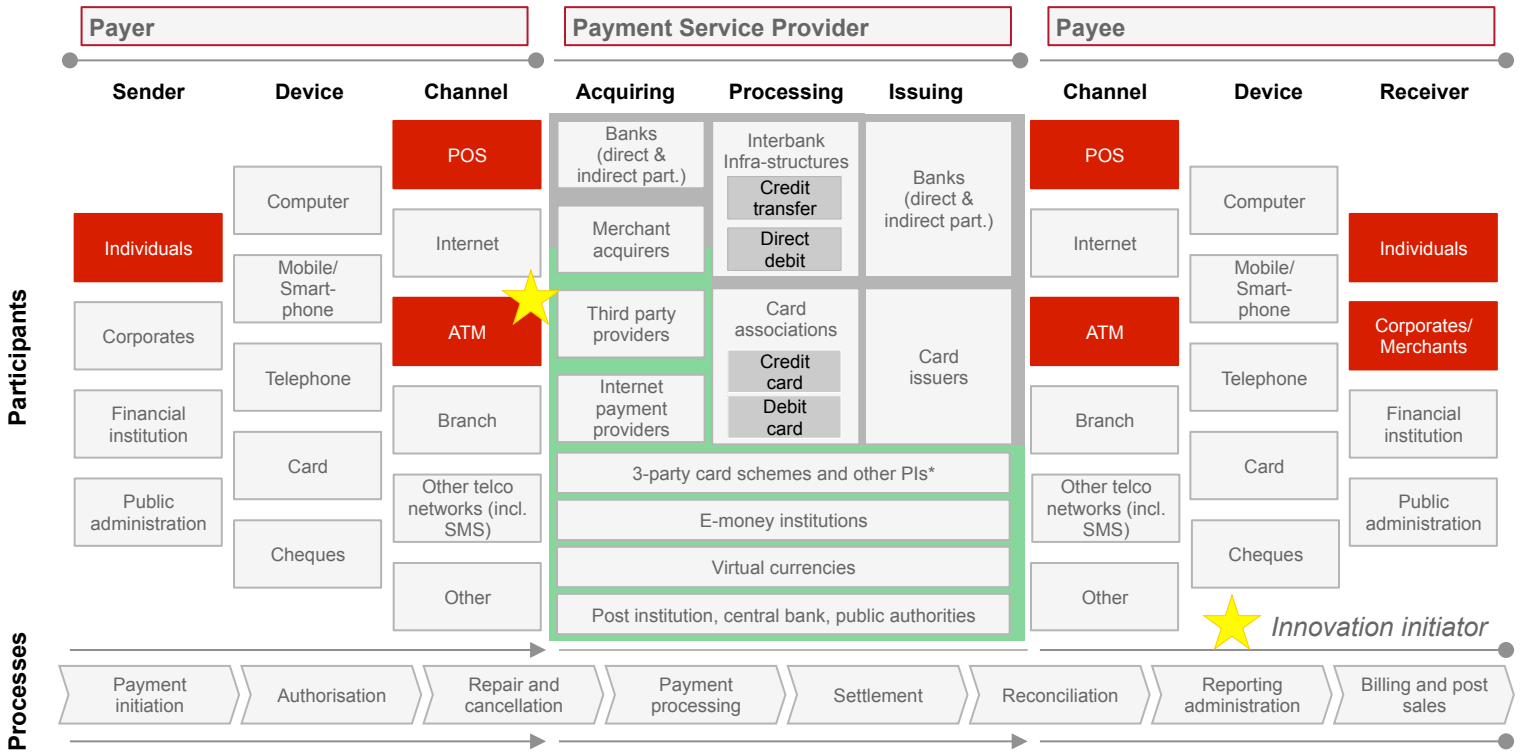
- **Relevance rationale: medium** due to the already high adoption of non cash payments instruments in UK



Source: BIS, ECB, World Bank, national central bank

Cash-less policy: Nigerian policy to drive digital payments vs cash

Cash-less policy: innovation impact along the payments value chain



Payer Benefits

- **Not applicable**

PSP incentives

- **Lower cost of cash handling:** due to savings from transporting cash, counting, managing and centralising

Payee Benefits

- **Lower costs of cash handling:** reduction in cash handling reduces the cost for merchants with diversification to other/digital payment instruments

Policy toolkit

- **Setting pricing**
- The Central Bank of Nigeria announced its Cash-less policy in 2011 and commenced a pilot of the policy in Lagos State in April 2012.
- The CBN cash policy stipulates a daily cumulative limit of cash withdrawals
- Banks has discontinued cash in transit lodgement services rendered to merchant-customers

Process

- Cost of cash to Nigeria"s financial system is high and increasing, with direct cost of cash was estimated to N192 billion in 2012
- Industry stakeholders to support CNB's Cash-less policy are jointly working to increase the alternative channel penetration, functionality, and ease-of-use, introducing mobile payments licences and multi-functional ATMs, upgrading POS, online banking and e-funds transfer systems,

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Dubai National Wallet: common platform for digital services

accenture

As a part of Smart Government Initiative 2012 UAE banks seek to build a common digital platform for all key consumer services

Overview

Innovation Case Overview

The Dubai national wallet is a project created by Federation UAE banks on behalf of the banking sector for the Smart Government Initiative 2021, seeking to migrate all key consumer services on mobile phones and other digital tools.
It will provide mobile users with the electronic equivalent of a traditional wallet, able to store, transfer money and pay for goods and services

Policy reference: Smart Government Initiative 2021

Country Overview (UAE vs UK)

Cash penetration: 92% (UK: 60%)
Banked population: 60% (UK: 87%)
E-trxn per inhabitants: 61 (UK; 293) transactions per year
Internet penetration: 45% (UK: 73%) of population
Mobile penetration: 81% (UK: 87%) of population

Payments / cards country trends:
Payments in the UAE are driven by cash and cards and less by Accounts. The use of debit cards at the point-of-sale is still low since most merchants in the region prefer cash and often lack information on card acceptance

Characteristics

Business Characteristics

Area: cards, bank accounts
Innovation area: end user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: combined
Main usage: C2B, C2C

Technology Characteristics

Access channel: POS, Internet
Access device: computer, mobile/ smartphone
Access technique: Remote

Initiating factors:

Lead actors: public entities, credit institutions – payment systems
Partnerships: banks with banks
Catalyst: government strategy
Facilitator: mobiles
Incentives: achieving governmental goals

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of cash handling

Lessons for PSR

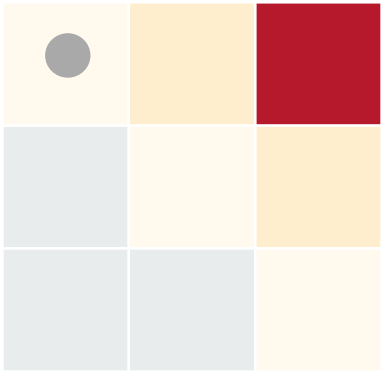
Summary

- **Policy toolkit: Setting vision**
- **Driving factor:** regulation
- **Value chain step impacted:** payments acquisition, authentication

Categorisation

- **Impact rationale: highest,** all major banks in the country can create the required ecosystem with strong government support to achieve high adoption

- **Relevance rationale: medium,** for the UK due to the already high penetration e-payments instruments and also higher digitalization of public services

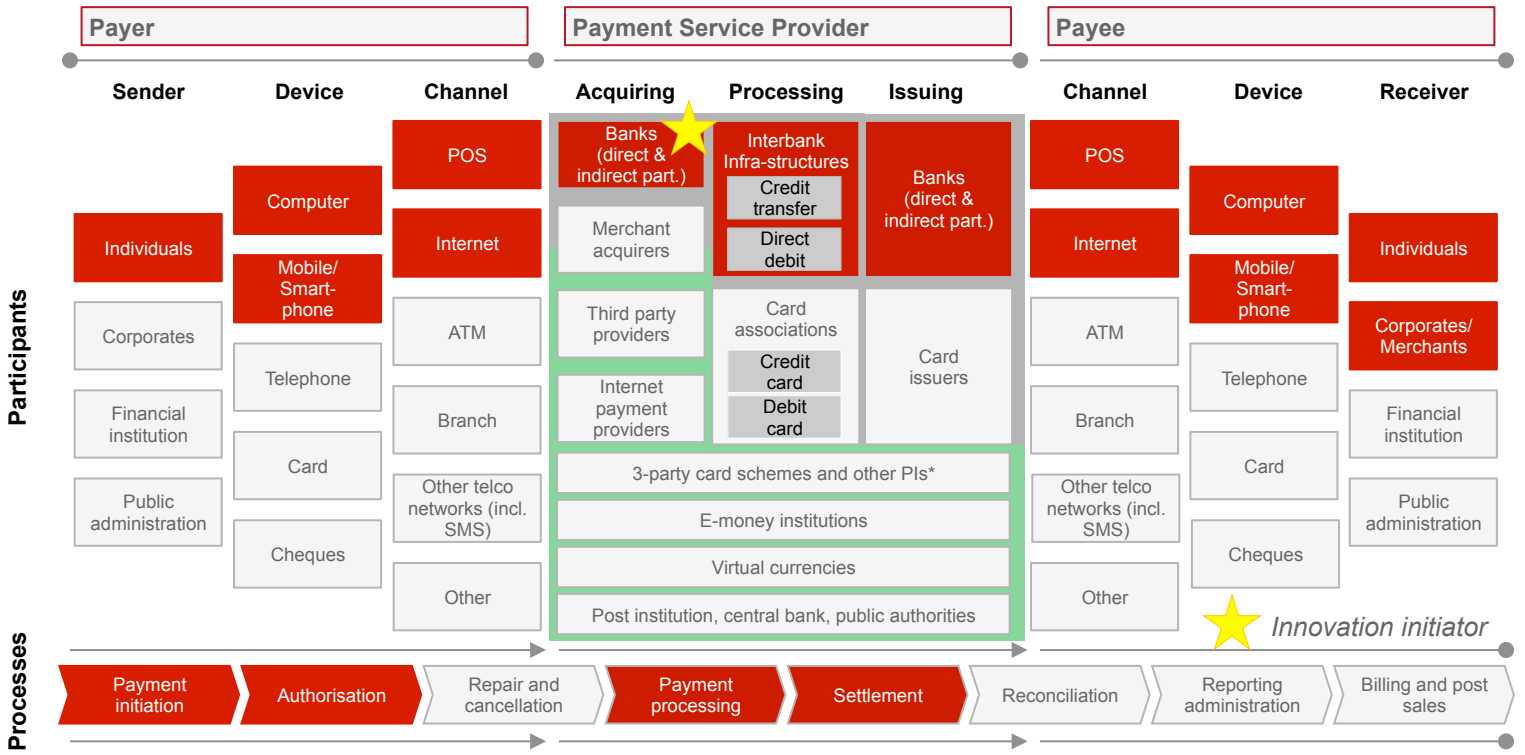


Source: BIS, ECB, World Bank, national central bank, press search

Dubai National Wallet: common platform for digital services

accenture

Dubai National Wallet: innovation impact along the payments value chain



Payer Benefits

- **New payment option**: alternative payment method to cash and cards to in store purchases

PSP incentives

- **Achieving governmental goals**: key objectives of the project is to make banking more inclusive and provide financial services to the unbanked segment of population:

Payee Benefits

- **Lower cost of cash handling**: the expected cash displacement will generate savings for consumers, merchants and PAs

Policy toolkit

- **Setting vision**
- Smart Government in the UAE is an advanced electronic control step, which aims to encourage the government and state-owned companies to provide creative solutions at any time, highly efficient and transparent services through mobile phone applications that meet customer expectations

Process

- The national payments ecosystem will be widely impacted with all major banks in the country involved: ADIB, Emirates NBD, First Gulf Bank, NBAD, ADCB, Commercial Bank of Dubai, Mashreq, Dubai Islamic Bank
- The mobile wallet solution will put the UAE ahead of the world, using the retail and commercial banking solution that brings state-of- the-art features.

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Jordan: electronic bill presentment and payment platform

eFawateerCom is a nationwide electronic bill presentment and payment platform in Jordan that lets individuals receive and pay their bills electronically from computers, ATMs and POS terminals from all over the country

Overview

Innovation Case Overview

In 2014, the government of Jordan announced it will be launching eFawateerCom, a nationwide electronic bill presentment and payment platform. The service allows consumers to inquire about, receive and pay their bills electronically from computers, ATMs and POS terminals from all over Jordan. The initiative has been driven by the Central Bank of Jordan

Policy reference: Central Bank of Jordan-led initiative

Country Overview (Jordan vs UK)

Cash penetration: >95% (UK: 60%)
Banked population: 26% (UK: 87%)
E-trxn per inhabitants: 2 (UK: 293) transactions per year
Internet penetration: n.a.
Mobile penetration: n.a.

Payments / cards country trends: Jordan is a cash intensive country both for retail and commercial payments, even if the number of payment cards is growing rapidly. In 2007 a new system to process electronically cheque has been launched not requiring the physical exchange of cheques

Characteristics

Business Characteristics

Area: bank payments
Innovation area: Wholesale cards/ payment innovation
Product group: EBPP
Funding type: bank account
Main usage: C2B

Technology Characteristics

Access channel: Internet, POS, ATM
Access device: computer, card
Access technique: remote

Initiating factors:

Lead actors: public entities
Partnerships: none
Catalyst: New policy/government strategy
Facilitator: Infrastructure available
Incentives: achieving governmental goals

Impact factors:

Customer benefit: ease of use
Merchant benefit: lower cost of payment processing

Lessons for PSR

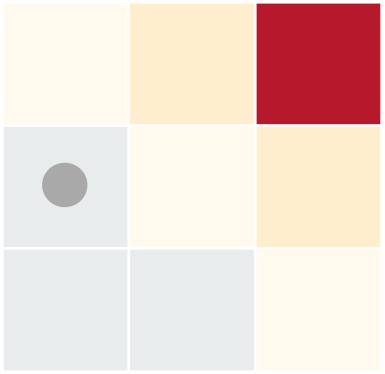
Summary

- **Policy toolkit: Setting standard/interoperability**
- **Driving factor:** Government/regulation
- **Value chain step impacted:** Payment initiation, Authorisation, Payment processing, Settlement

Categorisation

- **Impact rationale: high**, all banks in Jordan and most of the large Jordanian billers are “expected” to join eFawateerCom within the next 12-16 months. Jordan government will use the platform to manage customs duties and taxes, again combating tax avoidance.

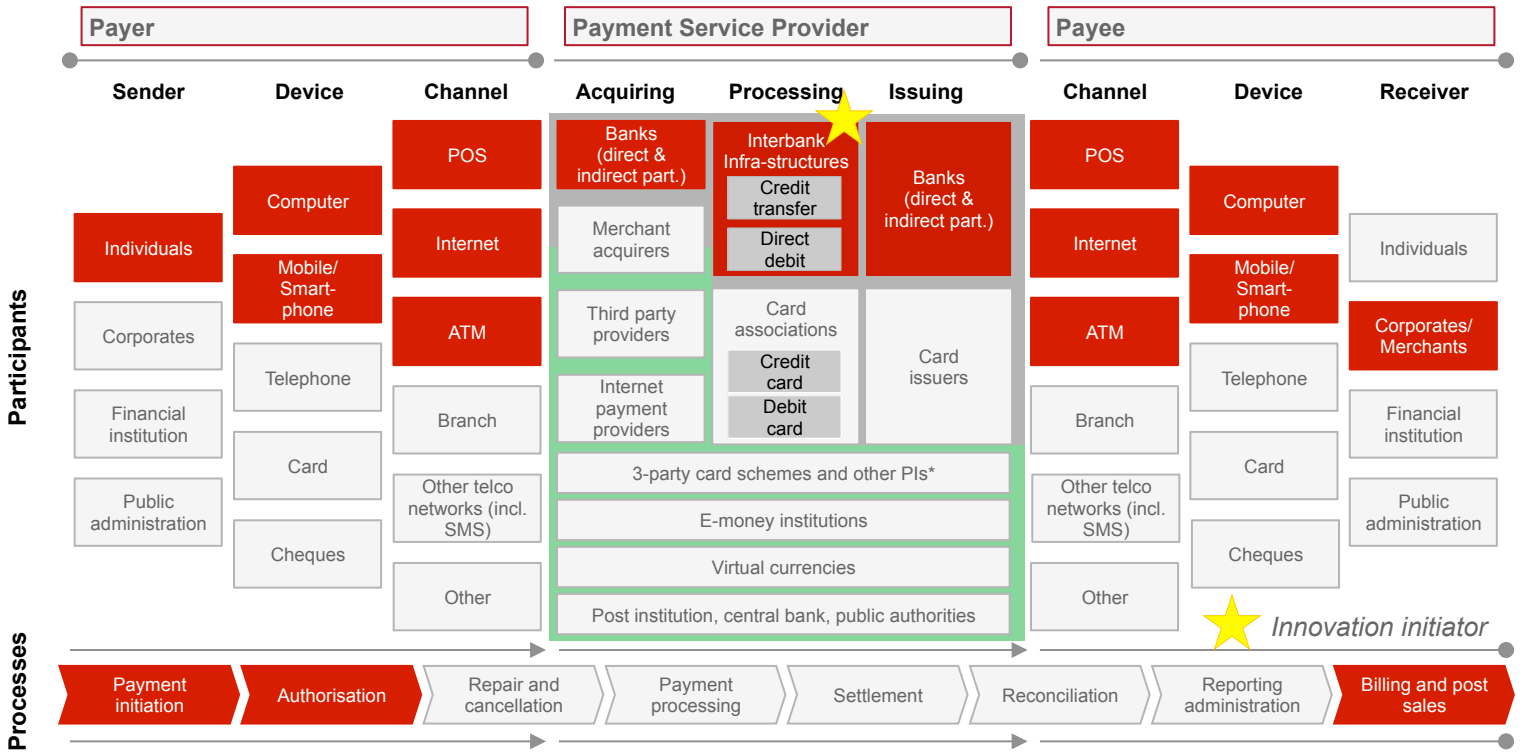
- **Relevance rationale: medium,** The introduction of an e-invoice platform may increase turnover through e-invoice since in the UK 8% of all SMEs turnover is electronically invoiced.



Source: BIS, ECB, World Bank, national central bank, press search

Jordan: electronic bill presentment and payment platform

EBPP in Jordan: innovation impact along the payments value chain



Payer Benefits

- **Ease of use**: this service offers Jordanians flexibility and security while paying their bills via electronic channels such as mobile phones and laptops

PSP incentives

- **Achieving governmental goals:** to modernize the national payments system

Payee Benefits

- **Lower costs of payment processing**: electronic billing allows the electronic / online delivery of bill payments, reducing the cost of paper handling and mailing

Policy toolkit

- **Setting standard/ interoperability**
- The Central Bank of Jordan has driven the initiative – it released a tender to build, operate and administrate the Electronic Bill Presentment and Payment Service gateway in Jordan
- e-Payment company Madfoo3atCom has won the tender

Process

- The electronic bill payment and presentment service impacts Billing and customer service value chain activity
- The service delivers a more efficient receipt and processing of bill payments
- Mobile/smartphones, ATMs, POS terminals as well as laptops to receive and settle received bills

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact

Oi Paggo: credit offered through mobile phones

Oi Paggo is the credit card business of the Oi, a tier 2 mobile network operator in Brazil, where the actual credit card has been replaced by the phone

Overview

Innovation Case Overview

Oi Paggo, the leading m-money service provider, started as a credit card business, but later replaced the actual credit card with a mobile phone that could communicate with another mobile phone that acted as the POS device for merchant. In 2010, Oi Paggo's stakeholder Oi signed a partnership with Cielo, Brazil's leading card acquirer to achieve merchant acceptance

Policy reference: local credit card legislation no specific m-money regulation

Country Overview (Brazil vs UK)

Cash penetration: 91% (UK: 60%)
Banked population: 56% (UK: 87%)
E-trxn per inhabitants: 120 (UK: 293) transactions per year
Internet penetration: **57%** (UK: 73%) of population
Mobile penetration: 91% (UK: 87%) of population

Payments / cards country trends: The payments area is competitive since banks, ATMs and correspondent banks can all be used for money transfers, bill payments and mobile top-ups. In addition, bank cards have a high penetration rate, with more than one card per deposit account for both debit and credit cards

Characteristics

Business Characteristics

Area: cards
Innovation area: End user innovation (not wholesale-enabled)
Product group: mobile payments
Funding type: Credit
Main usage: C2B

Technology Characteristics

Access channel: Other telco networks
Access device: mobile/smartphone
Access technique: Remote

Initiating factors:

Lead actors: Telco
Partnerships: MNO requires bank
Catalyst: services possible
Facilitator: mobiles
Incentives: increased revenues through service differentiation

Impact factors:

Customer benefit: new payment option
Merchant benefit: lower cost of cash handling

Lessons for PSR

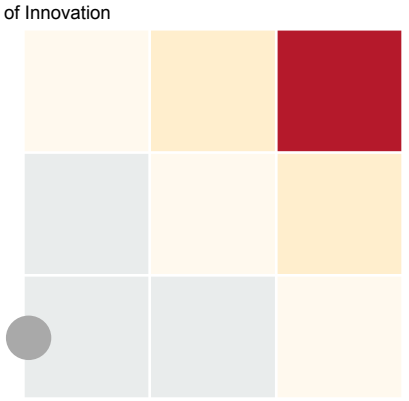
Summary

- **Policy toolkit: Monitoring**
- **Driving factor:** competition
- **Value chain step impacted:** Payments initiation, Billing and post sales

Categorisation

- **Impact rationale: medium**, Oi Paggo has approx 250,000 customers: 100,000 who use Oi Paggo only to pay their phone bills and 150,000 signed up as m-payment users; nearly 50% of whom use the product every three months.

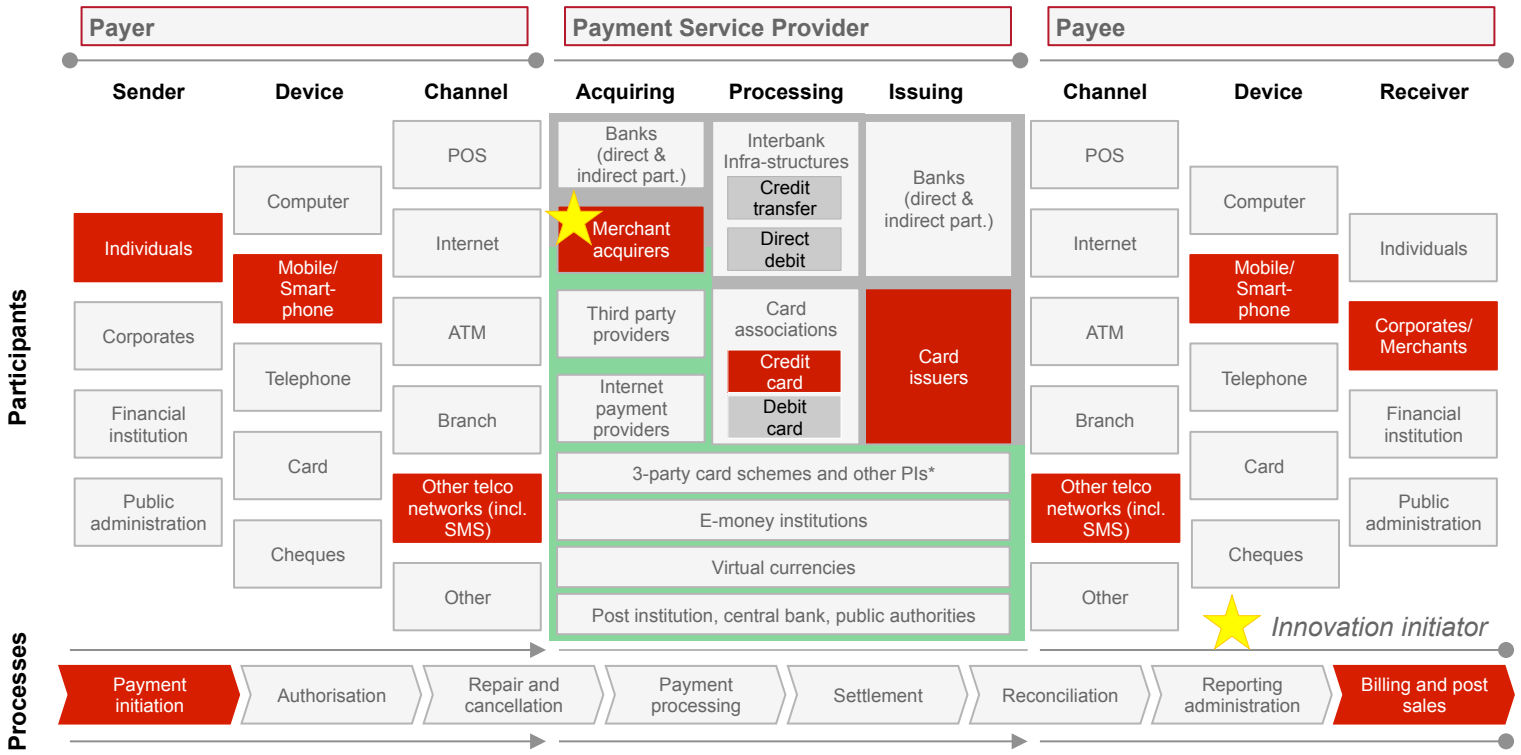
- **Relevance rationale: low relevance** for the UK since a similar solution proposed by MNOs haven't achieved enough scale (Quick Tap and O2wallet)



Source: BIS, ECB, World Bank, corporate website

Oi Paggo: credit offered through mobile phones

Oi Paggo: innovation impact along the payments value chain



Payer Benefits

- **New payment option:** Oi Paggo offers customers a convenient way to pay bill and top-up and credit card functionalities on their mobile

PSP incentives

- **Increased revenues through service differentiation:** Oi Paggo generates new revenue by differentiating into mobile payments and from selling mobile acceptance services to SME merchants

Payee Benefits

- **Lower cost of cash handling and payment processing**: merchants can benefit by lower merchant services charges (3% vs 6%) than other acquirers and by a service POS rental fee free, which is typically US$57

Policy toolkit

- **Monitoring**
- There is no opportunity for any MNO to act alone; it needs to partner with banks and/or payment providers
- Brazil has no specific m-money regulation, and there is uncertainty within the Central Bank over whether it has the power to regulate m-money

Process

- The MNO grants a credit line to the "cardholder" and acquires merchants to accept the payments. The merchant is paid 30 days after the transaction, while the "cardholder" pays the scheme 25 days later.
- If the "cardholder" does not pay, the MNO can take out a loan on behalf of the "cardholder"

Source: Accenture analysis Jul/Aug 2014

* Other payment institutions include money transfer operators, FX payments providers, M-payments operators

Key: Banking domain | Non-banking domain | Innovation impact