

Transformation of payment systems: channels, technologies and business models

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- Started life as the consulting and services arm of the TRP
- 2008 – it became the main event
- TRP website for mostly academic publications
 - <http://www.trp.hku.hk>
- TIF website mostly for conferences/forums/discussions
 - <http://www.trp.hku.hk/tif/home.php>
- The current research on mobile payments and card payments undertaken for co-branded KPMG papers



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Tackling the challenge of emerging technologies

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- inhouse training and briefings for staff
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TRPC reports

November 2008
[Destination Digital: Opportunities in China's media and advertising market: A report by TRPC for KPMG](#)

August 2008
[M-payments and M-banking: Presentation to the JFC, Jakarta, Indonesia, 20th August 2008](#)

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The Story so far...

- Asia Pacific leads in mobile payments
 - Micro payments are macro business
 - NFC trials across APAC
 - M-banking trials have started
- Asia Pacific lags behind US and EU in card payment systems, but...
 - Is catching up in card ownership and usage
 - Is catching up in software applications and merchant solutions
 - Is beginning to see outsourcing to Third Party Processors
 - Regulators focus on either prudential issues (financial) or competition (industry) issues

Card and mobile payment systems

- Channels
 - Mobile payments:
 - OTA = SIM+PIN
 - “Touch N’ Pay” = NFC (SVC... Credit/debit cards = M-wallet)
 - Cards:
 - “Card present” = POS swipe/insert; M-wallet (NFC)
 - “Card not present” = Internet/phone/fax, etc
- Technologies
 - Network technologies, e.g. broadband, mobile 3G, NFC, etc
 - Card technologies, eg., “Chip N’Pin”, EMV, PCI-DSS
 - POS technologies and software applications/payment platforms (including Internet gateways)
- Business Models – each stakeholder has their own!

Types of m-payments

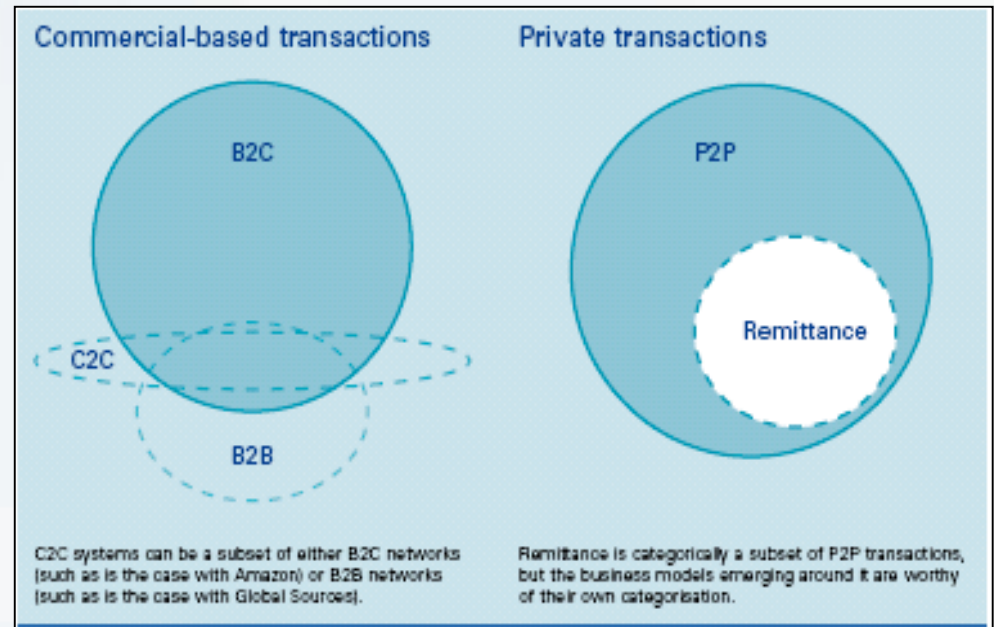
	m-wallet	m-bank	Touch-and-pay	Top-up	Remit	Content	Payment Gateway	Auctions
Telecom	●	■	●	●	●	●	●	■
Banking	●	●	●	■	●	■	●	■
Retail	●	■	●	■	●	●	●	●
Transportation	●	■	●	■	●	■	●	■
Media	●	■	■	●	●	●	●	■
Verticals	●	■	●	■	■	●	●	●

M-payment Adoption Across Asia

	m-wallet	m-bank	Touch-and-pay	Top-up	Remit	Content	Payment Gateway	Auctions
Japan	●	●	●	●	◐	●	◐	◐
Korea	●	●	●	●	◐	●	●	◐
Hong Kong	◐	●	◐	◐	◐	◐	■	◐
Singapore	◐	◐	◐	◐	◐	◐	■	◐
Taiwan	◐	●	◐	◐	■	◐	■	◐
China	◐	●	■	◐	◐	◐	◐	◐
India	◐	◐	■	◐	◐	◐	◐	■
Philippines	◐	●	■	●	●	◐	◐	■
Indonesia	■	●	■	◐	◐	◐	■	■
Thailand	◐	●	◐	◐	◐	◐	■	■
Malaysia	◐	●	■	◐	◐	◐	◐	■

M-payment Business Models

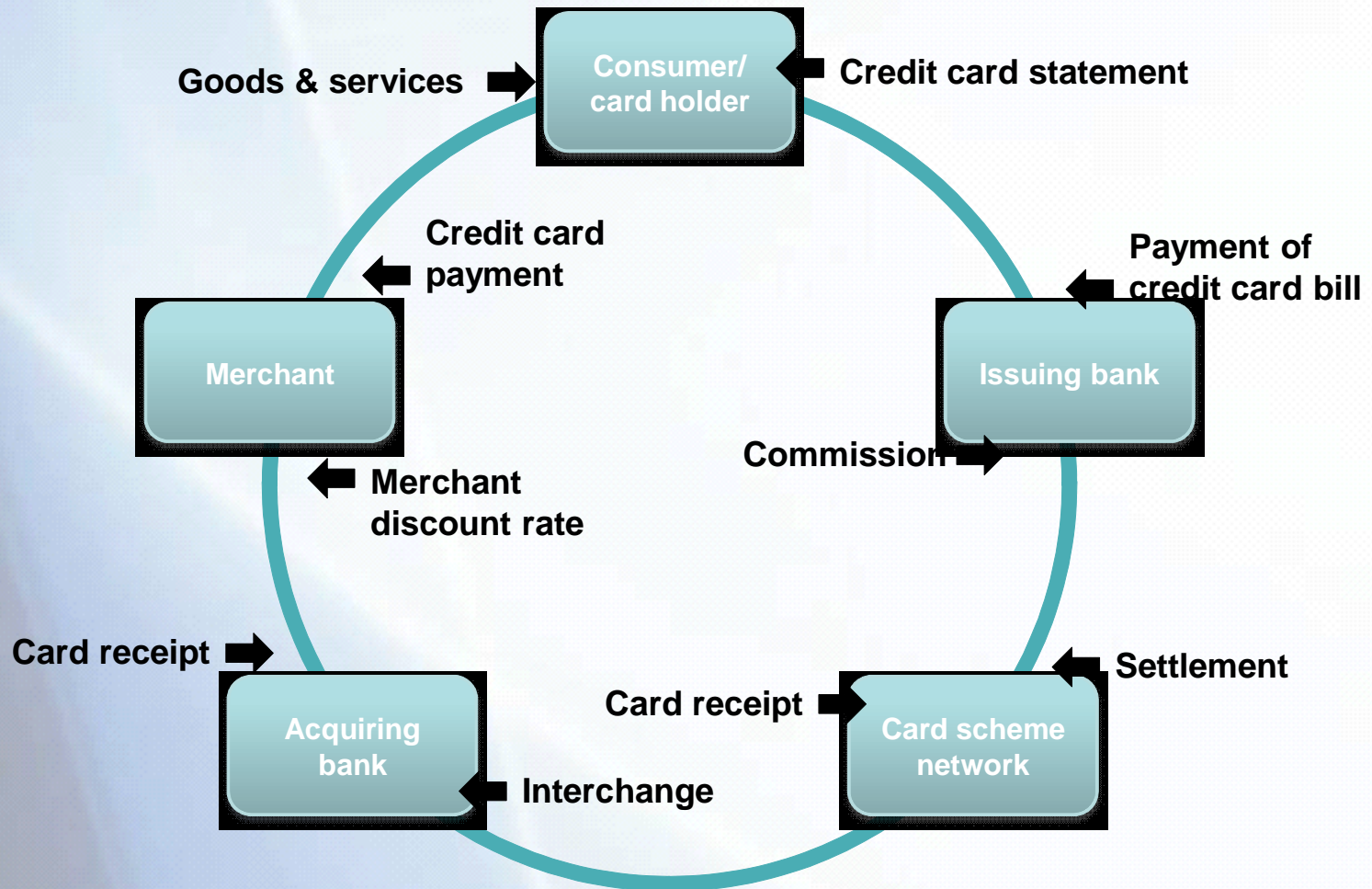
- B2C: enables payment for the direct acquisition of goods or services
- B2B: facilitates business processes and procurement
- C2C: Transactions directly between end-customers but across a third-party platform
- P2P: Private transactions between two individuals (e.g., transferring credits or mobile minutes)
- Remittance: A subset of P2P. (One-way P2P.)



Card Payments in Asia

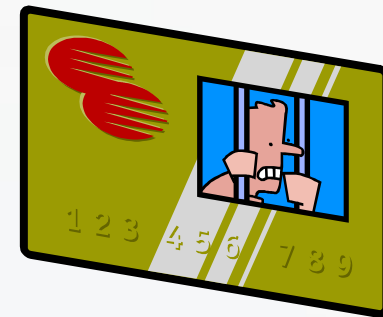
- .Roughly 30% world global credit card payments in 2007 were in Asia Pacific = \$1.3 trillion
 - 70% for purchase of goods and services
 - 30% forwarding or withdrawing cash
 - AP home to around 50% world's population = great growth potential
- Asia Pacific home to around 50% world's population = great growth potential
- Visa and MasterCard = 90% market share of card usage by volume *and* value.
- *Source: data from Nilson Reports*

Stakeholders



Stakeholders

- Cardholders – card types
 - credit, charge, cheque, debit, SVC, discount, loyalty, gift, membership, etc.
 - Little fraud in AP, even less liability
- Card Issuing banks – revenues
 - fees, rollover interest rates
 - additional marketable services, promotional advertising, etc
 - Little fraud in AP, most liability



Stakeholders

- **Merchants – business issues**
 - POS (buy vs., rental?), multi-terminals vs. multi-function (eg. separate terminals for promotional credit cards?)
 - Surcharging and steering vs. “Honour all cards”
 - Partial by-pass of card schemes (direct to issuer) by larger merchants?
- **Card acquiring banks – costs & competences**
 - data processing and or vs. financial settlements?
 - cost-centre vs. profits centre?
 - legacy IT & POS systems vs. all-IP NGN networks and multi-functional POS
 - In-house vs. outsource?,

Stakeholders

- Card schemes – centre of gravity?
 - interchange fees = duopsony power?
 - Global power of Visa and MasterCard
 - Alternative State-sponsored networks
 - China UnionPay
 - India Pay for state procurement
 - By-pass requires global networking – Internet gateways a threat or not? (See below)
 - Convergence on the cards?
 - Citibank credit card + Octopus in Hong Kong
 - Visa + ezLink in Singapore



Stakeholders

- **Third party processors – scale**
 - Acquiring via services to verticals? (eg. dynamic currency conversion, partnerships with vendors, etc)
 - Data processing services (risk mgt, reporting, profiling, etc)
 - Switching = one to many
 - Financial settlements only if holding a bank or ‘banking authority’ licence
 - Owning the merchant vs. bank partnership?
- **POS providers – innovation for verticals**
 - Multi-functional terminals
 - Software application and solutions for verticals
 - Partner with acquirers

Stakeholders

- Telecom companies – new entrant?
 - Mobile “Touch N’ Pay” (NFC), mobile payments (OTA)
 - Broadband networking of POS
 - Phone cards = SVC → transit/retail? (interconnecting networks?)
- Regulators - financial or industrial?
 - Prudential regulation vs. competition policy
- Others... rating agencies, standards committees, consumer groups, Competition and Fair Trading Commissions, etc.

Conclusions



- Transformation taking different forms
 - New entrants (eg. TPPs, new acquirers, Internet gateways)
 - *Potential* for by-pass (eg. large issuing banks, large merchants, Internet?)
 - New applications for industry verticals, often focused around the POS
 - All IP-broadband networks
 - Mobile payments and banking opportunities; NFC, etc

Conclusions



- Stakeholders can be
 - held together by common interests, eg.'s
 - Grow the market by building the ecosystem; eg. m-payments in The Philippines
 - Vendors, TPPs and acquirers working as partners; eg.'s Merchant Solutions (First Data and Standard Chartered) Global Payments (GP and HSBC), Planet Payments (dynamic currency conversion), etc
 - or driven apart by separate interests, eg.'s
 - MNOs vs. banks (early 2000s in S.Korea)
 - By-pass of cards schemes



Conclusions

- Regulation – financial
 - Prudential issues/deposit taking licences
 - Codes of conduct
- Regulation – industrial
 - Competition policy/card scheme rules/interchange
 - Heavy vs. light-handed ‘supervision’

It worked for telecoms, but not for capital assets markets! Are consumer credit markets safe? For the moment, yes.

