M-Payments in Asia Pacific

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“Mobile-Payments in Asia Pacific”

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Agenda

- Key findings
- Business models
- Regulations and standards
- Risks and challenges
- Case studies

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Key Findings

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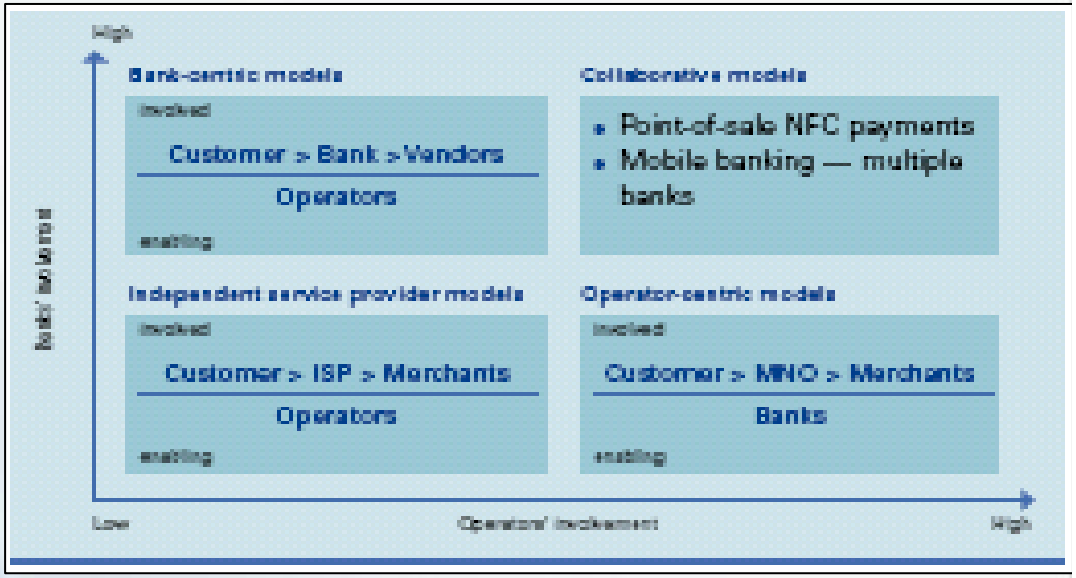
Key Findings

- *Multiple* m-payment ecosystems are emerging
  - Traditional focus has been on bringing *all* players together;
  - Broad uptake of mobiles + advances in technology resulted in multiple ecosystems:
    - Carrier-centric,
    - Bank-centric,
    - Vendor-centric,
    - Platform-centric.



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Key Findings

- Different m-payment types → different business models
  - 'Mobile payments' encompasses different platforms and solutions; different industries adopting different m-payment solutions;
  - 5 business models becoming apparent: B2C, B2B, C2C, P2P, and remittance.
- Distinct patterns of m-payment adoption across Asia
  - The leaders: Japan & Korea
  - The mobile tigers: Hong Kong, Singapore, Taiwan
  - The giants: China, India, the Philippines, Indonesia
  - Mid-markets: Thailand and Malaysia

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Key Findings

- Success requires focusing on two-sided markets
  - Focus traditionally on building supply, be this equipment (e.g., POS terminals) or standards (bank-carrier-payment consortia)
  - As a result, demand has not been developed and has remained disaggregated;
  - New (and successful) strategies for building demand include handset and merchant subsidies (DoCoMo), aggregating content (Danal), targeting the underserved (Smart).

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Business Models

Types of m-payments

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

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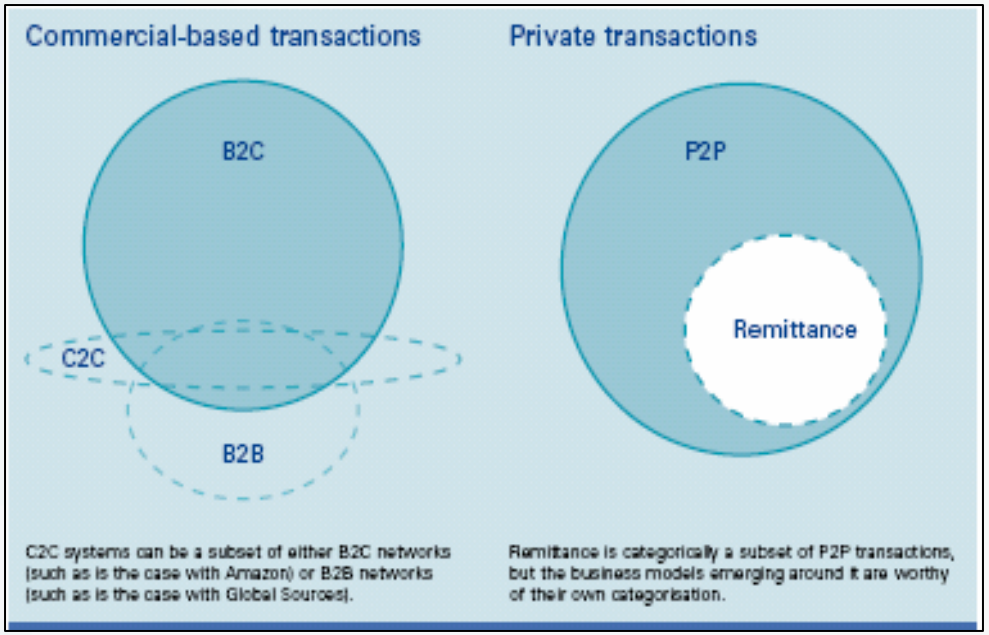
Key: level of adoption – leading, high, emerging, low.

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.)



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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	◐	◐		◐	◐	◔	◔	

Regulation and Standards

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Regulation and standards

- Why do regulations matter?
  - Regulations circumscribe:
    - *what* type of m-payment services MNOs can offer,
    - *how* they can offer them, and
    - *who* they can best partner with (e.g., shield themselves under an existing bank licence)
  - Regulations influence
    - the *cost* and
    - the *investment viability* of offering m-payment services

- Why do standards matter?
  - Standards govern the *interoperability* of m-payment systems and therefore their *market acceptability*
  - Standards significantly reduce both service provider and merchant *equipment costs*
  - Note: Credit card EMV-compliance is now required across the EU, but technical specifications for POS terminals will be available 2009

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Common Elements in Approach Across Asia

- Risk and security aspects are mostly covered by banking laws, licenses and regulations

- Deposit-taking licenses and/or monetary authority approvals are required for non-banking financial companies, including stored-value cards

  – 'Proportionality' is used as a discretionary measure on the level of the 'float' that attracts regulation

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Japan and Korea

Japan

- Regulated by Ministry of Economy, Trade & Industry, not MoF
  - Finance companies provide consumer credit following traditional restrictions on banks and revolving credit
  - DoCoMo's 'iD' mobile card platform moved into this space, renting IC space for banks and merchants to download cards
  - E-commerce regulations and the Prepaid Card Law require 50% of the float to be deposited at Bank of Japan and reporting of unused deposits every 6 months

Korea

- E-Financial Transactions Act (2007) and E-Commerce Consumer Protection Act (2006) govern e-commerce payments
  - EFTA requires accounting separations, minimum security standards, book-keeping for up to 5 years, and performance reports to the Financial Supervisory Commission (FSC)
  - MNOs offering m-payments are obliged to provide status reports to the Ministry of Information & Communications

Indonesia and The Philippines

- Remittance services offered by MNOs actively encouraged by the monetary authorities in the Philippines – international remittances play a major role in inflow of foreign currency from overseas workers

- MNOs in Indonesia are reluctant to experiment with remittances due to uncertain financial regulations – this lack of MNO activity may also hinder the development of much needed m-banking options

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Bangladesh

- Bangladesh Mobile Payments Directive (Draft) May 2008 (Bangladesh) proposes new quasi-financial Payment Service Provider (PSP) ***separate from*** MNOs and must be bank regulated
  - The 'float' must be maintained in a bank and isolated from creditors
  - A Guaranteed Deposit Account must be opened
  - The PSP mobile services must be interoperable with other Bank approved payments systems

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Pakistan

- Pakistan Draft Regulatory Framework for Mobile Banking (2008?)
  - **Bank-Focused** = bank using 'alternative delivery channels' (ADCc) such as mobile phones; low-risk and covered by existing regulations, e.g. use of ATMs
  - **Bank-Led** = banks use agents or JV partners such as an MNO; prone to agent-related risks = answer to make banks liable for their agent risk; separate guidelines required
  - **Non-Bank Led** = e-money held on card issuers' server; not covered by banking regulations; KYV (Know-Your-Customer) guidelines very difficult to implement or enforce = *'unjustifiably risky proposition' at this stage*

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Risks and Challenges

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Risks and Challenges

- Interoperability and security are central to successful business models for m-payments
  - EMV offers interoperability and security – within the EU compliance to EMV is mandatory and banks have used this to shift responsibility (risk) to the merchant
- New technologies are opening up new levels of market acceptance and new business opportunities
  - 3G and beyond: bandwidth/transmission speeds are advancing rapidly to support rich-media content and applications
  - Near Field Communications (NFC) offers contactless cards embedded in the handset – Visa and MasterCard have numerous trials ongoing and commercial launches planned for 2007/2008

Risks and Challenges

- M-payments can be quite secure
  - Macro-transactions can be authenticated with SMS and PIN
  - Lost or stolen mobile handsets quickly reported and MNO can block usage
  - Mobile handsets more secure than Internet café PCs for m-payments for games (one of the future drivers of m-payments?)
- Identity theft rather than commercial loss through m-payments is the greater risk

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Case Studies

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Smart in The Philippines

- In 2000, Smart Communications enabled subscribers to *transfer* money from bank accounts via a 'Smart Money' account
  - 1-way P2P remittance
  - 'world's first electronic cash card linked to a mobile phone'
- To encompass low-income users and the 'unbanked', Smart began reducing size of airtime units
  - Eventually to 2 pesos (< US$0.003)
- 10 million Filipinos work overseas, remitting more than US$14 billion annually
  - Equivalent to 10% of the Philippines GDP.

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The Growing Reach of Octopus

- World's most successful B2C application of a contactless card
  - HK$77 million (US$10 million) in daily transactions
- Established in 1994 as a non-profit JV between the metro, railway and bus companies
  - Changed status in 2001 to become for-profit Octopus Card Ltd
  - In 2000, received a Deposit Taking Company licence removing 15% ceiling on non-transit sources → expanded into retail, parking, vending machines, kiosks
  - By 2006, >20% revenues came from these services
- With convergence of contactless cards and handsets, Octopus moved into m-pay early → In June 2002, launched the Octo-phone (with Nokia)
  - Card independent of phone, retailed for HK$190, only sold in 'Robin-nest' blue!

Gaming and Virtual Money

- Link between virtual money and m-payments initially rests with mobile games.
  - Broadband mobile phone networks now making access to online virtual worlds easier and ubiquitous
- Virtual currencies accepted for virtual items (eg, game points, weaponry, avatar accessories), and real-world merchandise (eg, clothes, flowers, CDs).
  - E-commerce sites and online currency marketplaces enable virtual currencies to be turned back into cash – the real money trade (RMT).
- China's virtual item trading in 2006: US$900 million
  - Despite efforts by Tencent to prevent a secondary market in the trading of QQ coins, China's most popular auction site (Taobao) was trading US$62,500 in QQ coins every day as of April.

Conclusions

- New drivers of m-payments are technology-enabled (EMV, 3G, NFC, etc) but closely related to more general broadband developments,
  - e.g., shift to services, social networking, targeted advertising and to take-up by the Y-Gen (e.g. P2P, multiplayer online games) and by the enterprise sector (e.g. logistics, m-banking)
- There is no single m-payment model; multiple m-payment ecosystems emerging
  - Success requires building 2-sided markets… nurturing both demand and supply
- Adoption likely to be high where m-payment addresses an immediate need or bridges an existing gap
  - Such as serving the 'unbanked' in developing markets, particularly where mobile access and usage already high.

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