Micro-Payment Systems in Mobile Networks
A Report by infoDev, IFC, and GSMA

By anonymous MIT student

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Why m-Commerce?

- Gap in banking system access between developed and developing nations
- Cash-dependent society is not ideal
- Pre-paid mobile services
- Demonstrated ability to perform simple financial transactions and SMS usage
The Philippines Experience

- Reliance on cash for day-to-day subsistence
- ‘Sachet’ purchasing
- Prepaid segment → low margin, high volume
- Reduced minimum from $6 to $0.6
- Can we go even lower?
SMART Money and G-Cash

- Cash deposits/withdrawals
- Transfer of cash to airtime
- P2P transfer of airtime or cash
- International remittances
- Cashless retail purchasing
- Bill payment
- Payroll
- …
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SMART Money and G-Cash

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SMART Money and G-Cash

- **Interface**
  - SMS or menu-based SIM (GSM only)

- **Service Charges**
  - SMS text for transactions ($0.02)
  - 1% fee on cash transfers (with minimum)
  - SMART Money-specific
    - Annual Charge of $4 for debit card
    - ATM charges for debit card use
SMART Money vs. G-Cash

- 2000 vs 2004 (2.5 vs 1 million users)
- SMART Money offers MasterCard debit card
- G-Cash launched 4 years after SMART Money, but offers more:
  - Payment of taxes and annual fees
  - Online payments for movies, games, etc.
  - Micro-finance (with ‘rural banks’)
- Different implementations
The Two Models

- ‘Access Model’

The Two Models

- ‘Hybrid model’

Image removed due to copyright restrictions. See Figure 2 in Wishart, Neville. 2006. *Micropayment Systems and Their Application to Mobile Networks*. infoDev / World Bank. Available at: [http://www.infodev.org/en/Publication.43.html](http://www.infodev.org/en/Publication.43.html)
Benefits – Providers

- For service provider
  - Higher profits (ARPU, cards)
  - Higher penetration (low-income markets)
  - Less ‘churn’, more loyalty (from 3% to 0.5)

- For bank (provider in ‘hybrid model’)
  - Higher profits (more transactions)
  - Increased outreach
Benefits – Clients

- For the end user
  - Convenience
  - Safety at low cost
  - Time saving
- For third parties
  - Easy micro-loan issuance and repayment
  - Retailers earn 15% commission
  - Time-value of cash
  - No need for remote locations
Other Considerations

- Bad debt provision
- Regulation → Imposes limits
- Network Traffic and security
- Regardless of model, need transaction processing engine
  - Really?
- Revenue and cost
  - Increased ARPU (by time-limiting airtime)
Further discussion

- Debit Cards – good or bad?
- High relative fee
- Use of ATMs
- Purchases aren’t limited to selected retailers
Further discussion

- ‘Access model’ vs. ‘Hybrid model’
- Regulation
- Profit (e.g. $10 million)
- Investment in banking system
- Flexibility
Further discussion

- What other services can be enabled?
- Incorporate with retailer’s POS so they don’t need an account as well
- Micro-finance
Further discussion

- Why hasn’t this happened here?
- Familiarity with SMS
- Big segment of population ‘unbanked’
- Regulatory concerns
Further discussion

- How about in other developing countries?
- Airtime transfers already exist
- Lack of infrastructure?
- Happening in many places → Ideal to have a common interface