

# A payments renaissance

February 28, 2014

\* Views expressed are strictly the author's.

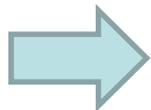
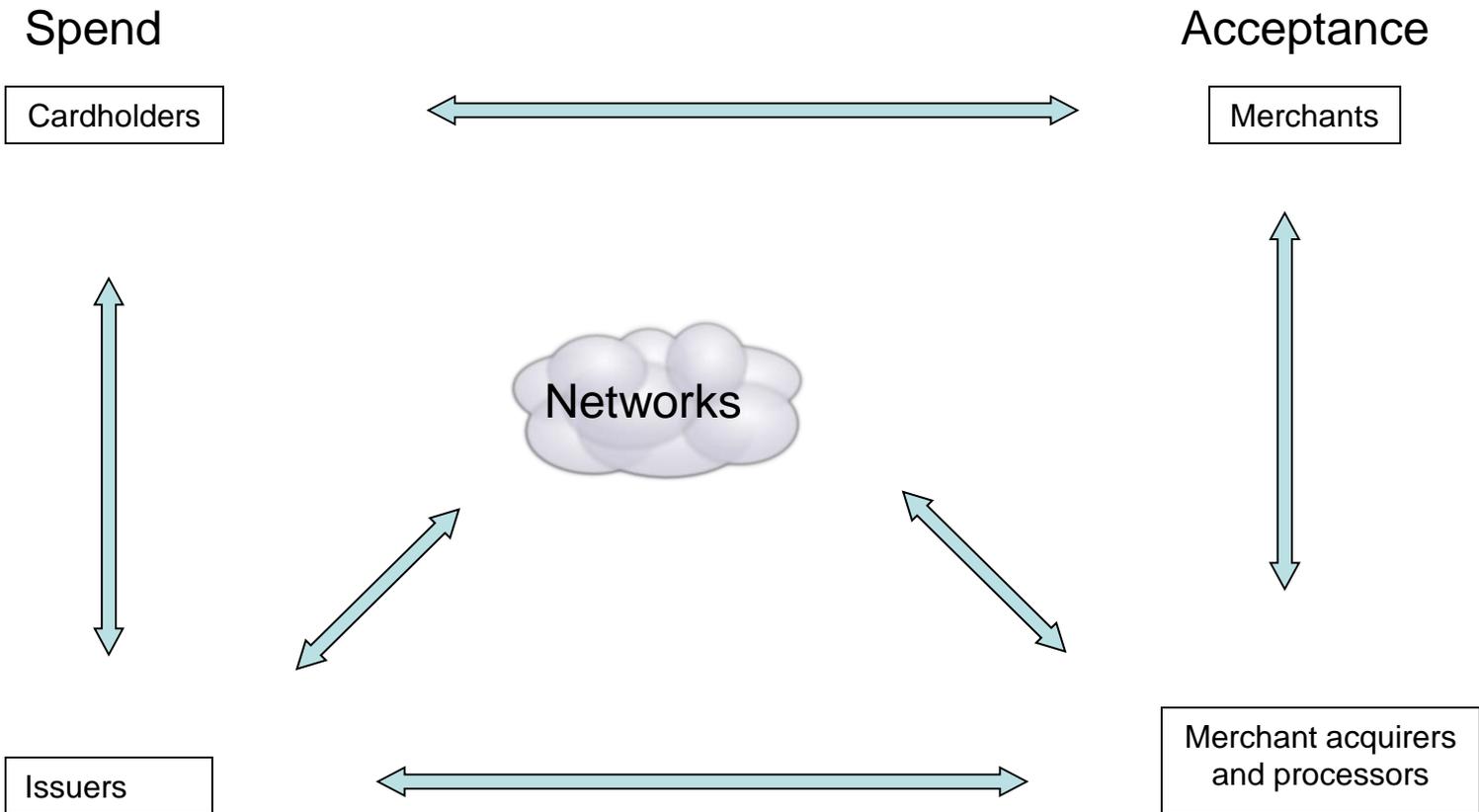


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# A wave of much-hyped new entrants, innovators and would-be disruptors

- Cryptocurrency Bitcoin, would-be giant slayer Dwolla, high-profile Square, Google Wallet, MCX, Isis, PayPal and Amazon taking payments to the physical pos, and Vocalink's Zapp spur talk about payments disruption

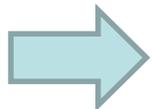
# Traditional retail payment card ecosystem



Consumer and merchant fees sustain all parties in the payments value chain.

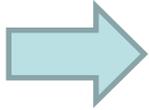
# Wave of innovators on acceptance side of the network

- Integrating payments in a richer more comprehensive and stickier merchant solutions
  - Revel, Shopkeep, GoPago, Leaf, Clover et al
- PSPs engaging consumers and attempting to deliver sales lift to merchants
  - Chase-Visa on-us processing partnership, Levelup, Square Wallet, First Data/Perka, Total Systems/Wombly et al
- Drop-dead-simple integration
  - Braintree, Stripe, Paymill, Judo Payments, WePay et al
- Blurring of e-commerce, mobile-commerce and physical pos payments



Stressing traditional merchant acquirers

# The mobile onslaught: The promise, what's commercially real now, and challenges



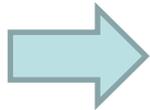
- 6.8 billion mobile phones in 2012.
- In 2013 smart-phone shipments surpassed dumb-feature-phone shipments.
- Billions of Internet-connected-processor consumer and merchant endpoints massively extends the payments opportunity space.
- M-acceptance
  - More than 200 mobile-acceptance providers including Square, iZettle, Payleven, Sumup, Intuit, PayAnywhere, et al
  - 2011 4 million smart-phones being used for acceptance, 2012 9.5 million smart-phones being used for acceptance
  - Explosive growth has substantially been in the US and Western Europe. Impact should be greater in emerging markets
- Proximity payments (NFC, Beacon, QR code...) massively hyped
  - Frost & Sullivan forecast in 2015 there will be 863 million NFC-enabled phones and \$111 billion NFC-payments worldwide\*
  - Former Visa EU CEO Peter Ayliffe estimated 50% of all Visa transactions in Europe will be on a mobile device by 2020
  - MasterCard and Visa endorsed host-card emulation, weakening carriers' position and enhancing
  - Need to achieve critical mass in clusters on both the spend and acceptance sides of the network
  - In addition, cardholders and merchants need a compelling reason(s) to adopt.

# The mobile onslaught: The promise, what's commercially real now, and challenges

- Mobile-phone-operator-centric systems, viable in deep-emerging markets.
  - M-Pesa (18 million subscribers\*, 79 thousand agent outlets, acquiring 33 thousand merchants, CelPay, Smart Money, Globe Cash et al
- Bill-to-mobile-phone-operator models – In theory, threatens traditional retail-card payment networks, issuers and processors.
  - Boku, Payfone, PaymentOne, Mobipay, Danal, Mobilian, Zong (acquired by PayPal), et al
- Mobile commerce
  - Greater and more convenient consumer ability to conduct commerce
  - Payments process must be close to frictionless.

# The digital wallet maelstrom

- Why the excitement?



Offers a powerful connected platform for managing payment credentials, proprietary loyalty and reward programs, and customer and merchant preferences. Facilitates proximity and mobile-commerce payments.

- Framework for thinking about

- One and two-tier wallets
- General-purpose and in-app, in-app viable today, e.g. Uber.
- Open versus closed

- Google Wallet

- LevelUp

- No merchant payment transaction fees
- Retailers pay for customer acquisition and loyalty programs, e.g. 35 to 40 cents for every dollar of credit redeemed through merchant LevelUp merchant campaigns

- Merchant Customer Exchange –Coalition including Wal-Mart, 7-11, Target, Lowe's et al

- PayPal

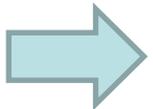
- Cloud-based payment credentials

- Apple Passbook

- Can leverage > 500 million iTunes customers with registered payment cards. First step QR-based
- Could move market, if and when, it jumps in with NFC iPhone.

# Digital wallets

- Isis
  - AT&T, Verizon, and T-mobile jv
  - Open, permitting Visa, MasterCard, Amex and Discover
- Visa V.Me
- Amex Serve
  - Based on Revolution Money assets
- Square
  - While Square's signature card-acceptance business is not disruptive, Pay by Square potentially is. Rationale for Starbucks relationship.
- Amazon
  - Cloud-based payment credentials
- O2's wallet RIP
- MasterCard PayPass
  - Acquired white-label wallet provider C-SAM
  - Everything Everywhere, Deutsche Telecom, Telefonica, Turkcell, Orange/Barclays Quick tap
  - Weve (UK Vodafone, O2, and EE mobile payments/marketing jv) partnership



Potentially a game changer, but too early to pick winners and losers.

# Crypto-currencies

- Decentralized Bitcoin competes with government fiat money and established retail payments systems.
- Money is a medium of exchange, unit of account and store of value.
- As a payment system Bitcoin lacks critical mass.
- Its best use cases are for illicit commerce and asset transfers.
- To the extent Bitcoin complies with government regulation, it loses much if not all of its edge and attraction as a payment system.

# Most new payment systems fail

- While less expensive payments ceteris paribus is a plus, it is rarely (never) sufficient in broad retail payments systems
- Security needs to be balanced against consumer and merchant convenience. Just need to be good enough. Better security doesn't win.
- Consumers and merchants are creatures of habit in payments.
- Mondex
  - Chip-card based system enabling value to be loaded, stored and used on distributed basis.
  - Backed by NatWest, Midland, Wells Fargo, MasterCard, AT&T and British Telecom
- CyberCash, Digicash and First Virtual
  - Proposition was more secure payment than credit cards over Internet
- Beenz
  - Raised \$80 million.
  - Users earned currency for performing activities on line which they could spend.
- Flooz
  - Raised \$35 million
  - Proposed creating a new online currency
- Cybercent, Millicent, Netbill and Peppercoin
  - Attempted to solve the micropayment problem
- Citi C2IT, BankOne's eMoneymail, HSBC (with Yahoo) PayDirect and Wells Fargo (withEbay) Billpoint

# Most new payment systems fail

- SimPay
  - Attempted to build mobile-phone centric payment system.
  - Joint venture of Vodafone, Orange, T-Mobile and Telefonica Moviles, using First Data as processing platform.
- Pay By Touch
  - Biometric key.
  - Achieved 3.6 million customers and 3 thousand merchants
  - Burned through \$300 million before going belly up in 2008
- Debit man
  - Attempted to compete based on lower acceptance costs (15 cents per payment with 6 to 9 cents in interchange) and retailer issuance.
- Revolution Money
  - Attempted to compete based on lower acceptance cost (.5%) and better fraud prophylactics.
  - Backed by Goldman Sachs, Citigroup, Morgan Stanley, Deutsche Bank and AOL founder Steve Case
- Bling Nation
  - Nifty mobile-phone based debit system through community banks. PayPal briefly entertained as a path to the physical pos.
  - Failed due to lack of capital, distribution and an irresistible value proposition
- Monnet
  - Consortium of 24 large Western Union banks, which entertained building a payment system to challenge MasterCard and Visa EU. Ultimately balked given magnitude of the undertaking and regulators' unwillingness to give them interchange forbearance.

# Globalization

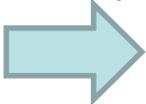
- Globalization of networks and processing
- Global, regional and national network competition
- Consolidation

# Regulatory issues and risks to the established order

- Brussels - EC is bent on regulating payment networks as public utilities
  - Interchange price caps of 30 basis points for credit and the lesser 20 basis points or 7 eurocents for debit appear likely. Issuers stand to lose ~€6 billion euros annual revenue.
- Washington
  - Initial 2011 implementation of the Durbin Amendment. Issuers lost close to \$7 billion interchange revenue and Visa initially ceded pin-debit market share to MasterCard
  - Durbin Amendment 2.0. Retailers sued the Fed arguing rightly it didn't faithfully implement the law. Retailers won round one in July, 2013. Fed appealing. Appeals court appears more sympathetic to the Fed.
- Beijing
  - Interchange caps by sector.
  - China payment-card market remains closed to foreign competitors notwithstanding a 2001 WTO commitment to completely open its domestic market by 2006, and the 2012 loss of a US WTO complaint and China's statement it wouldn't appeal. As of February, 2014 there has not been a single domestic Visa, MasterCard, Amex, JCB or Diners Club in China.

# Retail payment networks

- Global – MasterCard and Visa Federation (Visa Inc. and Visa EU)
- Tier-two and aspiring global
  - Amex
  - UnionPay
  - Discover/Diners Club
  - JCB
  - PayPal
  - Alipay
- Regional
  - EAPS
  - Eufiserv
  - ATH
- National
  - Interac, Star, Cartes Bancaires, NYCE, Pulse, BCC, Bancomat Mister Cash et al
- Aspiring national
  - Rupay
  - Elo
  - Dwolla (trying to compete simultaneously with ACH and Visa and MasterCard)
  - PayFair



Branded retail payment network with critical mass enjoys powerful network effects.

# ACH-anchored payment systems

- Target – 5% merchandise discounts for direct-debit enrollees
- UK Faster Pay
- Barclays Pingit
- Vocalink's Zapp
- Ideal
- Sofort
- SPEI

# Merchant acquirers and processors: US snapshot

- First Data
  - Bank jvs with BofA, Wells Fargo, Citi, Suntrust, PNC
  - Touches ~ 45% MasterCard and Visa payments in US
- Vantiv
- Elavon
- Global Payments
  - 2/3 US business through ISOs
- Heartland Payment Systems
  - Almost entirely direct
- WorldPay
- Total Systems
- Chase
  - ~50% e-commerce payments

# Payment processing state of play

- Increased merchant acquiring and processing competition in most markets
- Global payment processing land grab underway, First Data has taken a time-out
  - First Data, Elavon, Global Payments, Total Systems, WorldPay, Cielo (merchant e-solutions acquisition), Atos Worldline (Venture Infotek acquisition). Expect Vantiv to make a move abroad soon.
- Banks continue to cede payment processing to nonbanks
- Vantiv/Fifth Third, Total Systems/First National, Global Payments/HSBC in Asia & UK and La Caixa, First Data/BofA, WorldPay/RBS, Cielo, EVO (Deutsche Bank's, Banco Popolare's and Bank Polski's acquiring assets)
- Scandinavian processing rollup Net would be an attractive and natural acquisition for First Data but for the Goliath's \$22.5 billion in debt

# POS system suppliers

- POS terminal suppliers trying to vertically integrate. Ingenico acquired EasyCash, Ogone, and ROAM.
- Verifone acquired Point.
- Asian providers SZZT (China), Pax (China), Bitel (Korea), CyberNet (Korea) and Castles (Taiwan) have struggled to build global distribution.
- Smart-phone-and tablet acceptance platforms chipping away at growth opportunity.

# What does the future hold?

- Acquirers will buy/incorporate many of innovators/enhancements.
- Still two genuinely global retail payment schemes: MasterCard and Visa Federation\*
- Consumers will manage and invoke payment keys from pieces of plastic, a variety of aliases, and digital wallets stored in the cloud and/or on Internet-connected mobile handsets
- Merchant acceptance will be several hundred million, over half from mobile devices
- Handful of full-suite global processors

\*European banks may well have exercised put option to sell Visa EU to Visa Inc. assuming French banks are no longer blocking it