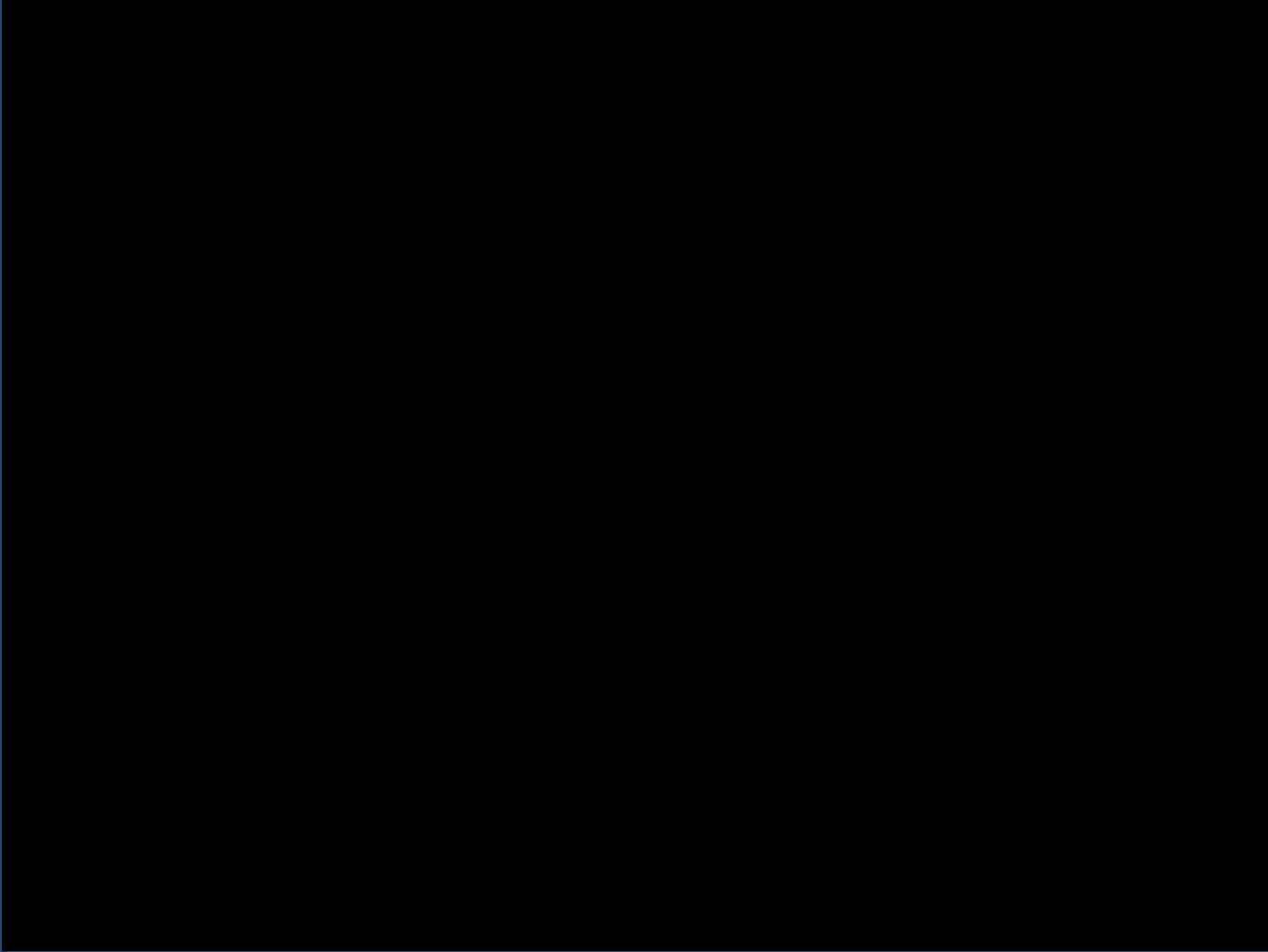


Next-Gen Payments

Jon Gilman

CDS Fellows Presentation

May 5, 2011



Payments today: NOT winner take all

- No strong direct network effects
 - Credit card issuers are mostly interoperable
- Users are multi-homing
 - How many credit cards do you have?
- Switching costs are low
 - How many times have you gotten a new credit card offer?



Payments tomorrow: All about NFC?

Customers initiate payment using a proximity chip embedded in their mobile phone (e.g., NFC).



- It uses merchants' POS infrastructure to initiate and authorize transactions.
- It is hardware-based; it needs POS upgrades and NFC chips in mobile phones.
- It's based on standardized technology (NFC).

¹ Gartner estimates

Smart
Phones

- Nexus S
- Nokia C7

Point-of-sale
system

- McDonald's
- Starbucks
- CVS

2011	3.5%	2%
2014	50%	40-80%

~\$245B Market Size in 2014¹

At 2011's Mobile World Congress , Google ex-CEO Eric Schmidt stated that, "NFC should revolutionize electronic commerce as well as payments."

Creating NFC network effects through platforms and partnerships

Technology companies



Examples include Google cream for Android based phones including NexusS , Apple iPhone and Amazon payments

Financial Institutions



JPM, Visa, Mastercard and Citi all have started running test programs of NFC based payments systems in the US.

Telecommunication providers



To build a nationwide mobile commerce network utilizing smart phones and near-field communication (NFC) technology using Discover retail network

Payments tomorrow: Square?

- Card reader is free
- 2.75% fee per swipe
- No flat per transaction fees
- No contracts
- Works with Visa, Mastercard, Amex, and Discover



Square is disrupting payment ecosystem

- Applying freemium model to payments
 - Reader is free!
 - Add premium services around customer data management and additional payment services (payroll, suppliers, etc.)
- Sayonara network effects
 - Technology-agnostic (Credit Cards, NFC, RFID, etc.)



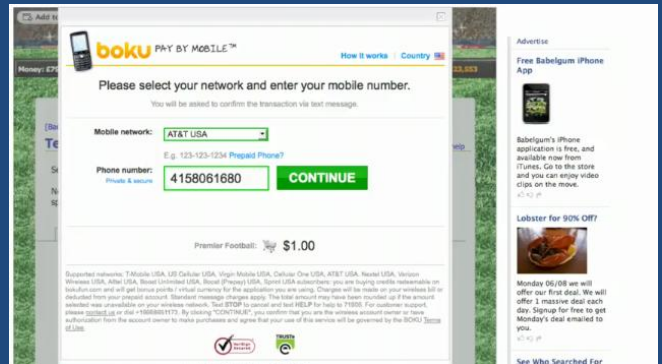
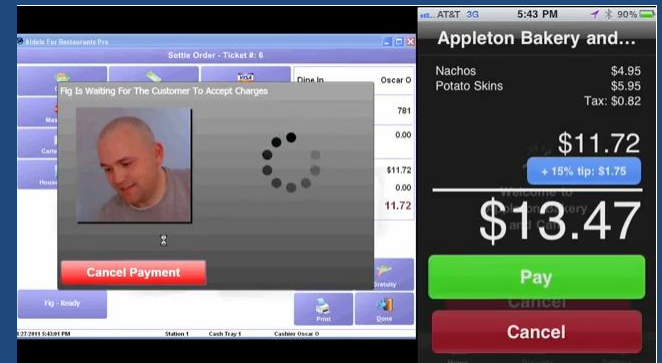
Square gets a boost from Apple & Visa

- April 16, 2011
 - Square credit card readers to be sold in Apple's retail stores
 - Sold for \$9.95 but users get \$10 credit when they sign up for an account
- April 27, 2011
 - Visa announces strategic investment in Square
 - Will target small businesses that don't currently accept credit cards
- Next?
 - Announce NFC compatibility?



Payments tomorrow: Others?

- PayPal
 - Bling Nation- RFID tag
 - Fig- mobile application that talks to POS terminal
- Pay with your cell phone #
 - Use your cell phone # as your credit card #
 - Gets billed through your carrier
 - Boku & Zong



Which approach will win?

- The future will include:
 - Multi-homing
 - Low switching cost
 - Differentiated features
 - Advertisements / Coupons
 - Manager personal expenses real time
 - Ability to post purchases on your social network
 - Pay tips/split bills
 - Common sources of revenue
 - Transaction fees
- Can NFC players create strong direct network effects or will Square-type startups disrupt the ecosystem?

