Payments 101

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What is a Payments Practice?

• Credit/Debit/Prepaid Cards
• eCommerce
• Money transmission
• Mobile (payments/commerce)
• Billpay
• Lending
• Crowdfunding
• Virtual/Crypto currencies
• Consumer Financial Planning
Credit/Debit/Prepaid Cards

• It takes 2 seconds to buy your latte. . .

• Many players
  – Merchant bank
  – Processor
  – Network
  – Issuing Bank

• Many, many rules
  – Card rules
  – Laws
  – Regs
  – Contracts
What is Mobile?

• Using a device for:
  – Person to Person money transfer
  – mCommerce
  – Bill Pay
  – Financial Management
  – Mobile Point of Sale
Why is Mobile Relevant?

• Trend is toward mobile
  – Cash/checks on the way out
  – Phones are everywhere

• Give the retailers what they want
  – Convenience
  – Lower cost
  – Higher security

• Give the people what they want
  – Personal
  – Portable
  – Ubiquitous
For first time, cards outpace cash

Source: Federal Reserve, April 2014
So long cash...
Bye Bye checks...
Hello mobile
Mobile And E-Commerce Boom

Forecast: U.S. E-Commerce And Mobile Commerce

BI INTELLIGENCE

We Are Here

E-commerce CAGR = 16%

Mobile Commerce

Desktop E-Commerce

Source: BI intelligence
And People Spend More Time On Mobile Devices

![Graph showing time spent by digital platform per month in the U.S., December 2010 vs. December 2013.](source: comScore, April 2014)
P2P predicted to grow 8.5X in next 4 years

**FORECAST: U.S. Mobile Peer-To-Peer Payments**

- **We Are Here**: $5 billion in 2013
- **CAGR = 68.7%**
- **2014E**: $8 billion
- **2015E**: $13 billion
- **2016E**: $22 billion
- **2017E**: $38 billion
- **2018E**: $68 billion

*Source: BI Intelligence*
Merchants want to make it easier for consumers to buy

**Biggest Obstacles Merchants Say They Face In Mobile Commerce - Global**

- Making it easier for consumers to transact versus just shopping: 36% (2012), 28% (2013)
-Addressing consumer security concerns with the platform: 28% (2012), 28% (2013)
-Addressing how to manage fraud risk: 14% (2012), 20% (2013)
-Making it possible to take payments more efficiently: 13% (2012), 14% (2013)
-New payment types: 7% (2012), 8% (2013)
-Other: 2% (2012), 11% (2013)

*Source: Kount*
Mobile Technologies and models

- Apps
  - Beacons
  - LBS
  - Barcodes
  - QR
- Mobile Point of Sale
- Near Field Communication (NFC)
- Wearables (i.e. Google Glass, Apple Watch)
- Chip & PIN (a/k/a EMV)
- Biometrics
- Virtual and Cryptocurrencies (Bitcoin)
MOBILE CARD READERS

Sources: Left: Reuters, Top Right: Square, Bottom Right: VeriFone
In-store mobile POS predicted to grow 42x in next 4 years.
40% Of Small Merchants In U.S. Already have mobile POS

Methods Of Card Acceptance Among US Small- to Medium-Sized Businesses

What methods does your company use to accept credit cards?

- Stand-Alone Swipe Terminal: 48%
- Mobile Peripheral Swipe: 40%
- Swipe Integrated With Cash Register: 14%
- Online Credit Card Payments Only: 17%

Source: Cogent Reports At Market Strategies International
Mobile POS predicted to surge

FORECAST: US Mobile In-Store Payment Volume

5-Year CAGR = 173%

2233% YoY Growth

Source: BI Intelligence
The U.S. Is Switching To More Secure Cards With Embedded Chips

Source: Left: University Of Cambridge, Right: www.chipandpin.co.uk
Terminal upgrades for merchants

**FORECAST:** Chip Card Compatible Terminal Penetration

United States

**BI INTELLIGENCE**

We Are Here

Source: Aite Group, BI Intelligence Estimates
Sales of Mobile POS with EMV will rise

**FORECAST: Global Mobile Point-Of-Sale Shipment**

We Are Here

- 2013: 9
- 2014E: 12
- 2015E: 16
- 2016E: 23
- 2017E: 31
- 2018E: 43

BI INTELLIGENCE

*Consensus estimate is an average of forecasts from ABI Research, IHL, Smart Insights, ReportsNReports

Source: BI Intelligence
• NFC
• Tokenization
• Biometrics
• Massive rollout
  • All major issuers
  • All major networks
  • Many major retailers
Tokenization

- What is it? Tokens create a “virtual” card number that relates back to an actual card number
- Benefit: increased security/reduced fraud
- How implemented?
  - Secure element (e.g., iPhone 6)
  - Host Card Emulation (“HCE”)
  - EMV
- March 2014: EMVCO announces new tokenization specification
- October 2014: Apple Pay launches, and is powered by this EMVCO specification
- The future of tokenization: who will issue tokens? The networks? Issuers? Others? All of the above?
Who Regulates whom?

- **FinCEN – Division of Treasury**
  - In charge of combatting money laundering and terrorism financing
- **CFPB – New independent agency as of 2011**
  - In charge of protecting consumers from unfair and deceptive acts in regards to financial products/services
- **FTC – Independent agency since 1914**
  - In charge of protecting consumers from unfair and deceptive acts & practices.
    - Was relieved of financial products/services oversight when CFPB formed.
- **Federal Reserve – Bank Holding Companies**
- **FDIC-State chartered banks**
- **OCC-Primary regulator for National Banks (e.g., Capital One, N.A.)**

- **States**
  - State chartered banks
  - Money transmitters
  - Attorneys General
    - In charge of enforcing UDAAP laws (aka “Little FTC” acts)
Regulatory Environment

Federal

• Post-Crisis CFPB/FinCEN/FTC Scrutiny on *all* Consumer Financial Services

• Mobile offerings & disclosures (CFPB & FTC guidance)

• Virtual currency
  • FinCEN issues rule
  • CFPB & FTC issue warnings

• Privacy/Data Security
Regulatory Environment
Federal

- CFPB increasingly interested in FinTech businesses
  - Project Catalyst
    - Launched in 2012
    - Analogous to FCA’s Project Innovate in UK
    - New Approach to regulation
Recent Mobile Regulatory Developments

• CFPB issues RFI on mobile financial services
  – Focus on unbanked and underbanked
  – Are mobile services useful and cheaper?
  – Customer service
  – Privacy/data security concerns

• FTC responds to CFPB RFI
  – Fraud liability
  – Carrier billing – cramming
  – Data use/brokering

• CFPB issues ANPR on Reg E and Reg Z for Prepaid Cards
Bitcoin - Focus of US Regulators

• Virtual Currencies
  – FinCEN Rule
    • Focused on AML
  – NY License Proposal
    • Focused on consumer protection
  – Numerous Federal and State warnings to consumers
    • Volatile
    • Risky
    • Untested
    • Unregulated
Bitcoin
U.S. Regulation

• Classification of virtual currencies is central issue.
  – Commodity
  – Security
  – Currency

• Very Little Actual Regulation to Date
  – FinCEN Rule (actually an amendment to existing rule)
  – CFTC Just issued ruling
  – SEC issued warning, but no regs
  – New York’s proposed licensing scheme
  – Various other state laws
FinCEN Bitcoin Rule

  – 2013 Guidance stated that exchanges for “convertible virtual currency” will be required to register as “Money Services Businesses” and expected to comply with the same anti-money laundering rules.
  – 2014 Guidance clarified that exempted
    • Individual “miners” of virtual currency for personal use.
    • Businesses buying/selling virtual currencies as investment for itself.
What does it mean to be treated as an MSB?

- Registration with U.S. Treasury (FinCEN)
  - Not a huge burden
- Licensing with 40+ states as money transmitter
  - Costly
  - Time Consuming
  - Intrusive
- Anti-Money Laundering Program
  - Customer Information Program
  - Suspicious Activity Reporting
- Difficulty getting a bank account.
U.S. State Law Development

• New York’s BitLicense proposal is designed to protect the public.
  – Requires a license for the following activities:
    • transmitting virtual currency for consumers
    • Securing, storing or controlling virtual currency for consumers
    • Converting virtual currency for other currency/value
    • Buying/selling as a consumer business
    • Controlling, administering or issuing virtual currency (not mining)

• Licensees must abide by regulations regarding such things as disclosures, receipts, data security and anti-money laundering.

• New York is still accepting input before finalizing the rule.
Privacy/Data Security Considerations of the New Mobile Developments
What makes Mobile APPLICATIONS Different?

- Personal
- Persistent
- Ubiquitous
- Casual
- Instant
- Rich Data
Privacy and Data Security Issues

• Who is a “Service Provider” under GLBA?
• How should financial institutions think about NPI on mobile devices?
• Should FIs think solely about their app when analyzing NPI?
• What about info in other apps/settings?
• Touch ID
• Accessing accounts
• Purchases/money movement
Legal Exposure and Risk

• Federal Trade Commission
• State Legislative and Enforcement Actions
• Class Action Lawsuits
Governing US Law

- FTC Act – Section 5 “Unfair and Deceptive”
- Fair Credit Reporting Act (FCRA)
- Health Insurance Portability and Accountability Act (HIPAA)
- Children’s Online Privacy Protection Act (COPPA)
- California Online Privacy Protection Act (CalOPPA)
- TCPA for SMS messaging to smartphones
- State Data Security and Breach Notification Acts
- CAN-SPAM Act of 2003
Unexpected Uses (aka don’t be creepy)

- Behavioral advertising
- Tracking across multiple sites and apps
- Accessing location information
- Using app data
- Sharing data across apps
- Accessing other sensors (camera, microphone, accelerometer, biometrics)
- Accessing emails, posts calls, call records and text messages
Using App Data

- Obvious use is not the problem.
- Unexpected uses need to be clearly disclosed.
- What app data is being accessed and for what purpose?
  - Are you sharing across multiple apps?
  - Would any of these uses be unexpected?
  - Have they been disclosed
  - Do you have permission?
- Combining and Deriving data
  - Are you combining multiple data sets in order to derive information in an unexpected manner?
  - Big Data is becoming a powerful tool for analyzing mobile application data.
Unexpected Uses Presents Legal Risks

• It takes many forms – but at bottom this is one of the biggest concerns of regulators
  – FTC deceptive practices
  – Requirements for transparency and notice
  – Opt out
• Explaining data practices in advance is easier than explaining them during an enforcement action.
• Be reasonable and respectful.
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