From the Future Backwards

...knowing next now.

Lee Wetherington, AAP
Director of Strategic Insight, ProfitStars®
Lee Wetherington
Director of Strategic Insight

- Develops actionable insight and strategy for the financial services industry
- Delivers keynotes nationwide
- Technology Faculty Chair for Southwest CUNA Management School
- Authors articles for industry trades
- Degrees in Economics and English from Duke University
- Accredited ACH Professional (AAP)

@leewetherington
Agenda

• Trends 2013
  – Mobile; Churn; Demographics; “FPM”
  – The Future in 1, 2, 3

• Mobile Payments
  – Things We Know
  – Things We Don’t

• How CUs Win the Mobile Wars
  – Leveraging Data You Have That They Don’t
  – What That Looks Like (It’s Already Here)
  – Integrity, Integrity, Integrity
Top Trends in 2013: Javelin

1. New alternatives at the Point-of-Sale
2. CUs’ position of trust threatened
3. Mobile banking = “Smartphone Banking”
4. Google surpasses Apple
5. Mobile wallets will be hybrids (NFC/cloud)
6. “Omnichannel” banking necessary, not just nice
7. Retailers challenge payments stakeholders
8. CUs must master their data

The future is always already here...if you know where to look.
The future is about better enabling natural behavior...
...and nudging against behavior that is financially harmful.
The key to your role in this future is data...
Big Data? No, CU Data!

- CUUs must begin to understand their own data.
  - That’s where the value is.
- Transaction data can tell a CU...
  - …what other financials institutions members use.
  - …what financial products/services they use.
  - …how much they pay to use other financial services.
  - …where they shop, how often, and how much they spend.
- Behavioral analysis is already necessary to bolster security, why not tap the same analysis to better understand and serve members?
Death of Checking

Emergence of the “DeBanked”
& the Rise of “NeoChecking”
Check Use Declines

Percent of payments paid by check

Source: Fiserv 2011 Consumer Trends Survey
Overdraft Volumes Remain High

Overdraft Revenue (US$ billions)

Source: Moebs Services, FDIC, NCUA, OCC, Federal Reserve

Source: Aite; "Trends in Retail Banking"; Ron Shevlin; March 2013
2009: Worth Switching to Prepaid?

Potential savings to checking account holders from switching to prepaid debit cards

- 82% would be worse off
- 18% would save

Median savings (US$)

- $1,900
- $1,400
- $900
- $400
- $(100)
- $(600)
- $(1,100)
- $(1,600)
- $(2,100)

Source: Aite Group

SOURCE: Aite; "Trends in Retail Banking"; Ron Shevlin; March 2013
Monthly Account Fees Up...

Average Monthly Service Fees on Checking Accounts

Source: Bankrate.com

Source: Aite; "Trends in Retail Banking"; Ron Shevlin; March 2013
ATM Fees Up...

Average ATM Fees on Non-Members

$0.50 - $3.00

Source: Bankrate.com

Source: Aite; "Trends in Retail Banking"; Ron Shevlin; March 2013


$0.50 $1.00 $1.50 $2.00 $2.50 $3.00

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FINANCIAL PERFORMANCE  IMAGING & PAYMENTS PROCESSING  INFORMATION SECURITY & RISK MANAGEMENT  RETAIL DELIVERY
...And Interest Rates Are Down

Average Checking Account Yield

Source: Bankrate.com

SOURCE: Aite; "Trends in Retail Banking"; Ron Shevlin; March 2013
The “Debanked”

Mainstream consumers who willingly opt out of the traditional banking system

SOURCE: Aite; “Trends in Retail Banking”; Ron Shevlin; March 2013
Characteristics of “Neo Checking”

• Mobile-first design
• PFM the focus, not the add-on
• Blending prepaid, debit, and credit
  – Functions/transitions from one to the other do not require closing/opening of accounts

SOURCE: Aite; “Trends in Retail Banking”; Ron Shevlin; March 2013
Branch Facts

- Self-service reduces branch traffic dramatically
- Deposits are 25-30% of image ATM transactions
  - 40% of deposit-taking ATMs are image enabled
- Daily per-branch deposits will decline from 250/day to 50/day by 2016. (Celent)
- 23% of banks expect branch contraction over the next five years
  - No credit unions expect branch contraction

SOURCE: Celent; “TOP TRENDS IN RETAIL BANKING 2013”
By Bart Narter and the Celent Banking Team; December 12, 2012
Online Banking & BillPay Forecast

Millions of Online Households

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<thead>
<tr>
<th>Year</th>
<th>Actual</th>
<th>Forecast</th>
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<td>2017</td>
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</table>

Source: Javelin Strategy & Research; "2012 Online Banking and Bill-Payment Forecast: How to Boost Profitability When Facing Flat-Lining Adoption"; August 2012

© 2012 Javelin Strategy & Research

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Mobile Banking
77% Adults Own Smartphones by 2017

Forecast of U.S. Adults’ Smartphone Adoption, 2009–2012

Projected

Base: U.S. adults with a mobile phone.
© 2012 Javelin Strategy & Research
Javelin Strategy & Research: "2011 Mobile Banking, Smartphone and Tablet Forecast: Mobile Banking Moves Mainstream to Mid-sized, Community Banks and Credit Unions"; December 2011


Base: US adults with mobile phone.

© 2011 Javelin Strategy & Research
Android Widens Lead in Mobile OS

Forecast of U.S. Adult Smartphone Owners by Device OS Type, 2009–2017
Mobile Bankers Double in Next 5 Years

Forecast of U.S. Adults’ Mobile Banking Adoption, 2009–2017

- **Actual**
  - 2009: 36 million, 18% using mobile banking in past 12 months
  - 2010: 35 million, 19%
  - 2011: 57 million, 29%
  - 2012: 67 million, 33%
  - 2013: 76 million, 37%
  - 2014: 86 million, 41%
  - 2015: 96 million, 46%
  - 2016: 107 million, 50%
  - 2017: 116 million, 55%

- **Projected**

Base: U.S. adults with a mobile phone.
© 2012 Javelin Strategy & Research

SOURCE: Javelin Strategy & Research; “2012 Mobile Banking, Smartphone, and Tablet Forecast: Mobile Banking Gains 10 Million Users as Smartphone and Tablet Adoption Soars”; December 2012
Tablets: 52% of Mobile Adults by 2017

Forecast of U.S. Mobile Adults Who Use Tablets, 2011–2017

- Forecast of U.S. Mobile Adults Who Use Tablets, 2011–2017

SOURCE: Javelin Strategy & Research; “2012 Mobile Banking, Smartphone, and Tablet Forecast: Mobile Banking Gains 10 Million Users as Smartphone and Tablet Adoption Soars”; December 2012

- Tablet users as a percentage of U.S. adults
- U.S. adult tablet users

© 2012 Javelin Strategy & Research
Switchers: Sizing Churn & Opportunity
Big Banks Vulnerable to Switching

Javelin Benchmark™: Likelihood to Switch Primary FIs in Next 12

Q44: To what extent do you agree or disagree with the statement: I am likely to switch my primary bank in the next 12 months.

Potential Switchers

• 11% of consumers in 2012 plan to switch FIs
  – 25% of Citibank customers; 21% of BoA customers

• Maintain 30% more deposits than consumers who do not plan to switch
  – Represent $675B in deposits

• Willing to pay $92M in fees
  – Money orders; cashier’s checks, safe deposit boxes, and mobile remote deposit.

• Place a premium on personal finance and simplicity
  (Javelin Strategy & Research)
“Generations impact the economy.”

John Augustine, CFA
Chief Market Strategist
Fifth Third Bank
Gen Y.1 18-24

Gen Y.2 25-34
PFM Demand by Age
<table>
<thead>
<tr>
<th>Tier 1</th>
<th>18-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-65</th>
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<th>18-24</th>
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<td>Price-charge alerts</td>
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<td>Card-reward recommendations</td>
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<td>GPS-based merchant discounts</td>
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<td>Cash-flow estimator</td>
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<td>Financial planning tools</td>
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<td>Investment tools</td>
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<td>Social-network shopping recommendations</td>
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**Q17A:** Please indicate your likelihood of using the following products or services if they were available to you.

**Q18A:** Please indicate your likelihood of using the following products or services if they were available to you.

**Q19A:** New applications and services are becoming available, please indicate your likelihood of using the following products or services if they were available to you.

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August 2012, n = varies, 369 – 596.
Base: Consumers by age.
©2013 Javelin Strategy & Research
PFM Demand by Income
### Tier 1
- View all account balances

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Under $15,000</th>
<th>$15,000-$24,999</th>
<th>$25,000-$34,999</th>
<th>$35,000-$49,999</th>
<th>$50,000-$74,999</th>
<th>$75,000-$99,999</th>
<th>$100,000-$149,999</th>
<th>$150,000 and more</th>
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<td>Tier 2</td>
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</table>
- Earn points or enter sweepstakes
- Rewards reminders
- Personal finance alerts
- Comparison pricing
- View finances on a calendar
- Price-charge alerts

### Tier 3
- Record cash purchases
- Card-reward recommendations
- GPS-based merchant discounts
- Cash-flow estimator
- Financial planning tools
- Automatic budget categorization

### Tier 4
- Motivational alerts
- Investment tools
- Archive business expenses
- Social-network shopping recommendations

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Under $15,000</th>
<th>$15,000-$24,999</th>
<th>$25,000-$34,999</th>
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</table>

- **Significantly higher than all consumers**
- **Comparable to all consumers**
- **Significantly lower than all consumers**

**Q17A:** Please indicate your likelihood of using the following products or services if they were available to you. **Q18A:** Please indicate your likelihood of using the following products or services if they were available to you. **Q19A:** New applications and services are becoming available, please indicate your likelihood of using the following products or services if they were available to you.
PFM or FPM?
Foresight
Knowing what to do to improve the performance of your money

Insight
Knowing how well your money performs

Oversight
Knowing where your money is, and where it goes
“Account aggregation and budget creation/tracking is great, but **unless it changes behavior**…then the potential impact of PFM is unfulfilled. Too many consumer advocates focus on financial literacy. Knowledge without action, or change in behavior, is useless.”

SOURCE: Ron Shevlin; Snarketing 2.0; “Finance Dot Data Dot Gov”; http://snarketing2dot0.com/2012/09/28/finance-dot-data-dot-gov/
### Most Desirable PFM Features

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Feature</th>
<th>Percent of Consumers</th>
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<tr>
<td></td>
<td>View all account balances</td>
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<td>Earn points or enter sweepstakes</td>
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<td>Rewards reminders</td>
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<td>View finances on a calendar</td>
<td>36%</td>
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<td>Price-change alerts</td>
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<th>Tier 2</th>
<th>Feature</th>
<th>Percent of Consumers</th>
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<td>Record cash purchases</td>
<td>31%</td>
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<td>Card-reward recommendations</td>
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<td>GPS-based merchant discounts</td>
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<th>Tier 3</th>
<th>Feature</th>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Social-network shopping recommendations</td>
<td>16%</td>
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</tbody>
</table>

Q17: Please indicate your likelihood of using the following products or services if they were available to you. Q18: Please indicate your likelihood of using the following products or services if they were available to you. Q19: New applications and services are becoming available, Please indicate your likelihood of using the following products or services if they were available to you.

August 2012, n = 3,000
Base: All consumers.
© 2013 Javelin Strategy & Research
Q21: Please rank the categories based on your likelihood of using the types of products and services included under them.

August 2012, n = 3,000
Base: All consumers.
© 2013 Javelin Strategy & Research
Spend, Shop, Buy, Plan

**Spend**
Insight into Where Your Money Went or is Going
- View all account balances (49%)
- Personal finance alerts (38%)
- Record cash purchases (31%)
- Automatic budget categorization (29%)
- Archive business expenses (20%)

**Shop**
Smarter Shopping
- Rewards reminders (38%)
- Comparison pricing (37%)
- Price-charge alerts (34%)
- GPS-based merchant discounts (30%)
- Social-network shopping recommendations (16%)

**Buy**
Near-Term Decision-Making
- View finances on a calendar (36%)
- Card-reward recommendations (31%)
- Cash-flow estimator (30%)

**Plan**
Track and Achieve Goals
- Earn points or enter sweepstakes (38%)
- Financial planning tools (29%)
- Motivational alerts (23%)
- Investment tools (21%)

### Moneyhawks: Highest PFM Interest

#### Tier 1
- **View all account balances**: 62%
- **Earn points or enter sweepstakes**: 57%
- **Rewards reminders**: 56%
- **Personal finance alerts**: 57%
- **Comparison pricing**: 56%
- **View finances on a calendar**: 56%
- **Price-change alerts**: 54%

#### Tier 2
- **Record cash purchases**: 53%
- **Card-reward recommendations**: 52%
- **GPS-based merchant discounts**: 51%
- **Cash-flow estimator**: 53%
- **Financial planning tools**: 50%
- **Automatic budget categorization**: 51%

#### Tier 3
- **Motivational alerts**: 45%
- **Investment tools**: 44%
- **Archive business expenses**: 44%
- **Social-network shopping recommendations**: 38%

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August 2012, n varies: 548 - 3,000
Base: Moneyhawks; Consumers aged 25 - 34; Consumers a household income of $100,000 - $149,999; All consumers.
© 2013 Javelin Strategy & Research

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Cautiously Content Consumers</th>
<th>Malleable Traditionalists</th>
<th>Online Banking Loyalsits</th>
<th>Moneyhawks</th>
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<tr>
<td>Archive business expenses</td>
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Post-Durbin Payments
Lemons and Lemonade

• The Lemons
  – Dodd-Frank increases regulatory burden
  – Recession raises unemployment
  – Durbin amendment shifts power to merchants
  – Non-FI 3rd parties lead mobile payments evolution

• The Lemonade
  – Dodd-Frank targets biggest FIs
  – Unemployment creates churn in banking
  – Durbin creates competitive carve-out for FIs under $10B
  – Consumers prefer primary FI for mobile wallets/payments
Interchange Wars: Drivers

• Interchange Lawsuit Settlement
  – A clear win for MasterCard and Visa networks
    • Prevents future legal action against the 2 networks
    • Enables merchant surcharging at the POS in 40 states where allowed
  – Likely to deter further legal regulatory action
  – Merchants must address interchange expense management in the marketplace

• Shifts in consumer and merchant behaviors
  – Movement to digital channel and mobile payments
  – Creates a conduit for new competitive entry at the POS

SOURCE: Aite; “Trends in Retail Banking”; Ron Shevlin; March 2013
Interchange Wars: Outcomes

- Alternative payment acceptance providers gain traction in retail locations
- Merchants drop the surcharge banter
- Merchant MCX network formed
- Merchants will try to take control of the digital wallet environment

SOURCE: Aite; “Trends in Retail Banking”; Ron Shevlin; March 2013
Payments Revenue

U.S. industry revenues

$ Billions – 2010

- Commercial Banking: $607
- Agriculture: $331
- Payments: $271
- Hotels: $215
- Airlines: $148
- IT: $141
- Film / Music: $102

Industry profit: $48 Billion
Industry profit margin: 17%

1 Payments revenues are from 2011
Consumer DDA Profit Margins Down

New regulations (and low interest rates) have created significant profit pressure on the consumer DDA business

**Consumer DDA pre-tax profit and regulatory impact**

Billions USD

<table>
<thead>
<tr>
<th>Year</th>
<th>Pretax profit</th>
<th>Growth</th>
<th>Reg's</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>15.2</td>
<td>9.8</td>
<td>15.1</td>
<td>4.6</td>
</tr>
<tr>
<td>2008</td>
<td>8.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>9.9</td>
<td></td>
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</tr>
</tbody>
</table>

- Deposit **NIM compression** drove profits down 2007-09
- **OD regulation offsets growth** from higher pricing and incidence of fees, expected cost reductions, and spend growth
- “**Durbin** (Reg. II) drives industry pre-tax margins to single digits
Financial institutions will forego over $120 billion in NSF/OD and debit interchange revenue over the next five years due to regulation.

Impact of regulation on NSF/OD fees and debit interchange
Billions USD

<table>
<thead>
<tr>
<th>Year</th>
<th>Foregone (\Sigma = $122B)</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>2012</td>
<td>18</td>
<td>37</td>
</tr>
<tr>
<td>2013</td>
<td>20</td>
<td>38</td>
</tr>
<tr>
<td>2014</td>
<td>22</td>
<td>40</td>
</tr>
<tr>
<td>2015</td>
<td>24</td>
<td>42</td>
</tr>
<tr>
<td>2016</td>
<td>26</td>
<td>43</td>
</tr>
</tbody>
</table>

1 Lost revenue assumes pre-regulatory interchange rates and NSF/OD occurrences.
Can't Close Rev Gap w/ Tweaks

Impact of regulation on NSF/OD fees and debit interchange
Billions USD

Foregone (Σ = $122B)

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<th>Year</th>
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<td>13</td>
<td>20</td>
<td>38</td>
</tr>
<tr>
<td>14</td>
<td>22</td>
<td>40</td>
</tr>
<tr>
<td>15</td>
<td>24</td>
<td>42</td>
</tr>
<tr>
<td>16</td>
<td>26</td>
<td>43</td>
</tr>
</tbody>
</table>

SOURCE: McKinsey US Payments Map, Release Q1 2012; Base Case scenario

Major actions | Likely benefit Cum. 2011-2016
--- | ---
Reduce branch growth/headcount | $8 Bn
Increase ATM surcharges | $12 Bn
Increase maintenance fee incidence and level | $9 Bn
Total impact | $30 Bn

1. Lost revenue assumes pre-regulatory interchange rates and NSF/OD occurrences
2. Reduce all branches by 1/2 a teller FTE, takes into account national bank announcements of branch closures/openings, effectively drops branch count CAGR 2011-2016 from 0.4% (historical growth rate) to 0.1%
3. Increase industry average foreign surcharge from $2.32 to $3.00 and own customer foreign convenience fee from $1.41 to $2.25
4. Increase maintenance fee incidence from 14% of accounts in 2010 to over 25% in all forecast years. Avg fee increased from $7.24 to $10.50
Exemption Spawns Innovation
What class of payments networks were specifically exempted from Durbin?
Name the three companies who’ve made the biggest headlines in payments innovation in recent months.
Headwinds and Wildcards

- Visa’s PIN-Authenticated Visa Debit (PAVD)
- Fixed Acquirer Network Fees (FANF)
- EMV
- Credit Card Surcharging
- $7B “Swipe Fee” Settlement
- Merchant Customer Exchange (MCX)
- PayPal at the POS (via Discover partnership)
- Discover in the News
  - To power Facebook Gift Card; MCX?
  - Offer Checking Accounts?
Mobile Payments?
Evolution and The End Game

Mobile Banking

Mobile Payments

Mobile Marketing
Things We Know
Mobile Bankers Open to Mobile Wallets

Q29_B: If a mobile wallet were made available to you, how likely would you be to adopt this technology in the next twelve months?

June 2012, n= 872, 3,492.

Base: A consumers who have mobile banked in the past 90 days, all mobile phone owners.

©2012 Javelin Strategy & Research
Mobile Buys of Physical Goods Triples

Purchasing Pattern on Mobile Devices

Q44: Which of the following products have you purchased using your mobile phone? (select all that apply) (Ringtones vs. physical goods shown only)

SOURCE: Javelin Strategy & Research; "Battle for Control of the Mobile Wallet"; September 2012

Base: All consumers who have made purchases using a mobile device in the past 12 months.
© 2012 Javelin Strategy & Research
**Mobile POS to Grow 25% Annually**

**Mobile POS Purchase Dollar Volume Forecast, 2011–2017**

- **2011** Actual: $363 million, 0.01% of total POS retail purchases
- **2012** Forecast: $417 million, 0.01% of total POS purchase volume
- **2013** Forecast: $479 million, 0.01% of total POS purchase volume
- **2014** Forecast: $599 million, 0.02% of total POS purchase volume
- **2015** Forecast: $749 million, 0.02% of total POS purchase volume
- **2016** Forecast: $1,011 million, 0.03% of total POS purchase volume
- **2017** Forecast: $1,365 million, 0.03% of total POS purchase volume

**SOURCE:** Javelin Strategy & Research; "Battle for Control of the Mobile Wallet"; September 2012
Financial, mobile, and retail ecosystems are converging...
The trust, innovation, and privacy scores for Isis were derived from averaging the scores for the three mobile network operators involved in the project, AT&T, T-Mobile, and Verizon.
Physical and virtual worlds are converging...
Mobile Converges Physical & Virtual

Physical

Virtual

The Home Depot

Discover

PayPal

PayPal

ProfitStars®
Physical & Virtual Collide!

Walmart
Save money. Live better.

Physical

Virtual

TARGET

amazon.com

ProfitStars
Q29_A: If you were choosing a mobile wallet provider, which of the following would you be most likely to choose?

June 2012, n=3,492.
Base: All mobile phone owners.
©2012 Javelin Strategy & Research
Q38. Which of the following types of alternative payments have you used for an online purchase? PayPal

August 2011, n=2,304, 4,998.
Base: All consumers.
©2012 Javelin Strategy & Research
Things We Don’t Know
Which mobile payments techs, channels, and functions will prevail?
CU’s Role in Mobile POS?

FIs Play Different Roles in Different NFC Solutions

NFC

- Secure SIM
- FI: Partner

- Embedded In Phone
- FI: Partner

- Micro SD
- FI: Leading

© 2012 Javelin Strategy & Research

SOURCE: Javelin Strategy & Research; "Battle for Control of the Mobile Wallet"; September 2012
PROBLEM 1: Most likely NFC models do not put CUs in control.
PROBLEM 2: Complexity of NFC models forestall their adoption.
NFC Requires Complex Collaboration

NFC (SIM or Embedded) Model

© 2012 Javelin Strategy & Research
PROBLEM 3:
So what to do before/while/if NFC arrives?
Mobile Wallet Tech Trajectory

Cloud

NFC
The BIG Question
Who will control and monetize mobile marketing of payments data?
## Isis Wallet

<table>
<thead>
<tr>
<th>MOBILE WALLET: ISIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology</strong></td>
</tr>
<tr>
<td>Secure SIM</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

©2012 Javelin Strategy & Research
<table>
<thead>
<tr>
<th>Technology</th>
<th>Carriers</th>
<th>TSM</th>
<th>Networks</th>
<th>Issuers</th>
<th>Data ownership</th>
<th>OEM support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embedded SIM</td>
<td>Sprint</td>
<td>First Data</td>
<td>MasterCard,</td>
<td>Citi</td>
<td><strong>Google</strong></td>
<td>HTC, LG, Samsung</td>
</tr>
<tr>
<td>Cloud</td>
<td></td>
<td></td>
<td>Discover Visa, American Express</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

©2012 Javelin Strategy & Research
How much is at stake?
$1 Trillion

SOURCE: “The Great Mobile Alliance” by Steve Mott; Digital Transactions; July & September, 2012
**Mobile Wallet Demand Weak…**

Q. How interested are you in having a mobile wallet from the following companies?

<table>
<thead>
<tr>
<th>Company</th>
<th>Very interested</th>
<th>Somewhat interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon</td>
<td>18%</td>
<td>21%</td>
</tr>
<tr>
<td>Visa</td>
<td>18%</td>
<td>22%</td>
</tr>
<tr>
<td>PayPal</td>
<td>16%</td>
<td>22%</td>
</tr>
<tr>
<td>MasterCard</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>Google</td>
<td>14%</td>
<td>19%</td>
</tr>
<tr>
<td>Apple</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>American Express</td>
<td>11%</td>
<td>16%</td>
</tr>
<tr>
<td>Facebook</td>
<td>11%</td>
<td>16%</td>
</tr>
<tr>
<td>Discover</td>
<td>10%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: Aite Group survey of 1,115 US consumers, Q2 2012

SOURCE: Aite; “Trends in Retail Banking”; Ron Shevlin; March 2013
...But Mobile Shopping Demand Strong

Q. Which of the following mobile shopping capabilities are important to you?

- Finds the lowest price: 72%
- Provides very steep discounts: 72%
- Offered by company I know/trust: 70%
- Offered by stores I shop at: 70%
- Offered by company I know/trust: 67%
- Shows product reviews: 62%
- Offered by my primary FI: 50%
- Connects to social networks: 34%

Source: Aite Group survey of 1,115 US consumers, Q2 2012
33% of all households and 50 percent of smartphone users are aware of e-wallet products.

25% of households hold positive views of e-wallets, 33% are neutral, the remainder are negative — generally due to concerns about e-wallet security.

20% of households that were previously aware of the products and 25% of existing smartphone users would use a digital wallet.

More than 75% of interested consumers would prefer e-wallet services from their primary financial institution.
The future of payments is more about data than payments...
Payments Data = New Revenue

**In-person advertising**
- NFC sensors can be embedded in movie posters or on products in a big box retailer. These tags link to movie trailers and ticket sales or to product information and discounts. Isis is a likely player in this space, and current physical advertising space leasers are interested.

**Location based advertising**
- GPS driven advertising helps businesses find consumers based on their current location. Google is a recognized leader, but other companies like Loopt, FourSquare and others also are interested in the power of location.

**Offers**
- Offers provide value to consumers, but they also provide a value to merchants that merchants are very willing to pay for. Daily deal vendors such as Groupon and LivingSocial are natural players to monetize this effort.

**Transactional based marketing**
- Transactional based marketing is a good potential way for banks to generate revenue from retailers post Durbin. Merchants value the tailored and customizable offer campaigns and clear ROI.
What does that future look like?
Beware what happens to your data.
Google Wallet: Merchant of Record

Google Wallet v1.0 Provisioned a Traditional Credit Card on a Consumer’s Phone

In Google 1.5, there are two “Back to Back” Transactions
1. Consumer Pays Google
2. Google Pays the Merchant with a Google Wallet Card “Google Wallet Card” provisioned to the Phone

<table>
<thead>
<tr>
<th>Google Wallet</th>
<th>V1.0</th>
<th>V1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding Source</td>
<td>Citi Credit Card</td>
<td>Open to Multiple Issuers</td>
</tr>
<tr>
<td>Payment credentials stored</td>
<td>On Phone</td>
<td>In Cloud</td>
</tr>
<tr>
<td>Information Transfer to Merchant</td>
<td>NFC</td>
<td>NFC</td>
</tr>
</tbody>
</table>

SOURCE: Citi GPS: Global Perspectives & Solutions; “UPWARDLY MOBILE II A Long and Winding Road for Mobile Payments – Eight Crucial Questions, Answered”; November 2012

Transaction 1
(Consumer’s Card Pays Google Wallet)

Transaction 2
(Google Wallet Pays Merchant)
PayPal: Merchant of Record

PayPal Accepts Card Payments and then Settles Directly with the Merchant

Steps at POS:
1. Consumer chooses to pay with PayPal
2. Consumer enters phone number and PIN when prompted. This triggers access to cloud-based wallet information, which is sent to selected issuer for authorization.
3. When authorized consumer walks off with purchase.

SOURCE: Citi GPS: Global Perspectives & Solutions; “UPWARDLY MOBILE II A Long and Winding Road for Mobile Payments – Eight Crucial Questions, Answered”; November 2012
Your data uniquely enables you to provide value with integrity...
...integrity wins the race...
Who Wins the Mobile/Data Wars?

- **Google?**
  - “Here’s a business who sells what you’re looking for.”

- **Amazon?**
  - “Buy whatever you’re looking for from us.”

- **Merchants?**
  - “Buy, Buy, Buy!!!”

- **Credit Unions?**
  - “We’ll help you decide whether, when, and where it makes sense to buy the stuff you want…in real time.”