Redefining the Banking Experience
A Jack Henry Symposium
Wednesday, June 15, 2016
Welcome and Introductions

- Jack Henry:
  - Leo Mallamaci, Atlantic Region Sales Manager
  - Paul Semonian, Area Account Executive
  - Ron Mazursky, Director of Strategic Initiatives
  - Mike Kierstead, Manager, Solution Specialist
  - Paul Wiggins, Advisory Solution Specialist
  - Al Suosso, Advisory Solution Specialist
  - Tom Williams, Business Continuity Strategy Manager
**sym·po·si·um**

/simˈpōzēəm/

**noun**

noun: symposium; plural noun: symposia; plural noun: symposiums

- a conference or meeting to discuss a particular subject.
- a collection of essays or papers on a particular subject by a number of contributors.
Agenda: Redefining the Banking Experience

- What Matters Next?.......................... Ron Mazursky
  The Future of Banking
  Director of Strategic Initiatives, JHA

- The Customer Experience............... Paul Wiggins
  Advisory Solution Specialist, JHA

- Lunch Break
Agenda: Redefining the Banking Experience

- The Bank Associate Experience .................................................. Al Suosso, Advisory Solution Specialist, Alliances, JHA

- Risking it All ........................................................................ Tom Williams, Business Continuity Strategy Manager, JHA

- Wrap Up

  Comments and Questions
Ron Mazursky
Director of Strategic Initiatives

- Develops actionable insight and strategy for Jack Henry & Associates businesses
- Manages a team of internal analysts
- Payments expert with broad financial services experience
- Speaks at national conferences, trade shows and webinars
- Authors articles for industry trades
- BA in Experimental Psychology from Binghamton University, MBA from Carnegie-Mellon University

@ronmazursky
Agenda

• Digital Banking and Silent Churn
• Fintechs and the Future of Banking
• Why User Experience (UX) Trumps User Interface (UI)
• Payments Speed Up & Disappear
• Fraud Shifts
• Questions and Answers
Digital Banking Creates Silent Churn

• Generic, just-good-enough digital banking commoditizes financial products and services
• Customers begin shopping banks on price only
• While community banks may hold the checking account, many customers turn to secondary FIs for profitable credit cards, mortgages, and other loans
• Community banks become primary in name only

SOURCE: Javelin’s “Bank Switching: Combating ‘Silent Churn’ to Maximize Primary FI Status”, November 2015
Primary vs. Secondary Relationships

SOURCE: Javelin’s “Bank Switching: Combating ‘Silent Churn’ to Maximize Primary FI Status”, November 2015
Checking Accounts vs. Credit Products

SOURCE: Javelin’s “Bank Switching: Combating ‘Silent Churn’ to Maximize Primary FI Status”; November 2015

<table>
<thead>
<tr>
<th>Product</th>
<th>Giant banks</th>
<th>Regional banks</th>
<th>Community banks</th>
<th>Credit unions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking accounts</td>
<td>42%</td>
<td>22%</td>
<td>21%</td>
<td>14%</td>
</tr>
<tr>
<td>Credit cards</td>
<td>60%</td>
<td>25%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Mortgages</td>
<td>60%</td>
<td>21%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>HELOCs</td>
<td>46%</td>
<td>30%</td>
<td>14%</td>
<td>10%</td>
</tr>
<tr>
<td>Auto loans</td>
<td>38%</td>
<td>27%</td>
<td>14%</td>
<td>21%</td>
</tr>
</tbody>
</table>
What’s the Big Deal with Digital and Silent Churn? Threats to Banks

• Siphoning most strategic and profitable customer segments
  – Higher income (Moneyhawks)
  – Younger (Gen Y1 and Gen Y2)
  – Small Businesses

• Bank reduced to passive funding source
  – 3rd-party mobile wallets

• Complete disintermediation of the bank
  – Merchant wallets, mobile order/pay ahead, and BOL/PUIS
Agenda

- Digital Banking and Silent Churn
- **Fintechs and the Future of Banking**
- Why User Experience (UX) Trumps User Interface (UI)
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Massive growth in global VC-backed fintech funding

FinTech Total Funding by Year

Source: *March 2016 Venture Scanner, “FinTech Q1 Updates in 15 Visuals”

Unicorn Stampede

The Increasingly Crowded Unicorn Club
Private Unicorns since 2011

Cost of founding a digital startup dropped from $5M in 2000 to $5K in 2013.

--Celent

SOURCE: https://www.cbinsights.com/blog/increasingly-crowded-unicorn-club/
The $12B in fintech venture is still small compared to the $200B FIs spends on tech each year.

SOURCE: https://www.cbinsights.com/blog/increasingly-crowded-unicorn-club/
The great unbundling of banking?
The “Unbundling of Banking”?

$23B in venture capital invested in 4000 fintech firms between 2010 and 2014

Commercial

Making & Receiving Payments

Retail

Borrowing & Financing

Saving & Investing

# Community Banks vs. Fintechs

**Pros**

<table>
<thead>
<tr>
<th>Community Banks</th>
<th>Fintechs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Small loyal customer base</td>
<td>• No legacy technology</td>
</tr>
<tr>
<td>• More agile than big banks</td>
<td>• Very agile</td>
</tr>
<tr>
<td>• Intimate knowledge of customers</td>
<td>• Lower expenses</td>
</tr>
<tr>
<td>• Trusted</td>
<td>• Culturally digital</td>
</tr>
</tbody>
</table>

**Cons**

<table>
<thead>
<tr>
<th>Community Banks</th>
<th>Fintechs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Legacy infrastructure and technology inhibit tech</td>
<td>• Some have no bank license</td>
</tr>
<tr>
<td>• Slow-moving organizations</td>
<td>• Limited resources</td>
</tr>
<tr>
<td>• Metrics not aligned with digital</td>
<td>• Difficulty assimilating more advanced financial products</td>
</tr>
<tr>
<td></td>
<td>• Little brand recognition and difficult customer acceptance</td>
</tr>
</tbody>
</table>

**Source:** Celent "NEOBANKS: IS THE MOBILE EXPERIENCE REALLY THAT FAR AHEAD OF THE TOP BANKS?"; Stephen Greer; November 2015
What do fintechs do better?
Where fintechs are better...

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
<th>WHO DID IT BETTER?</th>
<th>TOP EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSACT</td>
<td>Simple, GoBank</td>
<td>Bank of America, Wells Fargo</td>
</tr>
<tr>
<td>EXPERIENCE</td>
<td>Simple, GoBank</td>
<td></td>
</tr>
<tr>
<td>LEARN</td>
<td>Moven, GoBank</td>
<td></td>
</tr>
</tbody>
</table>

Fintechs are better at integrating **PFM**, money management, user experience, and **connections**. --Celent

SOURCE: Celent’s “NEOBANKS: IS THE MOBILE EXPERIENCE REALLY THAT FAR AHEAD OF THE TOP BANKS?”; Stephen Greer; November 2015
Meet Penny, your personal finance coach.

Good things happen when you chat with Penny: spend smarter, save more, live happier.

A chat-based personal finance coach.
“How’s my July looking?”

Know everything about your money with Penny.

Penny sends you beautiful tailored charts and insights to help you know how you’re spending in real time. Avoid overdrafts and “where did my money go?” damage control.
Should banks fear fintechs?
No, banks should learn from fintechs!
Inspiration from fintechs…

• **Integrate PFM into mobile**
  – savings goals, cash flow, money management

• **Improve customer experience (CX, aka UX)**
  – from negative to positive money emotions

• **Humanize digital support (robo-advisor)**
  – “assistant in the app”

• **Contextualize everything**
  – geo-location; match friction to risk

• **“Deputize” cardholders with mobile card controls**
  – toggle on/off; set usage limits; travel alerts

SOURCE: Celent “NEOBANKS: IS THE MOBILE EXPERIENCE REALLY THAT FAR AHEAD OF THE TOP BANKS?”; Stephen Greer; November 2015
**Banks & fintech need each other**

<table>
<thead>
<tr>
<th>Why banks need fintech...</th>
<th>Why fintech needs banks...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to new ideas</td>
<td>Access to consumers – trust, inertia</td>
</tr>
<tr>
<td>Access to new technology</td>
<td>Access to clearing and settlement</td>
</tr>
<tr>
<td>Access to agility: speed market</td>
<td>Access to payments expertise</td>
</tr>
<tr>
<td>Access to data expertise</td>
<td>Access to data</td>
</tr>
<tr>
<td>Exposure to different culture</td>
<td>Avoid regulation</td>
</tr>
</tbody>
</table>

**SOURCE:** Celent “BANKS, RETAILERS, AND FINTECH: REIMAGINING PAYMENTS RELATIONSHIPS PART THREE: THE FINTECH PERSPECTIVE Zilvinas Bareisis and Gareth Lodge, January 2016”; Stephen Greer, November 2015
The Future of Banking? Alternative Scenarios

**Scenario 1**
The Better Bank

- Legacy Banking Platform
- Digital Banking Interface

**Scenario 2**
The New Bank

- Built-for-Digital Banking Platform

**Scenario 3**
The Distributed Bank

- FinTech Providers
- Banking Services Aggregator

**Scenario 4**
The Disintermediated Bank

- Banking Platform
- Social Network Banking Interface

[Snippet from the image: http://banknxt.com/wp-content/uploads/2015/10/1DukeDeUV87IFMSH2ZuHutw.png]
The great re-bundling of banking?

(a.k.a. API Banking)
The Great Re-Bundling of Banking

Fintech vendors creating middleware platforms and networks that integrate spot solutions using APIs…

…expedite evolution of digital channels, enable mobile-first services, and improve user experience (UX)

– Jack Henry & Associates - Banno Platform
– Fiserv Enterprise Services Services Framework
– BBVA Open API Platform
Banno Platform
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UI ➔ UX
“UI = what you see. UX = what you feel.”

Derik Sutton
Director, Mobile & User Experience
Jack Henry & Associates
Increasing revenue and improving customer experience are the “most important” factors driving the overall banking business.

Source: SI-16 Survey Question: Overall Q1. Select the most important factor driving your overall banking business.
“Checking a balance is not engagement.”

--Ron Shevlin, Aite Analyst

“Engagement is repeated, meaningful, and satisfying interactions that strengthen the emotional connection a customer has with the bank.”

--Ron Shevlin
Negative Emotions of Money

- Doubt
- Anxiety
- Guilt
- Inferiority
- Incompetence
- Addiction
- Helplessness
- Despair
- Rage
Positive Emotions of Money

Trust
Control
Confidence
Empowerment
Competence
Security
Safety
Peace
JHA Bankers expect to see a significant **decline in branch traffic** over the next 5 years

81% of banks foresee a decline in branch traffic over the next five years!

7% of banks expect to grow branch traffic during this period

54% of banks expect to see 6-25% decline in branch traffic

Source: SI-16 Survey Question: Background Q 7. What change do you anticipate in your branch traffic volume in the next five years?
Why Branch UX Must Be Your Best UX

• As branch traffic declines, the reasons customers come into branches also changes
  – From transactional to complex, consultative problem solving

• Engagement in branches becomes higher stakes
  – “Problem solving” means higher percentage of customers enter the branch anxious, concerned and/or upset/angry

• Therefore, branch UX must be best, highest quality UX
Declining branch traffic leads to more than half of banks changing their branch model – by improving customer experience and taking a consultative approach

Source: SI-16 Survey Question: Branch Model Q1 and Q2. Q1: Choose the option which best describes your branch model approach. Q2: Indicate the most important focus of your branch channel model?
Branch UX must be your best UX!
How can you create great UX?
“Adults under 35 have a savings rate of negative 2%.”

SOURCE: Moody Analytics
EXPERIENCES TRUMP PRODUCTS

SOURCE: Mobile First, Brett King and Jumio Webinar, May 2015
Evolution of Payments

Mobile

Digital

Invisible
The disappearance of POS payments will challenge issuers and their wallets

“Uberization”
Mobile wallet ecosystem is fragmenting in 2016...
# Mobile Wallet Fragmentation

<table>
<thead>
<tr>
<th></th>
<th>Apple Pay</th>
<th>Android Pay</th>
<th>Samsung Pay</th>
<th>PayPal</th>
<th>Capital One</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Launch</strong></td>
<td>September 2014</td>
<td>September 2015</td>
<td>September 2015</td>
<td>Summer 2016</td>
<td>2016</td>
</tr>
<tr>
<td><strong>Channels</strong></td>
<td>In-app</td>
<td>In-app</td>
<td>In-app</td>
<td>In-app</td>
<td>In-app</td>
</tr>
<tr>
<td></td>
<td>In-store</td>
<td>In-store</td>
<td>In-store</td>
<td>In-store</td>
<td>In-store</td>
</tr>
<tr>
<td><strong>In-store Technology</strong></td>
<td>NFC, Secure element</td>
<td>NFC, HCE</td>
<td>NFC, Secure element</td>
<td>Beacon</td>
<td>QR code</td>
</tr>
<tr>
<td></td>
<td>Loop Pay</td>
<td></td>
<td></td>
<td>QR code</td>
<td>NFC</td>
</tr>
<tr>
<td><strong>Encryption</strong></td>
<td>Tokenized</td>
<td>Tokenized</td>
<td>Tokenized</td>
<td>Proprietary</td>
<td>Tokenized</td>
</tr>
<tr>
<td><strong>Acceptance</strong></td>
<td>NFC merchants (~200k) In-app</td>
<td>NFC merchants (~200k) In-app soon</td>
<td>~80% of physical merchants In-app soon</td>
<td>Millions of merchants online Some stores</td>
<td>MCX merchants (~100k)</td>
</tr>
<tr>
<td><strong>Payment Method</strong></td>
<td>Cards + loyalty</td>
<td>Cards Smart Tap loyalty</td>
<td>Cards</td>
<td>Cards + loyalty</td>
<td>ACH Loyalty</td>
</tr>
<tr>
<td><strong>Platform</strong></td>
<td>iOS</td>
<td>Android</td>
<td>Android</td>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td><strong>POS Payment Experience</strong></td>
<td>Tap+ touch ID from locked phone</td>
<td>Unlock phone and tap</td>
<td>Unlock phone and tap</td>
<td>Unlock phone, start pp and scan</td>
<td>Unlock phone, start app and scan</td>
</tr>
<tr>
<td><strong>Online Payment Experience</strong></td>
<td>Click + touch ID</td>
<td>Click + touch ID or password</td>
<td>Click + touch ID or password</td>
<td>Click, type email and password</td>
<td>Click</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
...Android Pay will allow issuers to integrate mobile payments into their mobile banking apps.
Whole Foods San Antonio, TX
Pending

($100.00)

MAY 16

Walgreens 1604 San Antoni...
Healthcare/Medical

($75.00)

MAY 14

Corner Store #44789
Gasoline/Fuel

($6.72)

Add this card to Android Pay.

NO, THANKS     ADD CARD
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What about faster payments?
What is a Real Time Payment?
Attributes that Define Real-Time Payments

- Authorization/Clearing
- Availability of Funds
- Interbank Settlement
# Use Cases of Real-Time Payments

**Examples of real-time payments for consumers and businesses**

<table>
<thead>
<tr>
<th>Person-to-person</th>
<th>Consumer-to-business</th>
<th>Business-to-consumer</th>
<th>Business-to-business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments to another individual, a small business or between 2 accounts</td>
<td>Last minute bill payments or tax payments (emergency bill pay)</td>
<td>Emergency payroll payments</td>
<td>Business making a just-in-time supplier payment</td>
</tr>
<tr>
<td>Emergency transfer of money to individual outside of the US</td>
<td>Online/mobile merchant payments</td>
<td>Payroll payment for temporary or hourly workers</td>
<td>Last minute bill payment</td>
</tr>
<tr>
<td>Rent payment to roommates</td>
<td></td>
<td>Insurance payments</td>
<td>Account-to-account payment to consolidate money in one account</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disaster relief</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer refunds</td>
<td></td>
</tr>
</tbody>
</table>

Changes in Faster Payments?

- Fragmented approaches will eventually converge
  - Fed joins NACHA Same-Day ACH bandwagon rolling out September 2016
  - Early Warning acquires clearXchange
  - Jack Henry & FIS PayNet partner with The Clearing House

- These approaches aren’t ubiquitous…yet
  - NACHA’s ACH Same-Day Settlement; The Clearing House’s Real-Time Payments Initiative; MasterCard Send

- Immediate funds availability more important than immediate settlement

- What about virtual currencies?
  - Bitcoin, Ripple Labs XRP, Ethereum Ether, etc.
Blockchain/Distributed Ledgers could/might/maybe change everything
• Is a secure transaction database offering a shared ledger for all parties in a distributed network

• Uses mathematical cryptographic data to record and store every transaction that occurs in the network, creating an irrevocable and auditable transaction history

Source: Banking on Blockchain: Charting the Progress of Distributed Ledger Technology in Financial Services, February 2016
Blockchain

Block 51
- Proof of work: 0000009857vvv
- Previous block: 000000432qrza1
- Transaction: lk54lfvx
- Transaction: 09345w1d
- Transaction: vc4232v32

Block 52
- Proof of work: 000000zzxvzx5
- Previous block: 0000009857vvv
- Transaction: dd5g31bm
- Transaction: 22qsx987

Block 53
- Proof of work: 00000090b41bx
- Previous block: 000000zzxvzx5
- Transaction: 94lxcv14
- Transaction: ab7bxxq
- Transaction: 001hk009
- Transaction: 34oiu98a

Block 54
- Proof of work: 000000jiij93xq49
- Previous block: 00000090b41bx
- Transaction: 55bj4j12
- Transaction: bn24xa0201
- Alice -> Bob
Smart Contracts – whereby business rules implied by a contract are embedded in the blockchain.

Distributed Ledger – the distributed nature of blockchain could reduce the need for intermediaries to validate financial transactions.

Blockchain Benefits

Shared Infrastructure – costly reconciliation processes across separate but different renditions of the same information can be avoided.

Faster Settlement – reduces duplicative recordkeeping, eliminate reconciliation, minimize error rates meaning less risk in the financial system and lower capital requirements.

Let’s Talk Payments Blockchain Coverage
Blockchain Players and Alternatives

**Enterprise Providers**
- Digital Asset: Security Settlement
- ripple: Cross Border Payments
- ethereum: Smart Contracts
- Chain: Smart Contracts

**Consortiums**
- 42 Financial Institution Partners
- Hyperledger Foundation: IBM/Linux
Payment Opportunities for Blockchain

- Cross-border payments
- P2P
- Micropayments
- Internet of Things (IOT)
- Loyalty
- Bill payments
Blockchain: Will It Matter for Banks?

• “…faster, cheaper and more secure/transparent way to manipulate money electronically…”

• “…shortened settlement time also reduces the risk of fraud. Shared ledger technology could even curb the current epidemic of identity theft.”

But layers of infrastructure must be built first, and consumers and regulators must be persuaded to trust blockchain—two prerequisites that give incumbents an early edge.

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Fraud Stabilizes, Losses Decline

...but this stability masks a shift in the types of payments fraud evolving
FIs are benefiting from the EMV liability shift

U.S. Counterfeit Card Fraud Losses, 2011 to e2020
(US$ Billions)

Source: Aite Group interviews with processors, payment networks, and 16 large FIs, February to April 2016.
Lessons learned predict a significant CNP fraud spike…

Changes in CNP Credit Card Fraud Losses, 2009 to 2014
(In AU$ and CA$ millions)

SOURCE: Aite Group, 2016
...and the U.S. will be no exception

U.S. CNP Card Fraud Losses, 2013 to e2020 (In US$ Billions)

Source: Aite Group

CNP fraud rose steadily in 2015, though EMV not yet to blame
Card breaches drop but compromised SSNs explode!

<table>
<thead>
<tr>
<th></th>
<th># of breaches</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cards</td>
<td># of breaches</td>
<td>138</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td># of records</td>
<td>64M</td>
<td>.8M</td>
</tr>
<tr>
<td>SSNs</td>
<td># of breaches</td>
<td>325</td>
<td>338</td>
</tr>
<tr>
<td></td>
<td># of records</td>
<td>16M</td>
<td>164M</td>
</tr>
</tbody>
</table>

SOURCE: ITRC Data Breach Reports 2014 and 2015; www.idtheftcenter.org
What’s happening?

• CNP fraud grows
• Issuers tighten authorizations in response
• Tighter authorizations generate more false declines
• Issuer losses from improperly declined transactions (plus reduced future spend from dissatisfied cardholders) outpaces fraud losses 4-to-1

SOURCE: MasterCard Advisors, Security Matters, “How Much Does a Declined Transaction Intended to Prevent Fraud Really Cost?”
U.S. issuers falsely declined $118B in transactions: 13X actual fraud of $9B

Javelin Strategy & Research
1-in-6 cardholders declined due to suspected fraud…

Percent of Cardholders Who Had a Transaction Declined Due to Suspected Card Fraud in the Past 12 Months

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social shoppers</td>
<td>37%</td>
</tr>
<tr>
<td>EMV cardholders</td>
<td>29%</td>
</tr>
<tr>
<td>FDIC underbanked</td>
<td>28%</td>
</tr>
<tr>
<td>All cardholders</td>
<td>15%</td>
</tr>
</tbody>
</table>

2-in-3 Consumers Decrease Card Usage After Transaction Declined

Impact of a Declined Transaction on Card Usage

- 36% of cardholders had no impact on their usage of the card.
- 25% used the card less than they were using before the decline.
- 39% stopped using the card.

Layered Approach: Fighting CNP Fraud

Driving down CNP fraud will require a comprehensive strategy

Cardholder-defined controls

Analytics

Authentication

Behaviormetrics

Mobile Card Controls

- Toggle card on/off
- Cardholders define legitimate usage parameters:
  - Where can card be used
    - Geolocation, e.g., local-only, regional, international?
    - Acceptable merchant categories
      - Grocery, Restaurant, Gas Station, etc.
  - When can card be used
    - Time of day/night: weekdays, weekends, etc.
  - What kinds of transactions are allowed
    - In-store, e-commerce, mail/phone order, billpay, auto-pay (card on file), ATM, funds transfers, etc.

Mobile Card Controls

Financial Institutions can lower fraud by 60% and increase revenue by 50%

80% of banks are interested in **mobile card controls** for fraud prevention

Source: SI-16 Survey Question: Security and Fraud Prevention Q1 – Level of interest in Mobile Card Controls
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Any questions?

Ron Mazursky

rmazursky@jackhenry.com