

Issues on the Edge

Breaches, Brains, Mobile & Mary Jane

MCUL ACE

June 4, 2015

Lee Wetherington

Director of Strategic Insight
Jack Henry & Associates, Inc.



 @leewetherington



Presenter

Lee Wetherington

Director of Strategic Insight

- Develops actionable insight and strategy for the financial services industry at large
- 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

- ▶ Breaches
- ▶ Brains
- ▶ Mobile
- ▶ Mary Jane

Breaches

**Somethin'
ain't right...**

Data Breach

Prevention. Response. Notification. TODAY

Response ▾

Breaches

Forensics

Governance

ID Theft

Preparedness ▾

Litigation

Technology ▾

News ▾

Blogs ▾

Interviews

Webinars ▾

White Papers

Memberships

Resources ▾

Events ▾

Jobs ▾



The Latest News

[Anthem Breach: Phishing Attack Cited](#)

Phishing Campaigns Now Targeting Anthem Members



Featured Interviews

[Can PINs Reduce Online Fraud?](#)

Merchant Association Executive Outlines Her Argument



PINS can effectively reduce card-not-present as well as card-present fraud, argues Liz Garner of the

Merchant Advisory Group, who will be a featured speaker at Information Security Media Group's...

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Report a Breach

Are you aware of a data breach that has not yet been reported? Alert our news team.

[Submit Your Report Now](#)

Data Breach

The unprecedented volume of data breaches in 2014 provided a wealth of PII with which to gain access to existing accounts.

Prevention

DAY

Response ▾
News Blogs

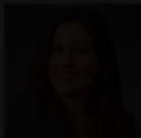
Technology ▾
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The Latest News
Anthem Breach
Phishing Campaigns

Updates
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Merchant Association Executive
Outlines Her Argument



PINS can effectively reduce card-not-present as well as card-present fraud, argues Liz Garner of the Merchant Advisory Group, who will be a featured speaker at Information Security Media Group's

Report a Breach

Are you aware of a data breach that has not yet been reported? Alert our news team


Submit Your Report Now

Q: Was there more or less ID fraud last year?

Identity Fraud: Fewer Victims, Less Losses

	Survey Report						
	Trend	2014	2013	2012	2011	2010	2009
U.S. adult victims of identity fraud (in millions)	↓	12.7	13.1	12.6	11.6	10.2	13.9
Fraud victims as % of U.S. population	↓	5.2%	5.4%	5.3%	4.9%	4.4%	6.0%
Total one year fraud amount (in billions)	↓	\$16	\$18	\$21	\$18	\$20	\$32
Mean fraud amount per fraud victim	↓	\$1,228	\$1,411	\$1,671	\$1,543	\$1,970	\$2,288
Median fraud amount per fraud victim	↓	\$293	\$322	\$350	\$472	\$644	\$735
Mean consumer cost	=	\$115	\$114	\$365	\$354	\$356	\$388
Median consumer cost	=	\$0	\$0	\$0	\$0	\$0	\$0
Mean resolution time (hours)	↓	8	10	12	12	13	14
Median resolution time (hours)	↓	2	4	3	2	3	4

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A stack of credit cards is shown, with a brass padlock placed on top of them. The padlock is open, and its shackle is raised. The background is dark and out of focus, suggesting a computer keyboard. The text is overlaid on the right side of the image.

U.S. accounts for 25% of global card volume and 50% of card fraud... because we rely on magnetic stripes and signatures in cursive.

Signatures are worthless!



**So, guess how we're
securing EMV credit
card payments this
year in the U.S.?!**

EMV Chip & Quill!!!

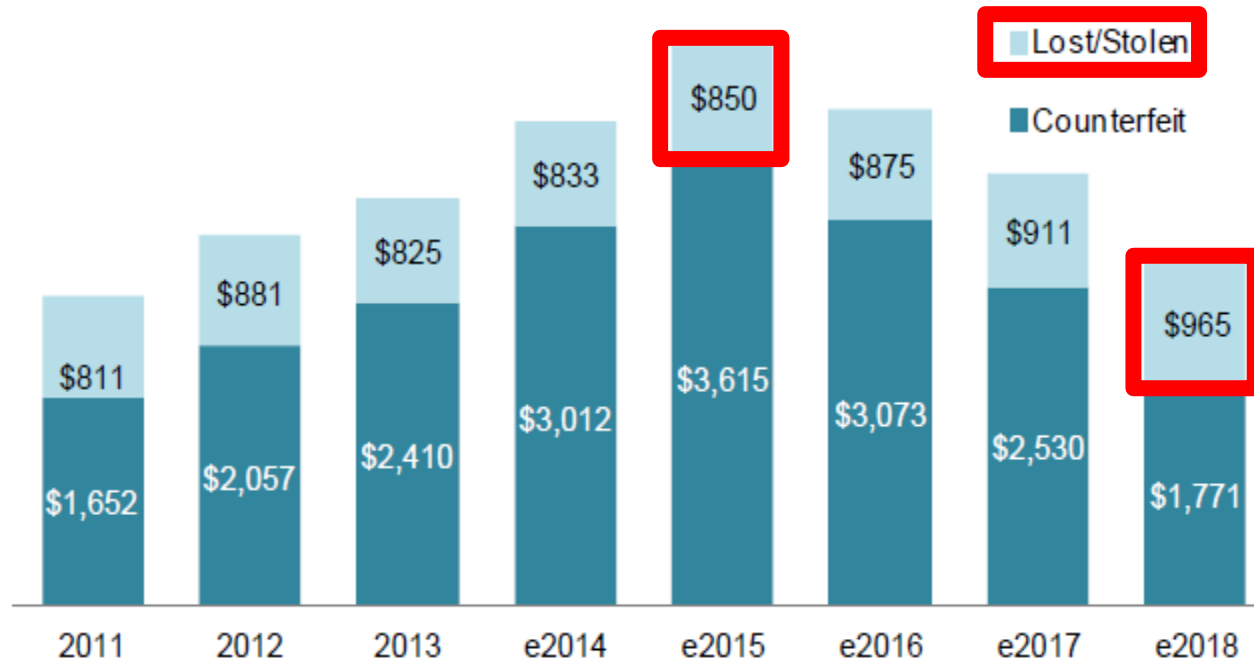


+



Post-EMV Credit Card Fraud Projections

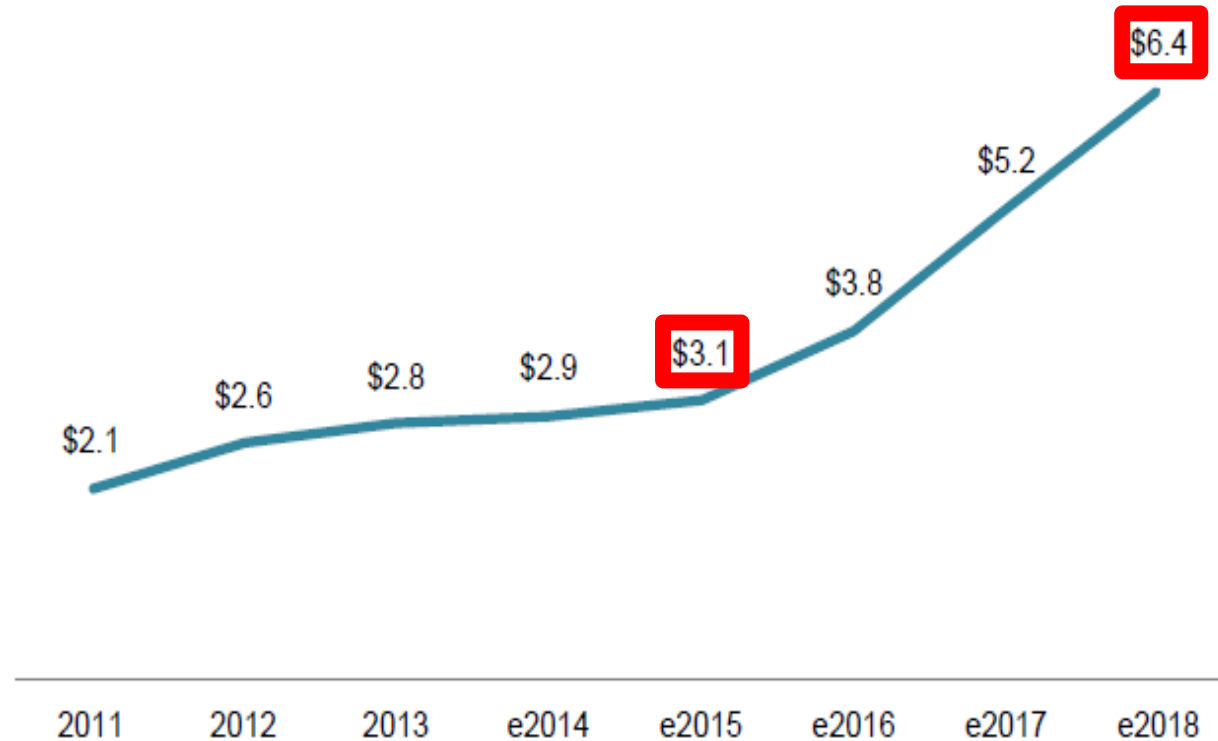
U.S. Credit Card Fraud Losses, 2011 to e2018
(In US\$ millions)



Source: Aite Group interviews with card executives from 18 of the top 40 U.S. issuers and payment networks, April and May 2014

Online Card-Not-Present (CNP) Fraud Explodes

U.S. CNP Credit Card Fraud Losses,
2011 to e2018 (In US\$ Billions)



Source: Aite Group interviews with card executives from 18 of the top 40 U.S. issuers and payment networks, April and May 2014

CNP Fraud Forecast: 2018

CNP FRAUD WILL HAVE A CONSISTENT YET DRAMATIC GROWTH

CNP FRAUD WILL BE

4X

POS CARD FRAUD BY
2018

EMV: Transitional Fraud Targets

SMALL MERCHANTS AND UNATTENDED TERMINALS WILL REMAIN VULNERABLE

WHILE BIG MERCHANTS ARE WELL ON THEIR WAY,
FRAUDSTERS WILL STILL HAVE **TARGETS**.

SMALL
MERCHANTS



ATMS



GAS PUMPS



SOURCE: Javelin Strategy & Research; "Fixing CNP Fraud: Solutions for a Pre- and Post-EMV U.S. Market; October 2014

ATM Fraud Jumps in Q1 2015

ATMS



Attacks on ATMs at FIs jumped **174%** (January-April 2015).
Attacks on non-FI ATMs jumped **317%** (January-April 2015).



LET'S MAKE A DEAL



odds: 1/3



odds: 1/3



odds: 1/3



odds: 1/3



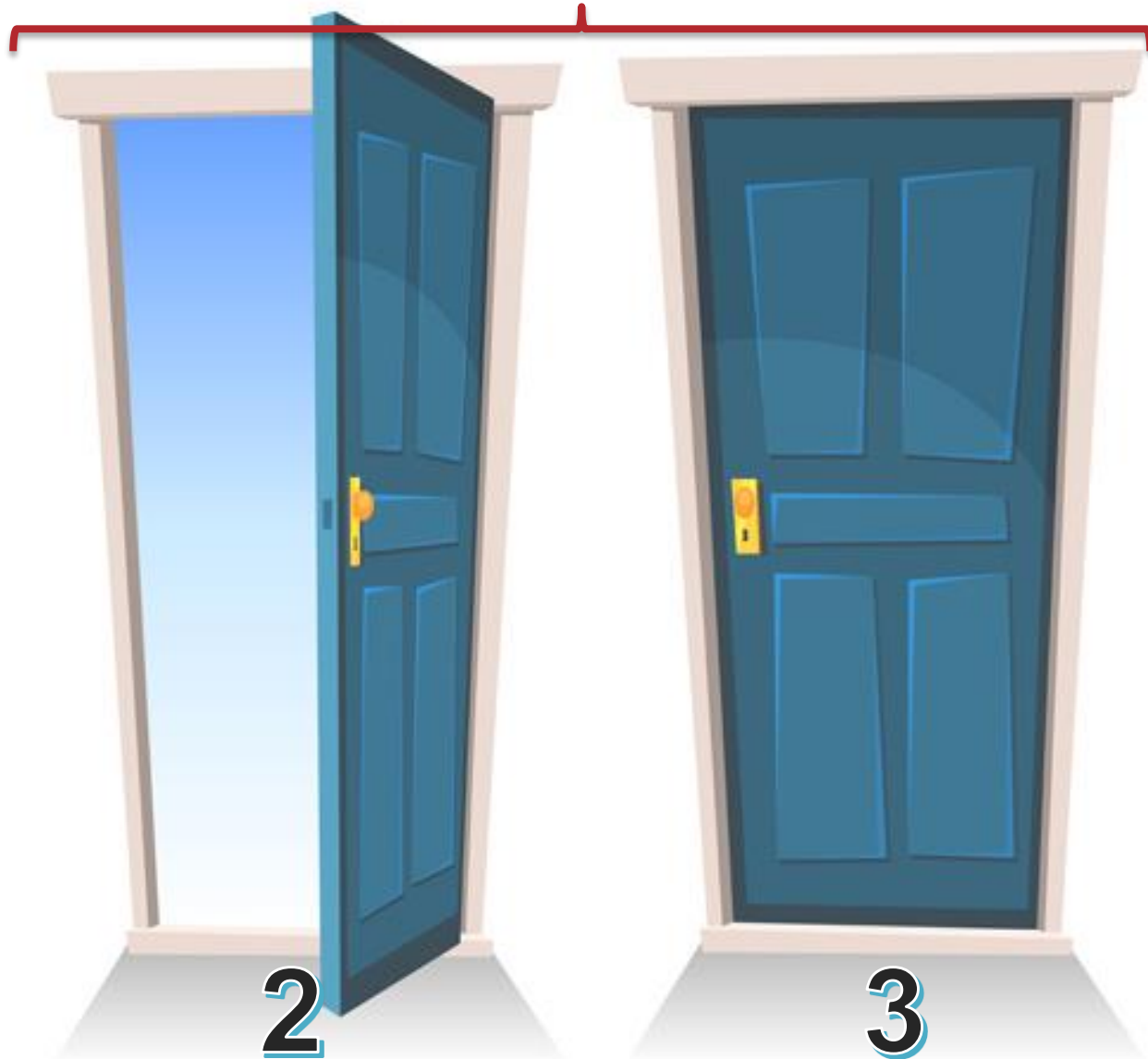
odds: 2/3



odds: 1/3



odds: 2/3



**So, should you
choose door #3?**

odds: 1/3



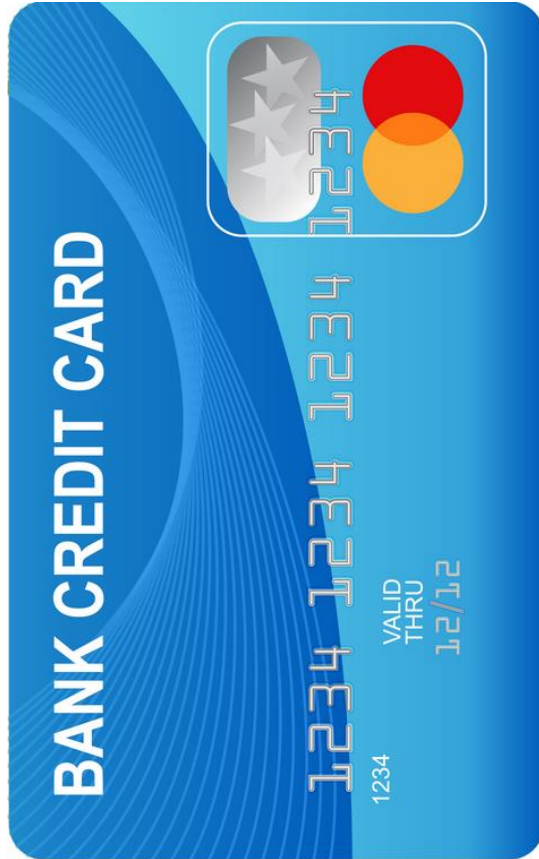
odds: 2/3



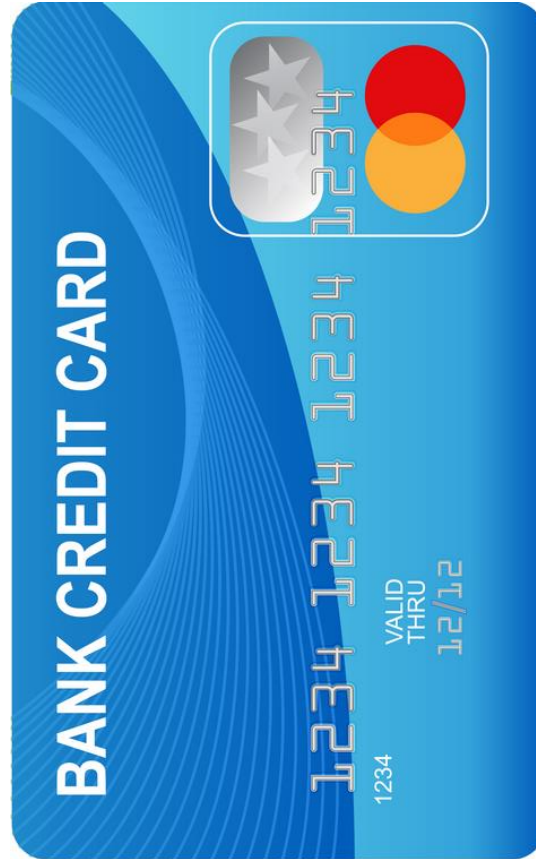
During the EMV transition,
the **probability of fraud** will
concentrate among the last
to migrate.

Counterfeit Card Fraud Probability

odds: 1/3



odds: 1/3



odds: 1/3



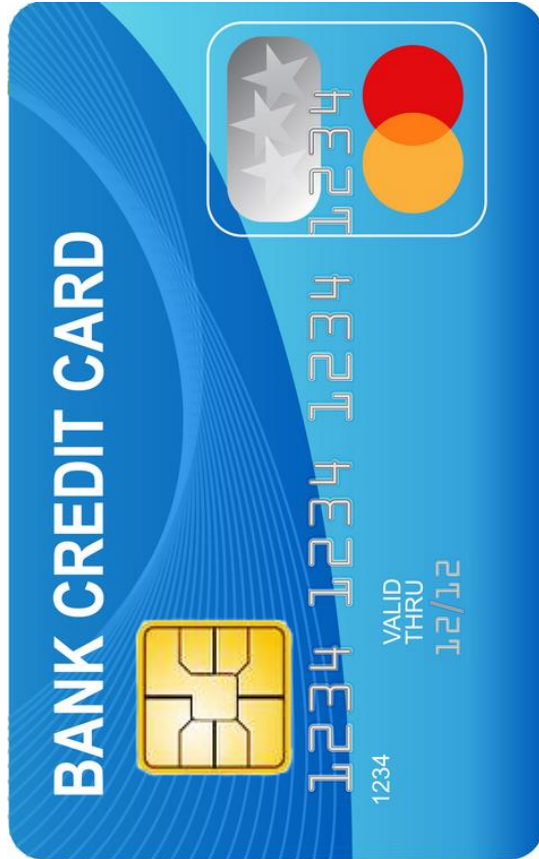
1

2

3

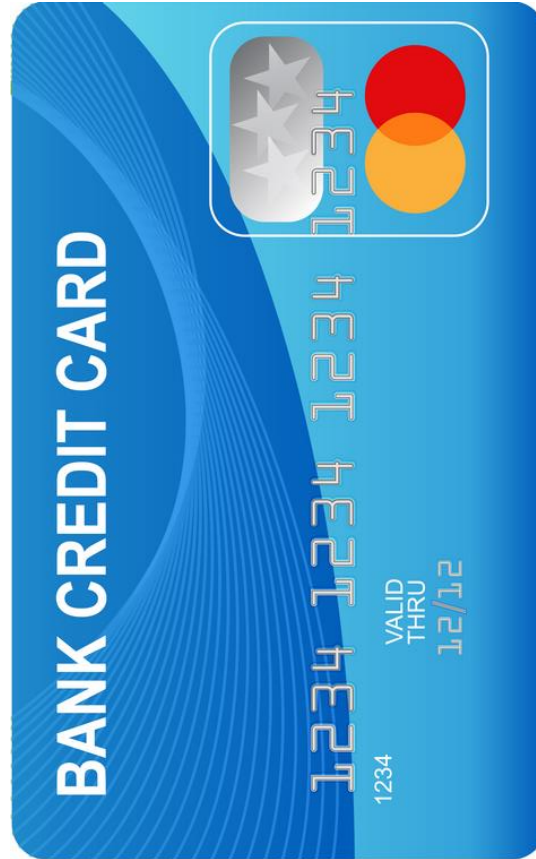
Counterfeit Card Fraud Probability

odds: 0



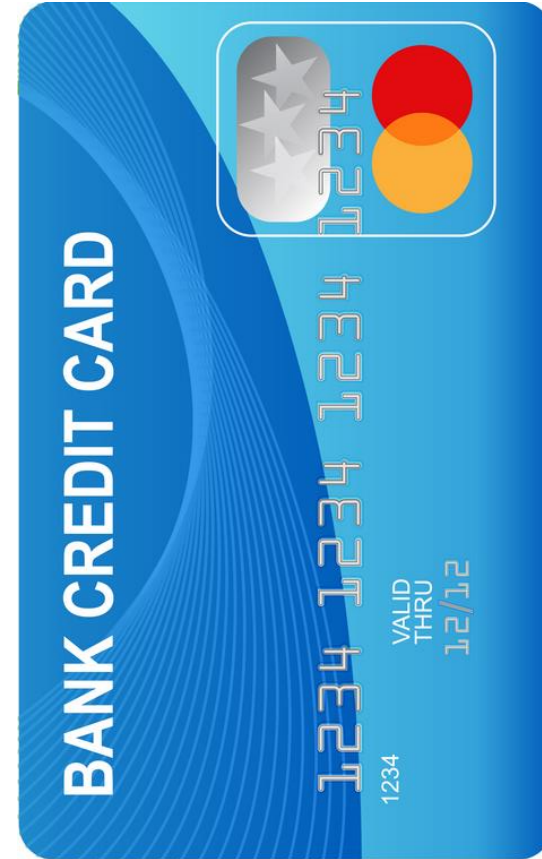
1

odds: 1/2



2

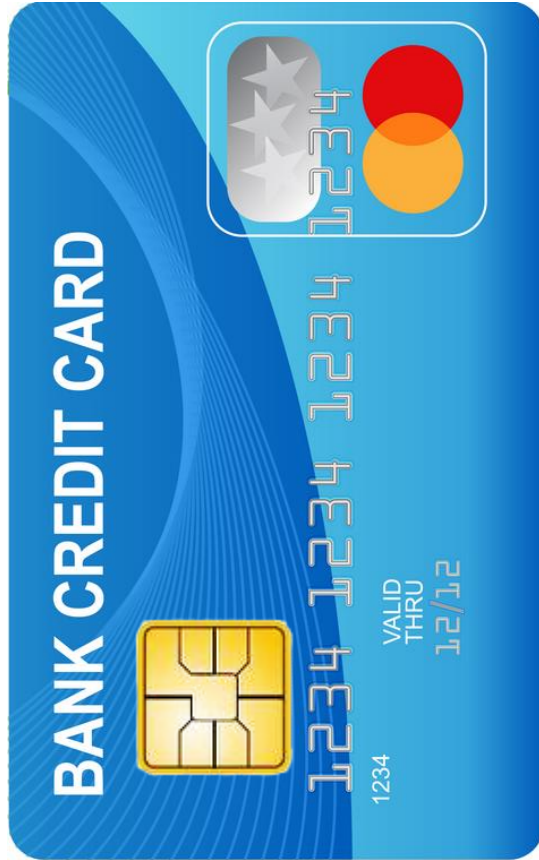
odds: 1/2



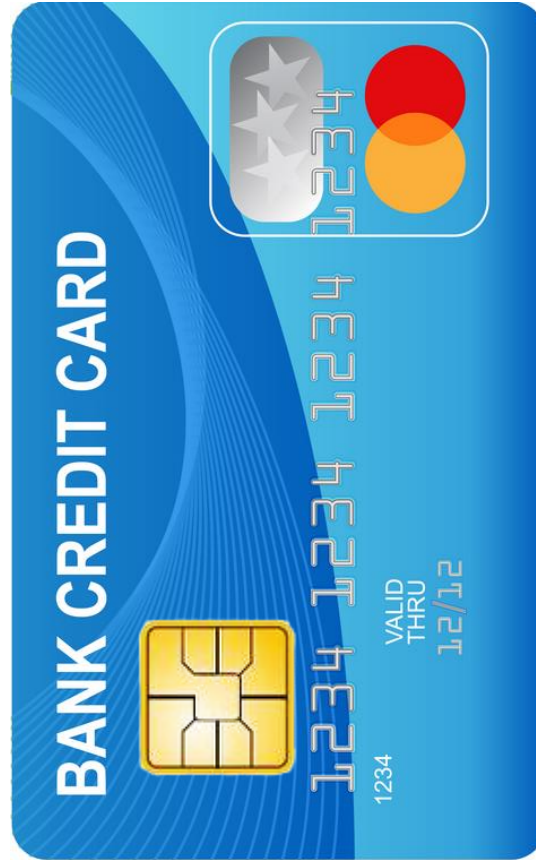
3

Counterfeit Card Fraud Probability

odds: 0



odds: 0



odds: 100%



1

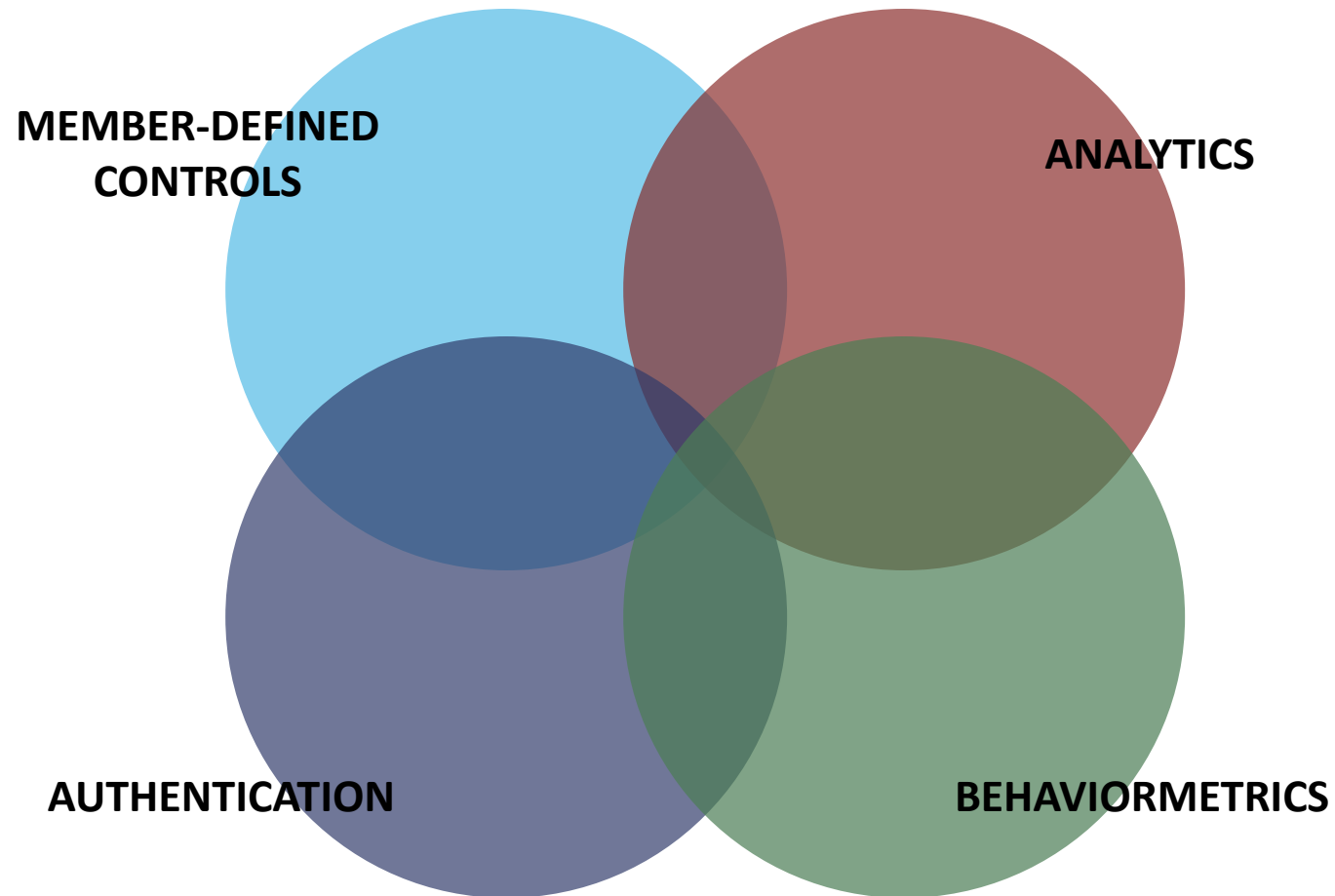
2

3

But what to do about CNP fraud?

A Holistic Approach: Fighting CNP Fraud

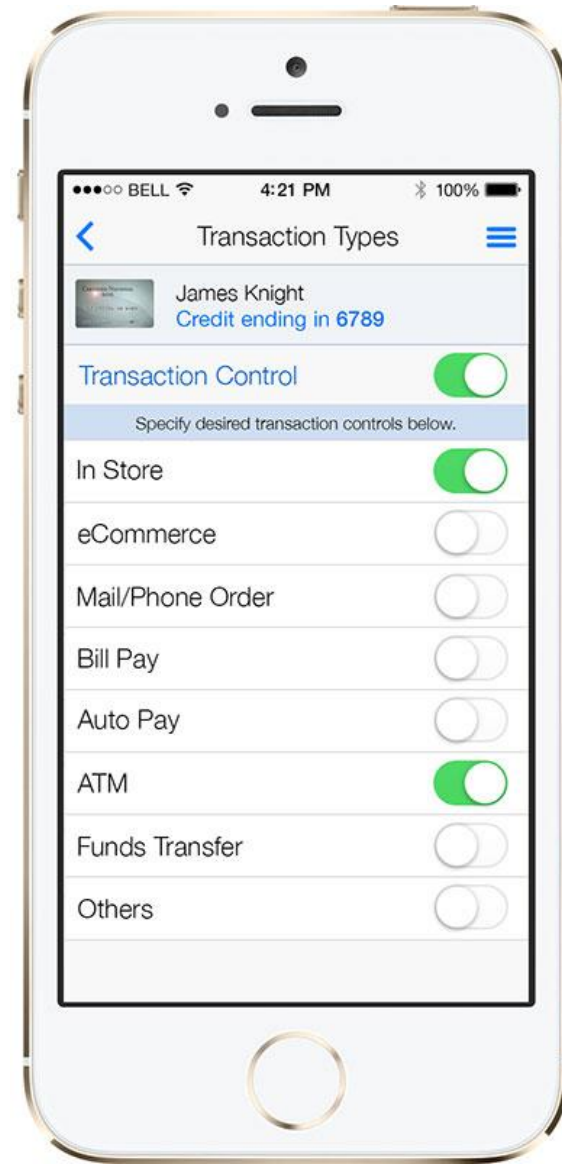
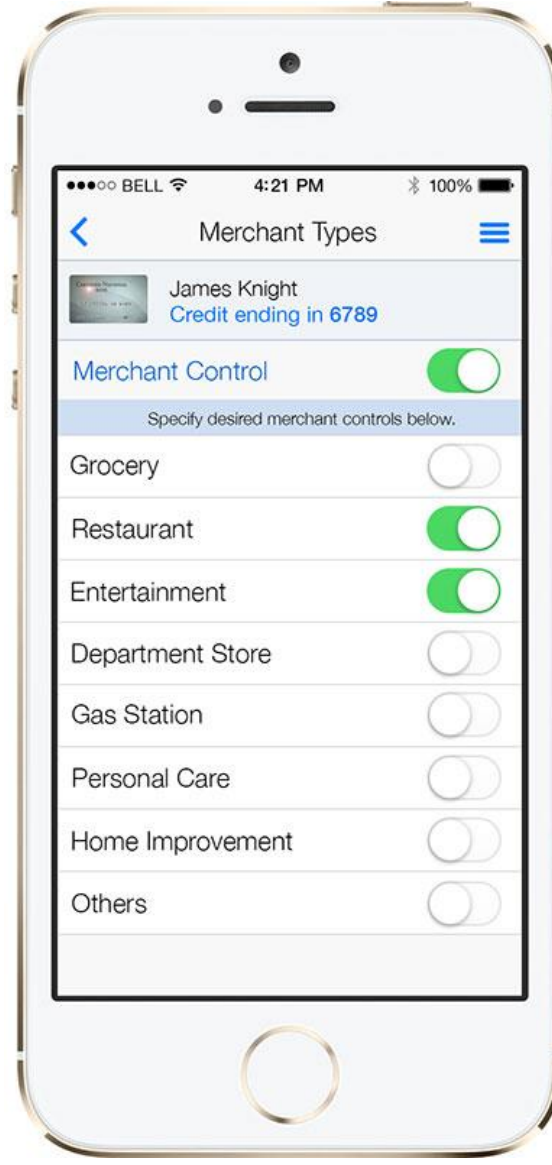
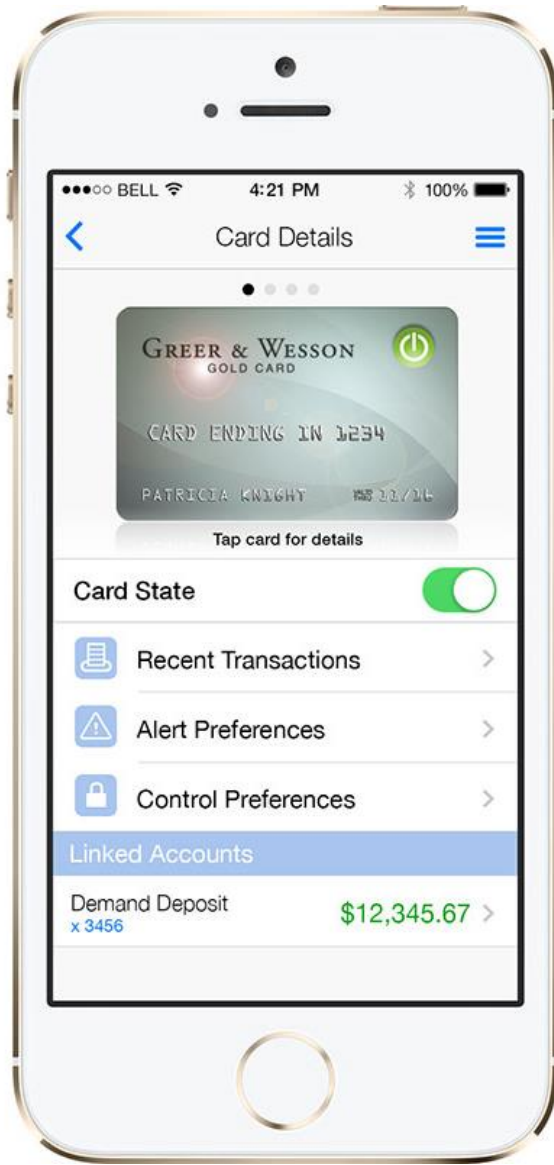
DRIVING DOWN CNP FRAUD WILL REQUIRE A COMPREHENSIVE STRATEGY



SOURCE: Javelin Strategy & Research; "Fixing CNP Fraud: Solutions for a Pre- and Post-EMV U.S. Market; October 2014

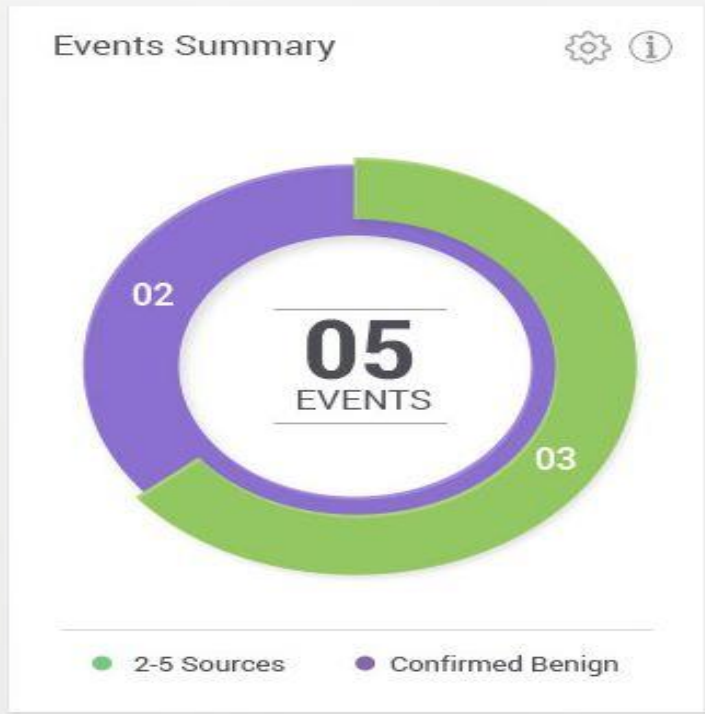
Member-Defined Controls for Cards





- Alerts
- Events**
- Feeds
- Trusted Circle
- Analysis
- Reports
- Administration

Events



Data compiled from **30** Sources in **01** Trusted Circles

- Local Events** 1
 - Intra-Company Events
 - Global Events
 - Early Warnings 3
 - All Events
- Search

Inbox
1 Thread

5 Items/page | Showing 1 to 5 of 28 messages

Security Community
Account Takeover Alert
April 29 | 10:30 AM

SECURITY COMMUNITY PROPRIETARY - PRIORITY:AMBER - ONLY SHARE WITH THOSE INSIDE YOUR ORGANIZATION WITH A NEED TO KNOW. DO NOT SHARE OUTSIDE OF YOUR ORGANIZATION WITHOUT FIRST COORDINATING WITH THE SECURITY COMMUNITY.

Detect Breaches Early with Big Data



yantra

 rippleshot
stopping fraud at the speed of data

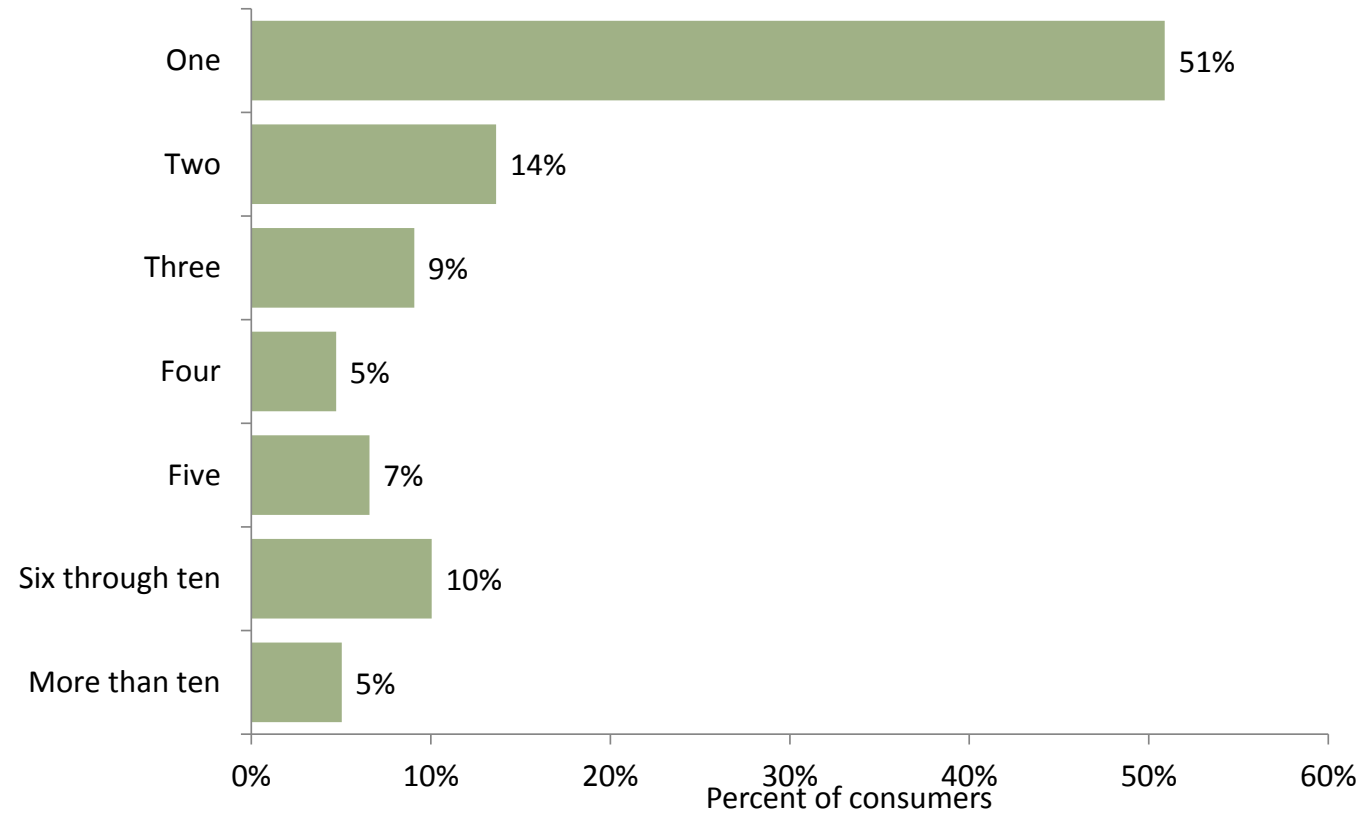
EMV Challenges

- ▶ Transitional concentrations of fraud on weakest links & last to enable
 - ▶ Debit Cards
 - ▶ Smaller Merchants
- ▶ Get ready for tokenization; monitor costs (see Visa's VDEP)
- ▶ Signatures are meaningless...and we're transitioning to, you guessed it, Chip & Signature EMV credit cards
- ▶ The learning curve for consumers
 - ▶ **Dip and leave vs. dip and yank (gas pump)**

**One word about
passwords...**dead.**
They're dead.**

Half of Consumers Recycle Passwords

Number of Accounts for Which Consumers Use the Same Password

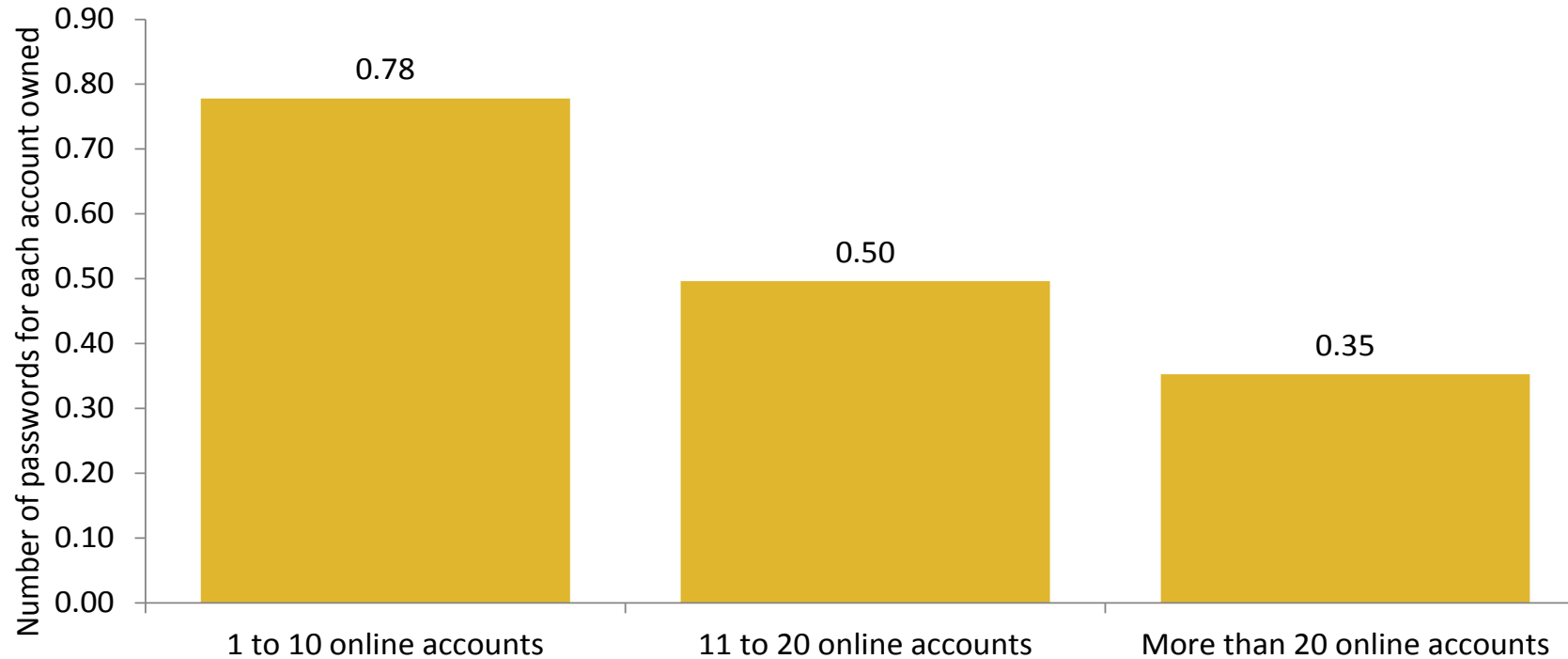


Q61: For how many of your online accounts do you use the same password?

October 2013, n = 5,521
Base: Consumers with online accounts.
© 2014 Javelin Strategy & Research

More Accounts, Fewer Passwords. Nice Job, Everybody!

Ratio of Passwords to Online Accounts Owned



Q60: How many separate online accounts would you estimate currently belong to you?
Q62: About how many separate passwords do you use to access your various internet accounts? --mean

October 2013, n varies 490 to 4,249
Base: Consumers by number of online accounts owned.
© 2014 Javelin Strategy & Research

**From what you know
to the way you are.**

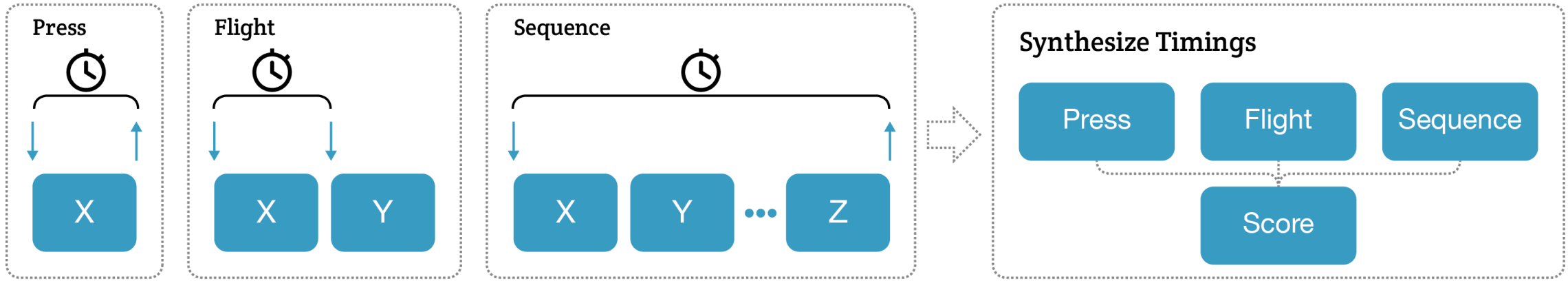


BehaviorSec

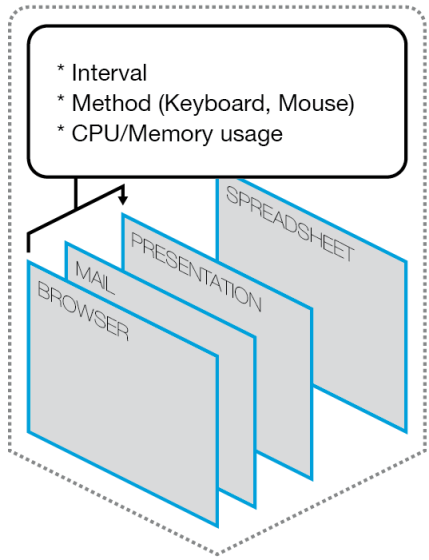
BIOCATCH.

Behavioral Profiling

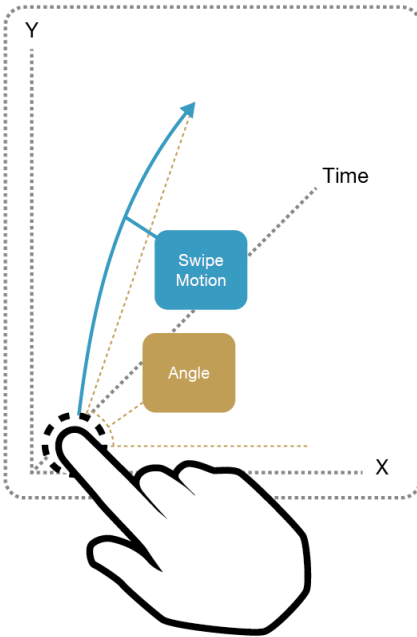
Keyboard Capture Intervals



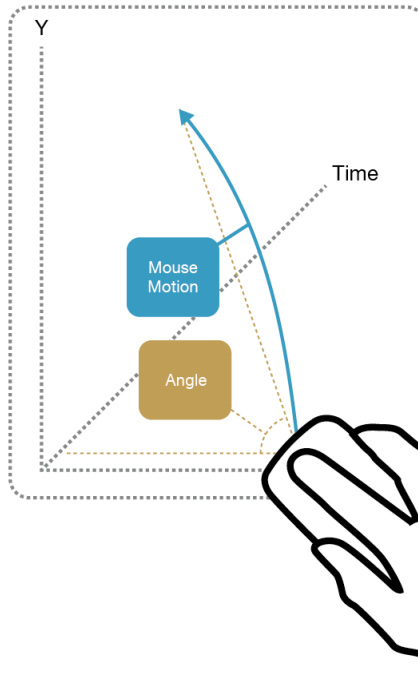
Application Switching



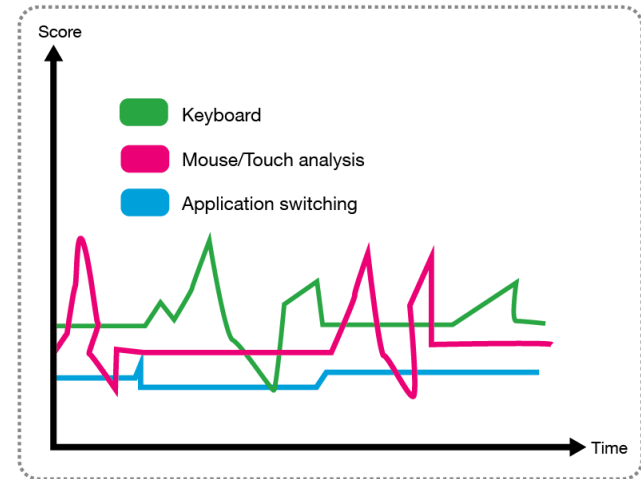
Touch Motion



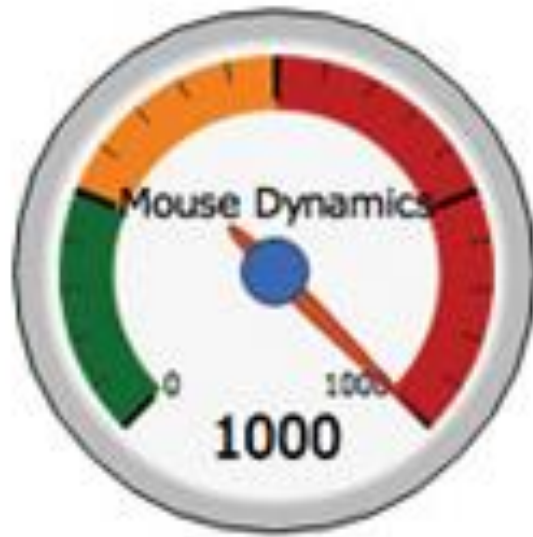
Mouse Motion



Continuous



Authentication Activity Scores



Brains

Why are we so distracted?



BRAINZZZ!

Neuro Science 101: 3 Questions

1. What organ in your body is the last to mature?

▶ A: The brain

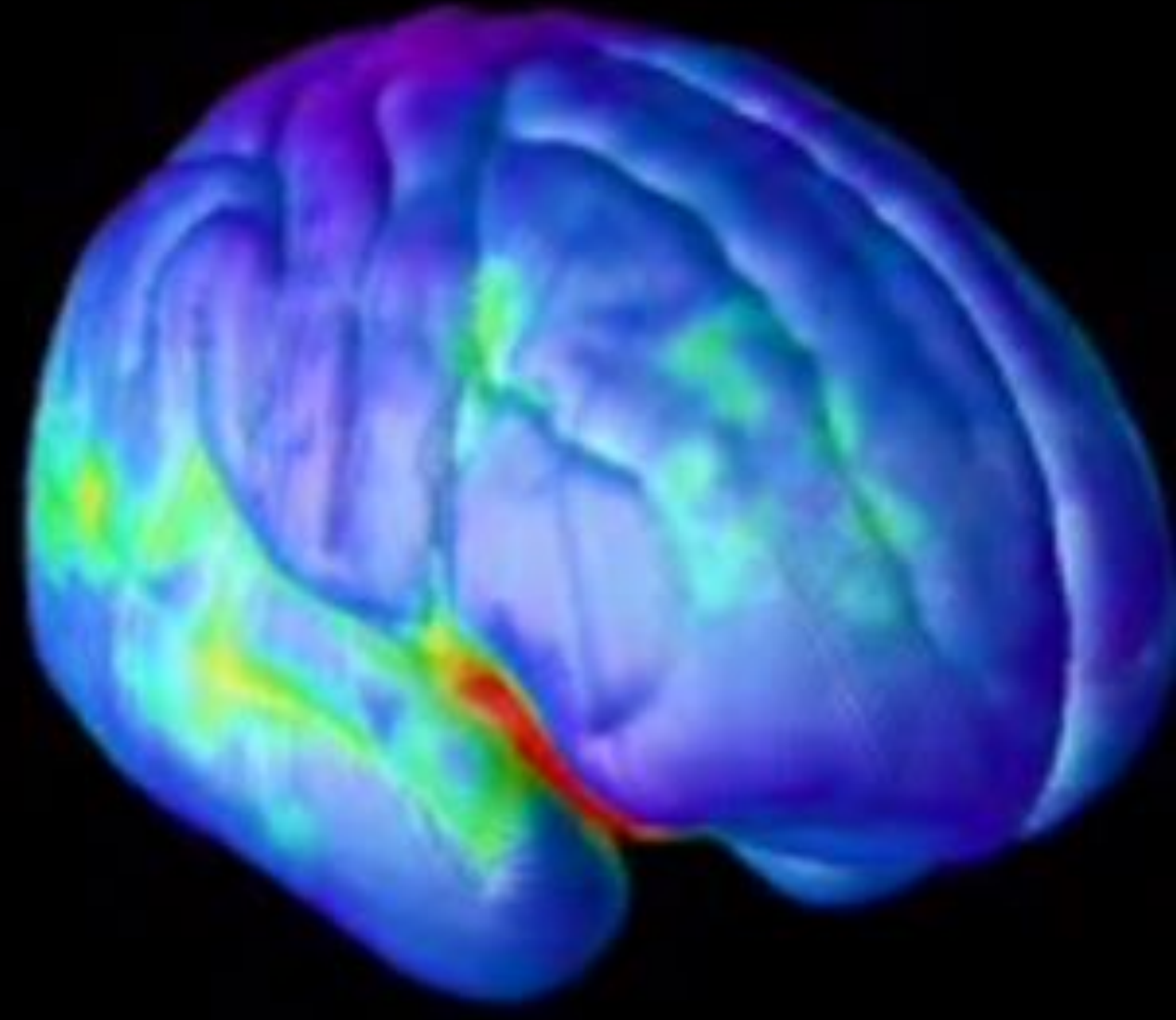
2. When does that organ fully mature?

▶ A: Late 20's, early 30's

3. In what order does it mature?

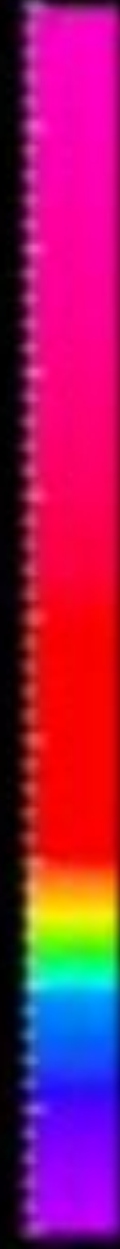
▶ A: From the back to the front

Myelin



Gray Matter Amount

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0





Generation Y

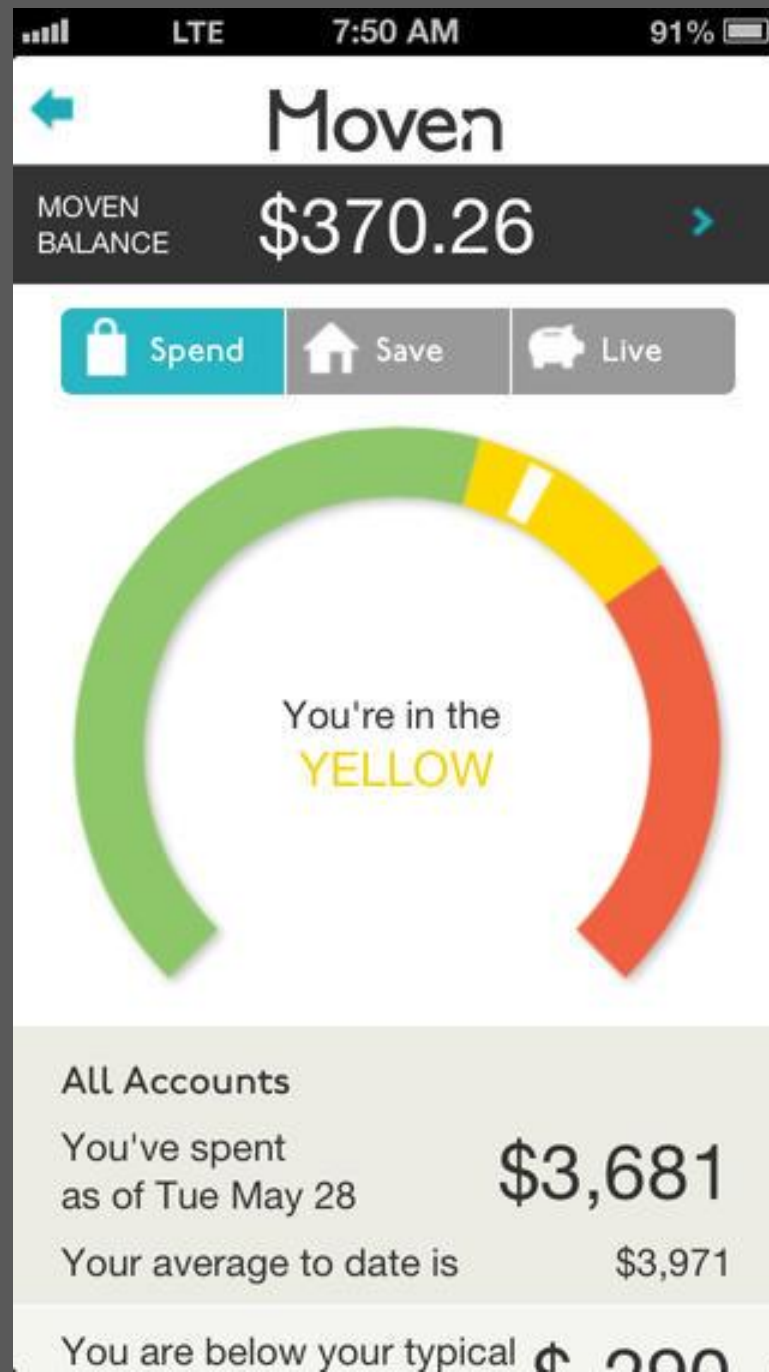
Gen Y Woes

- ▶ First to **have lower standard of living than their parents**
- ▶ First to **have higher student loan debt, poverty and unemployment** than their two immediate predecessor generations had at the same age
- ▶ **60%** “young Gen Yers” (21-26), and **50%** of older Gen Yers” (27-34) say they **have an “impulse purchase” problem.**
- ▶ Nearly half of all Gen Y consumers looking to switch FIs **want** their next FI to offer **PFM tools**

**So what's the
answer to the
impulse problem?**

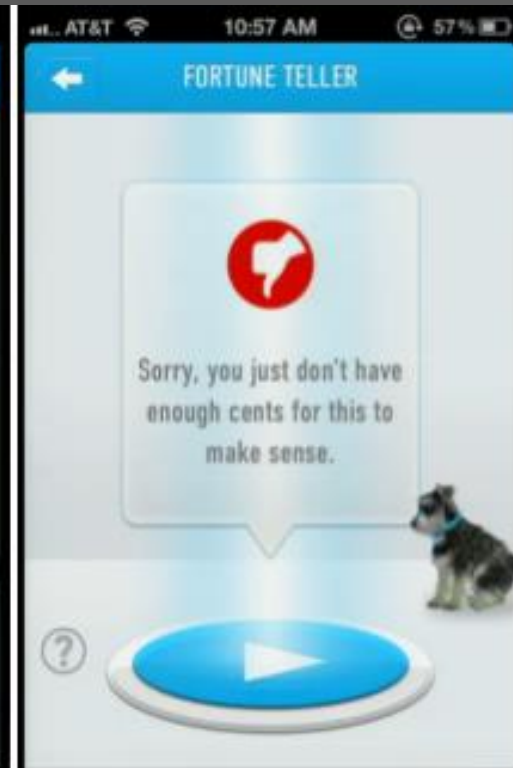
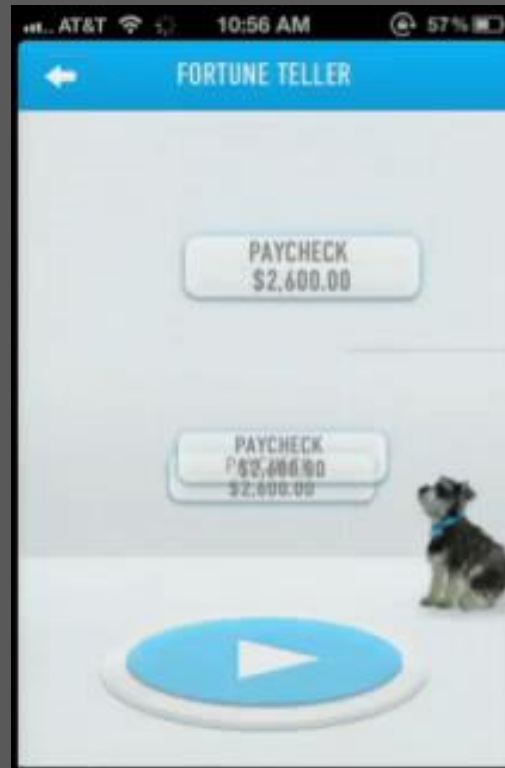
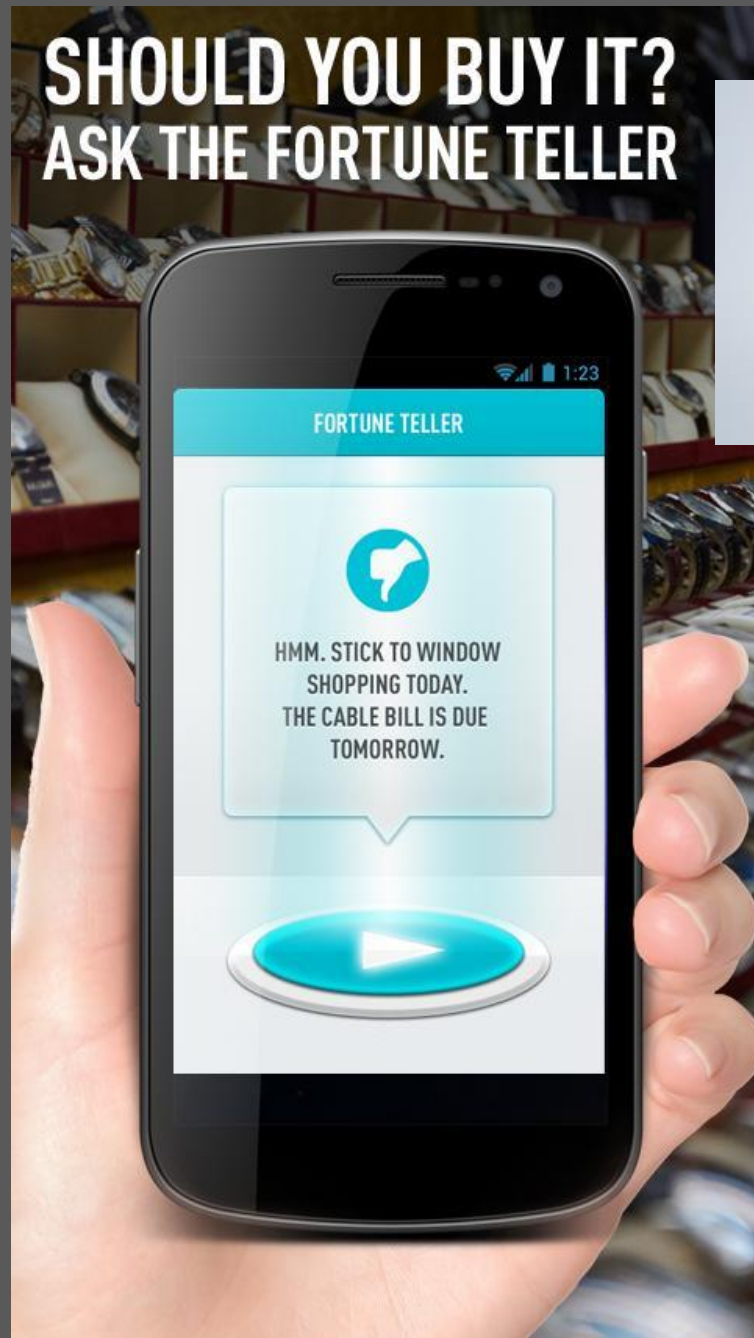
**Real-time
feedback
loops?**






SHOULD YOU BUY IT? ASK THE FORTUNE TELLER

GObank™





A third of US consumers who have owned an activity tracker **stopped** using it within six months.

Endeavour Partners, July 2014

WHY NOW

The Quantified Self has failed to measure up.

Yes, self-tracking has given people millions of data points about their lives. But for many, it's not enough.

So how to help those **immune to** **feedback** loops?

(because their brains aren't fully mature yet)

RETIREMENT 401K



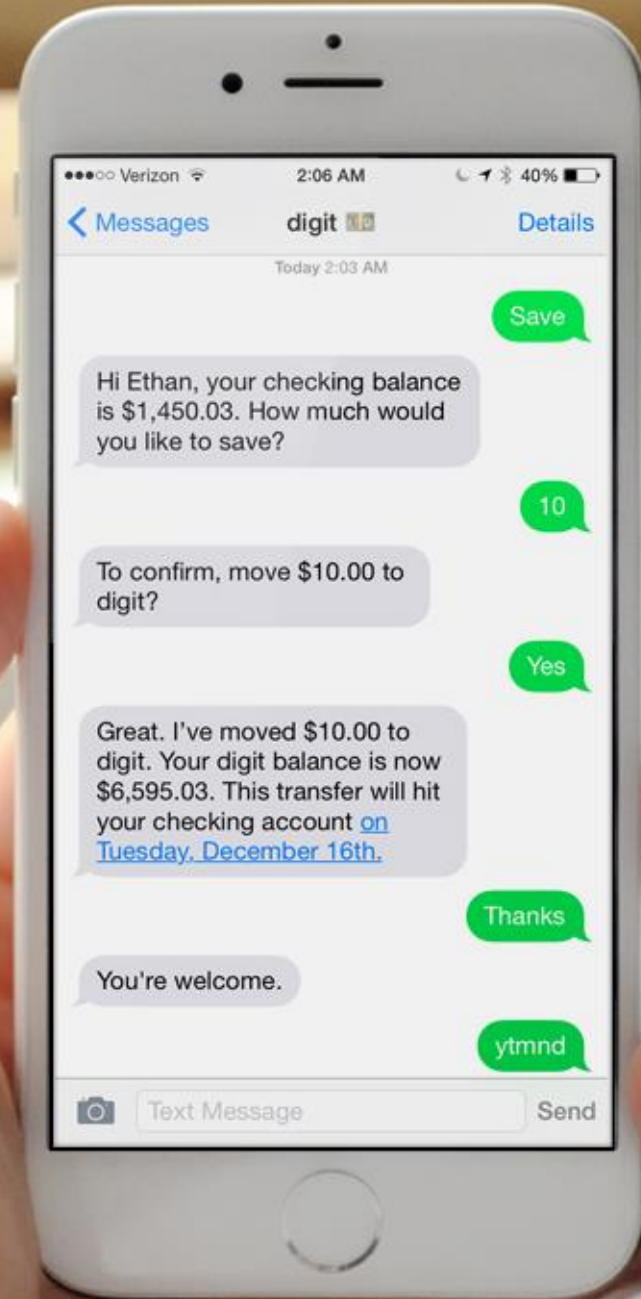
Opt-outs and automation.

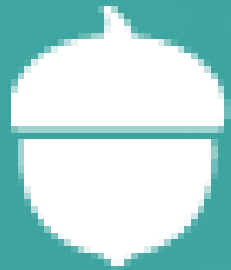
MAX

digit



Automate savings?



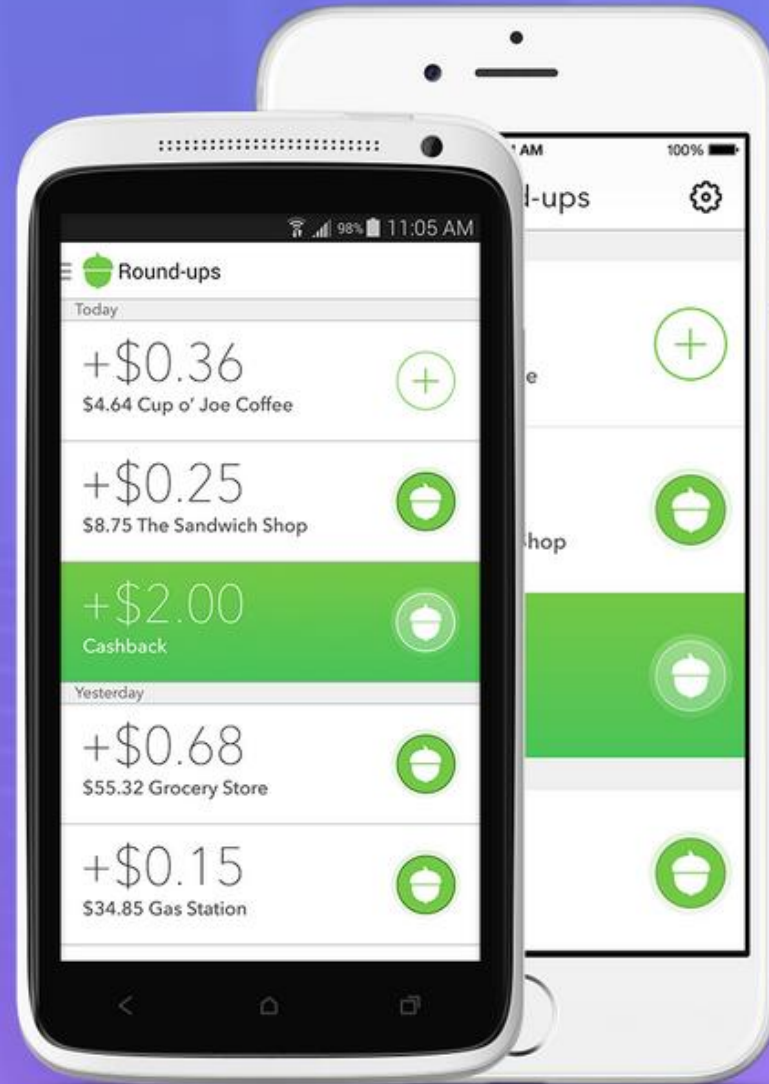


acorns
Invest the Change

Save Your Round-ups

Invest from everyday purchases by rounding up each amount to the next dollar automatically or on-demand.

[Get the App](#)



To beat distraction?
Be the distraction.

“Impulse savings”





< Moven

1:35

BALANCE

\$86872

How much do you
want to save?

\$50

SAVE!

-

+



Done

Nice Job!

\$50

Locked Away







2:30 PM
SAVINGS
\$750

SAVED SO FAR
(Tap to spend!)

STUFF

\$611.99


BREAK
GLASS

\$50.00

\$1250.00

ADD ST

Mobile

A man with a beard and sunglasses on his head, smiling and looking to the right. He is wearing a light blue and white striped button-down shirt. The background is a blurred outdoor setting with green foliage and other people.

“Good self-service beats
great personal service.”

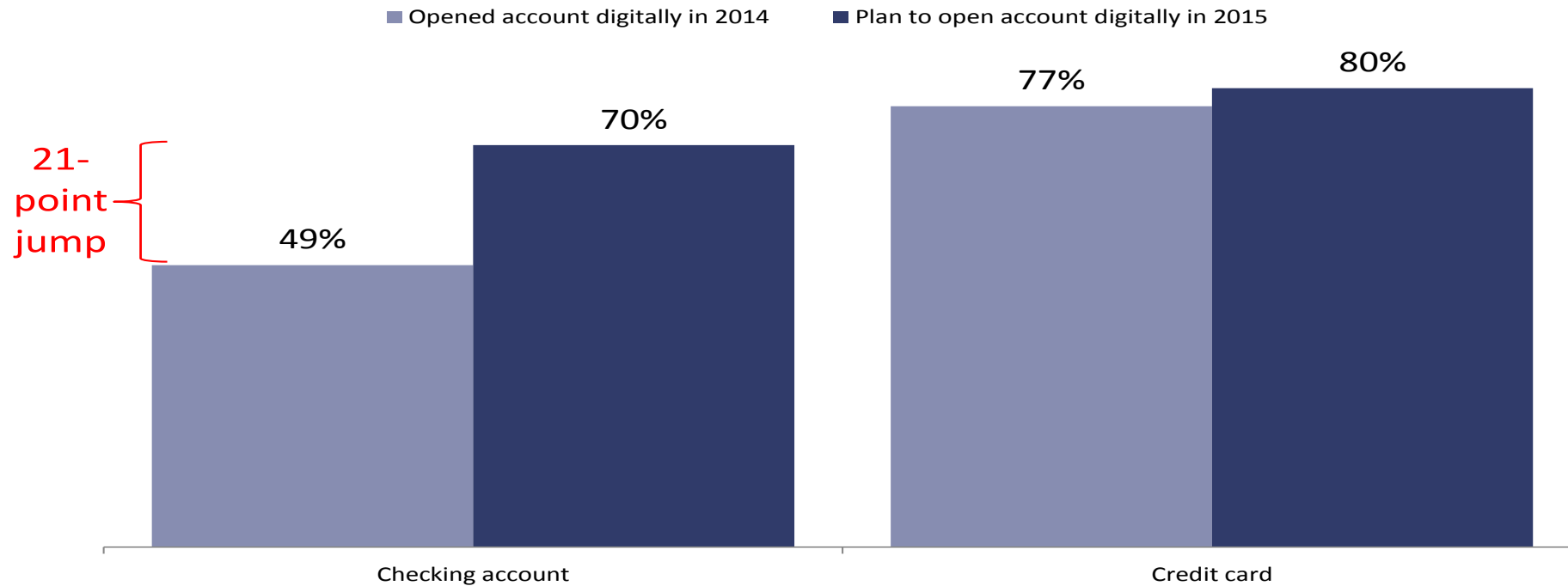
--David Peterson, i7Strategies

Tipping Point:

The digital channel reached parity with the physical branch in 2014, with 49% of applicants opening checking accounts online, or on a smartphone or tablet.

Tipping Point: Online Account Opening

Accounts Opened Digitally in 2014 vs. Intent in 2015 (Checking vs. Credit Cards)



Q47. Did you apply to open any of the following accounts in the past 12 months? Please choose the channel you used for the most recent application for each account type.

Q51. If you were to apply to open the following accounts today, which channel would you prefer to use for each application? Please select one channel for each of the banking products.

September 2014; n = varies: 309-842
Base: All consumers who opened each account type, past 12 months;
All consumers who plan to open each account type, next 12 months
© 2015 Javelin Strategy & Research

Mobile: Fed Report

- ▶ **Smartphones are changing the way consumers shop and make financial decisions.**
 - ▶ **47%** of smartphone owners **comparison shopped** with their phone while at a retail store
 - ▶ **69% changed where they purchased** as a result!!!
 - ▶ **33%** scanned a product's barcode to **find the best price** for the item.
 - ▶ **42%** of smartphone users **browsed product reviews** while in store
 - ▶ **79%** of them **changed item** they purchased based on this information!!!



Honey Nut
Cheerio

aisle	aisle
1	11
2	12
3	13
4	14
5	15
6	16
7	17
8	18
9	19
10	20
11	21
12	22
13	23
14	24
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73	83
74	84
75	85
76	86
77	87
78	88
79	89
80	90
81	91
82	92
83	93
84	94
85	95
86	96
87	97
88	98
89	99
90	100





\$2.00 OFF
\$10.00 OR LARGER

Clip Coupon

Terms, Conditions, and Exclusions

Coupon may not be used with any other promotional offer or discount. Must present coupon for discount and expire on date specified. Coupon is valid for single use only and voided where prohibited.

Mobile: Fed Report, 2

- ▶ **29%** of all mobile phone users and **38%** of **smartphone users** have used their phone to **track purchases and expenses**.
- ▶ **63%** of mobile banking users have **checked** their account **balance on their phone before making a large purchase**
 - ▶ **53% decided not to purchase** an item **as a result** of their account balance or credit limit.

THE MOBILE MOMENTS OF OPPORTUNITY

**DECISION-
MAKING**

**TRACKING/
ANALYSIS**

PAYMENT



SOURCE: Ron Shevlin's Snarketing 2.0; "The Mobile Moments Of Opportunity (Or Why Mobile Wallets Haven't Caught On)"; <http://snarketing2dot0.com/>

Before the Payment...

1. Is this the right product for me?

- ▶ 40% of smartphone owners scan labels and UPC codes in the store while shopping. (Aite Group)

2. Is this the best price I can get?

- ▶ One third of smartphones store coupons on their mobile device. (Aite Group)

3. How can/should I pay for this? Can I afford it?

- ▶ Would putting this on my Amex credit card be better than paying for it with my debit card? Do I have rewards points I can apply to the purchase?



22,284

450/mo

60 mo / 2.74%

2,944

TOTAL LOAN AMOUNT
\$25,228 >



Verizon 3G
Details

3:00 PM

1 of 30 photos

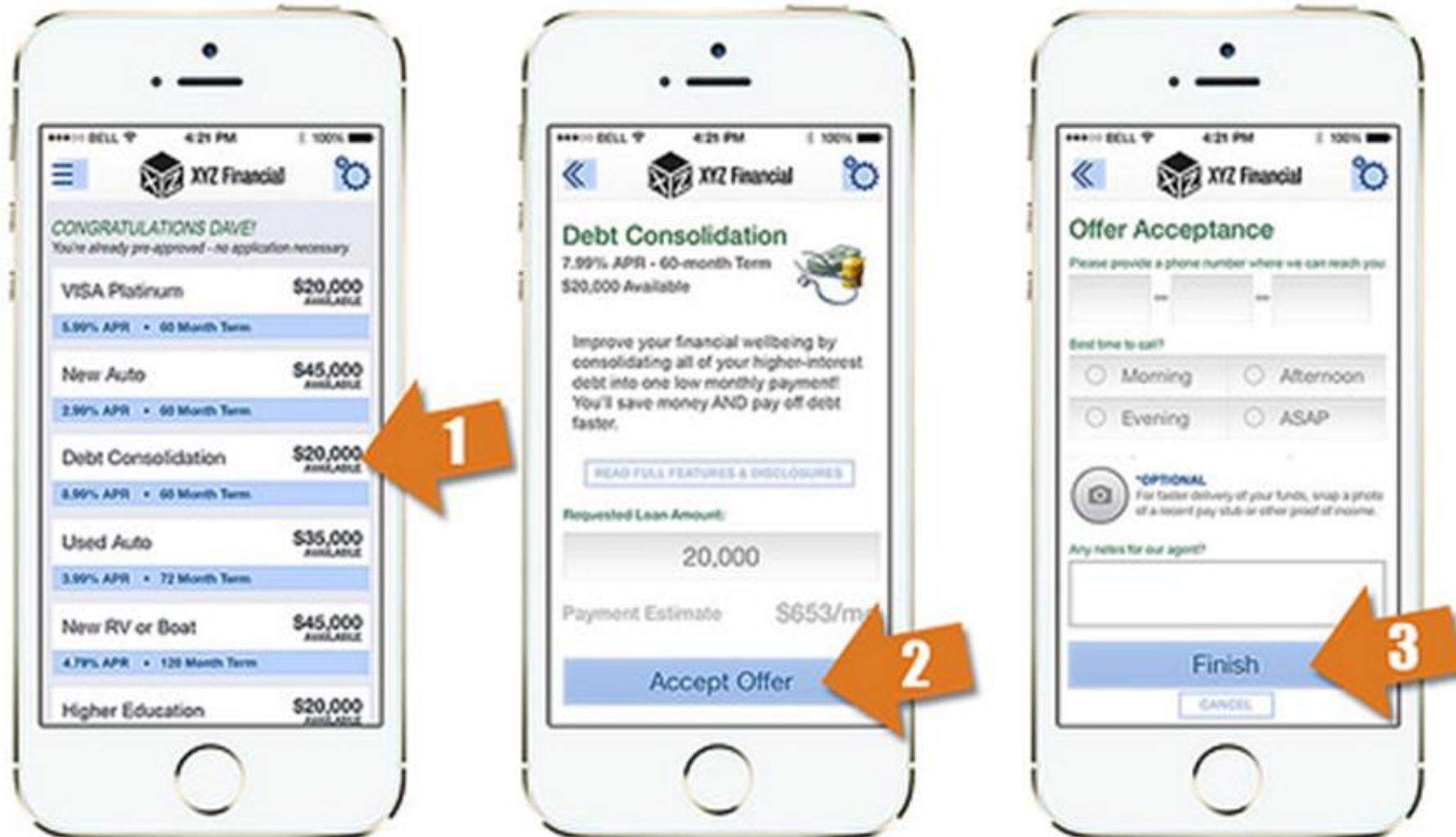


Activity Based Marketing

Marketing within the context of an activity being performed by a member or prospect.



Perpetual Loan Approval





Bank[®]

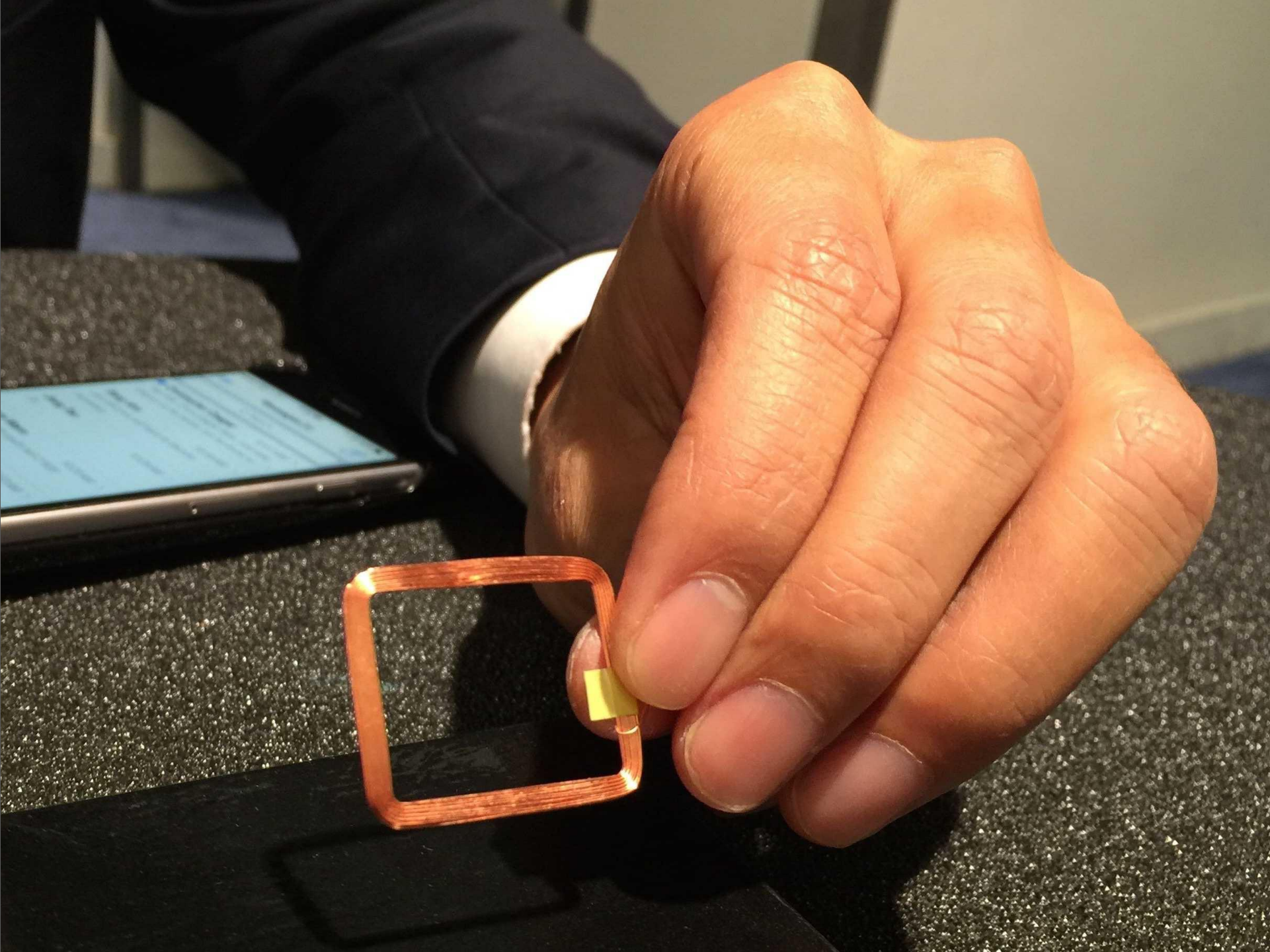


Mobile Payments

SAMSUNG



LoopPay



A story about me and my dongle...

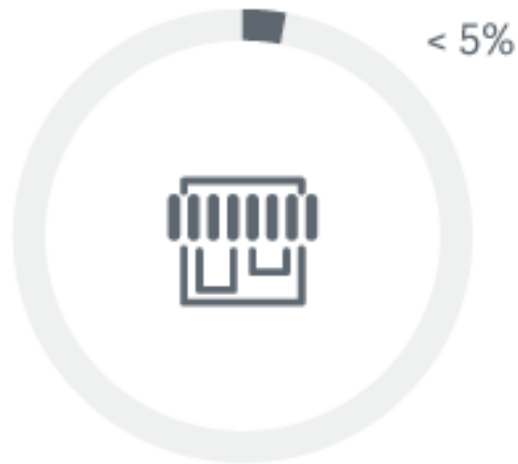


O LoopPlay

Apple Pay vs. LoopPay: Merchant Acceptance

Merchant-ready in the US today

Apple Pay



Works at less than 5% of retail locations

LoopPay

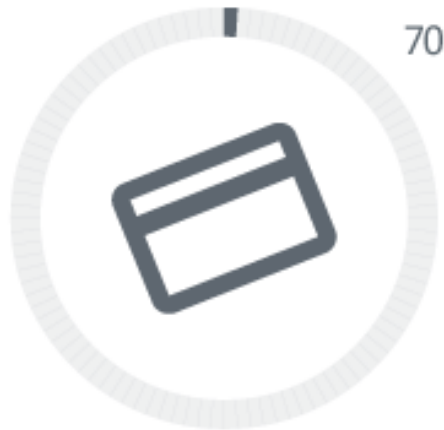


Works at around 90% of retail locations

Apple Pay vs. LoopPay: Card Eligibility

Types of cards that can be loaded and used at POS readers

Apple Pay



Apple Pay supports just 70 Issuers

LoopPay



LoopPay supports 10,000+ issuers, thousands of credit and debit cards along with most gift, loyalty, private label, prepaid, and campus cards

Apple Pay vs. LoopPay: Smartphone Coverage

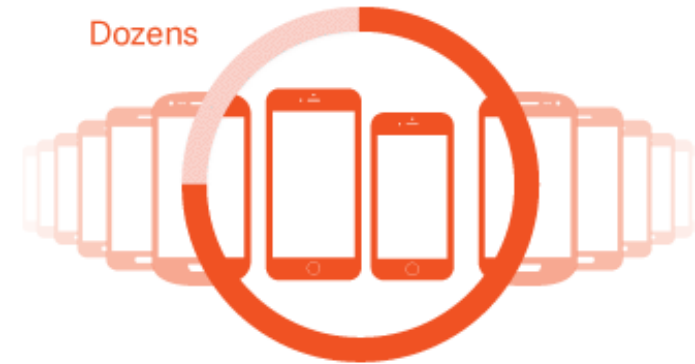
Type of smartphones consumers can use

Apple Pay



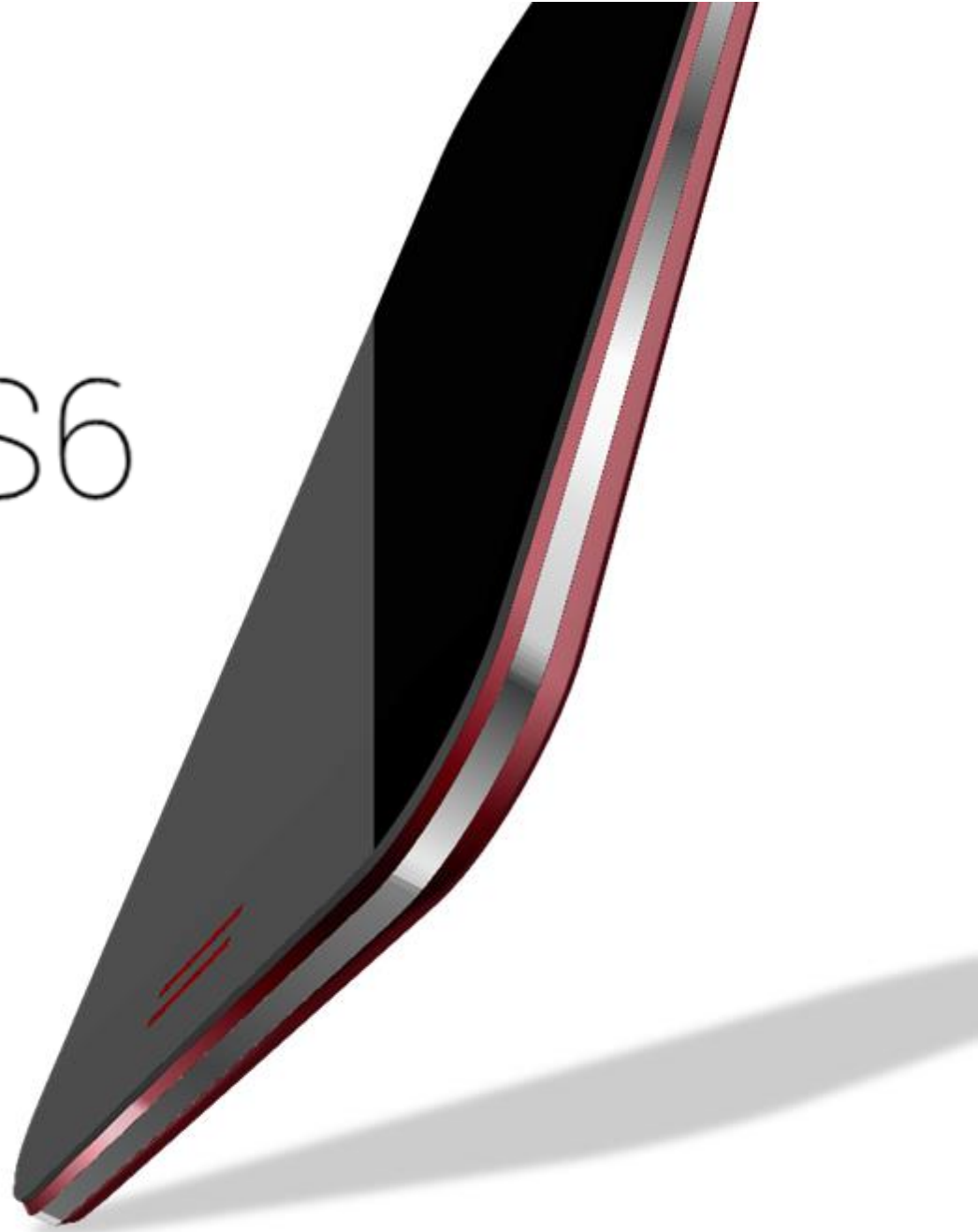
iPhone 6 and 6 Plus, iPad Air 2, iPad mini 3, Apple Watch

LoopPay



iPhone 6, 6 Plus, 5s, 5c, 5, 4s and 4, iPad Air 2, iPad mini 3, Google/LG Nexus 5; LG G2, G3, Nexus 4, HTC One (M8), One (Max & Remix), Motorola Droid (Maxx & Turbo), Moto X, Moto X 2014, Moto G (2nd Gen), Nexus 6, Samsung Galaxy S3, S4, S5, Alpha, Note 2, 3 & 4, Mega 2, Sharp Aquos Crystal L, and more

Samsung Galaxy S6



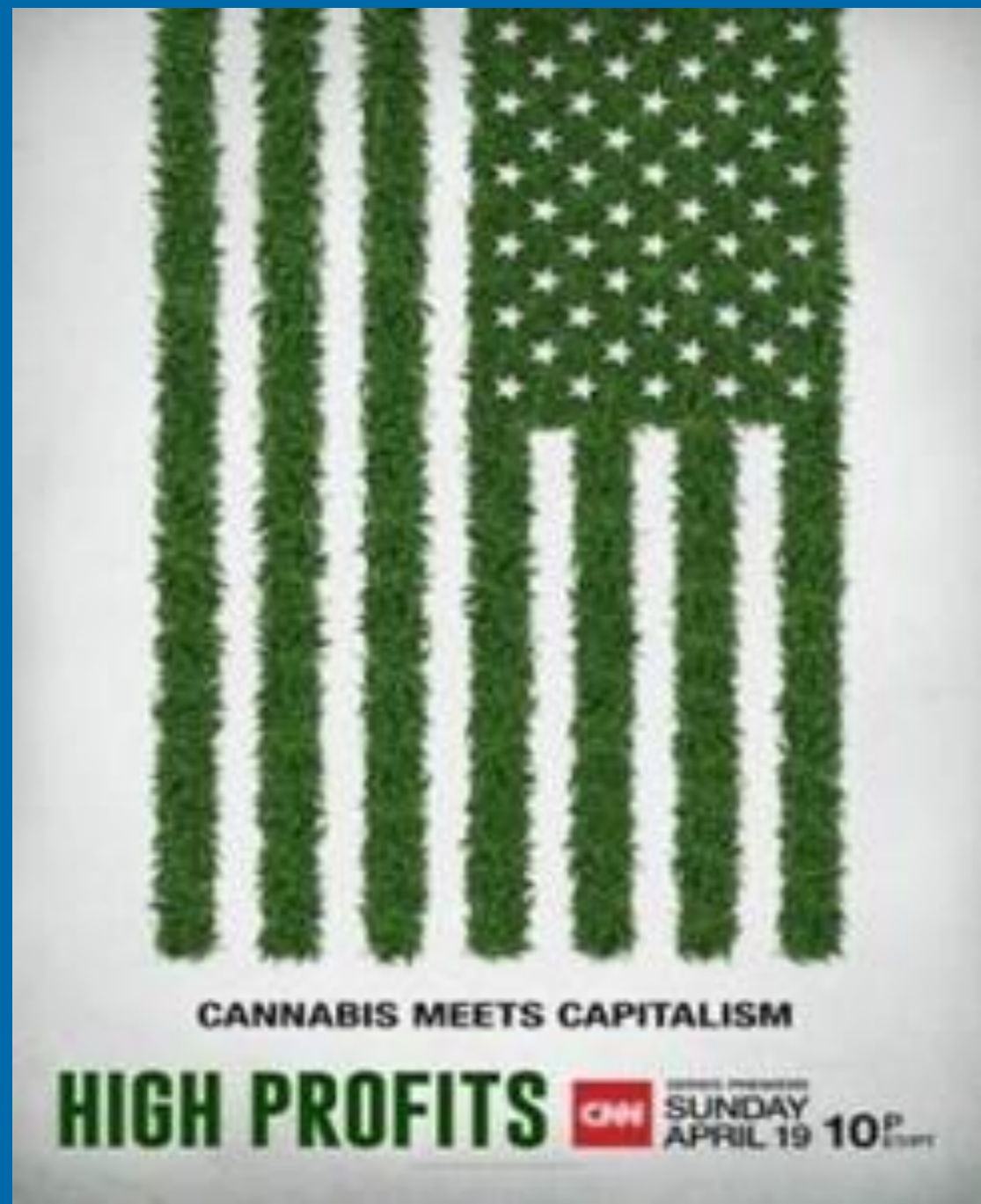
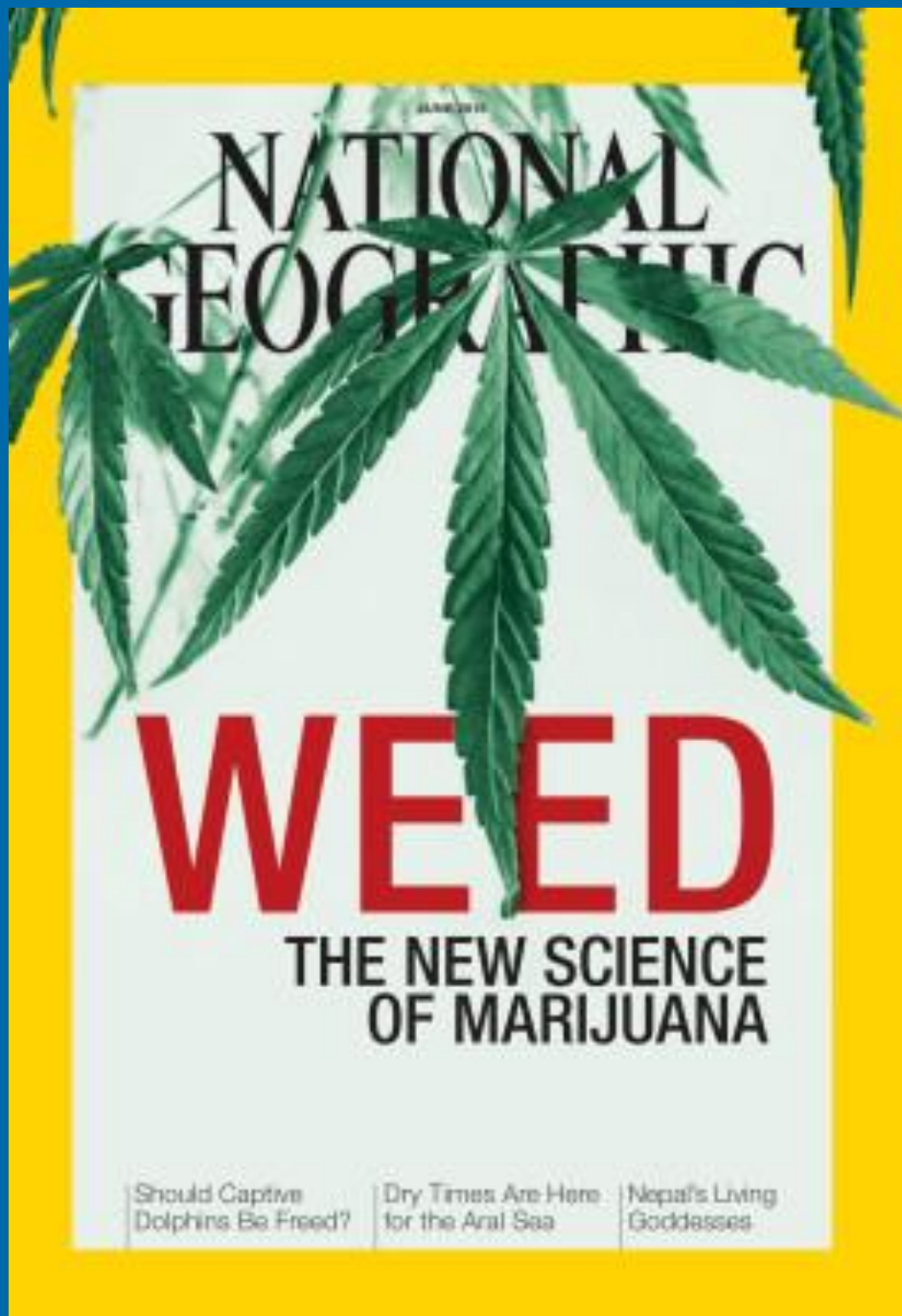
**...but Samsung Pay
won't be available
until second half
of 2015.**



android pay



Mary Jane

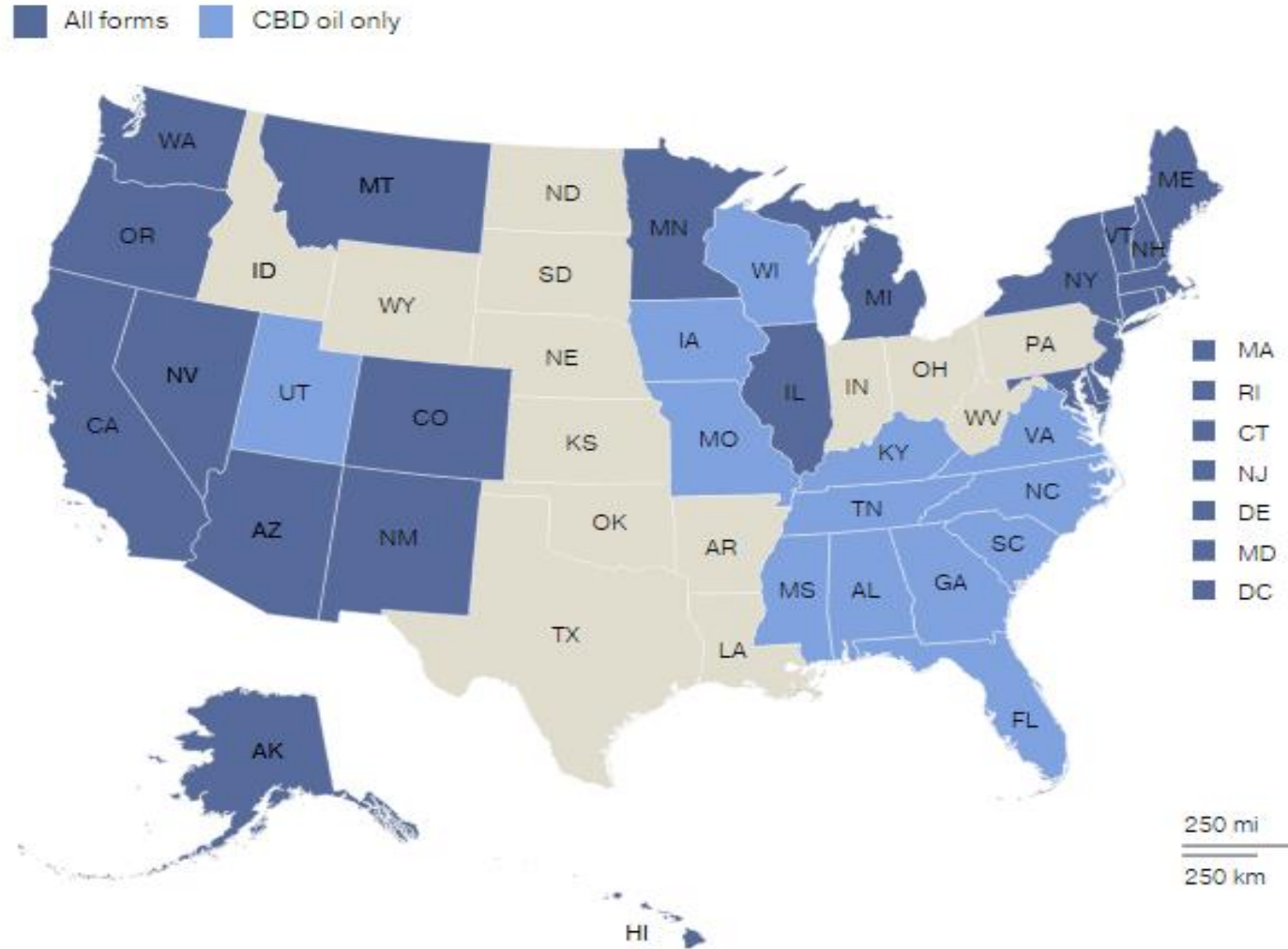




The other face of marijuana...

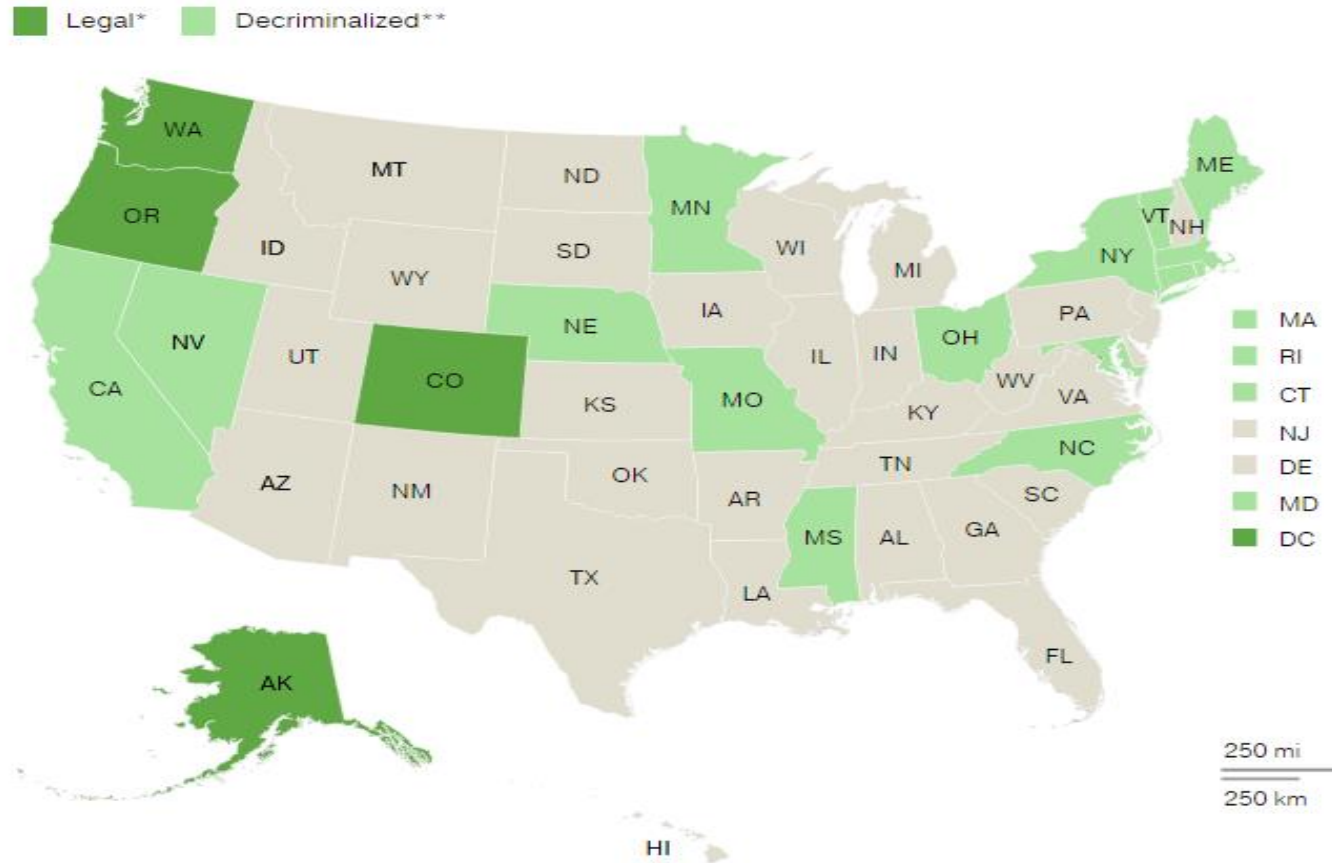


Almost Half of States Have Legalized Medical Marijuana



SOURCE: <http://ngm.nationalgeographic.com/2015/06/marijuana/effects-graphic>

Many Have Legalized or Decriminalized Marijuana



* Legal in Oregon as of July 1, 2015

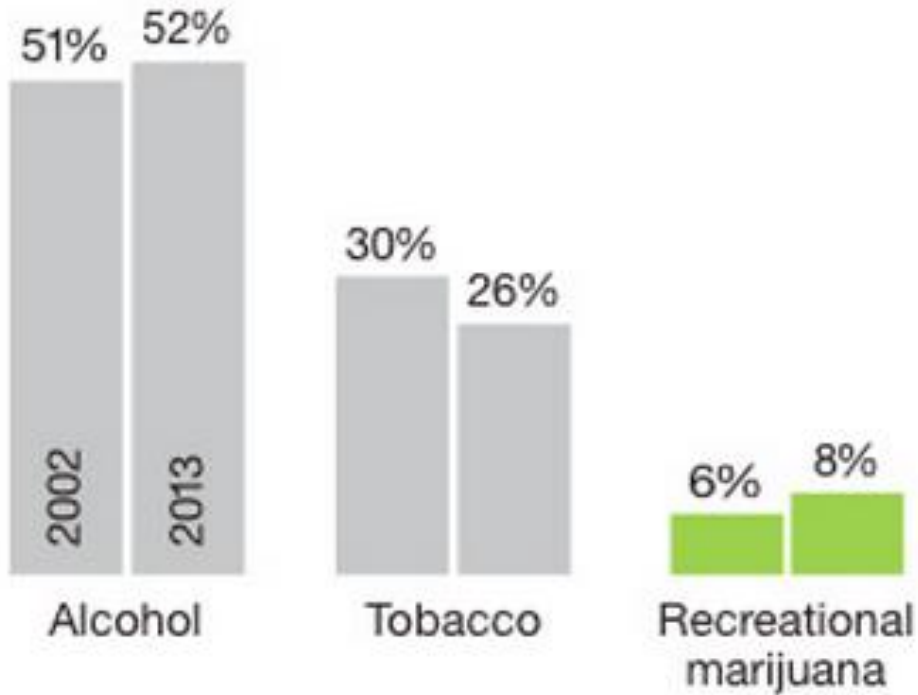
** Treated like a minor traffic violation

JOHN TOMANIO, NG STAFF; SHELLEY SPERRY

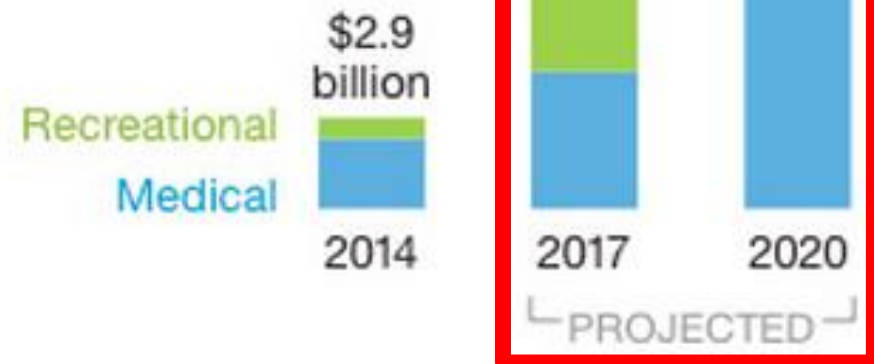
SOURCES: MARIJUANA POLICY PROJECT; NATIONAL CONFERENCE OF STATES LEGISLATURES

Legal Marijuana Sales Revenue Will Quadruple by 2020

Change in use, share of U.S. population



Estimated legal U.S. marijuana retail sales



Rising marijuana sales leave pot shops flush with cash they can't deposit

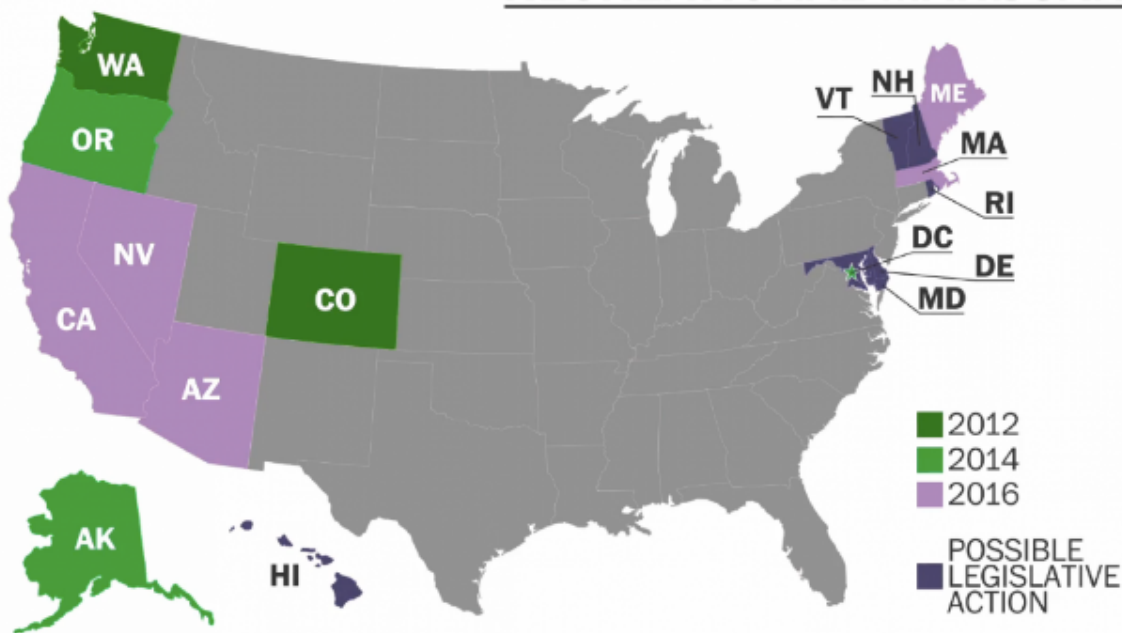


The Washington Post



By Reid Wilson April 27 [Follow @postreid](#)

RECREATIONAL MARIJUANA



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90 days of no-voting

Marijuana in Michigan

- ▶ Medical marijuana use legal but registration required and limitations apply
 - ▶ No state licensing or allowance for commercial dispensaries...
 - ▶ ...but caregivers can grow up to 12 plants each for no more than 5 patients.
- ▶ Recreational marijuana use still illegal
 - ▶ Michigan still classifies marijuana as a Schedule 1 drug (same as federal law)
- ▶ Active hemp industry and law allowing hemp research for industrial purposes
- ▶ 18 cities in Michigan have “decriminalized” minor marijuana possession/use
 - ▶ On par with traffic violation penalties
 - ▶ These municipal ordinances are in conflict with both state and federal law currently

The Bottom Line

- ▶ CUs still bound by federal BSA and AML laws and reporting requirements
 - ▶ Justice Department memo (Aug 2013) emphasizes illegality of marijuana
 - ▶ Treasury Dept has not formally exempted FIs from filing SARs on legitimate cannabusinesses
 - ▶ FinCen guidance (February 2014) does not address nor protect CUs from legal uncertainty and consequences
- ▶ Michigan CUs still bound by relatively strict and narrow state laws
- ▶ Too much risk to serve cannabusinesses currently

**Don't get ahead of
the law on marijuana.**

Shawn Taylor



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