

INTERNET TRENDS 2015 – CODE CONFERENCE

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May 27, 2015

kpcb.com/InternetTrends

KPCB

KLEINER
PERKINS
CAUFIELD
BYERS

Outline

- 1) Internet – Two-Thirds of a Generation In...
- 2) Key Internet Trends
- 3) Re-Imagining Continues...
- 4) America's Evolving Work Environment...
- 5) Big Internet Markets = China / India
- 6) Public / Private Company Data
- 7) One More Thing...
- 8) Ran Outta Time Thoughts / Appendix

**INTERNET TRENDS –
TWO-THIRDS OF A GENERATION IN...
TWO-THIRDS OF NEXT GENERATION OUT...**

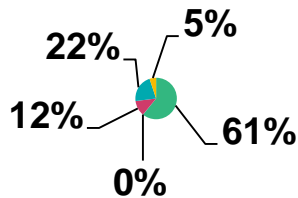
Internet Users – 1995 → 2014...

<1% to 39% Population Penetration Globally

1995

35MM+ Internet Users

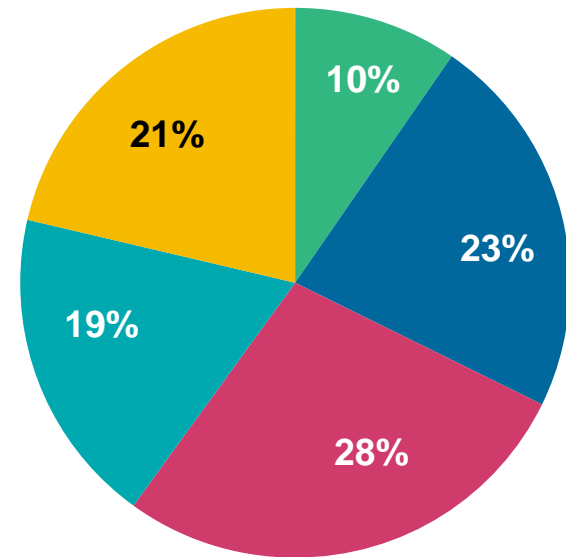
0.6% Population Penetration



2014

2.8B Internet Users

39% Population Penetration



■ USA ■ China ■ Asia (ex. China) ■ Europe ■ Rest of World

Mobile Phone Users – 1995 → 2014...

1% to 73% Population Penetration Globally

1995

80MM+ Mobile Phone Users

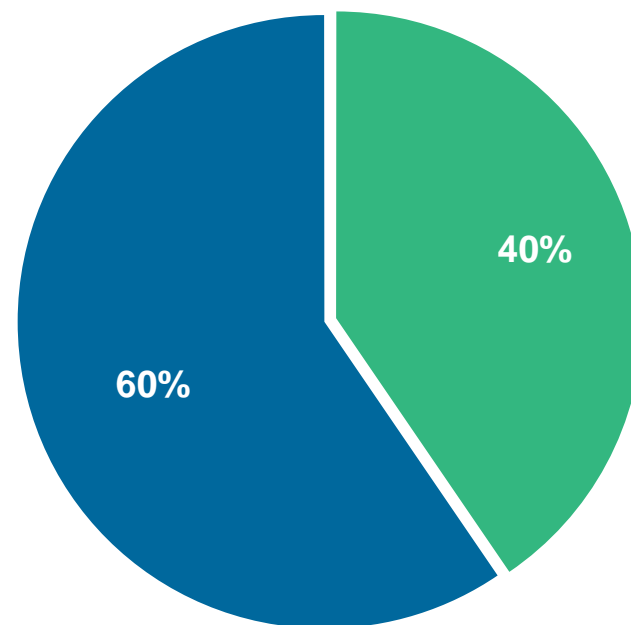
1% Population Penetration



2014

5.2B Mobile Phone Users

73% Population Penetration



■ Smartphone ■ Feature Phone

Public Internet Company Market Capitalizations – 1995 → 2015...

Top 15 Companies by Market Capitalization = 1995 @ \$17 Billion → 2015 @ \$2.4 Trillion

Global Public Internet Companies, Ranked by Market Capitalization

As of December, 1995

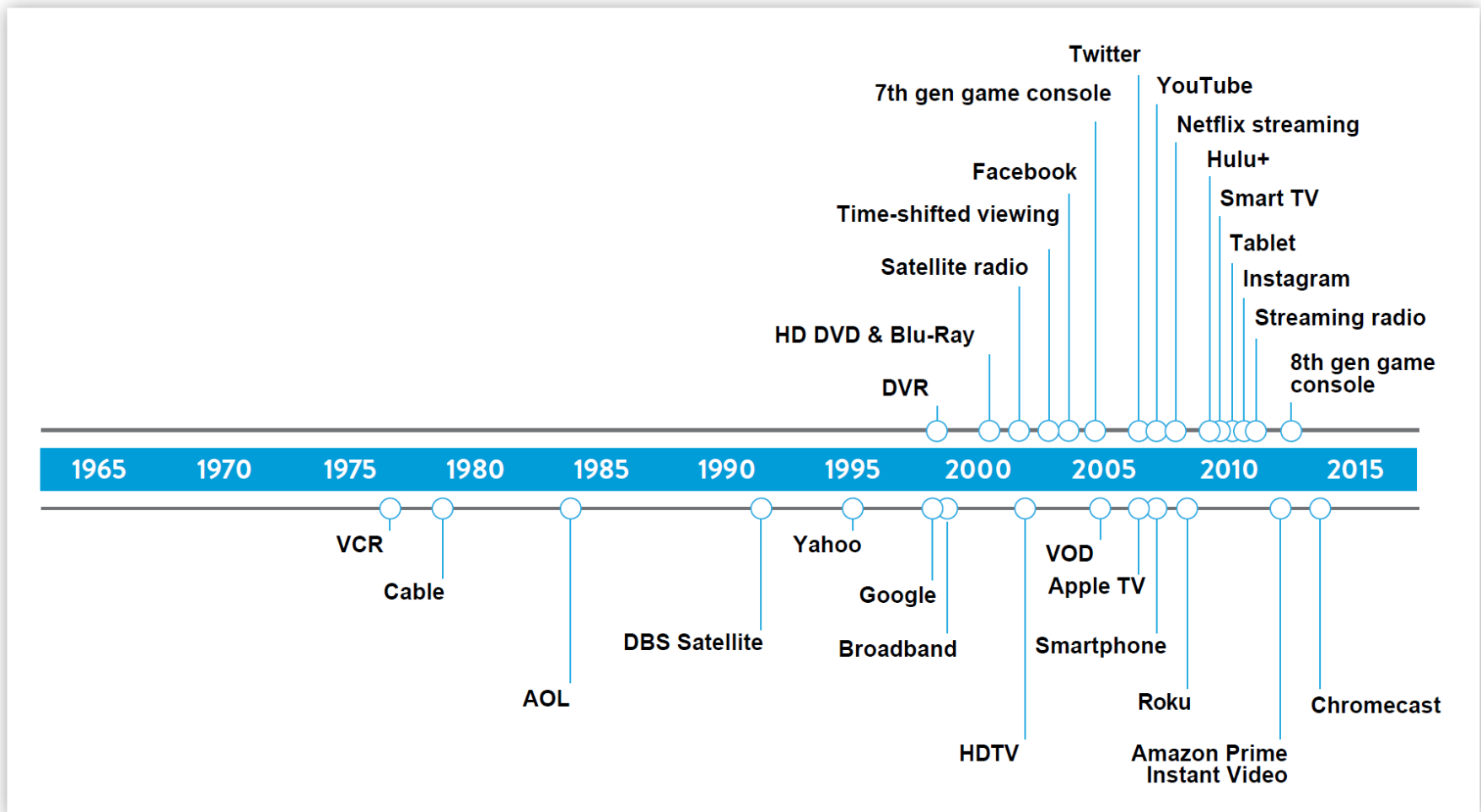
	Company	Home Country	Market Cap. (\$MM)
1	Netscape	USA	\$5,415
2	Apple	USA	3,918
3	Axel Springer	Germany	2,317
4	RentPath	USA	1,555
5	Web.com	USA	982
6	PSINet	USA	742
7	Netcom On-Line	USA	399
8	IAC / Interactive	USA	326
9	Copart	USA	325
10	Wavo Corporation	USA	203
11	iStar Internet	Canada	174
12	Firefox Communications	USA	158
13	Storage Computer Corp.	USA	95
14	Live Microsystems	USA	86
15	iLive	USA	57
Total Market Cap of Top 15			\$16,752

As of May, 2015







	Company	Home Country	Market Cap. (\$MM)
1	Apple	USA	\$763,567
2	Google	USA	373,437
3	Alibaba	China	232,755
4	Facebook	USA	226,009
5	Amazon.com	USA	199,139
6	Tencent	China	190,110
7	eBay	USA	72,549
8	Baidu	China	71,581
9	Priceline.com	USA	62,645
10	Salesforce.com	USA	49,173
11	JD.com	China	47,711
12	Yahoo!	USA	40,808
13	Netflix	USA	37,700
14	LinkedIn	USA	24,718
15	Twitter	USA	23,965
Total Market Cap of Top 15			\$2,415,867

User Control of Content Up Significantly – 1995 → 2015

Evolution of Content Discovery, 1975 – 2015, per Nielsen



Impact of Internet Has Been Extraordinary & Broad... But – in Many Ways – It’s Just Beginning

Sector of Economy / Society, USA	Internet Impact, to Date
Consumer	
Business	
Security / Safety / Warfare	
Education	
Healthcare	
Government / Regulation / Policy Thinking	

KEY INTERNET TRENDS

Global Internet User + Smartphone Subscription Growth = Good, But Growth Rate Continues to Slow*

- **Internet User Growth = Solid, But Slowing**

@ 2.8B, +8% in 2014 vs. +10% in 2013, +11% in 2012

Net New User Additions = ~Flat @ ~200MM in 2014 / 2013 / 2012

China Users = +7%, USA = +2%, India = +33%, Japan = Flat, Brazil = +4%

- **Smartphone Subscription Growth = Strong, But Slowing**

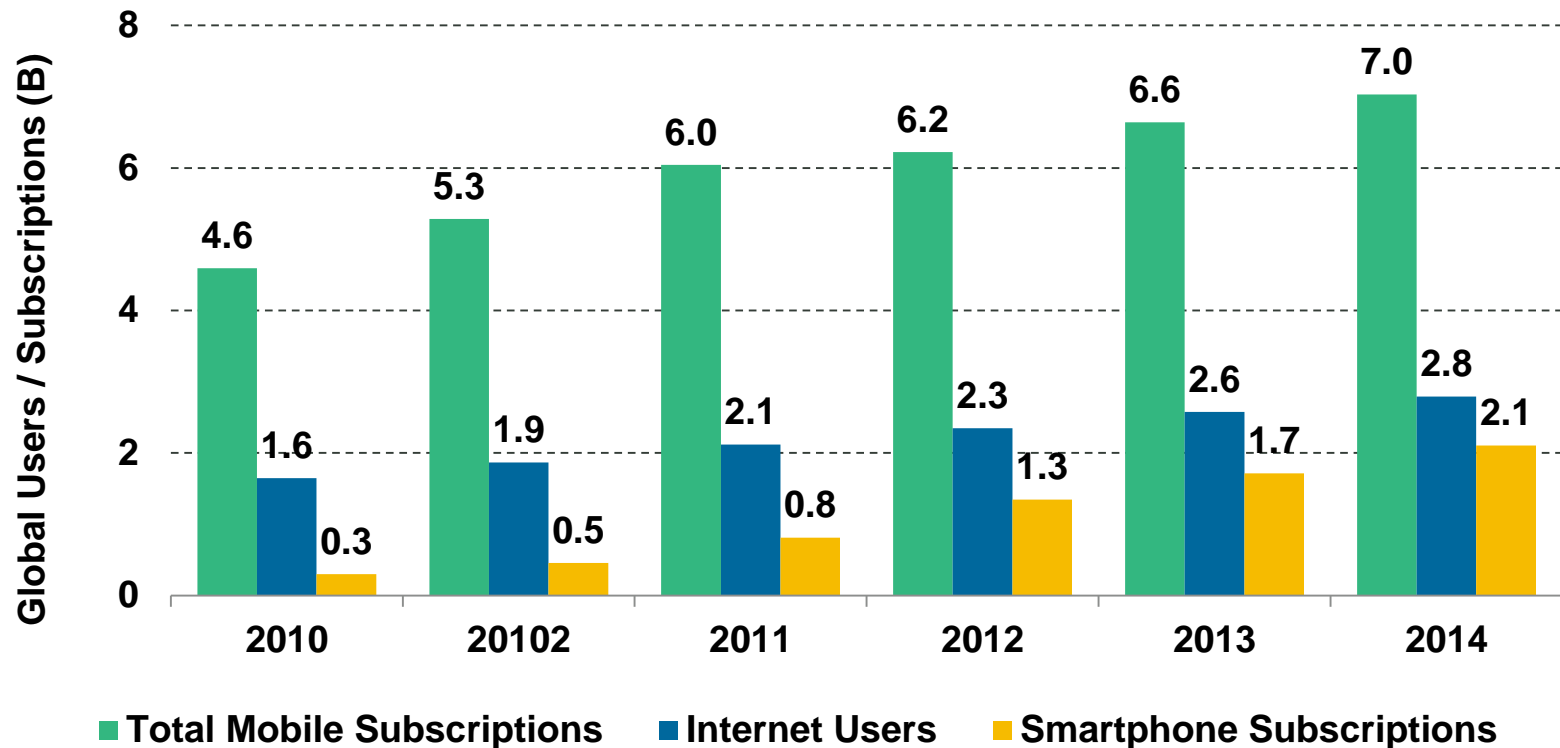
@ 2.1B, +23% in 2014 vs. +27% in 2013, +65% in 2012

Net New Sub Additions = ~Flat @ ~370MM+ in 2014 / 2013

China Subs = +21%, USA = +9%, India = +55%, Japan = +5%, Brazil = +28%

Incremental Internet + Smartphone *Users* = Harder to Garner Owing to Phase in Adoption Cycles...

Global Smartphone Subscriptions @
76% Penetration of Internet Users
30% Penetration of Mobile Subscriptions



...Incremental Internet + Smartphone *Users* = Harder to Garner Owing to Dependence on Developing Markets

Developing Markets Tend to Have Lower GDP per Capita / Spending Power / Infrastructure

\$44K = Average GDP Per Capita...

In 5 Countries with >50MM Population & ~ / >50% Smartphone Sub Penetration...

USA / Japan / Germany / UK / France

\$13K = Average GDP Per Capita...

In 16 Countries* with >50MM Population & ~ / < 50% Smartphone Sub Penetration...

China / India / Brazil / Indonesia / Russia / Mexico / Philippines / Thailand / Italy / Turkey /
Nigeria / Vietnam / Egypt / Iran / Pakistan / Myanmar

Global Internet *Usage* (Data Traffic) Growth Strong = +21% Y/Y Aided by Mobile + Video

Consumer Internet Traffic, Global =

+21% in 2014 vs. +24% in 2013, +31% in 2012

Consumer Internet *Video* Traffic, Global =

64% of consumer traffic in 2014 vs. 62% in 2013, 57% in 2012

Mobile Data Traffic, Global =

+69% in 2014 vs. +81% in 2013, +70% in 2012

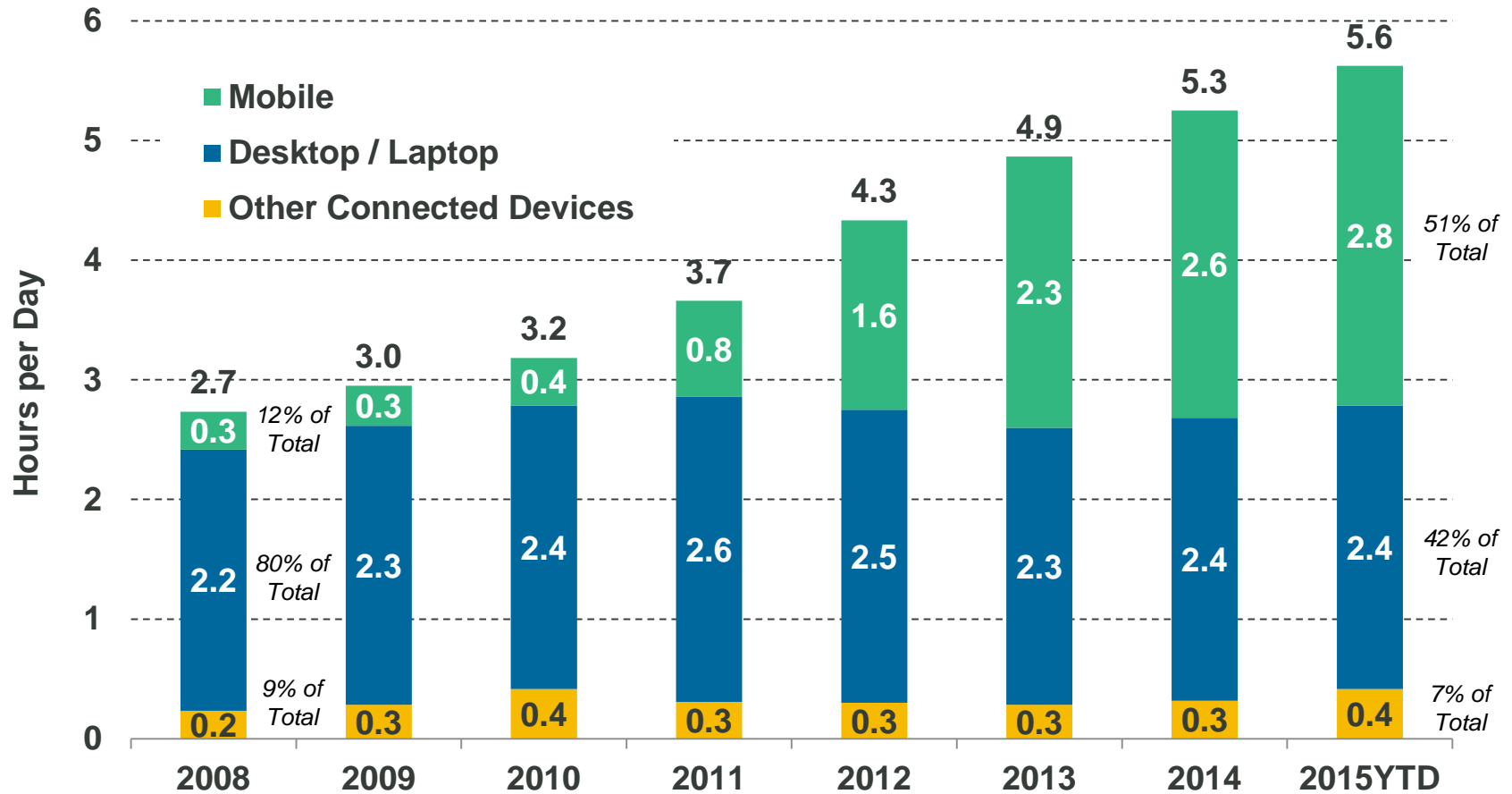
Mobile *Video* Traffic, Global =

55% of mobile traffic vs. 52% in 2013, 50% in 2012

Internet Usage (Engagement) Growth Solid

+11% Y/Y = Mobile @ 3 Hours / Day per User vs. <1 Five Years Ago, USA

Time Spent per Adult User per Day with Digital Media, USA, 2008 – 2015YTD

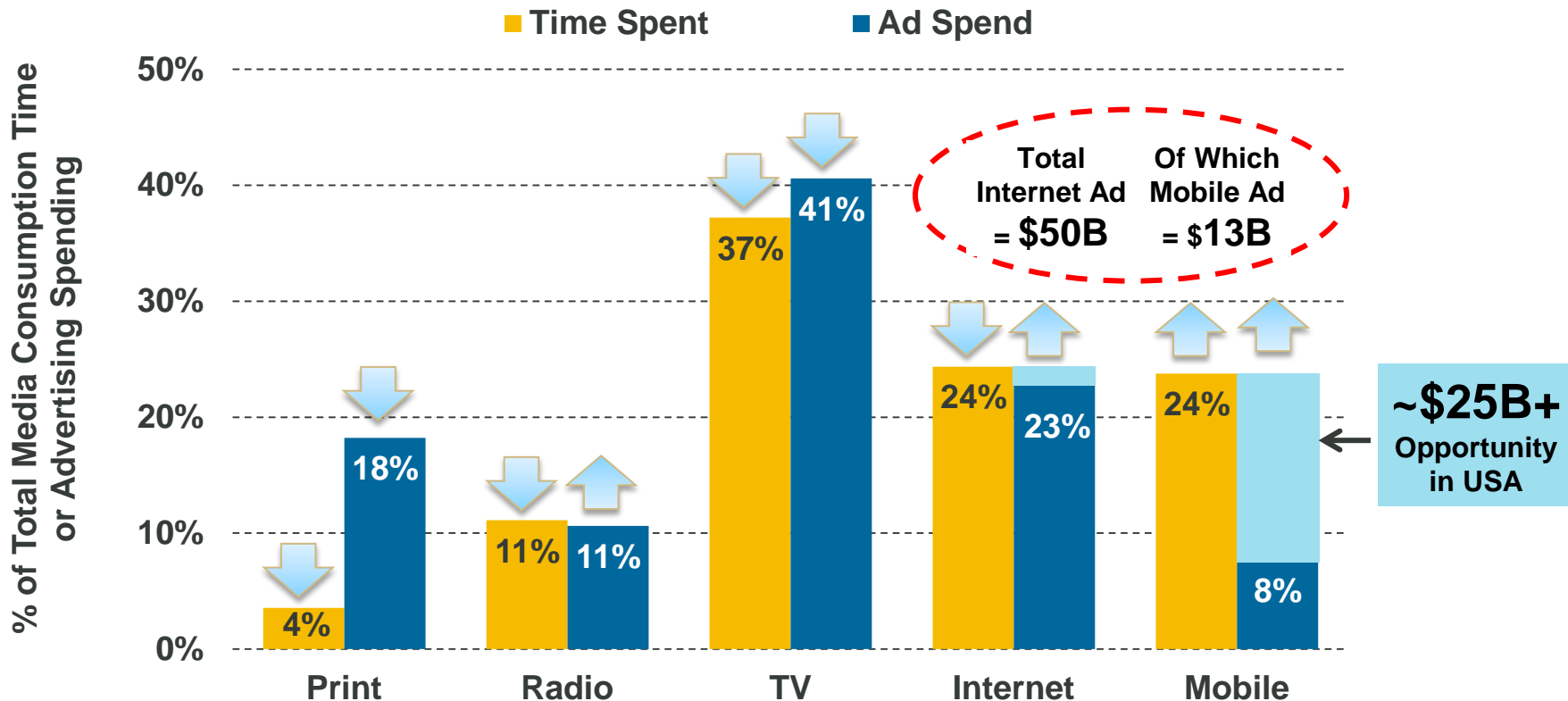


Advertising & Monetization =

*Mobile Remains Compelling...
Growth Rates for Leaders
Still High But Slowing*

Remain Optimistic About Mobile Ad Spend Growth... Print Remains Way Over-Indexed Relative to Time Spent

% of Time Spent in Media vs. % of Advertising Spending, USA, 2014



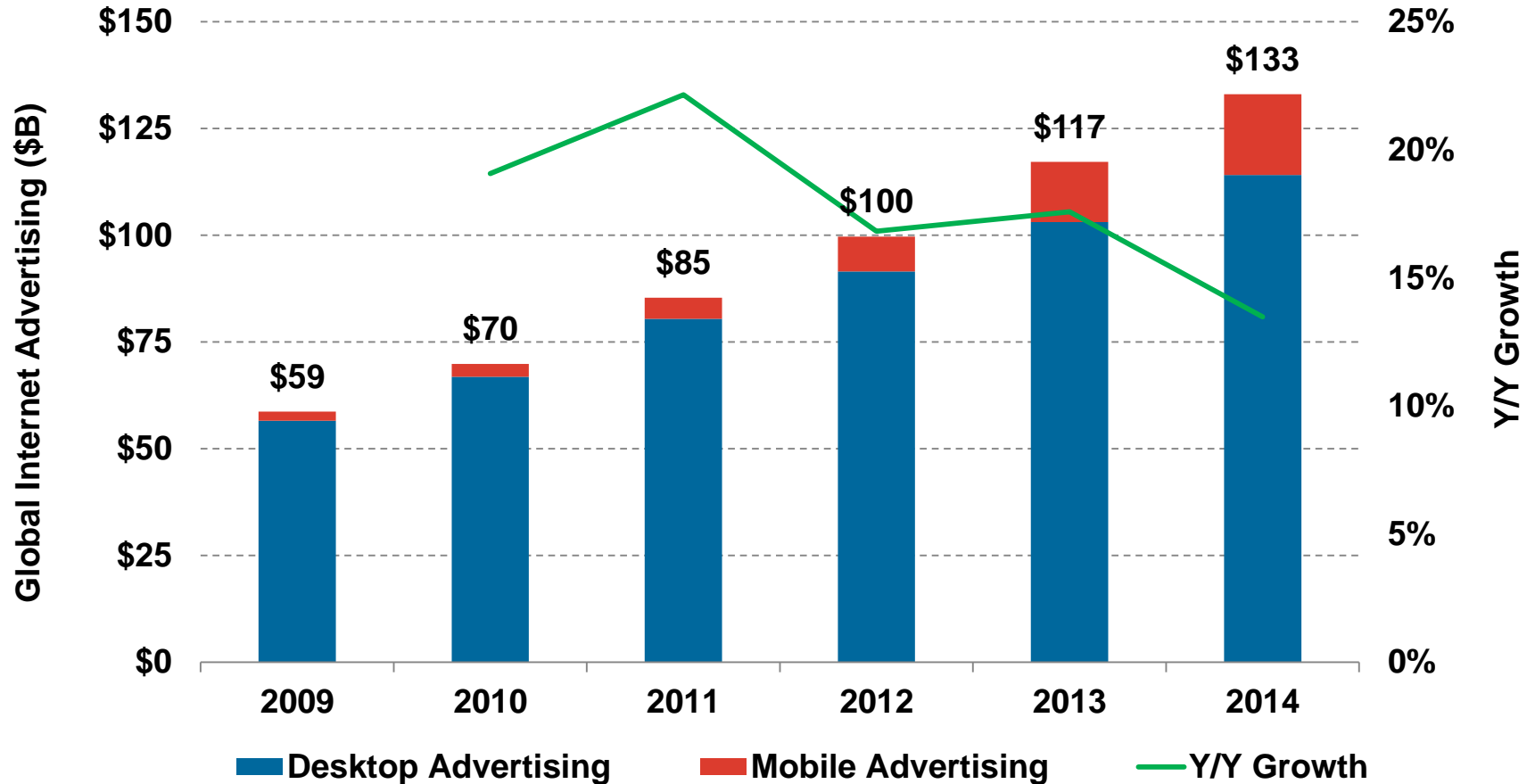
ARPU (+ MAU) Growth Strong But Slowing for Internet Leaders

Advertising ARPU, Annualized (\$), MAUs

Ad ARPU Annualized (\$)	Q1:13	Q2:13	Q3:13	Q4:13	Q1:14	Q2:14	Q3:14	Q4:14	Q1:15
Facebook (\$)	\$4.60	\$5.65	\$6.14	\$7.76	\$7.24	\$8.26	\$8.87	\$10.47	\$9.36
<i>Y/Y Growth</i>	15%	32%	39%	51%	57%	46%	44%	35%	29%
MAU (MM)	1,110	1,155	1,189	1,228	1,276	1,317	1,350	1,393	1,441
<i>Y/Y Growth</i>	23%	21%	18%	16%	15%	14%	14%	13%	13%
Twitter (\$)	\$1.97	\$2.22	\$2.65	\$3.65	\$3.55	\$4.09	\$4.51	\$6.00	\$5.14
<i>Y/Y Growth</i>	52%	48%	61%	69%	80%	85%	70%	65%	45%
MAU (MM)	204	218	232	241	255	271	284	288	302
<i>Y/Y Growth</i>	48%	44%	39%	30%	25%	24%	23%	20%	18%

Internet Advertising = Mobile Growing Strongly (+34% Y/Y) = @ Just 14% of Total While Desktop Decelerating (+11%)

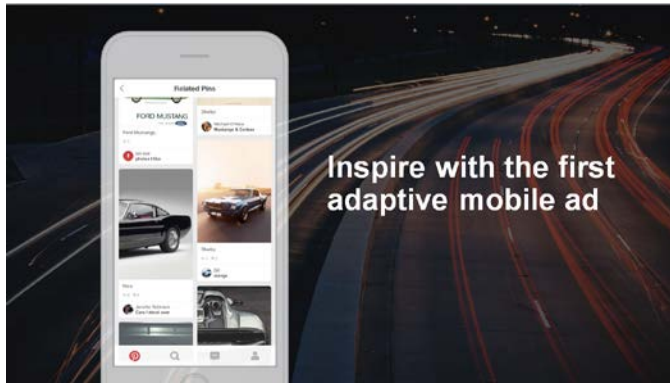
Global Internet Advertising, 2009 – 2014



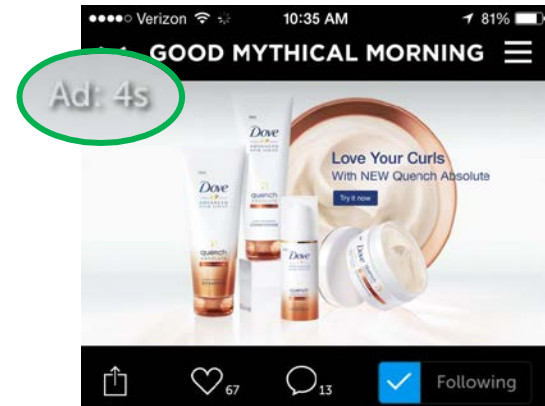
*New Things
Vendors / Brands / Consumers
Should Be Excited About...*

...Ad Formats = Optimized for Mobile... Often Fast / Interactive / Fun / Video...

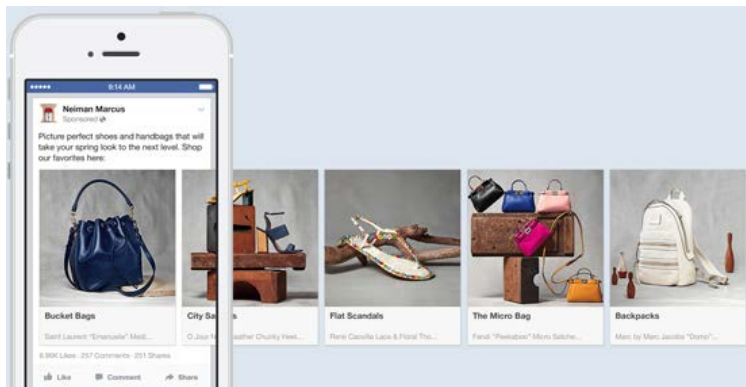
Pinterest Cinematic Pin *Video Moves as User Scrolls*



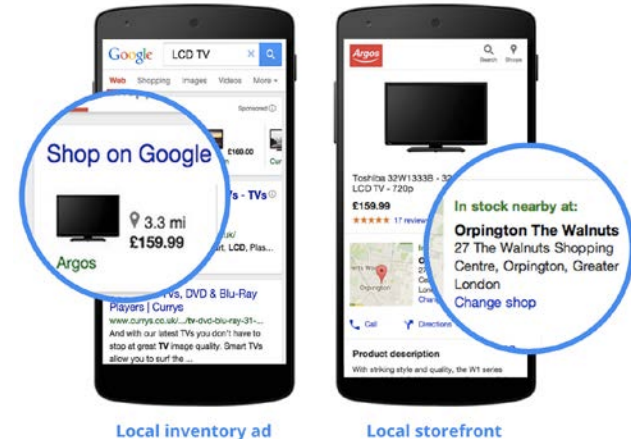
Vessel 5-Second Ad *Short-Form Video*



Facebook Carousel Ad *Scroll to Browse Multiple Images*

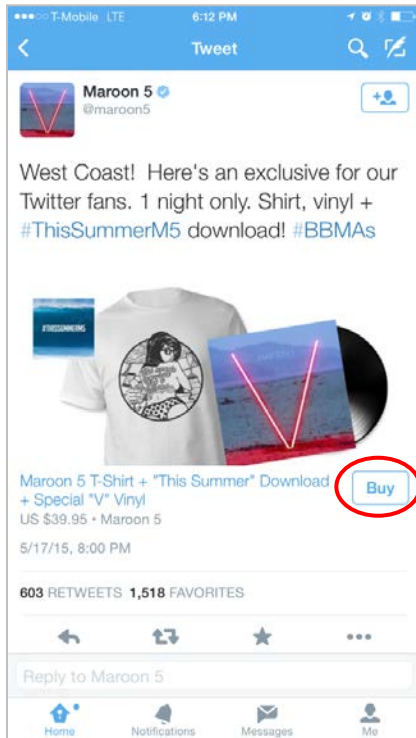


Google Local Inventory Ad *Shows Products Available In-Store Nearby*

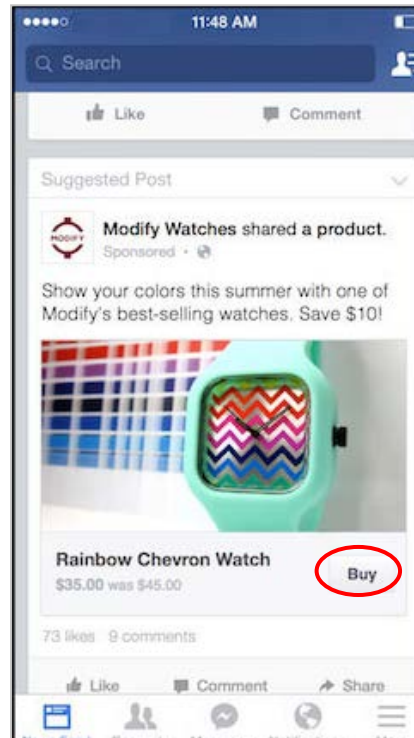


...Buy Buttons = Optimized for Mobile... Minimize Friction to Purchase @ Moment of Interest

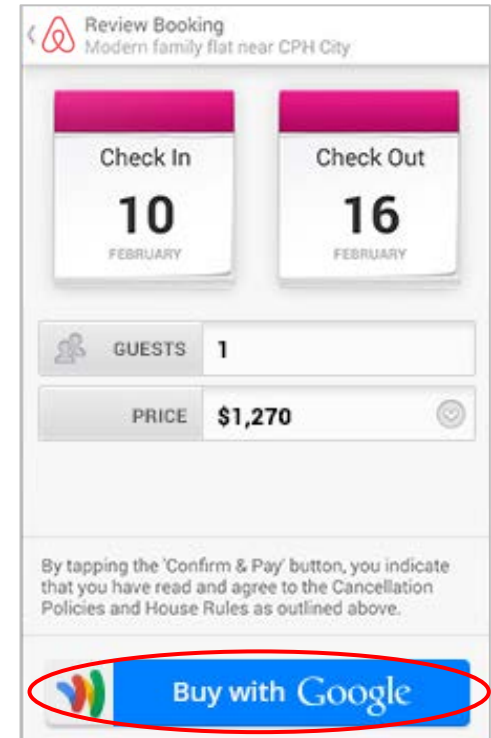
Twitter



Facebook



Google



*...Something Funny
Happened on the Way to the
Small Screen...*

...Small Screen Vertical Viewing Became Big Deal...

Video = Then

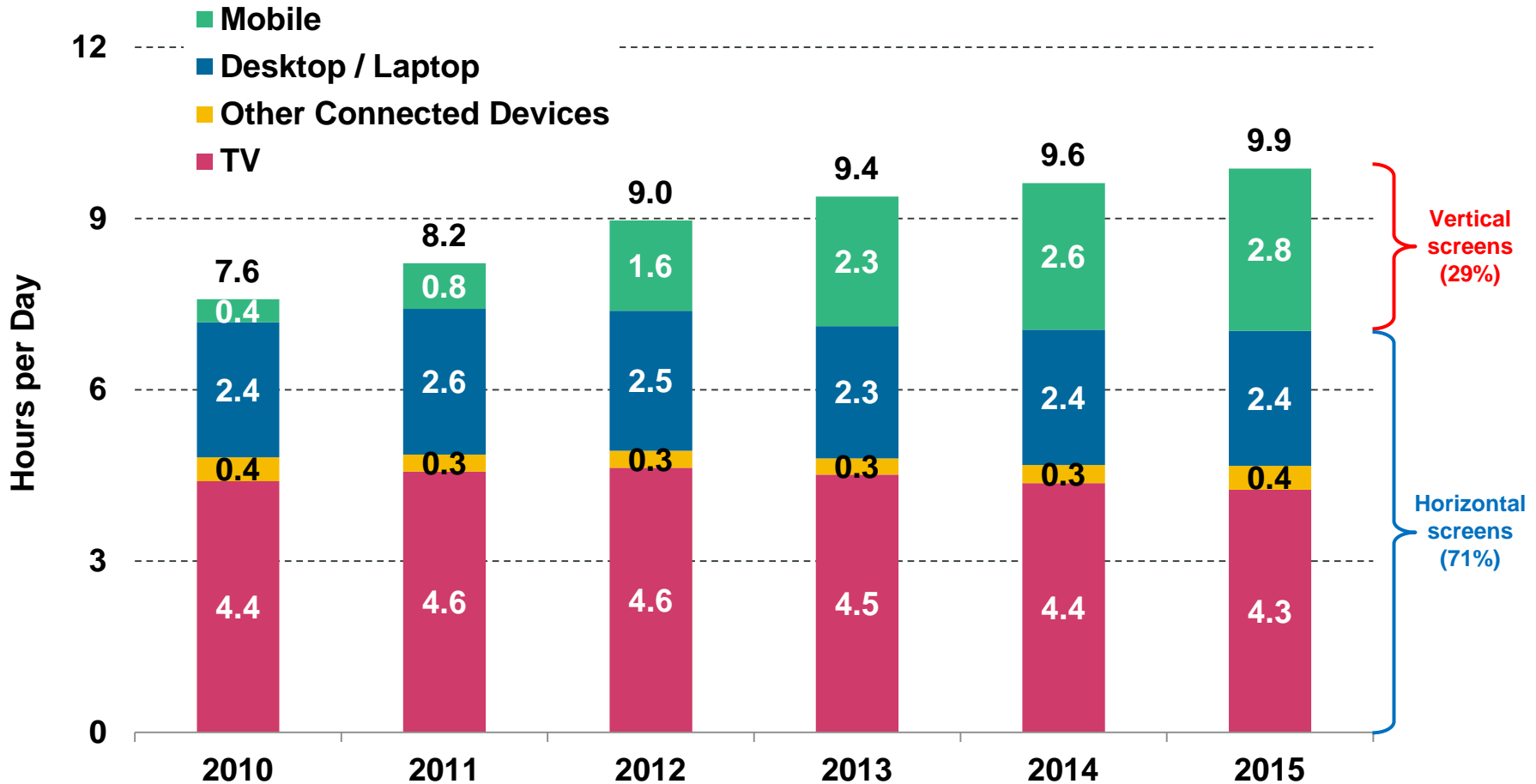


Video = Now?

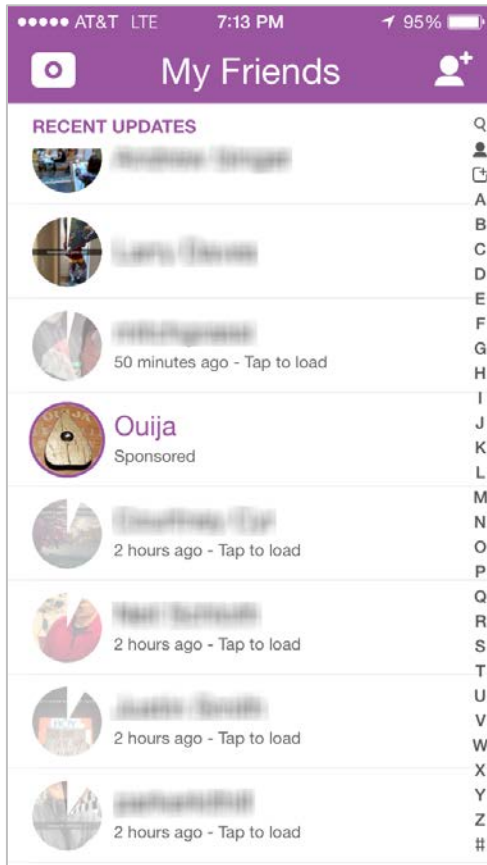


...Vertical Viewing = 29% of View Time (Multi-Platform) vs. 5% Five Years Ago, USA...

Time Spent on Screens by Orientation (Hours / Day), USA, 2010 – 2015



...Full-Screen Vertical Video Ads on Snapchat = 9x Higher Completion Rate vs. Horizontal Mobile Video Ads



Mobile Usage Evolved Rapidly...

*Text → Images → Videos →
All of Above...*

*Buy Buttons Likely to
Appear Just as Seamlessly*

RE-IMAGINING CONTINUES

Re-Imagining
~~*Enterprise Computing*~~ =

Changing Business Process
One Segment at a Time

Tweet from Aaron Levie...



Aaron Levie ✓

@levie



Following

Enterprise software used to be about making existing work more efficient. Now, the opportunity for software is to transform the work itself.

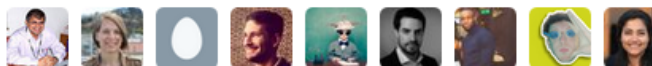


RETWEETS

252

FAVORITES

214



9:42 PM - 9 Apr 2015

*While Consumer Internet Entrepreneurs
Often Pursue
Personal Passion...*

*'Enterprise' Internet Entrepreneurs
Often Pursue
Prior Company Pain Points*

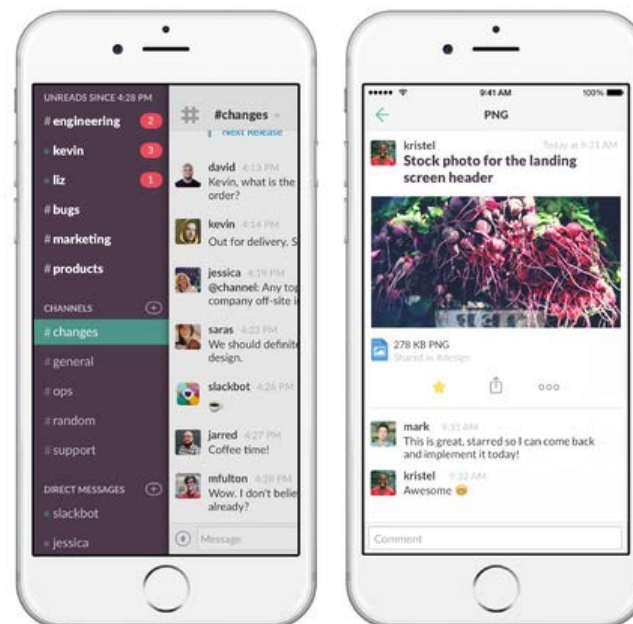
Business Communications...

Slack – Stewart Butterfield

THEN
Email / Semi-Inflexible
Messaging Tools



NOW
Slack



Can reduce internal email traffic materially

Offline Payments...

Square – Jack Dorsey / Jim McKelvey

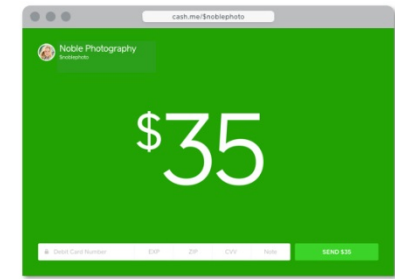
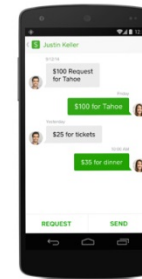
THEN

Difficult to Set Up /
Process Offline Payments



NOW

Square



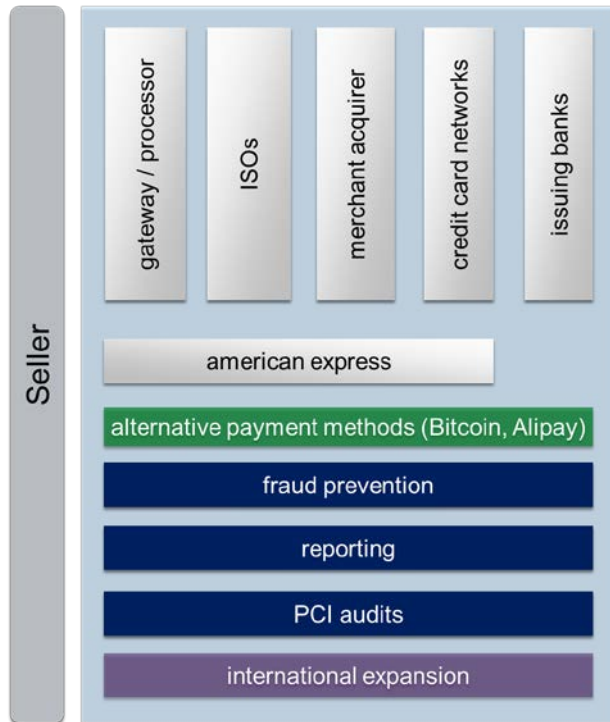
Allows merchants to accept credit card payments via their existing smartphone or tablet & run a sophisticated point of sale system

Online Payments...

Stripe – Patrick Collison / John Collison

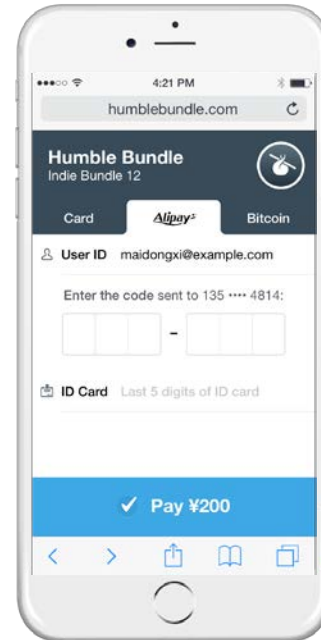
THEN

Difficult to Set Up /
Process Online Payments

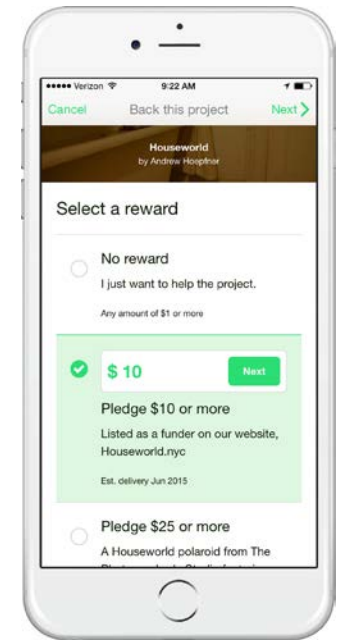


NOW

Stripe



*Stripe
Alipay flow*



*Kickstarter
payment flow*

Can dramatically reduce payment integration time for developers and allow them to take advantage of modern APIs, compared with time required to deploy traditional merchant account

Business Analytics...

Domo – Josh James

THEN

Data Overload Without
Easy Access for Execs



NOW

Domo



Improved access to real-time data can help users save time
& improve decision making

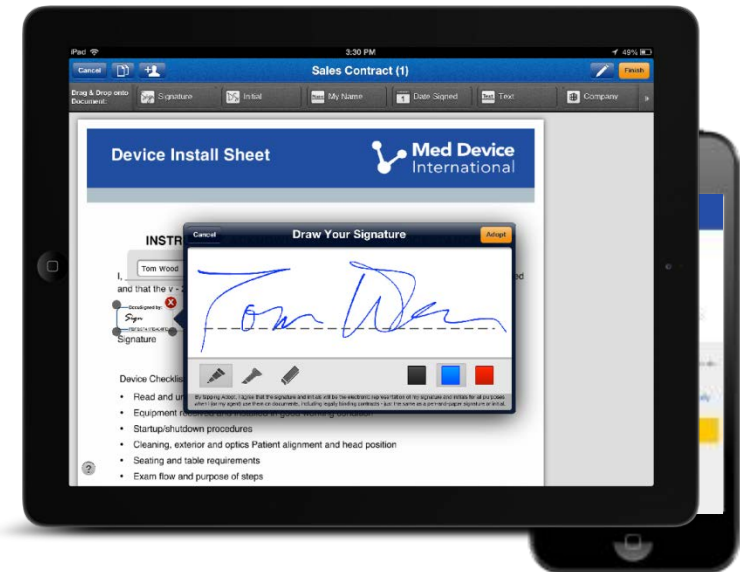
Document Signing / Transaction Management...

DocuSign – Tom Gonser

THEN
Paper-Based Signatures



NOW
DocuSign

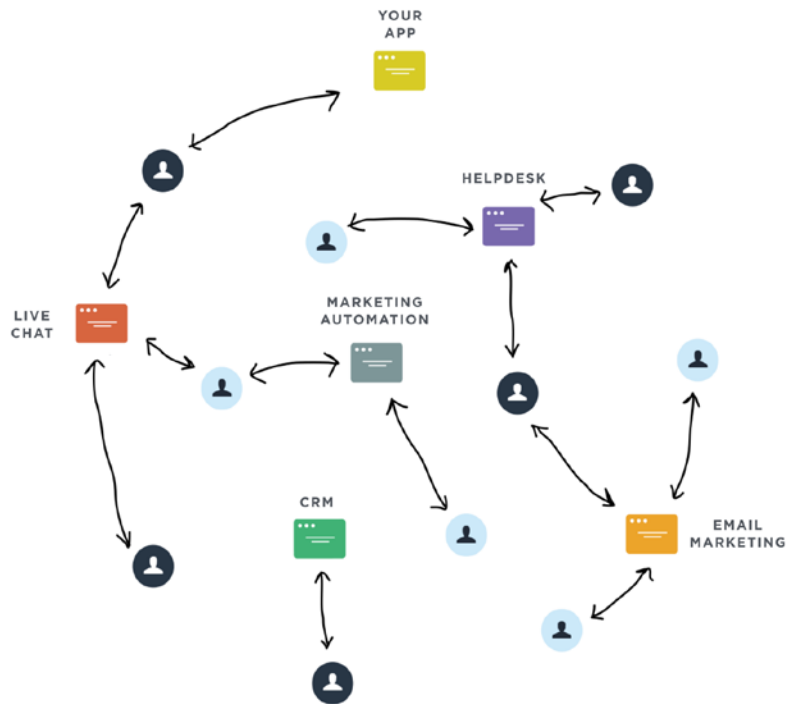


Can reduce transaction costs & improve transaction times

Customer Communication... Intercom – Eoghan McCabe

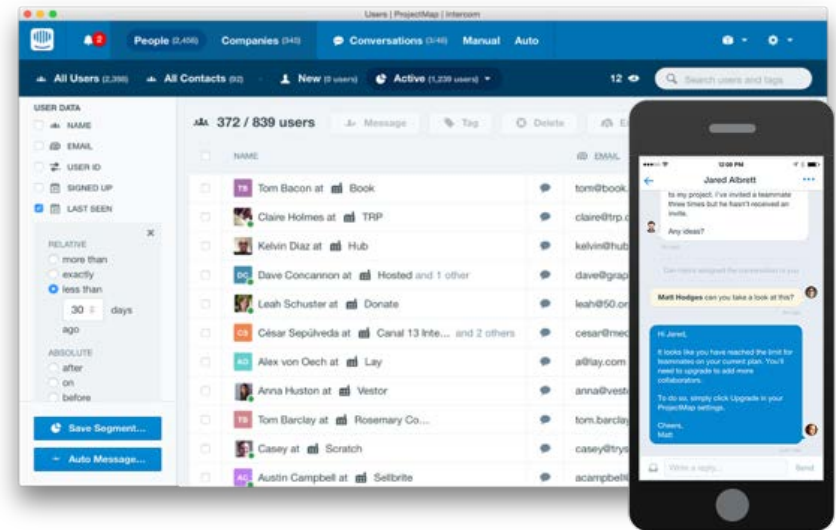
THEN

Disconnected Point Solutions



NOW

Intercom



In-app messages can be more engaging (based on reply rates)
than traditional email marketing products

Customer Success... Gainsight – Nick Mehta

THEN
Transactional Sales
Process with High Churn



NOW
Gainsight



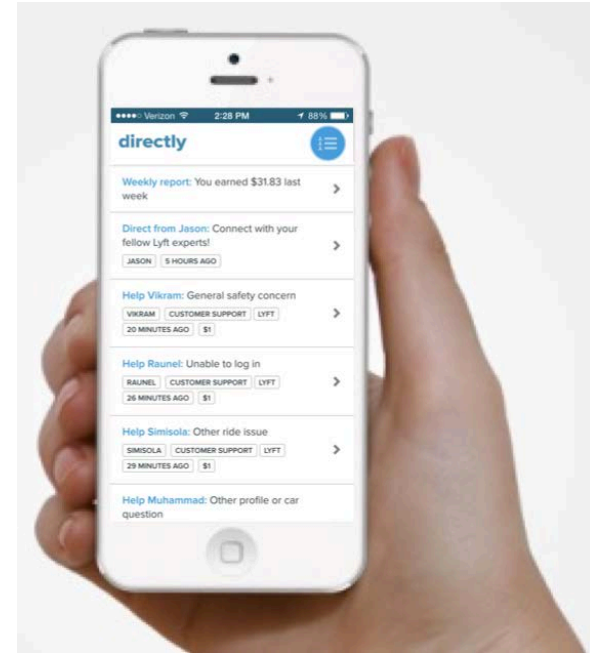
Typically improves net revenue retention

Customer Service... Directly – Antony Brydon

THEN In-House Support Center



NOW Directly



Can reduce customer response times & improve customer satisfaction

Human Resources... Zenefits – Parker Conrad

THEN
Paper Files &
Insurance Brokers



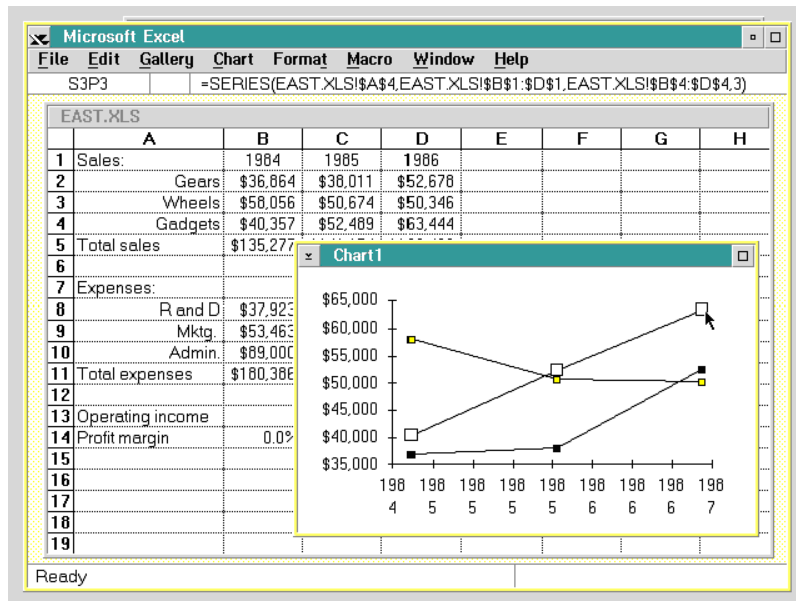
NOW
Zenefits



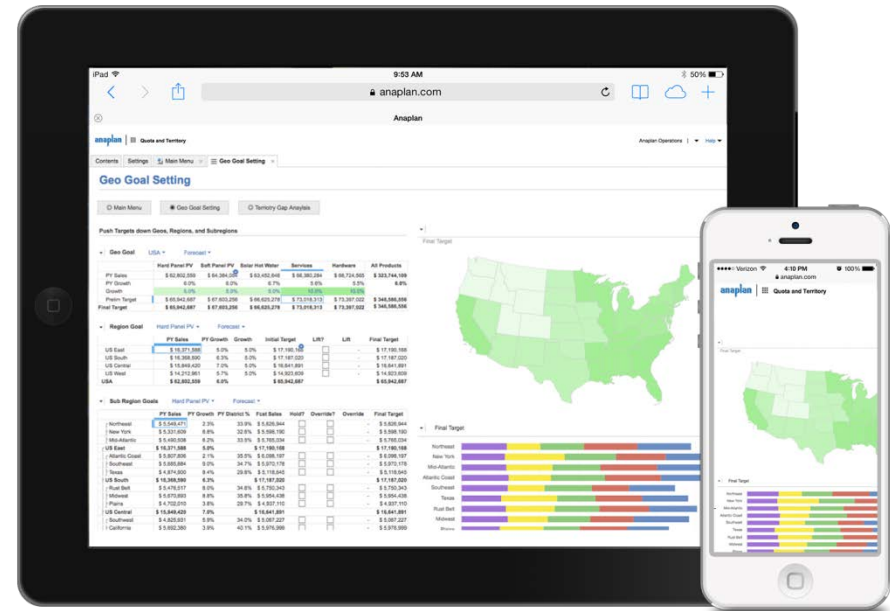
Manages \$700MM+ in annual benefits premiums across 10K customers in 48 states
vs. traditional brokers which typically work within a single state

Enterprise Planning & Performance Optimization... Anaplan – Frederic Laluyaux

THEN
Microsoft Excel



NOW
Anaplan

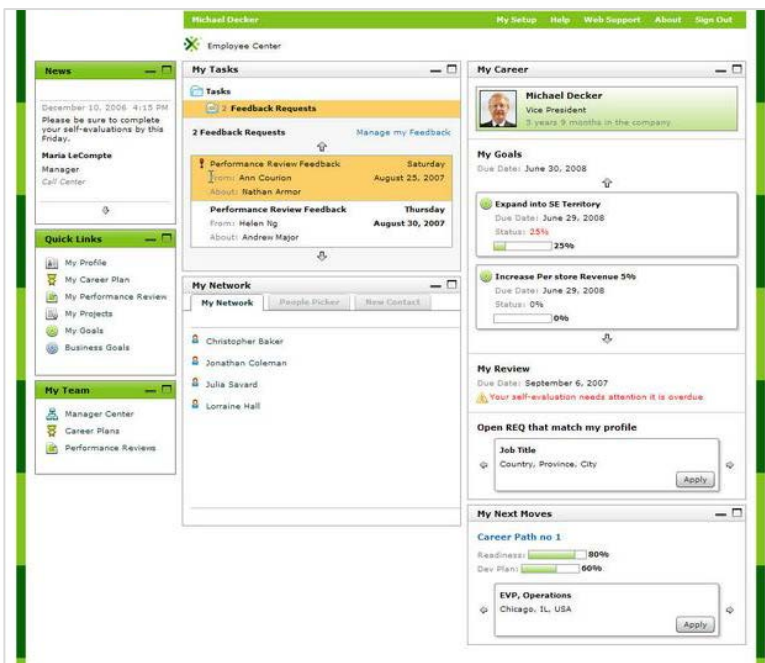


Can improve ROI for customers that have replaced legacy planning solutions & spreadsheet-based processes

Recruiting... Greenhouse – Daniel Chait

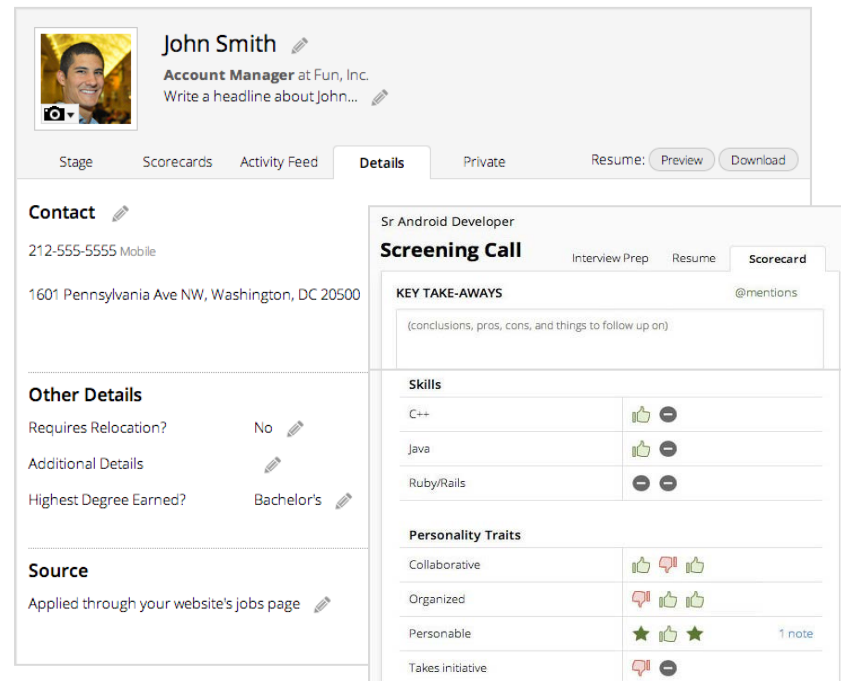
THEN

Reactive / Complex...
Only Used by Recruiters



NOW

Greenhouse



Can improve time-to-hire & decrease overall hiring costs

Background Checks... Checkr – Daniel Yanisse

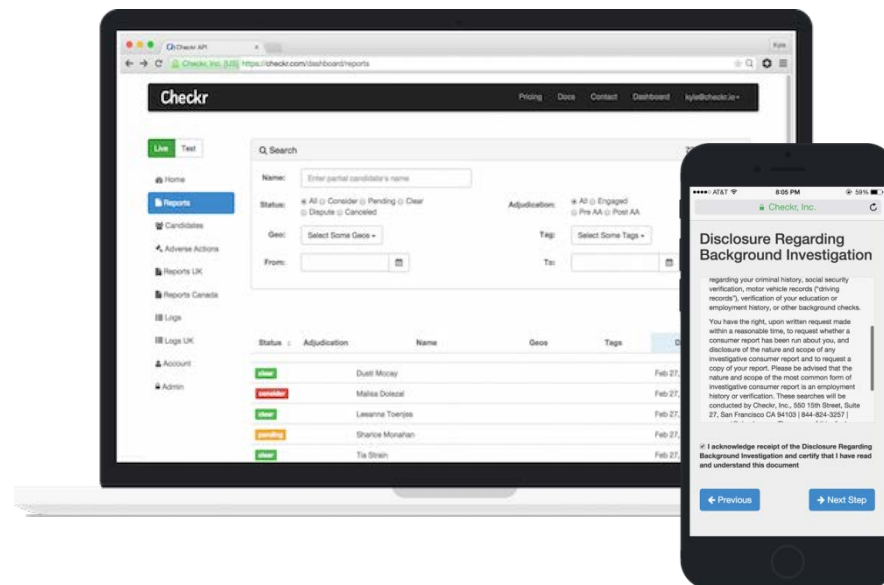
THEN

Manual / Time Consuming Background Screenings



NOW

Checkr



Typically reduces background check turnaround times

Employee Knowledge / Training...

GuideSpark – Keith Kitani

THEN

Static Hardcopy Manuals



NOW

GuideSpark



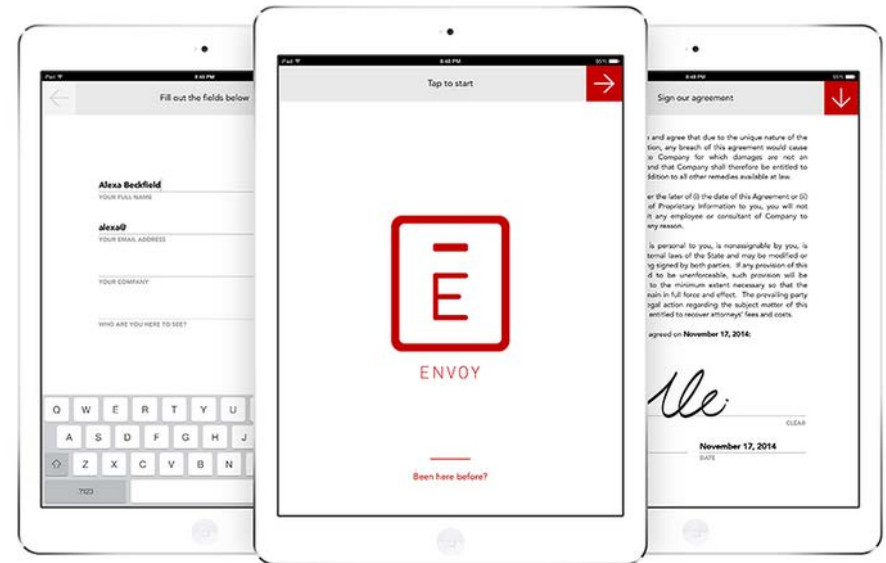
Can reduce Human Resource support time & increase employee benefits plan participation

Visitor Management... Envoy – Larry Gadea

THEN Sign-In Sheets



NOW Envoy



Over 1MM visitors checked-in across 1,000 companies worldwide since May 2013

*Ten Years from Now,
When We Look Back at
How This Era of Big Data Evolved...*

*We Will Be Stunned at How
Uninformed We Used to Be
When We Made Decisions*

– Billy Bosworth, DataStax CEO (2015)











***Re-Imagining
Messaging...***

***With Lots of
Improvements / Change / Growth
Ahead***











Messaging Apps = Top Global Apps in Usage + Sessions

6+ of Top 10 most used apps globally = Messaging Apps

Top Apps by Usage

Rank	App
①	 Facebook
②	 WhatsApp
③	 Messenger
④	 Instagram
⑤	 LINE
⑥	 Viber
⑦	 KakaoTalk
⑧	 Clash of Clans
⑨	 WeChat
⑩	 Twitter

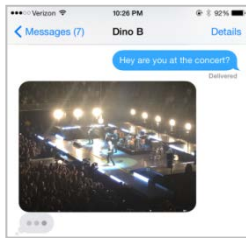
Top Apps By Number of Sessions

Rank	App	Sessions
①	 KakaoTalk	55
②	 WhatsApp	37
③	 WeChat	29
④	 VK	29
⑤	 LINE	26
⑥	 Viber	20
⑦	 Facebook	20
⑧	 Clash of Clans	16
⑨	 Instagram	12
⑩	 Messenger	8

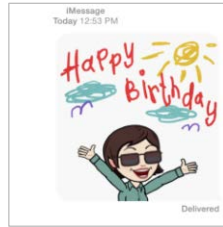
Messaging Apps → significant app sessions

Communicating via Mobile Messaging = A Beautiful Thing

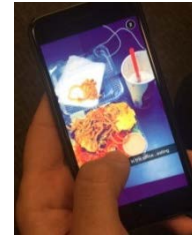
Asynchronous yet Instant



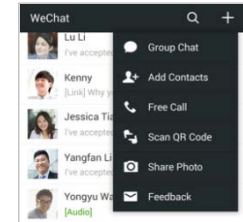
Expressive yet Fast



Engaging yet User Controlled



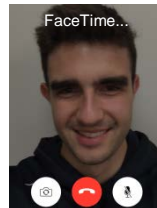
Casual yet Professional



Easy yet Productive



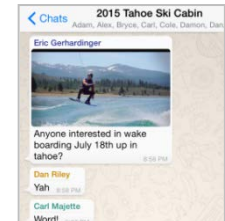
Personal yet Mainstream



Mobile yet Distributed



Instant yet Secure



Real-Time yet Replayable*



Current yet Evergreen



Accessible yet Global



Simple yet 24x7



Messaging Leaders = Growing Fast... Building Expansive Platforms + Moats

Selected Global Messaging Leaders



WhatsApp (launched 2009)

- *Fast messaging*
- MAU = **800MM**, +60% Y/Y, Q1:15
- Messages Sent / Day = **30B**



Facebook Messenger (launched 2011)

- *Messaging platform*
- MAU = **600MM**, +200% Y/Y, Q1:15



Snapchat (launched 2011)

- *Ephemeral messages, pictures and videos*
- DAU = **100MM**, 5/15
- Story Views / Day = **2B**



WeChat (launched 2011, China)

- *Messaging platform*
- MAU = **549MM**, Q1:15, +39% Y/Y



LINE (launched 2011, Japan)




- *Messaging platform*
- MAU = **205MM**, Q1:15
- Messages Sent / Day = **13B**, +30% Y/Y
- Revenue = **\$922MM**, +70% Y/Y





KakaoTalk (launched 2010, Korea)

- *Messaging platform*
- MAU = **48MM**, flat Y/Y, Q1:15
- Messages Sent / Day = **5.2B**
- Revenue* = **\$853MM**, +19% Y/Y

Messaging Platforms – Asia In-Country Leaders = Developing Evolving Playbooks...

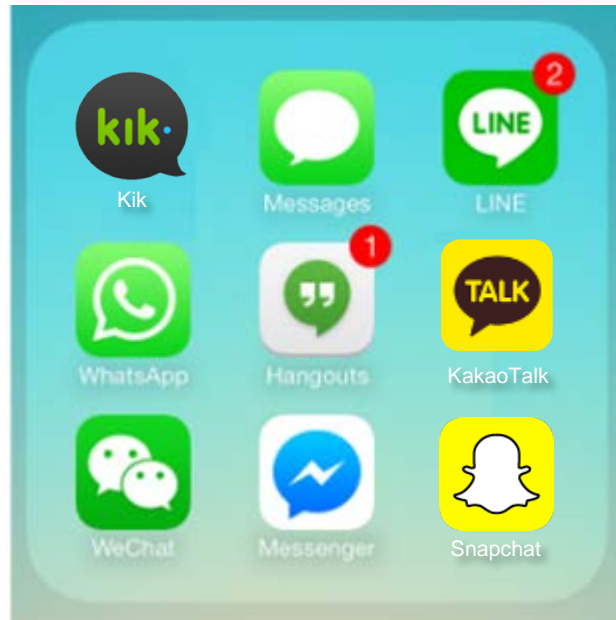
			
Name	KakaoTalk	WeChat	LINE
Launch	March 2010	January 2011	June 2011
Primary Country	Korea	China	Japan
Messaging	✓	✓	✓
Group Messaging	✓	✓	✓
Voice Calls	Free VoIP calls (2012)	WeChat Phonebook (2014)	✓
Video Calls / Chat	✗	✓	Video call update (2013)
Payments	KakaoPay (2014)	(2013)	Line Pay (2014)
Stickers	(2012)	Sticker shop (2013)	(2011)
Games	Game Center (2012)	(2014)	(2011)
Commerce	Kakao Page (2013)	Delivery support w / Yixun (2013)	Line Mall (2013)
Media	Kakao Topic (2014)	✓	✓
QR Codes	✓	QR code identity (2012)	✓
Food Delivery	✗	Partnership with Foodpanda (2014)	Launched beta in Thailand (2015)
Taxi Services	Kakao Taxi (2015)	Taxi services w/ Didi Dache (2014)	Launched taxi service in Tokyo (2015)
User Stories / Moments	Kakao Story (2012)	WeChat Moments	Line Home (2012)
Developer Platform	KakaoDevelopers	WeChat API	Line Partner (2012)

...Messaging Platforms – Global Leaders = Implementing Playbooks & More

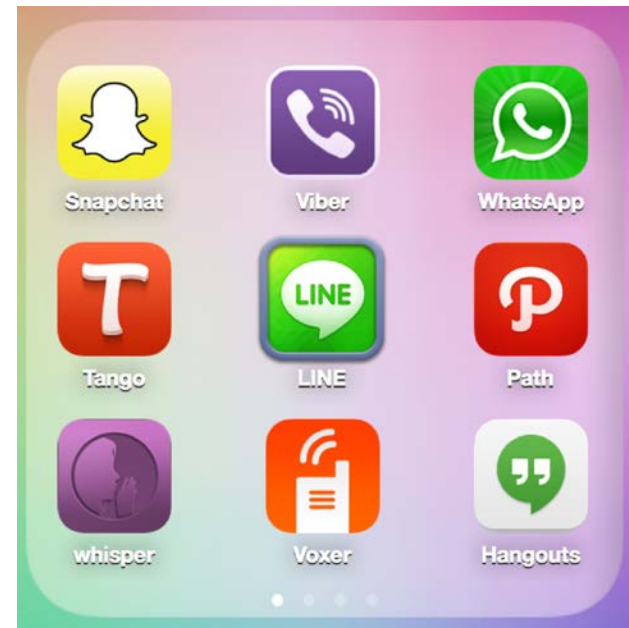
	 Facebook Messenger	 Snapchat
Name	Facebook Messenger	Snapchat
Launch	August 2011	September 2011
Primary Country	Global	Global
Messaging	Separate messaging app (2014)	Chat (2014)
Group Messaging	✓	✗
Voice Calls	VoIP voice calls in US (2013)	✗
Video Calls / Chat	Free VoIP video calls (2015)	Video Chat (2014)
Payments	Messenger Payments (2015)	Snapcash (2014)
Stickers	Sticker support (2013)	✗
Games	✗	✗
Commerce	Businesses on Messenger (2015)	✗
Media	✗	Discover (2015)
QR Codes	✗	QR Codes to add friends (2015)
Food Delivery	✗	✗
Taxi Services	✗	✗
User Stories / Moments	✗	Shared Stories (2013)
Developer Platform	Messenger Platform (2015)	✗

In Messaging, Not One-Size-Fits-All, For Now... Many People Use Different Messaging Apps for Various Purposes

One User...
(Illustrative)



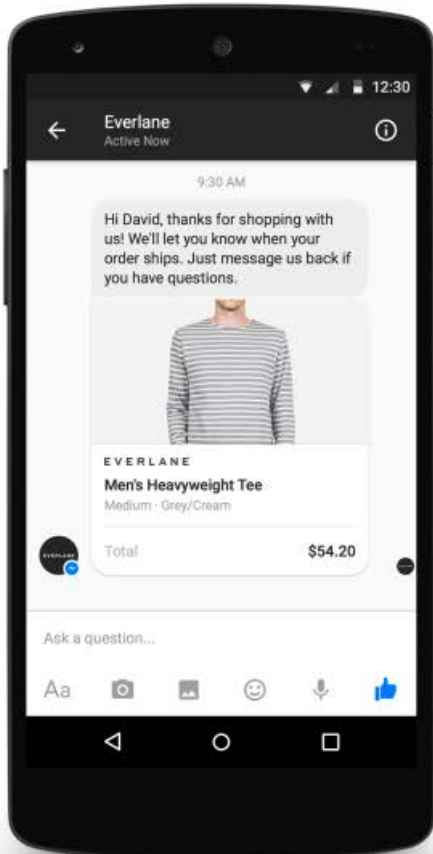
...Another User
(Illustrative)



If WeChat Trend Continues to Play Out Globally... Mobile Messaging Leaders May Evolve into Central Communications Hubs

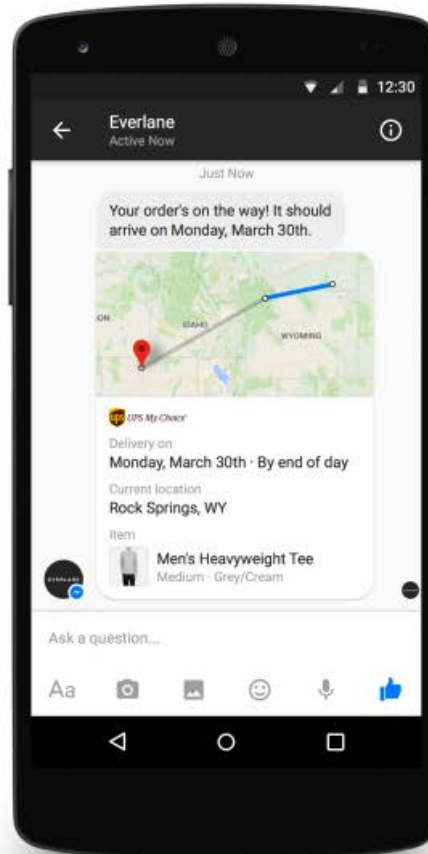
Context

e.g. purchase(s) made:
**Order shirt – from Everlane –
via Facebook Messenger**



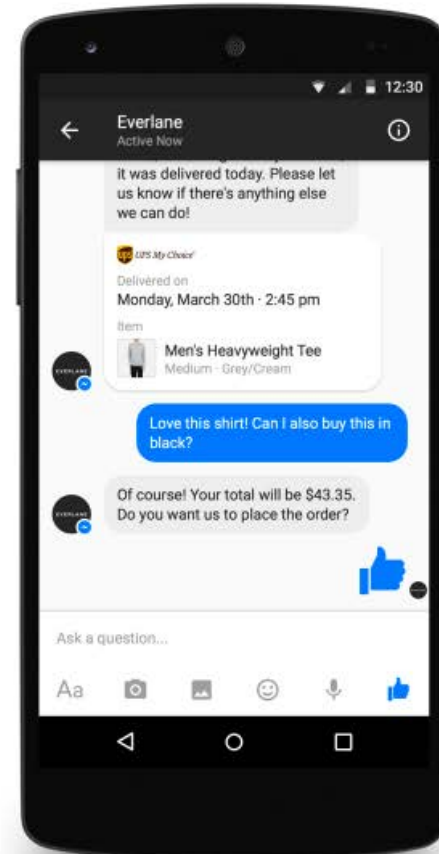
Identity

Location, Age, Name,
Interests



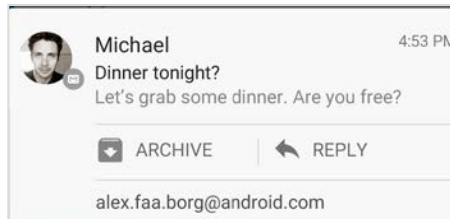
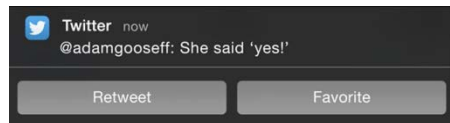
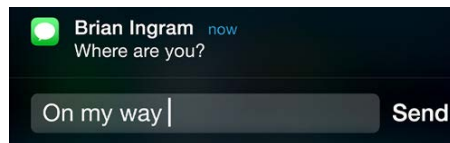
Context-Persistent Conversation

Context-driven actions and
engagement

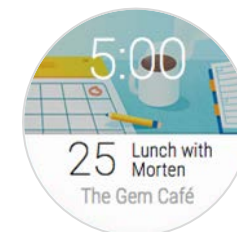
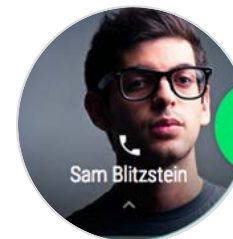


Notifications = Growing Rapidly & Increasingly Interactive... Driving New Touch Points with Messaging Platforms + Other Apps

**Direct Interaction
on Notification Panel** –
without users interrupting
what they're doing...



...More Up Close & Personal –
as notifications appear on more
& more mobile devices



Next New Internet Users Likely Already Non-Smartphone Mobile Users &... Most Likely to Onboard via Messaging Platforms

Selected Top Countries for Mobile Subscriptions, 2014

<i>Ranked by Total Mobile Subscriptions:</i>	Total Population (MM)	Mobile Subscriptions (MM)	Smartphone % of Mobile Subscriptions
China	1,356	1,301	39%
India	1,236	907	15
Indonesia	254	343	19
Brazil	203	274	35
Russia	142	253	23
Pakistan	196	144	6
Nigeria	177	143	16
Vietnam	93	124	17
Philippines	108	113	26
Mexico	120	110	27
Egypt	87	103	19
Iran	81	99	10
Thailand	68	99	29
South Africa	48	73	31
Turkey	82	70	33
Total Mobile Subscriptions (MM)		4,153MM	—
Weighted-Avg. of Smartphone as % of Mobile Subs			26%

*Messaging + Notifications =
Key Layers of Every
Meaningful Mobile App*

*Messaging Leaders Aiming to Create
Cross-Platform Operating Systems that
Are Context-Persistent
Communications Hubs for
More & More Services*

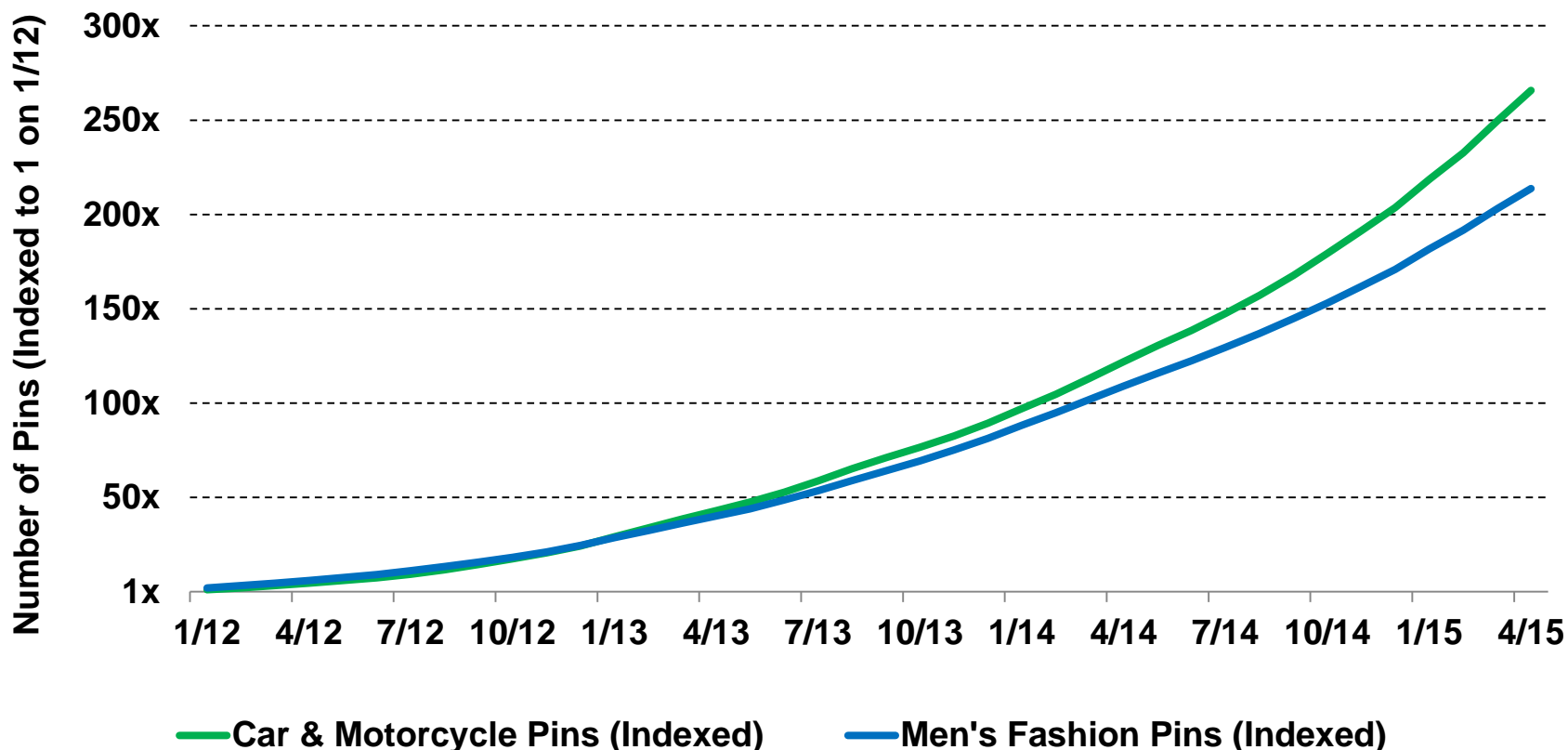
Re-Imagining Content...

***It's Increasingly
User-Generated / Curated &
Surprising***

User-Generated / Tagged / Curated / Indexed &... Searchable Images +75% Y/Y to >50B Pins on Pinterest

Pinterest Content Growth Strong Across Board... Especially Strong in 'Non-Core' Categories...

Car & Motorcycle Pins +118% Y/Y...Men's Fashion +96%, 4/15



User-Generated Video from Millions of Creators... Curated by Snapchat = Growing Rapidly with Live Stories

Music



Coachella
4/15

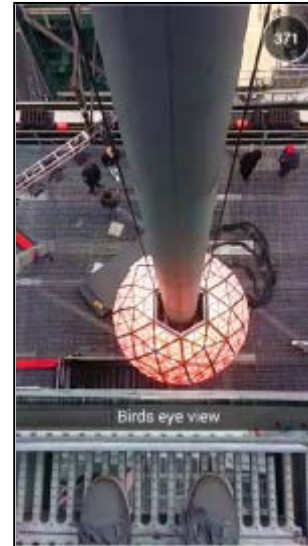
40MM
Viewers Over 3 Days

Holidays



New Year's Eve
12/14

37MM
Viewers in 24 Hours



Sports

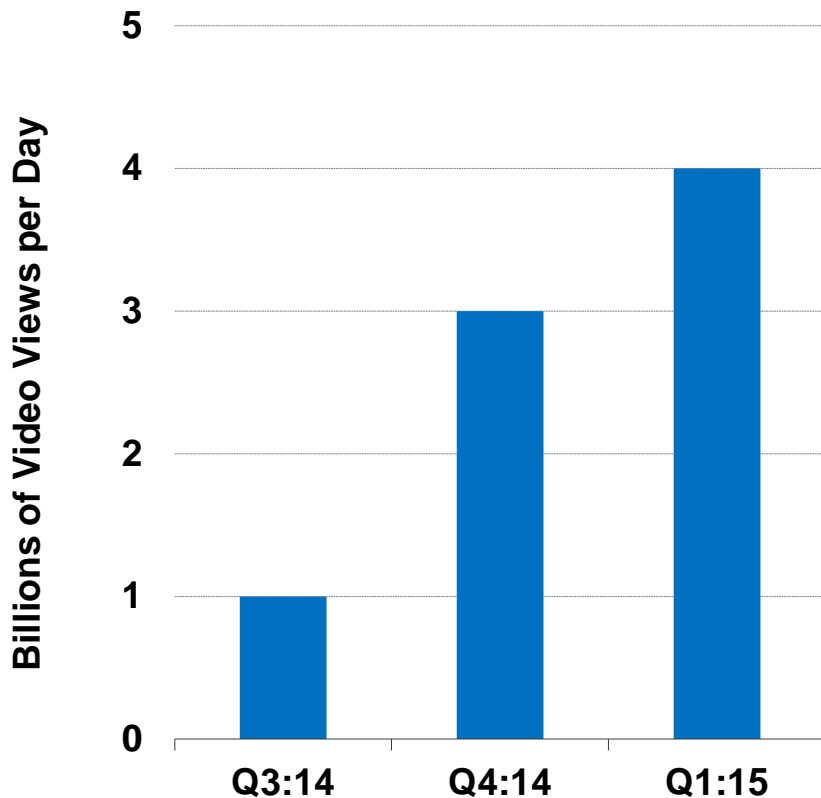


Winter X-Games
1/15

30MM
Viewers in 24 Hours

User-Shared / Curated Video Rising Rapidly = @ 4B Video Views per Day, Up 4x in 6 Months on Facebook

Video Views per Day for Facebook, Global, Q3:14 – Q1:15



Facebook Video Stats

- **50%+ Facebook DAUs = Watch 1 or More Videos Daily, USA**
- **53% of Views = from Shares**
- **75% = on Mobiles**

User-Generated Live Gaming / Streaming = Growing +122% Y/Y to 100MM MAUs on Twitch

16B Minutes Watched per Month
+33% Y/Y

100MM MAUs
+122% Y/Y

1.5MM Unique Broadcasters per Month,
+67% Y/Y



11MM Videos Broadcast per Month,
+83% Y/Y

Expanded offerings beyond Gaming to Music and Movies in 2014, from exclusive live concerts to video game documentaries

1MM Peak Concurrent Views

User-Generated / Curated Audio Content (including Remixes) = @ 10MM Creators (+2x) Over 2 Years on SoundCloud

100MM Tracks
+33% Y/Y

Majority of content comes from creators not associated with known rights-holders

Hear the tracks you've liked



♥ TURN DOWN FOR WHA...
Lil Jon



♥ Yellow Claw - Amsterd...
Yellow Claw



♥ Twonk Team Mixtape V...
ItsBrillz



♥ Wasted ft. Matthew Ko...
Tiesto



♥ Zedd - Clarity feat. Fox...
Zedd



♥ Kaskadee Atmosphere L...
Kaskadee



♥ Skrillex and Diplo - Wh...
Jack Ü



♥ Jack Ü - Take Ü There ...
diplo



♥ Carnage presents: Incr...
Dj Carnage



♥ Infinite Daps - Baauer ...
RL Grime



♥ Avicii 'Levels' Skrillex ...
Skrillex



♥ Nelly - Ride Wit Me (Vi...
VICEROY



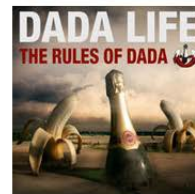
♥ Dirty Vibe with Diplo, G...
Skrillex



♥ KANYE ft. SirenXX
The Chainsmokers



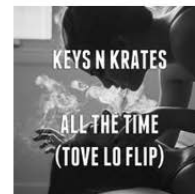
♥ Calvin Harris - Summer...
Calvinharris



♥ Dada Life - Rolling Sto...
Dada Life



♥ Gold Ft. Yuna
Adventure Club



♥ ALL THE TIME (TOVE ...
Keys N Krates

User-Generated Written Content / Stories = +140% Y/Y to 125MM Cumulative Stories on Wattpad

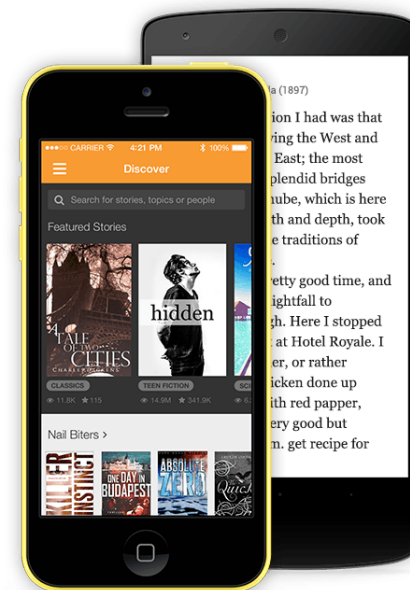
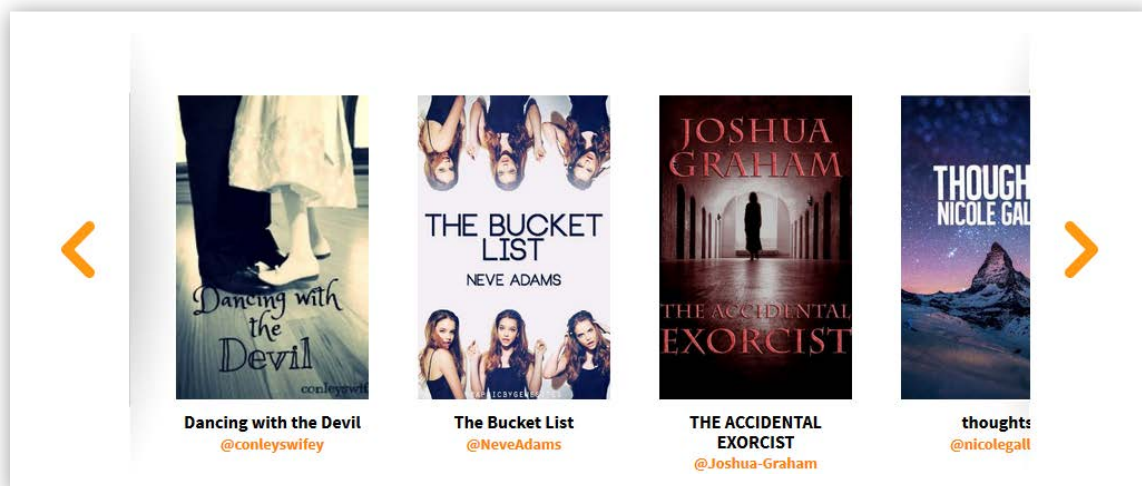
40MM Monthly Unique Visitors
+48% Y/Y

11B Minutes Spent per Month
+83% Y/Y

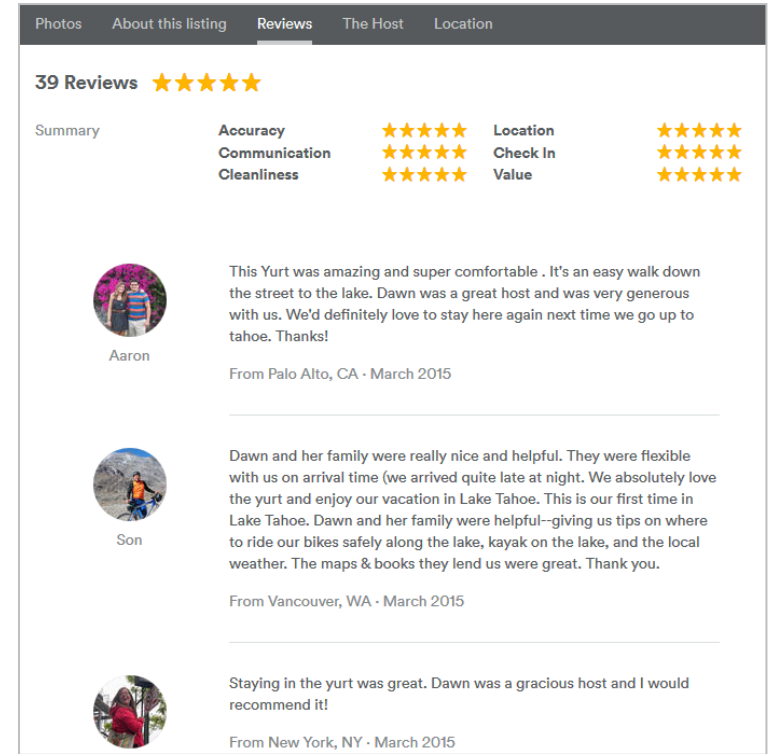
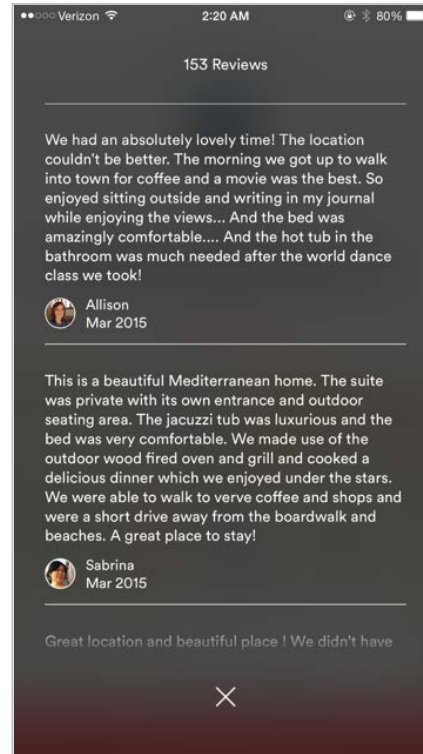
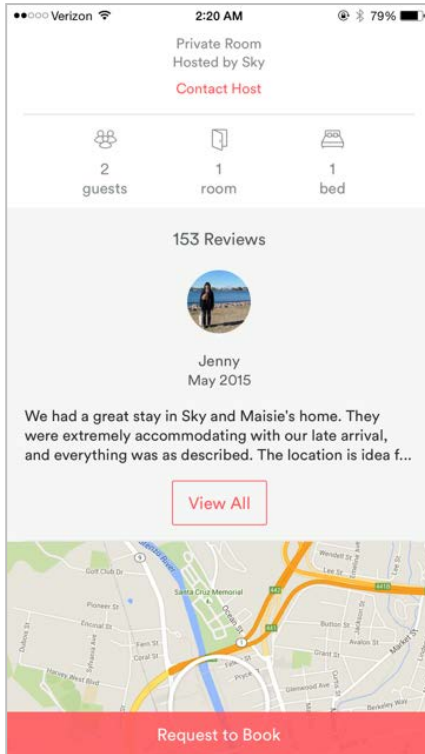
Average engagement time =
30 minutes / user / session

90% Mobile Traffic

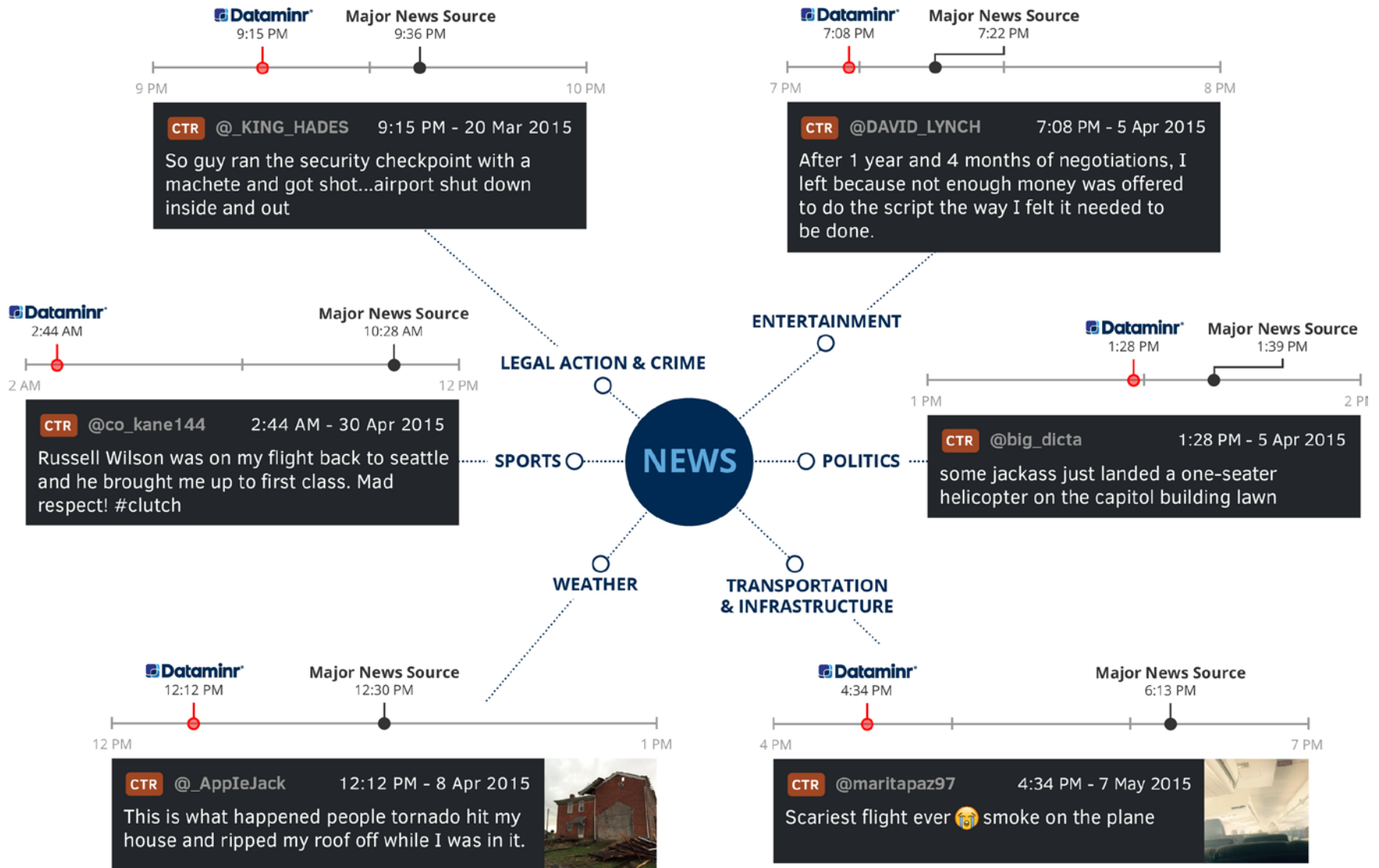
Every minute, >24 hours
of reading material is
posted on Wattpad



User-Generated Reviews / Feedback (Reputation) = +140% Y/Y @ 14MM New Reviews on Airbnb, Last 12 Months



Users Increasingly First Source for News via Twitter / Dataminr



Imagine That...

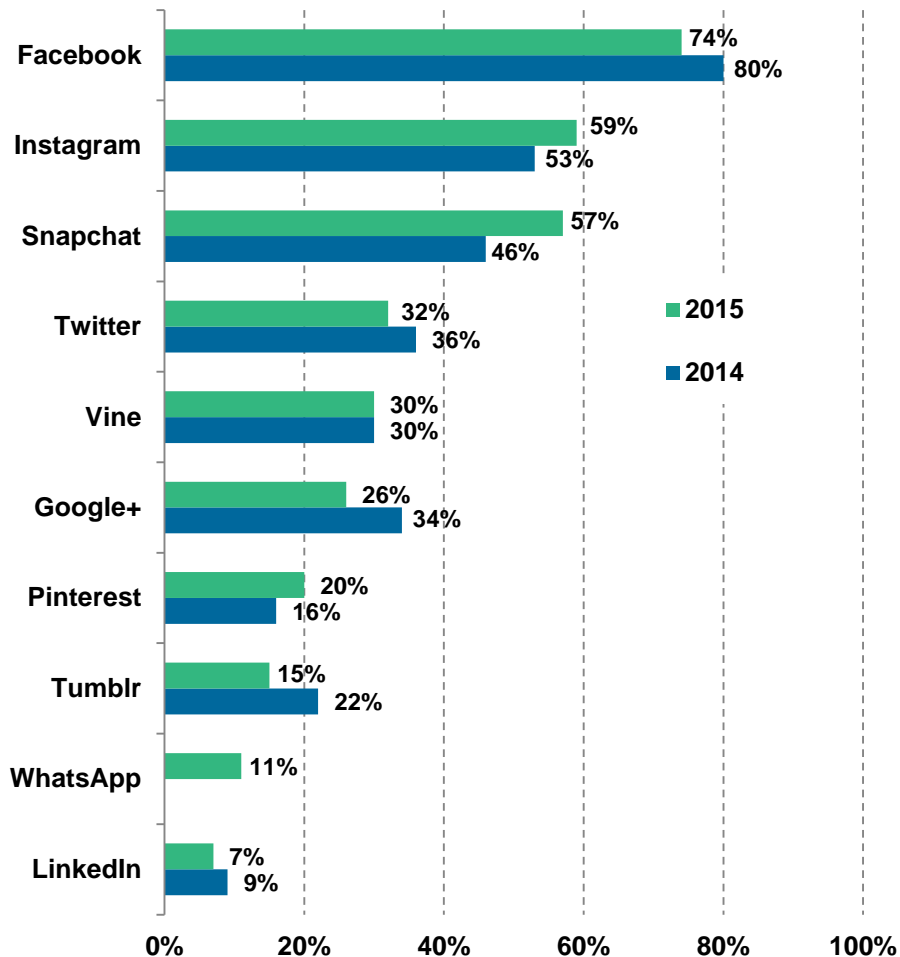
*Users Generating Their Content
Are
Recreating Their Internet*

Re-Imagining Internet Usage...

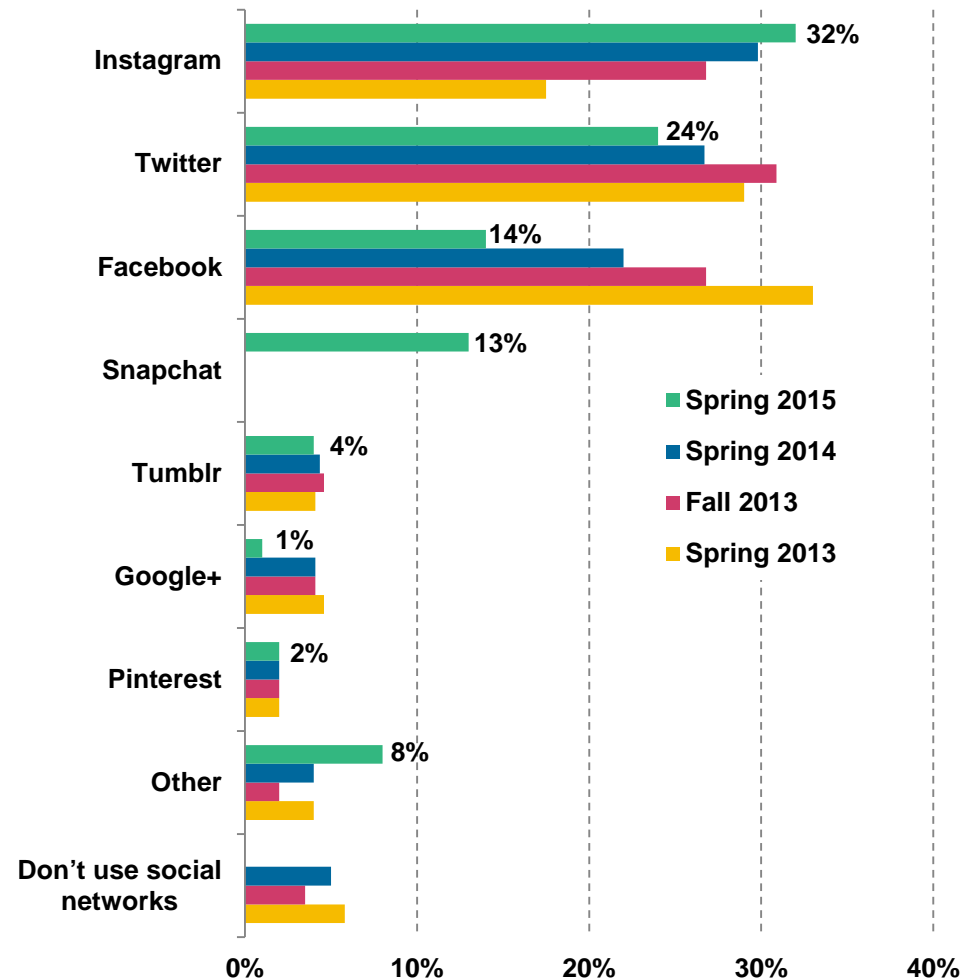
12-24+ Year Olds Remain Trendsetters

12-24 Year Olds Internet Usage = Visual Stuff (In & Out) Rules... Instagram + Snapchat + Pinterest = Continue to Rise

Social Media Usage Among American Youth (Age 12-24)¹, USA, 3/15

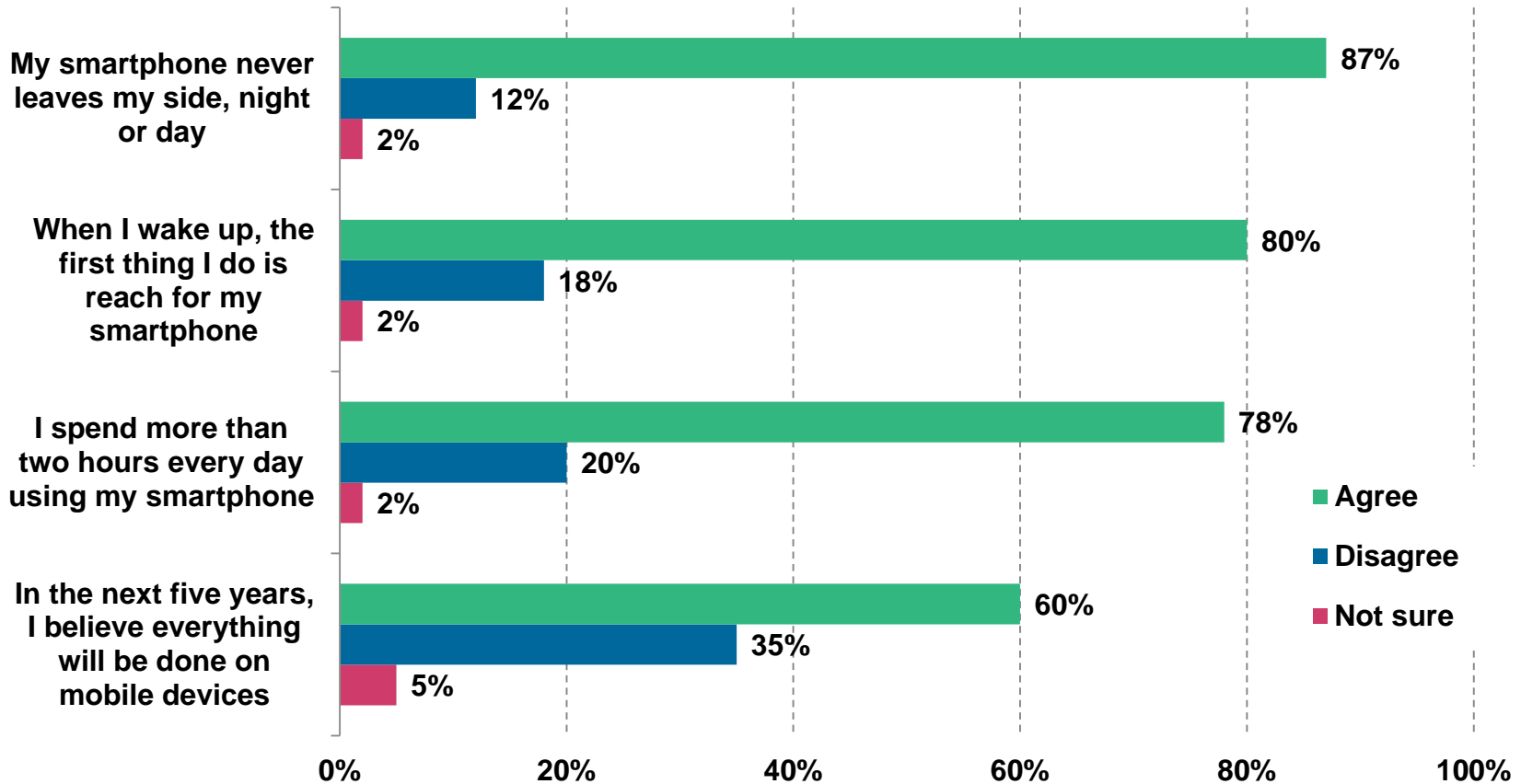


Teens' Most Important Social Network², USA, 4/15



Millennials = Love Their Smartphones... 87% = 'Smartphone Never Leaves My Side'

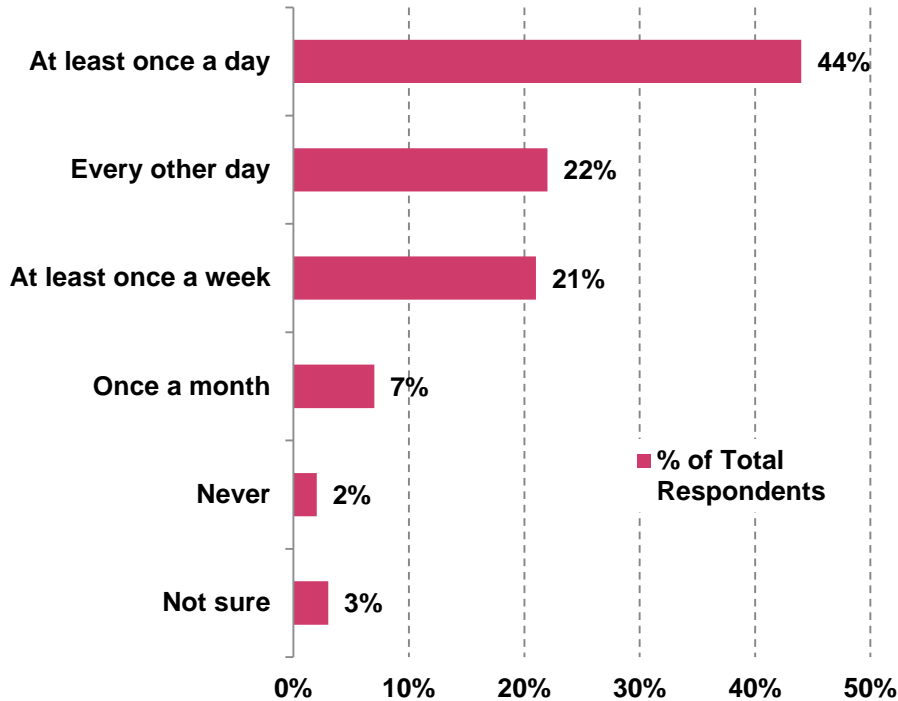
Millennial Smartphone Behavior, USA, 2014



Millennials Love Their Smartphone Cameras... 44% Use Camera / Video Function Daily...76% Post on Social Media

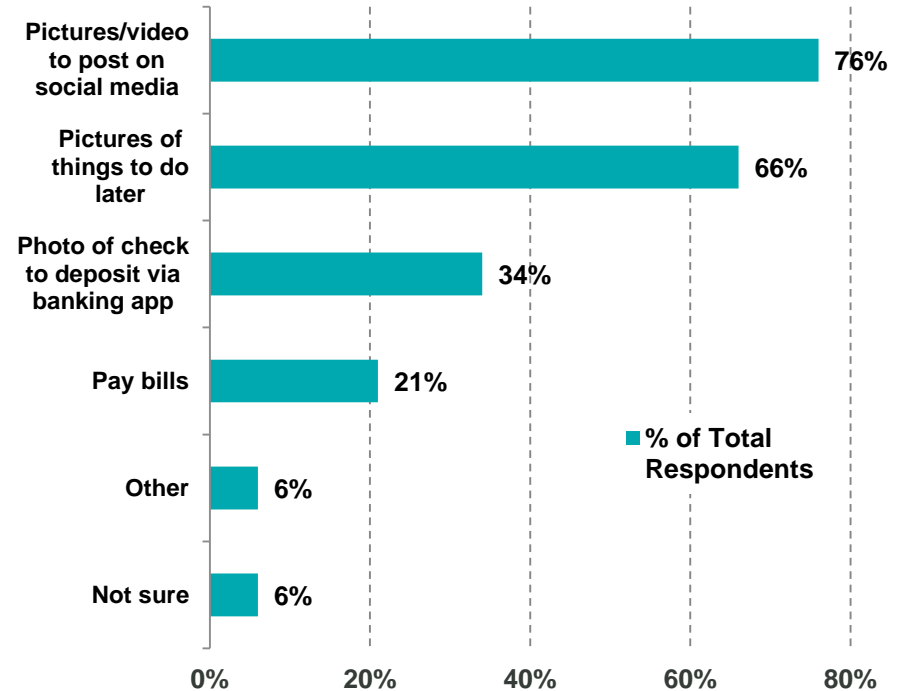
Millennial Smartphone Camera Usage*, USA, 2014

How often do you use your device's camera/video function?



Millennial Smartphone Camera Use Cases, USA, 2014

For what things do you use your smartphone camera?



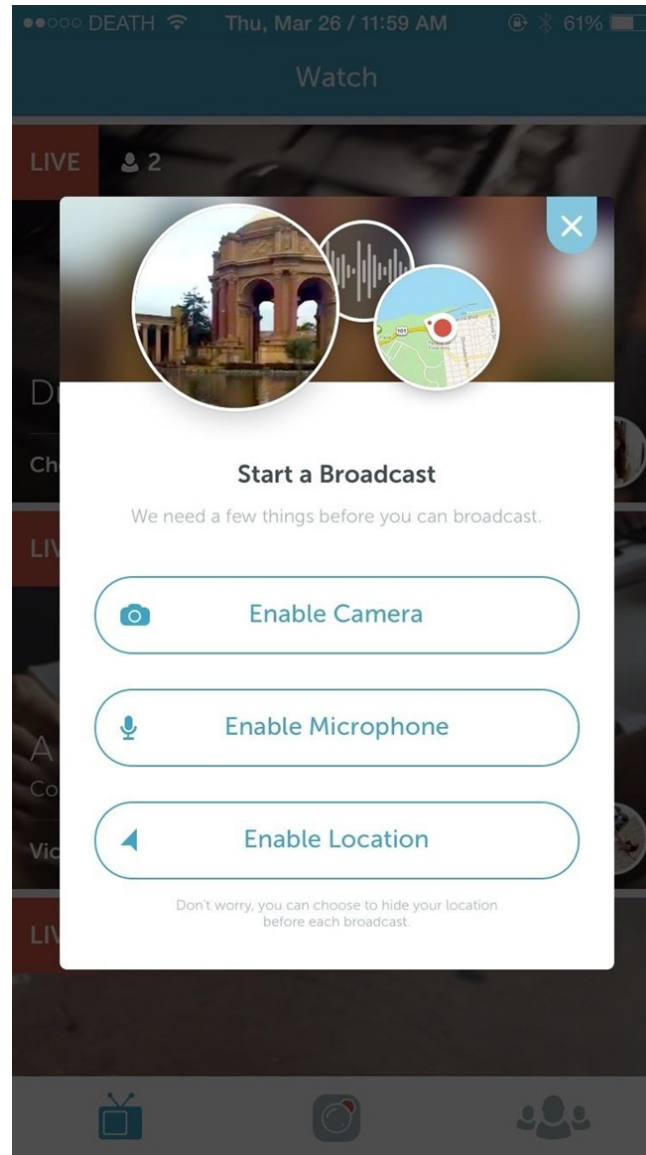
Source: Zogby Analytics.
*18-24 year olds.



Note: Zogby Analytics was commissioned by Mitek Systems, Inc. to conduct an online survey of 1,019 millennials who have a smartphone. For the purposes of this survey, "millennials" are defined as adults between the ages of 18-34. All interviews were completed May 30 through June 6, 2014.

Smartphone → A Very Smart Phone...

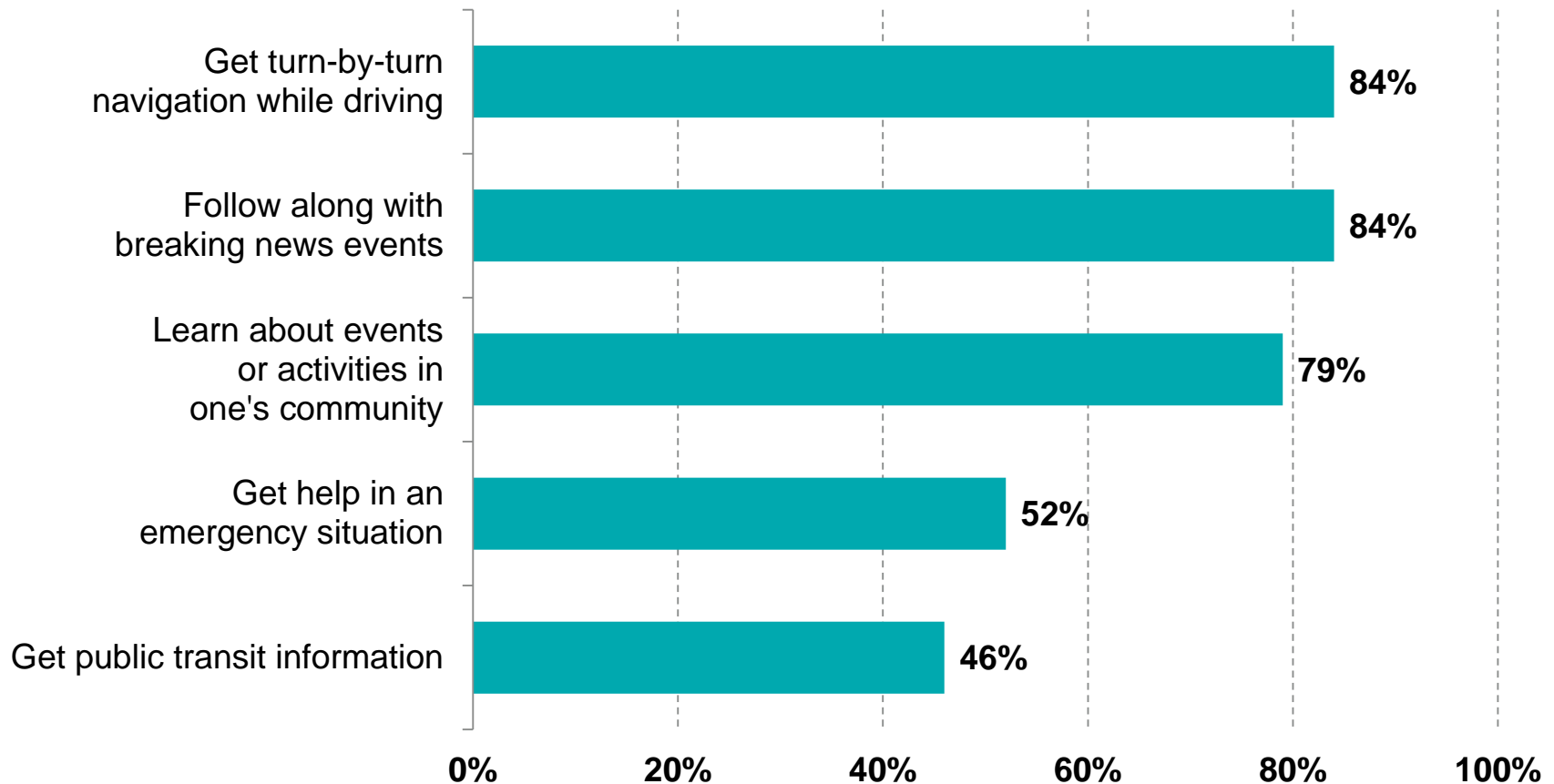
Re-Imagining Presence = All Visual...All the Time



***Re-Imagining
Getting What You Want...
When You Want It***















'Just in Time' Information = Enabled by Mobiles + Sensors + Humans...

% of Cell Phone Owners Who Used Phones to Perform At Least One of Following Activities, USA



... 'Just in Time' Products + Services = Enabled by Mobiles + Sensors + Humans

Selected On-Demand Company Fulfillment Time Estimates

Transportation	Food	Delivery
 LUXE ~10 min	 caviar <20 min	 POSTMATES Typically within 1 hour
 lyft Within minutes	 DOORDASH delightful delivery Typically within 1 hour	 shyp ~20 min
 UBER Within minutes	 MUNCHERY Typically within 20-40 minutes	<h3>Travel</h3>
<h3>Dining</h3>	 sprigz 15 min	 airbnb Instant booking
 OpenTable Instant booking	<h3>Groceries</h3>	 Hotel Tonight Instant booking
 SeatGeek Instant booking	 Instacart Typically within 1-2 hours	

Re-Imagining Consumer Spending

Consumer Spending Category Rankings =

1) Housing 2) Transportation 3) Food 4) Insurance / Pensions 5) Healthcare...

Average Annual Expenditure of USA Household, 2013 – 2014

Spend Category	Total (\$)		% of Total		Y/Y
	2013	2014	2013	2014	Growth (%)
Housing	\$17,041	\$17,377	33%	33%	2%
Transportation	8,999	9,104	18%	18%	1%
Food	7,047	7,115	14%	14%	1%
Personal Insurance / Pensions	5,573	5,551	11%	11%	(0%)
Healthcare	3,520	3,919	7%	8%	11%
Entertainment	2,586	2,560	5%	5%	(1%)
Cash Contributions	1,949	1,790	4%	3%	(8%)
Apparel and Services	1,706	1,674	3%	3%	(2%)
Education	1,212	1,143	2%	2%	(6%)
Miscellaneous / Other	1,776	1,701	3%	3%	(4%)
Total	\$51,409	\$51,934	100%	100%	1%

Source: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey.

Survey results based on mid-year 2014 and 2013 data.

Pension / Personal Insurance includes deductions for private retirement accounts, social security, and life insurance.

Healthcare costs include healthcare insurance, drugs, out-of-pocket medical expenses, etc.

Lots of Innovation in Biggest Consumer Spending Categories...

Especially in Top 3 Areas

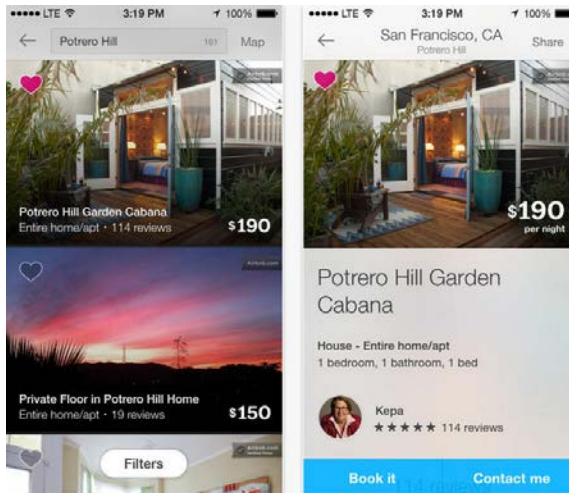
- 1) Housing*
- 2) Transportation*
- 3) Food*

Innovation in *High Spend* Markets...

Average Annual USA Household Spending...

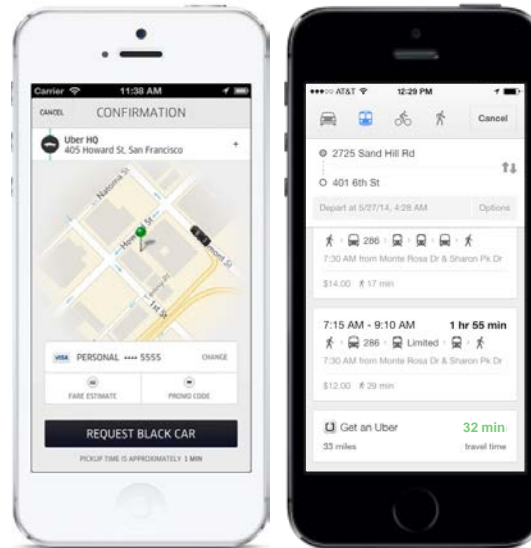
Housing = \$17K

33% of total spend



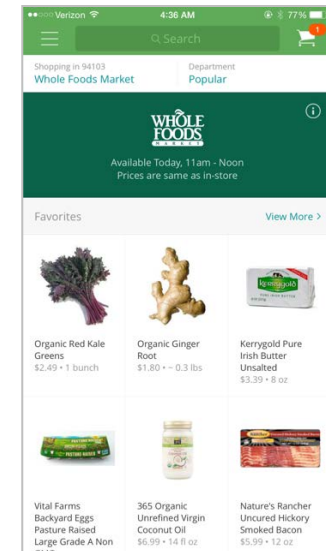
Transportation = \$9K

18% of total spend



Food = \$7K

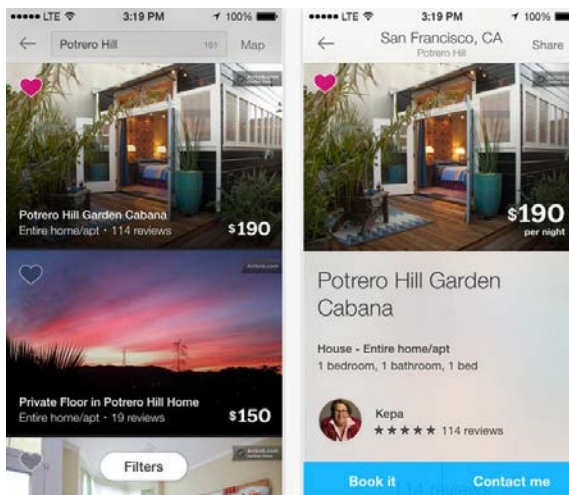
14% of total spend
\$4K on food consumed in home...
8% of spend



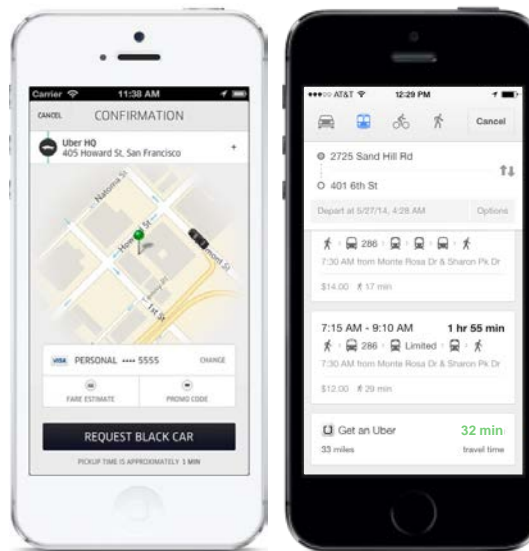
...Innovation in *High Engagement* Markets...

Average USA Individual...

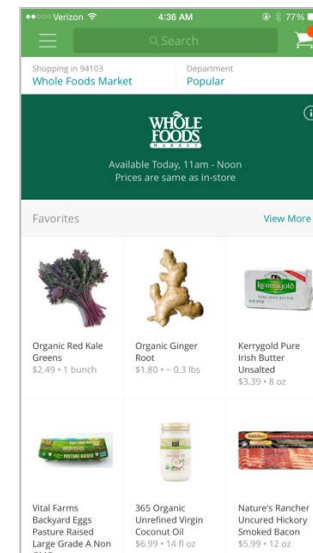
**Needs Shelter
Every Day**



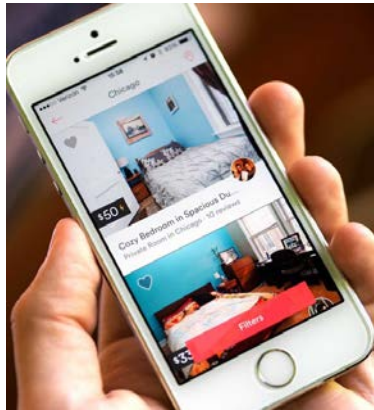
**Drives ~37 Miles
per Day**



**Visits Grocery Store
2x / Week...
41 minutes each trip**



...Innovation in *Weak User Experience* Markets

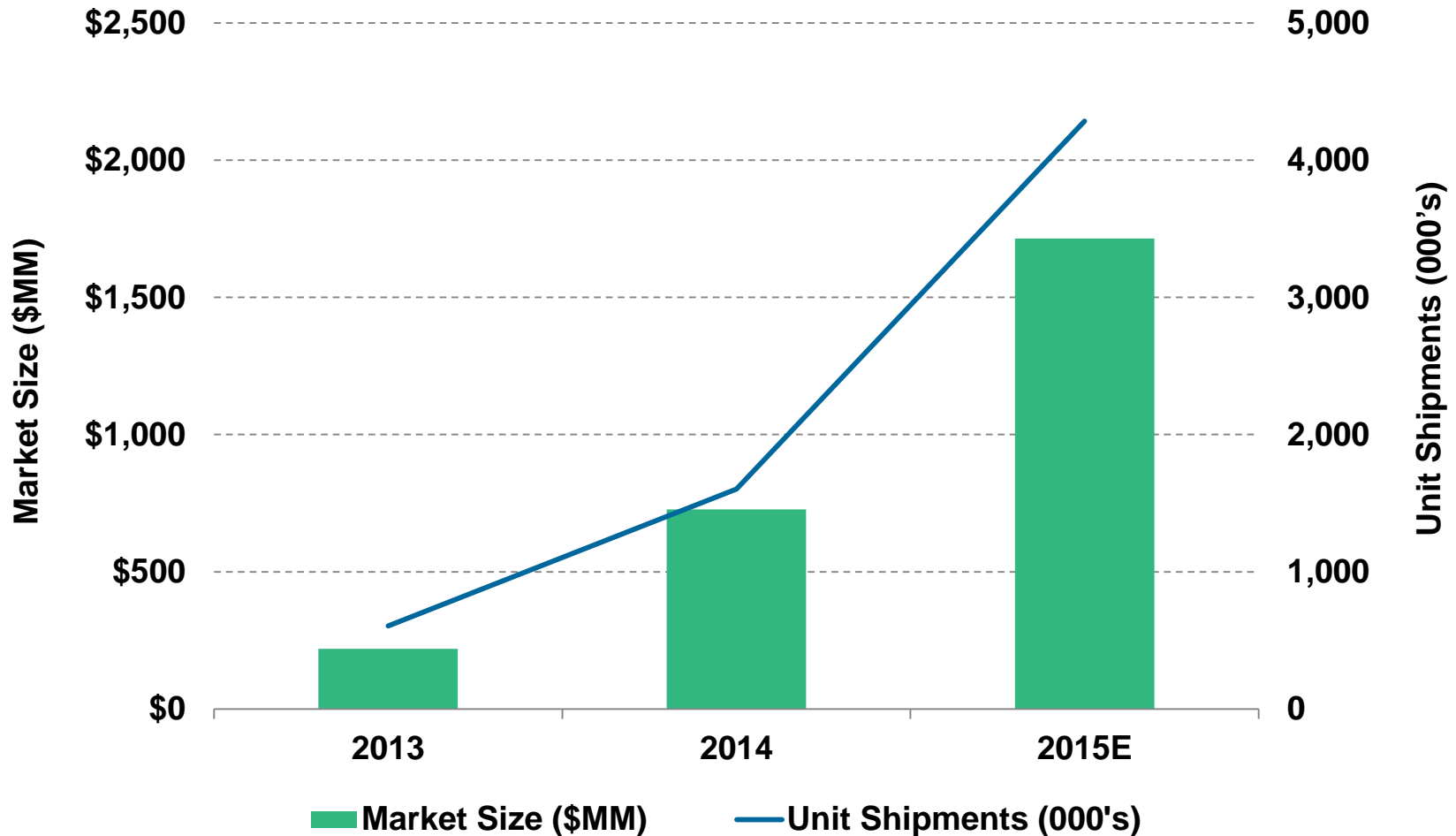


Re-Imagining Birds-Eye View...

***Drone Growth =
Uniquely
Fast / Global...
Consumer / Commercial...
& Regulators Engaged***

Consumer Drone Shipments = Rising Rapidly... @ 4.3MM Units in 2015E, + 167% Y/Y, Revenue to \$1.7B

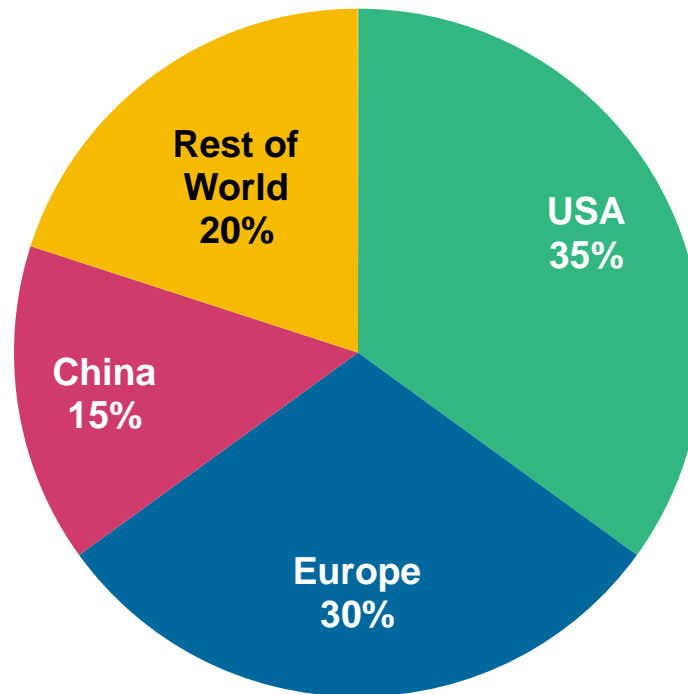
Global Consumer Drones – Revenue & Unit Shipments, 2013 – 2015E



Consumer Drone Use = Global...

USA = 35%... Europe = 30%... China = 15%... ASP = \$700

Global Consumer Drones – Revenue by Region, 2014



Commercial Drone Use = Very Broad... Operational Improvements / Resource Management / Public Safety

Precision Agriculture

Golden Prairie uses drones to capture soil & growth information on 10K+ acres of organic millet crops in high plains of eastern Colorado, USA



Infrastructure Inspection

San Diego Gas & Electric testing drones for electric & gas line inspections



Mining & Quarrying

Barrick Gold / Imerys / Rio Tinto using drones for pit surveys / stockpile management / road analysis



Disaster Response

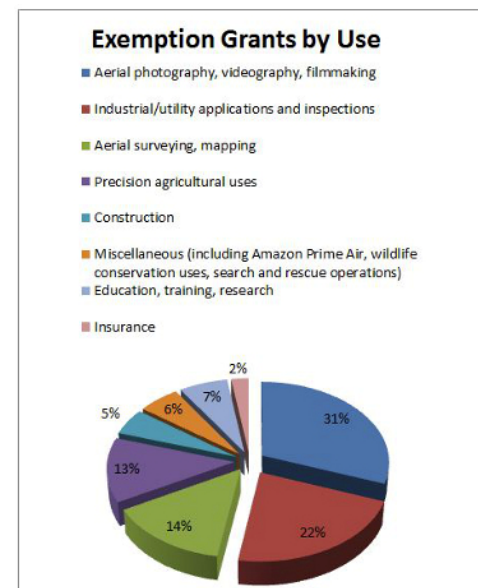
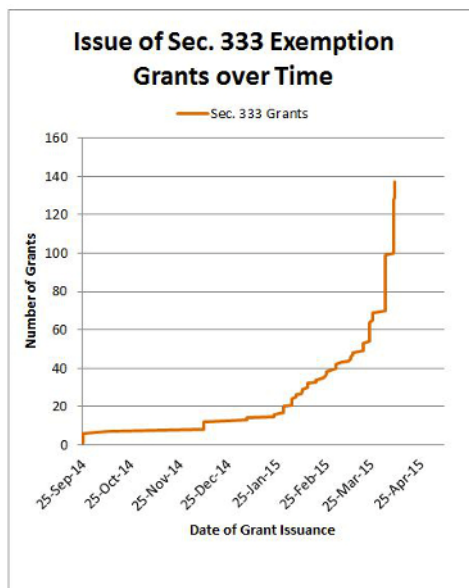
Drones used to assess damage & for relief efforts in Nepal & Haiti after earthquakes



USA = Previously Held Back by Regulation...Opening for Business = >400 American Companies Approved to Commercially Operate Drones

Countries Ranked by Government Accommodation for Drones

- 1) France & United Kingdom
- 2) Canada
- 3) Australia
- 4) Japan
- 5) USA
- 6) China



Transportation



Construction



Electric Grid



Insurance



Oil & Gas



Precision Farming



Source: KPCB assessment for rankings, Thompson Coburn LLP for Sec 333 exemptions (<http://www.thompsoncoburn.com/news-and-information/publications/publication/15-04-17/section-333-at-200-days-where-are-we-now.aspx>), Airware for companies with public domain licenses.

Note: Per the FAA, Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA) (PDF) grants the Secretary of Transportation the authority to determine whether an airworthiness certificate is required for a UAS to operate safely in the National Airspace System (NAS). This authority is being leveraged to grant case-by-case authorization for certain unmanned aircraft to perform commercial operations prior to the finalization of the Small UAS Rule, which will be the primary method for authorizing small UAS operations once it is complete.

Commercial Drone Market Future Potential = Bigger + More Constructive than Many Believe, Though With Risks



***Cyber Attacks =
Growing in Size /
Complexity / Risk***

Cyber Attacks = Growing Bigger / Faster...

- **Insider Misuse = Significant Cause of Breaches**

>20% of breaches come directly from insiders with malicious intent. In most breaches, attackers have foothold within internal networks & spread / steal data through privilege abuse / credential misuse.

- **Mobile Devices = Increasingly Used to Harvest Data**

Adware grew 136% to 410,000 apps between 2013 and first three quarters of 2014, giving attackers access to personal information such as contacts, which can subsequently be used to launch phishing attacks.

- **Mobile Device Management = Critical in Preventing Breaches**

22% of breaches reported by network security decision makers involve lost / stolen devices.

...Cyber Attacks = Growing Bigger / Faster

- **Human Focus = Critical in Preventing / Remediating Attacks**

Despite abundance of security products, breach response typically takes months. ~4 of 5 organizations don't update their breach response plans to account for changing threat landscape and corporate processes. With proper technology, threat intelligence & expertise, detection to response times has been reduced by >90%.

- **Security Skills = Biggest Gap in Enterprise Security Programs**

Despite large investments in security technologies, lack of skilled experts continues to result in breaches. At least 30% of organizations cite a 'problematic shortage' of each of following: 1) cloud computing and server virtualization security skills; 2) endpoint security skills; 3) network security skills; 4) data security skills; 5) security analytics / forensic skills.

- **Disclosures of Breaches = Coming from Outside Sources**

In 69% of breaches, victim did not detect attack on own – they were notified by third party (like the press, law enforcement, etc.). This is forcing victims to disclose breaches outside their preferred terms / timing.

AMERICA'S EVOLVING WORK ENVIRONMENT...

THIS IS NOT A COMPREHENSIVE OVERVIEW OF WORK IN AMERICA, BUT IS INTENDED TO PROVIDE A COLLECTION OF TRENDS OBSERVED IN THE MARKETPLACE IN AN EFFORT TO HELP ENCOURAGE DATA-DRIVEN DISCUSSIONS ABOUT SOME EVOLVING CHANGES RELATED TO WORK.

*Globalization / Structural Changes +
Mobile Connectivity +
Generational Shifts =*

Changing Ways Many Work

What We're Going to Cover Here

- 1) Jobs (+ Work) Have Evolved**
- 2) People Have Changed**
- 3) Connectivity Has Changed**
- 4) New Forms of Commerce Transforming How People Can Get Products + Services**
- 5) Changes in Connectivity + Commerce = Impact Consumption & Ways People Can Work...Still Early Innings**
- 6) Online Marketplace / Platforms = Regulatory Focus Evolving**
- 7) People + Systems + Regulations / Policies = Need to Evolve / Adapt Together to More Connected Society**

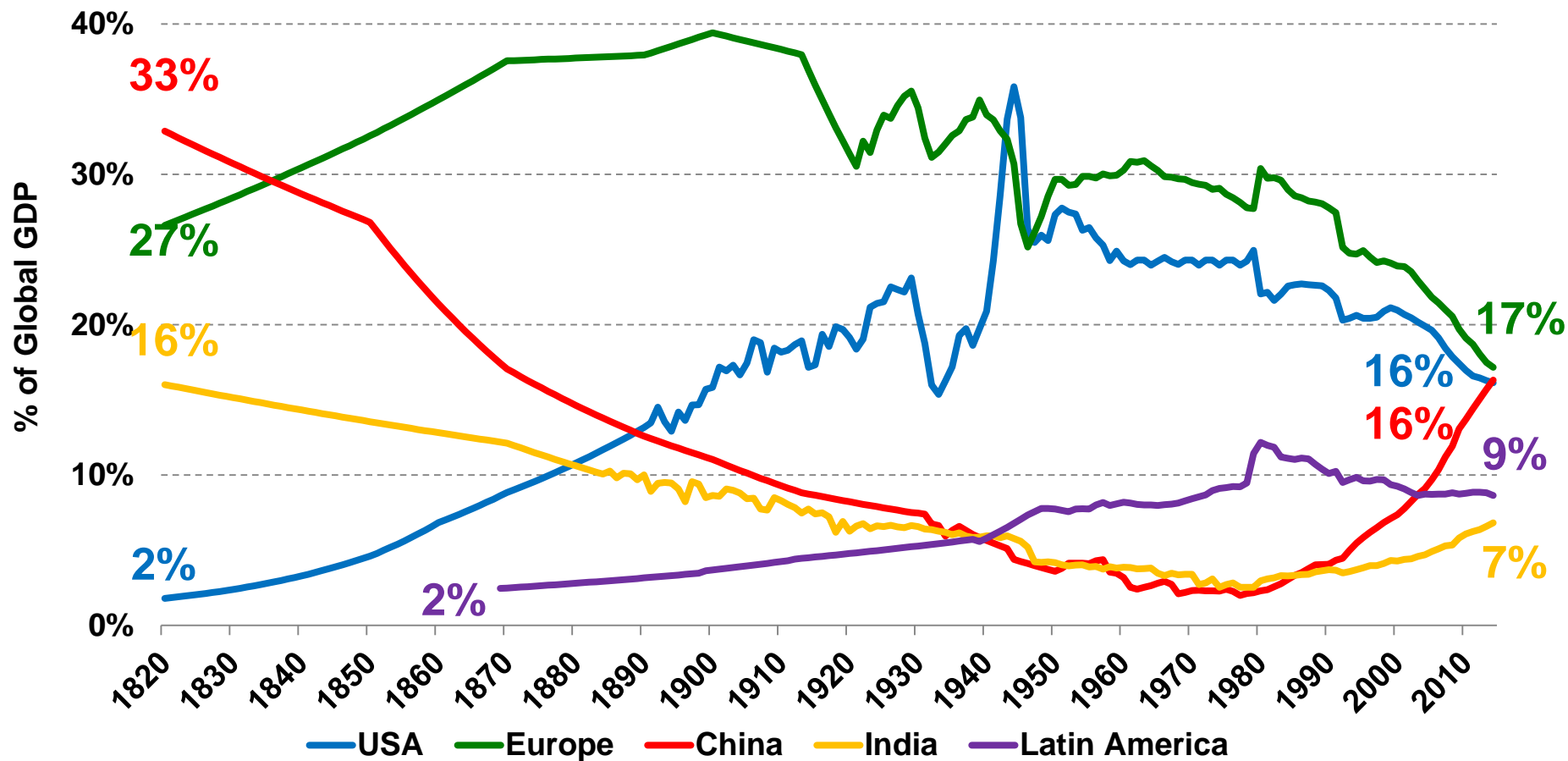
JOBS (+ WORK) HAVE EVOLVED

Jobs =

*Many Reshaped by
Globalization &
Structural Changes*

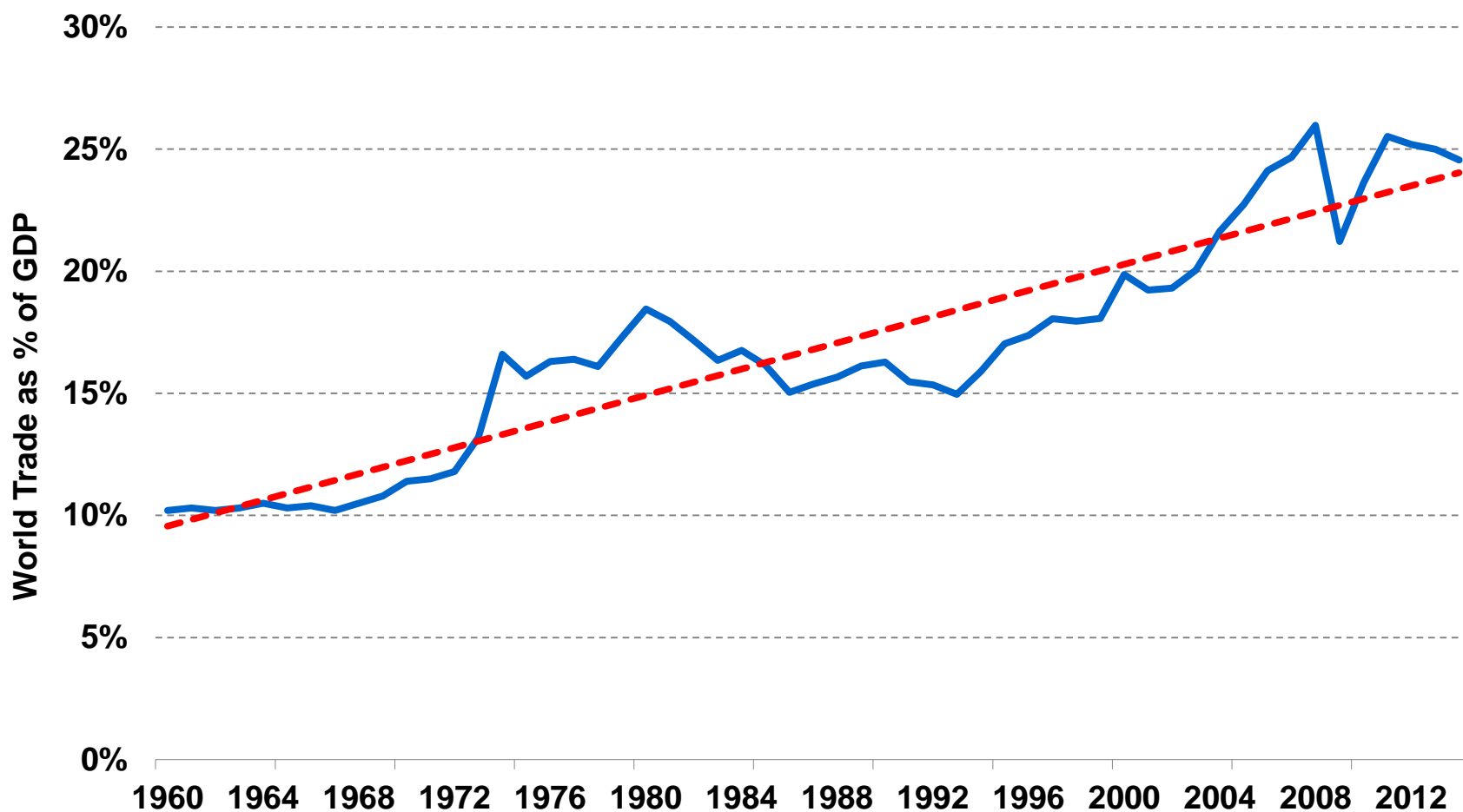
USA as % of Global GDP Declining = @ 16% vs. 36% Peak During WWII

Percent of Global GDP, 1820 – 2014,
USA vs. Europe vs. China vs. India vs. Latin America



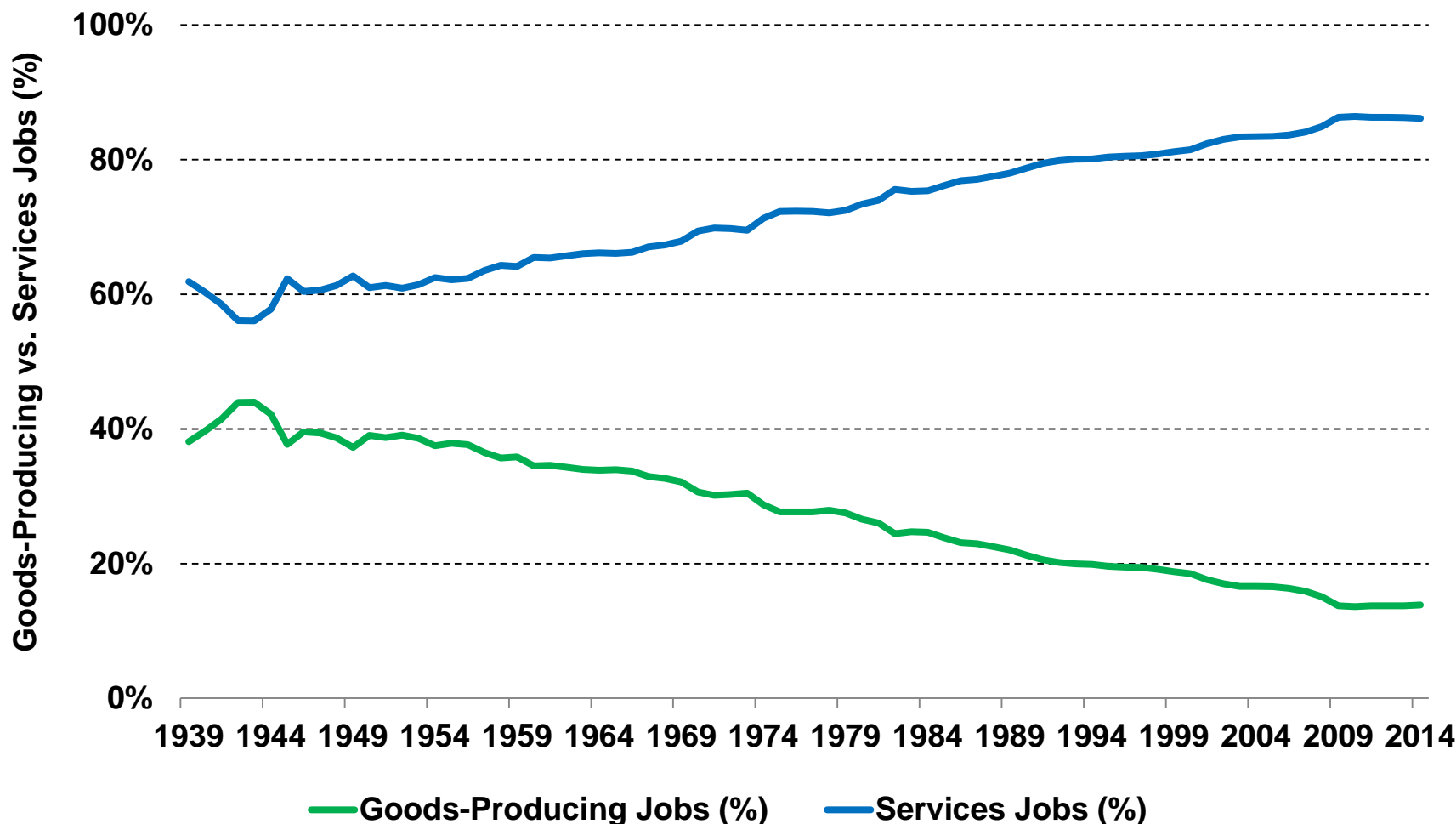
World Trade Rising as % of GDP = @ 25%, Up ~3x Over Past ~50 Years

World Trade as % of World GDP, 1960 – 2014



'Goods Producing' Jobs Falling, Though Stable Recently =
@ 14% of Jobs vs. 44% Peak in 1943...Services Jobs @ 86% vs. 56%

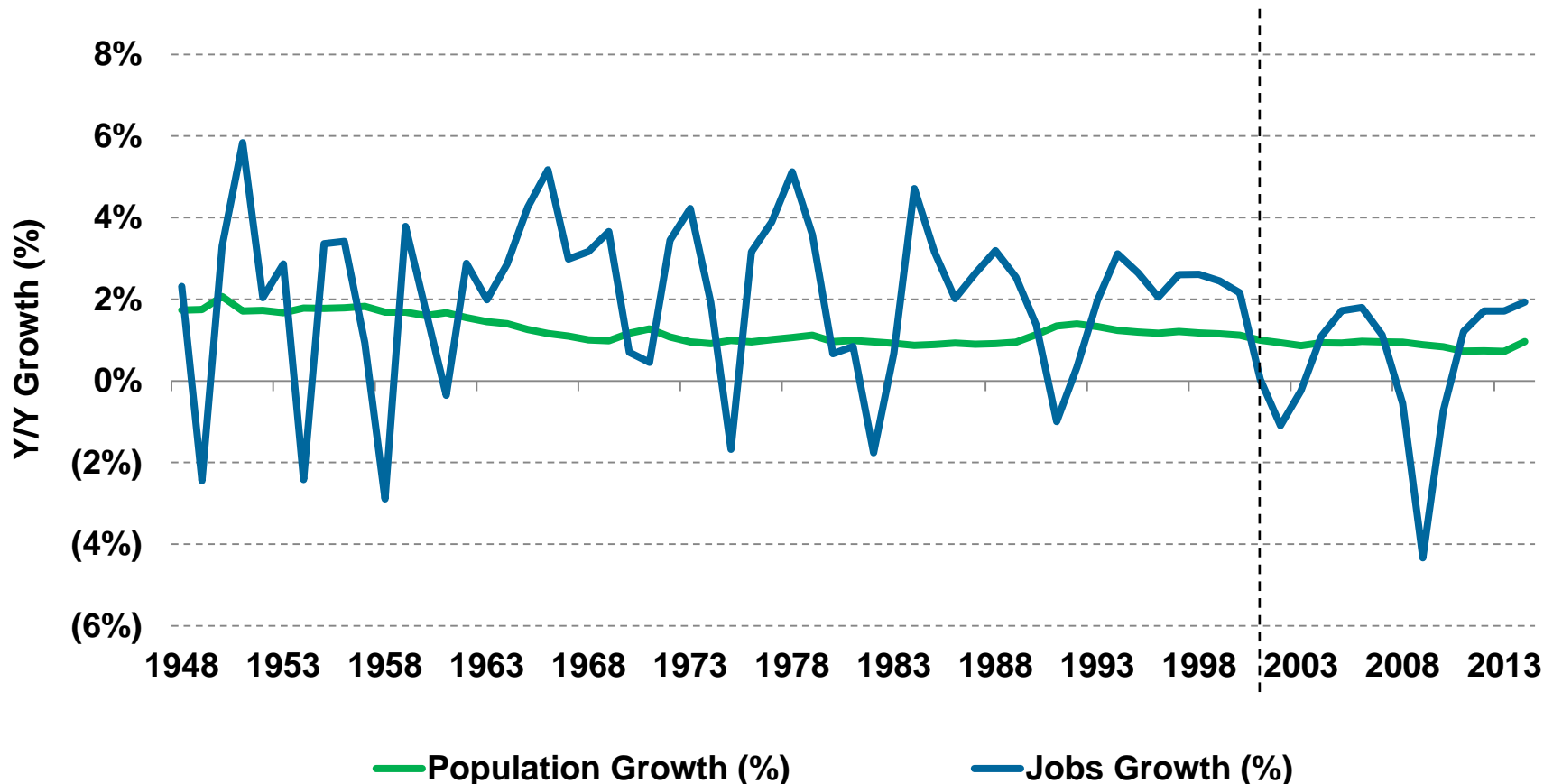
Goods-Producing vs. Services Jobs as % of Total, USA, 1939 – 2014



Since 2000 = Population Grew 2.4x Faster than Jobs... 1948 – 2000 = Jobs Grew 1.7x Faster than Population

1948 – 2000 Annual Averages = Jobs @ +2.1%...Population @ +1.3%
2000 – 2014 Annual Averages = Jobs @ +0.4%...Population @ +0.9%

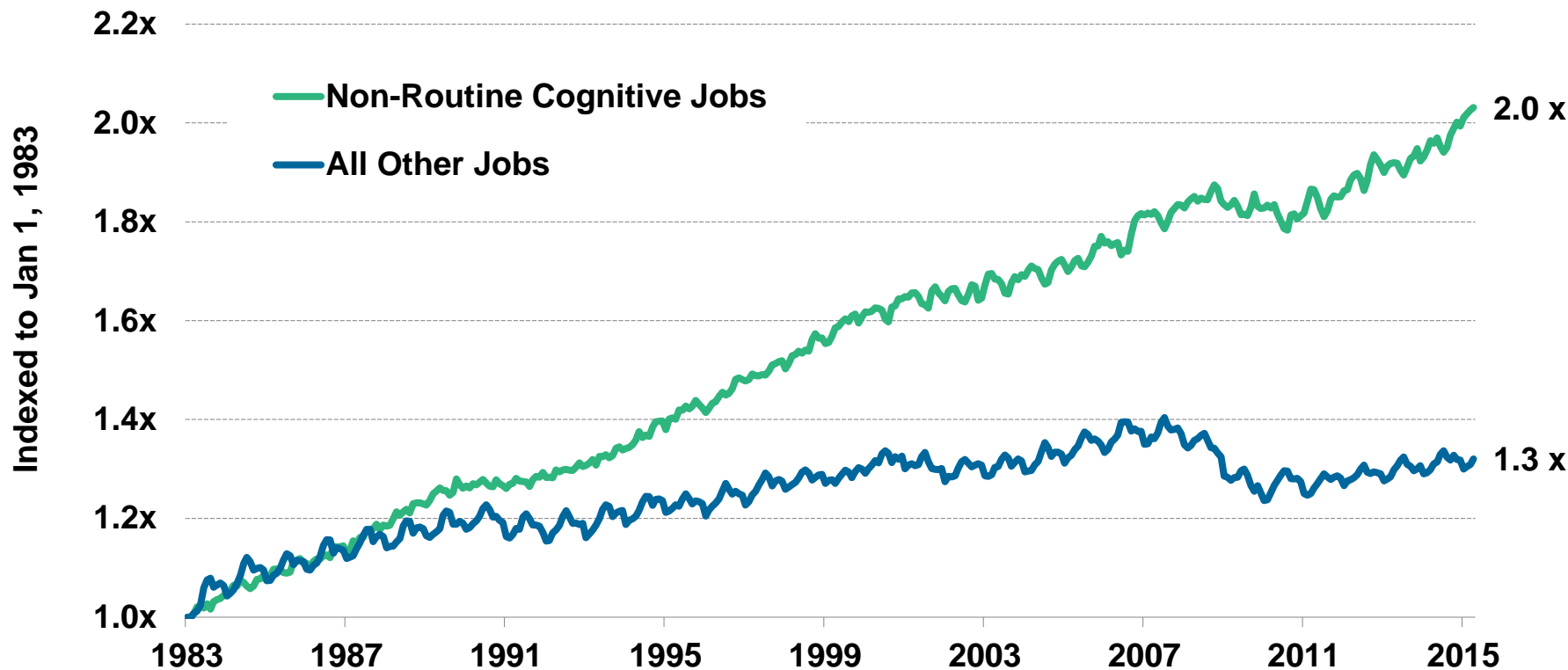
Y/Y Population vs. Jobs Growth, USA, 1948 – 2014



High-Skilled / Knowledge-Based Jobs Grew 2x Since 1983... While Other Jobs Grew Just 1.3x

Non-Routine Cognitive Jobs = High-Skilled and Requires Flexibility, Creativity, Problem Solving

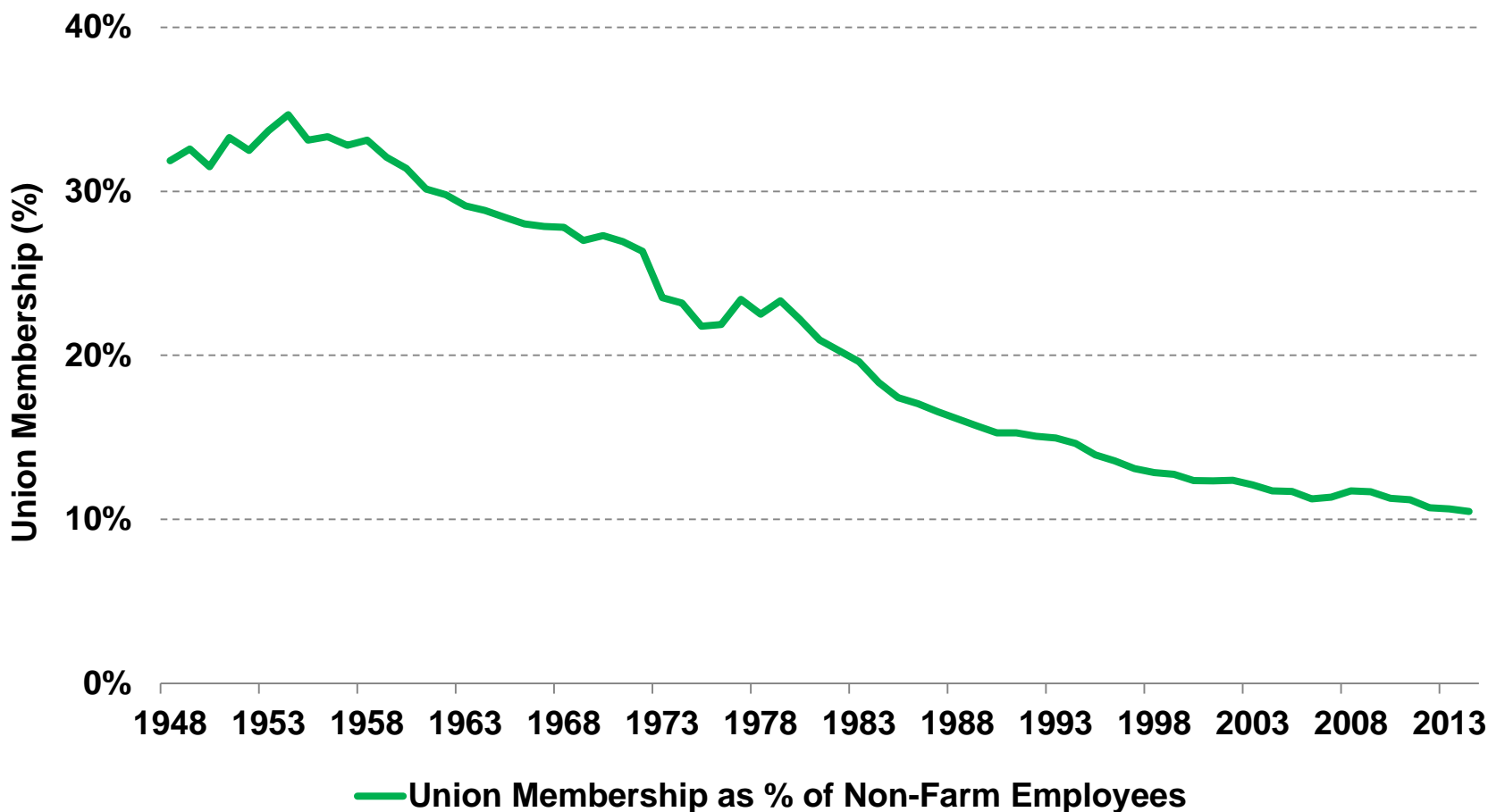
**Non-Routine Cognitive Jobs vs. All Other Jobs Growth,
USA, 1983 – 2015 (Indexed to Jan 1, 1983)**



Source: US Census Bureau, Federal Reserve Bank of St. Louis, 4/15. Based on methods from Jaimovich and Siu, 2012. Stephen Roach, Senior Fellow and Economist at Yale University, 2015.
Note: Non-routine cognitive jobs include jobs like computer and mathematical, architecture and engineering, education and training, and healthcare occupations.
All other jobs (referred to as routine cognitive and manual occupations) include jobs like production, construction, administrative, and various other occupations.
Non-routine cognitive jobs require creativity, flexibility, problem solving, and are generally high-skilled. Non-routine cognitive jobs comprise ~55MM+ jobs today, or ~40% of the USA workforce.

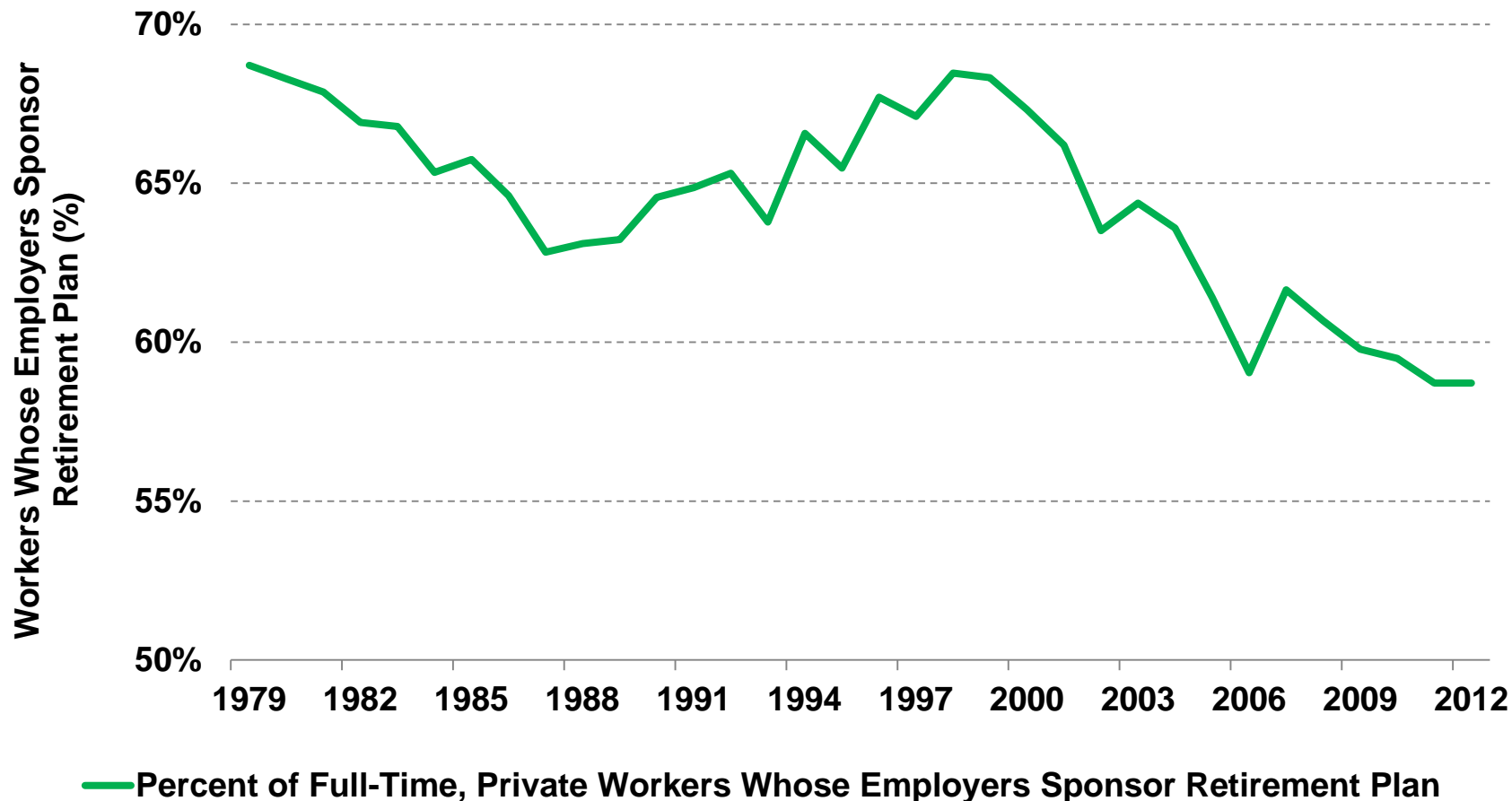
Union Participation Declining = @ 10% of Workforce vs. 35% Peak in 1954

Union Membership (% of Total Non-Farm Employed Workers), USA, 1948 – 2014



Employer Retirement Plan Sponsorship Falling = @ 59% in 2012 vs. 69% in 1979

Private, Full-Time Workers Whose Employers Sponsor a Retirement Plan, USA, 1979 – 2012

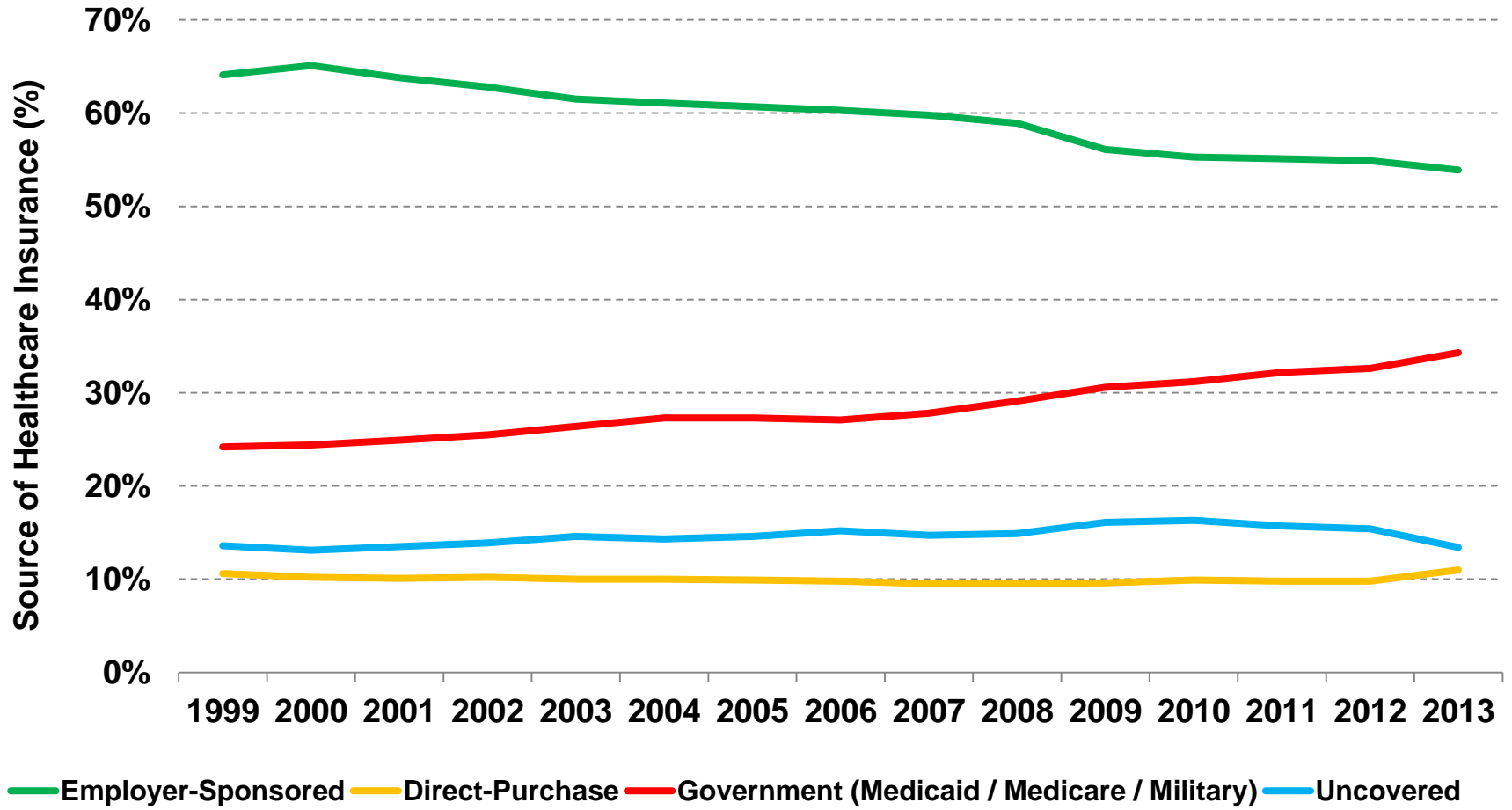


Source: Center for Retirement Research at Boston College, 5/13.

Note: Population is restricted to private, civilian, nonfarm wage and salary earners. Full-time workers are those working 50 or more weeks a year and 35 or more hours a week. Data are limited to private-sector, full-time workers ages 25-64. Retirement plans include defined contribution plans, defined benefit plans, or both. Data are based on respondents who said the employer they work for has a pension or other type of retirement plan for any of its employees.

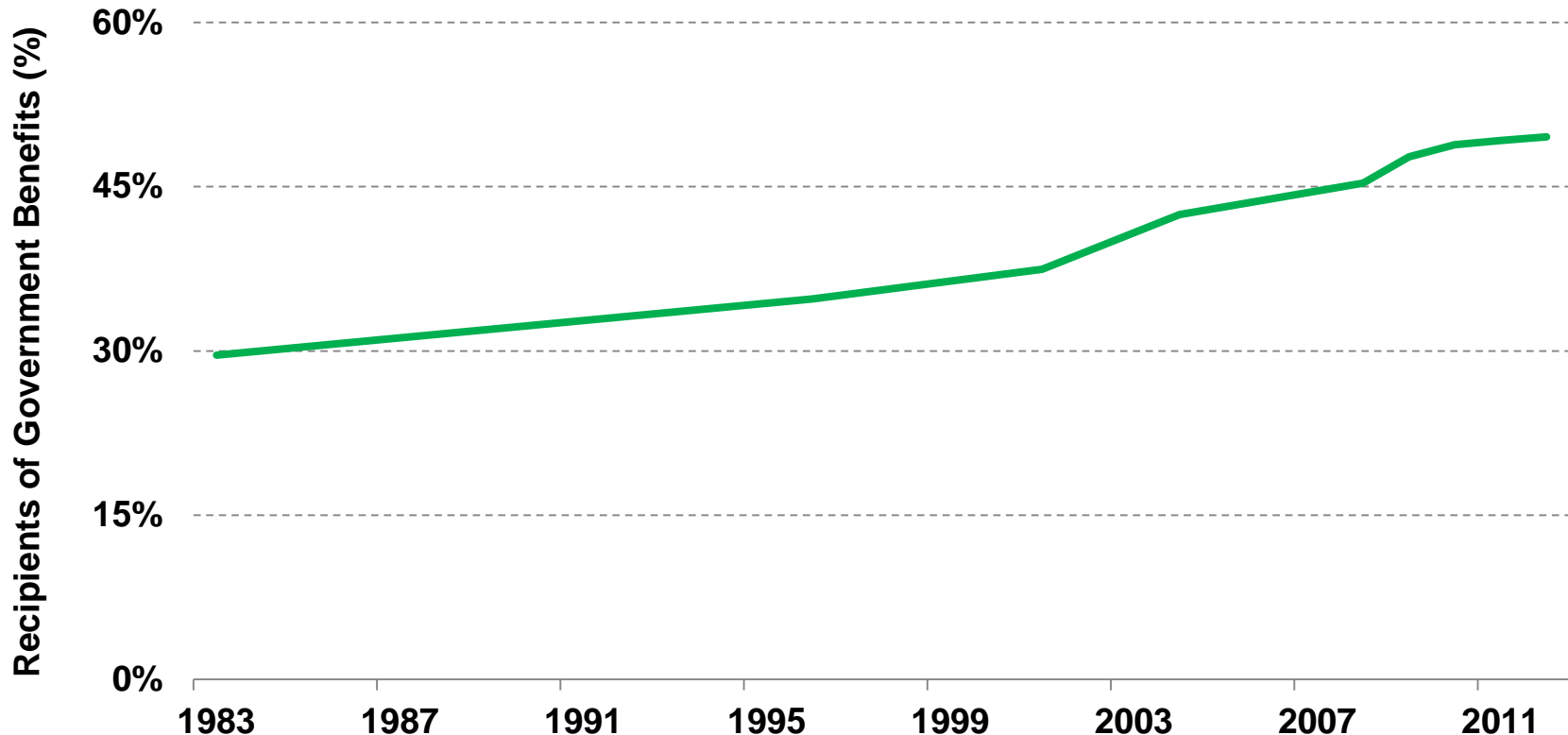
Source of Healthcare Insurance Shifting Away from Employers = @ 54% vs. 64% in 1999

Sources of Healthcare Insurance, USA, 1999 - 2013



Government Benefit Recipients Rising = @ 50% of Population vs. 30% in 1983

Percent of Americans Receiving Some Form of Government Benefit, 1983 – 2012



— Percent of Americans Receiving Government Benefits

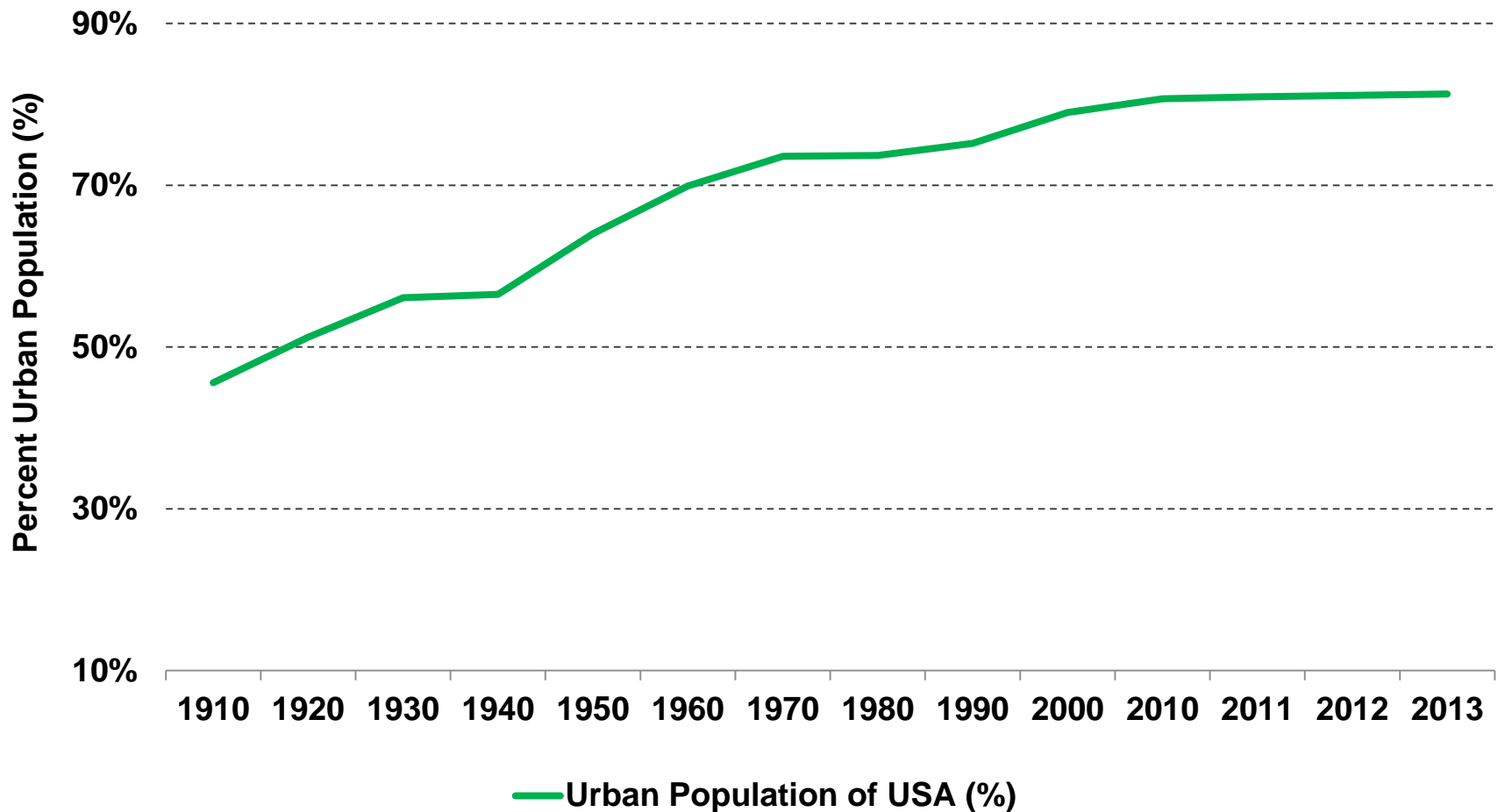
Source: U.S. Census Bureau, Survey of Income and Program Participation.

Government benefits include Social Insurance Programs such as Department of Veterans' Affairs Compensation, Pensions, Educational Assistance, Medicare, Social Security, Unemployment Compensation Insurance, Workers' Compensation, Railroad Retirement; and Social Welfare Programs, such as Food Stamps, Free/Reduced-Price Meals, Housing Assistance, Federal and State Supplemental Security Income, Medicaid, etc.

PEOPLE HAVE CHANGED

Urban Dwellers Have Risen = @ 81% of Population vs. 70% Fifty Years Ago, 46% a Century Ago

Urban Population as Percent of Total Population, USA, 1910 – 2013



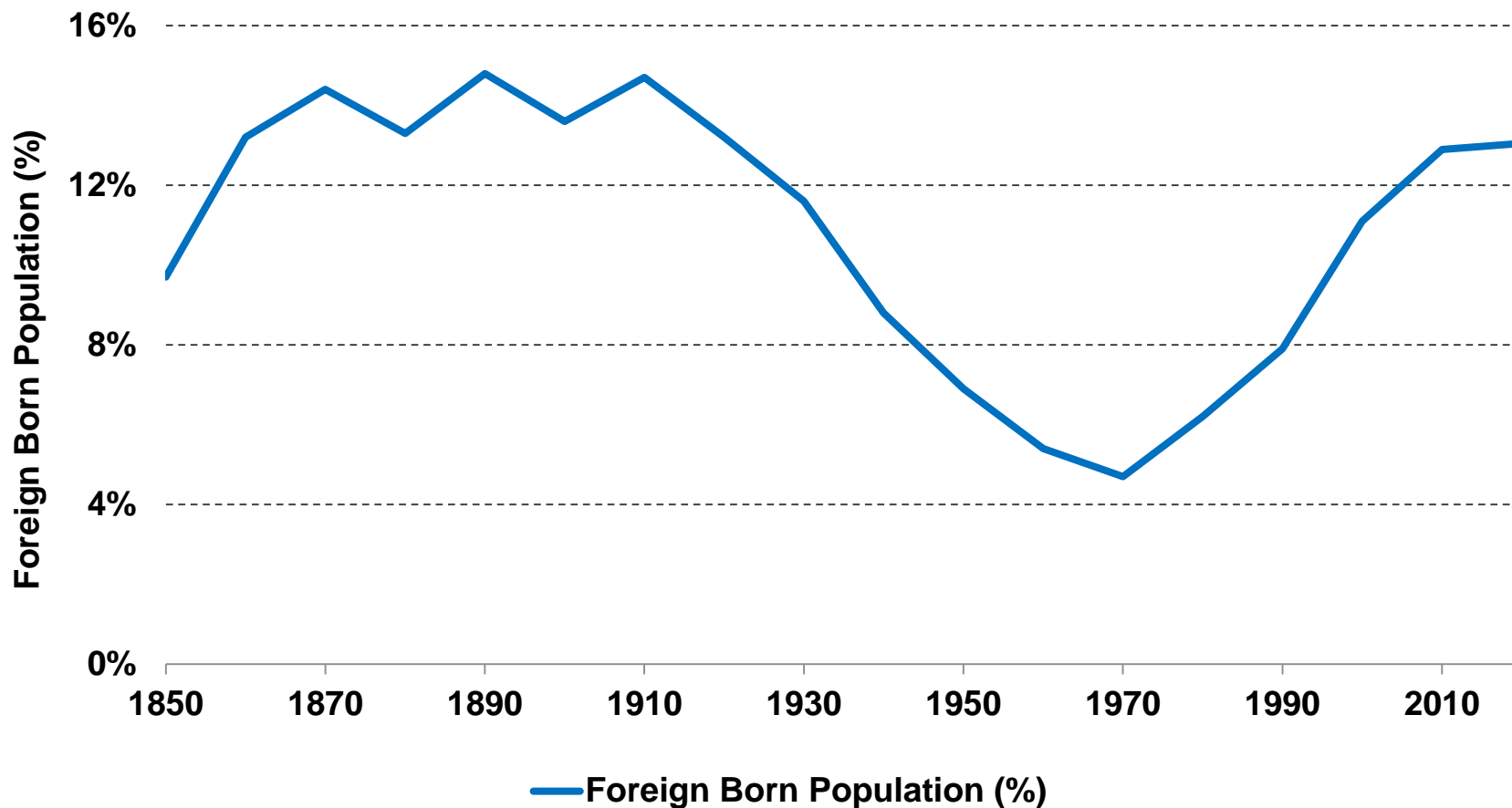
Source: The World Bank, United Nations World Urbanization Prospects. US Census Bureau.

Note: Urban population refers to people living in urban areas. Urban areas are densely developed territories that contain at least 2,500 people, as defined by the Bureau of Labor Statistics. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects.

Interest in urbanization is owing to the fact that many new, online, on-demand platforms / marketplaces typically focus on serving urban populations.

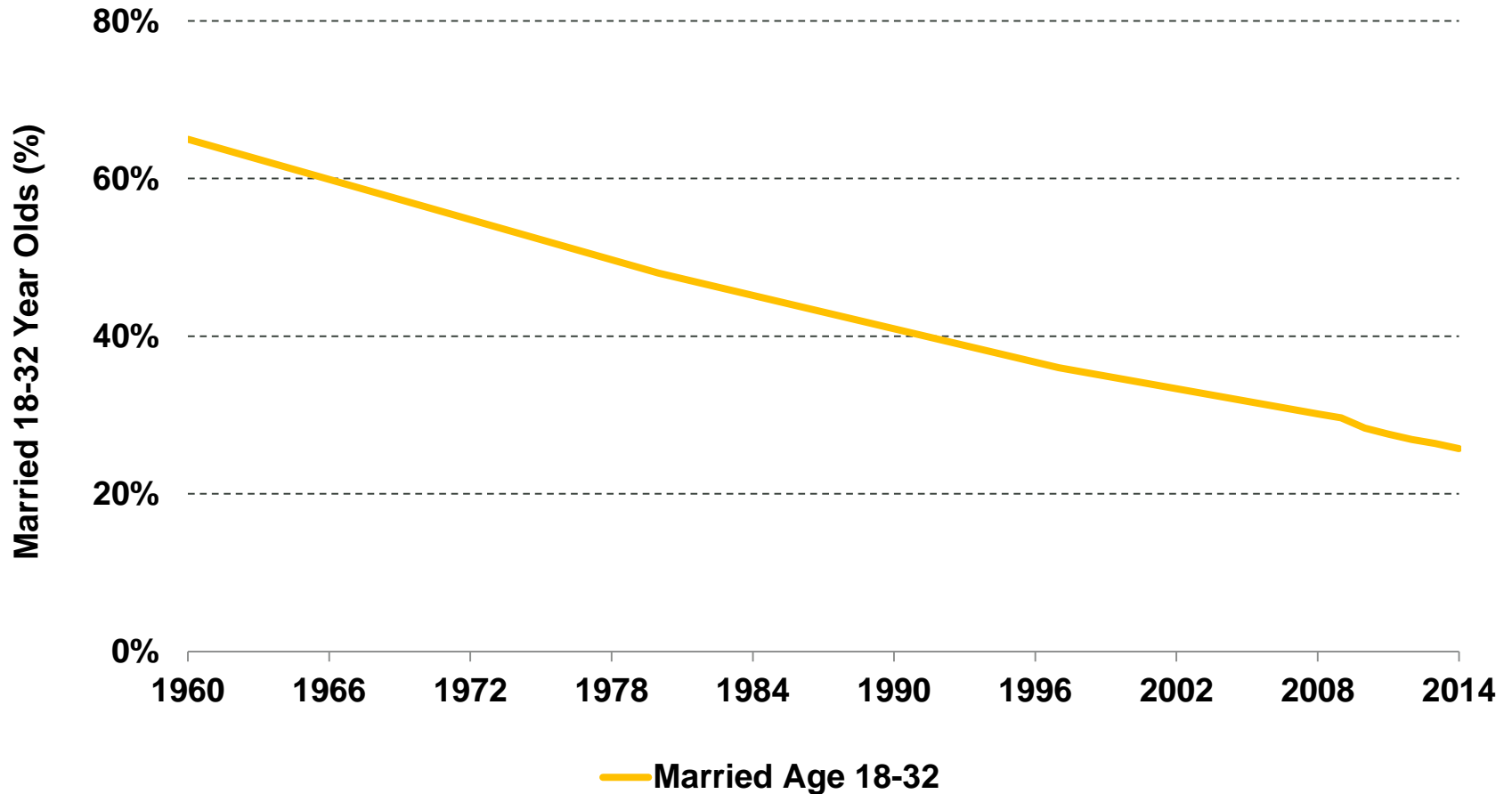
Immigrant Population Rising = @ 13% of Total vs. <5% in 1970

Percent of Population that is Foreign-Born, USA, 1850 – 2013



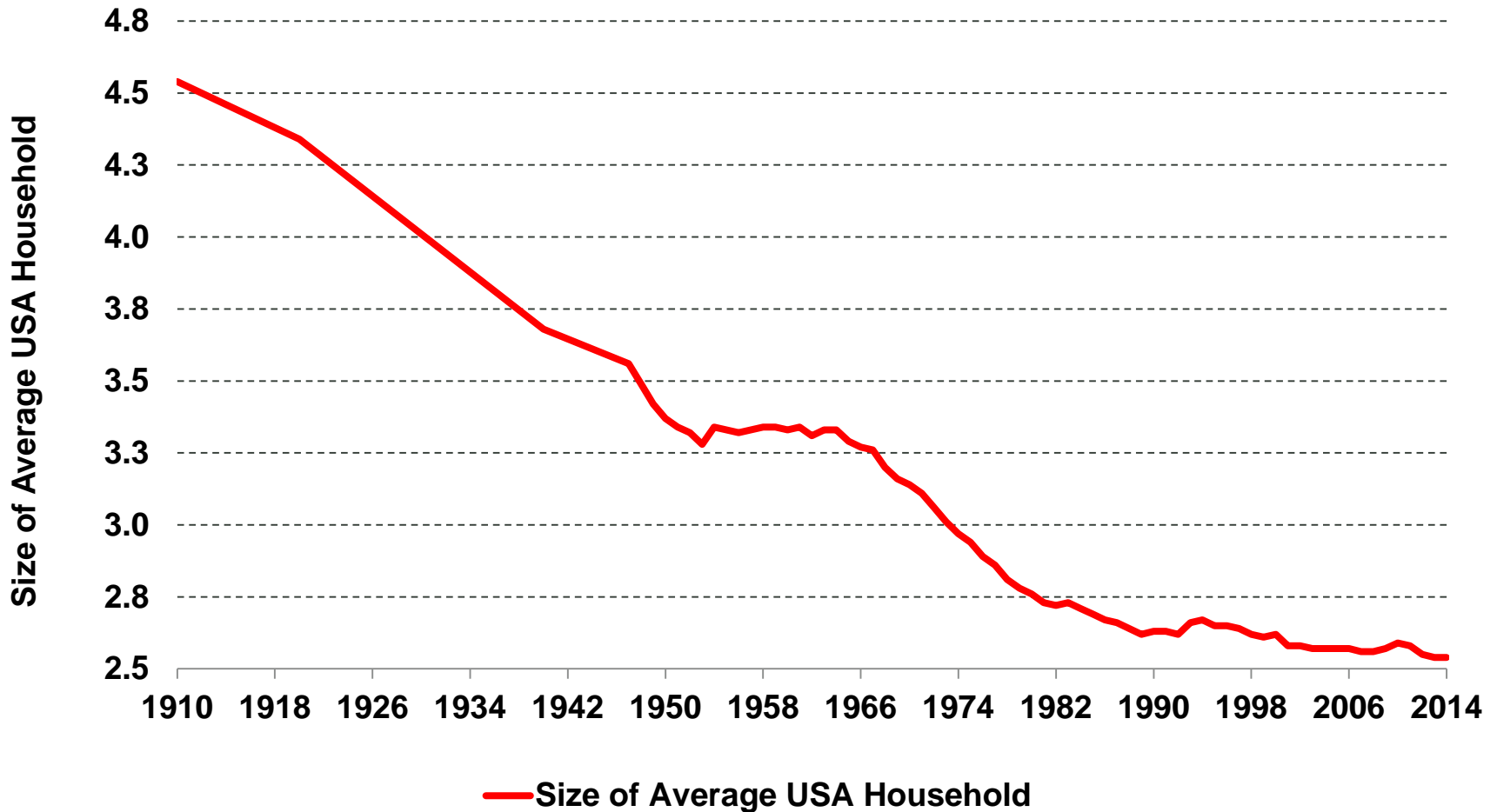
18-32 Year Olds Marriage Rates Declining = @ 26% vs. 65% Fifty Years Ago

Percent of Married 18-32 Year Old Population, USA, 1960 – 2014



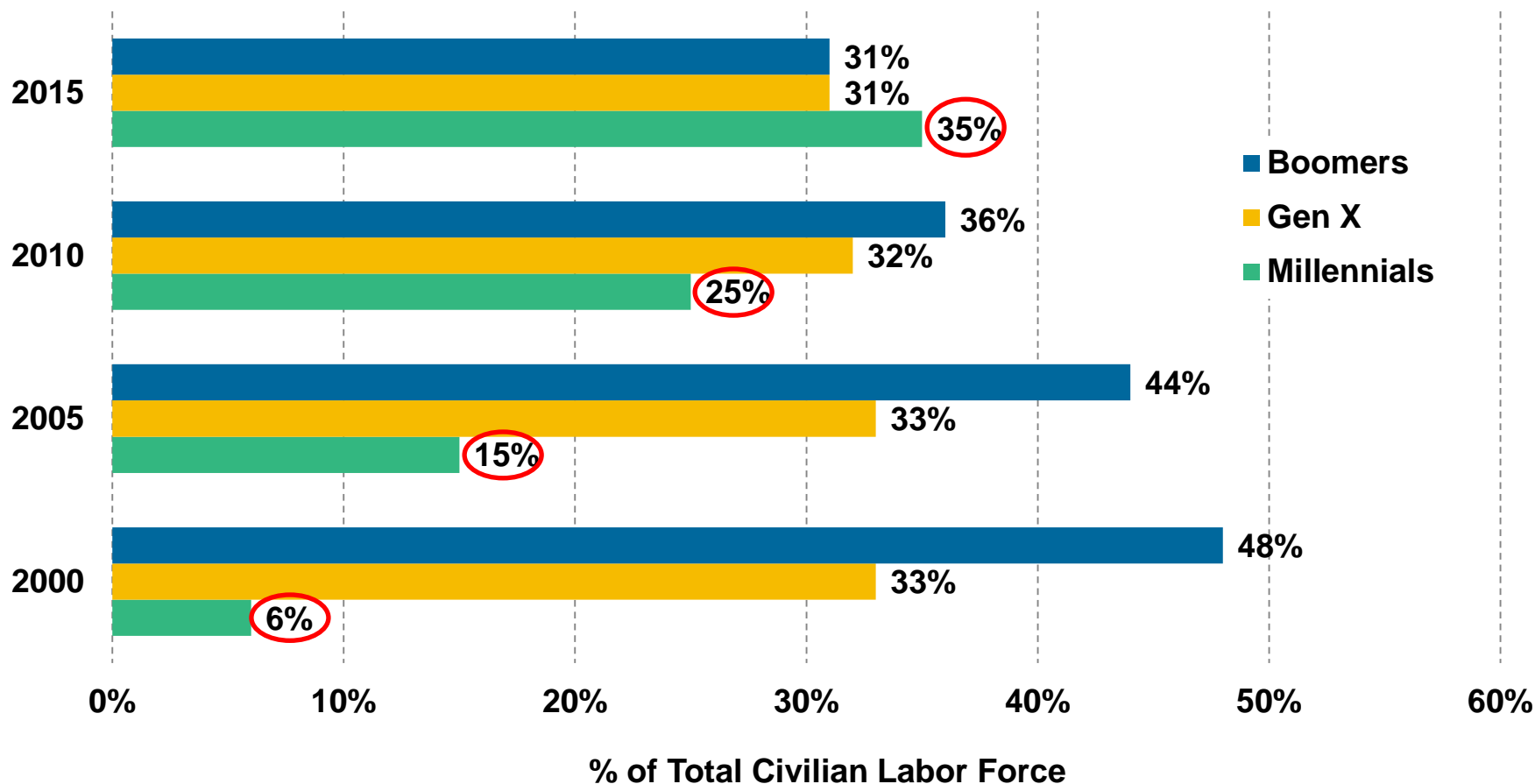
Household Sizes Declining = @ 2.5 People vs. 3+ Fifty Years Ago, 4+ a Century Ago

Size of Average Household, USA, 1910 – 2014



Millennials (Age 15-35) = Largest Generation in Workforce This Year

Civilian Labor Force by Generation, USA, 2000 – 2015



Source: Bureau of Labor Statistics, Current Population Survey, 4/15. BLS begins counting Civilian Labor Force at age 16.

Millennials defined as those born between 1980 and 2000. In 2015, they are ages 15-35.

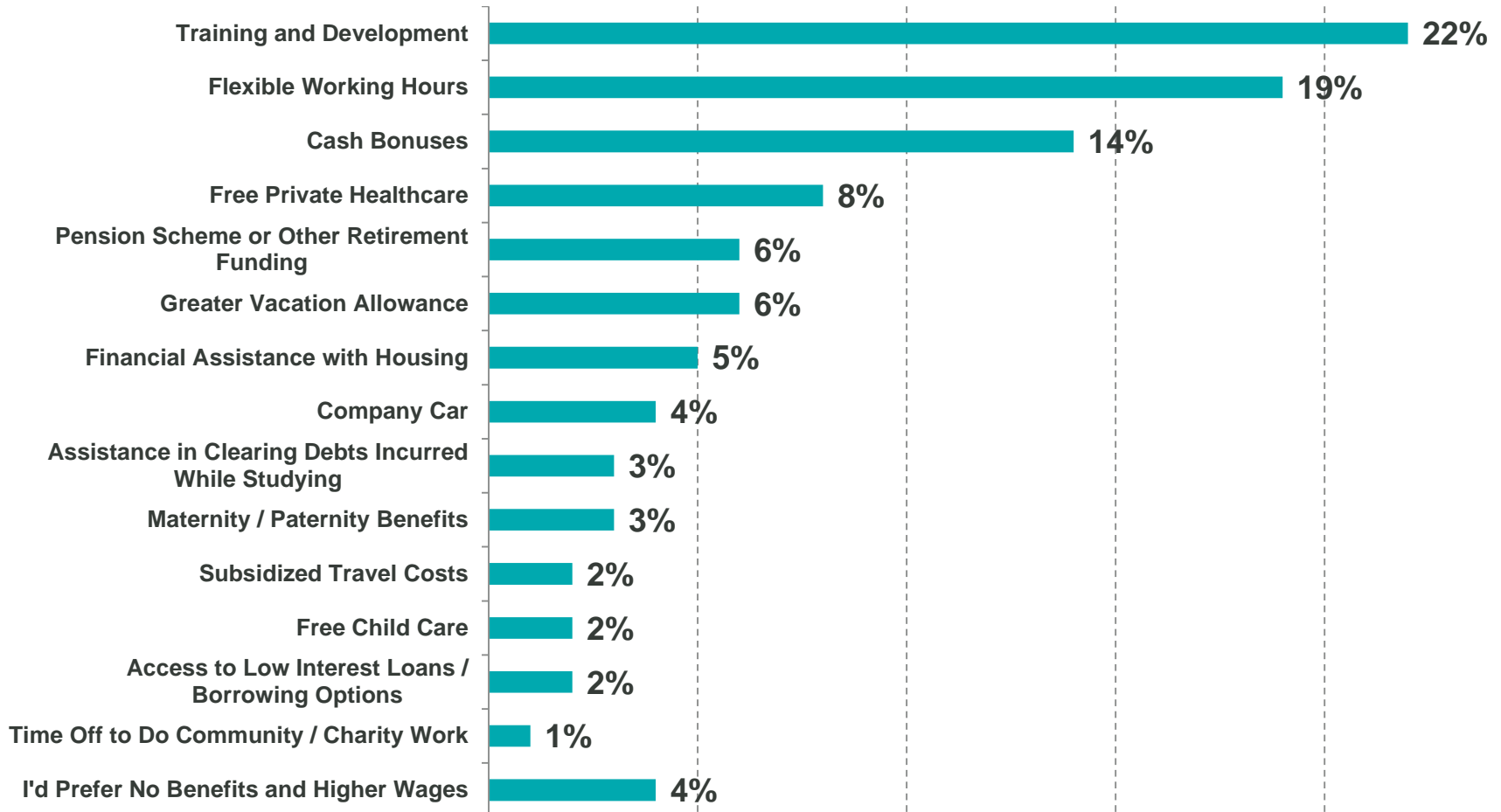
GenX defined as those born between 1965 and 1979. In 2015, they are ages 36-50.

Boomers defined as those born between 1946-1964. In 2015, they are ages 51-70.

Note that there may be different opinions on which years each generation begins and ends. Sums do not add up to 100% owing to exclusion of Silent Generation.

Millennials' Most Valued Work Benefits = 1) Training & Development 2) Flexible Hours 3) Cash Bonuses

Which Three Benefits Would You Most Value From an Employer? % Ranking Each 1st Place, Global



Millennials Expect Flexibility & Like Technology @ Work

Millennials = Expect Flexible Work Hours

- **Many = expect to be mobile & work from home / office / cafes at will.**
- **~20% = identify as 'night owls'** (often work outside normal business hours).
- **38% = freelancing vs. 32% among those over 35 years old.**
- **32% = believe they will be working 'mainly flexible hours' in future.**

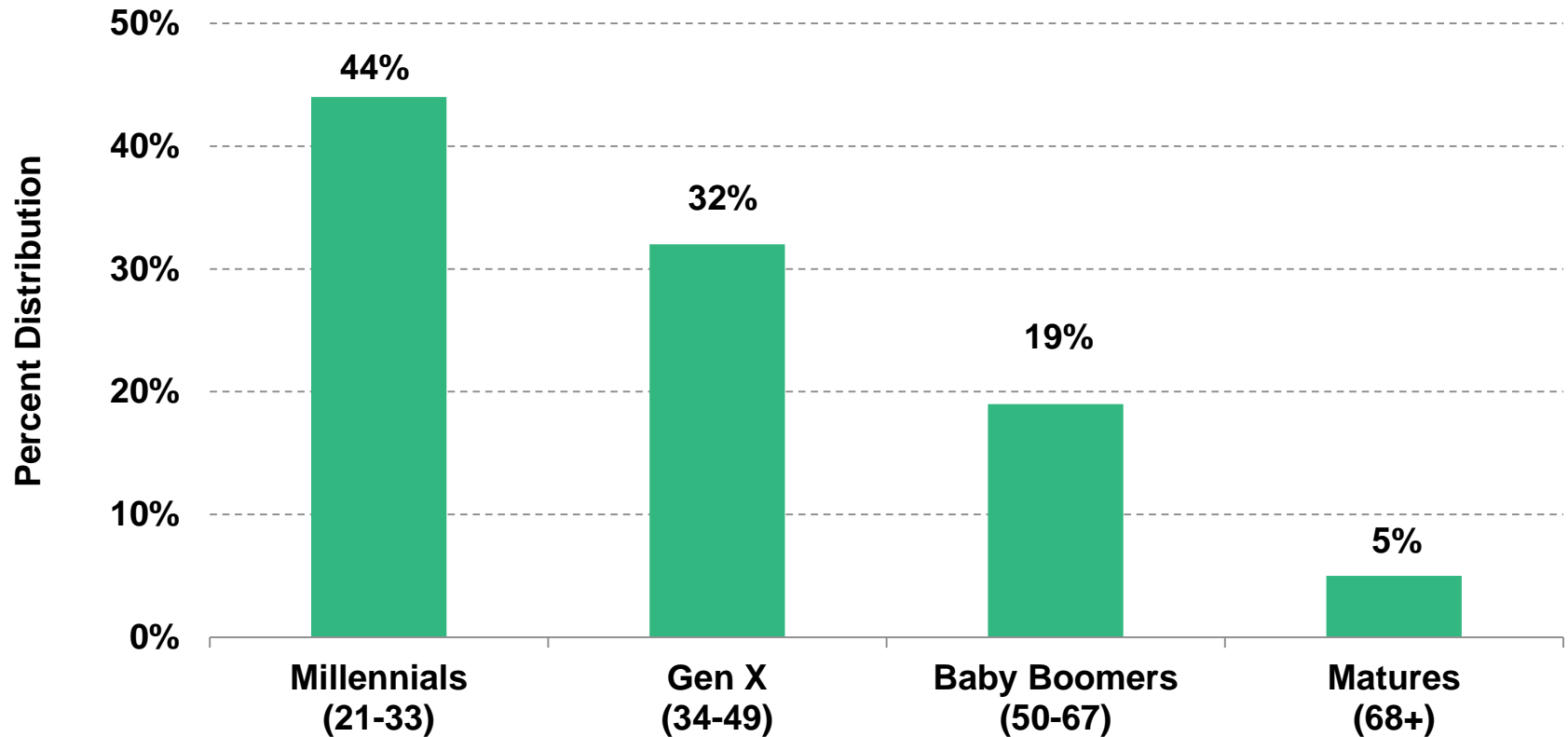
Millennials = Tech Savvy

- **34% = prefer to collaborate online at work as opposed to in-person or via phone (vs. 19% for older generations).**
- **45% = use personal smartphones for work purposes (vs. 18% for older generations).**
- **41% = likely to download applications to use for work purposes in next 12 months & use their own money to pay for them (vs. 24% for older generations).**

Millennials = Largest Cohort of 'On-Demand' Workers... @ 1.2MM or 44% of Total

On-Demand Worker Age Distribution, USA, 2014*

2.7MM Workers, Up >2x Y/Y



Source: MBO Partners and Emergent Research, "Independent Workers and the On-Demand Economy", 4/15, USA.

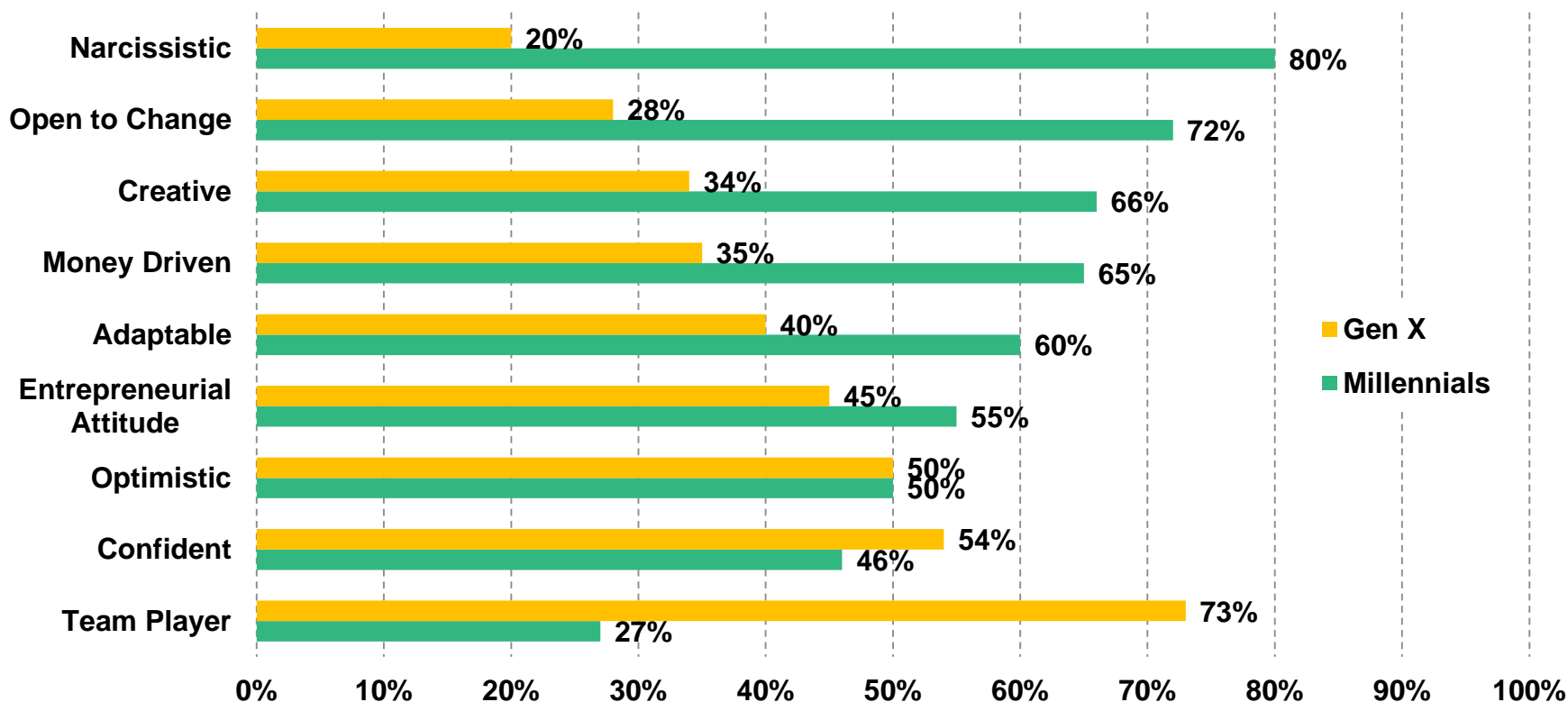
MBO Partners defines workers in the "On-Demand Economy," as those who generate economic activity through the use of online platforms and marketplaces that help customers quickly connect and transact with suppliers of goods and services. These include services like Airbnb, Uber, Lyft, Handy, Etsy, TaskRabbit, and many others.

*NOTE: 2.7MM figure only includes on-demand workers who devote at least one hour per week to an on-demand platform. Those who use these platforms less frequently are not counted. Figure has been de-duplicated.

Millennial Work Values = Perceived to be Different vs. Prior Generation

More = Narcissistic / Open to Change / Creative / Money Driven / Adaptable / Entrepreneurial
Less = Confident / Team-Oriented

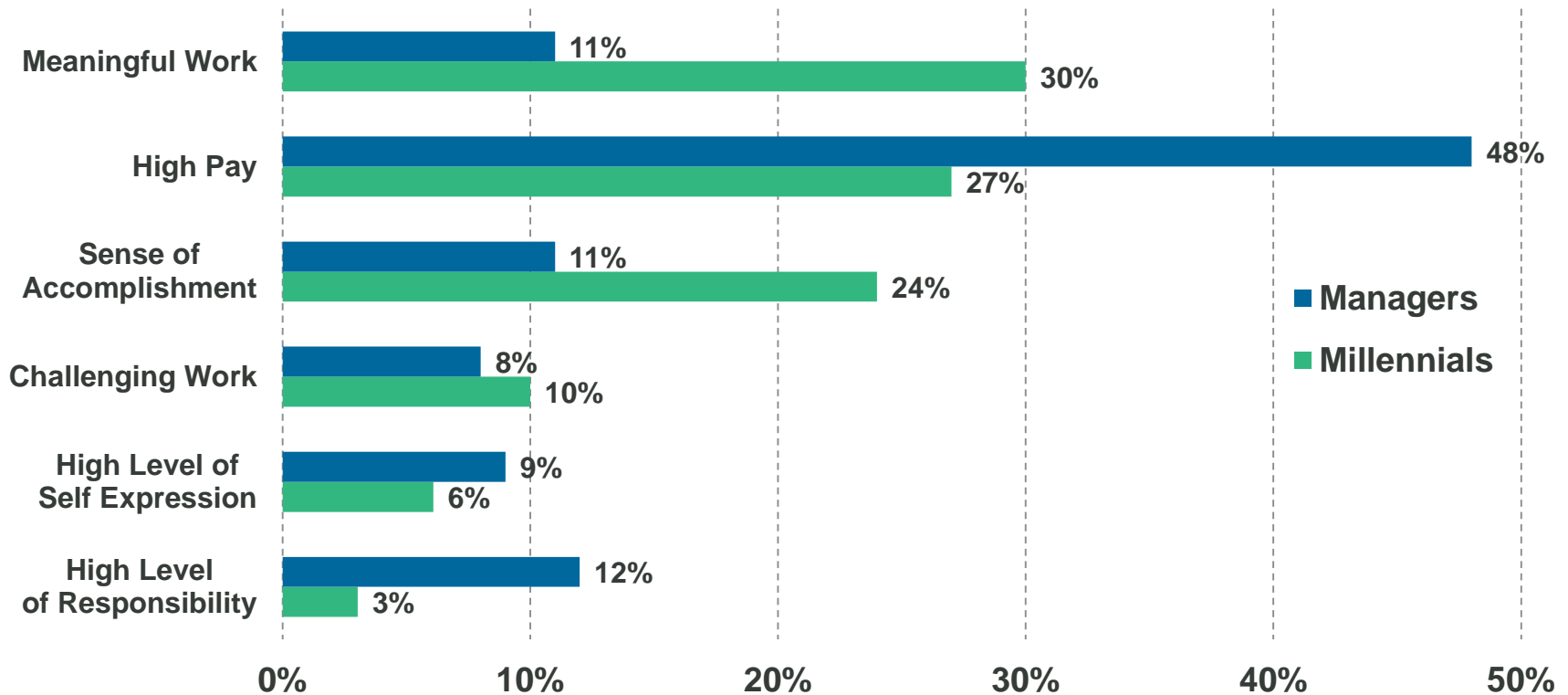
Qualities Each Generation Is Seen as More Likely to Possess (According to Hiring Managers)



Millennial Work Values = Perception Disconnect?

Most Important Thing to Millennials = Meaningful Work
What Managers Think Is Most Important Thing to Millennials = Money

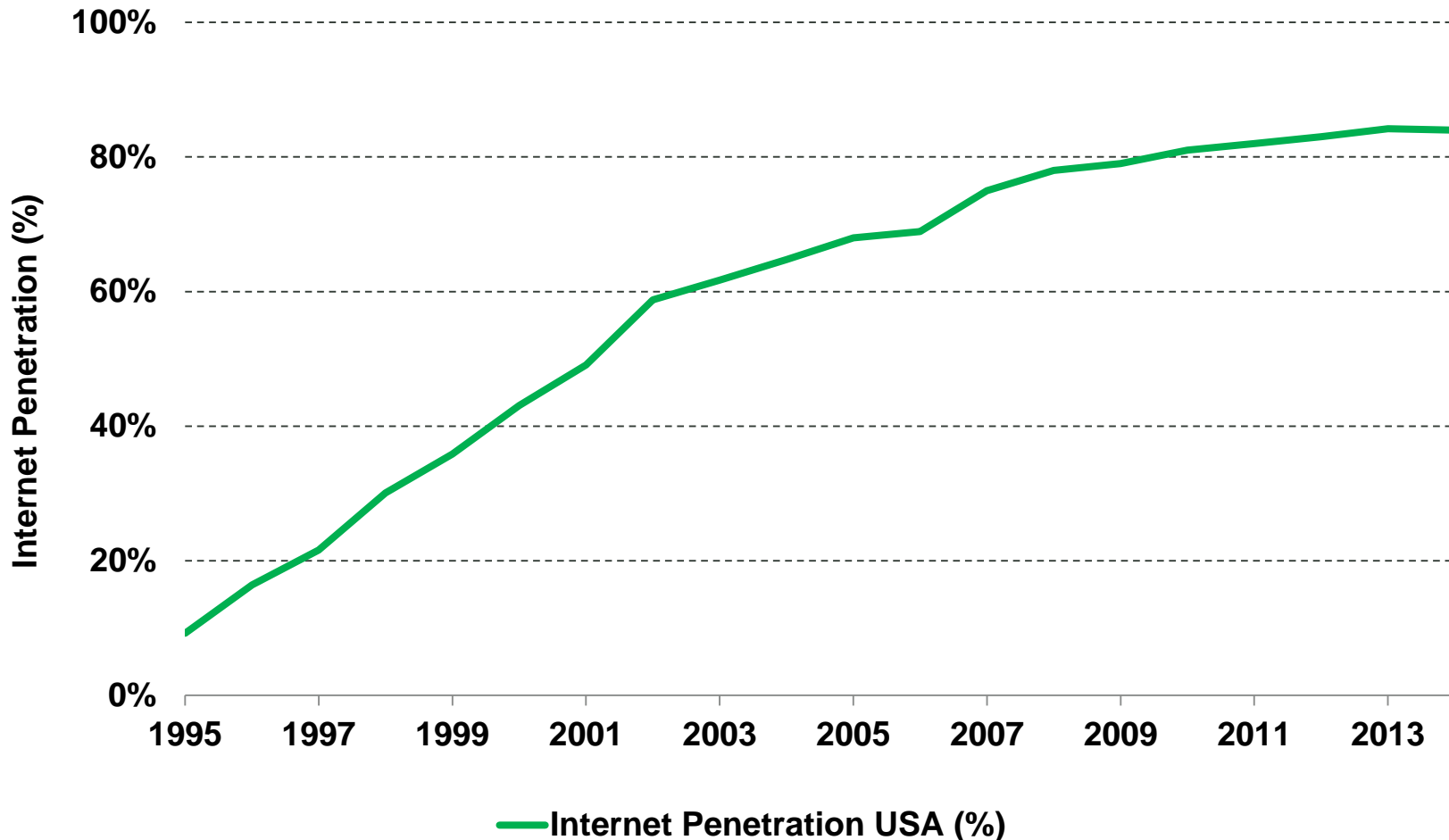
Managers' and Millennials' View of the Most Important Factor That Indicates Career Success to Millennials



CONNECTIVITY HAS CHANGED

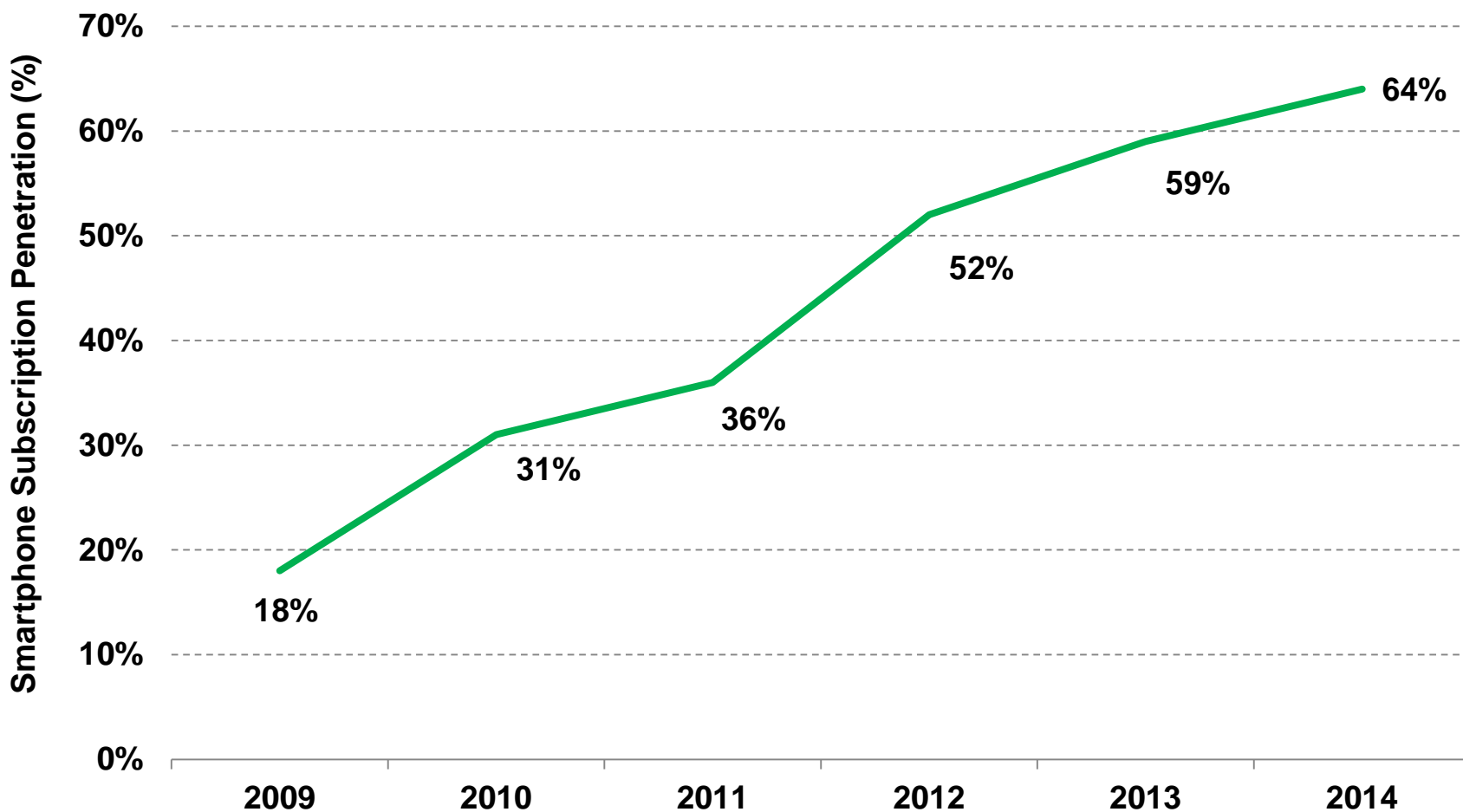
Connectivity (Via Internet) Up Dramatically = @ 84% of Population vs. 9% in 1995...

Percent of Population with Internet Access, USA, 1995 – 2014



...Connectivity (via Mobile Smartphones) Up Dramatically = @ 64% of Population vs. 18% in 2009

Smartphone Subscription Penetration, USA, 2009 – 2014

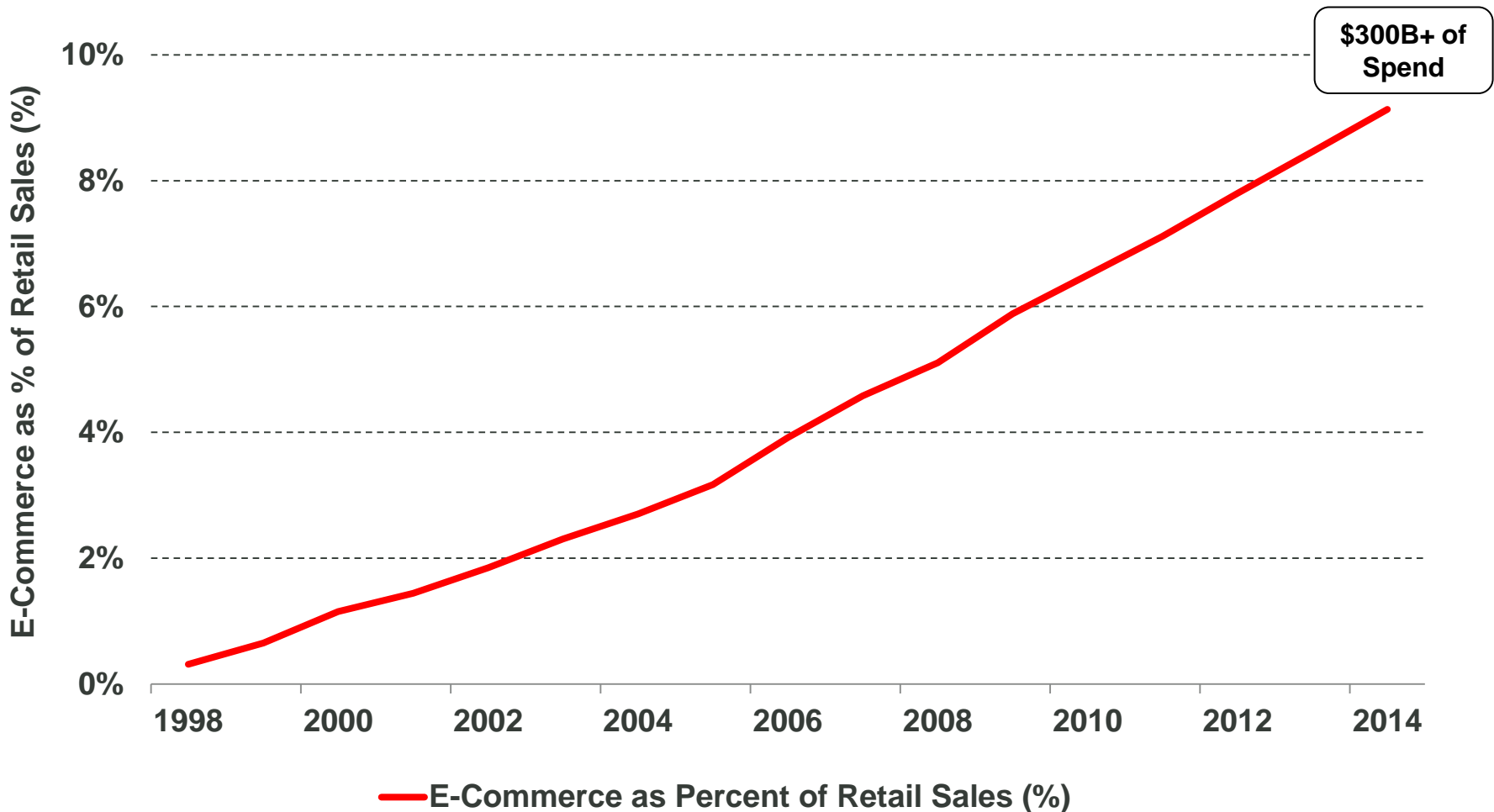


*The Big 20-Year Change =
People Connected 24/7 with Mobile Devices*

NEW FORMS OF COMMERCE TRANSFORMING HOW PEOPLE CAN GET PRODUCTS + SERVICES

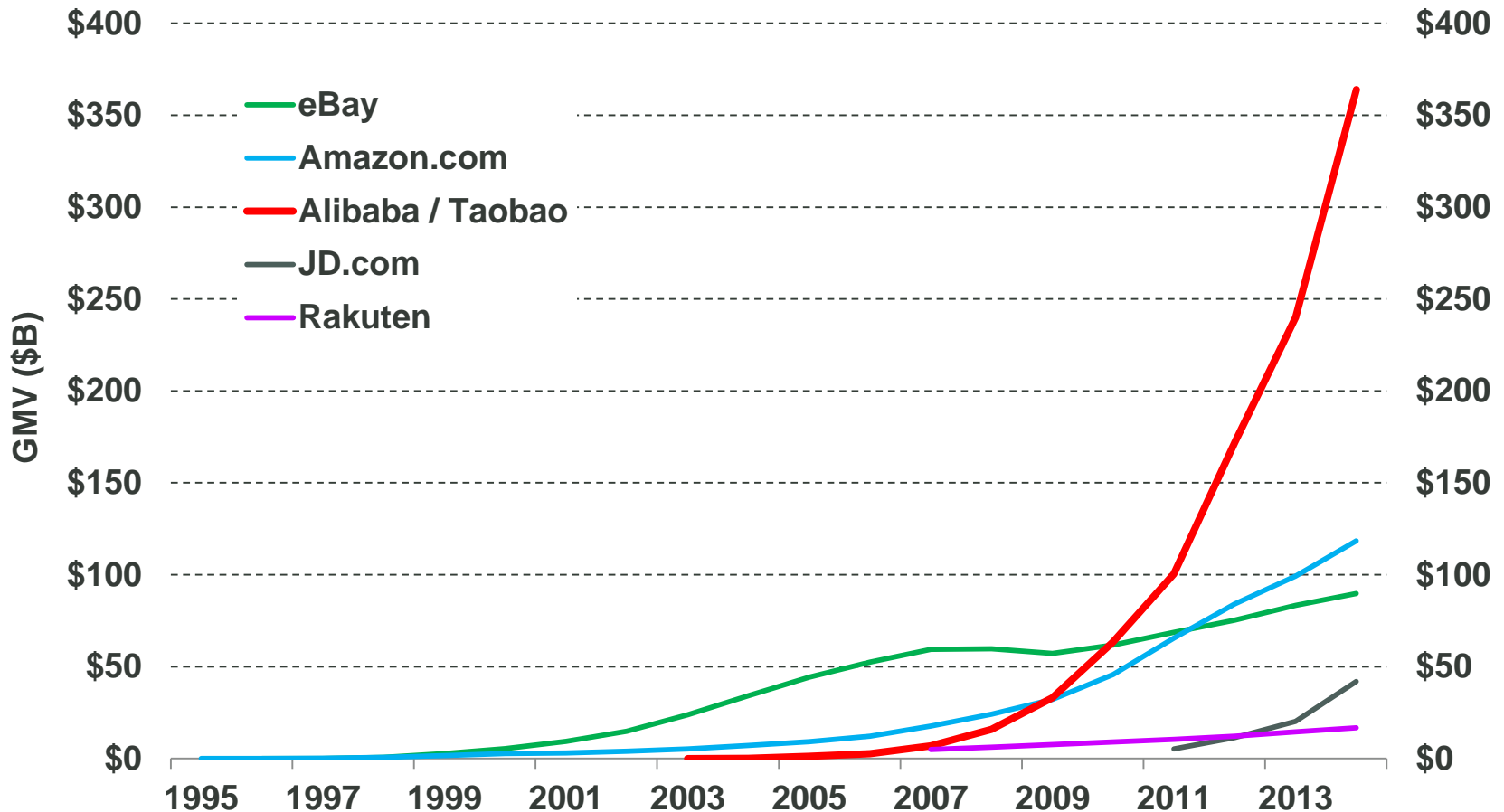
Commerce via Internet Up Dramatically = @ 9% of Retail Sales vs. <1% in 1998

E-Commerce as % of Total Retail Sales, USA, 1998 – 2014



1st Generation 'Online Platforms / Marketplaces for Products Rising = Optimized for Desktop Internet + Traditional Shipping Delivery

Gross Merchandise Value (GMV), 2014... Measured by Top 5 Global Public E-Commerce Companies



2nd Generation Online Platforms / Marketplaces for Services Rising = Optimizing for Mobile Internet Devices + On-Demand Local Delivery

***Many Mobile-Enabled Urban Millennials Believe =
Should Get What They Want (Products / Services / Work) When They Want It***



*Consumers' Expectation
That They Can Get What They Want
With Ease & Speed Will Continue to Rise...*

*This Changes Fundamental
Underpinnings of Business & Can
Create Rising Demand for Flexible Workers*

**CHANGES IN CONNECTIVITY +
COMMERCE = IMPACT CONSUMPTION &
WAYS PEOPLE CAN WORK...
STILL EARLY INNINGS**

*More People Working in
Flexible / Supplemental Jobs*

Freelancers = Significant & Growing Portion of Workers @ 53MM People, 34% of USA Workforce

Freelancer Categories*

Independent Contractors	<ul style="list-style-type: none">• 21MM People• <i>40% of Freelancers</i>	<ul style="list-style-type: none">• Don't have employer...do freelance, temporary, or supplemental work on a project-by-project basis
Moonlighters	<ul style="list-style-type: none">• 14MM People• <i>27% of Freelancers</i>	<ul style="list-style-type: none">• Professionals with a primary, traditional job who also moonlight doing freelance work
Diversified Workers	<ul style="list-style-type: none">• 9MM People• <i>18% of Freelancers</i>	<ul style="list-style-type: none">• Multiple sources of income; mix of traditional and freelance work
Temporary Workers	<ul style="list-style-type: none">• 6MM People• <i>10% of Freelancers</i>	<ul style="list-style-type: none">• Single employer, client, job, or contract project where employment is temporary
Business Owners who Consider Themselves Freelancers	<ul style="list-style-type: none">• 3MM People• <i>5% of Freelancers</i>	<ul style="list-style-type: none">• Business owners with 1-5 employees

Source: "Freelancing in America," Survey of 5,000 Working Americans commissioned by Freelancer's Union and Upwork (formerly Elance-oDesk), 9/14, USA.

*Freelancer defined as person / business engaged in supplemental, temporary, or project / contract-based work in the past 12 months.

Moonlighters responded that they have one employer and are also doing freelance work on the side to earn additional money. Diversified workers responded that they have multiple sources of income from a mix of traditional employment and freelance work.

Freelancers Say...*

69% = Social networking has 'drastically changed dynamics of networking'

65% = Internet makes it easier to find work

42% = Have done online freelance project

31% = Can find a gig online in <24 hours

Internet Enabling Commerce in Increasingly Efficient Ways



eBay SMBs = 95% engage in export vs. <5% of USA businesses

Setting up export businesses historically required significant investment.



Etsy sellers = 35% started business without much capital investment, compared to 21% for small business owners.



Only a smartphone needed to set up a listing and become an Airbnb host. Hosts can get set up in minutes.



Ability for businesses to access talent quickly – time to hire averages 3 days on Upwork vs. longer time for traditional hiring.



U B E R

Car + smartphone + quick onboarding to be UberX driver-partner vs. materially more to purchase medallion (or equivalent) to be a Taxi driver.



SoundCloud Creators can use mobile devices to record / distribute audio content within minutes.



Thumbtack professionals pay \$3-15 per introduction to services leads they are interested in vs. buying ads in directories monthly or yearly.



Stripe Connect powers most marketplace businesses and enables coordination of transactions between buyers and sellers.

*Rise of Connectivity +
Online Marketplaces / Platforms =*

*Helping People
Earn Income &
Work on Own Terms*

Online Platforms Enabling Steady Growth in Product Commerce & Enabling Rapid Growth in Service Commerce

Product Commerce



8.5MM+ Sellers



2MM+ Third-Party Sellers



25MM+ Sellers



Etsy

**1.4MM+ Active Sellers
+26% Y/Y**

Service Commerce



**35MM Total Guests All-Time
– nearly 25MM in Last Year**



**~1MM+ Driver-Partners
+6x Y/Y**



**10MM+ Freelancers
+63% 5-Year CAGR**

*People Typically Use Online Platforms
to
Find Extra Income & Flexibility*

Many People = Use Online Platforms / Marketplaces to Supplement Income

Select Online Platforms – Personal Impact



- **72%** = NYC hosts depend on Airbnb earnings to **pay rent / mortgage**...50%+ = NYC hosts are freelancers or other non-traditional workers supplementing income...
- **80-90%** = Global Airbnb hosts occasionally rent out their own home to **supplement income**



- **82%** = Sellers are **part-time** (ie: have jobs outside of Etsy)
- **26%** = Sellers have full-time jobs (outside of Etsy)...48% = independent / part-time / temporary workers
- **36%** = Use Etsy earnings to **cover household expenses**...24% for discretionary spend



- **37%** = Pros are part-time with income supplemented by other sources



- **74%** = Drive to **maintain steady income** as other income sources unstable / unpredictable
- **61%** = Have another job...31% = full-time on another job; 30% = part-time job apart from Uber; 38% = no other job



- **68%** = People who said **earning extra money is a motivation for freelancing**
- **80%** = Non-freelancers willing to do work outside primary job to make more money
- **60%+** = Freelancers provide at least 1/2 household income

Source: "An Analysis of the Labor Market for Uber's Driver-Partners in the United States," Uber, 1/15. Note Uber data are USA only.

"The Tremendous Impact of Airbnb in New York," Airbnb, 5/15. Additional data are from Airbnb.

"Redefining Entrepreneurship: Etsy Sellers' Economic Impact", 11/13. Published by Etsy. Survey measured 5,500 USA-based sellers on Etsy's marketplace. Note Etsy data is USA only.

Upwork (formerly Elance-oDesk) Annual Impact Report, 2014.

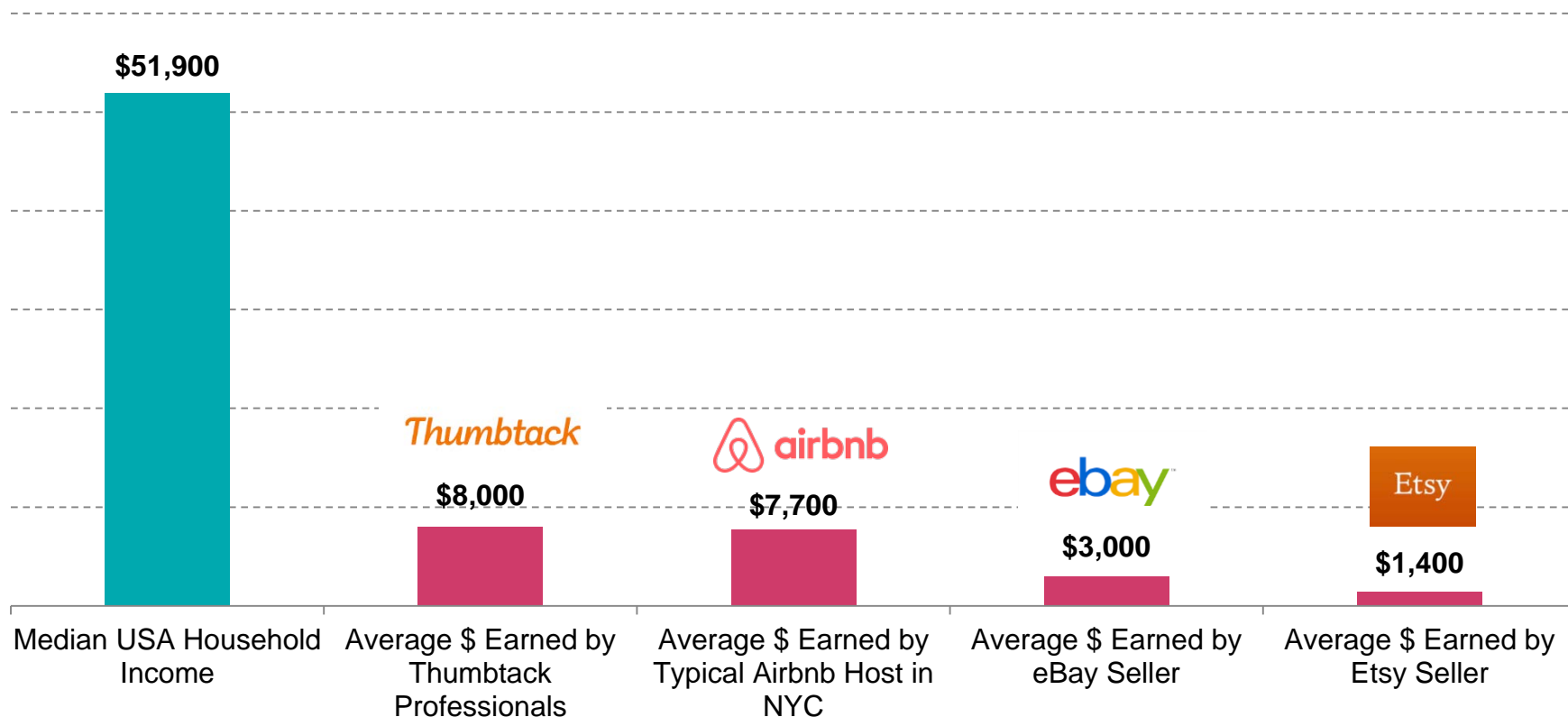
"Freelancing in America," Survey of 5,000 Working Americans commissioned by Freelancer's Union and Upwork (formerly Elance-oDesk), 9/14. USA.

Thumbtack, 2015.

Note percentages may not add up to 100% owing to rounding.

Online Platform / Marketplace Income = Material for Many People

Average Annual Earnings – Selected Online Platforms



Source: US Census Bureau Historical Income Tables.
Etsy, Q1:15; calculated as LTM Gross Merchandise Sales divided by Q1:15 active sellers.
Airbnb Economic Impact Study, New York City, 5/15. Airbnb income represented is before taxes.
eBay, 2014; calculated as Gross Merchandise Value divided by number of sellers.
Thumbtack, 2015.

Many People = Use Online Platforms / Marketplaces to Find Flexibility

Select Online Platforms – Views on Flexibility



- **55%** = Sellers motivated to set up shop for greater flexibility (for self / family)



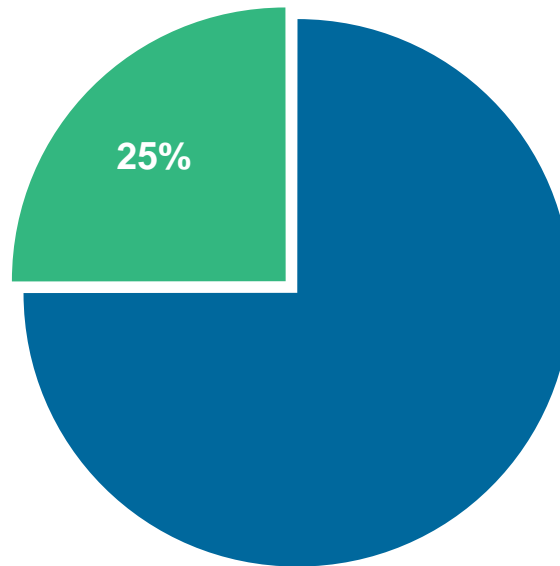
- **87%** = Driver-partners like Uber because they can be own boss / set own schedule



- **#2** = Rank of flexibility among motivations for freelancing
- **92%** = Freelancers who agree they have more freedom to work wherever

25% of 'On-Demand' Workers = Use Multiple Platforms

Percent of 'On-Demand' Workers Who Use Multiple Platforms, USA, 2014



- Worked on One Platform
- Worked on Multiple Platforms

Source: MBO Partners and Emergent Research, "Independent Workers and the On-Demand Economy", USA, 4/15.

MBO Partners defines workers in the "On-Demand Economy," as those who generate economic activity through the use of online platforms and marketplaces that help customers quickly connect and transact with suppliers of goods and services. These include services like Airbnb, Uber, Lyft, Handy, Etsy, TaskRabbit, and many others.

* NOTE: MBO study only includes on-demand workers who devote at least one hour per week to an on-demand platform. Those who use these platforms less frequently are not counted. Figure has been de-duplicated.

*Growth in Online Platforms / Marketplaces =
Creates Benefits & Challenges*

Online Platforms / Marketplaces = Benefits & Challenges for Consumers

Benefits

Choice / Access – product depth + breadth...availability of goods / services / experiences previously hard to find / reach

Time Savings – can offset incremental costs, if any

Transparency – ability to research / set expectations / track process

Personalized – can get items / services on own schedule

Online Reputation & Trust Systems Often in Place – ability to read & write reviews / ratings for merchants & service providers

Challenges

Time / Cost Tradeoff – Products with rapid delivery may be more expensive

Quality – unable to test products / services...reliant on feedback from peers / reviews

Trust – new marketplaces must prove trustworthiness to consumers

Time / Convenience Tradeoff – Convenience of delivery to home / work may mean delaying gratification of getting product immediately

Online Platforms / Marketplaces = Benefits & Challenges for Workers

Benefits

Financial – ability to earn supplemental / primary income

Flexibility – choose own schedule / task, location / income goals-targets

Skill Set Match – can often effectively match skills with needed services

Feedback / Communication – often real-time / direct

Data – customer location + data can allow workers to provide more informed / efficient service

Customer Base – marketplaces can aggregate demand that may be fragmented / far-reaching (global)

Growth – rising sector demand for services should boost opportunities / competition for workers

Challenges

Incumbent Displacement – creates change / uncertainty

Financial – lack of predictable income possible

Uncertainty – lack of clarity related to demand / work / reporting possible

Benefits Clarity – insurance / vacation / sick leave / pension...

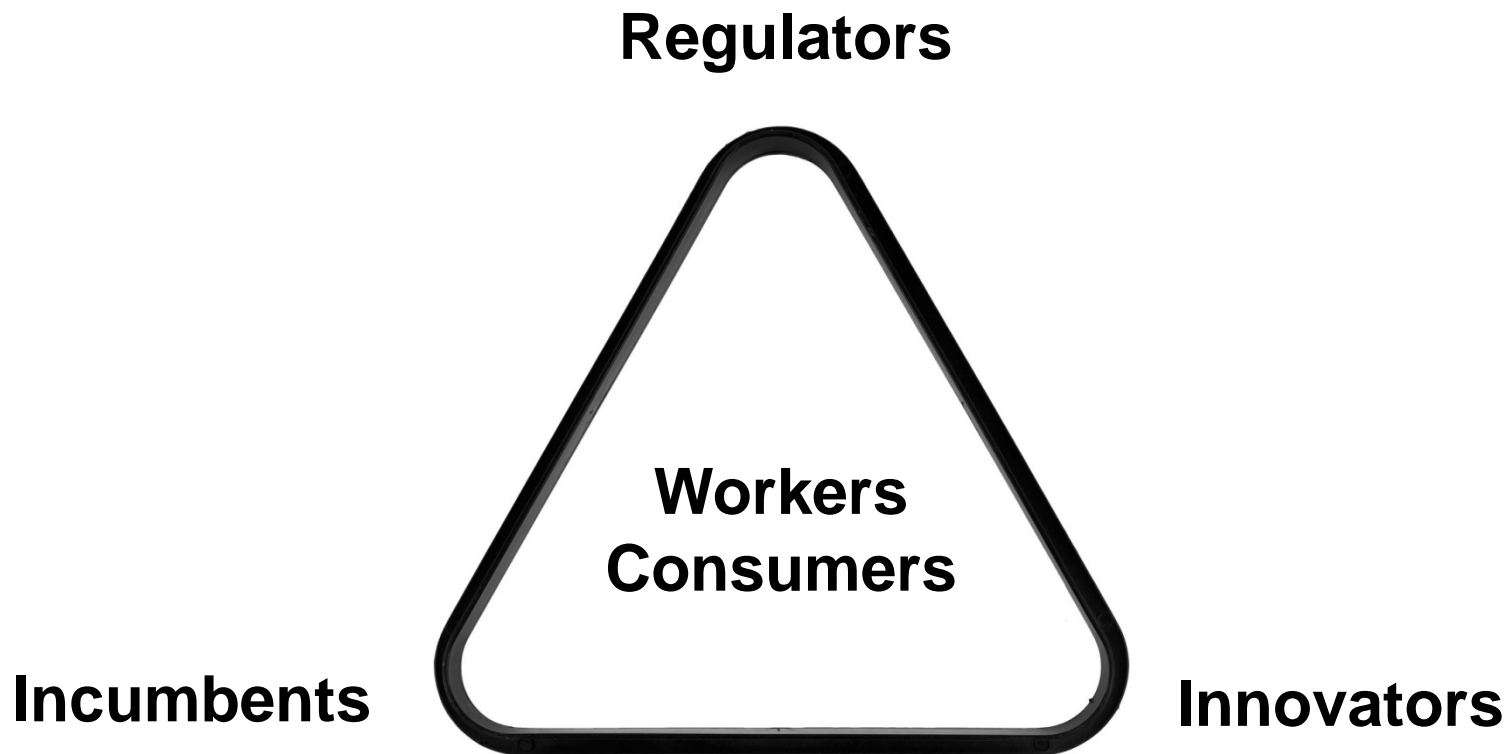
Asset Use – potential job requirement to use personal items (cars / phones...)

Training / Development – potentially limited training / development / supervision

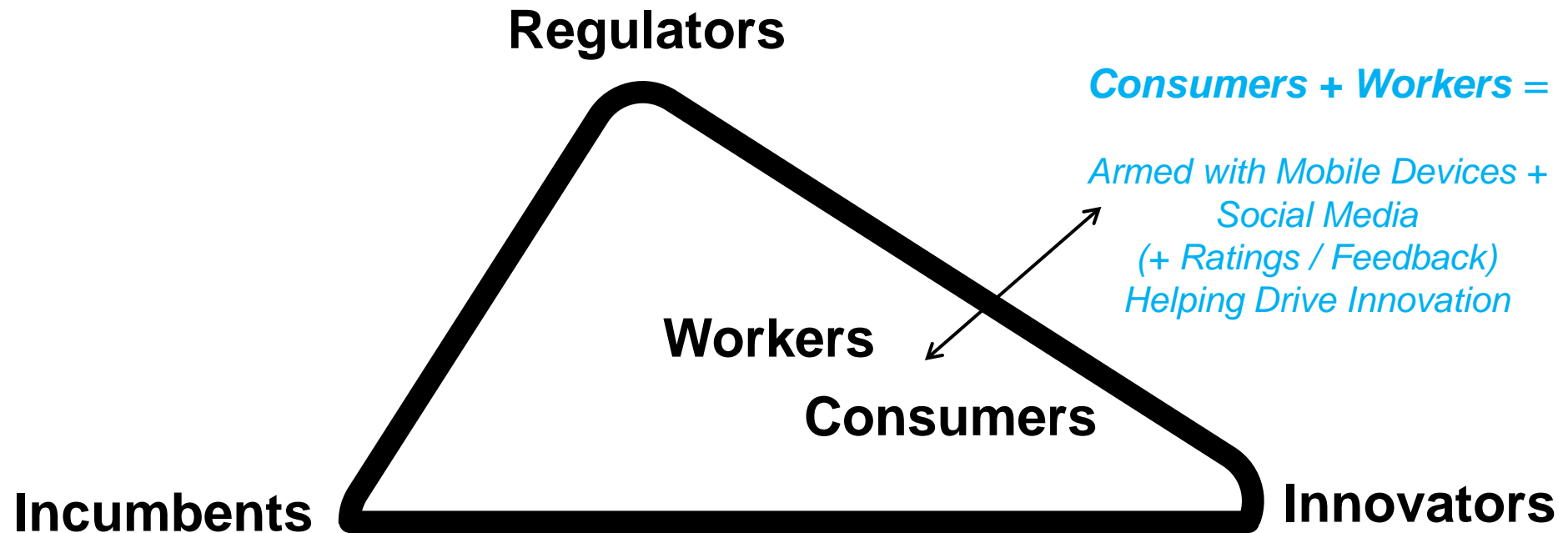
Workplace Culture – people often dispersed

ONLINE MARKETPLACE / PLATFORMS = REGULATORY FOCUS EVOLVING

Traditional Challenge / Opportunity =
Incumbents ↔ Regulators ↔ Innovators...



...Evolving Challenge / Opportunity =
Incumbents ↔ Regulators ↔ Innovators



- ***Airbnb Emerges Victorious as New York City Regulators Overturn Host's \$2,400 Fine***
– *The Verge*, 9/13
- ***Artist Sued for 'Subletting' Loft on Airbnb***
– *New York Post*, 6/14
- ***Sharing Economy Faces Patchwork of Guidelines in European Countries***
– *NY Times*, 9/14
- ***State Regulator Says Uber meets Florida Insurance Requirement***
– *Tampa Bay Times*, 10/14
- ***Handy.com Housecleaners' Lawsuit Could Rock On-Demand Companies***
– *SF Gate*, 11/14
- ***Uber, Lyft Lawsuits Could Spell Trouble For the On-Demand Economy***
– *CNN*, 3/15

Uber, Lyft... = Facing Confusion in Regulatory Environment Related to Worker Classification System

*California law defines whether workers are employees or independent contractors, and there's a test, but **the test and classification system are woefully outdated...***

*...It seems to me, as a matter of common sense, that Lyft **drivers don't fall into the traditional understanding of [the two classifications]. They seem to fall into a third category....***

*The jury in this case will be handed a square peg and asked to choose between two round holes. **The test the California courts have developed over the 20th Century for classifying workers isn't very helpful in addressing this 21st Century problem...***

- Judge Vince Chhabria, U.S. District Judge Presiding Over Cotter vs. Lyft Inc., et al

**Note that Lyft was eventually denied motion for summary judgement & case will need to be decided by a jury.*

Airbnb = Facing Confusion in Regulatory Environment Related to Myriad of Local Laws on Hotels / Short-Term Rentals

*...this is amazing, but **it's also complicated because there are laws that were written many decades ago – sometimes a century ago – that said,***

'There are laws for people and there are laws for business.' What happens when a person becomes a business?

*Suddenly these laws feel a little bit outdated. **They're really 20th-century laws, and we're in a 21st-century economy.***

- Brian Chesky, Co-founder and CEO of Airbnb, 11/14

StubHub = Faced Confusion in Regulatory Environment & Proved Marketplaces Can Be Regulators' Allies

Original Intent of Anti-Scalping Laws (passed in 1920s) = Protect Consumers...

...the law 'merely prohibits' scalpers and ticket brokers from charging excessive prices and thereby 'end[s] the extortion' of the public...

StubHub When Founded in 2000 = Faced Many Anti-Scalping Law Barriers...

>20 states prohibited some form of ticket resale...for example, Alabama / Massachusetts require licenses...in Indiana, one couldn't sell tickets to boxing matches...

StubHub in 2015 = Legal in Nearly All States & Has Helped Provide...

- ***Marketplace Liquidity*** = Can help prevent excessive pricing ('extortion of public')
- ***Trust & Safety / Transparency*** = Likes of ratings / feedback systems can help find / remove bad actors

With passage of time (& collaboration), StubHub has helped regulators do their jobs – effectively regulate what they had intended to regulate all along.

**PEOPLE + SYSTEMS + REGULATIONS /
POLICIES =
NEED TO EVOLVE / ADAPT TO MORE
CONNECTED SOCIETY**

High-Level Summary...

- **Job Market** – Has been more difficult & work has been harder to find for many
- **Benefits** – Traditional employer-provided benefits like health insurance & retirement plans falling...Recipients of government benefits rising
- **Millennials** – Have different expectations for work than previous generations, for now...Shaped, in part, by Great Recession
- **Connectivity** – Has created efficiencies & changed work for many
- **Work** – Alternative work arrangements (including freelancing) increasing...Competition for workers may rise with demand

...High-Level Summary

- **Online Platforms / Marketplaces Growing Rapidly** – Creating new work opportunities & challenges for individuals...These will continue to rise, similar to trends / impact from first-generation Internet companies, potentially faster / broader
- **Need to Shape Direction & Evolve Policies & Laws** – Industry participants (workers / businesses / governments) need to work together to be more aligned with rapidly emerging ways of doing business & creating work & recognize that emerging technologies / marketplaces can help solve for consumer & worker welfare
- **Innovative Online Platforms / Marketplaces Stand to Continue to Benefit Consumers** – As evinced by strong demand for their products & services...
- **Impact of Social Media (+ Feedback / Ratings) Should Not be Underestimated** – Empowered consumers increasingly – in effect – take elements of consumer protection into their own hands

BIG INTERNET MARKETS =

- CHINA = #1 IN SHEER MASS...**
- INDIA = #1 IN NEW USER ADDITIONS**

China = Digital Innovation Alive & Well

Hillhouse Capital*
Created / Provided China Section of Internet Trends, 2015



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Tencent WeChat = Massive Scale + Engagement... Billions of Red Envelopes Sent / Received on 1 Day

1B Virtual Red Envelopes Sent

Chinese New Year's Eve – 2/18/15

11B Shakes from 20MM Users

CCTV's New Year Gala TV Show

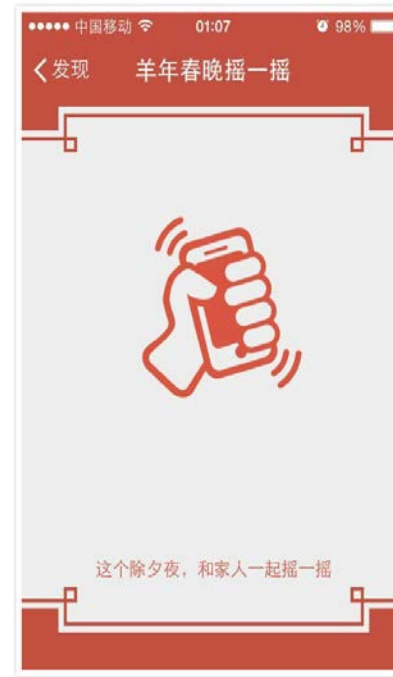
User-Initiated Red Envelope Sends in Group Chats



Randomized Gift Amount = Fun + Social



Sponsor-Initiated Red Envelope Gifts with TV prompts



User Shake = Get Gift + Follow Sponsor WeChat Account



Tencent WeChat = Major Video Distribution Channel... Shaping Social Debate



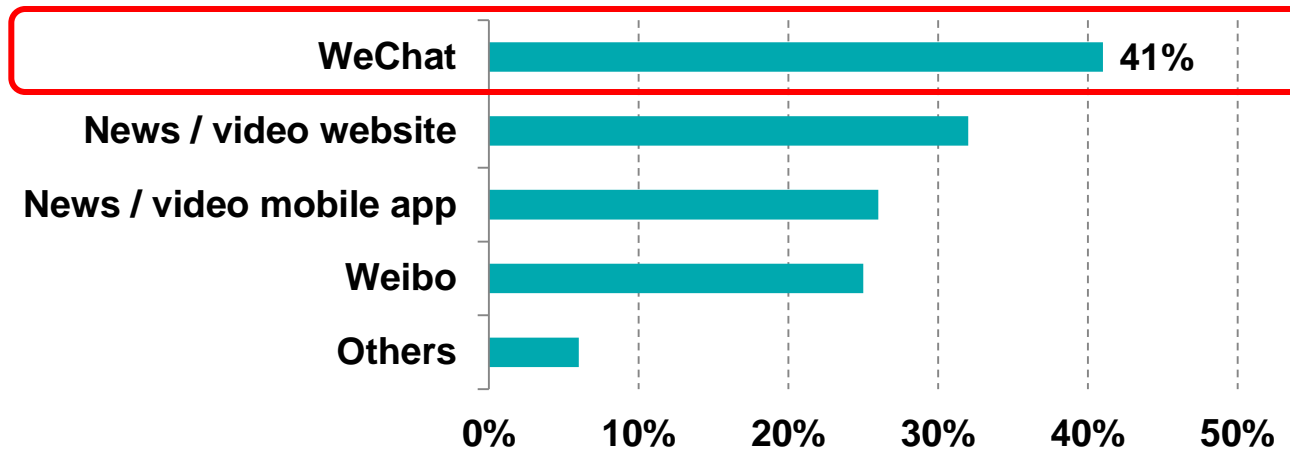
'Under the Dome'

200MM Views Within 3 Days of Release (2/15)

Long-Form Documentary Film (103 minutes)

Investigation of Smog in China

'Under the Dome' Viewer Distribution by Channel



Tencent WeChat = Helping Government Get Online... Offering Government Services to its 549MM Users*

Shanghai Government Services Provided via WeChat

Hospital Appointment

Pay Natural Gas Fee

Obtain Taiwan Travel Docs

Smog Test Appointment

Property Tax Lookup



Pay Electricity / Water Bill

Passport Applications

Driving Violations Look Up

Weather / Library Search

Fapiao (Receipt) Management

China Social Commerce Rising... Melishuo + Mogujie Driving = Content (15MM+ Photos) + Community (200MM Users) + Commerce (\$2B GMV)*

Mogujie

Seamlessly Integrating
Content + Product + Buyer + Seller

Browse



Chat



Pay**

Melishuo

Pioneering Crowd-Sourced
Design + Production + Sale of Fashion Items

Like



Collect "Likes"

Make



In production

Sell



【现货】韩国官网最新款 文艺女的棉麻廓形衬衣

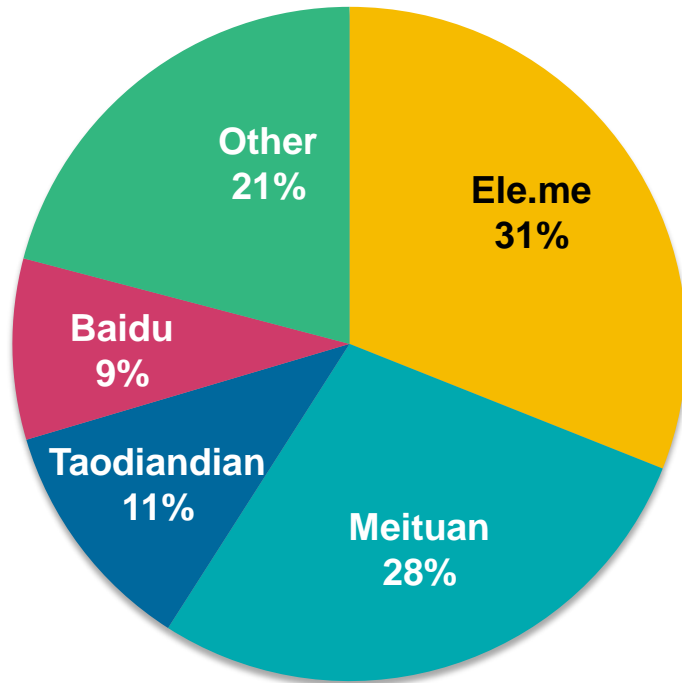
¥88.20

立即购买

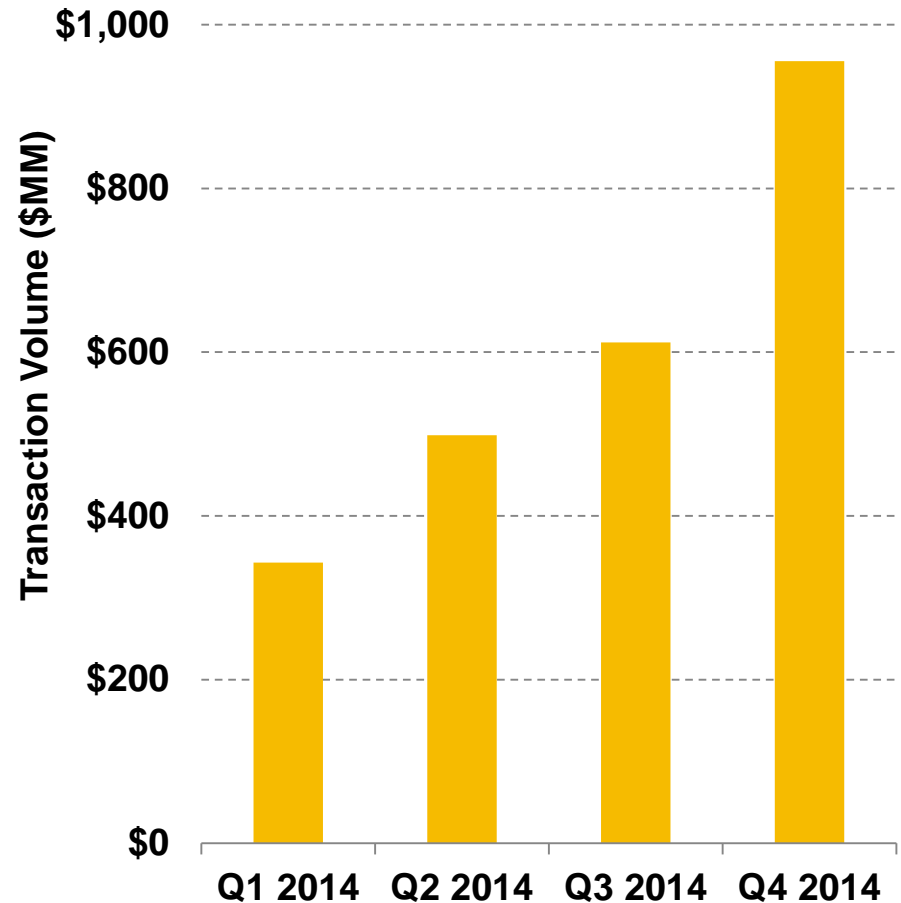
Sale

China Local Food Delivery = One of Fastest Growing / Competitive Local On-Demand Services

China Online Food Delivery \$ Market Share, 2014



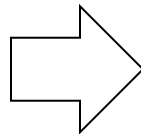
China Online Food Delivery Transaction Volume, Q1-Q4:14



Hillhouse Capital

China Internet Leaders = Evolving from Info-Only to On-Demand Service Providers

Baidu.com Search engine

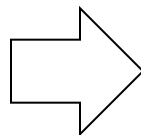


Baidu Life

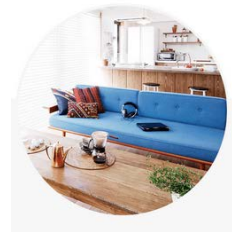
Local restaurant / entertainment / delivery...



58.com Classified ad listings



58 Daojia Owned & operated home services provider



Hillhouse Capital

China Internet M&A = Accelerating Industry Consolidation / Rationalization

Didi / Kuaidi

China's #1 / #2 On-Demand
Transportation Startups



- **\$6B** = combined mark-to-market* value
- **90%** = estimated combined market share
- **\$1B+** = estimated cumulative marketing / investments prior to merger
- Merger announced 2/15

58 / Ganji

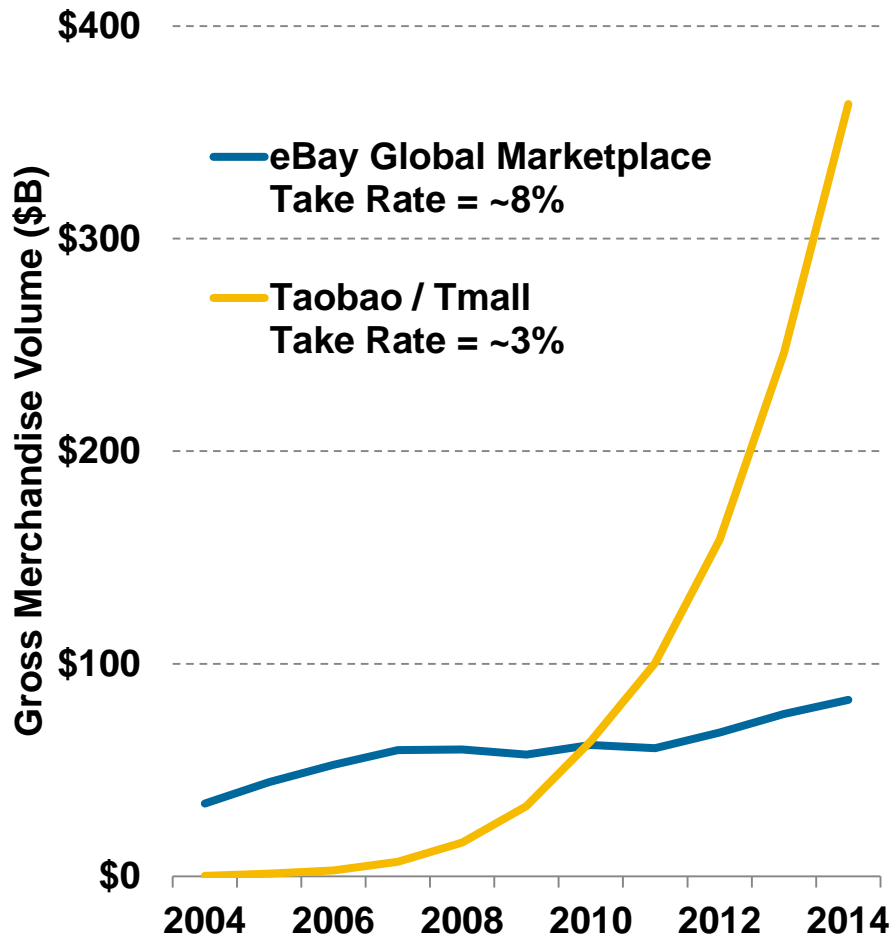
China's #1 / #2 General Online
Classified Platforms



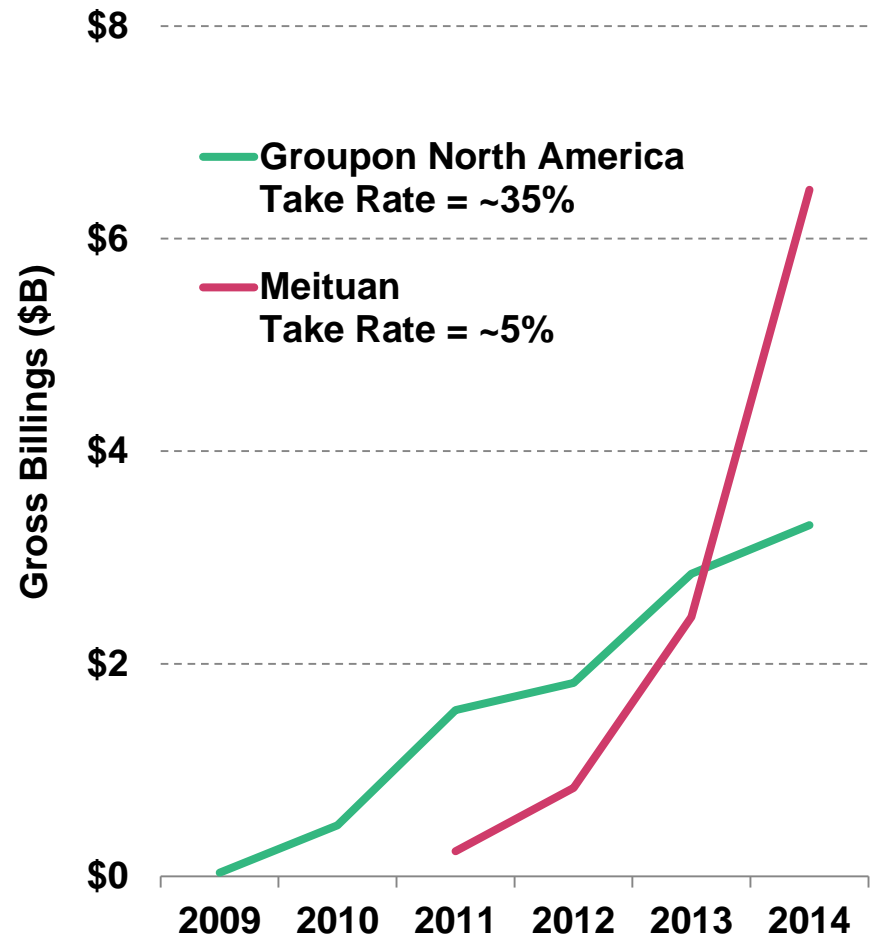
- **\$10B** = combined mark-to-market* value
- **\$500MM+** = estimated cumulative sales & marketing investments prior to merger
- Merger announced 4/15

China E-Commerce = Low Take Rates* Helped China Marketplace Leaders Pass USA Peers

**Gross Merchandise Value, 2004 – 2014
eBay vs. Alibaba (Taobao / Tmall)**



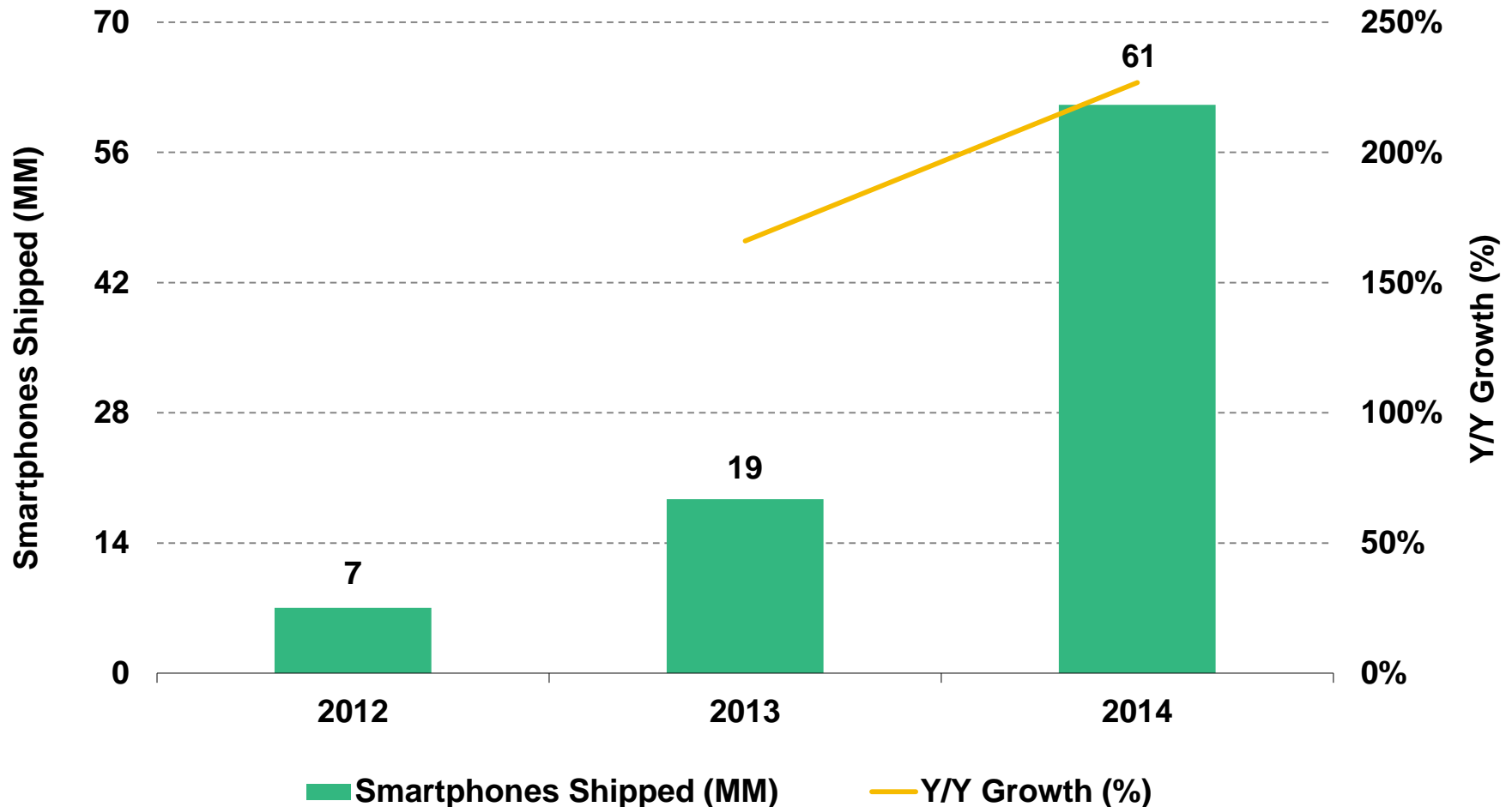
**Gross Billings, 2009 – 2014
Groupon N. America vs. Meituan**



*China =
Internet of Things Alive & Well*

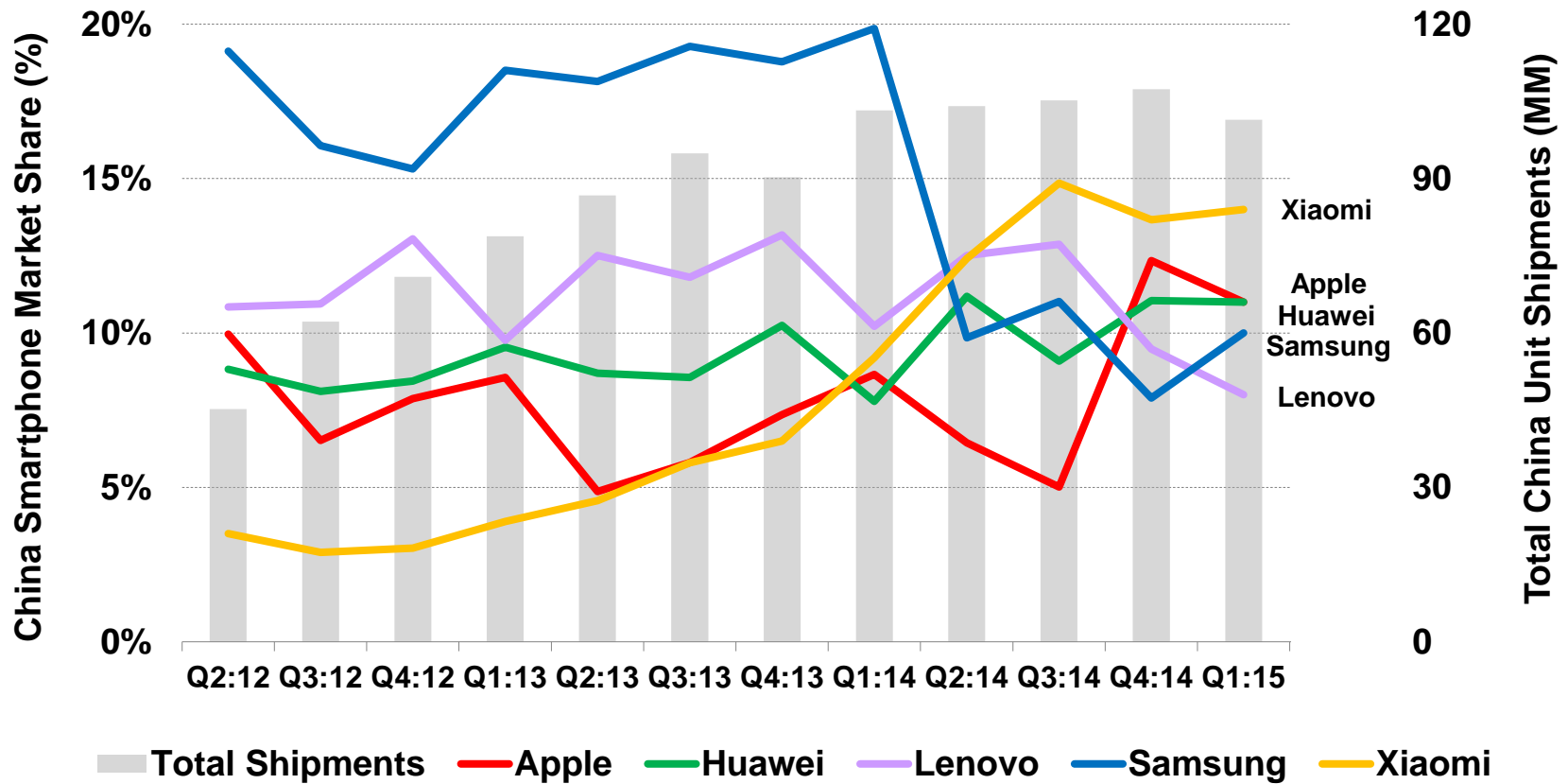
Xiaomi = Supported Strong Smartphone Growth... +227% Y/Y @ 61MM, 2014

Xiaomi Smartphones Shipped Globally, 2012 – 2014



Xiaomi = China Smartphone Shipment Leader

Smartphone Shipment Market Share, China, Q2:12 – Q1:15



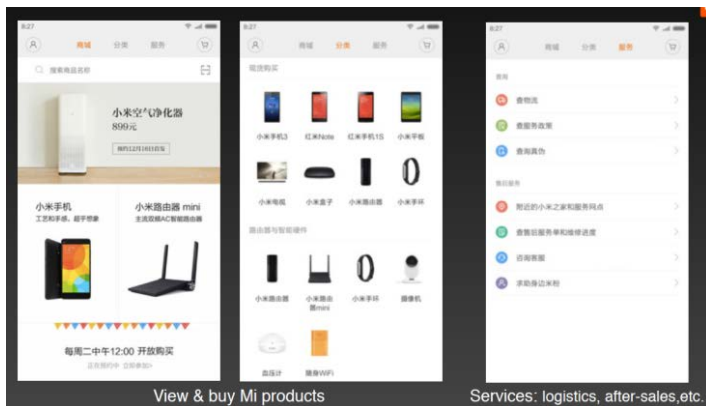
Xiaomi Evolution = Smartphone + Retail Store + Remote Control for Home Management

Smartphone / Computer

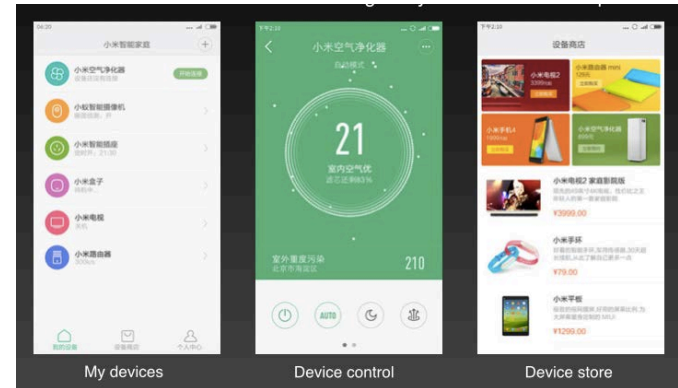
- 2011 = Mi 1
- 2012 = Mi 2
- 2013 = Mi 3 / Redmi 1
- 2014 = Mi 4 / Redmi 1s / Redmi Note(s) / Mi Pad
- 2015 = Mi Note(s) / Redmi 2



Connected Retail Store (Mi Market App) with Reminder Prompts



Mi Home App = Remote Control for Connected Devices



- 2012 = Set-Top Box
- 2013 = TV
- 2014 = Router / Power / Fitness + Health (Band / Air Purifier / Blood Pressure) / Webcam / Light Bulb
- 2015 = Scale / Power Strip / Smart Home Kit (beta)



Xiaomi Mi Internet of Things Ecosystem = Solid Upsell + Volumes (2MM Users, +5x Since 2013)

Xiaomi Ecosystem	2013	2015*
Mi Smartphones Sold	19MM	61MM*
Mi Smartphone Online** Buyers	9MM	29MM
Mi Smart Home Products Available	2	10+
Mi Smartphone Online** Buyers Purchasing ≥1 Xiaomi Home Product	338K or 4%	2MM+ or 7%

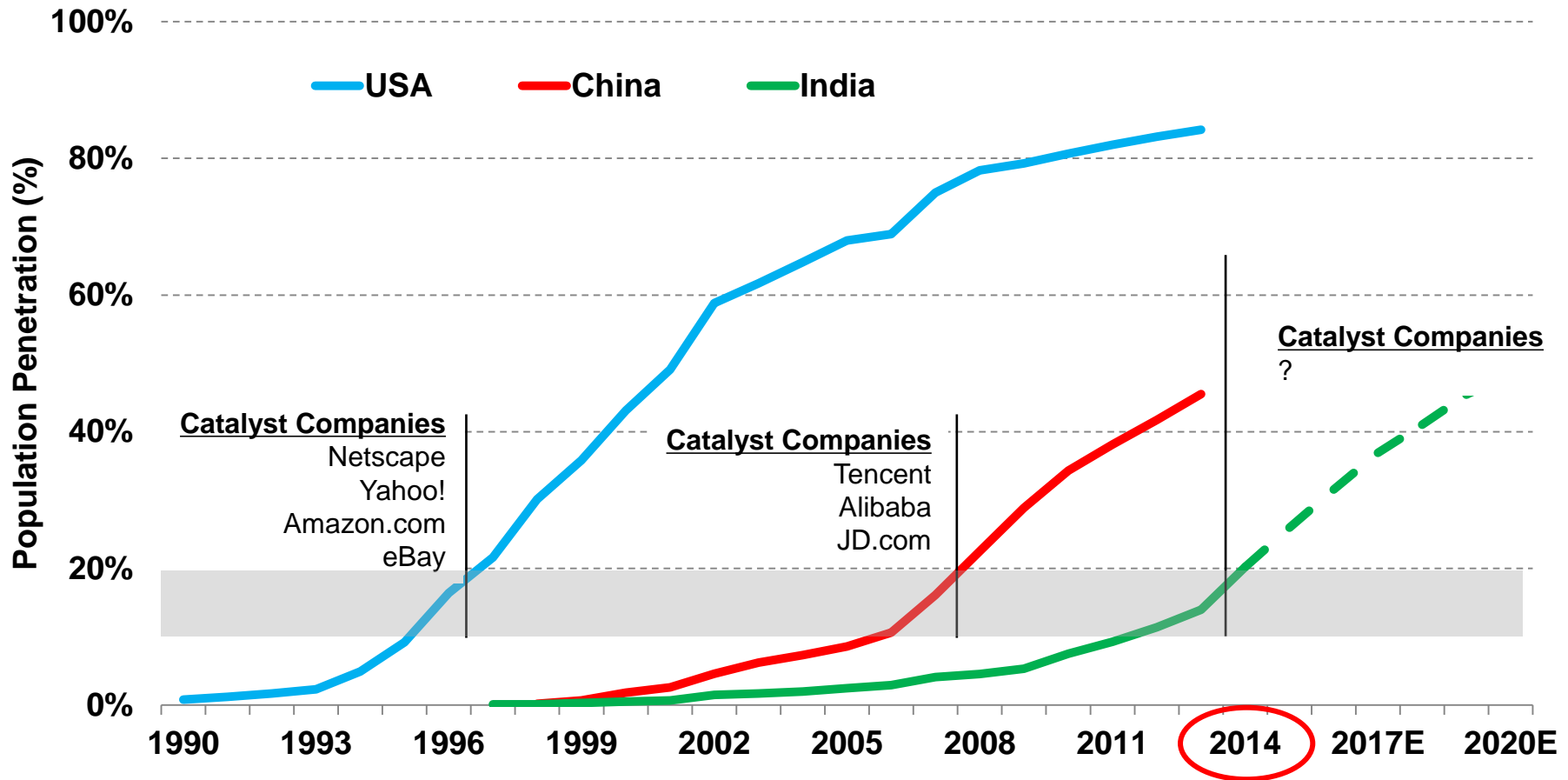
Source: Xiaomi. *Data through 4/9/15, cumulative unless otherwise noted. *Mi Smartphones data are annual (not cumulative). 61MM = phones shipped in 2014 full year.
 ** via mi.com only. Xiaomi sells phones via different distribution channels (mi.com, 3rd party e-commerce, carrier stores, resellers, etc.). Note that each buyer account can purchase several phones.
 Data here represent number of Mi Accounts that have purchased smartphones via mi.com. This is the base off of which we calculate users who have also purchased a home product. Mi Account is an all-in-one personal account that allows users to access / manage all Xiaomi products and services, such as shopping on mi.com, reserving after-sale services, enabling Mi smart products, syncing data across devices with Mi Cloud, making posts on MIUI forum, etc.

*Large Scale
Internet Adoption History =*

*USA → China...
India Next?*

India = Appears to Be @ Internet Penetration Growth Inflection

Internet User Penetration Curve, USA / China / India, 1990 – 2020E



India =

*232MM Internet Users (+37% Y/Y)...
3rd Largest Market*

*Top Country in New Internet User
Adds per Year (+63MM in 2014)*

India = Often #1 or #2 MAU Market for Global Internet Leaders



Facebook

India = 2nd Largest Market @ 112MM MAUs,
8% of Global MAUs, 9/14

USA & Canada = Largest Markets @ 210MM
MAUs, 3/15



WhatsApp

India = Largest Market @ 70MM...10% of
Global MAUs, 11/14...

Global MAUs = 800MM, 3/15



YouTube

70MM Users in India, ~7% of Global Users



LinkedIn

India = 2nd Largest Market @ 24MM MAUs, 8%
of Members, 2/14

USA = Largest Market @ 100MM Members, 4/14



Twitter

India = Fastest Growing User Market, 3/15













Amazon

"Amazon Announces Additional \$2 Billion
Investment in India," 7/14

Top India Android Apps =

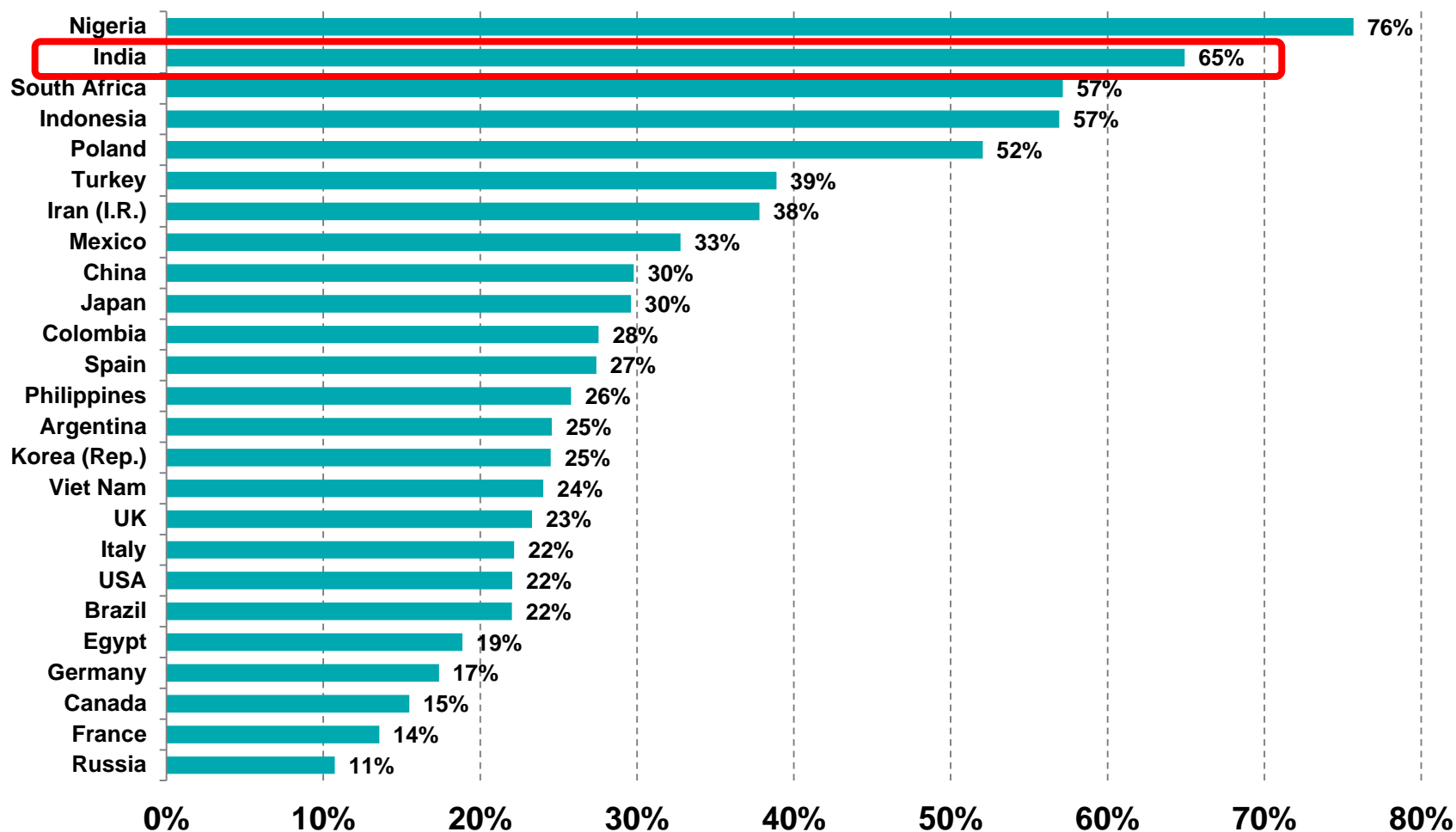
1) WhatsApp 2) Facebook 3) MX Video Player 4) Facebook Messenger 5) Truecaller

Top Android Apps by Usage, India, Q1:15

①		WhatsApp	⑥		Candy Crush Saga
②		Facebook	⑦		Opera Mini
③		MX Player	⑧		Hike Messenger
④		Messenger	⑨		Subway Surfers
⑤		Truecaller	⑩		Cricbuzz Cricket Scores & News

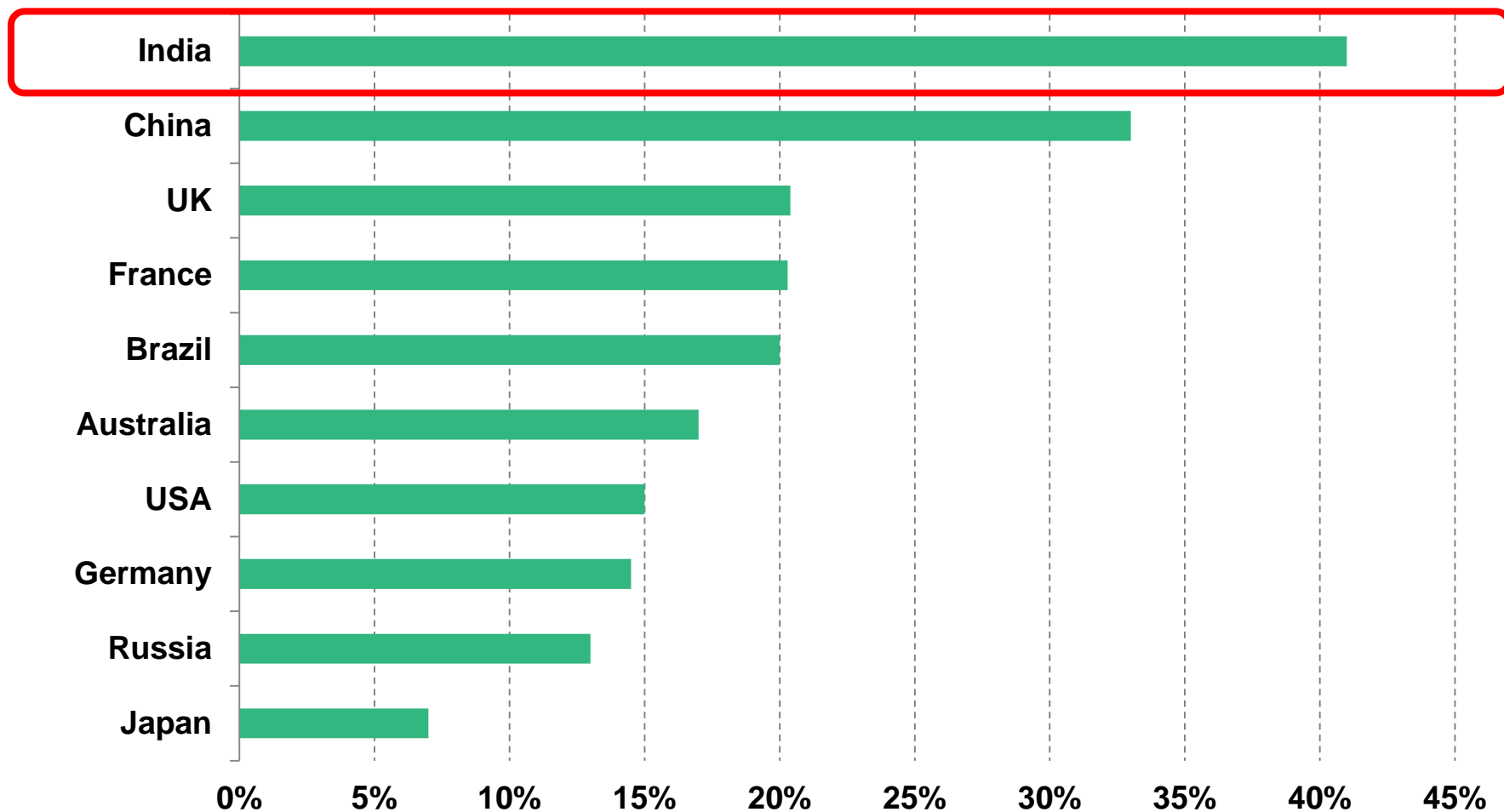
Mobile = 65% of India Internet Traffic... More Mobilized vs. Most Other Countries

Mobile % of Total Internet Traffic by Country, 5/15



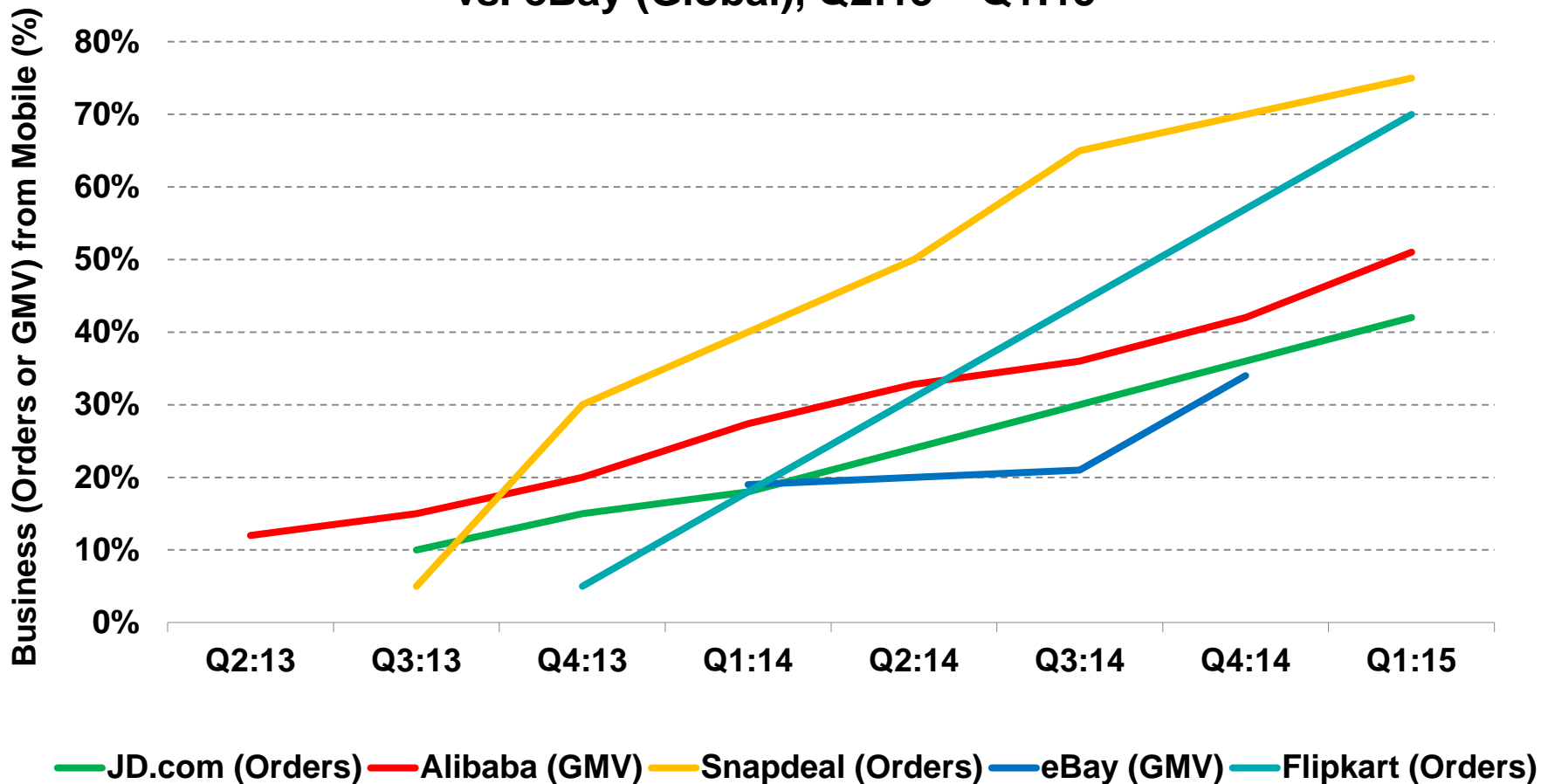
Mobile = 41% of India E-Commerce... = More Mobilized vs. Most Other Countries*

Mobile as % of Total E-Commerce Sales, 2014



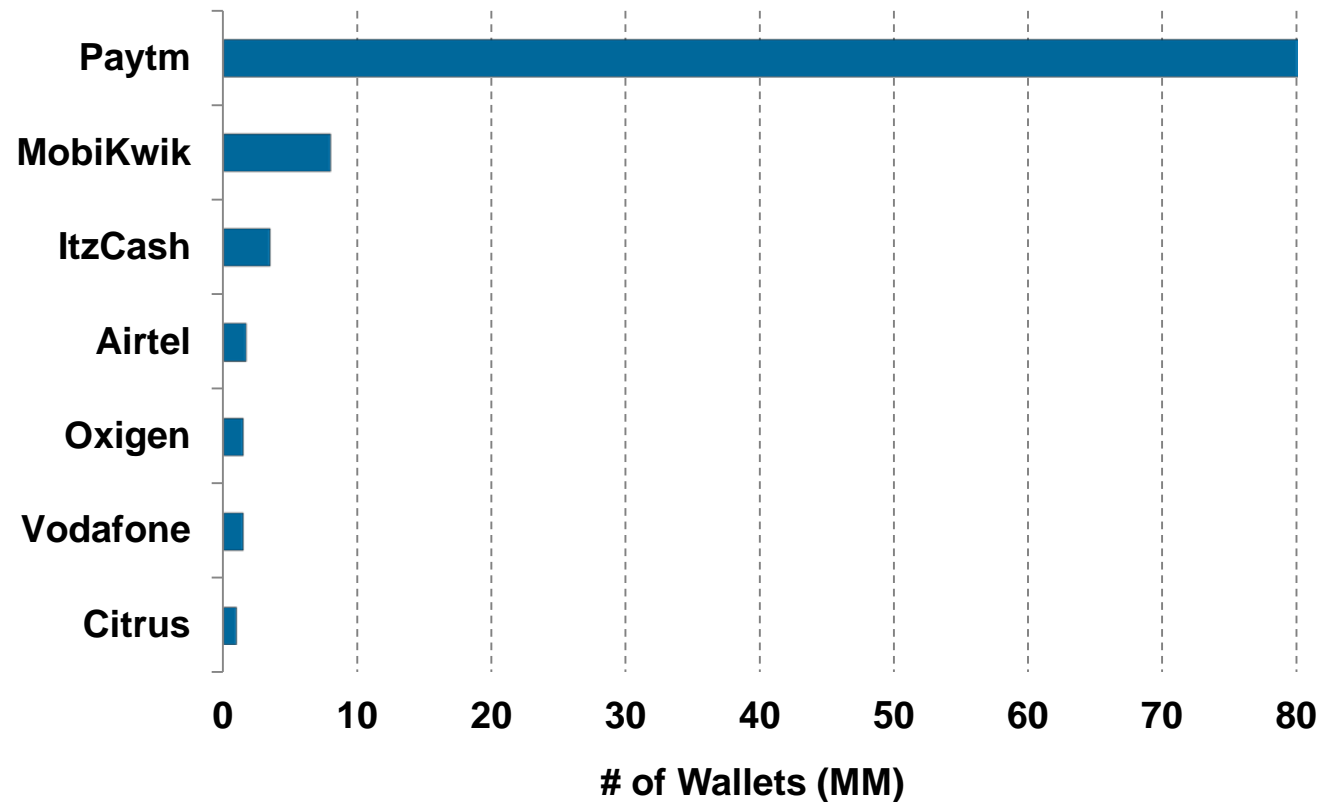
India E-Commerce Leaders = More Mobilized vs. Global Leaders

Mobile as % of E-Commerce GMV / Orders
Snapdeal (India) vs. Flipkart (India) vs. Alibaba (China) vs. JD.com (China)
vs. eBay (Global), Q2:13 – Q1:15



Mobile Wallet Use = Rising Along with E-Commerce Adoption... Paytm @ 80MM Wallet Users, + 17x Y/Y

Number of Mobile Wallets, India, 2014



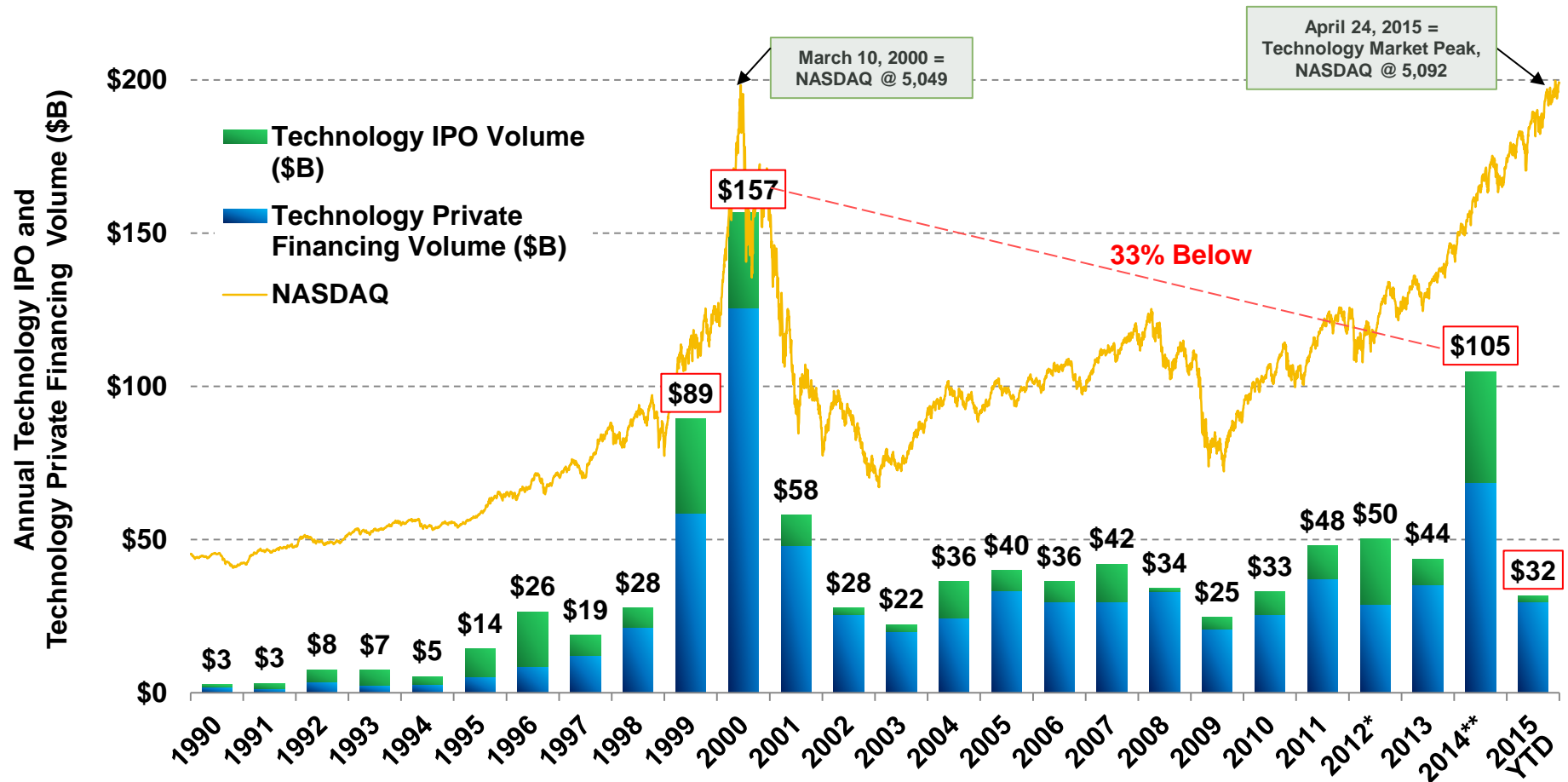
PUBLIC & PRIVATE COMPANY DATA

Global Internet Public Market Leaders = Apple / Google / Alibaba / Facebook / Amazon / Tencent...

Rank	Company	Region	2015 Market Value (\$B)	2014 Revenue (\$MM)
1	Apple	USA	\$764	\$199,800
2	Google	USA	373	66,001
3	Alibaba	China	233	11,417
4	Facebook	USA	226	12,466
5	Amazon	USA	199	88,988
6	Tencent	China	190	12,727
7	eBay	USA	73	17,902
8	Baidu	China	72	7,909
9	Priceline	USA	63	8,442
10	Salesforce.com	USA	49	5,374
11	JD.com	China	48	18,543
12	Yahoo!	USA	41	4,618
13	Netflix	USA	38	5,505
14	LinkedIn	USA	25	2,219
15	Twitter	USA	24	1,403
16	Yahoo! Japan	Japan	23	3,441
17	Rakuten	Japan	23	4,996
18	NetEase	China	19	1,889
19	Naver	Korea	17	2,527
20	Vipshop	China	15	3,774
Total			\$2,513	\$479,939

2014 Global Technology Public + Private Financings = \$ Volume 33% Below 2000 Peak Level / 17% Above 1999 Level

Global US-Listed Technology IPO Issuance and Global Technology Venture Capital Financing, 1990 – 2015YTD



VC Funding per Company (\$MM)

\$3	\$3	\$2	\$5	\$4	\$4	\$5	\$5	\$6	\$8	\$14	\$18	\$11	\$8	\$8	\$9	\$8	\$9	\$8	\$9	\$7	\$7	\$10	\$8	\$9	\$13	\$14
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Technology-Related Company Investing Observations

- **Booms / Busts** – In periods of material business disruption – like those brought about by the evolutions of the Internet – company creation typically goes through a boom → bust → boom-let cycle while wealth creation typically goes through a boom-let → bust → boom cycle.
- **Valuations** – There are pockets of Internet company overvaluation but there are also pockets of undervaluation – the one rule is that very few companies will win – those that do – can win big.
- **Platforms** – Race is won by those that build platforms & drive free cash flow over long-term (a decade or more).
- **Free Cash Flow** – Value of a business, over time, is the present value of its future cash flows.

ONE MORE THING....

One of the things I have learned about effective decision making is that the best decisions are often made by diverse groups of people.

Saying or hearing these words is magic...

‘That’s really interesting, I had never thought of it that way before. Thank you.’

Thanks...

KPCB Partners

Especially Alex Tran / Cindy Cheng / Dino Becirovic / Alex Kurland / Paul Vronsky who helped develop the ideas / presentation we hope you find useful...

Participants in Evolution of Internet Connectivity

From creators to consumers who keep us on our toes 24x7...and the people who directly helped us prepare this presentation...

Walt & Kara

For continuing to do what you do so well...

Disclosure

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We publish the Internet Trends report on an annual basis, but on occasion will highlight new insights. We will post any updates, revisions, or clarifications on the KPCB website.

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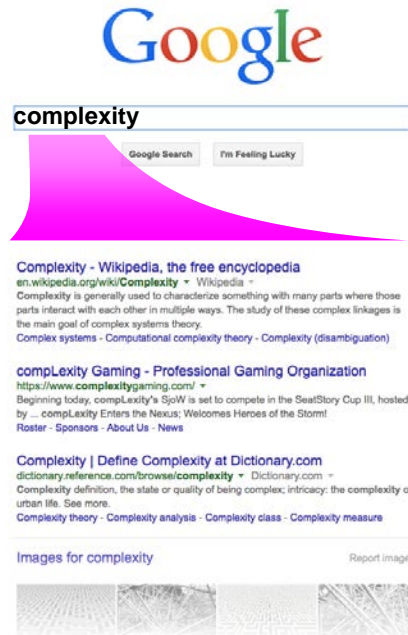
RAN OUTTA TIME THOUGHTS

Re-Imagining Design / User Experience

Key Design Concepts That Have Made a Difference... per John Maeda...

Google Search

*Hide complexity behind
a simple door*

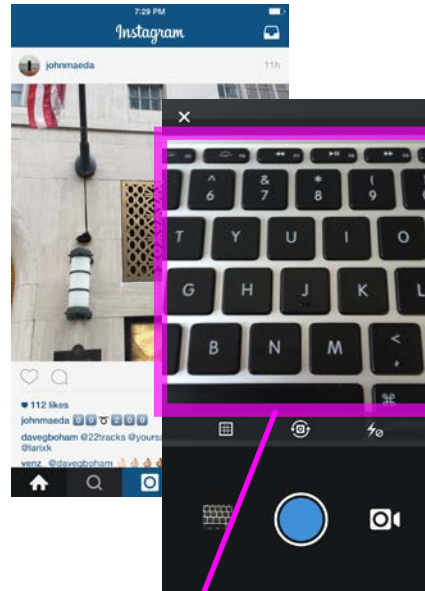


The longstanding discipline by Google to keep the homepage limited to a single search box has been key to maintaining its simplicity. Once a search term is typed into Google, it gets complex really quickly -- but you don't notice it at first.

Analogy: The Motorola Startac phone introduced a clamshell design that hid all the complexity -- to be revealed only when used.

Instagram

*Remove choice to make
things simpler*

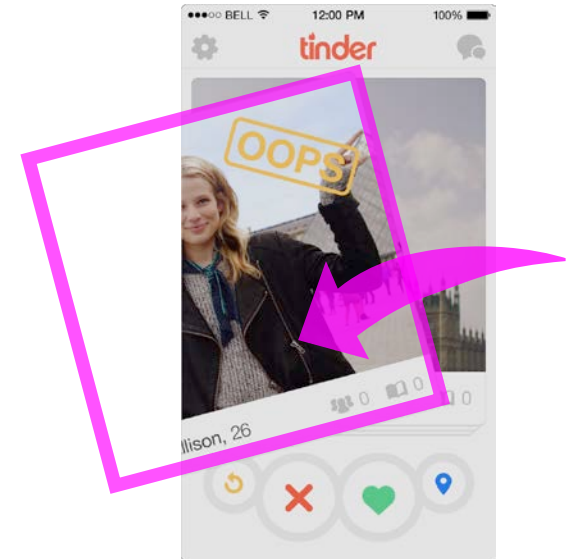


By removing the need to choose portrait versus landscape mode, Instagram made it easier for the user. Only square photos could be taken on Instagram -- which were uncommon at the time and could stand out. Instagram made things easy.

Analogy: Similar to when Steve Jobs removed the extra buttons on a mouse to have only one button. In doing so, the Mac became known for simplicity.

Tinder

*Iconic gesture for choosing
“thumbs up/down”*



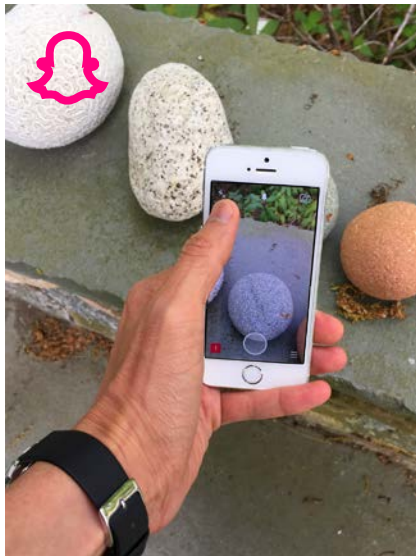
Traditional computers are grounded in the one- or two-button mouse -- which tends to promote “clicking” and minimal dragging. The touch screen introduced a new element: swiping. When supported by animation, it speaks of power.

Analogy: The “slide to unlock” feature on the Apple iPhone introduced the idea of translating an emphatic motion to a button press.

...Design Elements That Have Made a Difference... per John Maeda

Snapchat

Start with the activity to bias towards



Most imaging applications asked to turn on the camera, whereas Snapchat began the interaction in live camera mode. The invitation to snap a photo was immediate; and the secretive, self-destruct feature completed the addictive loop.

Analogy: A hammer's handle invites you to grasp it. In the design world that's called an object's "affordance" — it primes how you might use it.

Uber

Entirely remove a constraint with technology

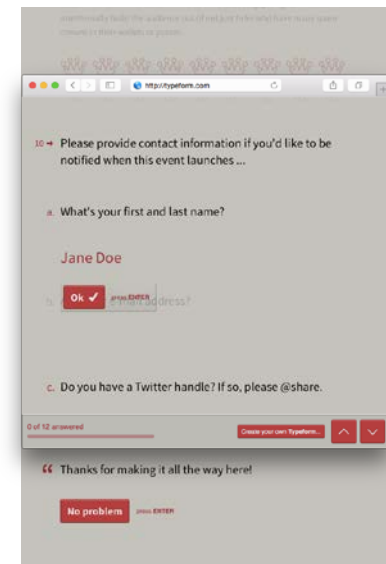


Removing cash or a card payment from a taxi transaction was a huge technical innovation that achieved a better designed outcome. It's often easy to hope that design can solve a fundamental problem — technology is what enables quantum leaps.

Analogy: When cars were rear-wheel drive, the "hump" in the back seat was a bummer. Front-wheel drive cars completely removed that constraint.

Typeform

Sustain overall context so user is aware where (s)he is



By keeping the entire interaction in view, and easily referred to within a vertical scroll, the experience of inputting information feels less like the computer is in control; and leads to completion rates of survey information with an average of 60% (vs 10%).

Analogy: The acclaimed film "Birdman" used the cinematic illusion of "the single take" to achieve a similar effect to create greater viewer immersion.

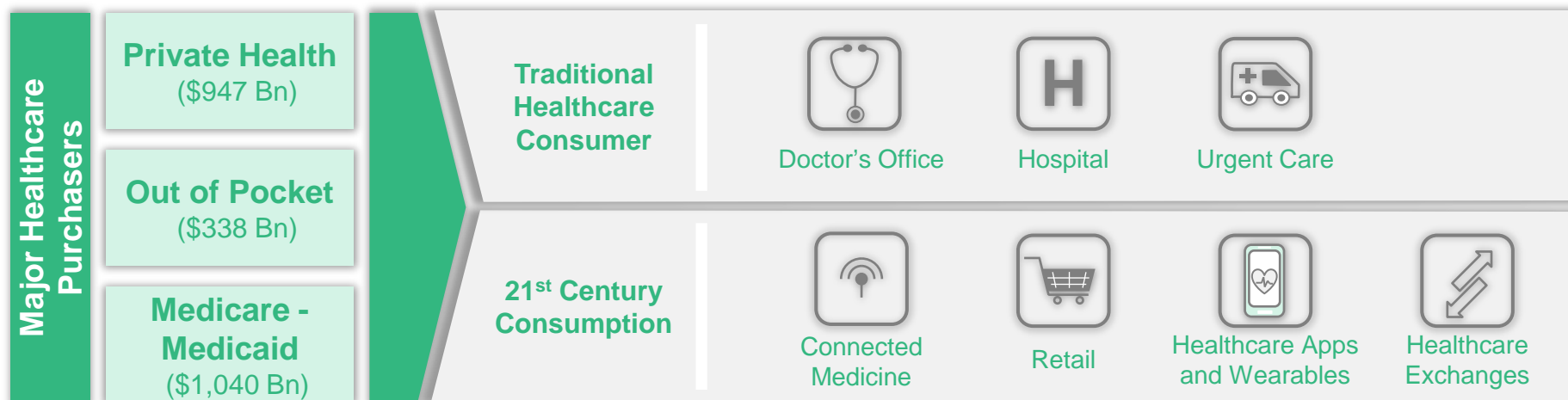
*Healthcare – Continuing to Shift
Towards Consumer-Driven,
Value-Based Care =
Opportunity for Technology Solutions*

US Healthcare in the 21st Century

Purchase + Delivery Change Forever

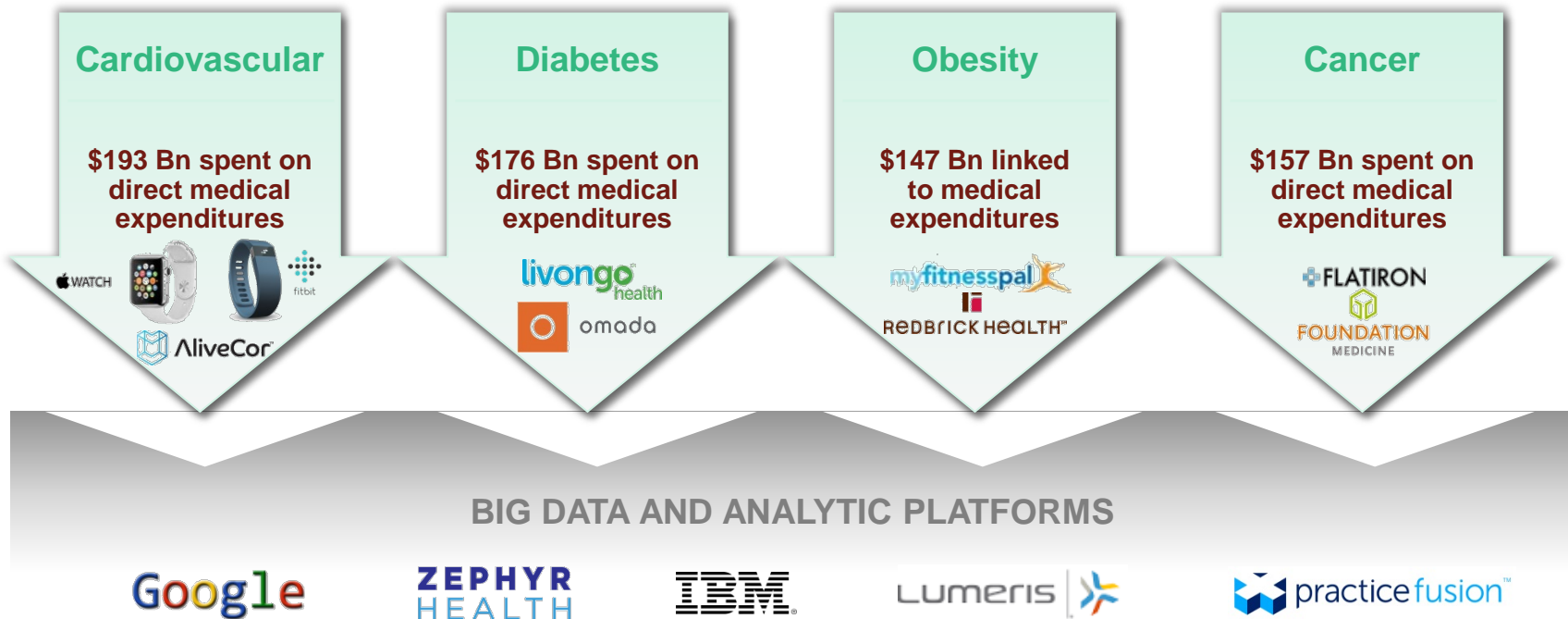
ACA and Government Effects

- With Cadillac tax coming into effect in 2018, employers are moving towards offering high deductible health benefit plans
- 72% of employers offer at least 1 consumer directed health plan
- 30% of Medicare payments will be tied to quality or value by end of 2016 and 50% by end of 2018
- Effective Jan 2015, Medicare has separate payments for chronic care management for “non-face-to-face” care



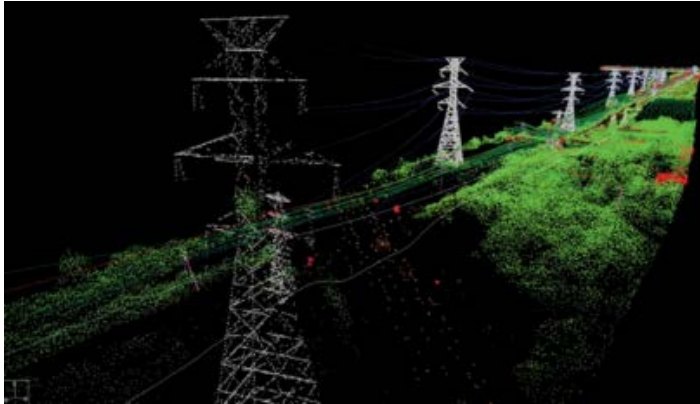
Lower Healthcare Costs by Utilizing Technology to Help Manage and Prevent Chronic Diseases

- In 2013, the US government spent \$591 billion on Medicare. However, Medicare is projected to have insufficient funds to pay all hospital bills beginning in 2030
- Chronic disease accounts for 86% of US healthcare costs, which can be reduced by enabling the healthcare ecosystem with innovative technology

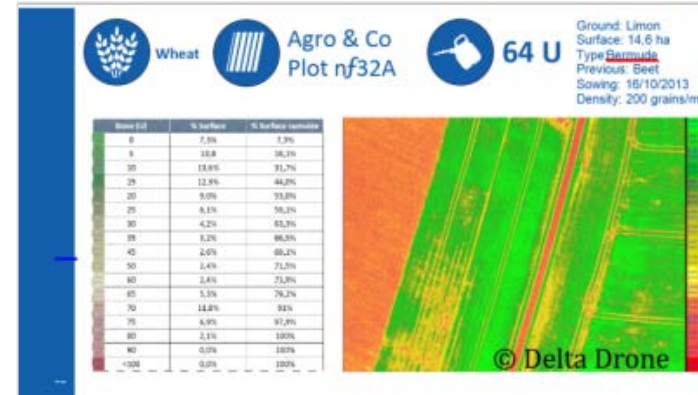


More Drone Thoughts

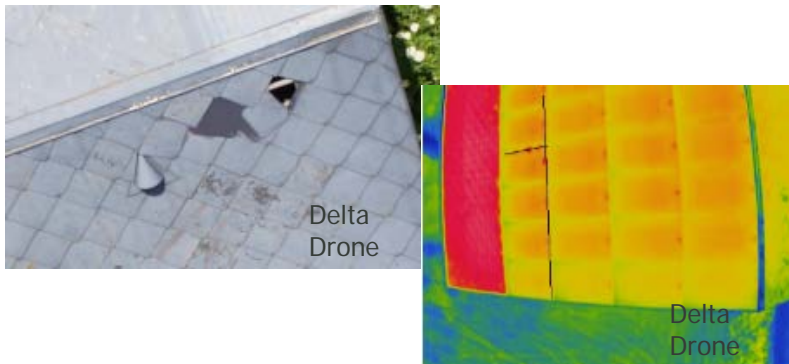
Drones = Driving New Wave of Big Data Collection / Analysis



Point cloud models created from aerial LiDAR surveys measure conductor tension & vegetation encroachment, reducing inspection cost & injury.



Vegetation health maps created from multi-spectral imaging surveys help minimize use of water & pesticides & maximize crop yields.



High resolution photos of rooftops aid damage assessment for insurance underwriters & thermal imaging being used for building insulation inspections.



Stockpile maps created from aerial photo surveys provide faster & more accurate volumetric calculations for mining and quarry operations.

Consumer / Commercial Drone Development – Ranking Countries by Government Accommodation...

1) France & United Kingdom

- Both countries allow Beyond Visual Line of Sight “BVLOS” commercial operations.
 - In France, users must obtain a proper pilot’s license plus 100 hours of flying experience & 20 hours of drone training.
 - In United Kingdom, operator must be approved by the Civil Aviation Authority “CAA.”
- France & UK both have training certifications, weight categories & relatively mature regulatory framework.

2) Canada

- Early to allow commercial operations with Special Flight Operating Certificates and regulator takes holistic safety approach without requiring pilots licenses. In November 2014, Transport Canada issued blanket exemptions for drones weighing less than 2kgs, but restrictions are tight whereby UAVs 2kg or less have to avoid flying closer than 9km from build-up areas (e.g. group of buildings larger than a farmstead).
- Still lacks a comprehensive regulatory framework.

3) Australia

- Australia has a mature regulatory framework, but Civil Aviation and Safety Authority “CASA” is rewriting its regulations with the concept of a micro UAS rule. Yamaha has had success in Australia with its R-MAX unmanned helicopter.

4) Japan

- Led way on UAVs 20 years ago with development of the Yamaha R-MAX, but country did not develop regulatory structure, and has lost its early technical lead.

...Consumer / Commercial Drone Development – Ranking Countries by Government Accommodation

5) USA

- FAA is about 6 months into an exemption program that grants company-by-company exemptions (permits) for specific UAS applications. However, those permits come with restrictions & conditions that pose impediments to operators, such as pilot certification (in a real aircraft), mandatory separation from persons and structures (500 feet), a prohibition against night operations, & other parameters that are generally viewed as overly conservative & potentially not capable of being satisfied by many of the companies being granted those permits. Agency claims that statutes prohibit it from providing a more reasonable approach to UAS permits.
- FAA is trying to speed up its processes, and is now up to ~400 exemptions granted to companies. However, it still has a massive backlog with ~1,200 more pending. Additionally, the FAA is at least 18 months away from actual small UAS rules.

6) China

- Military allots only 1/5 of airspace to civilian use and is very sensitive about drone usage. While there is no blanket ban on commercial drone activity, China's Civil Aviation Administration requires anyone operating a drone >7kg to have a license. For flying drones <7kg, no license is required as long as it's below 400 feet and within operator's line of sight. However, this policy has caused confusion among operators and regulators. In one example, the Beijing Police briefly detained a well-known aerial photographer for filming the Forbidden City - they confiscated his quadcopter and later returned it to the photographer at the airport on his flight out of China.
- **Other countries developing UAS regulations**
 - Mexico recently released framework including micro UAS rule.
 - New Zealand is behind but has proposed a solid risk-based set of regulations.

Appendix

Established 'Big' Internet Markets (China / USA / Japan / Brazil / Russia) = +6% Growth in 2014 vs. +7% Y/Y = Slowing, Most Well Past 50% Penetration

Countries with Internet Penetration >45%, 2014

Rank	Country	2014 Internet Users (MM)	2014 Internet User Growth	2013 Internet User Growth	Population Penetration	Total Population (MM)	Per Capita GDP (\$000)
1	China	632	7%	10%	47%	1,356	\$13
2	United States	269	2	2	84	319	\$55
3	Japan	110	0	9	86	127	\$37
4	Brazil	105	4	12	52	203	\$16
5	Russia	87	15	9	61	142	\$25
6	Germany	68	0	1	84	81	\$46
7	United Kingdom	57	4	1	90	64	\$40
8	France	54	-1	5	82	66	\$40
9	Iran (I.R.)	49	8	16	60	81	\$17
10	Egypt	43	15	13	50	87	\$11
11	Korea (Rep.)	42	1	1	85	49	\$35
12	Turkey	38	4	6	46	82	\$20
13	Italy	36	1	2	58	62	\$35
14	Spain	34	0	7	72	48	\$34
15	Canada	30	0	5	86	35	\$45
	Top 15	1,653	5%	7%	59%	2,800	
	World	2,793	8%	10%	39%	7,176	

Developing 'Big' Internet Markets (India / Indonesia / Nigeria / Mexico) = +24% Growth in 2014 vs. +23% Y/Y = Still Growing Strongly

Countries with Internet Penetration ≤45%

Rank	Country	2014 Internet Users (MM)	2014 Internet User Growth	2013 Internet User Growth	Population Penetration	Total Population (MM)	Per Capita GDP (\$000)
1	India	198	33%	34%	16%	1,236	\$6
2	Indonesia	83	17	13	33	254	\$11
3	Nigeria	67	18	19	38	177	\$6
4	Mexico	52	15	11	43	120	\$18
5	Vietnam	41	12	14	44	93	\$6
6	Philippines	40	4	27	37	108	\$7
7	Pakistan	21	11	12	11	196	\$5
8	Thailand	20	10	12	29	68	\$14
9	Ukraine	19	23	17	42	44	\$9
10	Kenya	18	24	17	39	45	\$3
11	Peru	12	4	7	39	30	\$12
12	Uzbekistan	11	6	22	38	29	\$6
13	Bangladesh	11	5	28	7	166	\$3
14	Sudan	8	10	13	23	35	\$4
15	Algeria	6	10	11	17	39	\$14
Top 15		607	19%	21%	23%	2,641	
World		2,793	8%	10%	39%	7,176	

Established 'Big' Smartphone Markets (USA / Japan / Brazil / Germany / UK) = +13% Growth in 2014 vs. +18% in 2013 = Slowing, Most Well Past 50% Penetration

Markets with >45% Penetration

Rank	Country	2014 Smartphone Subs (MM)	2014 Smartphone Sub Growth	2013 Smartphone Sub Growth	Population Penetration	Total Population (MM)	Per Capita GDP (\$000)
1	USA	204	9%	16%	64%	319	\$55
2	Japan	104	5	5	82	127	\$37
3	Brazil	96	28	43	47	203	\$16
4	Germany	52	33	30	65	81	\$46
5	United Kingdom	45	9	14	71	64	\$40
6	France	43	16	43	65	66	\$40
7	South Korea	39	5	15	80	49	\$35
8	Spain	26	1	19	55	48	\$34
9	Saudi Arabia	25	14	6	91	27	\$52
10	South Africa	23	26	48	47	48	\$13
11	Australia	22	1	40	100	23	\$46
12	Canada	21	16	20	60	35	\$45
13	Argentina	20	28	52	47	43	\$23
14	Malaysia	20	16	38	66	30	\$25
15	Taiwan	14	1	50	61	23	\$46
Top 15		756	13%	21%	64%	1,186	
World		2,107	23%	27%	29%	7,176	

Developing 'Big' Smartphone Markets (China / India / Indonesia / Russia) = +28% Growth in 2014 vs. +29% in 2013 = Strong, Well Below 50% Penetration

Markets with ≤45% Penetration

Rank	Country	2014 Smartphone Subs (MMs)	2014 Smartphone Sub Growth	2013 Smartphone Sub Growth	Population Penetration	Total Population (MMs)	Per Capita GDP (\$000)
1	China	513	21%	26%	38%	1,356	\$13
2	India	140	55	19	11	1,236	\$6
3	Indonesia	64	40	36	25	254	\$11
4	Russia	57	24	95	40	142	\$25
5	Mexico	30	31	50	25	120	\$18
6	Philippines	29	39	47	27	108	\$7
7	Thailand	29	11	69	43	68	\$14
8	Italy	28	17	26	45	62	\$35
9	Turkey	23	22	42	28	82	\$20
10	Nigeria	23	58	62	13	177	\$6
11	Vietnam	21	33	39	23	93	\$6
12	Egypt	20	50	20	23	87	\$11
13	Poland	14	42	12	37	38	\$25
14	Colombia	12	41	50	26	46	\$13
15	Iran	10	42	19	12	81	\$17
Top 15		1,014	29%	32%	26%	3,950	
World		2,107	23%	27%	29%	7,176	

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