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# Internet Trends 2014

Mary Meeker  
May 28 @ Code 2014

# INTERNET TRENDS 2014 – CODE CONFERENCE

Mary Meeker

May 28, 2014

[kpcb.com/InternetTrends](http://kpcb.com/InternetTrends)



# Outline

- 1) Key Internet Trends**
- 2) Status Update – Tech Stocks / Education / Healthcare**
- 3) Re-Imagining Continues**
- 4) Screen + Video Growth = Still Early Innings**
- 5) China's Epic Share Gains**
- 6) Public Company Trends**
- 7) One More Thing(s)...**
- 8) Ran Outta Time Thoughts / Appendix**

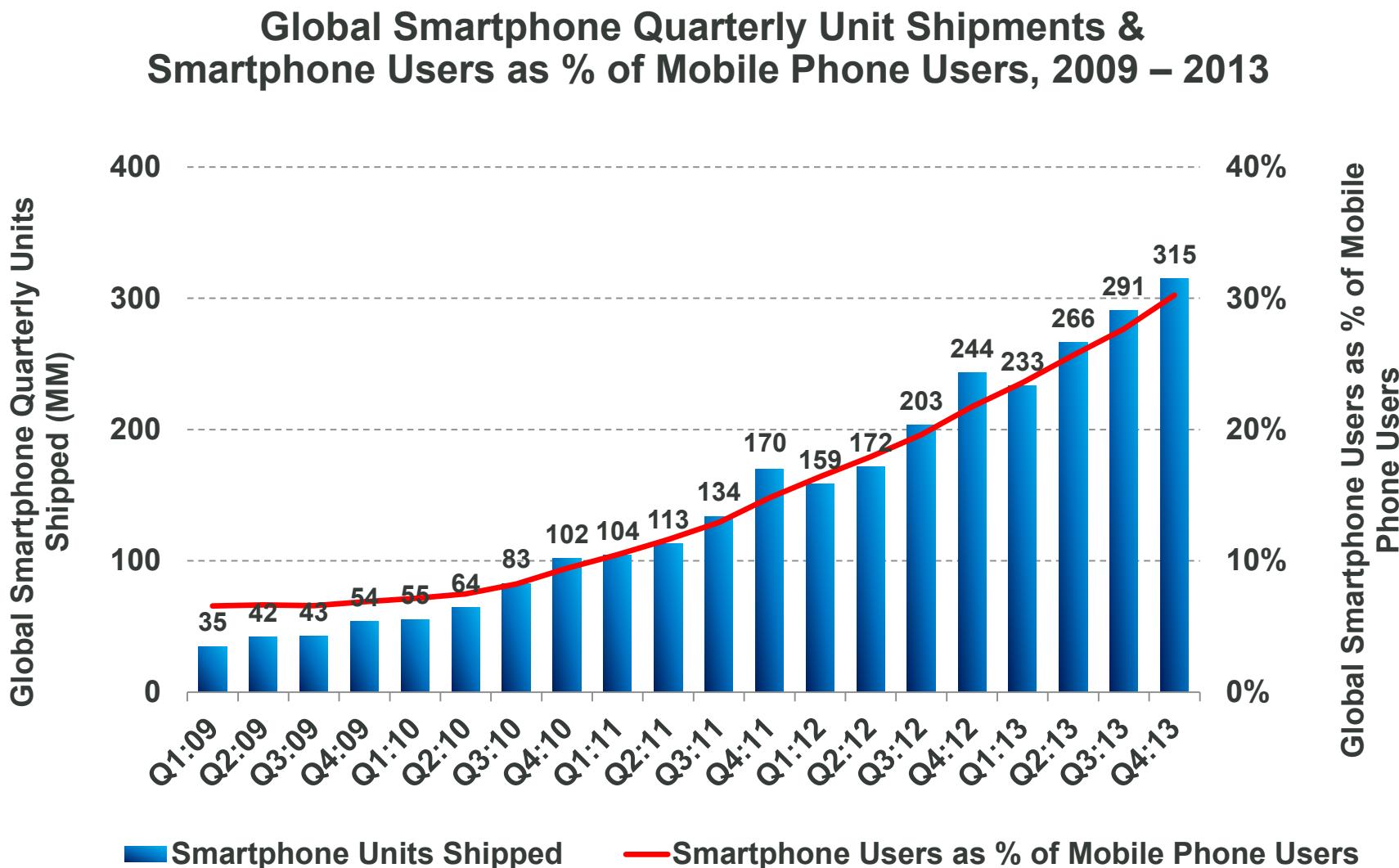
# KEY INTERNET TRENDS

# High-Level User / Usage Trends\*

- **Internet Users**  
<10% Y/Y growth & slowing...fastest growth in more difficult to monetize developing markets like India / Indonesia / Nigeria
- **Smartphone Subscribers**  
+20% strong growth though slowing...fastest growth in underpenetrated markets like China / India / Brazil / Indonesia
- **Tablets**  
+52% early stage rapid unit growth
- **Mobile Data Traffic**  
+81% accelerating growth...video = strong driver

*Mobile Usage Growth =  
Very Strong*

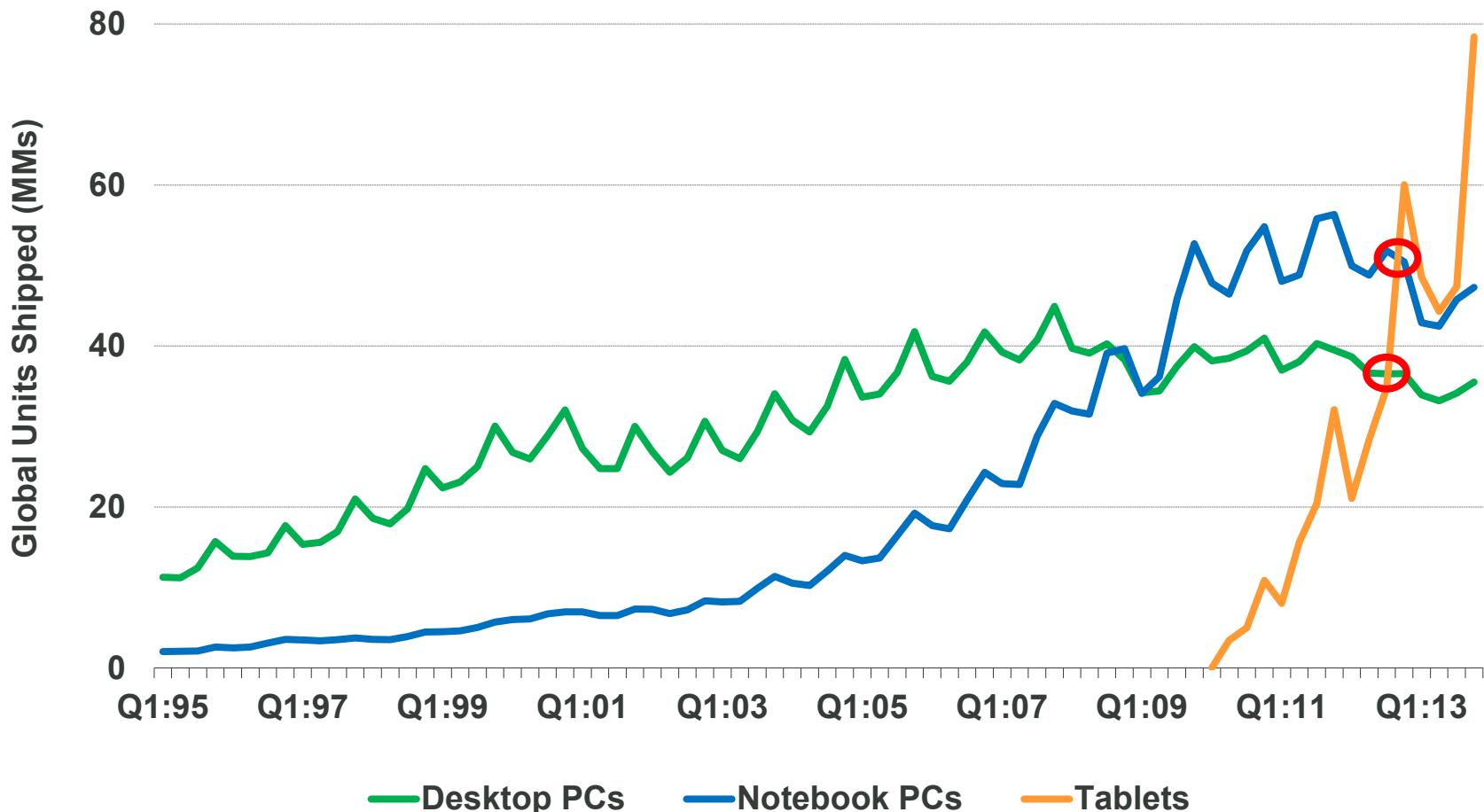
# Smartphone Users = Still Lots of Upside... @ 30% of 5.2B Mobile Phone User Base



Source: Smartphone shipments per Morgan Stanley Research. User base per KPCB estimates based on Morgan Stanley Research and ITU data. Smartphone users & mobile phone users represent unique individuals owning mobile devices, as noted on slide 8; Mobile Subscribers based on number of connections & may therefore overstate number of mobile users.

# Tablet Units = Growing Faster Than PCs Ever Did... +52%, 2013

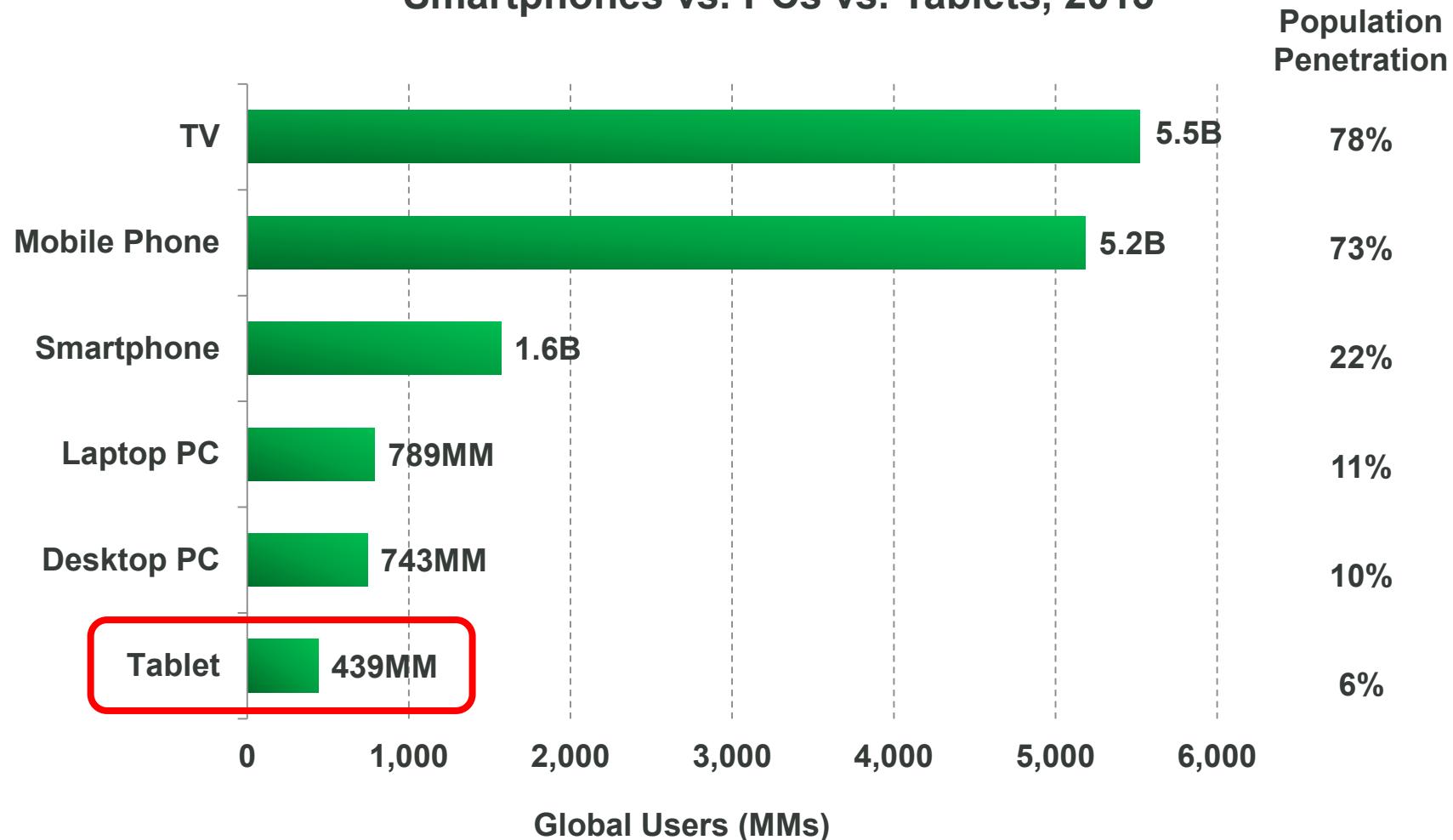
Global PC (Desktop / Notebook) and Tablet Shipments by Quarter  
Q1:95 – Q4:13



Source: Morgan Stanley Research. Note: Notebook PCs include Netbooks.

# Tablet Users = Loads of Growth Ahead... @ 56% of Laptops / 28% of Smartphones / 8% of TVs

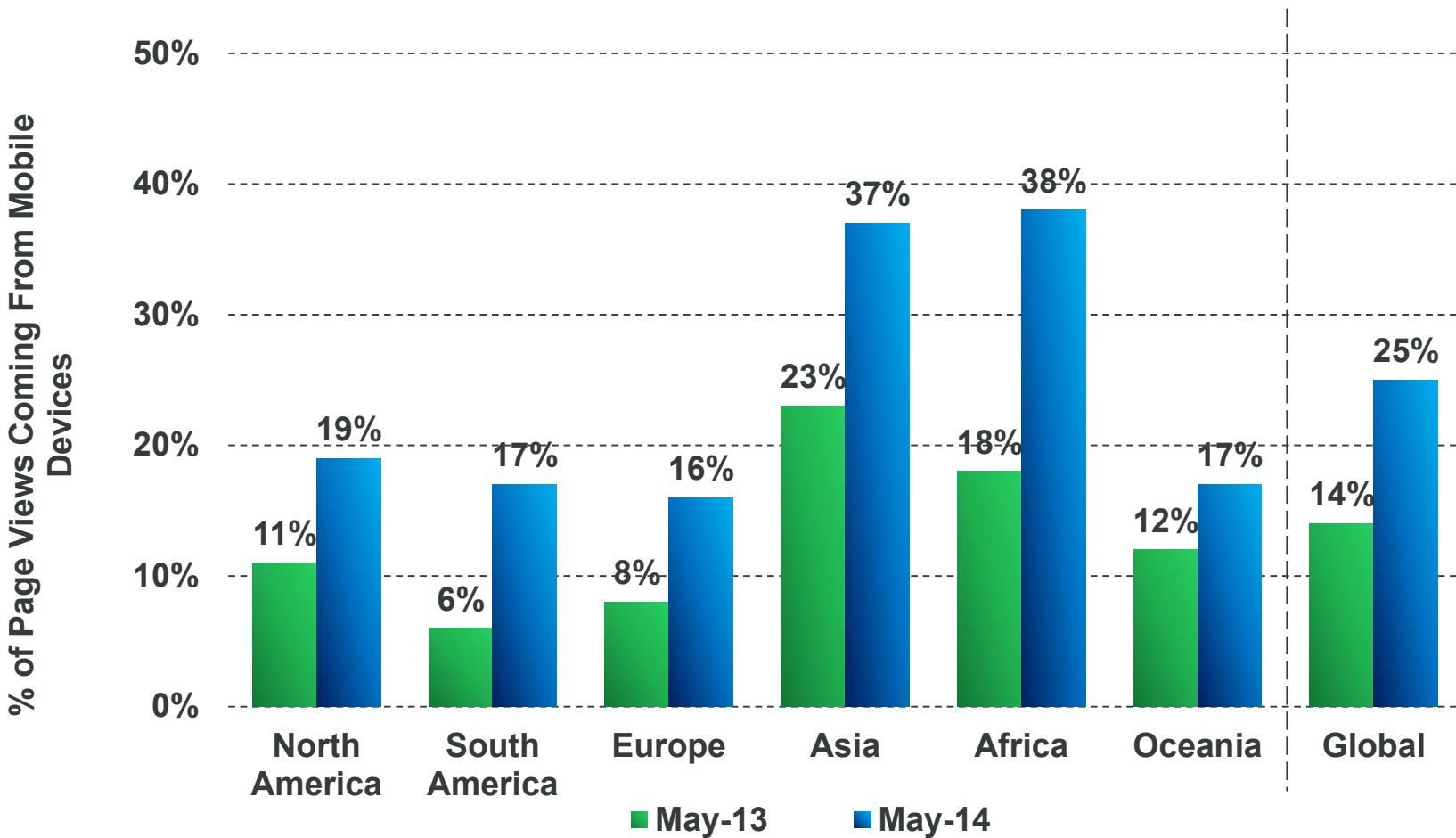
Global Users of TVs vs. Mobile Phones vs.  
Smartphones vs. PCs vs. Tablets, 2013



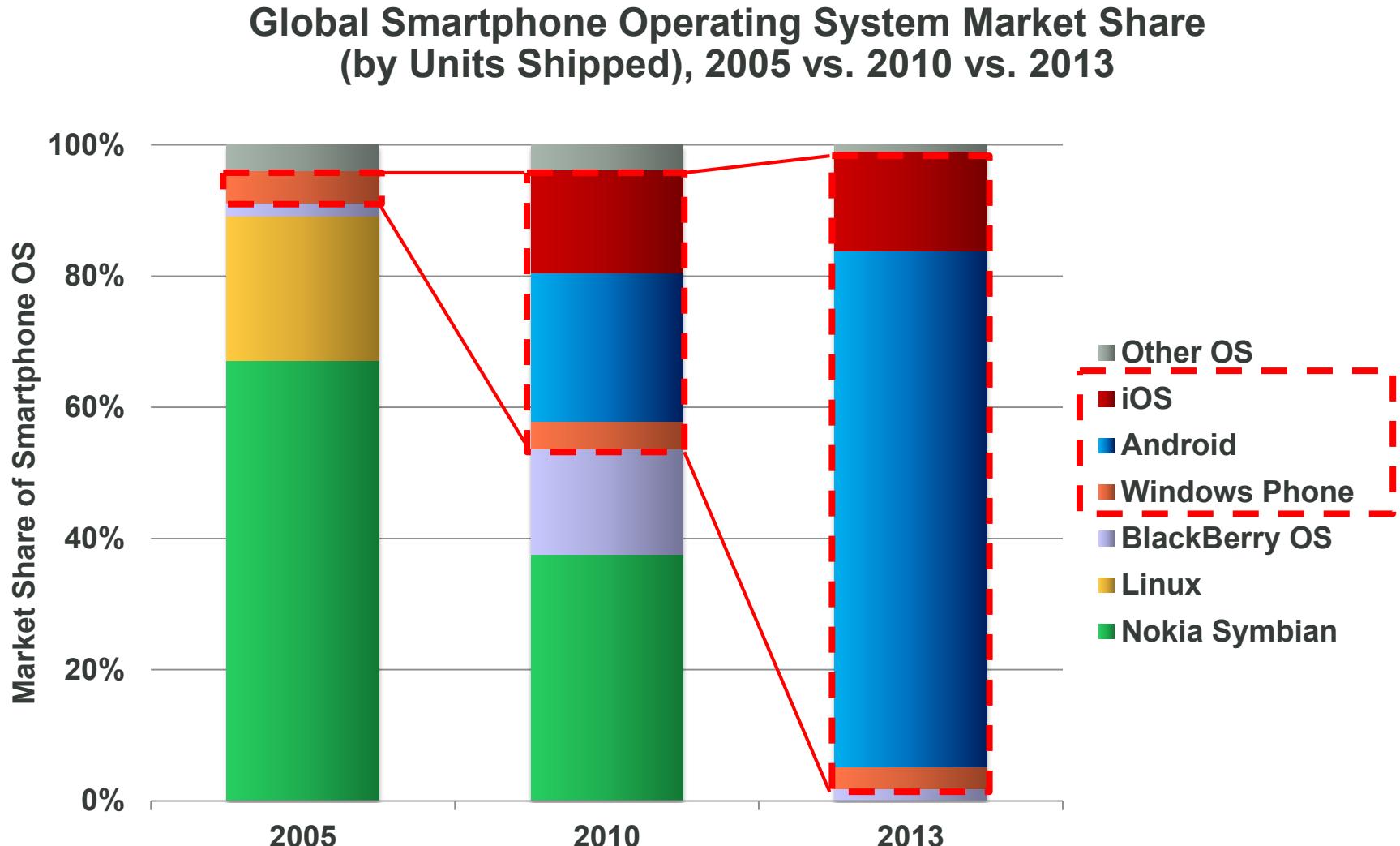
Source: KPCB estimates based on Morgan Stanley Research and ITU data. TV Users is estimate for users with TVs in household, given 1.4B households with TVs in world.

Mobile Usage = Continues to Rise Rapidly...  
@ 25% of Total Web Usage vs. 14% Y/Y

### Mobile Usage as % of Web Usage, by Region, 5/14



# Global Smartphone Operating Systems ‘Made in USA’... 97% Share from 5% Eight Years Ago



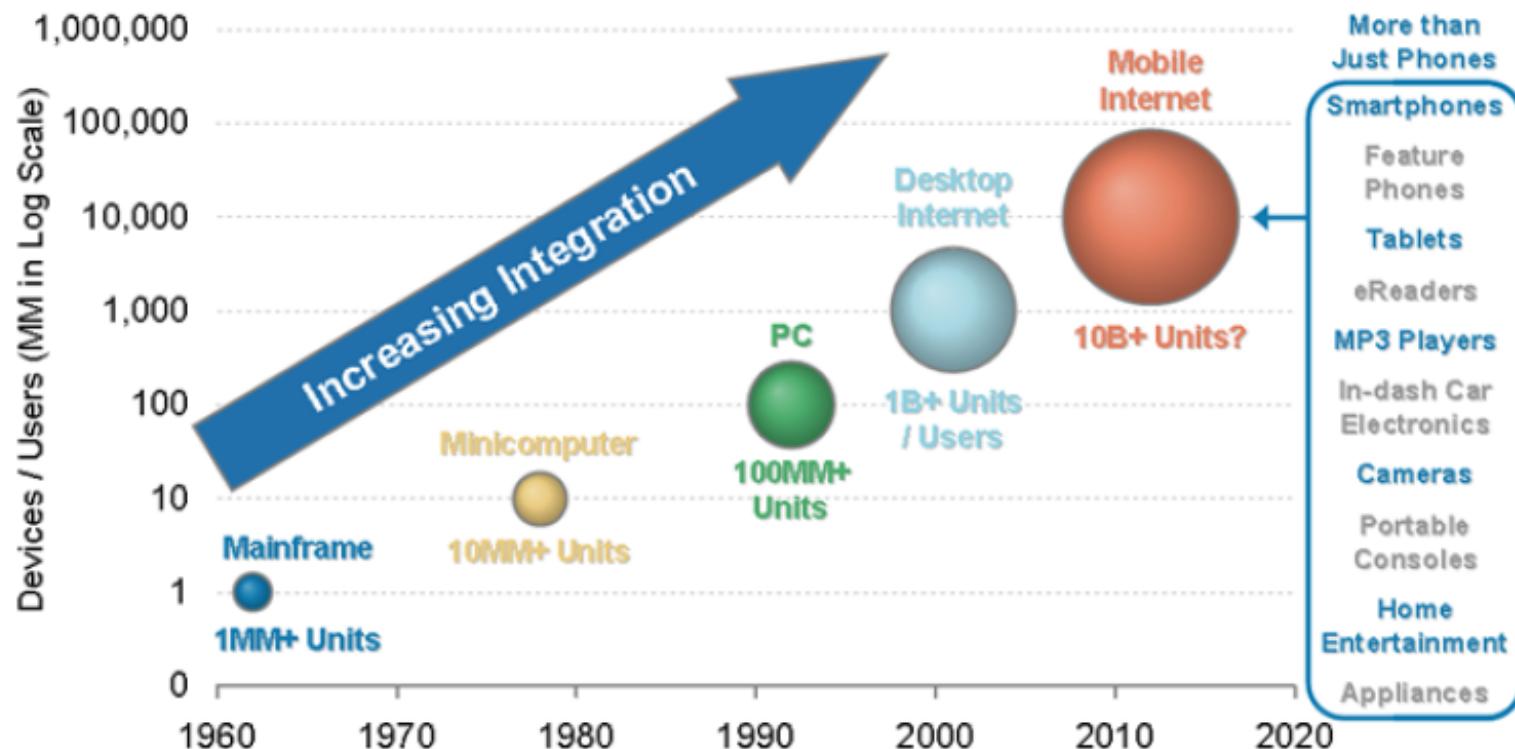
Source: 2005 & 2010 data per Gartner, 2013 data per IDC.

# Each New Computing Cycle = 10x > Installed Base than Previous Cycle

Exhibit 29

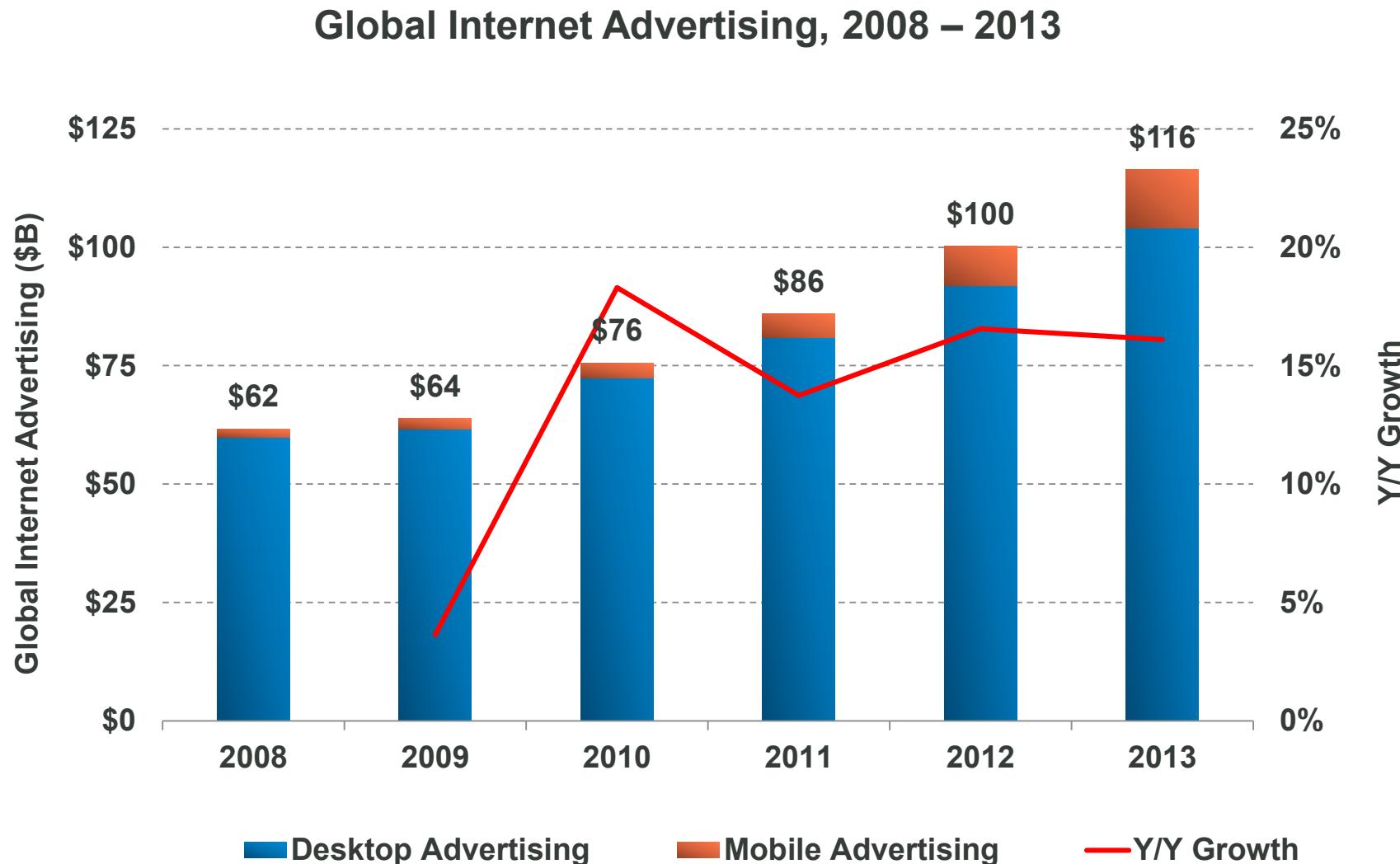
**Each new computing cycle typically generates  
around 10x the installed base of the previous cycle**

Devices or users in millions; logarithmic scale



*Advertising / Monetization =  
Mobile Especially Compelling*

# Internet Advertising = Remains Strong... +16%...Mobile +47% to 11% of Total



# ARPU Upside for Facebook + Twitter...

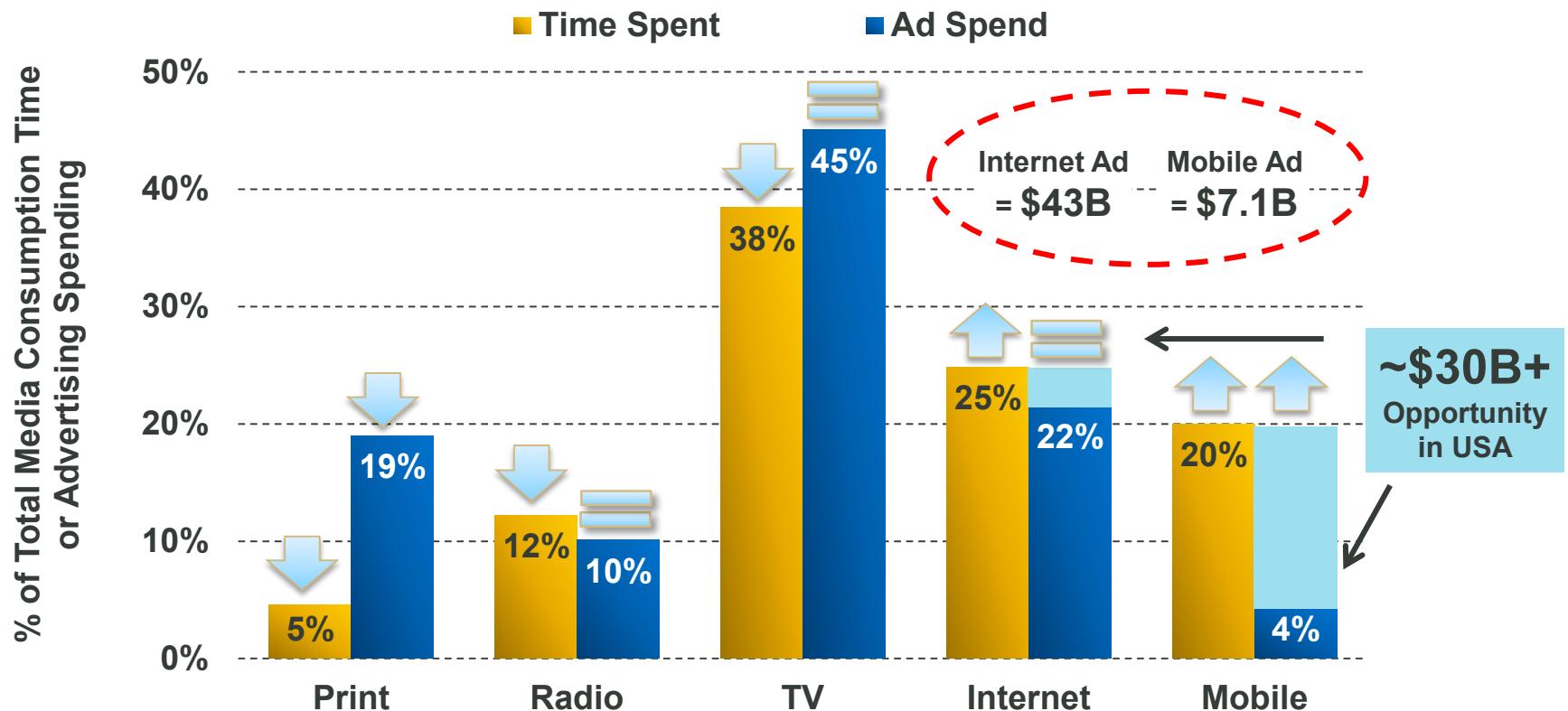
Google ARPU = 6x Facebook...Facebook = 2x Twitter

## Annualized Ad ARPU (\$) & Mobile % of MAU

Annualized Ad ARPU (\$)	Q1:12	Q2:12	Q3:12	Q4:12	Q1:13	Q2:13	Q3:13	Q4:13	Q1:14
<b>Google (\$)</b>	\$37	\$37	\$38	\$43	\$42	\$41	\$41	\$46	\$45
<i>Y/Y Growth</i>	9%	6%	6%	14%	14%	11%	10%	8%	8%
<b>Facebook (\$)</b>	\$4.00	\$4.28	\$4.43	\$5.15	\$4.60	\$5.65	\$6.14	\$7.76	\$7.24
<i>Y/Y Growth</i>	1%	(2%)	7%	12%	15%	32%	39%	51%	57%
<i>Mobile % of MAU</i>	54%	57%	60%	64%	68%	71%	74%	77%	79%
<b>Twitter (\$)</b>	\$1.29	\$1.50	\$1.64	\$2.15	\$1.97	\$2.22	\$2.65	\$3.65	\$3.55
<i>Y/Y Growth</i>	90%	134%	108%	93%	52%	48%	61%	69%	80%
<i>Mobile % of MAU</i>	--	--	--	--	--	75%	76%	76%	78%

# Remain Optimistic About Mobile Ad Spend Growth... Print Remains Way Over-Indexed

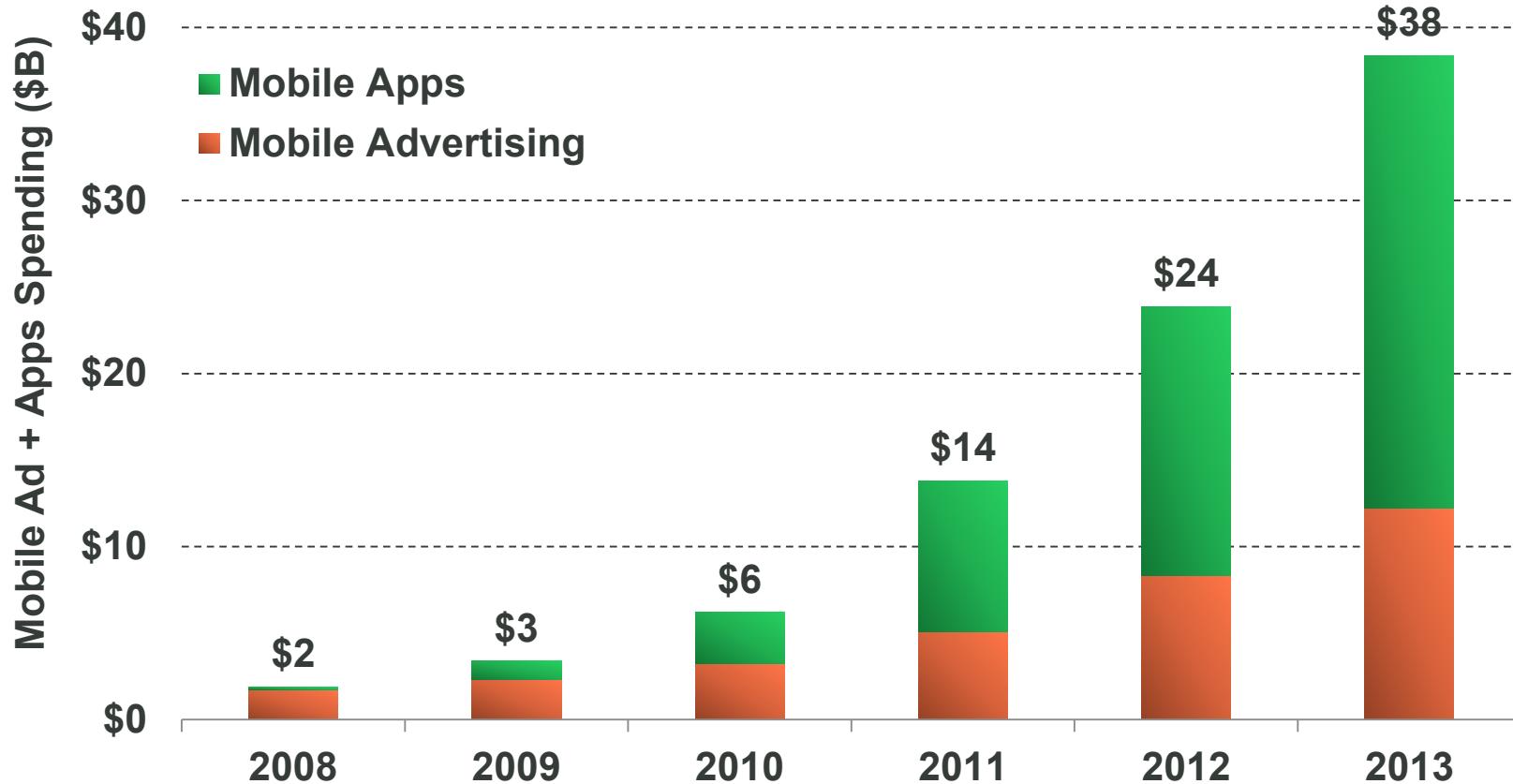
## % of Time Spent in Media vs. % of Advertising Spending, USA 2013



Source: Advertising spend based on IAB data for full year 2013. Print includes newspaper and magazine. \$30B+ opportunity calculated assuming Internet and Mobile ad spend share equal their respective time spent share. Time spent share data based on eMarketer 7/13 (adjusted to exclude outdoors / classified media spend). Arrows denote Y/Y shift in percent share.

# Mobile App Revenue = Still Trumps Mobile Ad Revenue... @ 68% of Mobile Monetization

## Global Mobile App + Advertising Revenue, 2008 – 2013



*Cyber Threats Intensifying...*

# Cybersecurity Trends – Kevin Mandia (Mandiant / FireEye)

- 1) # of Active Threat Groups Rising Rapidly =  
300 (+4x since 2011) per Mandiant tracking**
- 2) Increased Nation-State Activities\***
- 3) Vulnerable Systems Placed on Internet Compromised in  
<15 Minutes\*\***
- 4) +95% of Networks Compromised in Some Way**
- 5) As Mobile Platforms Grow, Directed Attacks Will Rise**

# STATUS UPDATE – TECH STOCKS / EDUCATION / HEALTHCARE

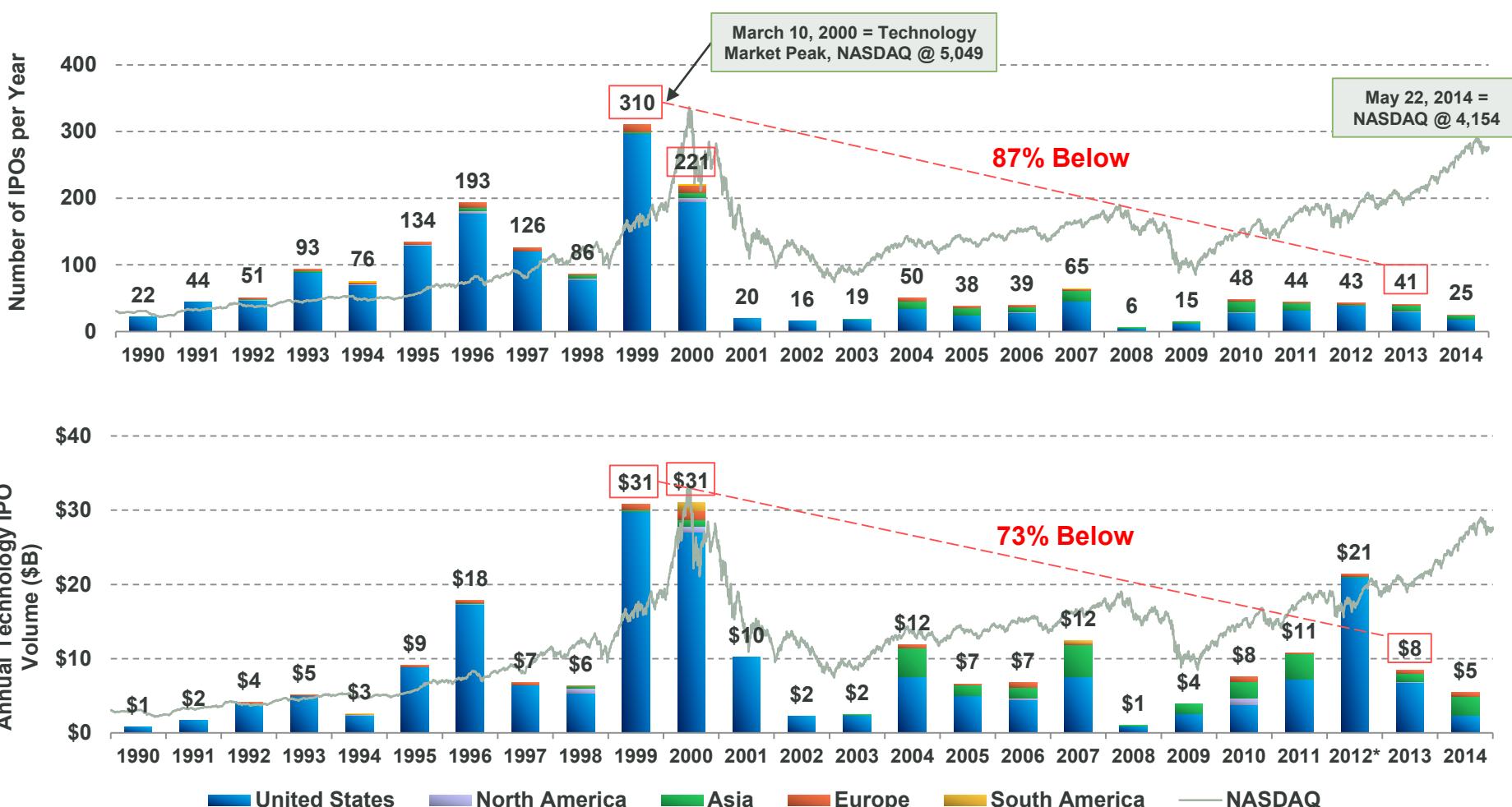
# *Technology Company Valuation Excess?*

*Some? Yes...*

*But, Let's Look @ Patterns...*

# 2013 Technology IPOs = \$ Volume 73% Below 1999 Peak Level... NASDAQ 18% Below March 2000 Peak

## Global Technology IPO Issuance, 1990 – 2014YTD

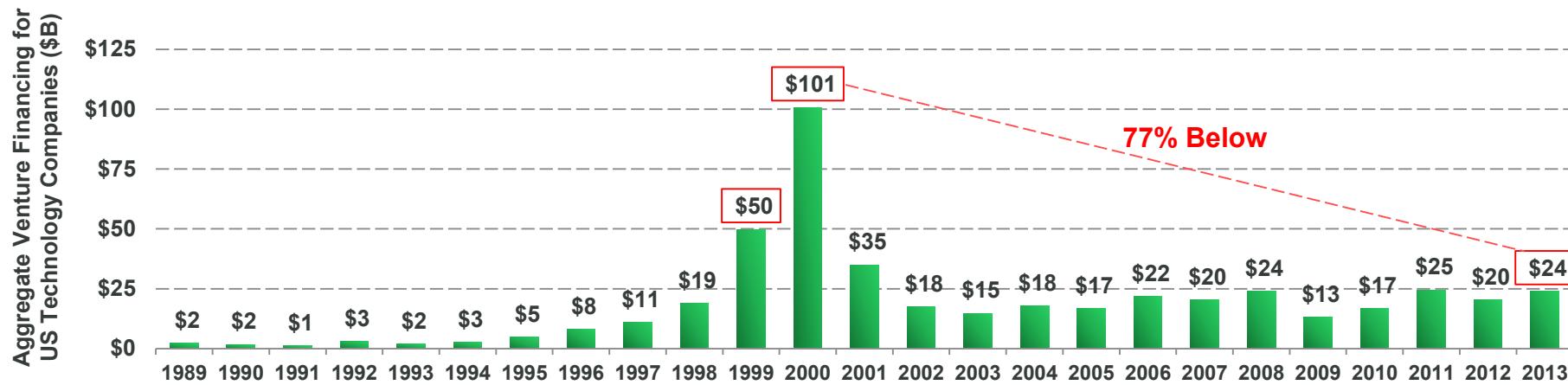


\*Facebook = 75% of 2012 IPO \$ value.

Source: Morgan Stanley Equity Capital Markets, 2014YTD as of 5/21/14, data per Dealogic, Bloomberg, & Capital IQ.

# 2013 Venture Financings = \$ Volume 77% Below 2000 Peak Level

## USA Technology Venture Capital Financing, 1989 – 2013



# Tech Companies @ 19% of S&P500 Value = Well Below 35% March, 2000 Peak Level

## Technology Company Market Value as % of S&P500, 1991 – 2014YTD



*Education =  
May Be @ Inflection Point*

# Education Realities = Facts – USA...

**Education is Important** – Getting education right is crucial for future success

**Education is Expensive**

- **Secondary School Costs** – USA ranks 4<sup>th</sup> globally in expenditure per student among 34 OECD countries\*
- **Higher Education Costs** – 71% of 4-year college grads = \$30K average student loan debt. All in, this \$1T+ exceeds credit card & auto loan debt

**Education Results Often Subpar**

- **Public Schools** – Rank 27<sup>th</sup> globally in math / 20<sup>th</sup> in science / 17<sup>th</sup> in reading
- **College Job Prep** – 1/3 of four-year college graduates feel their education did not prepare them well for employment

# ...Education Realities = Reasons for Optimism...

- **People Care About Education** – 8 in 10 Americans say education issue is extremely / very important to them
- **Personalized Education Ramping** – People learn in different ways and Internet offers many options – on own terms and at low cost – to many, with real-time feedback
- **Distribution Expanding & Education Start Up Costs Declining** – Direct to consumer / teacher allows education products to receive rapid mass adoption...productization / distribution costs falling

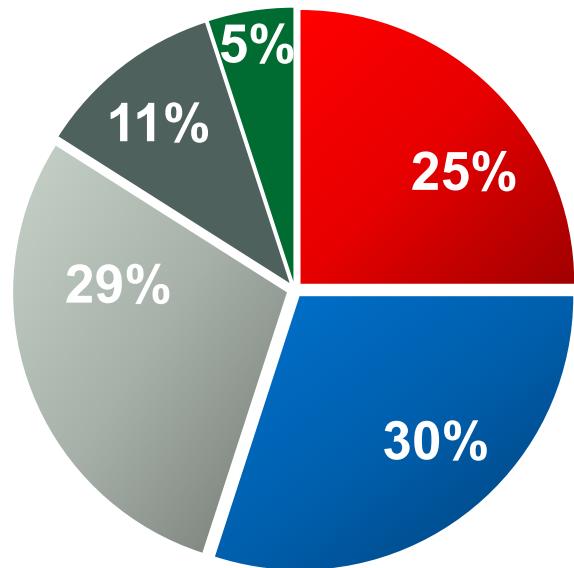
# ...Education Realities = Green Shoots Data

- **Graduation Rates Rising** – 81% of high school freshman graduated in 2012, up from 74% five years ago
- **Language Learning Easier / Fun** – 25MM+ people (+14x Y/Y) use Duolingo app to learn new language
- **Communication Easier** – 12MM+ teachers / students / parents (+15x Y/Y) use Remind101 to send 500MM+ messages
- **Behavior Feedback Easier** – 35MM+ teachers / students / parents using ClassDojo to help improve student behavior through real-time feedback
- **Online Courses Can Help Learning Process (for Teachers + Students)**
  - 430MM+ views (+69% Y/Y) on Khan Academy YouTube channel, 10MM MAUs
  - 65MM+ courses (+59% Y/Y) from iTunes U Open University downloaded
  - 7MM+ students (+ >2x Y/Y) enrolled in Coursera courses

# Online Education = It's a Global Thing

**Duolingo (25MM Users)**

Traffic Distribution, 4/14

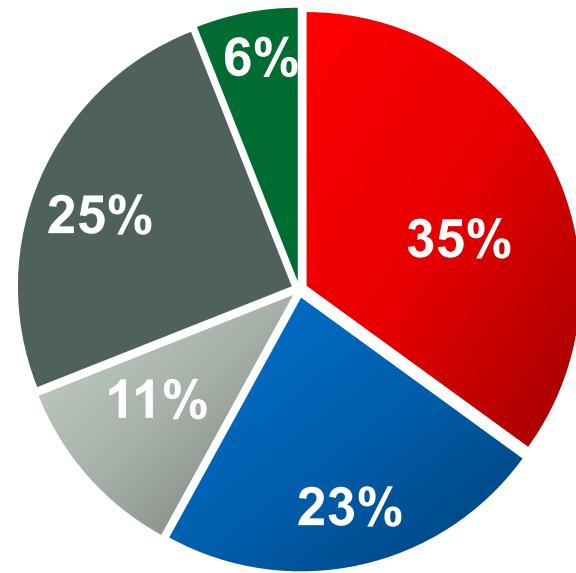


- North America
- Latin America
- Africa / Oceania

- Europe
- Asia

**Coursera (7MM Users)**

Student Distribution, 3/14



- North America
- Latin America
- Africa / Oceania

- Europe
- Asia

*Healthcare =  
May Be @ Inflection Point*

# Healthcare Realities = Facts – USA...

- **Costs Up to 17% of GDP** – @ \$2.8T in 2012, +2x as percent of GDP in 35 years
- **Waste = 27% of Spend** – \$765B of healthcare spend estimated from excess costs: \$210B = unnecessary services; \$190B = excess administrative; \$55B = missed prevention opportunities; \$310B = inefficient delivery of care / fraud / inflated prices (2009)
- **Employers Carry Big Burden** – \$620B spend by employers for 150MM Americans (2014E)...costs up 28% vs. 5 years ago...67% CFOs indicate healthcare costs = leading economic concern
- **Individual Costs Rising** – >25% of family income likely to go to healthcare spending in 2015E vs. 18% in 2005...top 5% healthcare consumers (most with multiple chronic illnesses) spent 50% of healthcare dollars (2009)...>50% of personal bankruptcies driven by healthcare costs
- **Chronic Conditions = +75% of Spend** – Most costly = cancer / diabetes / heart disease / hypertension / stroke...1 in 2 Americans has at least 1 chronic condition, 1 in 4 has 2+...32% of Americans obese in 2008, up from 15% in 1990
- **Behavior = Root Cause of Many Health Problems** – Health risk behaviors cause chronic diseases. 52% of adults did not meet recommendations of physical activity (2011)...50% of those with chronic conditions not complaint with taking medicine to manage disease = \$100B on avoidable hospitalizations (2010)

# ...Healthcare Realities = Reasons for Optimism...

- **Digital Technology Enables Change** – Healthcare system has relied on antiquated systems
- **Government Enabled Change Pushes Technology**
  - *HITECH Act* – \$35B administered by Office of the National Coordinator for Electronic Health Records (EHR) + health information technology in 2013...penalties exist for non-compliance
  - *Affordable Care Act* – Coverage expansion in works
- **Consumerization of Healthcare** – Majority (52%) of consumers want to access tools / websites rankings for quality / satisfaction / patients reviews of doctors + hospitals

# ...Healthcare Realities = Green Shoots Data

- **Digitization of Healthcare Happening**
  - *Providers Using Fully Functioning EHR* – 84% of Hospitals / Academic / Institutional practices...51% (& rising) of office-based practices
  - *Consumers Happy to Communicate via Email* – 62% for healthcare concerns
  - *Digital Health Venture Investments Rising* – +39% Y/Y to \$1.9B (2013, USA)
- **Quality Over Quantity Incentives Being Implemented**
  - *Payers Incentivized to Engage Patients / Improve Care / Outcomes / Reduce Costs*
  - *Providers Shifting to Value-Based from Fee-for-Service Payments*
  - *Employers Lowering Costs by Offering Services to Improve Engagement / Choices / Care* – 46% of employers will enact participatory / outcomes based incentives (like weight loss / cholesterol levels)... By 2015, 60% will offer price transparency tools from health plans
- **Patient Engagement Rising & Yielding Results**
  - *Redbrick Health* – employer engagement platform = 4:1 ROI savings per participant
  - *Teladoc* – employer focused telemedicine platform = \$798 savings per consultation vs. office visit & ER over 30 days
  - *Mango Health* – adherence app = 84% Statin adherence vs. 52% market average
  - *WellDoc* – chronic disease platform = diabetes app prescription with reimbursement

# RE-IMAGINING CONTINUES

# *Re-Imagining Messaging / Communications*

# A Tweet – David Sacks (Yammer CEO / Founder)



**David Sacks**  
@DavidSacks

Both WhatsApp and Secret represent the ascendency of the phone book over the friend graph. It's back to the future.

Reply Retweet Favorite More

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3:17 PM - 19 Feb 2014

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# Global OTT (Over-the-Top) Messaging Services = >1B Users in <5 Years...

## Global Messaging Ecosystem – Select Players, 2013



**WhatsApp (USA), 4+ Years**

MAUs = **400MM**, +100% Y/Y

Messages / Day = **50B**, +178% Y/Y



**Tencent WeChat (China),  
3+ Years**

MAUs = **355MM**, +125% Y/Y



**Line (Japan), 2+ Years**

MAUs = **280MM**

Messages / Day = **10B**

Revenue = **\$388MM**, +5x Y/Y (Q4:13)



**KakaoTalk (Korea), 3+ Years**

Messages / Day = **5.2B**, +24% Y/Y

Revenue = **\$203MM**, +4xY/Y



**Snapchat (USA), 2+ Years**

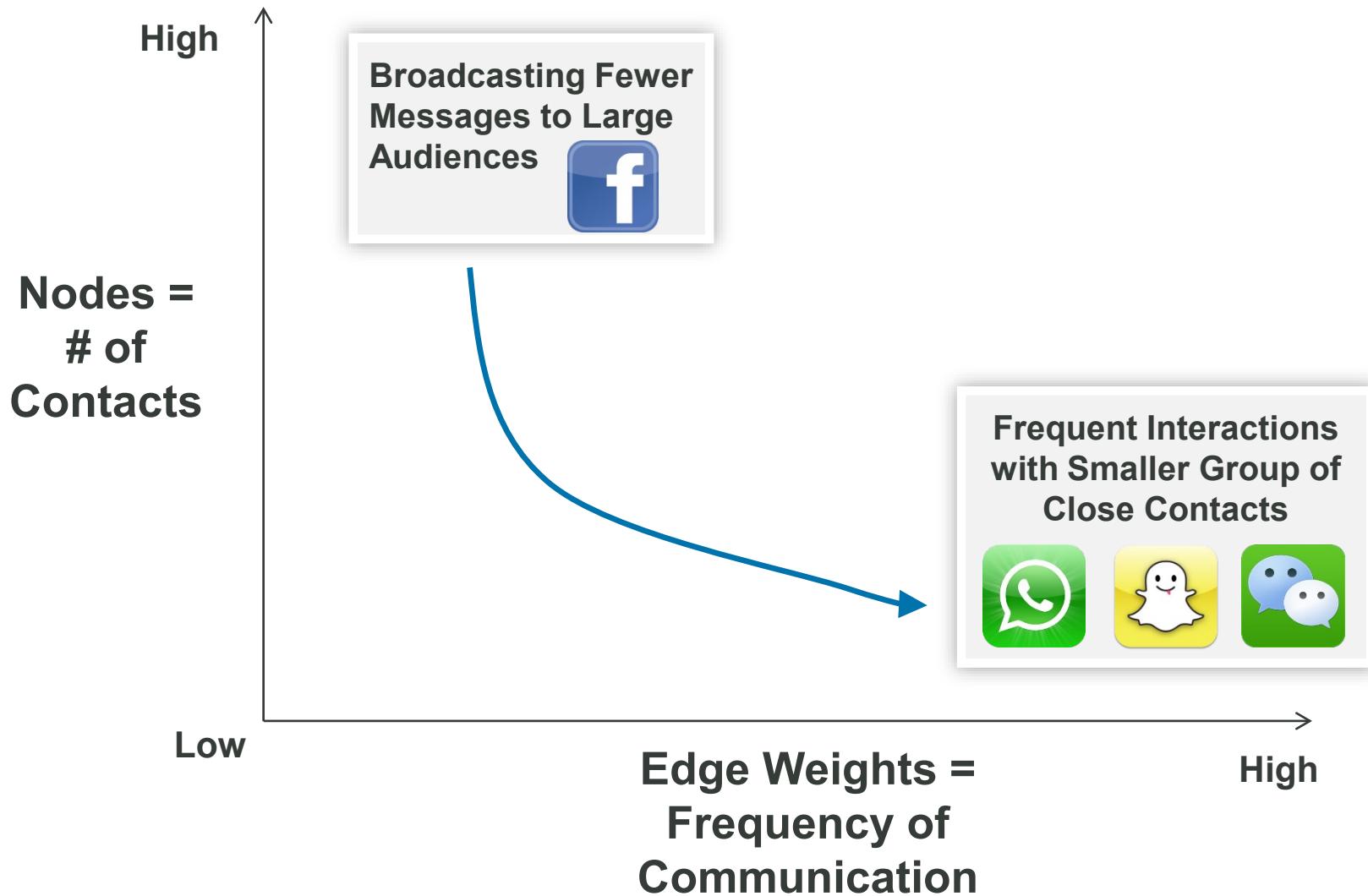
Messages / Day = **1.2B**



**Viber (Israel), 3+ Years**

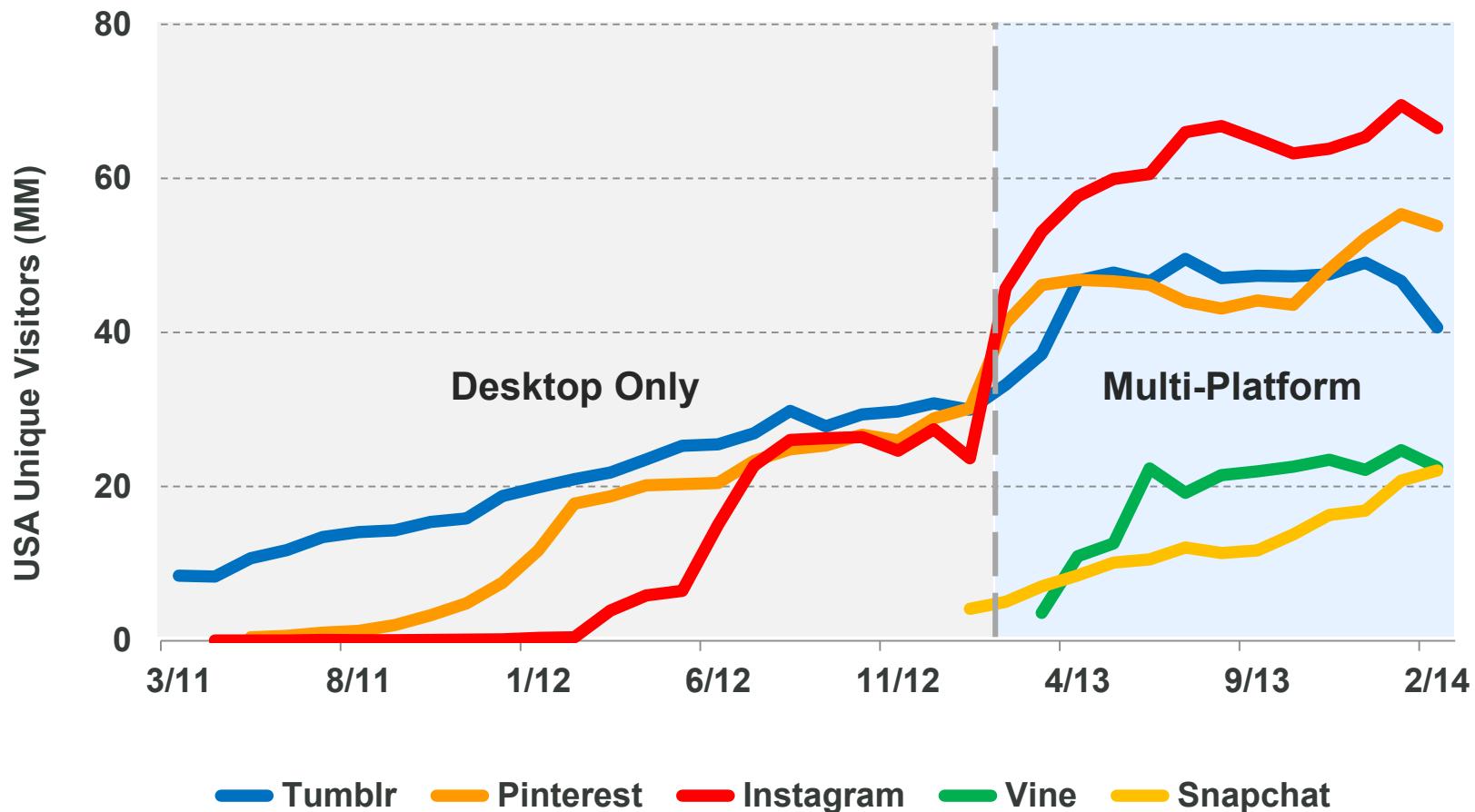
MAUs = **100MM**

# Evolution of Messaging → New Social Graphs... Edges = Potentially More Value than Nodes...



# Evolution of Communications → Image + Video Sharing Rising Rapidly

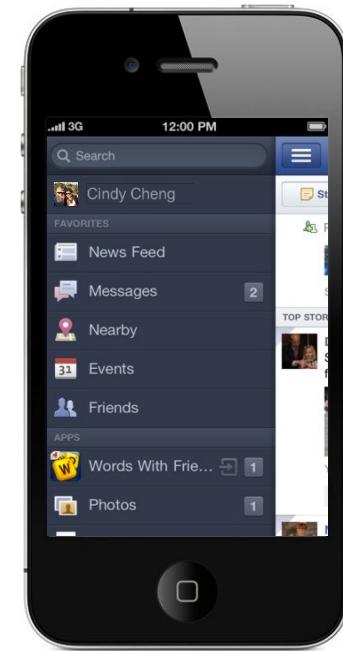
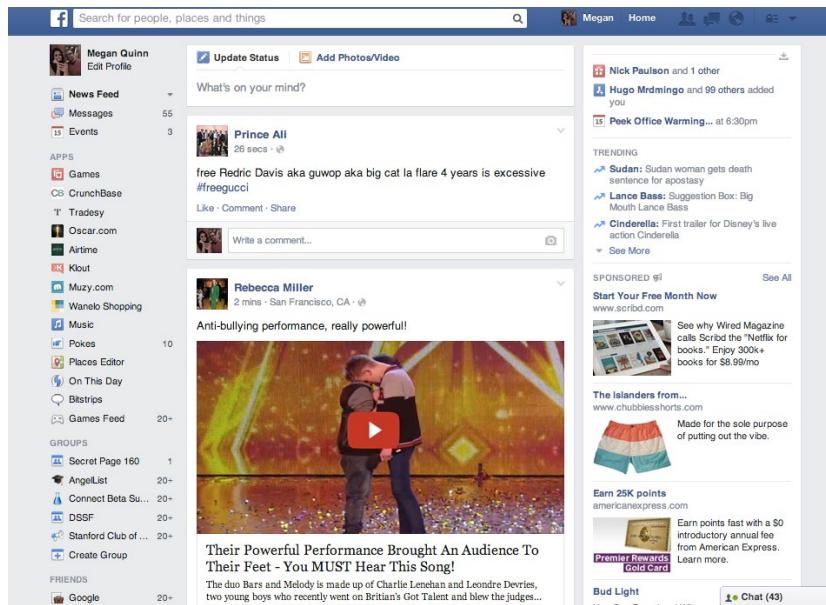
## 'Visual Web' Social Networks: Unique Visitors Trend, USA, 3/11 – 2/14



# *Re-Imagining Apps*

# Evolution of Apps → Internet Unbundling...

*First, multi-purpose web apps...   ...then, multi-purpose mobile apps...*



*...now, single-purpose = ‘there’s an app for that...’*



# Evolution of Apps → Internet Unbundling = Rise Of Invisible App

*...now some apps are disappearing altogether...*



Foursquare Swarm

Runkeeper Breeze

Dark Sky

WUT

*We're entering the age of apps as service layers.*

*These are apps you have on your phone but only open when you know they explicitly have something to say to you.*

*They aren't for 'idle browsing,' they're purpose-built & informed by contextual signals like hardware sensors, location, history of use & predictive computation.*

– Matthew Panzarino, *TechCrunch*, 5/15/14

*Re-Imagining  
Distribution Channels  
& Content*

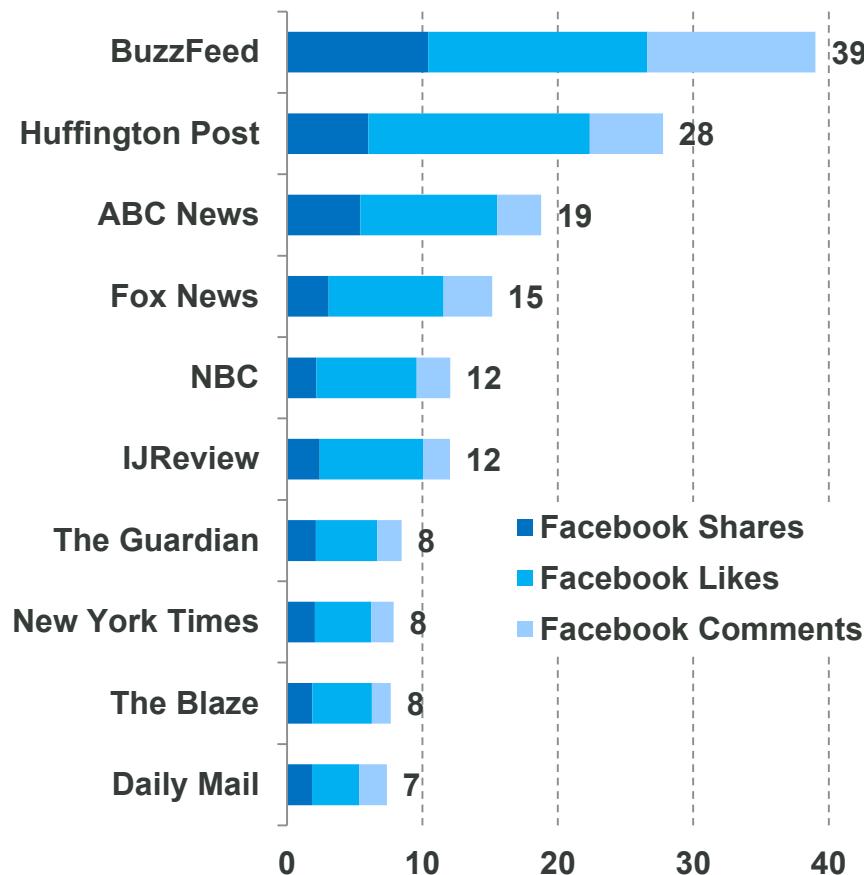
# Social *Distribution* Leaders = Facebook / Pinterest / Twitter...

- **Social Media Traffic Referral Leaders =**  
Facebook / Pinterest / Twitter with estimated  
21%, 7%, 1% of global referrals, per  
Shareaholic, 3/14.
- **Social Distribution Happens Quickly =**  
Average article reaches *half* total social referrals  
in 6.5 hours on Twitter, 9 hours on Facebook,  
per SimpleReach, 5/14.

# Social News Content Leaders = BuzzFeed / Huffington Post / ABC News...

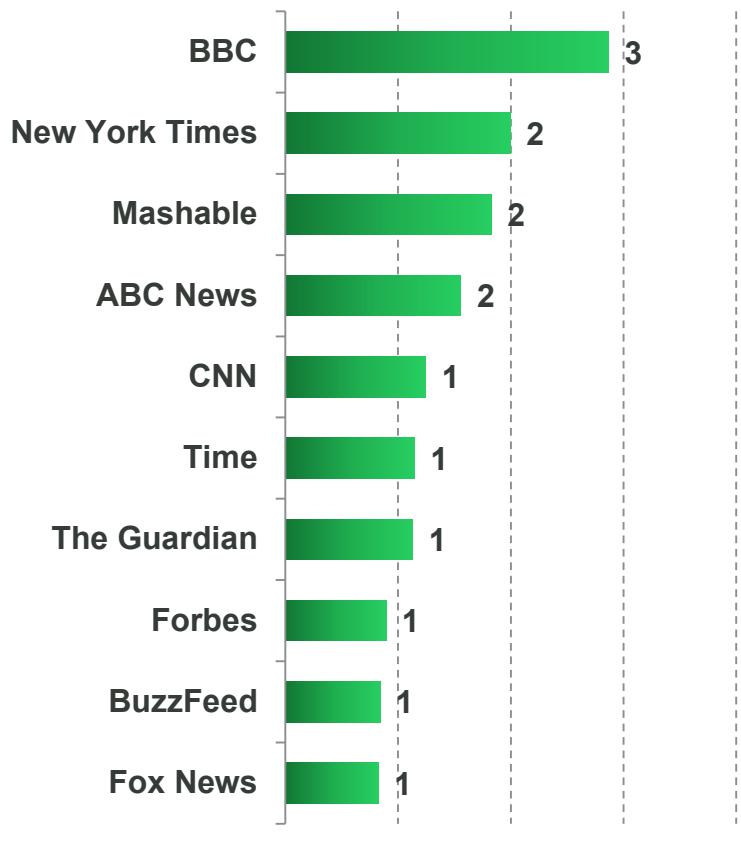
## Top Facebook News Publishers, 4/14

# of Interactions (MM)



## Top Twitter News Publishers, 4/14

# of Shares (MM)



# Re-Imagining Content + Content Delivery = BuzzFeed... Lists / Quizzes / Explainers / Breaking / Video / Mobile

## BuzzFeed

130MM+ Unique Visitors +3x Y/Y (5/14)  
>50% Mobile, >75% Social, >50% age 18-34



15 Things You Didn't Know  
Your iPhone Could Do  
**17MM+ views**



What State Do You Actually  
Belong In?  
**40MM+ views**



Why I Bought A House In  
Detroit For \$500  
**1.5MM+ views**



Photoshopping Real Women  
Into Cover Models  
**13MM+ video views**

# *Re-Imagining Day-to-Day Activities*

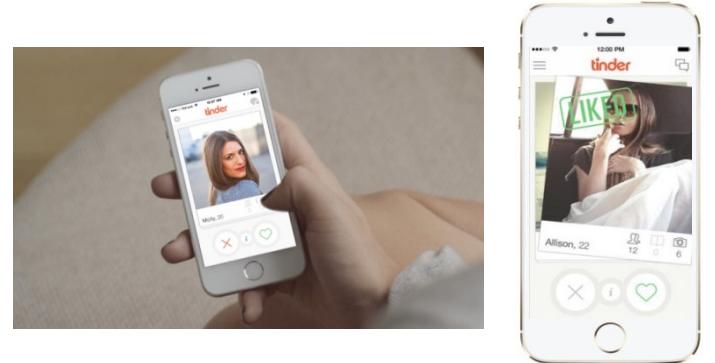
# Re-Imagining How People Meet

**~70K Bars /  
Nightclubs, USA**



**Tinder**

800MM Swipes per day, +21x Y/Y



11MM Matches per day, +21x Y/Y



# Re-Imagining Local Services / Reputation = Leverage + Efficiency



**6MM Guest Stays  
550K Listings, +83% Y/Y**

**11x Ratio Guest Stays / Listings**

**Alibaba**



**231MM Buyers, +44% Y/Y  
8MM Sellers**

**29x Ratio  
\$31K / Year Avg to Alibaba's China  
Retail Marketplace Sellers**



**39MM Meal Orders, +74% Y/Y  
29K Restaurants, +3X Y/Y**

**1,367x Ratio  
\$35K / Year Avg to Restaurants**

# Re-Imagining Grocery Shopping

>47% of Online Transactions Use 'Free-Shipping,' vs. 35% Five Years Ago...  
**Same-Day Local Delivery = Next Big Thing...**



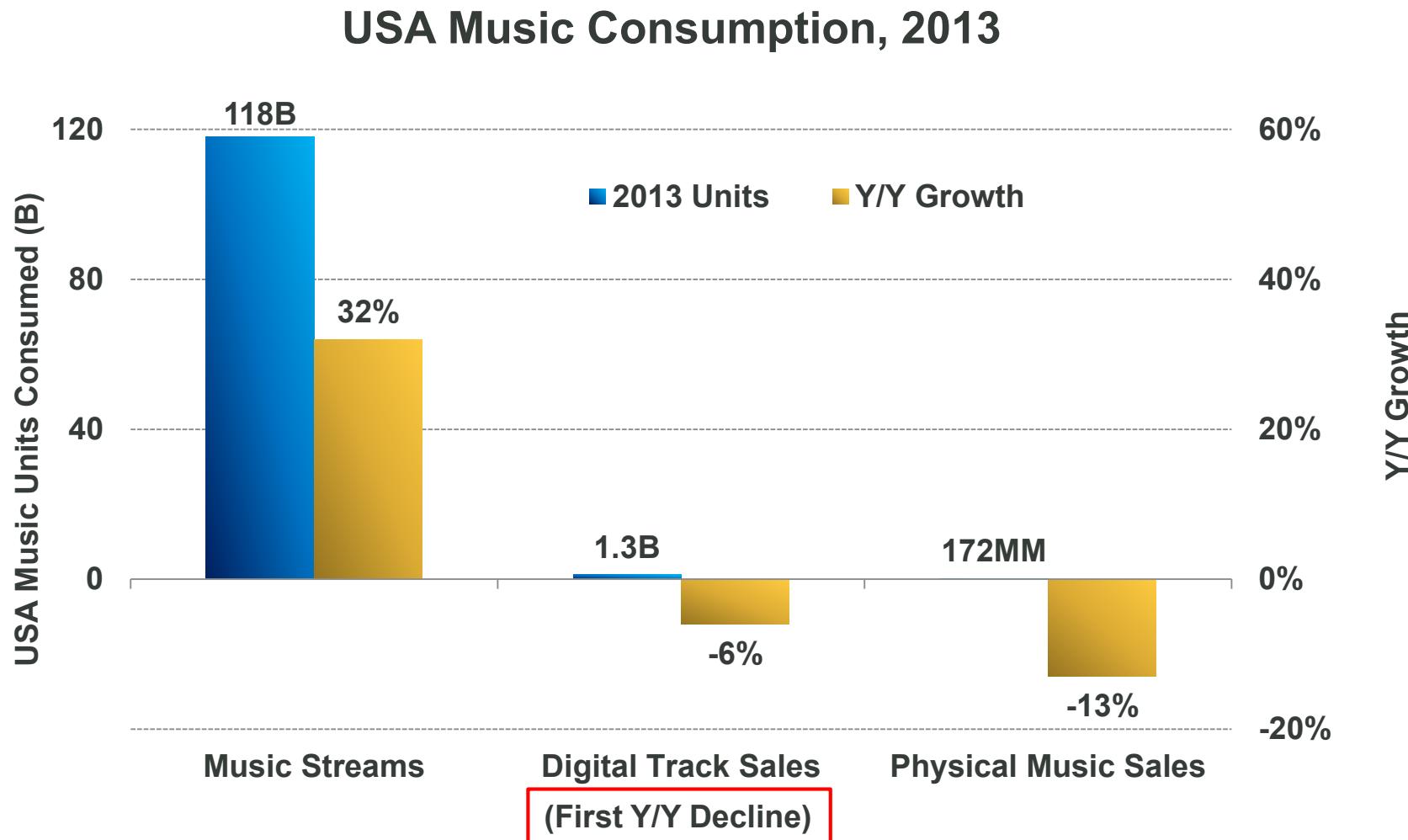
Instacart



Amazon Fresh

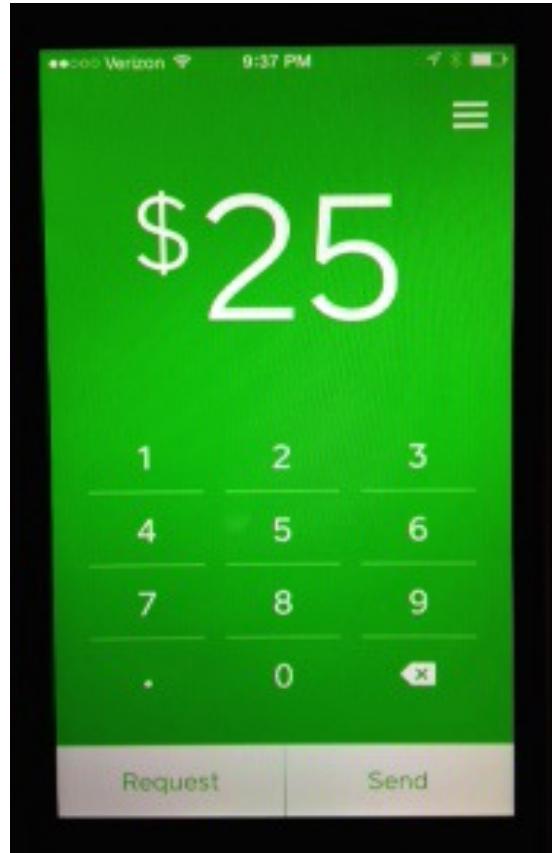


# Re-Imagining Media (Music) Consumption = Streaming +32%, Digital Track Sales -6%

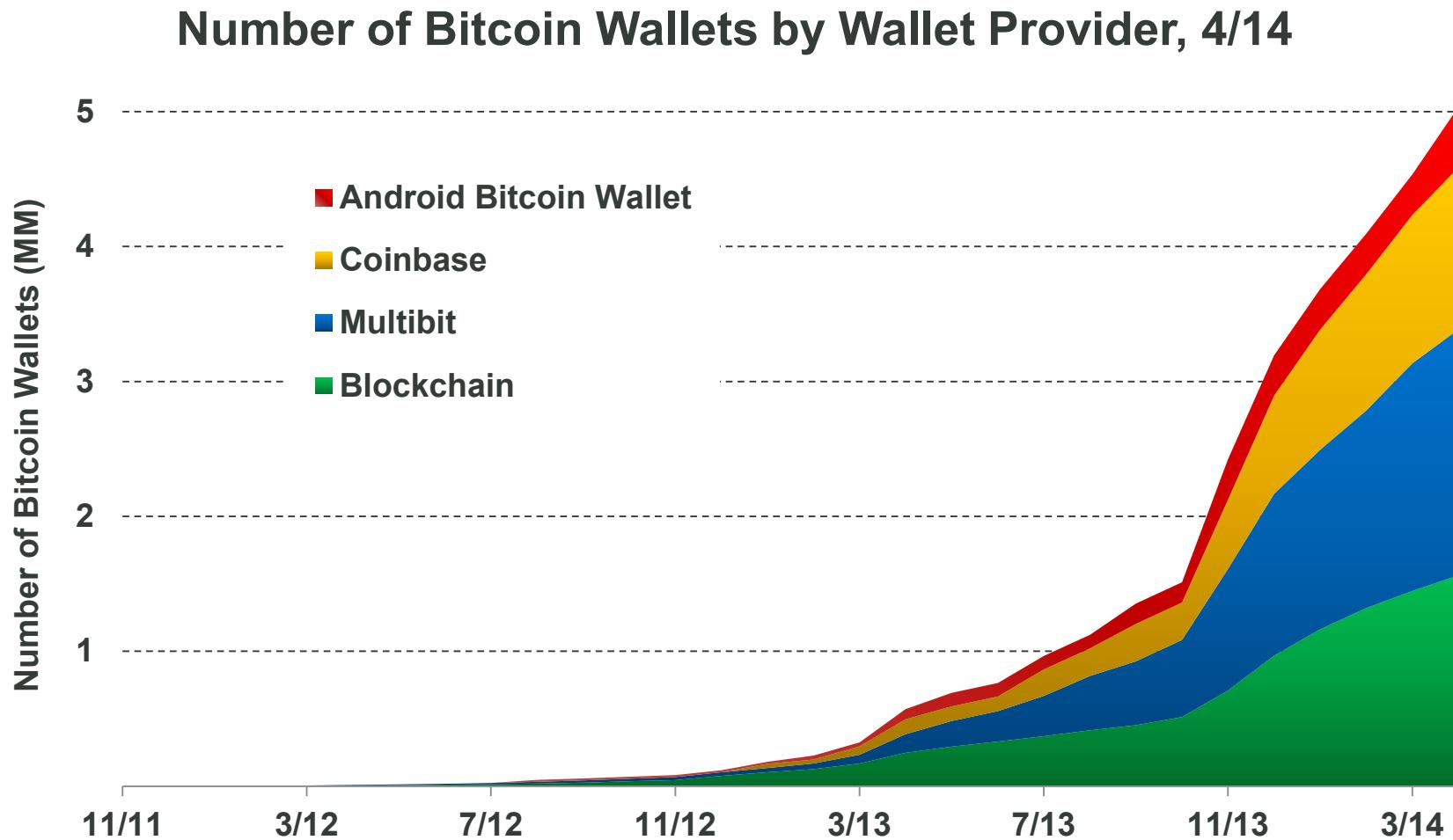


# *Re-Imagining Money*

# Re-Imagining Money



# Fact that ~5MM Bitcoin Wallets (+8x Y/Y) Exist Proves Extraordinary Interest in Cryptocurrencies



*Re-Imagining  
an  
Industry Vertical*

Internet Trifecta =  
Critical Mass of Content + Community + Commerce...

**1) Content =**

Provided by Consumers + Pros

**2) Community =**

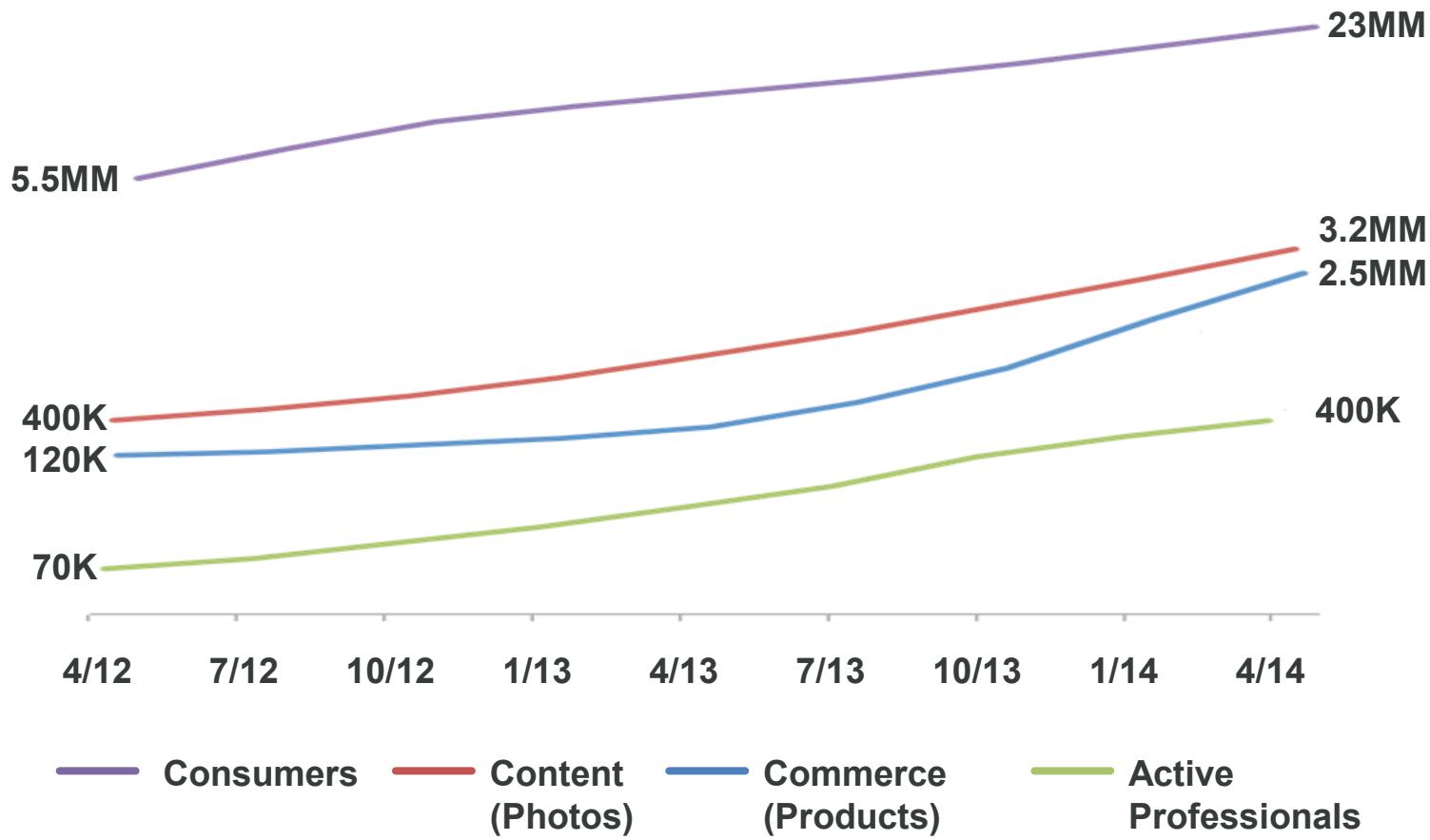
Context & Connectivity Created by & for Users

**3) Commerce =**

Products Tagged & Ingested for Seamless Purchase

# ...Internet Trifecta = Critical Mass of Content + Community + Commerce...

Houzz – Content (Photos) / Community (Professionals + Consumers) / Commerce (Products), 4/12 – 4/14



Source: Houzz, Consumer defined as unique monthly users, Active Professional defined as active users of Houzz with a business profile.

# ...Houzz = Ecosystem for Home Renovation & Design

## Content



### Inspiration - Photos

~3MM (+230% Y/Y)  
World's largest photo database



### Editorial - Guides / Articles

10K (+143%)  
'Wikipedia' of home design

Kitchens | Remodeling | Most Popular | Kitchen Remodels

Homeowner's Workbook: How to Remodel Your Kitchen

9 steps to a kitchen remodel, from gathering design ideas through construction and final review

**Rebekah Zwiehoff**  
Houzz contributor & founder, principal designer at Kitchens by Rebekah... More

**Comments** 220 **Bookmarks** 169 **Views** 330 **Print**

**Facebook** **Twitter** **Pinterest** **Email**

**Y**ou're decided to remodel your kitchen. Now what? Not knowing where to start, many homeowners fall into two camps. Some start by looking at options. Others start by collecting inspiring kitchen photos. Some decide they need more room. Others simply want to upgrade their current kitchen. Homeowners may find themselves in this exploration stage for a year or longer before they start interviewing kitchen designers or general contractors.

Once you've pondered long enough and you're ready to green-light a kitchen remodeling project, then what? We'll start with the first 9 steps and we'll get into the nitty-gritty details under specific steps as we move through the complete remodels.

**Step 1: Think about what you need**

This step is all about how you use your kitchen, and finding the layout and features that fit your needs. You can start by looking at photos of every resource possible, including Houzz guides and photo showcases, books, magazines and blogs.

There about your priorities: how many people will be cooking and gathering here, and how they'll need to move around it. Do you need an island? Or do you work with your existing kitchen footprint?

If you haven't already, start saving photos of kitchens with features that suit your style. Your collection can be organized and stored in a scrapbook or it can be filed in random, unorganized images. I actually prefer the latter, because I like to randomly stuff images into my folders and dreamboards and go back to them later on for edits.

**How to Organize Your Ideas**

## Community



### Services – Professionals

400K (+198%)  
Portfolios & reviews

Wilson Kitchen and Bath  
Kitchen and bath remodeling, interior design and management

**Reviews** 4.5 **Photos** 120 **Comments** 120 **Bookmarks** 120 **Views** 1,200 **Print**

**Facebook** **Twitter** **Pinterest** **Email**

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### Discussions

800K (+225%)  
Pro & homeowner support / advice

Really struggling with this small dining room!  
Report

March 1, 2014 in Design Dilemma

I am starting a new thread with updated pictures for more advice. I lean toward neutrals in my home. I want this dining room to be glamorous and monochromatic, just beautiful but I have no idea how to do this. Pretty much everything I have tried has failed. I am not sure if I am doing something wrong or if I am not being creative. I don't have much time if I did return. I think maybe a new light and possibly the rug. Can you help me?

**Email** **Comment** 2,426 **Bookmark** 104 **Like** 4 **Edit** **Delete**

**Administrative Controls**  
**Resolve** **Buy** **Posture** **Hide blocked comments**

**Facebook** **Twitter** **Pinterest** **Email**

**Show 2320 more comments**

**LB** **Strawberry**  
RE: Re: the Hormone is still April 2, 2014 at 9:30am Like **1**

**saintsgowtham**  
RE: Re: nice picture of your son's party, looks like they had a blast! April 2, 2014 at 9:30am Like **1**

**LINDA**  
RE: Re: I seem to be drawn to the colour camouflage at the moment, I think that mirror is probably more chunky than what Karen had in mind but I just think it's gorgeous x April 2, 2014 at 9:30am Like **1**

## Commerce



### Products

2.5MM (+590%)  
Discover & purchase

***Bigest  
Re-Imagination of All =***

***People Enabled With  
Mobile Devices + Sensors  
Uploading Troves of  
Findable & Sharable Data***

# More Data + More Transparency = More Patterns & More Complexity

## Transparency

Instant sharing / communication of many things has potential to make world better / safer place but potential impact to personal privacy will remain on-going challenge...

## Patterns

Mining rising volume of data has potential to yield patterns that help solve basic / previously unsolvable problems but create new challenges related to individual rights...

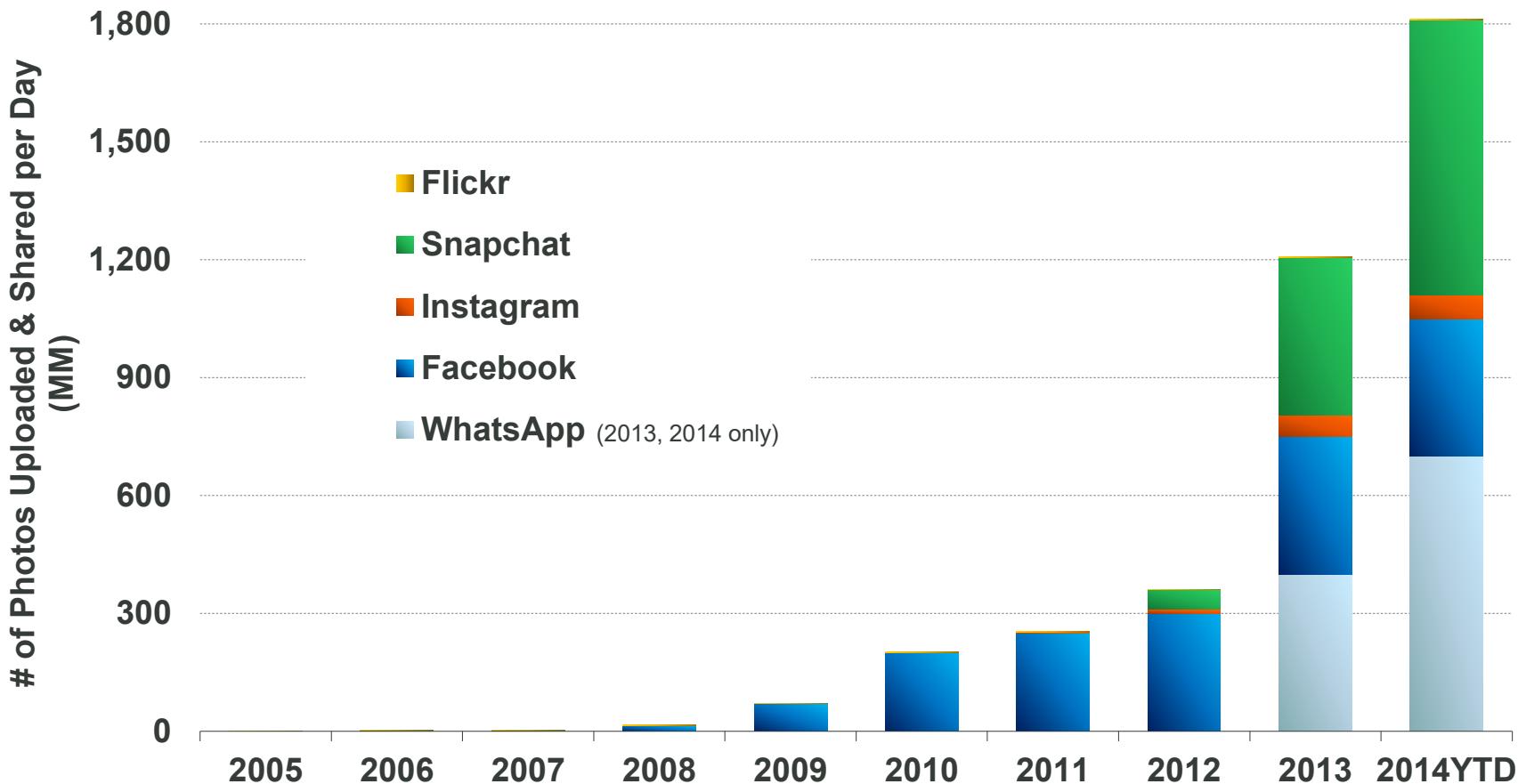
# Big Data Trends

- 1) Uploadable / Findable / Sharable / Real-Time Data Rising Rapidly
- 2) Sensor Use Rising Rapidly
- 3) Processing Costs Falling Rapidly...While The Cloud Rises
- 4) Beautiful New User Interfaces – Aided by Data-Generating Consumers – Helping Make Data Usable / Useful...
- 5) Data Mining / Analytics Tools Improving & Helping Find Patterns
- 6) Early Emergence of Data / Pattern-Driven Problem Solving

*Uploadable / Sharable / Findable  
Real-Time Data Rising Rapidly*

# Photos Alone = 1.8B+ Uploaded & Shared Per Day... Growth Remains Robust as New Real-Time Platforms Emerge

Daily Number of Photos Uploaded & Shared on Select Platforms,  
2005 – 2014YTD

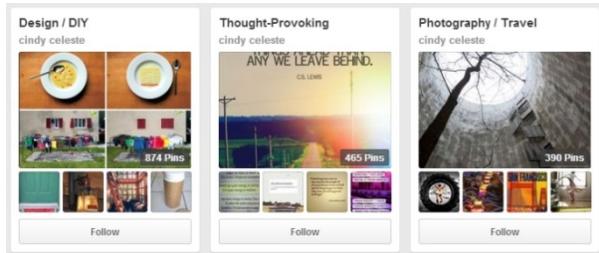


Source: KPCB estimates based on publicly disclosed company data, 2014 YTD data per latest as of 5/14.

# Uploadable / Sharable / Findable – Mojo Update

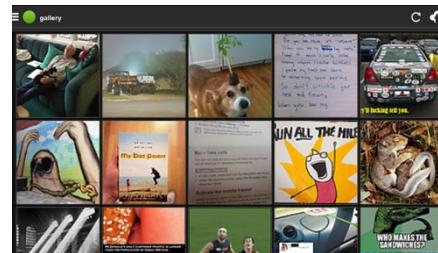
## Pinterest

- 750MM+ cumulative Boards (4/14)
- 30B+ cumulative Pins
- +50% Pin growth vs. 10/13



## IMGUR

- 130MM MAUs (3/14)
- 3B page views per month
- 1.5MM images uploaded & 1.3B images viewed per day



## Fitbit

- 47B → 2.4T steps (2011 → 2013)... Distance = Earth to Saturn



## MyFitnessPal

- 65MM registered users (+50% Y/Y, 5/14)
- 100MM+ pounds lost by users since inception



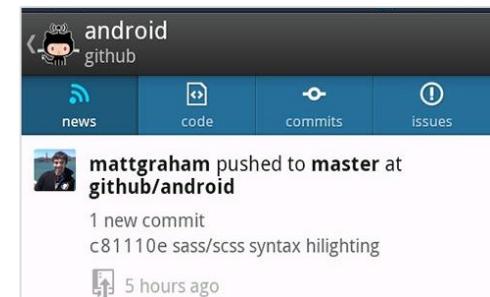
## Eventbrite

- \$1B gross ticket sales in 2013 (+60% Y/Y)
- 58MM tickets sold (+61% Y/Y)
- 1MM events in 187 countries



## Github

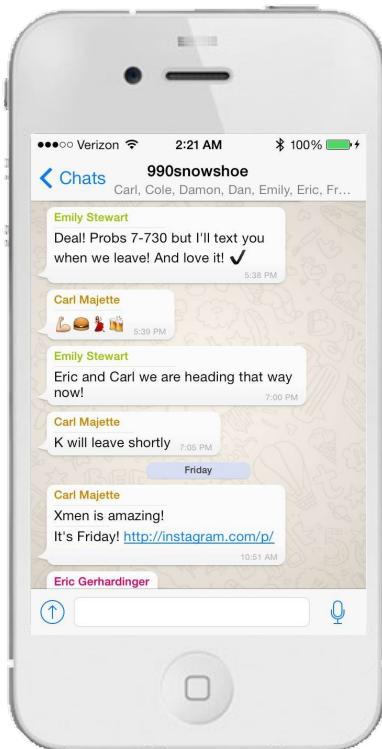
- 13MM repositories in 2013 (+100% Y/Y)
- 10K users added per weekday



# Uploadable / Sharable / Not Findable\* – Mojo Update

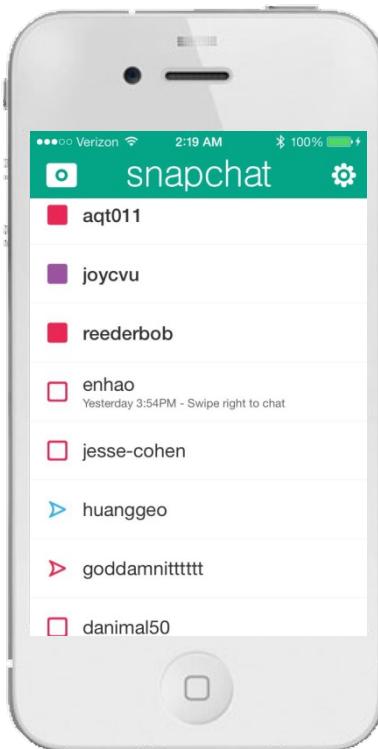
## WhatsApp

- 50B messages sent per day (2/14)
- 700MM photos per day (4/14)
- 100MM videos per day



## Snapchat

- 700MM+ snaps shared per day (4/14)
- 500MM stories viewed per day



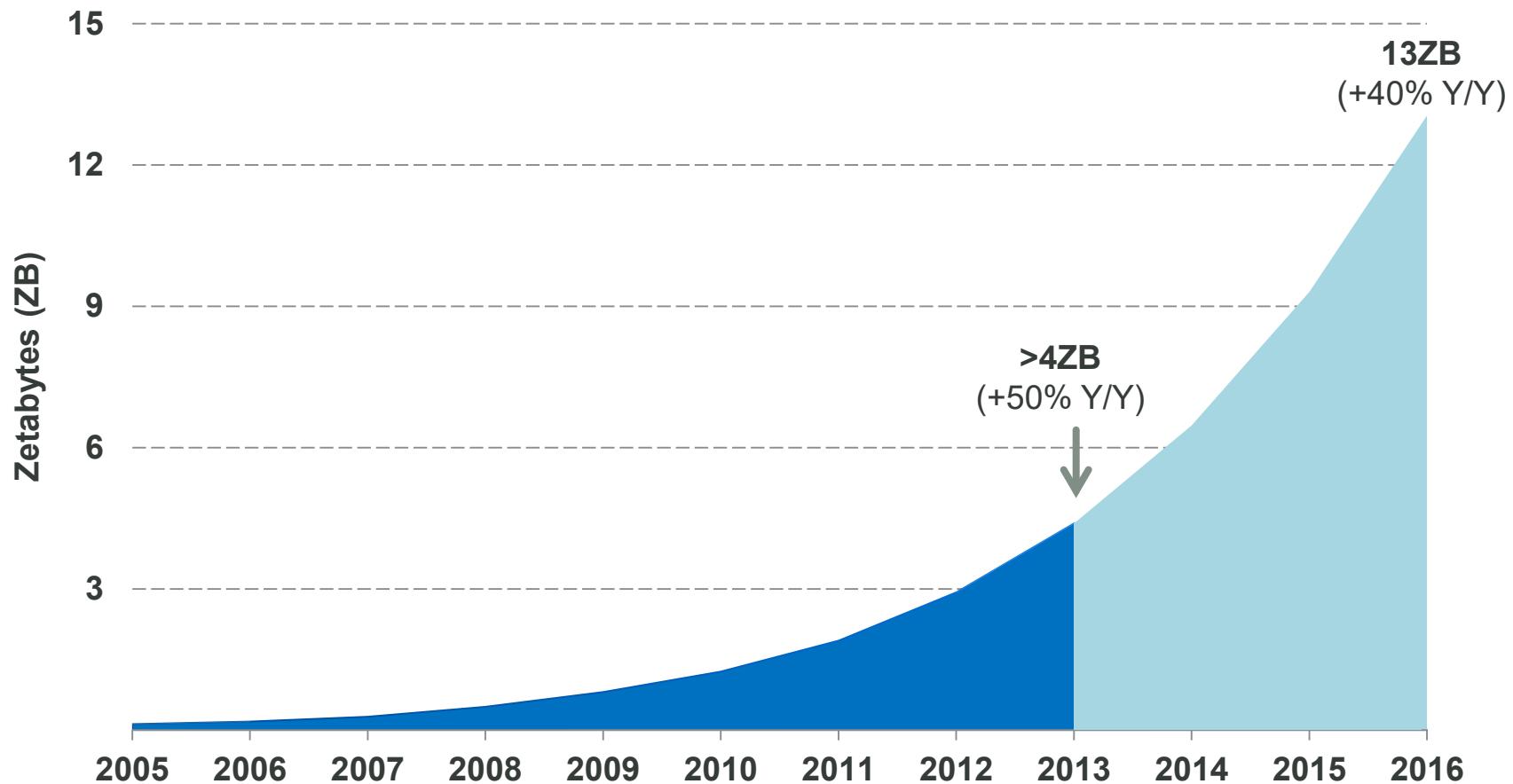
## Tinder

- 800MM swipes per day (+21x Y/Y, 5/14)
- 11MM matches per day (+21x Y/Y)



# 'Digital Universe' Information Growth = Robust... +50%, 2013

2/3rd's of Digital Universe Content = Consumed / Created by Consumers  
...Video Watching, Social Media Usage, Image Sharing...



# *Sensor Use Rising Rapidly*

# Sensors = Big / Broad Business, Rapid Growth, Rising Proliferation IN Devices...

**iPhone (2007)**  
**3 Sensors**



## Apple

**iPhone 5s (2013)**  
**5 Sensors**



- Accelerometer / proximity / ambient light

- 3-axis gyro / fingerprint / accelerometer / proximity / ambient light

**Galaxy S (2010)**  
**3 Sensors**



## Samsung

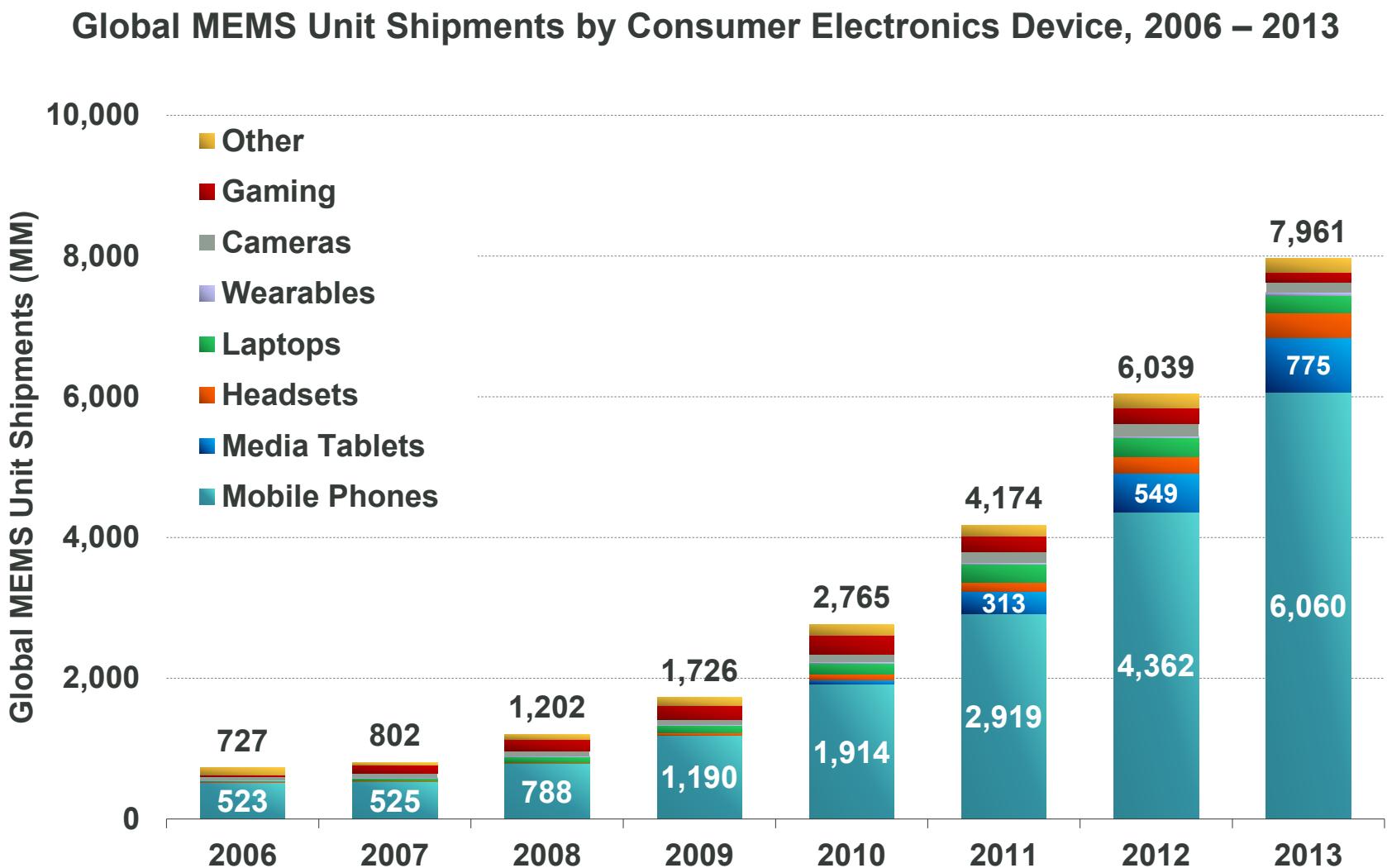
**Galaxy S5 (2014)**  
**10 Sensors**



- Accelerometer / proximity / compass

- Gyro / fingerprint / barometer / hall (recognizes whether cover is open/closed) / RGB ambient light / gesture / heart rate / accelerometer / proximity / compass

# ...Sensors = Big / Broad Business (+32% Y/Y to 8B) Rising Proliferation OF Devices



Source: IHS Consumer & Mobile MEMS Market Tracker, April 2014.

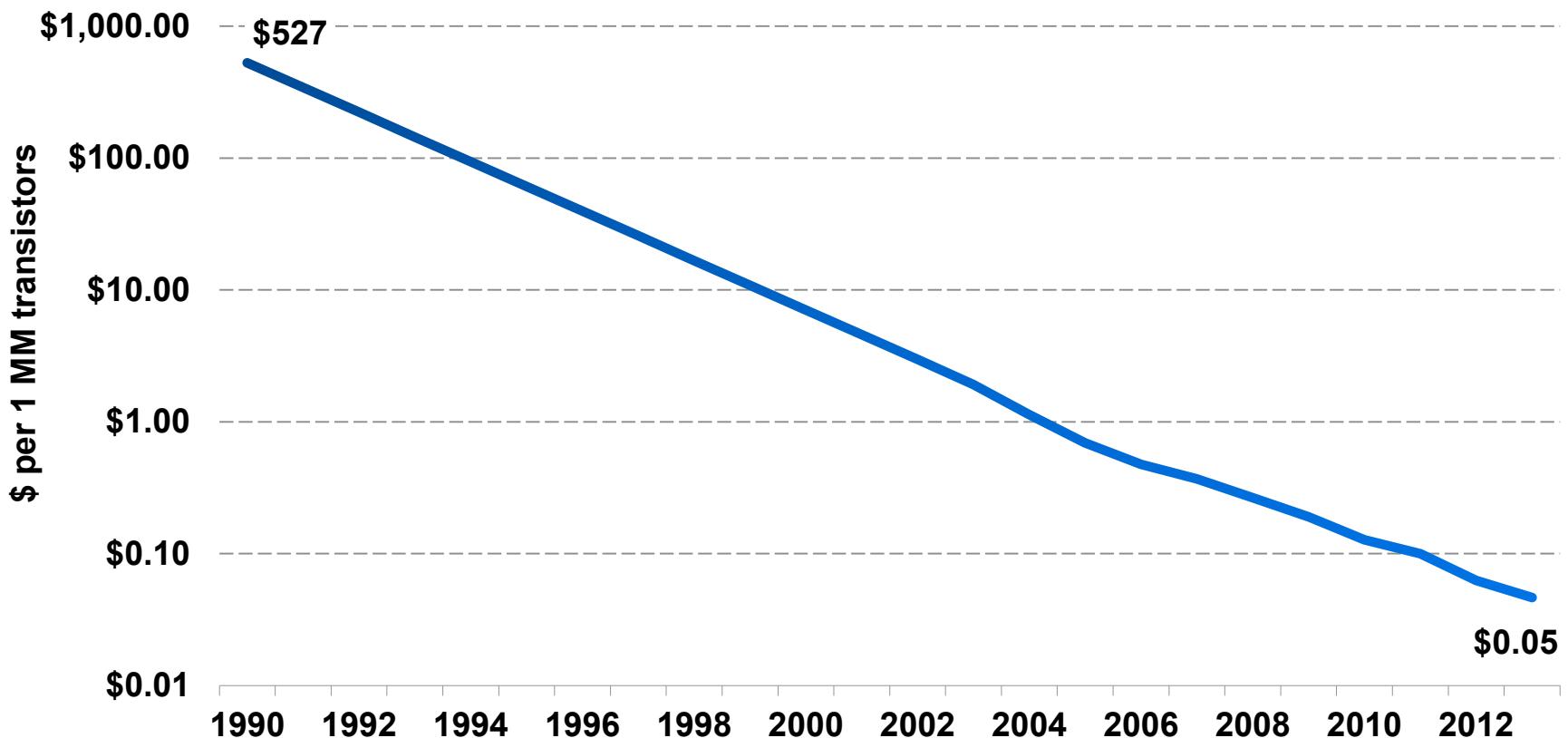
MEMS = microelectromechanical systems. Includes sensors + actuators (a type of motor that is responsible for moving or controlling a mechanism or system, such as an autofocus system in a camera).

*Processing Costs Falling Rapidly...  
While The Cloud + Accessibility Rise*

# Compute Costs Declining = 33% Annually, 1990-2013...

*Decreasing cost / performance curve enables computational power @ core of digital infrastructure...*

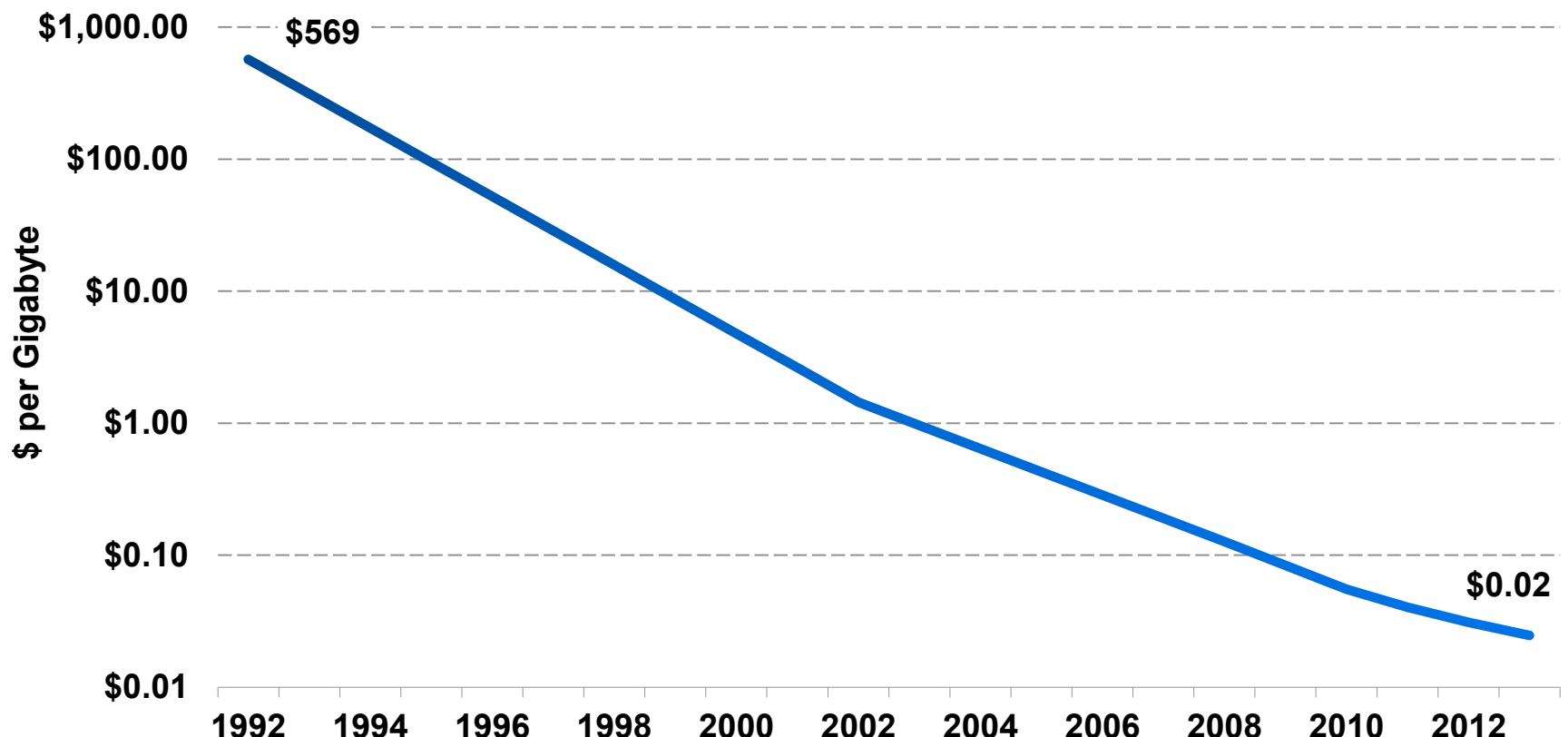
## Global Compute Cost Trends



...Storage Costs Declining = 38% Annually, 1992-2013...

*Decreasing cost / performance of digital storage enables  
creation of more / richer digital information...*

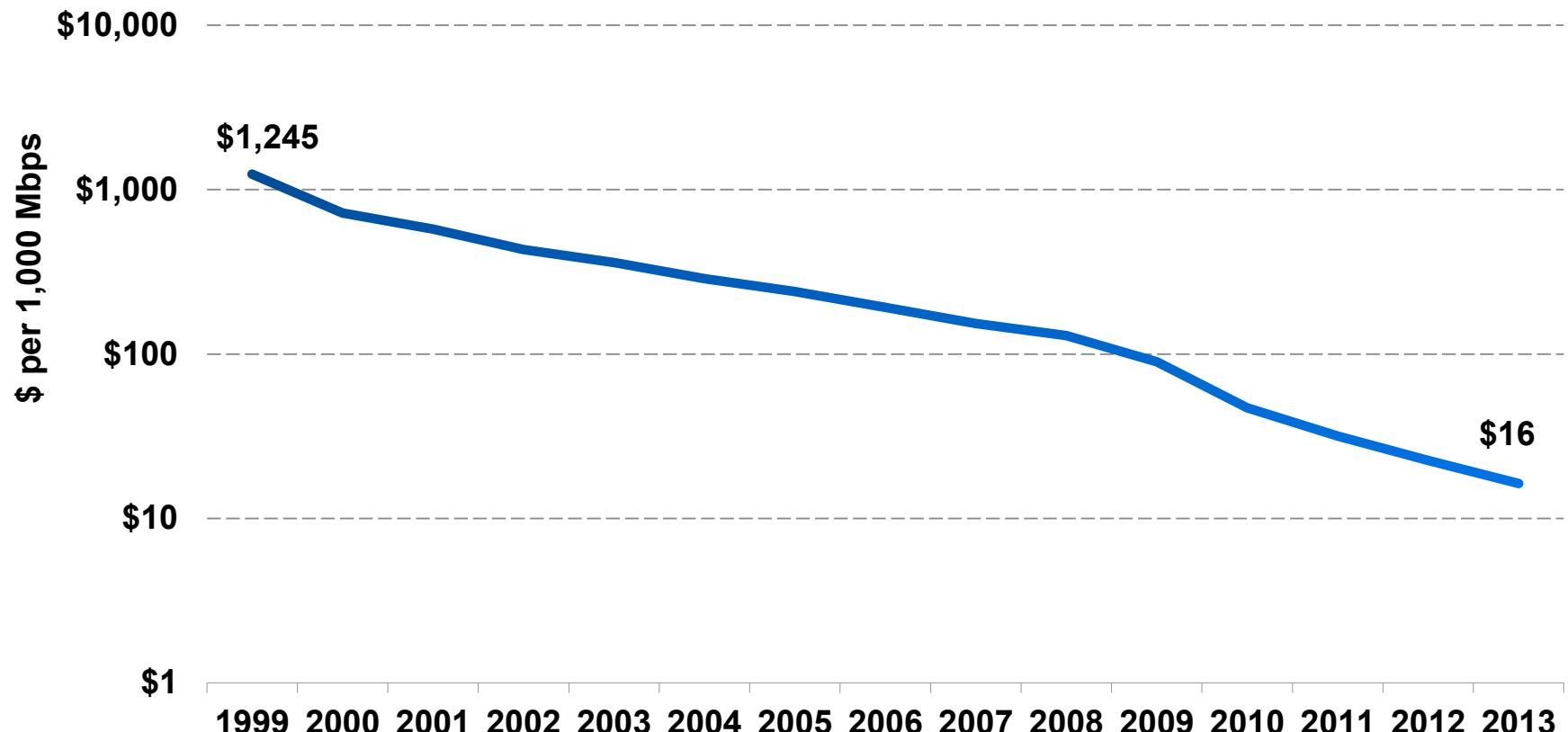
### Global Storage Cost Trends



...Bandwidth Costs Declining = 27% Annually, 1999-2013...

*Declining cost / performance of bandwidth enables  
faster collection & transfer of data to facilitate richer connections / interactions...*

### Global Bandwidth Cost Trends

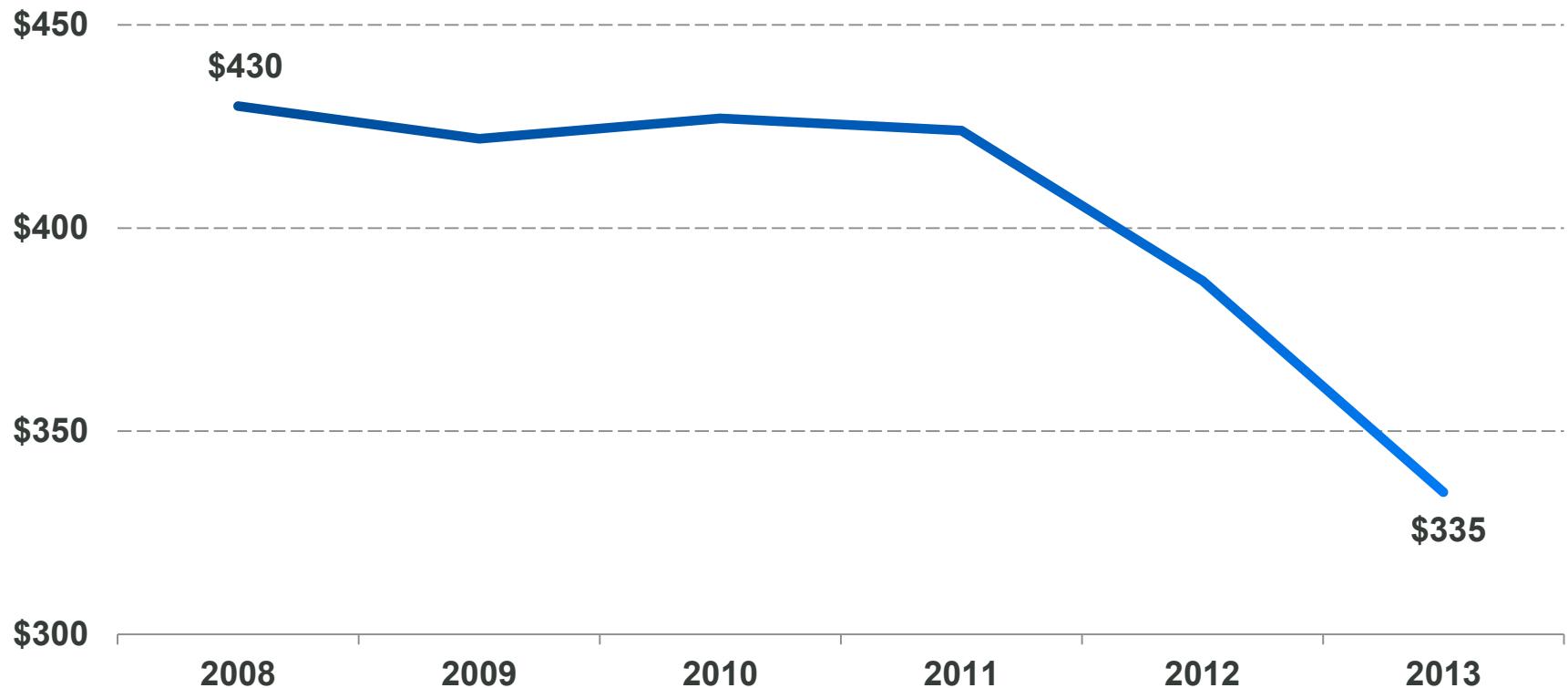


Note: Y-axis on graph is logarithmic scale.  
Source: John Hagel, Deloitte, 5/14.

# ...Smartphone Costs Declining = 5% Annually, 2008-2013

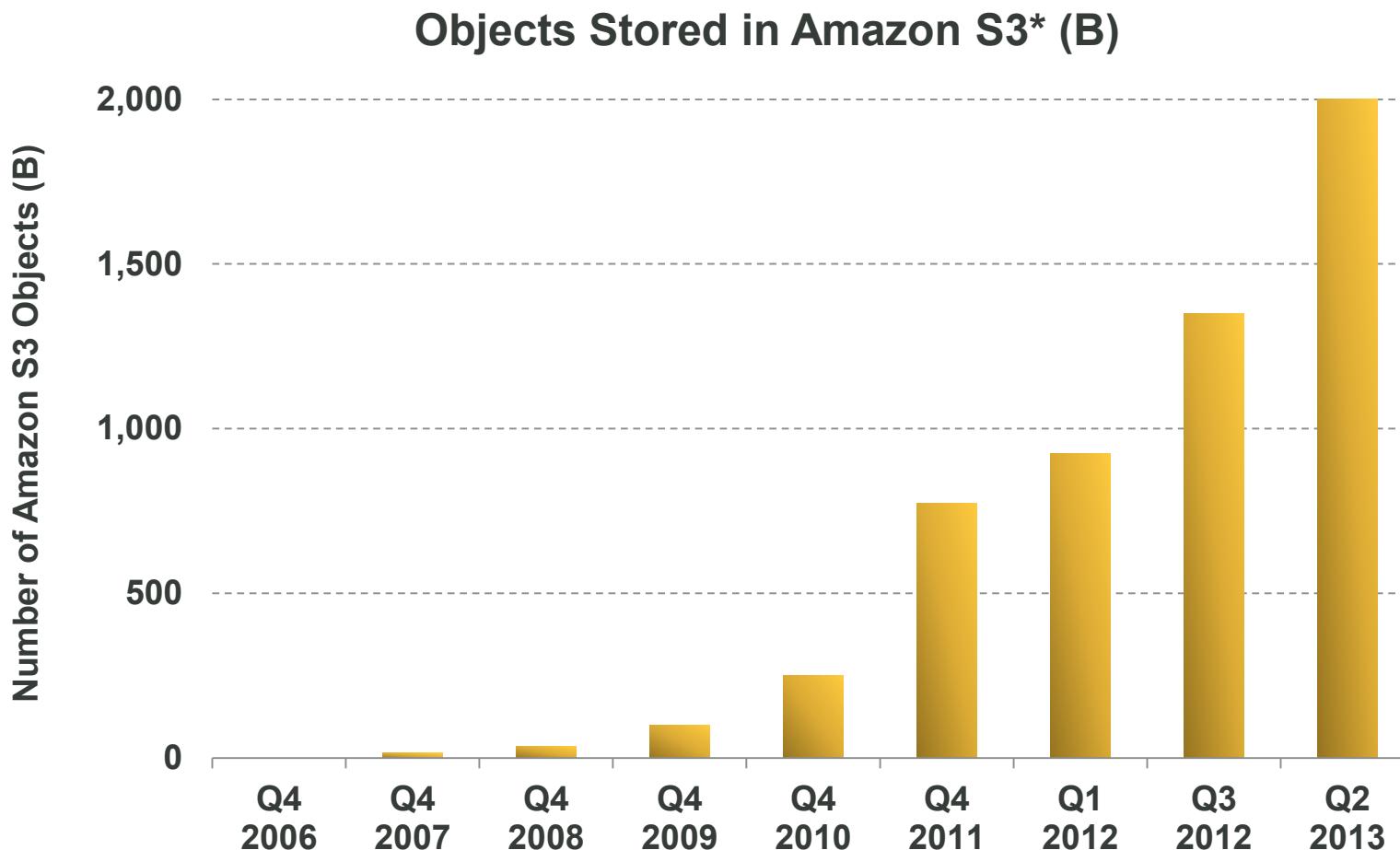
*Smartphone prices continue to decline,  
increasing availability to masses...*

## Average Global Smartphone Pricing Trends



# ...While The Cloud Rises

*Amazon Web Services (AWS) Leading Cloud Charge...*



\*Note: S3 is AWS' storage product and used as proxy for AWS scale / growth .  
Source: Company data.

*Beautiful New User Interfaces*

*– Aided by Data-Generating Consumers –  
Helping Make Data Usable / Useful...*

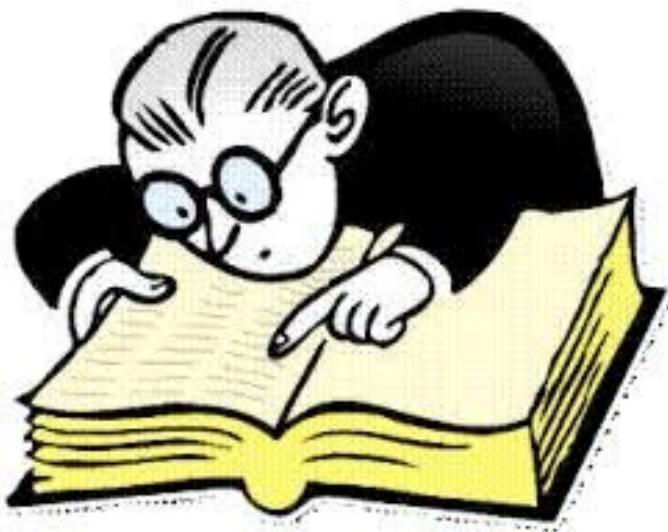
# *...Challenging Non-Cloud Business Models*

*Startups – Often Helped by Crowdsourcing –  
Often Don't Have Same Challenges with  
Error-Prone Legacy Data*

*New Companies*  
– *With New Data from New Device Types –  
Doing Old Things in New Ways &  
Growing Super Fast*

# Re-Imagining User Interfaces – Finding a Local Business

## Yellow Pages



## Yelp

The image shows two side-by-side screenshots of the Yelp mobile application interface. Both screens have a red header bar with the time (5:11 PM and 5:15 PM), signal strength, battery level (100%), and a search bar containing "Restaurants San Francis...".

**Left Screen (5:11 PM):**

- Search Bar:** Restaurants San Francis...
- Filter:** Filter
- Map:** Map
- List of Restaurants:**
  - 1. Lazy Bear** - Mission, American (New), Breakfast & Brunch. 4.5 stars, 104 reviews.
  - 2. Gary Danko** - Russian Hill, American (New). 4.5 stars, 3751 reviews.
  - 3. Ike's Place** - Castro, Sandwiches. 4.5 stars, 6006 reviews.
  - 4. Beanstalk Cafe** - Nob Hill, Sandwiches, Coffee & Tea, Bagels. 4.5 stars, 116 reviews.
  - 5. The Boy's Deli** - 2825 Sand Hill Rd, Menlo Park, CA 94025. 4 stars, 1 review.
- Bottom Navigation:** Nearby, Search, About Me, More.

**Right Screen (5:15 PM):**

- Search Bar:** Search
- Map:** Madera, 0.2 mi, Lounges, American (New). Hours Today: 6:30 AM - 10:00 PM. Open.
- List of Businesses:**
  - Madera** - 4.5 stars, 429 reviews.
- Bottom Navigation:** Add Review, Add Photo, Check In, Bookmark, Directions, Nearby, Search, About Me, More.

# Re-Imagining User Interfaces – Finding a Place to Stay

## Booking Hotel Room



## Airbnb

The image displays two side-by-side screenshots of the Airbnb mobile application interface. Both screens show search results for "Potrero Hill".

**Left Screenshot:** Shows a search result for "Potrero Hill Garden Cabana" with a price of \$190 per night. Below it is another listing for a "Private Floor in Potrero Hill Home" with a price of \$150 per night. A "Filters" button is visible at the bottom.

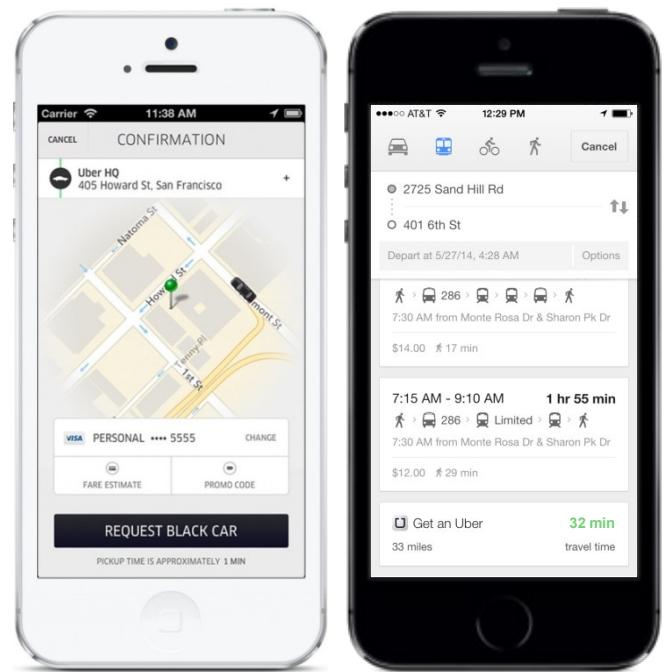
**Right Screenshot:** Shows a more detailed view of the "Potrero Hill Garden Cabana" listing. It includes a larger image of the cabana, the price (\$190 per night), the location ("San Francisco, CA Potrero Hill"), and the host's profile picture and name (Kepa). It also shows a 5-star rating and 114 reviews. At the bottom are "Book it" and "Contact me" buttons.

# Re-Imagining User Interfaces – Organized Logistics / People Moving

## Hailing Cab



## Uber

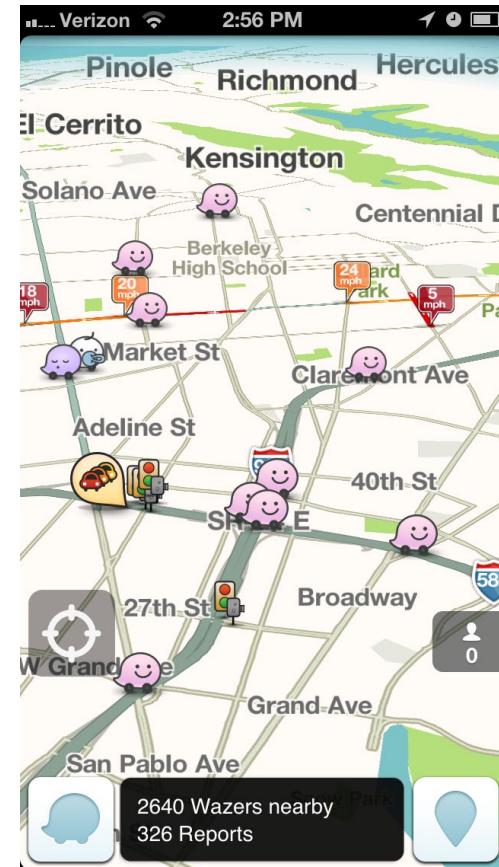


# Re-Imagining User Interfaces – Managing Traffic With Crowdsourcing

## Driving in Traffic



## Waze

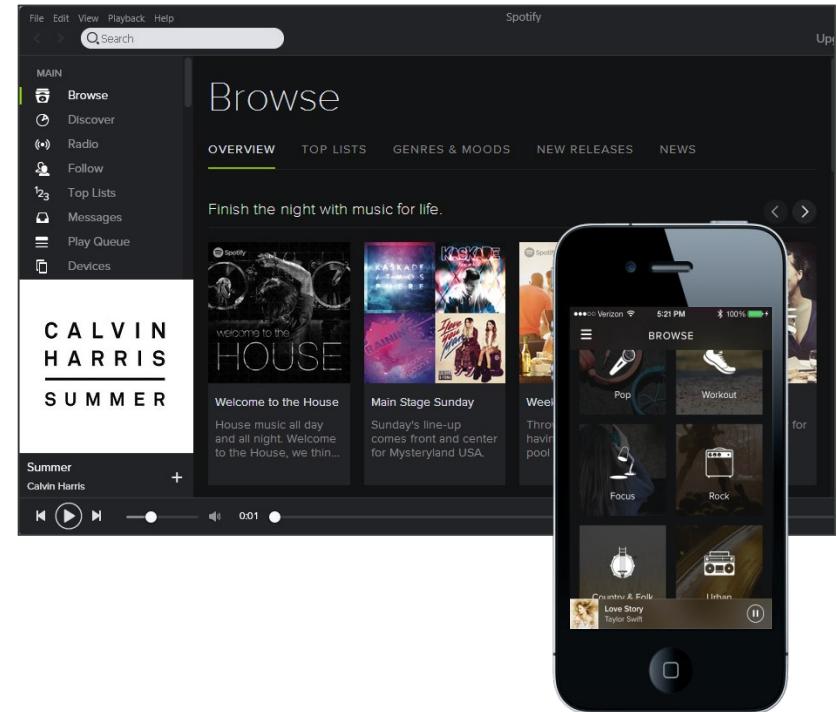


# Re-Imagining User Interfaces – Finding Music

## Satellite Radio



## Spotify



# Re-Imagining User Interfaces – Finding Video With Voice

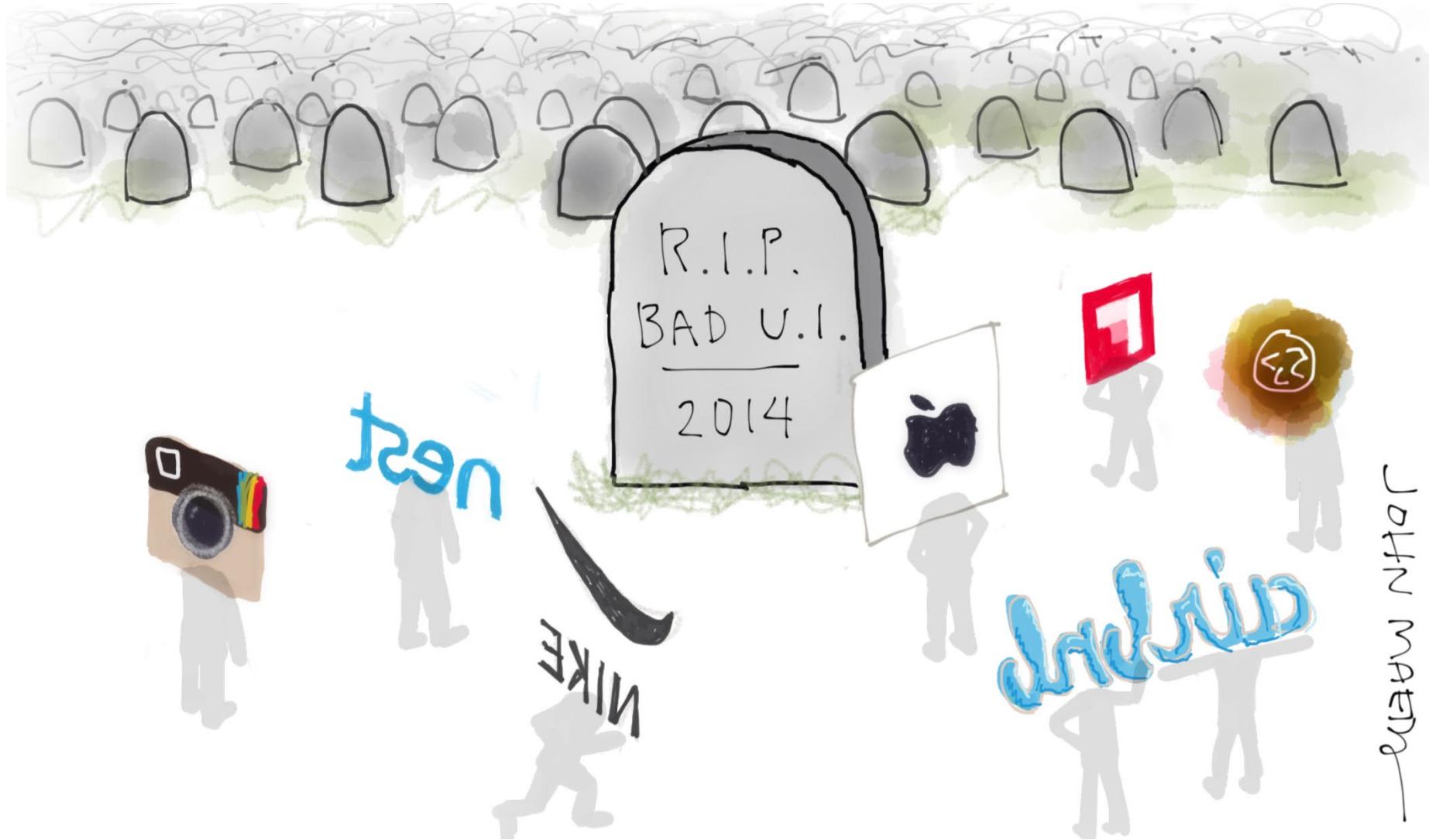
## TV Remote Control



## Amazon Fire TV



# R.I.P. Bad User Interfaces



# *Data Mining / Analytics Tools*

## *Improving & Helping Find Patterns*

# 34% (& Rising) of Data in ‘Digital Universe’ = Useful but Only 7% Tagged...1% Analyzed

## **Significant Portion (34%) of IDC Digital Universe Data = Useful –**

Derived from embedded systems / data processing / social media / photos / sounds...

## **Small Portion (7%) Data = Tagged –**

Fastest growing segment of valuable data comes from Internet of Things (IoT) – billions of sensors / intelligence systems capturing / sending data, increasingly in real-time...

## **Immaterial Portion (1%) Data = Analyzed –**

Newer tech companies are making it easier to understand / make use of increasing amount of data...

# Data Mining / Analytics Tools that Mine / Organize Data = Playing Catch Up to Demand & Growing Fast

## Jawbone

*Health Wearable*

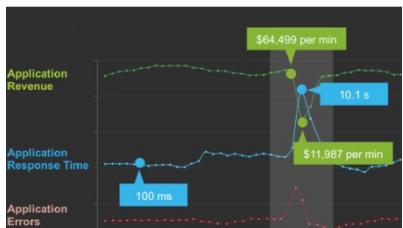
- 100MM nights of sleep logged = 27K years
- 50B activity data points crunched per week
- 1MM personalized insights per week



## AppDynamics

*App Performance Monitoring*

- 500B Web / mobile transactions instrumented / tracked
- 1.4MM hours saved waiting on apps
- 1,200 enterprise customers



Source: Company data.

## Dropcam

*Home Monitoring*

- ~100B video frames processed per hour
- +300% Y/Y revenue growth, 2013



## SnapLogic

*Cloud Integration / Data Transmission*

- 500MM+ machine / device scans integrated per day
- 160+ data / cloud connectors on SnapStore
- +128% Y/Y subscription revenue, 2013



## Netflix

*Media Personalization / Discovery*

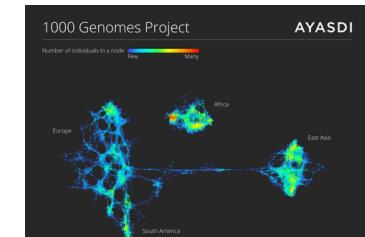
- Terabytes of user data analyzed to generate personalized media recommendations
- 44MM subscribers (+25% Y/Y, 2013)



## Ayasdi

*Automated Insight Discovery*

- Auto extracts business insights from datasets with 1MM+ features
- 120K hours saved of manual data analysis in 2013
- +451% Y/Y bookings growth, 2013



*Early Emergence of  
Data / Pattern-Driven  
Problem Solving*

# Big Data = Being Used to Solve Big Problems

## Google Voice Search

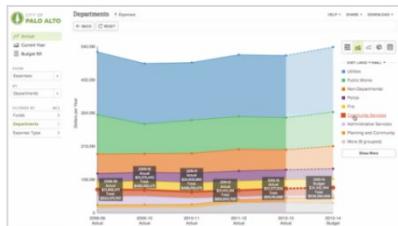
### Voice Recognition

- Uses neural nets to reduce speech recognition errors by 25%
- Used by 1/6 of Google's U.S. mobile users



## OpenGov Government Financials

- Compiles data of 37K US governments
- Real-time queries across millions of rows of transactions
- Adding new paying government customer every 4 days (& accelerating)



## Nest

### Energy

- 2B+ Kilowatt hours (kWh) of energy saved since 2011\*
- Reduces heating / cooling costs up to 20%...an estimated annual savings of \$173 per thermostat



## Automatic Connected Car

- Collects / analyzes hundreds of millions of data points daily
- Provides personalized feedback to drivers, saving up to 30% in fuel costs
- Discovered driving over 70 MPH saves <5% time, but wastes \$550 gas / year



## Zephyr Health

### Healthcare & Life Sciences

- Hundreds of millions healthcare data points ingested / organized (+192% Q/Q, Q3:13)
- 3,500+ independent life sciences sources used daily (+159% Q/Q & accelerating), spanning all major disease areas
- +111% Y/Y contracted revenue growth, 2013



## Wealthfront Investment Management

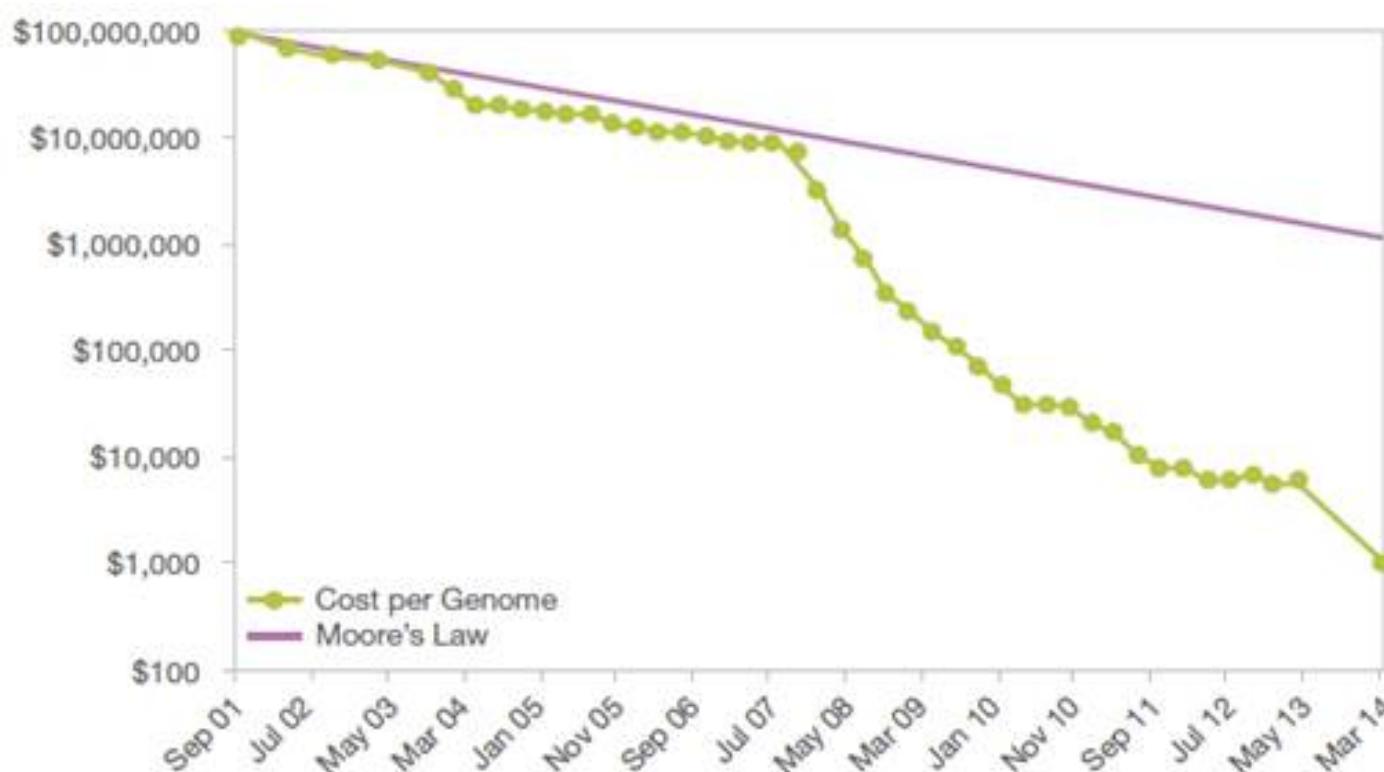
- +4.6% return vs. average mutual fund\*\*
- 200K risk questionnaires completed
- 650K free trades, saving clients \$5MM+
- 10K+ clients
- \$800MM+ AUM, +700% since 1/13



# Cost / Time to Sequence Genome Down to \$1,000 / 24 Hours – Treasure Trove of Patterns Will Rise Rapidly

*Accurate diagnosis is foundation for choosing right treatments for patients & clinical lab tests provide critical information health care providers use in ~70% of decisions\**

*Genetic & genomic testing can be at heart of a new paradigm of [precision] medicine that is evidence-based & rooted in quantitative science\*\**



\*UK Department of Health. \*\* American Clinical Laboratory Association / BattelleTechnology Partnership Practice. Image: Illumina.  
Note: Genome sequencing data per Eric Schadt. \$1,000 cost is price of sequencing a genome at 30x coverage in the Mount Sinai Genome Core, 5/14.

*Bigest  
Re-Imagination of All =*

*People Enabled With  
Mobile Devices + Sensors  
Uploading Troves of  
Findable & Sharable Data =*

*Still Early & Evolving Rapidly*

**SCREEN + VIDEO GROWTH =  
STILL EARLY INNINGS**

# Future of TV – Reed Hastings (Netflix CEO / Founder)

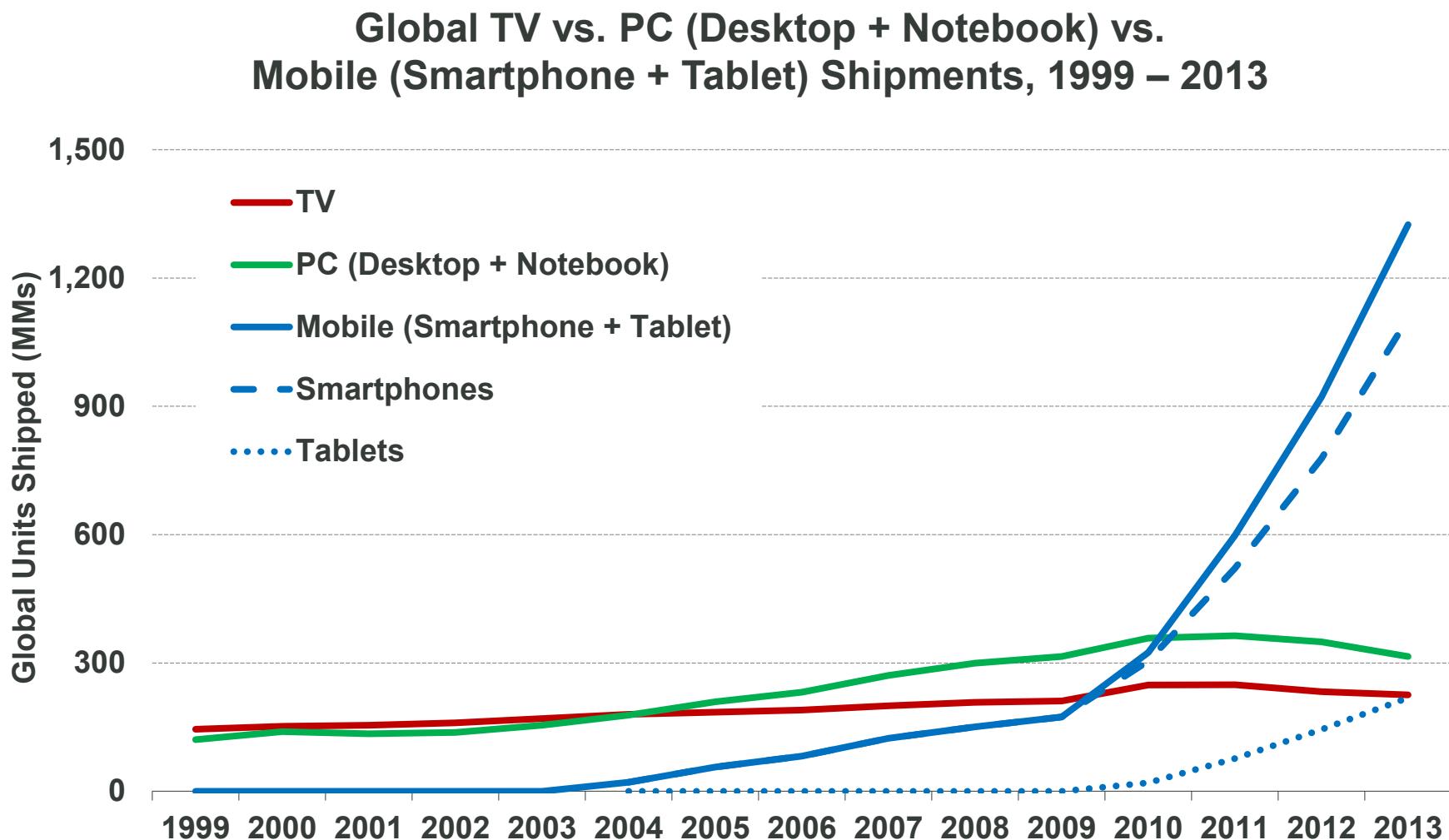
- 1) *Screens Proliferating*
- 2) *[Traditional] Remote Controls Disappearing*
- 3) *Apps Replacing Channels*
- 4) *Internet TV Replacing Linear TV*

# *Screens Proliferating*

# Screens Today = You Screen...I Screen...We All Screen

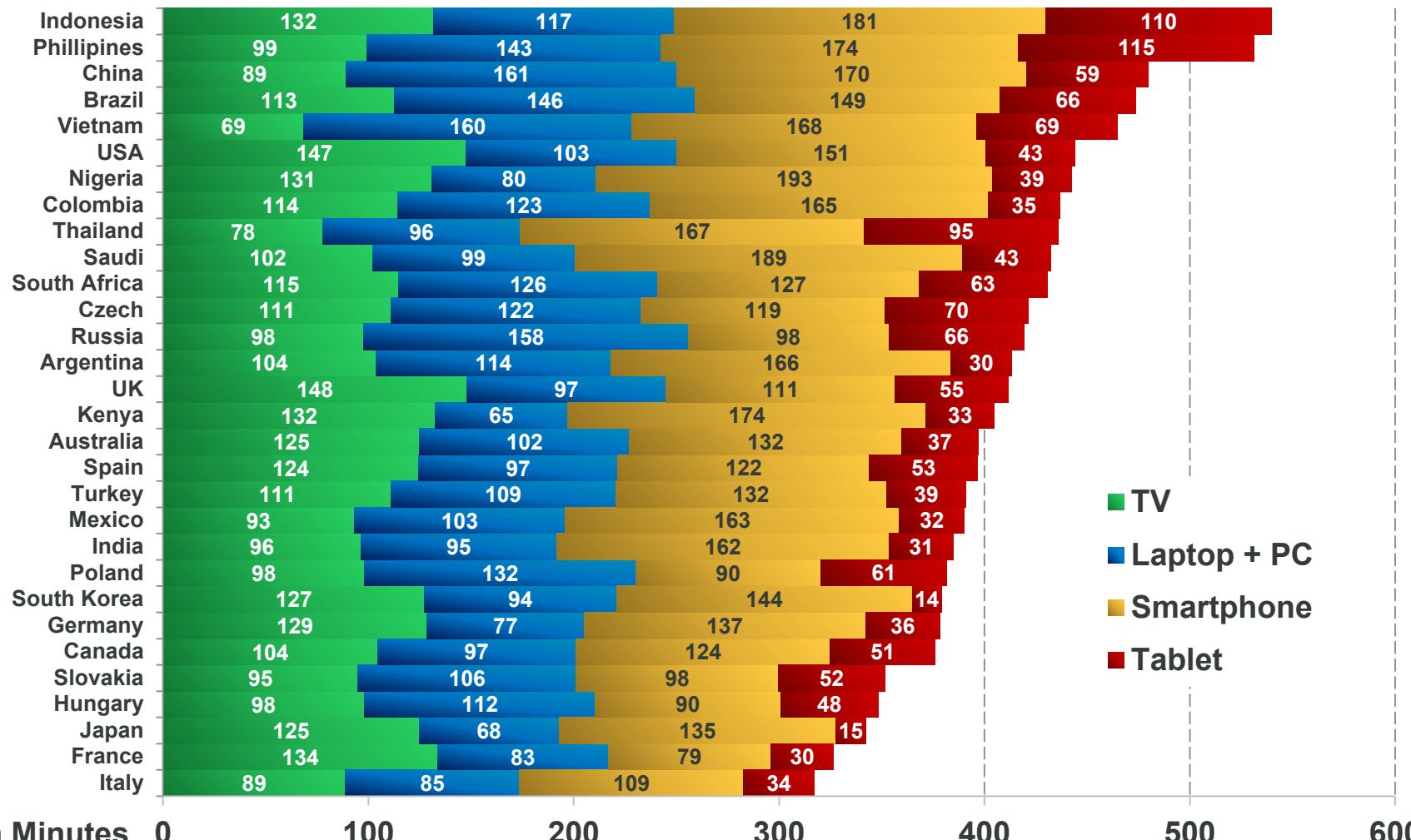


# Mobile (Smartphone + Tablet) Shipments = 4-5x Unit Volume of TV & PC...Just 10 Years Since Inception



# Smartphones = Most Viewed / Used Medium in Many Countries, 2014

## Daily Distribution of Screen Minutes Across Countries (Mins)



Screen Minutes 0

100 200

300

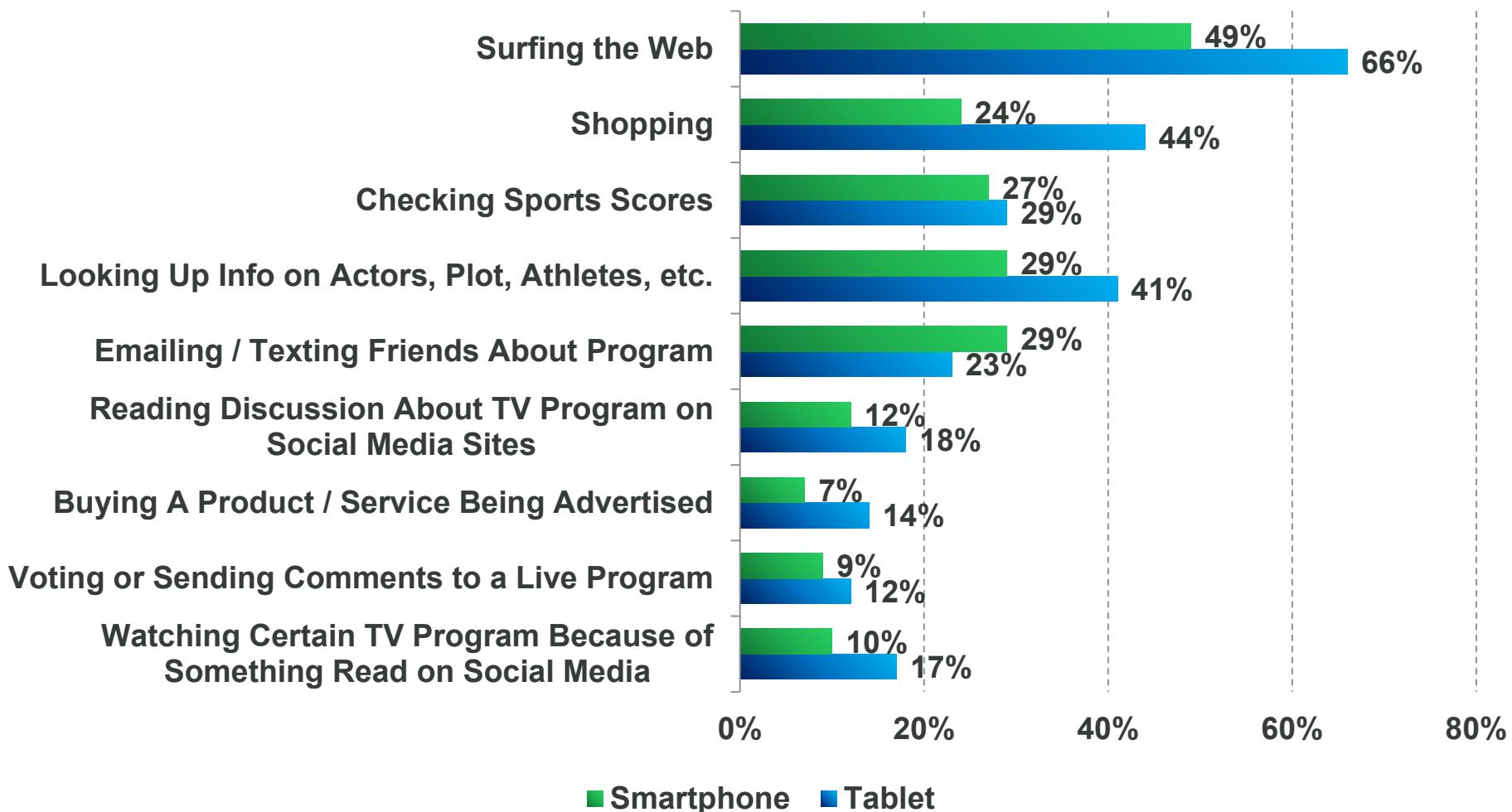
400

500

600

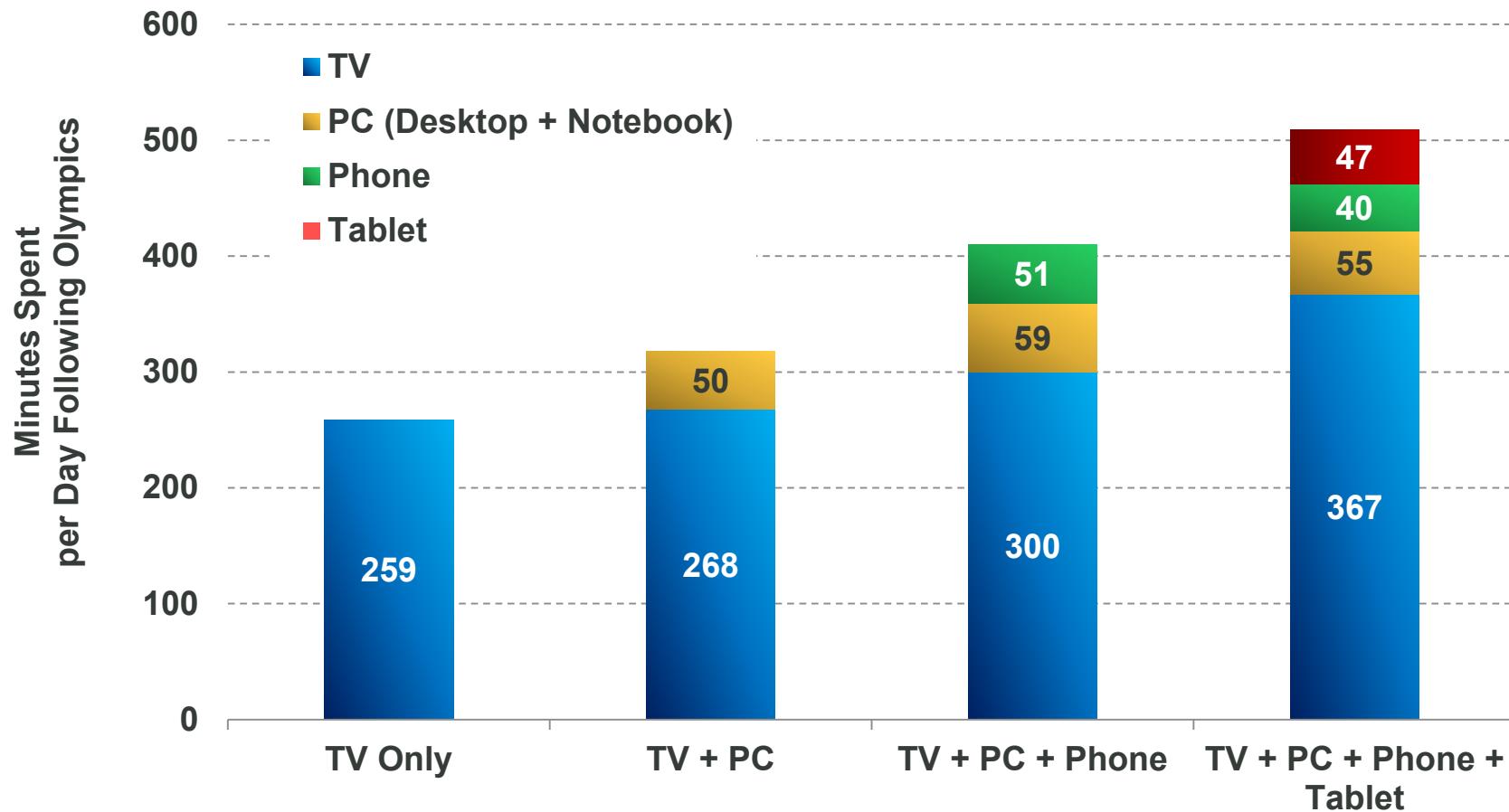
# Mobile Owners (84%) Use Devices While Watching TV... ~2x Higher Over 2 Years

## What Connected Device Owners are Doing While Watching TV, USA



# Media Engagement Rises With Screen Usage = 2x Higher for 4 Screen Users vs. Solo TV During Olympics

## Average Minutes per Day Following the Olympics, by Device, 2012 Olympics Fans



Source: ComScore Single Source Multi-Platform Study, London Olympics Lab for NBC, 7/12.  
Note: Data based on total day time spent. N = 720 panelists that use multiple devices and are Olympic fans.

# More Screens = Consumers Get More Content in Less Time?

**5 Hours of  
TV Screen Media**

=

4 Hours of Content +  
1 Hour of Commercials

**vs.**

**5 Hours of  
Multiple Screen Media**

*Smartphone (35%) + TV (27%) +  
PC (26%) + Tablet (12%)*

=

**>5 Hours of Content?**

# *[Traditional] Remote Controls*

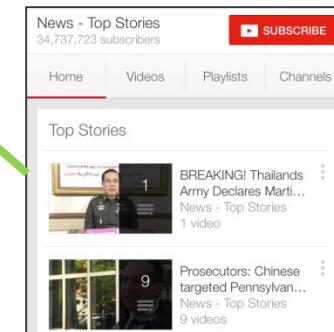
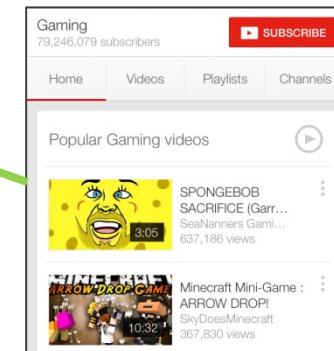
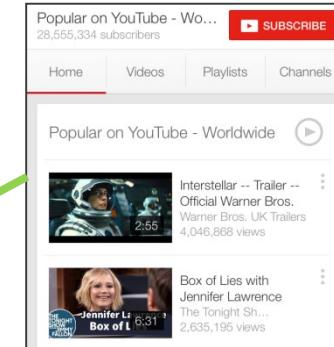
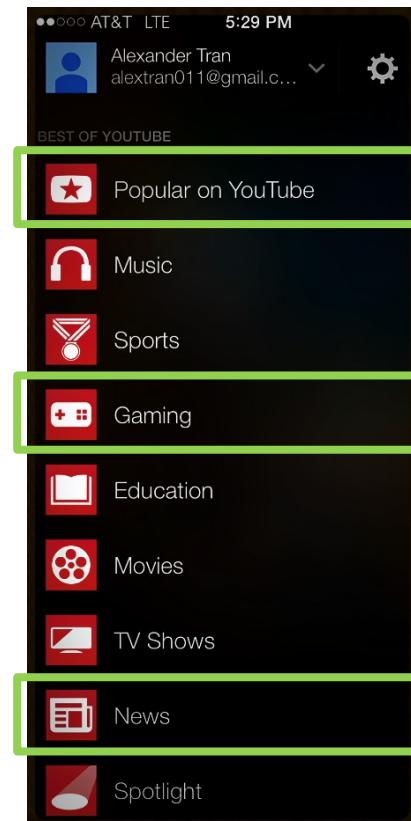
## *Disappearing*

# Re-Imagining Remote Controls = The ‘Now’ = A New IP-Enabled Search Engine

Then...



...Now



*As Smartphones Eclipsed  
Feature Phones...*

*Smart TV Adapters + Smart TVs =  
Game Changers for  
Internet-Enablement of  
Screens (Big & Small)*

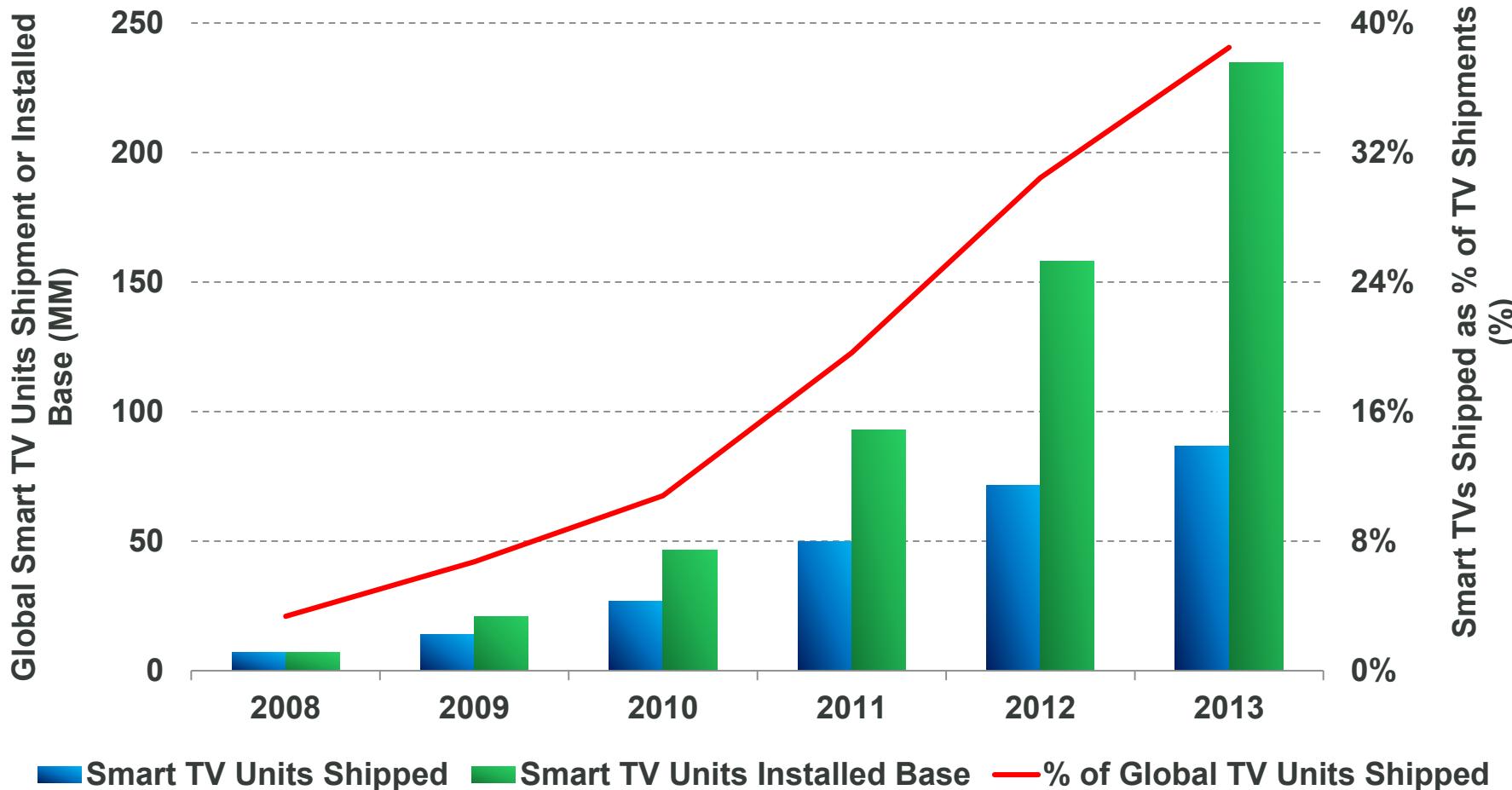
# Smart TV Adapters = Tens of Millions of Users

## Google Chromecast + Amazon Fire TV Raise Bar

	Company / Product	Launch Date
New	Amazon Fire TV	4/14
	Google Chromecast	7/13
	Roku	5/08
	Apple TV	1/07
Old	Nintendo Wii Nintendo Wii U	12/06
	Sony PlayStation 3 Sony PlayStation 4	11/06
	Microsoft Xbox 360 Microsoft Xbox One	11/05

# Smart TV Shipments = Rising % of TVs Shipped... 39% = 2013...Still <10% Installed Base

Smart TV Units Shipped, Installed Base, & Shipment Mix  
2008 – 2013, Global



Source: Generator Research, 2014.

Note: Smart TVs defined as internet-enabled television sets and exclude connected devices or adapters that stream content to television sets, such as game consoles or hybrid set-top boxes.

# *Apps Replacing Channels*

# Linear TV Channels Increasingly = On-Demand Apps

## ESPN

- 34MM (52%) ESPN digital users access ESPN just on smartphones / tablets = 48% of time spent on ESPN digital properties, 4/14



## BBC

- 234MM requests for TV programs on iPlayer in 2/14, +21% Y/Y
- 46% of requests from mobile / tablet vs. 35% Y/Y



## HBO

- 1,000+ hours of video content



# Internet = Evolved from Directory to Search / Apps...

# TV = Evolving from Directory to Apps / Search

## TV Guide

PRIME TIME Tuesday 9/18					
TONIGHT'S HIGHLIGHTS					
Eastern Central	8:00pm 7:00pm	9:30pm 7:30pm	9:00pm 8:00pm	9:30pm 8:30pm	10:00pm 9:00pm
GSN	Minute to Win It [25]		Minute to Win It [25]		Minute to Win It [25]
Hallmark	Little House on the Prairie: Part 1 of two. [H]		Little House on the Prairie: Conclusion. [H]		Frasier [25]
HBO	MOVIE Rise of the Planet of the Apes (2011): Genetically engineered chimp Caesar (Andy Serkis) uses his mighty intellect to lead an ape uprising against all of humankind. PG-13				Real Sports with Bryant Gumbel: A profile of Marvin "Magic" Johnson [25] NEW
HBO Family	MOTOROLA Star Trek: Gen. Patrick Stewart.				
HBO Signature	MOTOROLA Empire: Caesar's New Year's resolution at the end of 1922. [H]				
HBO2	MOVIE Love and Other Drugs (2010): A free-spirited young woman (Anne Hathaway) falls for a pharmaceutical salesman (Jake Gyllenhaal). R				
HGTV	Love It or List It: A family need more space. [H]		Property V. [NEW]	Property Virgins [25]	House Hunters [NEW]
History	Pawn Stars: An 18th-Century War Heist [H]		To Be Announced		Counting Cars [25] [10/31] Counting Cars [NEW]
HLN	Nancy Grace [NEW]		Drew [NEW]		Nancy Grace
IFC	MOVIE **+** The Craft: Former cult members relive their frustrations by beating each other to a pulp. Marla: Helena Bonham Carter; Robert: Meat Loaf; Aday, Angel Face: Jane Lato. [H]				
Inves. Disc.	Dateline on ID: Part 1 of 2. [ID] NEW		Dateline on NBC: Part 2 of 2. A reunion between Abby and Matt to discuss the season. [H] NEW		Twisted: Serial killer Herbert Mullin. NEW
Lifetime	Dance Moms: A national title competition for young girls places them in the spotlight. [H]		Dance Moms: Part 1 of 2. A reunion between Abby and Matt to discuss the season. [H] NEW		Dance Moms: Part 2 of 2. A reunion between Abby and Matt to discuss the season. [H] NEW
LMN	MURDER: Murder in the Hamptons (2005): An engrossing account of the death of Ted Ammons (David Sutcliffe), a millionaire who was found murdered just as he was finalizing an ugly divorce. [H]				MOVIE Living in Fear (2002): A wife hears disturbing news about her new husband. [H]
More Max	MOVIE (7:00) ***+ 28 Days Later (2002):		MOVIE ***+ The Matrix Reloaded (2003): Neo (Keanu Reeves) continues to battle evil machines. Gravity-defying action powers the second chapter of the trilogy. Carrie-Anne Moss.		The Last Tycoon With Lawrence O'Donnell [NEW]
NBC	Zombies Terrorize London. [H]		The Rachel Maddow Show [NEW]		Family Ties: 2.5 - before moments... [NEW]
MTV	The Ed Show [NEW]		Teen Mom [25]		Hard Times: A look at prison gangs that occupy an open-housing unit.
National Geographic	I Eat and You Gulp: Former cult members open up. [H]		Hard Time [NEW]		Cat Wars [25]
NatGeoWild	Clash/Calmans: Black calmans are examined. [H]				
NBC Sports	SPORTS International League Baseball Playoff: Playoff action...LIVE				George Lopez [25] George Lopez [25]
Nickelodeon	Victorious [25]				Guitar Magazine's Top 25 Best Oprah Show Moments: Moments 9-6. [H]
OWN	TV Guide Magazine's Top 25 Best Oprah Show Moments: Moments: 17-14. [25]				All the Right Moves: The guys prepare for the big debut show, but friendships are tested. NEW
Oxygen	MOVIE **+** The Sweetest Thing (2002): A party girl (Cameron Diaz) takes a road trip to find Mr. Right. Unseen, grossly comed out with Christine Applegate and Selma Blair. [H]				Survivorman Ten Days [25]
Science	Survivorman: A week in the Sonoran Desert. [H]				MOVIE Mother's Day (2011): A determined mother and her two sons terrorize a couple that is residing in their neighborhood. [H]
Showtime	Weeds [25]				
Showtime 2	MOVIE (7:30) Shakespeare High: Director: Alex Rotman. [H]		MOVIE ***+ Eternal Sunshine of the Spotless Mind (2004): Firm erases man's memories of his ex-girlfriend in this provocative love story from the mind of Charlie Kaufman ("Adaptation"). [H]		
SopNet	Days of Our Lives [25] NEW		General Hospital [25]		The Young and the Restless [25]
Speed	Dumbest Stuff [25] Dumbest Stuff [25]		Hard Parts [25]	Hard Parts [25]	My Ride Rules [25] My Ride Rules [25]
Spike	7-Eleven: Rescuers: A troubled Irish man (Matt Czuch) rescues the police and gets rewarded in explosive ways. [H]		(8:55) Bar Rescue: An offbeat eyecandy... [H]	(10/02) Bar Rescue: Jon visits the Canyon Inn. The host of the show, Jon Taffer, returns to the bar to see what has changed. [H]	Bar Rescue: Jon visits the Canyon Inn. The host of the show, Jon Taffer, returns to the bar to see what has changed. [H]
Starz	MOVIE ***+ Carlito's Way (2003): Carlito leaves the phone and gets rewarded in explosive ways. [H]		(8:55) Bar Rescue: An offbeat eyecandy... [H]	(10/02) Bar Rescue: Jon visits the Canyon Inn. The host of the show, Jon Taffer, returns to the bar to see what has changed. [H]	
Style	Sex and the City [25]		Sex and the City [25]		
Sundance	Sex and the City [25]		Sex and the City [25]		Juno (2005): A Chicagoan goes South. [H]
Syfy	MOVIE ***+ Junebug (2005): A Chicagian goes South. [H]		Face Off: The contestants create makeup for sumo-wrestlers and their sideshow acts. [H]		MOVIE ***+ Ghost World: Thora Birch [25]
TBS	Face Off: Zombie makeup for characters from "Alice's Adventures in Wonderland." [H]		Face Off: The contestants create makeup for sumo-wrestlers and their sideshow acts. [H]		Hot Set: Teams must create a set for an astronaut on an alien planet in the series premiere.
TBS	The Big Bang Theory: Leonard asks Penny out. [H]		The Big Bang Theory: Penny confides in Sheldon. [H]		
TCM	Movies on Demand [25] NEW		The Big Bang Theory: Penny asks Sheldon. [H]		MOVIE (9:45) ***+ Smart Women (1931): Mary Astor, Robert Ames, Noel Francis. [25]
TLC	High School Moms [25] NEW		10 Kids and Counting [25] NEW	10 Kids and Counting [25]	Abby & Brittany: A trip to the beach. [H]
TMC	MOVIE Southern Gothic (2007): A bouncer tries to protect a stripper and her daughter from a vampic preacher. Yul Vazquez, Nicole DaPur. [H]		MOVIE (9:45) Blood Creek (2009): Brothers Victor (Dennis Hopper) and Abby (Brittany) discover a Nazi experiment in the occult. R		Abby & Brittany: The beach. [H]
TNT	Bones: Possible copycat murders that mimic the ones in Brennan's latest book. [TNT] NEW		Bones: Booth's son comes home from England. [H]		Rizzoli & Isles: Friction escalates between Jane and Maura. [H]
Travel	Mysteries at the Museum: The host investigates a fire. [H]		Mysteries at the Museum [25] NEW		Mysteries at the Museum: An old school bus. [H]
TruTV	Hardcore Pawn [25]		Hardcore Pawn [25]		Hardcore Pawn [25]
To Be Announced			To Be Announced		To Be Announced
TV Land	The Cosby Show [25] (8:30) The Cosby Show				
USA	Law & Order: Special Victims Unit: Detectives question the validity of a rape accusation. [H]		(9:12) Everybody Loves Raymond: Ally gets on a math test on her report card. Robert Joy. [25]	(9:48) Everybody Loves Raymond: Ally gets on a math test on her report card. Robert Joy. [25]	Abby & Brittany: A trip to the beach. [H]
VH1	Myst. Museum: The host investigates a fire. [H]		Wanted: An FBI conference is targeted by a thief. [H]	(10:48) Everybody Loves Raymond: Debra's parents arrive. [H]	Abby & Brittany: The beach. [H]
WE tv	Hardcore Pawn [25]		Behind the Music [25]	(10/01) Cold Affairs: The agents look for a missing actress. [H]	Rizzoli & Isles: Friction escalates between Jane and Maura. [H]
	To Be Announced				Celebrity Rehab With Dr. Drew [25]
					CSE Miami: Two pedophiles are murdered on the same day. The first is run down by a car. [H]

## YouTube - Search Bar Comcast - X1 Guide

YouTube search results for "oppa gangnam style":

- oppa gangnam style
- oppa gangnam style
- oppaa gangnam style
- oppa gangnam style lyrics
- optical illusions
- opera
- opet si pobedila toni cetinski
- opeth
- oppa gangnam style parody
- opposite of alduts chiddy

Comcast X1 Guide showing the TV schedule for Tuesday, 9/18:

Guide / All Channels	GUIDE	Select View	
Today, 11/25	9:00p	9:30p	10:00p
CBS 808	Undercover Boss	CSI: NY	
NBC 810	The Amazing Spider-Man	Grill	
CW 811	House	American Dad	Bone
HLN 812	Say Yes to the Dress	Say Yes to the Dress	Say Yes to the Dress
TCM 815	The Big Lebowski	Breakfast	

Guide Search: 8

Channel: 008 TCN Comcast NETWORK

Program details for The Amazing Spider-Man (9:30p):

- Starts at 9:30p
- Ends at 10:00p
- Rating: PG
- Genre: Action, Adventure
- Plot Summary: (2013) High-school outcast Peter Parker embraces his destiny as Spider-Man as he investigates his late father's secrets, falls for the beautiful Gwen Stacy and battles the nefarious Lizard.

*There's a Bevy of  
New Channels on  
Premier Distribution Network  
YouTube...*

*Of Which 40% (& Rising)  
# of Users Are Mobile*

# YouTube Channels = Huge Reach + Growth

Channel	Subscribers (MM)	Y/Y Growth (%)
Music	85	166%
Gaming	79	165%
Sports	78	164%
News	35	213%
Popular	28	133%
Spotlight	22	342%
Movies	18	195%
TV Shows	12	106%
Education	10	--

**Music**



Demi Lovato - Let It Go (from "Frozen") [Official]  
by DemiLovatoVEVO  
151,068,172 views

**Gaming**



Minecraft: Diamonds Are Forever  
by CorridorDigital  
7,486,601 views  
CC

**Sports**



Top 10 Reign on Plays of the Playoffs: First Round  
by NBA  
114,323 views

**News**



National Climate Assessment cites loomin...  
by News - Top Stories  
3 videos

**Popular**



Official Extended Trailer | GOTHAM | FOX...  
by FOX  
1,898,217 views

**Spotlight**



Elon Musk: The Rocket Scientist Model for 'Iron...'...  
by TIME  
6,854 views

**Movies**



Frozen (2013)  
by DisneyMoviesOnDemand  
\$4.99 | CC

**TV Shows**



Modern Family  
3 k subscribers

**Education**



3D Scanning at the Smithsonian  
by Smithsonian  
66,457 views  
CC

*Consumers Love Video –  
Long-Form & More / More  
Short-Form*

# Every New Medium → New Stars...YouTube Top Videos = 6 - 26MM Subs...Top 10 Video Average Duration = ~7 Minutes

## Video Game Commentator

**PewDiePie**

26MM+ subscribers,  
+230% Y/Y



## Spanish Comedian **HolaSoyGerman**

17MM+ subscribers,  
+157% Y/Y



## Make-Up Artist **Michelle Phan**

6MM+ subscribers,  
+70% Y/Y



## Comedy Duo

**Smosh**

17MM+ subscribers,  
+81% Y/Y



## Comedian **nigahiga**

12MM+ subscribers,  
+50% Y/Y



## Style and Beauty Blogger **Bethany Mota**

6MM+ subscribers,  
+180% Y/Y



# Consumers Loving Best Ads = The Art of Short-Form

#1 = Nike Football  
@ 49MM+ Views



#2 = Dove: Patches  
@ 20MM+ Views



#3 = Evian Spider Man  
@ 16MM+ Views



#4 = Castrol Footkhana  
@ 14MM+ Views



#5 = “Unsung Hero” (Thai Life)  
@ 12MM+ Views



# Ads the Digital Way... Google TrueView = Game-Changer

**YouTube's TrueView Ads =  
'Cost-per View' Video Marketing**

*AdWords Dynamically Places Video Ad Content  
on Google / YouTube Users Can Skip*

- **Ads = Great Content** – Transformation potential from commercials users want to skip to short-form content users choose to watch
- **Advertisers Win** – Better results as only pay for users who are engaged & watch video...improves direct click-through options with consumers
- **Data** – As YouTube collects data on how users engage with ads, it continues to improve the user experience and advertiser ROI



*Evian Baby & Me = Most Watched  
YouTube Ad Of 2013 = 87MM+ views*



# *Fans Trump Audiences – Alex Carloss (YouTube)*

*An audience tunes in when they're told to,  
a fanbase chooses when and what to watch...*

*...An audience changes the channel  
when their show is over...*

*...A fanbase shares, comments, curates, creates...*

# *Consumers Voting for Social Video / TV*

# New Genre(s) of Video = ‘Spectator Gaming’\* – Players → Players / Active Spectators

## Twitch

45MM MAUs (12/13) vs. 8MM Three Years Ago (7/11)

12B Minutes Watched / Month, +2x Y/Y

900K Broadcasters / Month, +3x Y/Y

**Featured Games** Games people are watching now

League of Legends 118,190 Viewers	Dota 2 78,224 Viewers	Hearthstone: Heroes... 27,230 Viewers	Counter-Strike: Glob... 17,534 Viewers	Diablo III: Reaper of ... 13,292 Viewers	Minecraft 12,874 Viewers	Magic: The Gathering 12,615 Viewers	Dark Souls II 9,903 Viewers	Call of Duty: Black O... 9,641 Viewers
--------------------------------------	--------------------------	--	---	---	-----------------------------	--	--------------------------------	---

**Twitch = Top Live Video Streaming Site by Volume, USA, 4/14**

Rank	Site	Volume (%)
1	Twitch	44%
2	WWE	18%
3	Ustream	11%
4	MLB.com	7%
5	ESPN	6%

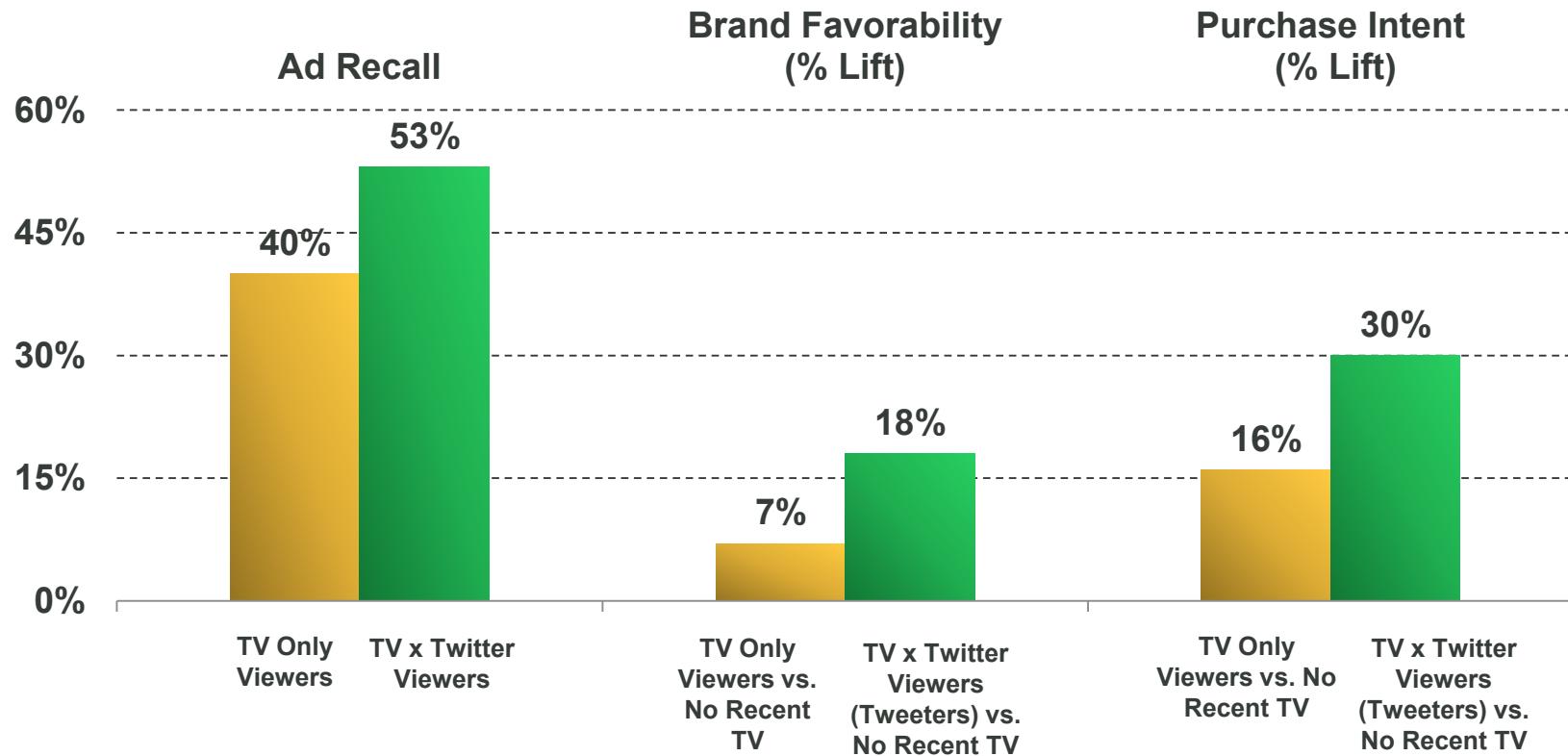
Source: Company data. Qwilt, 4/14.

\*ReadWrite

*Social TV =*  
*Can Provide Advertiser Lift*

# TV + Twitter = Boosts Ad Impact

## Impact of TV Ads on Viewers – TV with Twitter vs. TV without Twitter



Source: Twitter x TV Study, Millward Brown Digital, 12/13.

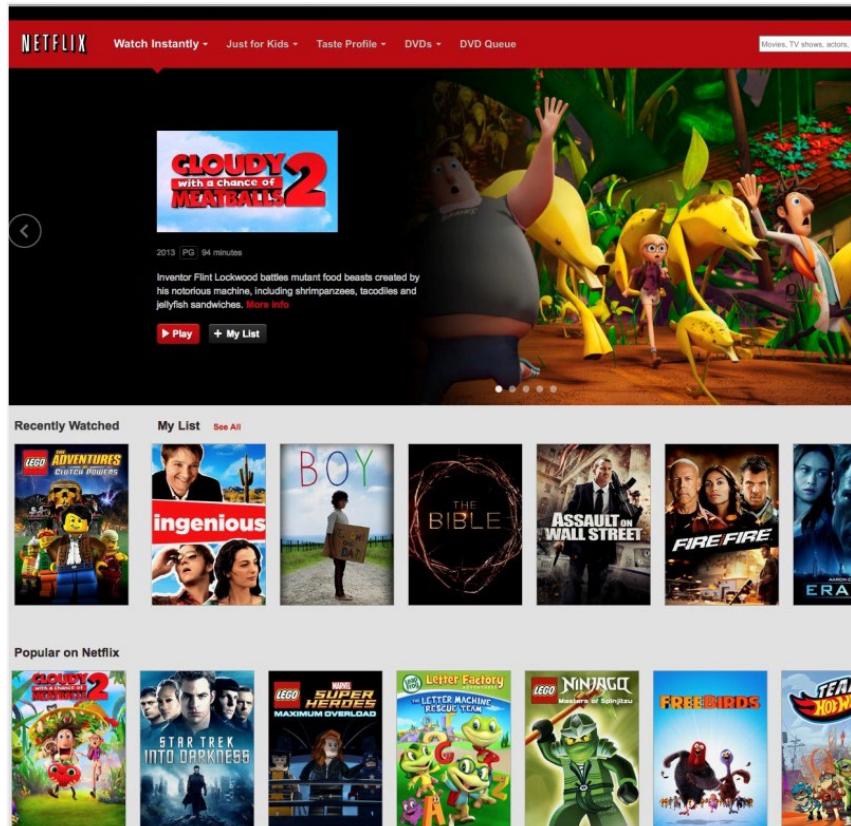
Note: TV x Twitter users defined as people who used Twitter while watching TV.

N = 7,500+ respondents who were part of a study to assess impact of TV ads among people who watched TV with and without Twitter.

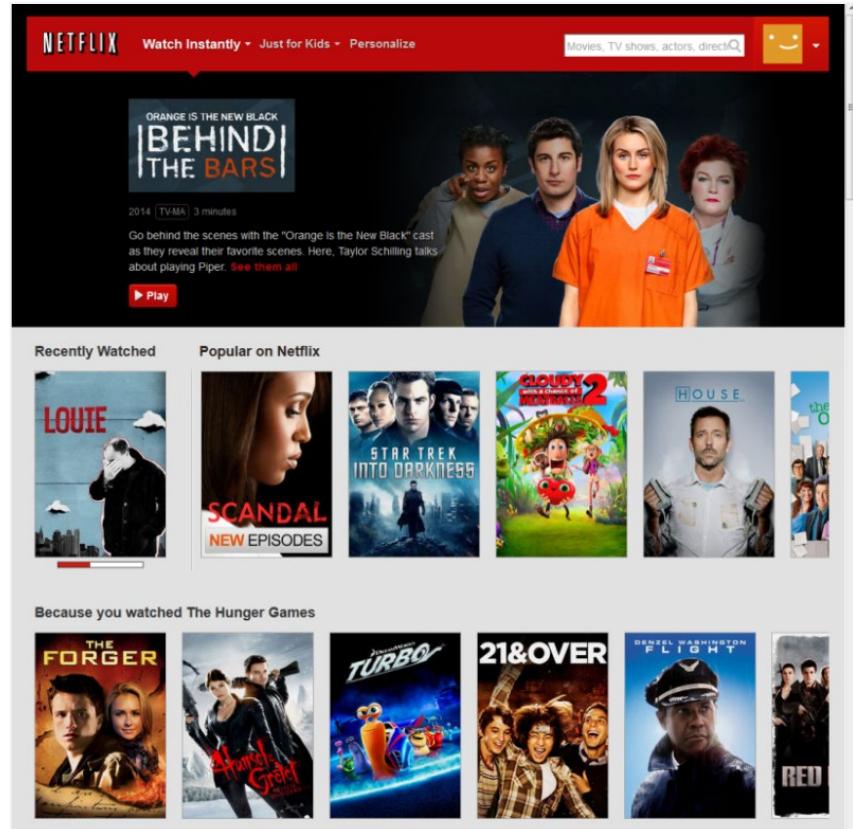
# *Consumers Voting for Personalization*

# Netflix = Personalization...

## A Father of Two



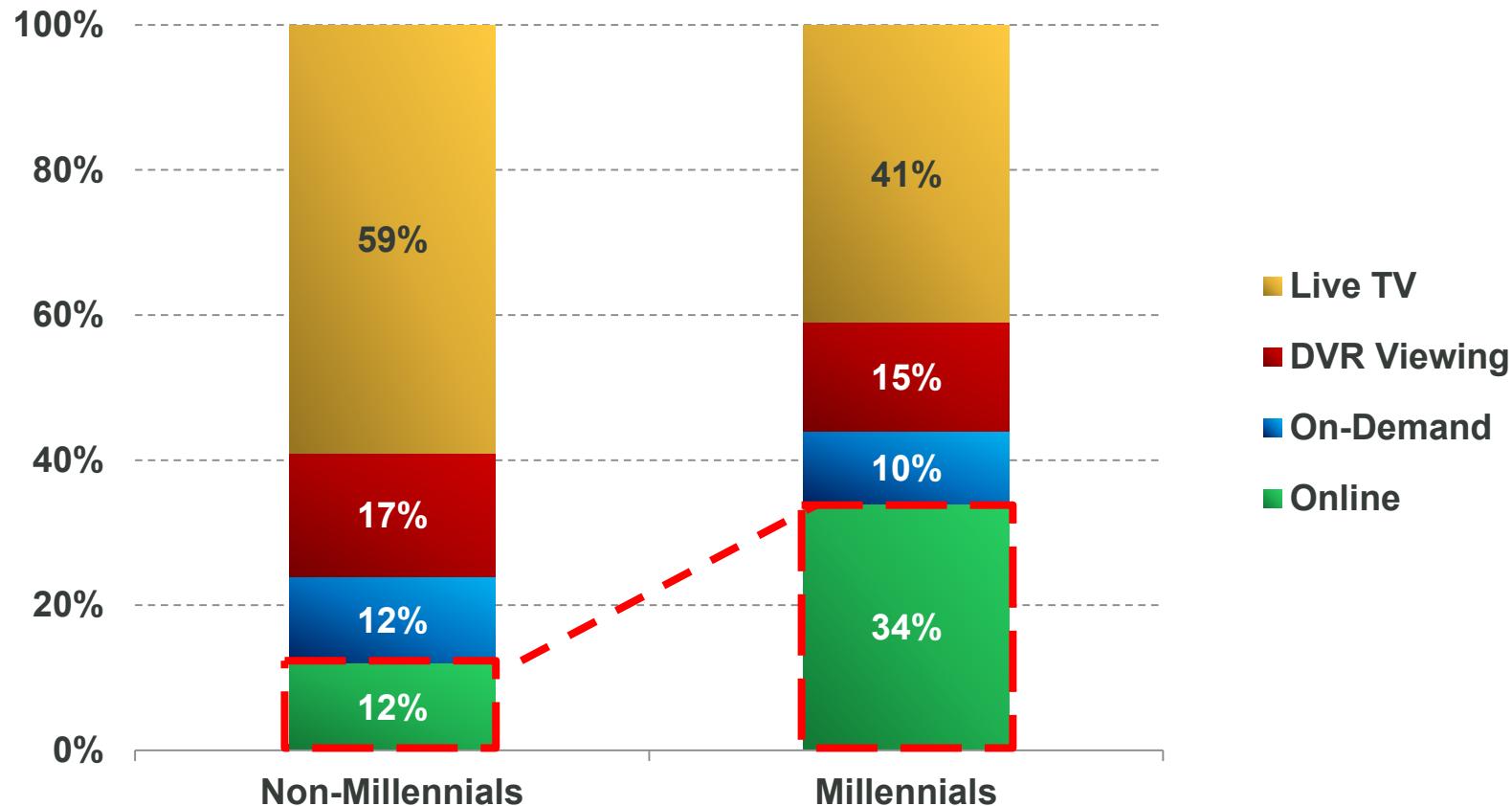
## A Female Millennial



# *Younger Consumers Voting for On-Demand Video*

# Millennials = 34% of TV Time Online, ~3x > Non-Millennials

## Distribution of Total TV Time Millennials vs. Non-Millennials, USA



Source: Verizon Digital Media Study, 3/14.

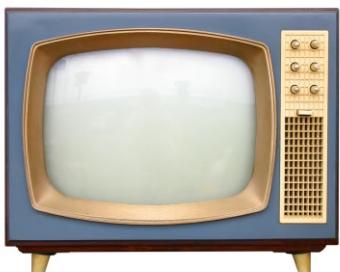
Note: Study encompassed quantitative survey of 1,000 USA consumers (800 millennials age 16-34 and 200 non-millennials age 35-64). Data collected on 11/13.

*Internet TV Replacing Linear TV –  
Early Stages of TV Golden Age With  
Epic  
Content Creation / Consumption /  
Curation / Distribution*

# Consumers Increasingly Expect to Watch TV Content... On Own Terms

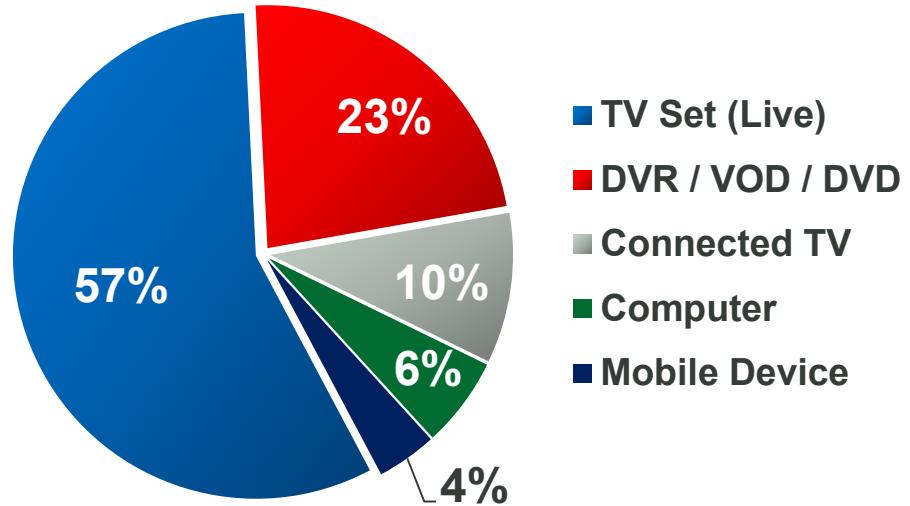
## Device Share of TV Content, USA, 1/14

Circa 1950



TV Set (Live) =  
100% of viewing

Circa 2014



Source: Horowitz Associates, State of Cable and Digital Media Report, 4/14.

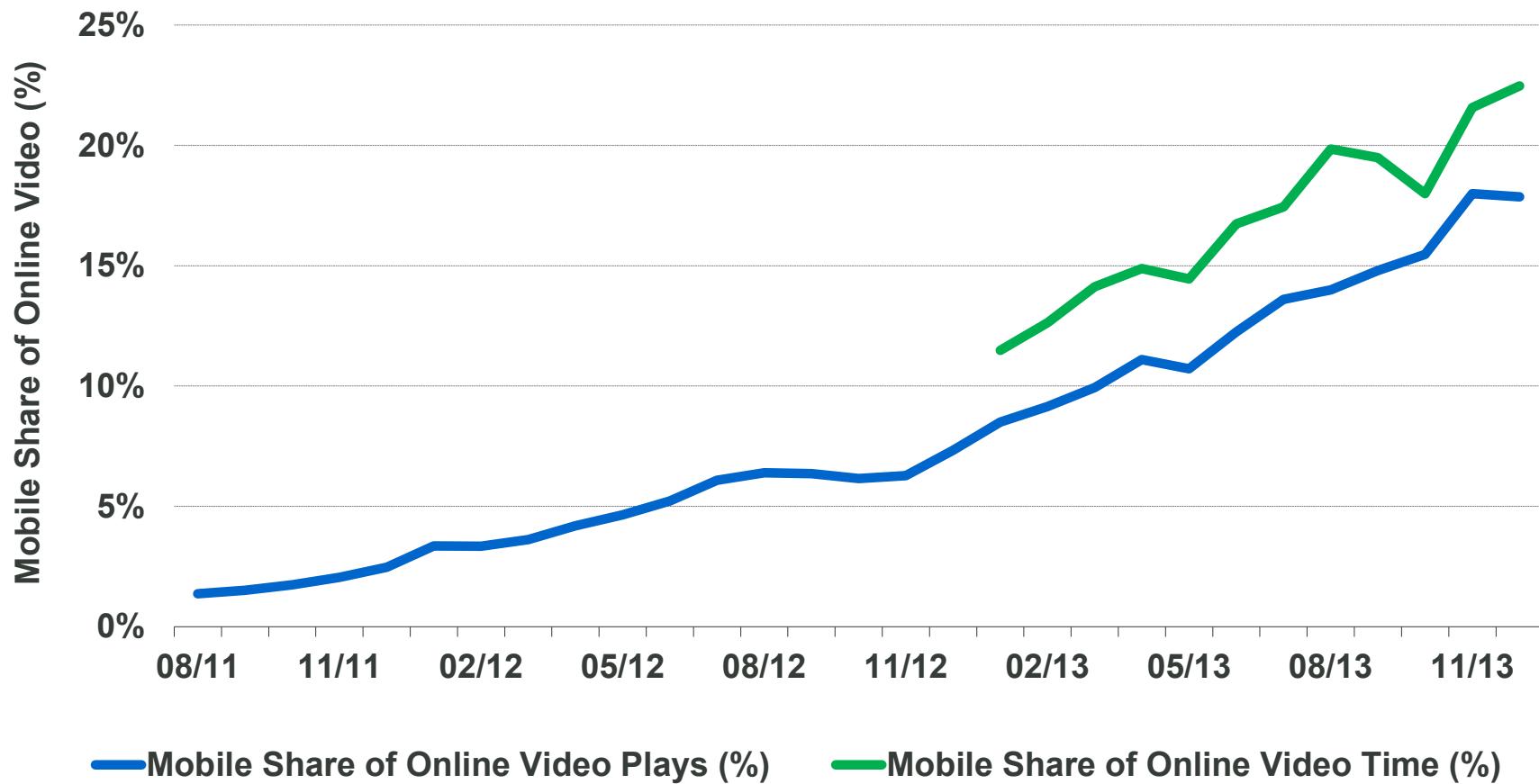
Note: Study based on 1,200 interviews in 1/14 among heads of households (18+) who watch any kind of TV.

Live TV defined as watching linear programming that is not time-shifted from original programming time intended.

TV Content defined as any type of video content. Computer includes desktop + notebook. Mobile includes smartphone + tablet.

# Mobile = More & More Video Consumption... 22% (+2x Y/Y) of Online Video Time Spent

Mobile Share of Online Video Plays and Time, 8/11 – 12/13, Global



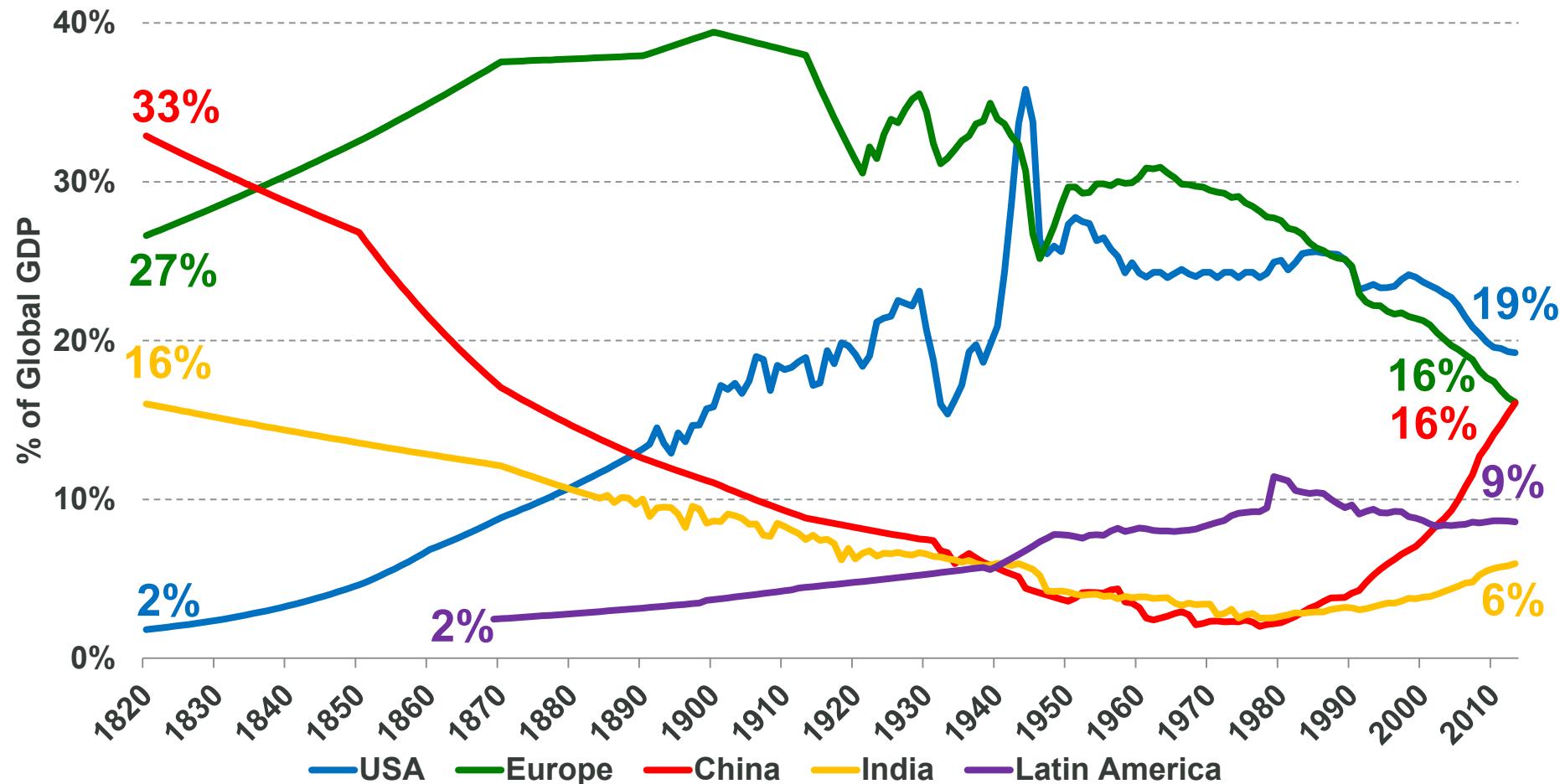
# Future of TV – Reed Hastings (Netflix CEO / Founder)

- 1) *Screens Proliferating*
- 2) *[Traditional] Remote Controls Disappearing*
- 3) *Apps Replacing Channels*
- 4) *Internet TV Replacing Linear TV*

# CHINA'S EPIC SHARE GAINS

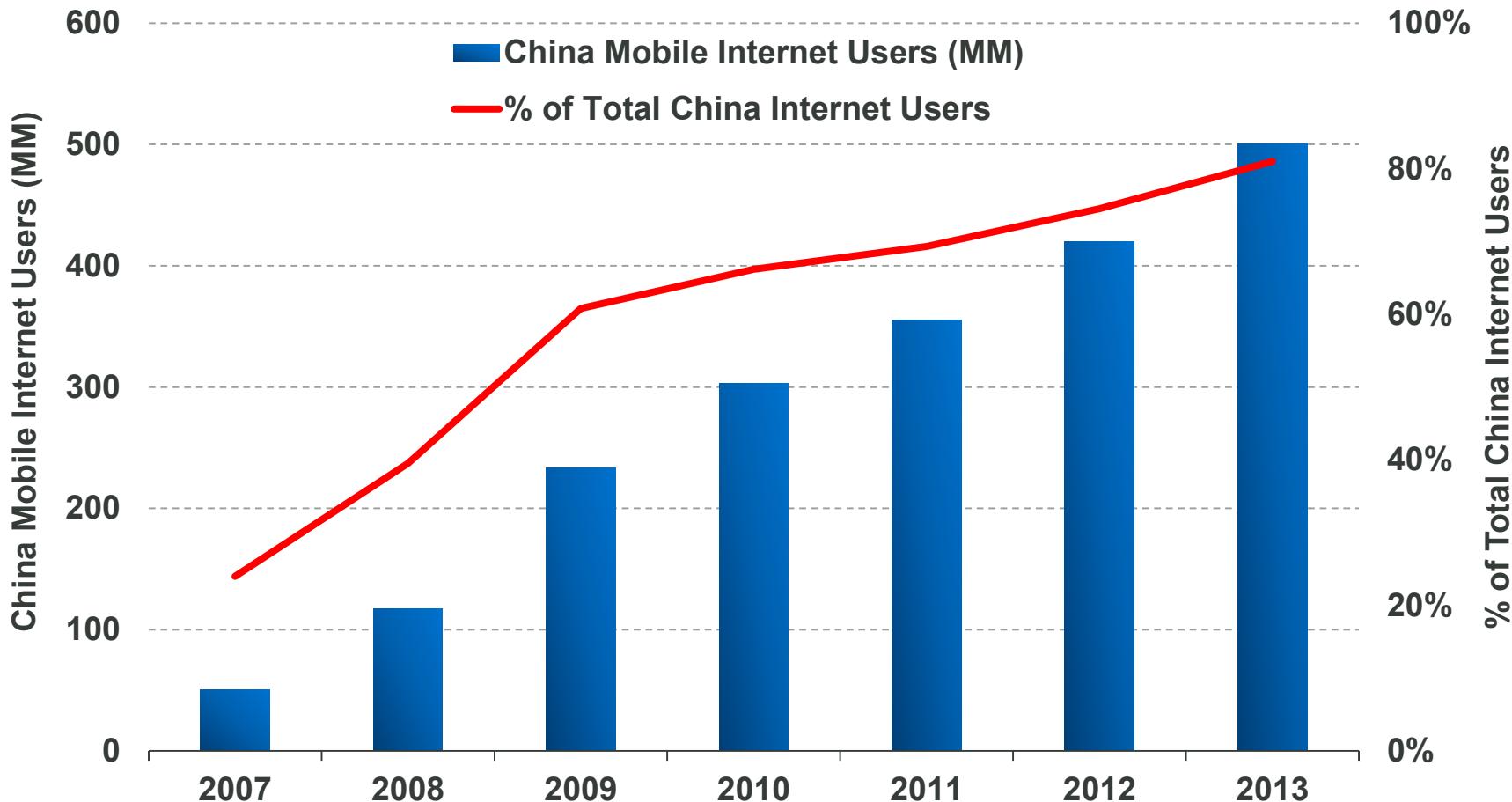
# Global GDP = China Rise Continues

Percent of Global GDP, 1820 – 2013,  
USA vs. Europe vs. China vs. India vs. Latin America



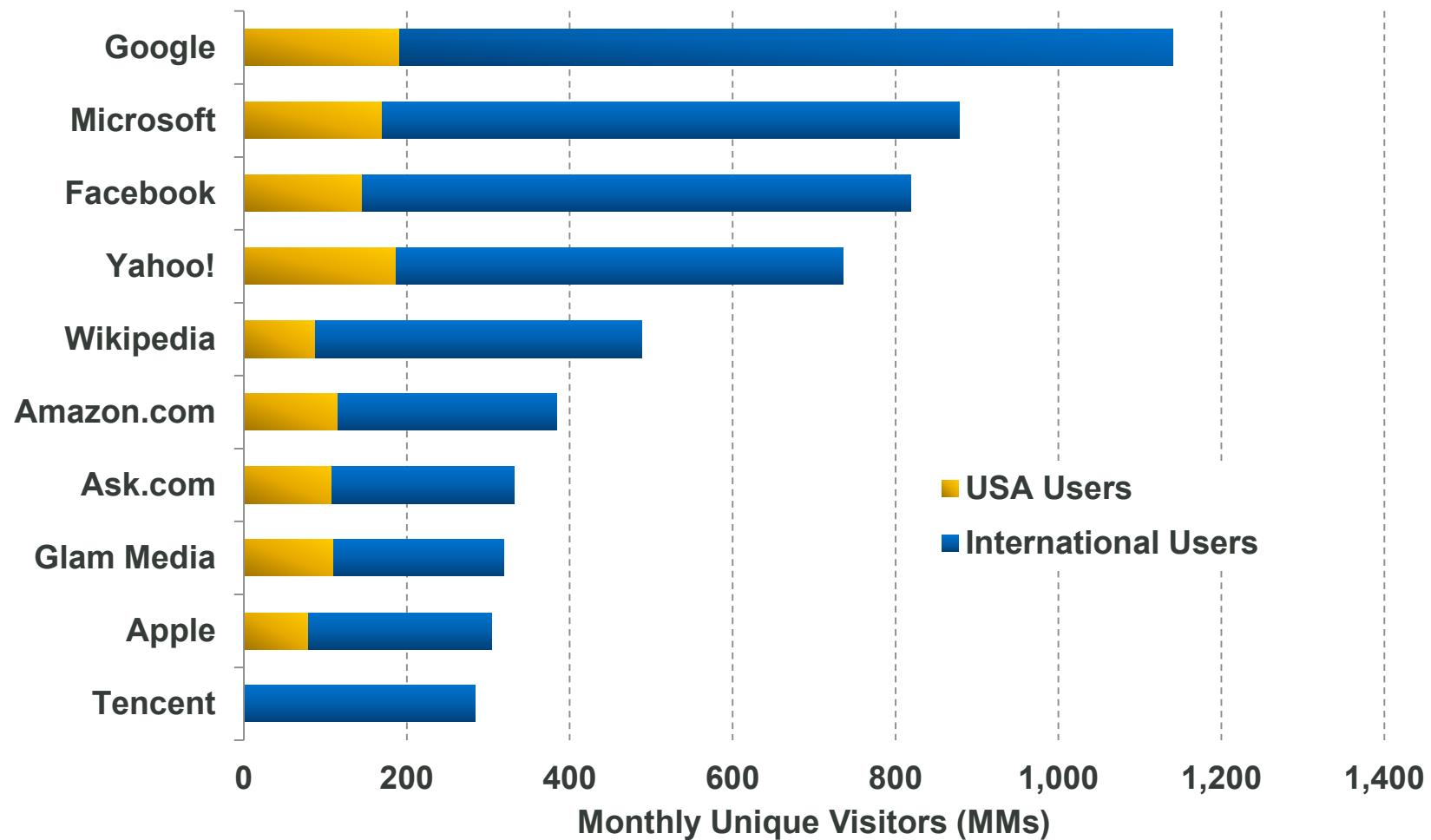
# 500MM (80%) of China Internet Users = Mobile... More Critical Mass than Any Place in World

## China Mobile Internet Users as % of Total Internet Users, 2007 – 2013



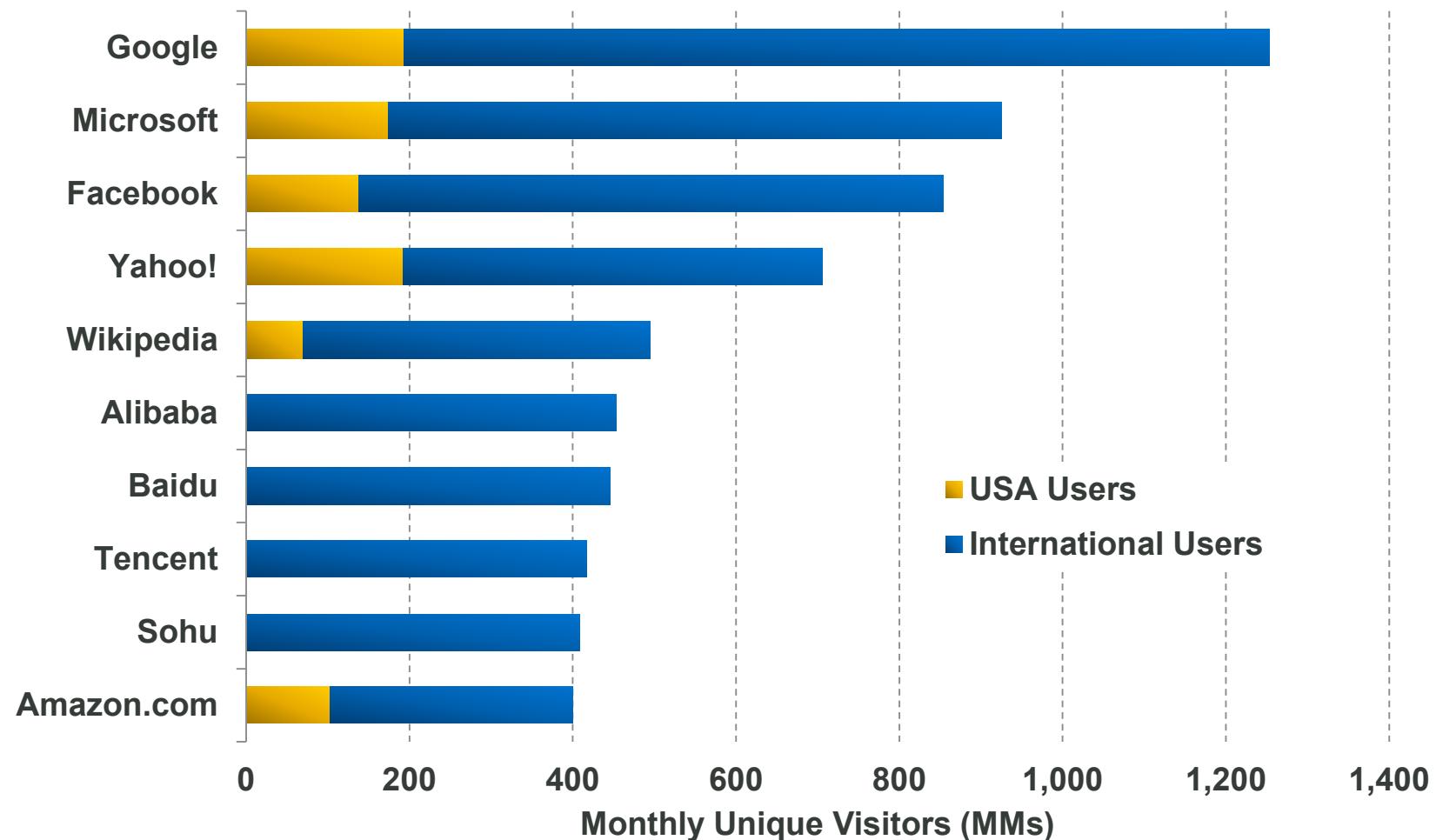
1/13 – 9 of Top 10 Global Internet Properties ‘Made in USA’...  
79% of Their Users Outside America

### Top 10 Internet Properties by Global Monthly Unique Visitors, 1/13



3/14 – 6 of Top 10 Global Internet Properties ‘Made in USA’...  
>86% of Their Users Outside America...China Rising Fast

### Top 10 Internet Properties by Global Monthly Unique Visitors, 3/14



# *China = Mobile Commerce Innovation Leader*

Source: Liang Wu, Hillhouse Capital\*

\*Disclaimer – The information provided in the following slides is for informational and illustrative purposes only. No representation or warranty, express or implied, is given and no responsibility or liability is accepted by any person with respect to the accuracy, reliability, correctness or completeness of this Information or its contents or any oral or written communication in connection with it. A business relationship, arrangement, or contract by or among any of the businesses described herein may not exist at all and should not be implied or assumed from the information provided. The information provided herein by Hillhouse Capital does not constitute an offer to sell or a solicitation of an offer to buy, and may not be relied upon in connection with the purchase or sale of, any security or interest offered, sponsored, or managed by Hillhouse Capital or its affiliates.

# Tencent WeChat = 400MM Mobile Active Chat Users... Increasingly Using Payments + Commerce

## WeChat 'My Bank Card' Page



Manage money / invest in  
money market funds  
via WeChat Payment



Order taxi - powered by Didi -  
pay via WeChat Payment



New Year Lucky Money –  
fun / social game to incentivize  
users to link bank cards to  
WeChat Payment...  
5MM users used on  
Chinese New Year Eve, 2014

Find restaurants /  
daily group buy deals  
- powered by Dianping -  
pay via WeChat Payment



# Tencent WeChat Services = Virtual Assistant

## WeChat Service Accounts = Interactive Accounts with Communication / CRM / Ordering Capability

### Personal Banker

China Merchant Bank allows customers to check & repay balances and ask live questions via WeChat



### Shopping Assistant

Mogujie / Meilishuo (fashion discovery & shopping sites) give customers tailored suggestions via WeChat



### Private Chef

Hahajing (a chain deli restaurant) allows customers to order & deliver food via WeChat



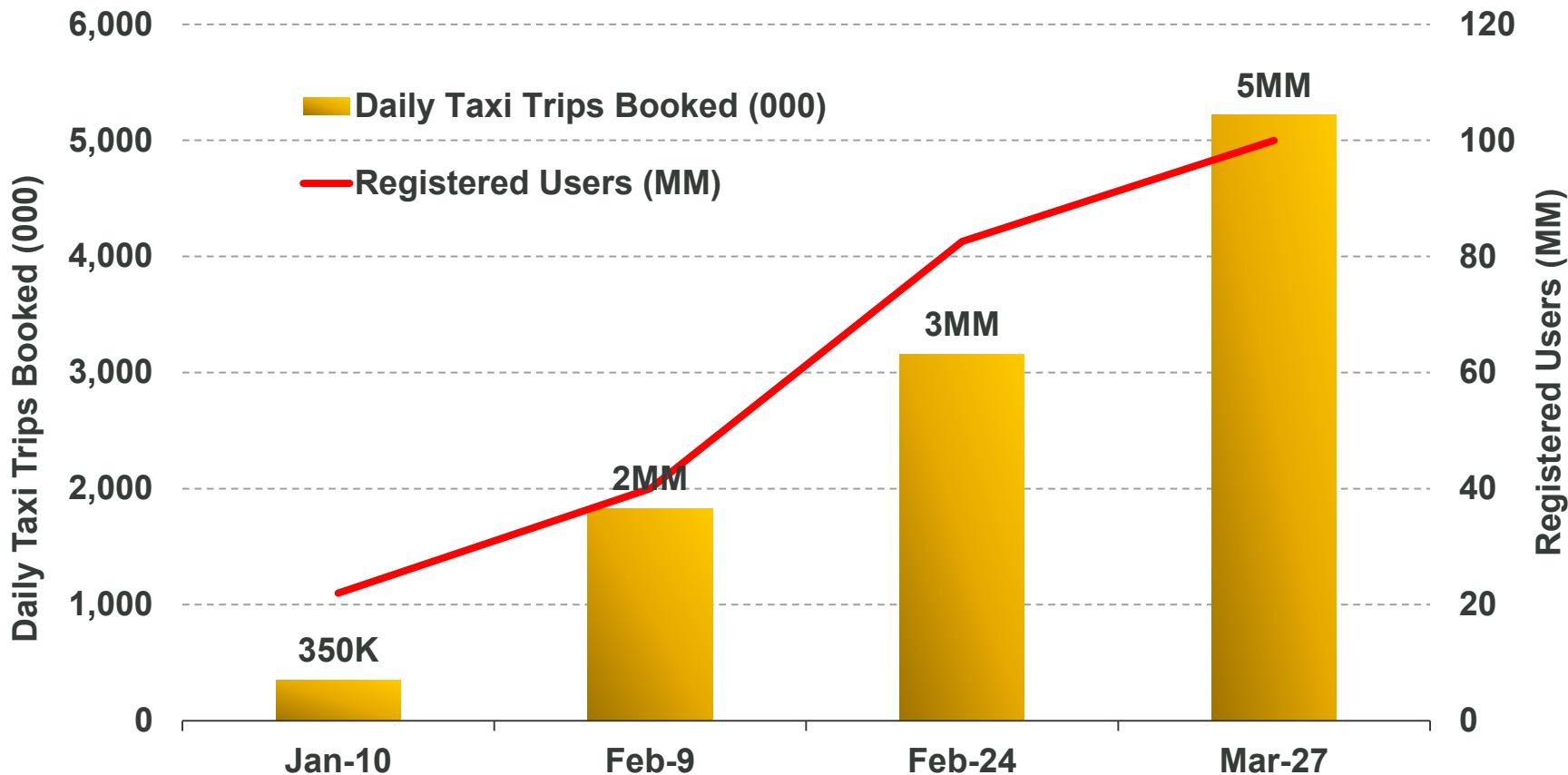
### Grocery Getter

Xiaonongnv (a grocery delivery startup) prepares fresh groceries & delivers to your address via WeChat



Didi Taxi – 100MM+ Users = 5MM+ Daily Rides, +15x in 77 Days...  
Driven by WeChat Payment Integration & Subsidy\*

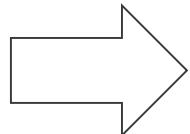
### Didi Taxi, Daily Taxi Trips Booked, 1/10/2014 – 3/27/2014



Note: \* Subsidy ranges from \$1-3 per ride. Estimated total subsidy during this period was ~\$233MM.  
Source: Didi, Liang Wu (Hillhouse Capital).

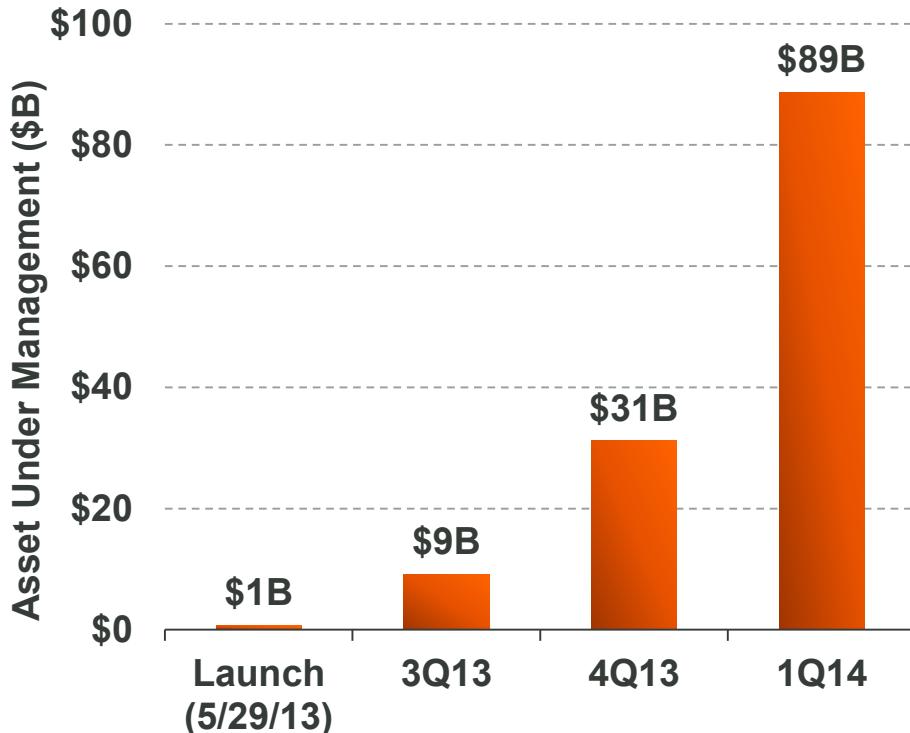
# Alipay Yu'E Bao – Mobile Money Market Fund Launch... Drove \$89B AUM\* in 10 Months

- Simple, fun-to-use mobile product
- Built on top of Alipay – the most popular online payment platform in China with 160MM+ accounts.
- Technology enables same-day settlement.



- \$0 → \$89B asset under management in 10 months
- Top 3 global money market fund by assets under management (AUM)

Alipay Yu'E Bao Assets Under Management, 5/13 to C1:14



\*Note: AUM is asset under management, Fidelity and Vanguard manage more assets than Alipay's Yu'E Bao.  
Source: Alipay, Liang Wu (Hillhouse Capital).

# PUBLIC COMPANY TRENDS

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

Rank	Company	Region	2014 Market Value (\$B)	2013 Revenue (\$MM)
1	Apple	USA	\$529	\$173,992
2	Google	USA	377	59,825
3	Facebook	USA	157	7,872
4	Amazon	USA	144	74,452
5	Tencent	China	132	9,983
6	eBay	USA	66	16,047
7	Priceline	USA	63	6,793
8	Baidu	China	59	5,276
9	Yahoo!	USA	35	4,680
10	Salesforce.com	USA	33	4,071
11	JD.com	China	29	11,454
12	Yahoo! Japan	Japan	25	3,641
13	Netflix	USA	24	4,375
14	Naver	Korea	23	2,190
15	LinkedIn	USA	19	1,529
16	Twitter	USA	18	665
17	Rakuten	Japan	16	4,932
18	Liberty Interactive	USA	14	11,252
19	TripAdvisor	USA	13	945
20	Qihoo 360	China	11	671
Total			\$1,787	\$404,644

# ...Global Internet Leaders = Intense M&A + Investment Activity

Company / Market Cap (\$B)	Volume, 2012- 2014YTD (\$B)	Select Transactions, 2012-2014YTD					
<b>Google</b> <b>\$377B</b>	<b>\$6B (M&amp;A)</b>	<b>DeepMind</b>	<b>\$400MM (1/14)</b>	<b>Nest</b>	<b>\$3B (1/14)</b>	<b>Waze</b>	<b>\$1B (6/13)</b>
	<b>\$3B* (Investments)</b>	<b>Cloudera</b>	<b>\$160MM* (3/14)</b>	<b>DocuSign</b>	<b>\$100MM* (3/14)</b>	<b>Uber</b>	<b>\$258MM (8/13)</b>
<b>Facebook</b> <b>\$157B</b>	<b>\$24B (M&amp;A)</b>	<b>Oculus</b>	<b>\$2B (3/14)</b>	<b>WhatsApp</b>	<b>\$19B+ (2/14)</b>	<b>Instagram</b>	<b>\$1B (4/12)</b>
<b>Tencent</b> <b>\$132B</b>	<b>\$7B* (Investments)</b>	<b>JD.com</b>	<b>\$3B (3/14)</b>	<b>CJ Games</b>	<b>\$500MM (3/14)</b>	<b>Activision Blizzard</b>	<b>\$429MM (7/13)</b>
<b>Alibaba</b> <b>TBD</b>	<b>\$5B (M&amp;A)</b>	<b>ChinaVision</b>	<b>\$800MM (3/14)</b>	<b>AutoNavi</b>	<b>\$1B+ (2/14)</b>		
	<b>\$5B* (Investments)</b>	<b>Youku Tudou</b>	<b>\$1B (4/14)</b>	<b>Weibo</b>	<b>\$1B (4/13)</b>		

# ONE MORE THING(S)...

*From One Extreme  
To the Other...*

# Live Streaming = Oculus Rift-Enabled Drones?



Mashable

# Re-Imagining Global Access to Internet? 😞



Thanks...

## **KPCB Partners**

Especially Alex Tran / Cindy Cheng / Alex Kurland who helped take spurts of ideas and turn them into something we hope is presentable / understandable...

## **Participants in Evolution of Internet Connectivity**

From creators to consumers who keep us on our toes 24x7...

## **Walt & Kara**

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

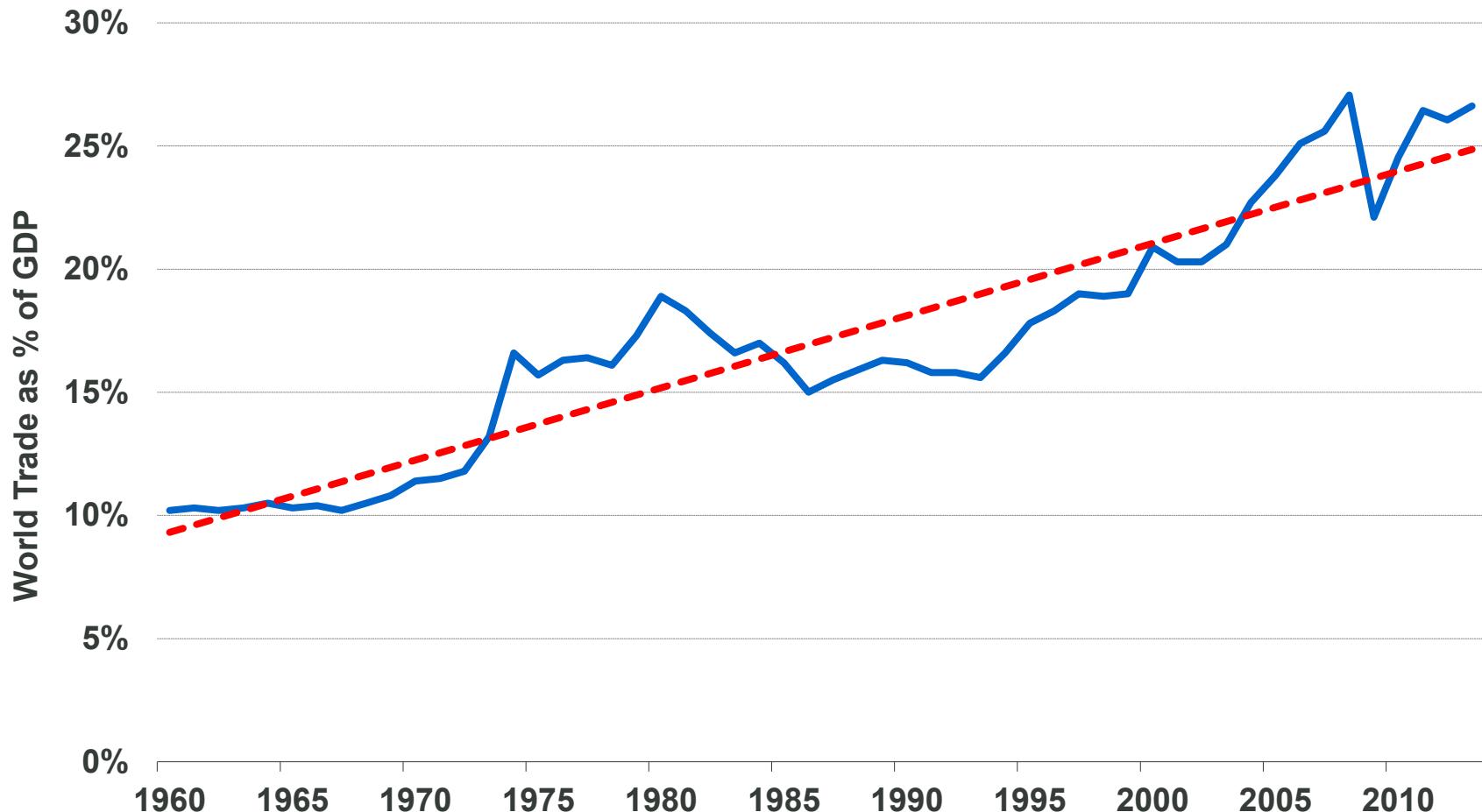
# RAN OUTTA TIME THOUGHTS / APPENDIX

# IMMIGRATION UPDATE

REPORT: <http://www.kpcb.com/file/kpcb-immigration-in-america-the-shortage-of-high-skilled-workers>

# Global Economies / People = Increasingly Connected / Co-Dependent

World Trade as % of World GDP, 1960 - 2013



Source: Trade data per World Trade Organization (WTO), GDP data per United Nations (UN).

Note: World trade calculated as the sum of all countries' imports (or exports). The biggest trading partners of USA includes EU nations, Canada, China, Mexico, Japan and South Korea.

# 60% of Top 25 Tech Companies Founded by 1st and 2nd Generation Americans = 1.2MM Employees, 2013

## Founders / Co-Founders of Top 25 USA Public Tech Companies, Ranked by Market Capitalization

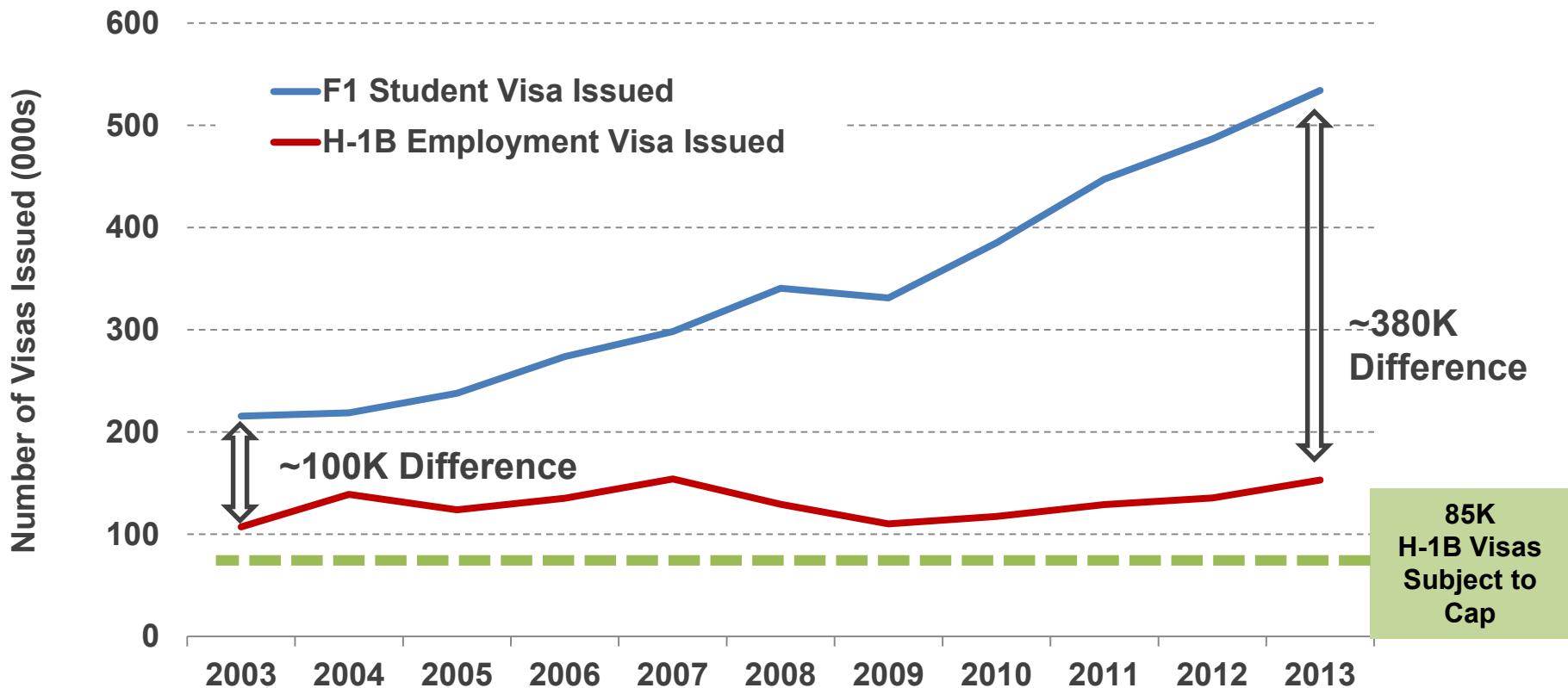
Rank	Company	Mkt Cap (\$MM)	LTM Rev (\$MM)	Employees	1st or 2nd Gen Immigrant Founder / Co-Founder	Generation
1	Apple	\$529,000	\$176,035	80,300	Steve Jobs	2nd-Gen, Syria
2	Google	376,536	62,294	47,756	Sergey Brin	1st-Gen, Russia
3	Microsoft	331,408	83,347	99,000	--	--
4	IBM	188,205	98,827	431,212	Herman Hollerith	2nd-Gen, Germany
5	Oracle	187,942	37,902	120,000	Larry Ellison / Bob Miner	2nd-Gen, Russia / 2nd-Gen, Iran
6	Facebook	157,448	8,916	6,337	Eduardo Saverin	1st-Gen, Brazil
7	Amazon.com	143,683	78,123	117,300	Jeff Bezos	2nd-Gen, Cuba
8	Qualcomm	134,827	25,712	31,000	Andrew Viterbi	1st-Gen, Italy
9	Intel	130,867	52,892	107,600	-- *	--
10	Cisco	125,608	47,202	75,049	--	--
11	eBay	65,927	16,561	33,500	Pierre Omidyar	1st-Gen, France
12	Hewlett-Packard	63,903	111,820	317,500	William Hewlett	--
13	Priceline	62,767	7,133	9,500	Jay Walker	--
14	EMC	54,458	23,314	63,900	Roger Marino	2nd-Gen, Italy
15	Texas Instruments	49,920	12,303	32,209	Cecil Green / J. Erik Jonsson	1st-Gen, UK / 2nd-Gen, Sweden
16	VMware	41,549	5,376	14,300	Edouard Bugnion	1st-Gen, Switzerland
17	Automatic Data Processing	38,014	11,958	60,000	Henry Taub	2nd-Gen, Poland
18	Yahoo!	35,258	4,673	12,200	Jerry Yang	1st-Gen, Taiwan
19	salesforce.com	32,783	4,405	13,300	--	--
20	Adobe Systems	32,004	4,047	11,847	--	--
21	Cognizant Technology	29,583	9,245	171,400	Francisco D'souza / Kumar Mahadeva	1st-Gen, India** / 1st-Gen, Sri Lanka
22	Micron	29,253	13,310	30,900	--	--
23	Netflix	24,120	4,621	2,327	--	--
24	Intuit	22,595	4,426	8,000	--	--
25	Sandisk	21,325	6,341	5,459	Eli Harari	1st-Gen, Israel
Total Founded by 1st or 2nd Gen Immigrants		\$2,053,676	\$577,580	1,226,873		

Source: CapIQ, Factset as of 5/14. "The 'New American' Fortune 500", a report by the Partnership for a New American Economy; "American Made, The Impact of Immigrant Founders & Professionals on U.S. Corporations."

\*Note: while Andy Grove (from Hungary) is not a co-founder of Intel, he joined as COO on the day it was incorporated. \*\*Francisco D'souza is a person of Indian origin born in Kenya.

# USA Sending More Qualified Foreign Students Home Post Graduation – 3.5x Rise in Student & Employment Visa Issuance Gap Over Decade

## Number of Student Visas (F1) vs. Employment (H-1B) Visas Issued per Year, 1992 – 2013



# USA, INC. UPDATE

REPORT: [http://www.kpcb.com/usainc/USA\\_Inc.pdf](http://www.kpcb.com/usainc/USA_Inc.pdf)

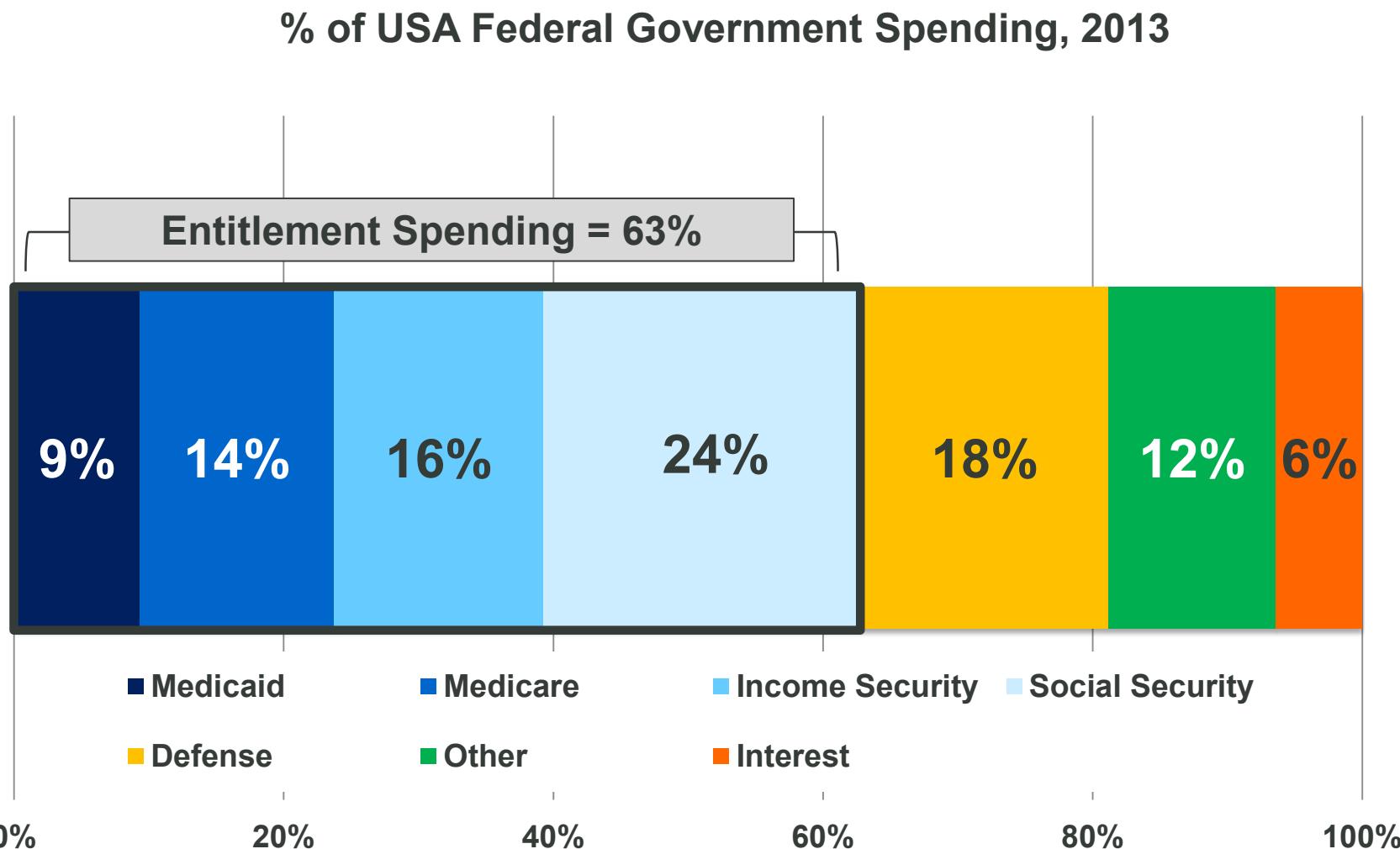
VIDEO: <http://www.kpcb.com/insights/2011-usa-inc-video>

# USA Inc. Income Statement, F2013 – Revenue (Taxes) +13%... Expenses -2%... -24% Net Margin

**USA Inc. Profit & Loss Statement, F1998 / F2003 / F2008 / F2013**

	F1998	F2003	F2008	F2013	Comments
<b>Revenue (\$B)</b>	<b>\$1,722</b>	<b>\$1,783</b>	<b>\$2,524</b>	<b>\$2,775</b>	
<b>Y/Y Growth</b>	<b>9%</b>	<b>-4%</b>	<b>-2%</b>	<b>13%</b>	<b>On average, revenue grew 3% Y/Y over the past 15 years</b>
Individual Income Taxes*	\$829	\$794	\$1,146	\$1,316	Largest driver of revenue
% of Revenue	48%	45%	45%	47%	
Social Insurance Taxes	\$572	\$713	\$900	\$948	Payroll tax on Social Security & Medicare
% of Revenue	33%	40%	36%	34%	
Corporate Income Taxes*	\$189	\$132	\$304	\$274	Fluctuates significantly with economic conditions
% of Revenue	11%	7%	12%	10%	
Other	\$133	\$144	\$174	\$237	Includes estate & gift taxes / duties & fees; relatively stable
% of Revenue	8%	8%	7%	9%	
<b>Expense (\$B)</b>	<b>\$1,652</b>	<b>\$2,160</b>	<b>\$2,983</b>	<b>\$3,455</b>	<b>On average, expense grew 5% Y/Y over the past 15 years</b>
<b>Y/Y Growth</b>	<b>3%</b>	<b>7%</b>	<b>9%</b>	<b>-2%</b>	
Entitlement / Mandatory	\$870	\$1,168	\$1,582	\$2,049	Significant increase owing to aging population and rising healthcare costs
% of Expense	53%	54%	53%	59%	
Non-Defense Discretionary	\$273	\$434	\$518	\$551	Includes education / law enforcement / transportation / general government
% of Expense	17%	20%	17%	16%	
"One-Time" Items	--	--	\$14	--	Includes discretionary spending on TARP, GSEs, and economic stimulus
% of Expense	--	--	0%	--	
Defense	\$268	\$405	\$616	\$633	Significant increase owing to on-going War on Terror
% of Expense	16%	19%	21%	18%	
Net Interest on Public Debt	\$241	\$153	\$253	\$221	Decreased owing to historic low interest rates
% of Expense	15%	7%	8%	6%	
<b>Surplus / Deficit (\$B)</b>	<b>\$69</b>	<b>-\$377</b>	<b>-\$459</b>	<b>-\$680</b>	<b>USA Inc. median net margin between 1998 &amp; 2013 = -16%</b>
<b>Net Margin (%)</b>	<b>4%</b>	<b>-21%</b>	<b>-18%</b>	<b>-24%</b>	

# Where Your Tax Dollars Go – Entitlements as % of Government Spending = 63% vs. 59% Y/Y

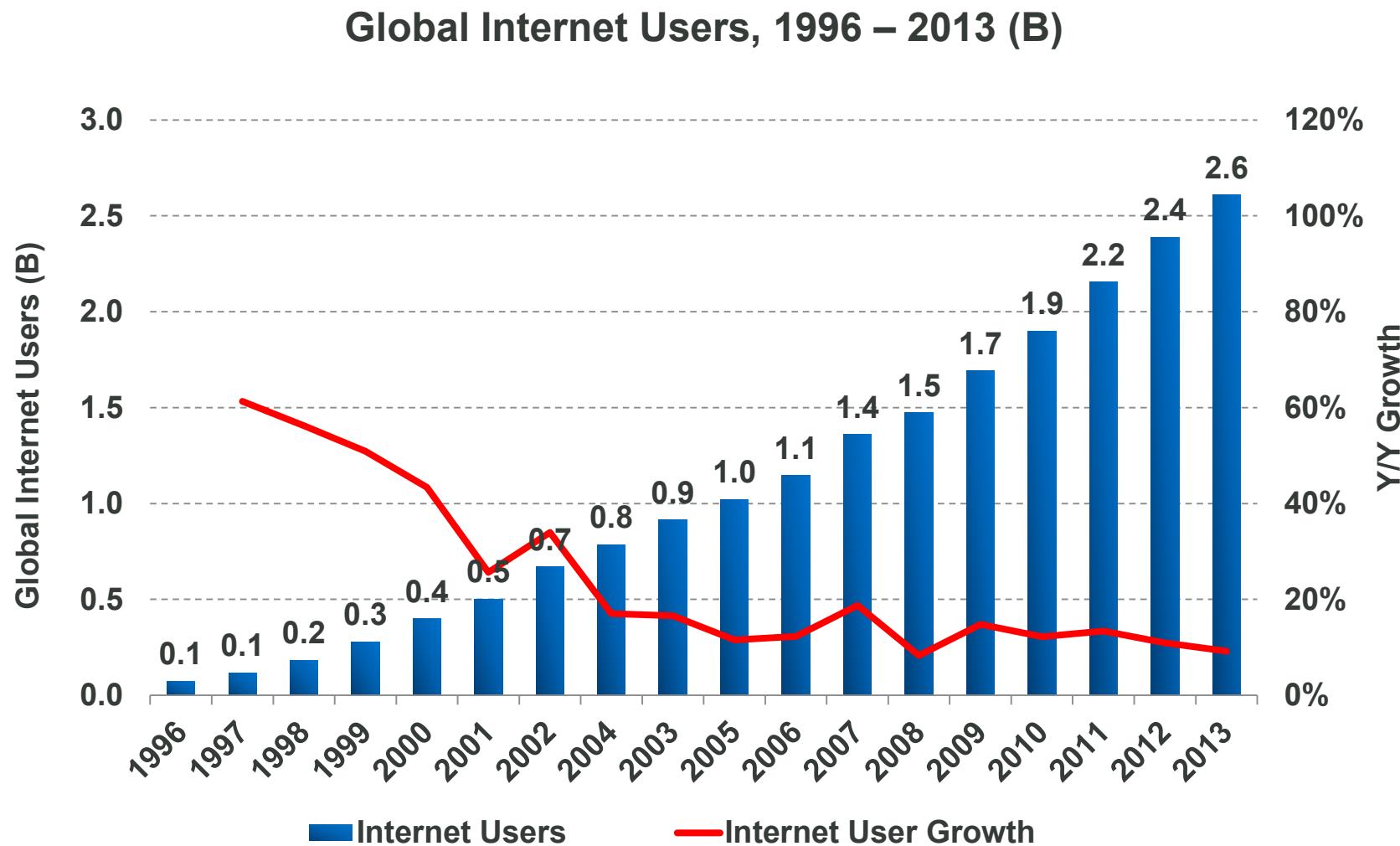


Source: White House OMB.

Note: Income security includes unemployment; food, nutrition and housing assistance; federal retirement.  
Other expenses include transportation, education, justice, and other general government functions.

# ...KEY INTERNET TRENDS

# Internet User Growth = +9% in 2013 vs. +11% in 2012 = Solid, But Slowing



Established ‘Big’ Internet Markets (China / USA / Japan / Brazil / Russia) = +7% Growth in 2013 vs. 8% Y/Y = Slowing, Past / Near 50% Penetration

### Countries with Internet Penetration >45%, 2013

Rank	Country	2013 Internet Users (MMs)	2013 Internet User Growth	2012 Internet User Growth	Population Penetration	Total Population (MMs)
1	China	618	10%	10%	46%	1,350
2	USA	263	2	2	83	316
3	Japan	101	0	1	79	127
4	Brazil	100	12	12	50	201
5	Russia	76	9	14	53	143
6	Germany	68	1	1	84	81
7	United Kingdom	55	1	3	87	63
8	France	55	5	4	83	66
9	Iran	45	16	19	56	80
10	South Korea	41	1	0	84	49
11	Turkey	36	6	9	45	81
12	Italy	36	2	6	58	61
13	Spain	34	7	3	72	47
14	Canada	30	5	4	87	35
15	Poland	25	0	4	65	38
<b>Top 15</b>		<b>1,583</b>	<b>6%</b>	<b>7%</b>	<b>58%</b>	<b>2,739</b>
<b>World</b>		<b>2,609</b>	<b>9%</b>	<b>11%</b>	<b>37%</b>	<b>7,098</b>

'Big' Internet Markets (India / Indonesia / Nigeria / Mexico / Philippines) = +20% Growth in 2013 = Strong, Material Penetration Upside

### Countries with Internet Penetration ≤45%

Rank	Country	2013 Internet Users (MMs)	2013 Internet User Growth	2012 Internet User Growth	Population Penetration	Total Population (MMs)
1	India	154	27%	36%	13%	1,221
2	Indonesia	71	13	15	28	251
3	Nigeria	57	19	21	33	173
4	Mexico	46	11	14	38	119
5	Philippines	38	27	18	36	106
6	Egypt	38	13	29	44	85
7	Vietnam	37	14	16	39	92
8	South Africa	20	20	41	41	49
9	Pakistan	19	12	14	10	193
10	Thailand	18	12	6	27	67
11	Ukraine	15	17	22	34	45
12	Kenya	14	17	105	32	44
13	Venezuela	13	11	9	44	28
14	Peru	11	7	5	38	30
15	Uzbekistan	10	22	52	37	29
Top 15		560	18%	24%	22%	2,532
World		2,609	9%	11%	37%	7,098

Established ‘Big’ Smartphone Markets (USA / Japan / UK / Germany / Korea) = +17% Growth in 2013 = Slowing, Well Past 50% Penetration

### Markets with >45% Penetration

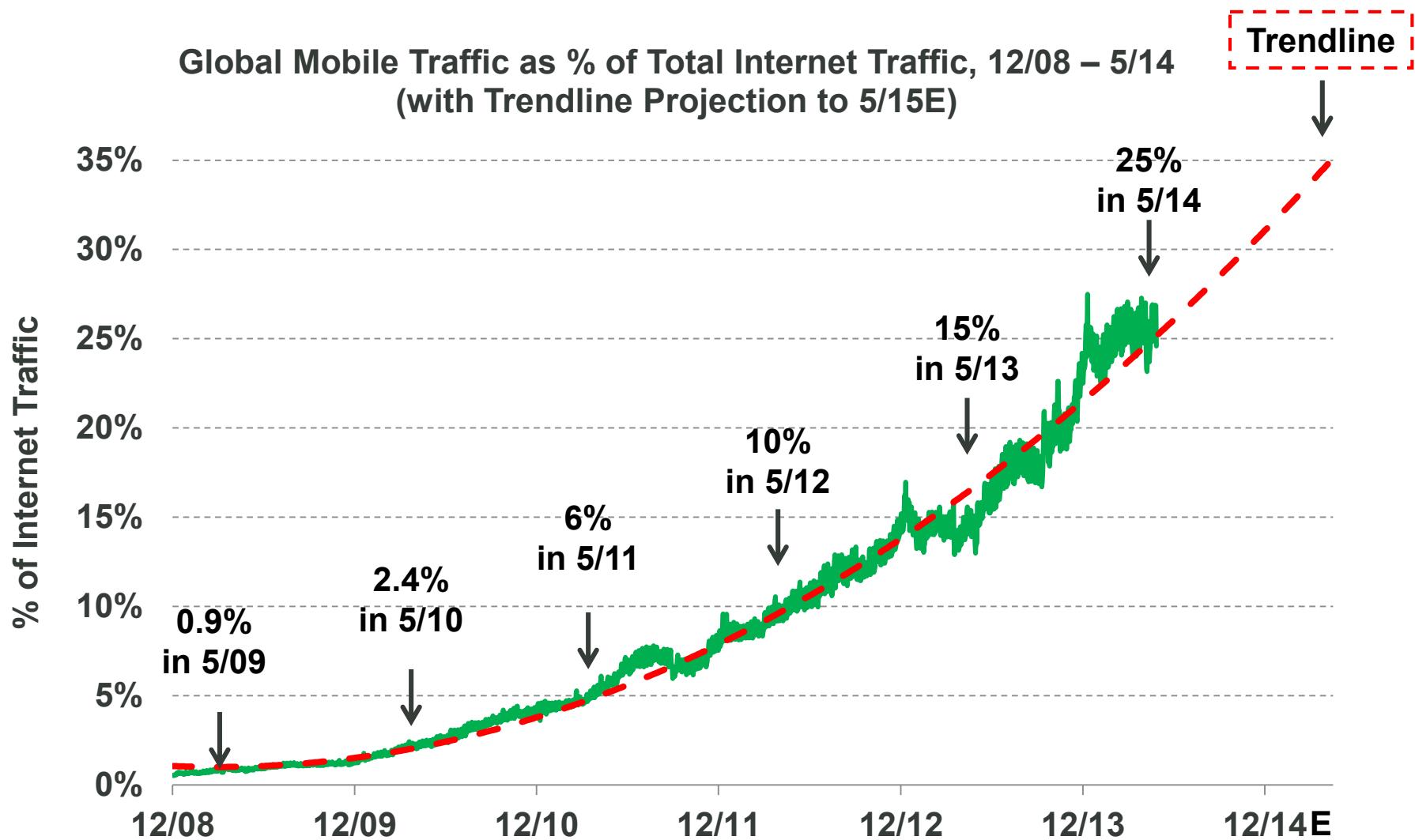
Rank	Country	2013 Smartphone	2013 Smartphone	Population	Total	2014E Smartphone
		Subs (MMs)	Sub Growth	Penetration	Population (MMs)	Sub Growth
1	USA	188	21%	59%	316	12%
2	Japan	99	5	78	127	5
3	UK	43	18	68	63	12
4	Germany	40	34	49	81	31
5	Korea	38	18	79	49	5
6	France	33	29	50	66	21
7	Saudi Arabia	30	20	110	27	15
8	Poland	22	29	57	38	24
9	Australia	19	20	85	22	12
10	Canada	18	21	53	35	15
11	Malaysia	16	23	54	30	21
12	Netherlands	12	18	69	17	13
13	Taiwan	11	23	49	23	27
14	Sweden	9	10	94	10	4
15	UAE	9	20	160	5	14
<b>Top 15</b>		<b>588</b>	<b>19%</b>	<b>65%</b>	<b>910</b>	<b>13%</b>
<b>World</b>		<b>1,786</b>	<b>28%</b>	<b>25%</b>	<b>7,098</b>	<b>24%</b>

Developing 'Big' Smartphone Markets (China / India / Brazil / Indonesia / Russia) = +32% Growth in 2013 = Strong, Material Penetration Upside Remains

### Markets with ≤45% Penetration

Rank	Country	2013 Smartphone Subs (MMs)	2013 Smartphone Sub Growth	Population Penetration	Total Population (MMs)	2014E Smartphone Sub Growth
1	China	422	26%	31%	1,350	19%
2	India	117	55	10	1,221	45
3	Brazil	72	38	36	201	30
4	Indonesia	48	42	19	251	36
5	Russia	46	30	33	143	27
6	Mexico	22	49	19	119	39
7	Egypt	21	41	25	85	36
8	Italy	21	33	34	61	41
9	Spain	21	20	44	47	17
10	Philippines	20	43	19	106	36
11	Nigeria	20	43	12	173	39
12	South Africa	20	32	41	49	27
13	Thailand	18	27	27	67	24
14	Turkey	18	32	22	81	28
15	Argentina	17	40	41	43	34
Top 15		905	33%	23%	3,996	28%
World		1,786	28%	25%	7,098	24%

# Mobile Traffic as % of Global Internet Traffic = Growing >1.5x per Year & Likely to Maintain Trajectory or Accelerate



# ...PUBLIC COMPANY TRENDS

# Financial Philosophy – Michael Marks (Stanford GSB)

- 1) Three Ways to Get Capital into Company** – Sell stock, borrow money, earn it. Earn it is best!
- 2) Balance Sheets Matter** – Without a balance sheet, it's hard to understand where a company stands.
- 3) Great Companies Grow Revenue, Make Profits and Invest for Future** – Companies that do just 2 of 3 are signing up for being just ‘OK,’ not ‘great.’
- 4) Companies Learn to Make Money or Not** – Companies that make money generally continue to do so, companies that don't make money generally continue that also. It becomes core to ‘culture.’

# Tech Companies = Top 1 or 2 Sector by Market Cap in S&P500 for Nearly 2 Decades

## 20 Years Ago:

Dec 1994 – S&P500 = \$3.2T

Sector	Weight	Largest Companies
CONS. STAPLES	14%	COCA-COLA ALTRIA
CONS. DISC.	13%	MOTORS LIQUIDATION FORD
INDUSTRIALS	13%	GENERAL ELECTRIC 3M
FINANCIALS	11%	AIG FANNIE MAE
TECHNOLOGY	11%	IBM MICROSOFT
HEALTHCARE	10%	MERCK JOHNSON & JOHNSON
ENERGY	9%	EXXON MOBIL
TELECOM	8%	SOUTHWESTERN BELL GTE
MATERIALS	7%	DUPONT DOW CHEMICAL
UTILITIES	4%	SOUTHERN COMPANY DUKE ENERGY

## Peak of NASDAQ:

Mar 2000 – S&P500 = \$11.7T

Sector	Weight	Largest Companies
TECHNOLOGY	35%	MICROSOFT CISCO
FINANCIALS	13%	CITIGROUP AIG
CONS. DISC.	10%	TIME WARNER HOME DEPOT
HEALTHCARE	10%	MERCK PFIZER
INDUSTRIALS	8%	GENERAL ELECTRIC TYCO
TELECOM	7%	SOUTHWESTERN BELL AT&T
CONS. STAPLES	7%	WAL-MART COCA-COLA
ENERGY	5%	EXXON MOBIL CHEVRON
MATERIALS	2%	DUPONT ALCOA
UTILITIES	2%	DUKE ENERGY AES

## Today:

May 2014 – S&P500 = \$17.4T

Sector	Weight	Largest Companies
TECHNOLOGY	19%	APPLE GOOGLE
FINANCIALS	16%	WELLS FARGO JPMORGAN CHASE
HEALTHCARE	13%	JOHNSON & JOHNSON PFIZER
CONS. DISC.	12%	AMAZON.COM WALT DISNEY
INDUSTRIALS	11%	GENERAL ELECTRIC UNITED TECHNOLOGIES
CONS. STAPLES	11%	WAL-MART PROCTOR & GAMBLE
ENERGY	10%	EXXON MOBIL CHEVRON
MATERIALS	3%	DUPONT MONSANTO
UTILITIES	3%	DUKE ENERGY NEXTERA ENERGY
TELECOM	2%	VERIZON AT&T

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# INTERNET TRENDS 2014

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