INTERNET TRENDS 2014 – CODE CONFERENCE

Mary Meeker

May 28, 2014

kpcb.com/InternetTrends
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

Global Smartphone Quarterly Unit Shipments & Smartphone Users as % of Mobile Phone Users, 2009 – 2013

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

Global Units Shipped (MMs)

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

- **TV**: 5.5B users, 78% penetration
- **Mobile Phone**: 5.2B users, 73% penetration
- **Smartphone**: 1.6B users, 22% penetration
- **Laptop PC**: 789MM users, 11% penetration
- **Desktop PC**: 743MM users, 10% penetration
- **Tablet**: 439MM users, 6% penetration

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

<table>
<thead>
<tr>
<th>Region</th>
<th>May-13</th>
<th>May-14</th>
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</thead>
<tbody>
<tr>
<td>North America</td>
<td>11%</td>
<td>19%</td>
</tr>
<tr>
<td>South America</td>
<td>6%</td>
<td>17%</td>
</tr>
<tr>
<td>Europe</td>
<td>8%</td>
<td>16%</td>
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<tr>
<td>Asia</td>
<td>23%</td>
<td>37%</td>
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<tr>
<td>Africa</td>
<td>18%</td>
<td>38%</td>
</tr>
<tr>
<td>Oceania</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>Global</td>
<td>14%</td>
<td>25%</td>
</tr>
</tbody>
</table>

@KPCB

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

Global Smartphone Operating System Market Share (by Units Shipped), 2005 vs. 2010 vs. 2013

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

Source: Morgan Stanley Mobile Internet Report (12/09)
Advertising / Monetization = Mobile Especially Compelling
Internet Advertising = Remains Strong +16%...Mobile +47% to 11% of Total

Global Internet Advertising, 2008 – 2013

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

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

Source: SEC Filings & Comscore. ARPU = Average Revenue per User, defined as annualized revenue per Monthly Active User (MAU). Google ARPU is calculated using Google’s gross revenue & Comscore unique visitors.
Remain Optimistic About Mobile Ad Spend Growth
Print Remains Way Over-Indexed

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

- **Print**: 5% Time Spent, 19% Ad Spend
- **Radio**: 12% Time Spent, 10% Ad Spend
- **TV**: 38% Time Spent, 45% Ad Spend
- **Internet**: 25% Time Spent, 22% Ad Spend
- **Mobile**: 20% Time Spent, 4% Ad Spend

Internet Ad = $43B
Mobile Ad = $7.1B

~$30B+ Opportunity in USA

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

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

Source: Global Mobile App revenue per Strategy Analytics; comprises virtual goods, in-app advertising, subscription, & download revenue. Global Mobile Advertising revenue per PWC; comprises browser, search & classified advertising revenue.
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

Source: *FireEye Operation Saffron Rose, **Honeynet Project.
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

Number of IPOs per Year

- United States
- North America
- Asia
- Europe
- South America
- NASDAQ

Annual Technology IPO Volume ($B)

- United States
- North America
- Asia
- Europe
- South America
- NASDAQ

March 10, 2000 = Technology Market Peak, NASDAQ @ 5,049

May 22, 2014 = NASDAQ @ 4,154

73% Below

87% Below

*Facebook = 75% of 2012 IPO $ value.

Source: Morgan Stanley Equity Capital Markets, 2014YTD as of 5/21/14, data per Dealogic, Bloomberg, & Capital IQ.
USA Technology Venture Capital Financing, 1989 – 2013

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

Source: Thomson ONE. Funding per Financing ($M) calculated as total venture financing per year divided by number of deals.
Tech Companies @ 19% of S&P500 Value = Well Below 35% March, 2000 Peak Level

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 4th 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 27th globally in math / 20th in science / 17th in reading

- **College Job Prep** – 1/3 of four-year college graduates feel their education did not prepare them well for employment

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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

Source: GfK Public Affairs & Corporate Communications, 2012
• **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

Coursera (7MM Users)
Student Distribution, 3/14

Source: Duolingo, Coursera.
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)

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

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RE-IMAGINING CONTINUES
Re-Imagining Messaging / Communications
Both WhatsApp and Secret represent the ascendency of the phone book over the friend graph. It's back to the future.
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

- **Line (Japan), 2+ Years**
  - MAUs = 280MM
  - Messages / Day = 10B
  - Revenue = $388MM, +5x Y/Y (Q4:13)

- **Snapchat (USA), 2+ Years**
  - Messages / Day = 1.2B

- ** Tencent WeChat (China), 3+ Years**
  - MAUs = 355MM, +125% Y/Y

- **KakaoTalk (Korea), 3+ Years**
  - Messages / Day = 5.2B, +24% Y/Y
  - Revenue = $203MM, +4xY/Y

- **Viber (Israel), 3+ Years**
  - MAUs = 100MM

Source: Publicly disclosed company data for 2013. Note: Snapchat messages / day comprises number of snaps sent per day and number of stories viewed per day.
Evolution of Messaging → New Social Graphs
Edges = Potentially More Value than Nodes

Nodes = # of Contacts

Edge Weights = Frequency of Communication

Broadcasting Fewer Messages to Large Audiences

Frequent Interactions with Smaller Group of Close Contacts

Source: Anjney Midha, KPCB Associate; Jared Morgenstern, KPCB Entrepreneur Partner.
Evolution of Communications ➔
Image + Video Sharing Rising Rapidly

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

USA Unique Visitors (MM)

- Desktop Only
- Multi-Platform

Re-Imagining Apps
First, multi-purpose web apps then, multi-purpose mobile apps

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

Source: Megan Quinn, KPCB Partner.
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

<table>
<thead>
<tr>
<th>Publisher</th>
<th># of Interactions (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BuzzFeed</td>
<td>39</td>
</tr>
<tr>
<td>Huffington Post</td>
<td>28</td>
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<tr>
<td>ABC News</td>
<td>19</td>
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<tr>
<td>Fox News</td>
<td>15</td>
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<tr>
<td>NBC</td>
<td>12</td>
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<tr>
<td>IJReview</td>
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<tr>
<td>The Guardian</td>
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<td>New York Times</td>
<td>8</td>
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<tr>
<td>The Blaze</td>
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<tr>
<td>Daily Mail</td>
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<table>
<thead>
<tr>
<th>Publisher</th>
<th>Facebook Shares</th>
<th>Facebook Likes</th>
<th>Facebook Comments</th>
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<tbody>
<tr>
<td>BuzzFeed</td>
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<td>The Guardian</td>
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<td>New York Times</td>
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<td>The Blaze</td>
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<tr>
<td>Daily Mail</td>
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</table>

### Top Twitter News Publishers, 4/14

<table>
<thead>
<tr>
<th>Publisher</th>
<th># of Shares (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBC</td>
<td>3</td>
</tr>
<tr>
<td>New York Times</td>
<td>2</td>
</tr>
<tr>
<td>Mashable</td>
<td>2</td>
</tr>
<tr>
<td>ABC News</td>
<td>2</td>
</tr>
<tr>
<td>CNN</td>
<td>1</td>
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<tr>
<td>Time</td>
<td>1</td>
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<tr>
<td>The Guardian</td>
<td>1</td>
</tr>
<tr>
<td>Forbes</td>
<td>1</td>
</tr>
<tr>
<td>BuzzFeed</td>
<td>1</td>
</tr>
<tr>
<td>Fox News</td>
<td>1</td>
</tr>
</tbody>
</table>

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

Source: Buzzfeed, 5/14.
Re-Imagine 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

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

All data for 2013. Sources: Company data, SEC filings. Airbnb Listings is total number at year-end. In 2013, Alibaba’s China retail marketplaces comprised of Taobao, Tmall, and Juhuasuan, which generated Gross Merchandise Volume of $248B from 8MM active sellers. GrubHub’s average annual $ to restaurants calculated using 2013 Gross Food Sales totaling $1B+ across 29K restaurants on platform.
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

Source: Comscore. Images: Indiana Public Media, Film North Florida; Kearny Hub, Wall Street Journal.
Re-Imagining Media (Music) Consumption = Streaming +32%, Digital Track Sales -6%

USA Music Consumption, 2013

- Music Streams: 118B (32% growth)
- Digital Track Sales: 1.3B (-6% growth)
- Physical Music Sales: 172MM (-13% growth)

Source: Nielsen & Billboard 2013 US Music Report, 1/14. Note that absolute consumption comparisons are apples-and-oranges as tracks / physical sales are likely played multiple times but data is illustrative as growth rate is key indicator.
Re-Imagining Money
Re-Imagining Money
Fact that ~5MM Bitcoin Wallets (+8x Y/Y) Exist Proves Extraordinary Interest in Cryptocurrencies

Number of Bitcoin Wallets by Wallet Provider, 4/14

Source: CoinDesk. Largest wallet providers (Blockchain / MultiBit / Coinbase / Bitcoin Wallet) at ~4.9MM wallets account for majority of Bitcoin wallets created.
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

<table>
<thead>
<tr>
<th>Content</th>
<th>Community</th>
<th>Commerce</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inspiration - Photos</strong></td>
<td><strong>Editorial - Guides / Articles</strong></td>
<td><strong>Services – Professionals</strong></td>
</tr>
<tr>
<td>~3MM (+230% Y/Y) World’s largest photo database</td>
<td>10K (+143%) ‘Wikipedia’ of home design</td>
<td>400K (+198%) Portfolios &amp; reviews</td>
</tr>
<tr>
<td></td>
<td></td>
<td>800K (+225%) Pro &amp; homeowner support / advice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.5MM (+590%) Discover &amp; purchase</td>
</tr>
</tbody>
</table>

**Discussions**

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

**Products**

- 2.5MM (+590%) Discover & purchase

**Source:** Houzz, 4/14.
Biggest
Re-Imagination of All =

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

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

**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

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

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

Source: Company data.
**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)

---

*Note: “Not findable” = uploaded content not searchable / publicly available
Source: Company data.
2/3rd's of Digital Universe Content = Consumed / Created by Consumers
Video Watching, Social Media Usage, Image Sharing

Note: 1 petabyte = 1MM gigabytes, 1 zetabyte = 1MM petabytes.
Sensor Use
Rising Rapidly
Sensors = Big / Broad Business, Rapid Growth, Rising Proliferation IN Devices

**Apple**

- iPhone (2007) 3 Sensors
  - Accelerometer / proximity / ambient light
- iPhone 5s (2013) 5 Sensors
  - 3-axis gyro / fingerprint / accelerometer / proximity / ambient light

**Samsung**

- Galaxy S (2010) 3 Sensors
  - Accelerometer / proximity / compass
- Galaxy S5 (2014) 10 Sensors
  - Gyro / fingerprint / barometer / hall (recognizes whether cover is open/closed) / RGB ambient light / gesture / heart rate / accelerometer / proximity / compass

Note: Sensor count for illustrative purposes only – Apple & Samsung sensor count methodology may differ.
Source: Publicly available data from Apple & Samsung, and third party reviews.
Sensors = Big / Broad Business (+32% Y/Y to 8B) Rising Proliferation OF Devices

Global MEMS Unit Shipments by Consumer Electronics Device, 2006 – 2013

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
Decreasing cost / performance curve enables computational power @ core of digital infrastructure
Decreasing cost / performance of digital storage enables creation of more / richer digital information

Global Storage Cost Trends

Note: Y-axis on graph is logarithmic scale.
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.
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

Objects Stored in Amazon S3* (B)

*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

Re-Imagining User Interfaces – Finding a Place to Stay

Booking Hotel Room

Airbnb

Image: iTunes.
Hailing Cab

Uber

Images: Flickr - KayVee, CultofMac.
Driving in Traffic

Waze

Images: THEMETAQ, streettrafficapp.
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

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

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

**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

Source: Company data.
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

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

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)

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

*Based on Nest comparison of actual schedules and set points to a hypothetical (holding constant temperature). **Includes fees + underperformance; client savings of $5MM+ assumes $8 per trade retail.
Source: Company data.
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 Schaldt. $1,000 cost is price of sequencing a genome at 30x coverage in the Mount Sinai Genome Core, 5/14.
Biggest  
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
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
Global TV vs. PC (Desktop + Notebook) vs. Mobile (Smartphone + Tablet) Shipments, 1999 – 2013

- TV
- PC (Desktop + Notebook)
- Mobile (Smartphone + Tablet)
  - Smartphones
  - Tablets

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

Sources: TV unit shipments per NPD DisplaySearch (2004-2013 data) and Philips (1999-2003 data). PC (laptop + desktop) and smartphone + tablet unit shipments per Morgan Stanley Research.
### Daily Distribution of Screen Minutes Across Countries (Mins)

<table>
<thead>
<tr>
<th>Country</th>
<th>TV</th>
<th>Laptop + PC</th>
<th>Smartphones</th>
<th>Tablet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>132</td>
<td>117</td>
<td>181</td>
<td>110</td>
</tr>
<tr>
<td>Phillipines</td>
<td>99</td>
<td>117</td>
<td>181</td>
<td>115</td>
</tr>
<tr>
<td>China</td>
<td>89</td>
<td>143</td>
<td>174</td>
<td>59</td>
</tr>
<tr>
<td>Brazil</td>
<td>113</td>
<td>146</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Vietnam</td>
<td>69</td>
<td>160</td>
<td>168</td>
<td>43</td>
</tr>
<tr>
<td>USA</td>
<td>147</td>
<td>103</td>
<td>151</td>
<td>39</td>
</tr>
<tr>
<td>Nigeria</td>
<td>131</td>
<td>80</td>
<td>193</td>
<td>35</td>
</tr>
<tr>
<td>Colombia</td>
<td>114</td>
<td>123</td>
<td>165</td>
<td>30</td>
</tr>
<tr>
<td>Thailand</td>
<td>78</td>
<td>96</td>
<td>189</td>
<td>55</td>
</tr>
<tr>
<td>Saudi</td>
<td>102</td>
<td>99</td>
<td>127</td>
<td>53</td>
</tr>
<tr>
<td>South Africa</td>
<td>115</td>
<td>126</td>
<td>119</td>
<td>53</td>
</tr>
<tr>
<td>Czech</td>
<td>111</td>
<td>122</td>
<td>98</td>
<td>39</td>
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<tr>
<td>Russia</td>
<td>98</td>
<td>158</td>
<td>166</td>
<td>32</td>
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<tr>
<td>Argentina</td>
<td>104</td>
<td>114</td>
<td>111</td>
<td>31</td>
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<tr>
<td>UK</td>
<td>148</td>
<td>97</td>
<td>174</td>
<td>61</td>
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<tr>
<td>Kenya</td>
<td>132</td>
<td>65</td>
<td>132</td>
<td>36</td>
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<tr>
<td>Australia</td>
<td>125</td>
<td>102</td>
<td>132</td>
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<td>Spain</td>
<td>124</td>
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<td>132</td>
<td>14</td>
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<tr>
<td>Turkey</td>
<td>111</td>
<td>109</td>
<td>163</td>
<td>15</td>
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<tr>
<td>Mexico</td>
<td>93</td>
<td>103</td>
<td>162</td>
<td>52</td>
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<tr>
<td>India</td>
<td>96</td>
<td>95</td>
<td>90</td>
<td>48</td>
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<tr>
<td>Poland</td>
<td>98</td>
<td>132</td>
<td>135</td>
<td>48</td>
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<tr>
<td>South Korea</td>
<td>127</td>
<td>94</td>
<td>79</td>
<td>30</td>
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<tr>
<td>Germany</td>
<td>129</td>
<td>77</td>
<td>80</td>
<td>15</td>
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<tr>
<td>Canada</td>
<td>104</td>
<td>97</td>
<td>34</td>
<td>15</td>
</tr>
<tr>
<td>Slovakia</td>
<td>95</td>
<td>106</td>
<td>34</td>
<td>15</td>
</tr>
<tr>
<td>Hungary</td>
<td>98</td>
<td>112</td>
<td>34</td>
<td>15</td>
</tr>
<tr>
<td>Japan</td>
<td>125</td>
<td>68</td>
<td>34</td>
<td>15</td>
</tr>
<tr>
<td>France</td>
<td>134</td>
<td>83</td>
<td>34</td>
<td>15</td>
</tr>
<tr>
<td>Italy</td>
<td>89</td>
<td>85</td>
<td>34</td>
<td>15</td>
</tr>
</tbody>
</table>


Note: Survey asked respondents “Roughly how long did you spend yesterday watching television (not online) / using the internet on a laptop or PC / on a smartphone or tablet?” Survey respondents were age 16-44 across 30 countries who owned or had access to a TV and a smartphone and/or tablet. The population of the 30 countries surveyed in the study collectively represent ~70% of the world population.
Mobile Owners (84%) Use Devices While Watching TV
~2x Higher Over 2 Years

What Connected Device Owners are Doing While Watching TV, USA

- Surfing the Web: 66% (Tablet), 49% (Smartphone)
- Shopping: 44% (Tablet), 24% (Smartphone)
- Checking Sports Scores: 29% (Tablet), 27% (Smartphone)
- Looking Up Info on Actors, Plot, Athletes, etc.: 41% (Tablet), 29% (Smartphone)
- Emailing / Texting Friends About Program: 29% (Tablet), 23% (Smartphone)
- Reading Discussion About TV Program on Social Media Sites: 18% (Tablet), 12% (Smartphone)
- Buying A Product / Service Being Advertised: 14% (Tablet), 7% (Smartphone)
- Voting or Sending Comments to a Live Program: 12% (Tablet), 10% (Smartphone)
- Watching Certain TV Program Because of Something Read on Social Media: 17% (Tablet), 10% (Smartphone)

Note: Data gathered from USA general population sample 13+ years old with 9,448 respondents who own a Tablet, e-Reader, Smartphone, or Streaming Capable Device. Study conducted in 9/13.
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

Minutes Spent per Day Following Olympics

- TV Only: 259 minutes
- TV + PC: 268 minutes
- TV + PC + Phone: 300 minutes
- TV + PC + Phone + Tablet: 367 minutes

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?

Note: Average global daily screen media time = 417 minutes, of which 147 are on smartphones, 113 on TV, 108 on PC (desktop + notebook), 50 on Tablets. In 2013, an average of 14 minutes of commercials were shown for each hour of Network TV Programming.
[Traditional] Remote Controls Disappearing
Re-Imagining Remote Controls = The ‘Now’ = A New IP-Enabled Search Engine

Then

Now

Images: eBay, YouTube.
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

<table>
<thead>
<tr>
<th>Company / Product</th>
<th>Launch Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amazon Fire TV</strong></td>
<td>4/14</td>
</tr>
<tr>
<td><strong>Google Chromecast</strong></td>
<td>7/13</td>
</tr>
<tr>
<td><strong>Roku</strong></td>
<td>5/08</td>
</tr>
<tr>
<td><strong>Apple TV</strong></td>
<td>1/07</td>
</tr>
<tr>
<td><strong>Nintendo Wii</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Nintendo Wii U</strong></td>
<td>12/06</td>
</tr>
<tr>
<td><strong>Sony PlayStation 3</strong></td>
<td>11/06</td>
</tr>
<tr>
<td><strong>Sony PlayStation 4</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Microsoft Xbox 360</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Microsoft Xbox One</strong></td>
<td>11/05</td>
</tr>
</tbody>
</table>

Source: Company data.
Smart TV Shipments = Rising % of TVs Shipped
39% = 2013  Still <10% Installed Base

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

Sources: ESPN, BBC, HBO.
# TV Guide

## Tuesday 9/18

### Primetime

<table>
<thead>
<tr>
<th>Time</th>
<th>Show Name</th>
<th>Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 PM</td>
<td>Property X</td>
<td>ABC 7</td>
</tr>
<tr>
<td>7:30 PM</td>
<td>Property Y</td>
<td>ABC 7</td>
</tr>
<tr>
<td>8:00 PM</td>
<td>To Be Announced</td>
<td>ABC 7</td>
</tr>
<tr>
<td>8:30 PM</td>
<td>House Hunters</td>
<td>HGTV</td>
</tr>
<tr>
<td>9:00 PM</td>
<td>To Be Announced</td>
<td>ABC 7</td>
</tr>
<tr>
<td>9:30 PM</td>
<td>House Hunters</td>
<td>HGTV</td>
</tr>
</tbody>
</table>

### Highlighted Shows

- Property X
- Property Y
- House Hunters
- To Be Announced

---

**Images:** YouTube, Comcast, mag+
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

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

Source: YouTube.
Note: Y/Y growth rates as of 5/14.
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

Comedy Duo
Smosh
17MM+ subscribers, +81% Y/Y

Spanish Comedian
HolaSoyGerman
17MM+ subscribers, +157% Y/Y

Comedian
nigahiga
12MM+ subscribers, +50% Y/Y

Make-Up Artist
Michelle Phan
6MM+ subscribers, +70% Y/Y

Style and Beauty Blogger
Bethany Mota
6MM+ subscribers, +180% Y/Y

Source: YouTube, 5/14.
Note: Y/Y growth rates as of 5/14. Select Top YouTube channels that primarily feature a new artist. Excludes channels that aggregate videos around specific topics.
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

Source: YouTube
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

Source: 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

<table>
<thead>
<tr>
<th>Rank</th>
<th>Site</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Twitch</td>
<td>44%</td>
</tr>
<tr>
<td>2</td>
<td>WWE</td>
<td>18%</td>
</tr>
<tr>
<td>3</td>
<td>Ustream</td>
<td>11%</td>
</tr>
<tr>
<td>4</td>
<td>MLB.com</td>
<td>7%</td>
</tr>
<tr>
<td>5</td>
<td>ESPN</td>
<td>6%</td>
</tr>
</tbody>
</table>

* New Genre(s) of Video = ‘Spectator Gaming’

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

<table>
<thead>
<tr>
<th></th>
<th>Ad Recall</th>
<th>Brand Favorability (% Lift)</th>
<th>Purchase Intent (% Lift)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV Only Viewers</td>
<td>40%</td>
<td>7%</td>
<td>16%</td>
</tr>
<tr>
<td>TV x Twitter Viewers</td>
<td>53%</td>
<td>18%</td>
<td>30%</td>
</tr>
</tbody>
</table>

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

Images: Screenshot of Netflix homepages of two subscribers.
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

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

- 57% TV Set (Live)
- 23% DVR / VOD / DVD
- 10% Connected TV
- 6% Computer
- 4% Mobile Device

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

Source: Ooyala Global Video Index.
Data based on anonymized viewing habits of nearly 200MM unique viewers in over 130 countries and data from Ooyala's video publishers, which include hundreds of broadcasters and operators.
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

Source: Angus Maddison, University of Groningen, OECD, data post 1980 based on IMF data (GDP adjusted for purchasing power parity).
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

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

Source: comScore, 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

- Google
- Microsoft
- Facebook
- Yahoo!
- Wikipedia
- Alibaba
- Baidu
- Tencent
- Sohu
- Amazon.com

Source: comScore, 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
- Find restaurants / daily group buy deals - powered by Dianping - pay 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

Source: Tencent, Liang Wu (Hillhouse Captial).
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**
Moguie / 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.

---

Source: Liang Wu (Hillhouse Capital).
Didi Taxi – 100MM+ Users = 5MM+ Daily Rides, +15x in 77 Days Driven by WeChat Payment Integration & Subsidy*


- Registered Users (MM)
- Daily Taxi Trips Booked (000)

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

Asset Under Management ($B)

Launch (5/29/13) 3Q13 4Q13 1Q14

$1B $9B $31B $89B

*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

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

Total: $1,787, $404,644

<table>
<thead>
<tr>
<th>Company / Market Cap ($B)</th>
<th>Volume, 2012-2014YTD ($B)</th>
<th>Select Transactions, 2012-2014YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td>$6B (M&amp;A)</td>
<td>DeepMind $400MM (1/14) Nest $3B (1/14) Waze $1B (6/13)</td>
</tr>
<tr>
<td>Facebook</td>
<td>$24B (M&amp;A)</td>
<td>Oculus $2B (3/14) WhatsApp $19B+ (2/14) Instagram $1B (4/12)</td>
</tr>
<tr>
<td>Tencent</td>
<td>$7B* (Investments)</td>
<td>JD.com $3B (3/14) CJ Games $500MM (3/14) Activision Blizzard $429MM (7/13)</td>
</tr>
<tr>
<td>Alibaba</td>
<td>$5B (M&amp;A)</td>
<td>ChinaVision $800MM (3/14) AutoNavi $1B+ (2/14)</td>
</tr>
<tr>
<td></td>
<td>$5B* (Investments)</td>
<td>Youku $1B (4/14) Tudou $1B+ (4/13) Weibo</td>
</tr>
</tbody>
</table>

Note: Includes investments that corporations and their subsidiaries/affiliates have made in companies. Google’s Docusign investment represents the latest round; however, the Company had been a previous investor.
*Some data may include entire funding round, of which a portion may be attributable to investors other than the Company listed here.
ONE MORE THING(S)
From One Extreme
To the Other
Live Streaming = Oculus Rift-Enabled Drones?
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

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

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

Total Founded by 1st or 2nd Gen Immigrants $2,053,676 $577,580 1,226,873


*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

- F1 Student Visa Issued
- H-1B Employment Visa Issued

- ~100K Difference
- ~380K Difference
- 85K H-1B Visas Subject to Cap

USA, INC. UPDATE

REPORT: http://www.kpcb.com/usainc/USA_Inc.pdf

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

Note: USA federal fiscal year ends in September; *individual & corporate income taxes include capital gains taxes. Non-defense discretionary includes federal spending on education, infrastructure, law enforcement, judiciary functions.
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

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2013 Internet Users (MMs)</th>
<th>2013 Internet User Growth</th>
<th>2012 Internet User Growth</th>
<th>Population Penetration</th>
<th>Total Population (MMs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>618</td>
<td>10%</td>
<td>10%</td>
<td>46%</td>
<td>1,350</td>
</tr>
<tr>
<td>2</td>
<td>USA</td>
<td>263</td>
<td>2</td>
<td>2</td>
<td>83</td>
<td>316</td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>101</td>
<td>0</td>
<td>1</td>
<td>79</td>
<td>127</td>
</tr>
<tr>
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<td><strong>7%</strong></td>
<td><strong>58%</strong></td>
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<td><strong>9%</strong></td>
<td><strong>11%</strong></td>
<td><strong>37%</strong></td>
<td><strong>7,098</strong></td>
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‘Big’ Internet Markets (India / Indonesia / Nigeria / Mexico / Philippines) = +20% Growth in 2013 = Strong, Material Penetration Upside

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<th>2013 Internet Users (MMs)</th>
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<th>2012 Internet User Growth</th>
<th>Population Penetration</th>
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<td>560</td>
<td>18%</td>
<td>24%</td>
<td>22%</td>
<td>2,532</td>
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<td>2,609</td>
<td>9%</td>
<td>11%</td>
<td>37%</td>
<td>7,098</td>
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Established ‘Big’ Smartphone Markets (USA / Japan / UK / Germany / Korea) = +17% Growth in 2013 = Slowing, Well Past 50% Penetration

Markets with >45% Penetration

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<tr>
<th>Rank</th>
<th>Country</th>
<th>2013 Smartphone Subs (MMs)</th>
<th>2013 Smartphone Sub Growth</th>
<th>Population Penetration</th>
<th>Total Population (MMs)</th>
<th>2014E Smartphone Sub Growth</th>
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<td>1,786</td>
<td>28%</td>
<td>25%</td>
<td>7,098</td>
<td>24%</td>
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Source: Informa. Note: Japan data per Gartner, Morgan Stanley Research, and KPCB estimates.
## Developing ‘Big’ Smartphone Markets (China / India / Brazil / Indonesia / Russia) = +32% Growth in 2013 = Strong, Material Penetration Upside Remains

### Markets with ≤45% Penetration

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2013 Smartphone Subs (MMs)</th>
<th>2013 Smartphone Sub Growth</th>
<th>Population Penetration</th>
<th>Total Population (MMs)</th>
<th>2014E Smartphone Sub Growth</th>
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<td>28%</td>
<td>25%</td>
<td>7,098</td>
<td>24%</td>
</tr>
</tbody>
</table>

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

Global Mobile Traffic as % of Total Internet Traffic, 12/08 – 5/14
(with Trendline Projection to 5/15E)

- 0.9% in 5/09
- 2.4% in 5/10
- 6% in 5/11
- 10% in 5/12
- 15% in 5/13
- 25% in 5/14

Source: StatCounter Global Stats, 5/14. Note that PC-based Internet data bolstered by streaming.
PUBLIC COMPANY TRENDS
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

<table>
<thead>
<tr>
<th>20 Years Ago:</th>
<th>Peak of NASDAQ:</th>
<th>Today:</th>
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<th>Weight</th>
<th>Largest Companies</th>
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<td>TECHNOLOGY</td>
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<td>APPLE GOOGLE</td>
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<tr>
<td>CONS. DISC.</td>
<td>13%</td>
<td>MOTORS LIQUIDATION FORD</td>
<td>FINANCIALS</td>
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<td>CITIGROUP AIG</td>
<td>FINANCIALS</td>
<td>16%</td>
<td>WELLS FARGO JPMORGAN CHASE</td>
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<td>INDUSTRIALS</td>
<td>13%</td>
<td>GENERAL ELECTRIC 3M</td>
<td>CONS. DISC.</td>
<td>10%</td>
<td>TIME WARNER HOME DEPOT</td>
<td>HEALTHCARE</td>
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<td>11%</td>
<td>AIG FANNIE MAE</td>
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<td>MERCK PFIZER</td>
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<td>11%</td>
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<td>GENERAL ELECTRIC TYCO</td>
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<td>11%</td>
<td>GENERAL ELECTric UNITED TECHNOLOGIES</td>
</tr>
<tr>
<td>HEALTHCARE</td>
<td>10%</td>
<td>MERCK JOHNSON &amp; JOHNSON</td>
<td>TELECOM</td>
<td>7%</td>
<td>SOUTHWESTERN BELL AT&amp;T</td>
<td>CONS. STAPLES</td>
<td>11%</td>
<td>WAL-MART PROCTOR &amp; GAMBLE</td>
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<td>ENERGY</td>
<td>5%</td>
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<td>MATERIALS</td>
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</tbody>
</table>

Source: CapIQ, updated as of 5/21/14.
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