INTERNET TRENDS –
TWO-THIRDS OF A GENERATION IN...
TWO-THIRDS OF NEXT GENERATION OUT...
Internet Users – 1995 → 2014...
<1% to 39% Population Penetration Globally

1995
35MM+ Internet Users
0.6% Population Penetration

2014
2.8B Internet Users
39% Population Penetration

Mobile Phone Users – 1995 → 2014...
1% to 73% Population Penetration Globally

1995
80MM+ Mobile Phone Users
1% Population Penetration

2014
5.2B Mobile Phone Users
73% Population Penetration

Source: Informa, World Cellular Information Service (WCIS). Assumes in 1995, one mobile phone subscription per unique user (no duplication).
Note: In 2014, user base per KPCB estimates based on Morgan Stanley Research and ITU data. Smartphone users & mobile phone users represent unique individuals owning mobile devices; mobile subscribers based on number of connections & may therefore overstate number of mobile users.
User Control of Content Up Significantly – 1995 → 2015

Evolution of Content Discovery, 1975 – 2015, per Nielsen

Source: Nielson, 12/14.
Impact of Internet Has Been Extraordinary & Broad… But – in Many Ways – It’s Just Beginning

<table>
<thead>
<tr>
<th>Sector of Economy / Society, USA</th>
<th>Internet Impact, to Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer</td>
<td>![Impact Icon]</td>
</tr>
<tr>
<td>Business</td>
<td>![Impact Icon]</td>
</tr>
<tr>
<td>Security / Safety / Warfare</td>
<td>![Impact Icon]</td>
</tr>
<tr>
<td>Education</td>
<td>![Impact Icon]</td>
</tr>
<tr>
<td>Healthcare</td>
<td>![Impact Icon]</td>
</tr>
<tr>
<td>Government / Regulation / Policy Thinking</td>
<td>![Impact Icon]</td>
</tr>
</tbody>
</table>

Note: Harvey Balls estimate degree to which Internet has changed behavior / outcomes in selected sectors of economy / society, 4/15.
KEY INTERNET TRENDS
Global Internet User + Smartphone Subscription Growth = Good, But Growth Rate Continues to Slow*

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

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

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

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

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

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

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

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

*Details on Internet Users & Smartphone Subscribers in Appendix.
Incremental Internet + Smartphone Users = Harder to Garner Owing to Phase in Adoption Cycles...

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

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

$44K = Average GDP Per Capita...

In 5 Countries with >50MM Population & ~ / >50% Smartphone Sub Penetration...
USA / Japan / Germany / UK / France

$13K = Average GDP Per Capita...

In 16 Countries* with >50MM Population & ~ / < 50% Smartphone Sub Penetration...
China / India / Brazil / Indonesia / Russia / Mexico / Philippines / Thailand / Italy / Turkey / Nigeria / Vietnam / Egypt / Iran / Pakistan / Myanmar

Source: US Census, Informa. GDP per capita is adjusted for purchasing-power parity, from IMF.
*These 16 countries encompass 3.1B mobile non-smartphone subscriptions, 52% of world’s smartphone subscriptions (27% ex. China), 62% of non-smartphone (feature phone) subscriptions.
Global Internet *Usage* (Data Traffic) Growth Strong = +21% Y/Y Aided by Mobile + Video

**Consumer Internet Traffic, Global** =
+21% in 2014 vs. +24% in 2013, +31% in 2012

**Consumer Internet Video Traffic, Global** =
64% of consumer traffic in 2014 vs. 62% in 2013, 57% in 2012

**Mobile Data Traffic, Global** =
+69% in 2014 vs. +81% in 2013, +70% in 2012

**Mobile Video Traffic, Global** =
55% of mobile traffic vs. 52% in 2013, 50% in 2012
Internet Usage (Engagement) Growth Solid
+11% Y/Y = Mobile @ 3 Hours / Day per User vs. <1 Five Years Ago, USA

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Mobile</th>
<th>Desktop / Laptop</th>
<th>Other Connected Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0.3</td>
<td>2.2</td>
<td>0.2</td>
</tr>
<tr>
<td>2009</td>
<td>3.0</td>
<td>2.3</td>
<td>0.3</td>
</tr>
<tr>
<td>2010</td>
<td>3.2</td>
<td>2.4</td>
<td>0.4</td>
</tr>
<tr>
<td>2011</td>
<td>3.7</td>
<td>2.6</td>
<td>0.8</td>
</tr>
<tr>
<td>2012</td>
<td>4.3</td>
<td>2.5</td>
<td>1.6</td>
</tr>
<tr>
<td>2013</td>
<td>4.9</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>2014</td>
<td>5.3</td>
<td>2.4</td>
<td>2.6</td>
</tr>
<tr>
<td>2015YTD</td>
<td>5.6</td>
<td>2.8</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Source: eMarketer 9/14 (2008-2010), eMarketer 4/15 (2011-2015). Note: Other connected devices include OTT and game consoles. Mobile includes smartphone and tablet. Usage includes both home and work. Ages 18+; time spent with each medium includes all time spent with that medium, regardless of multitasking.
Re-Imagining Enterprise Computing =

Changing Business Process One Segment at a Time
Enterprise software used to be about making existing work more efficient. Now, the opportunity for software is to transform the work itself.
While Consumer Internet Entrepreneurs Often Pursue Personal Passion...

‘Enterprise’ Internet Entrepreneurs Often Pursue Prior Company Pain Points
Business Communications...
Slack – Stewart Butterfield

THEN
Email / Semi-Inflexible Messaging Tools

NOW
Slack

Can reduce internal email traffic materially

@KPCB
Source: Slack, KPCB. Image: TVC Net support website (left), NY Times (right).
Offline Payments...
Square – Jack Dorsey / Jim McKelvey

THEN
Difficult to Set Up / Process Offline Payments

NOW
Square

Allows merchants to accept credit card payments via their existing smartphone or tablet & run a sophisticated point of sale system
Online Payments...
Stripe – Patrick Collison / John Collison

**THEN**
Difficult to Set Up / Process Online Payments

- gateway / processor
- ISOs
- merchant acquirer
- credit card networks
- issuing banks
- American Express
- alternative payment methods (Bitcoin, Alipay)
- fraud prevention
- reporting
- PCI audits
- international expansion

**NOW**
Stripe

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

Source: Stripe, 5/15. Image: Stripe (left and right).
Business Analytics...
Domo – Josh James

**THEN**
Data Overload Without Easy Access for Execs

**NOW**
Domo

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

Source: Domo. Image: Omvana (left), Domo (right).
Document Signing / Transaction Management...
DocuSign – Tom Gonser

THEN
Paper-Based Signatures

NOW
DocuSign

Can reduce transaction costs & improve transaction times

Source: DocuSign. Image: Good Marketplace (left), PaperlessChase.com (right).
In-app messages can be more engaging (based on reply rates) than traditional email marketing products.
Customer Success...  
Gainsight – Nick Mehta

**THEN**
Transactional Sales Process with High Churn

**NOW**
Gainsight

Typically improves net revenue retention
Customer Service...
Directly – Antony Brydon

THEN
In-House Support Center

NOW
Directly

Can reduce customer response times & improve customer satisfaction
Manages $700MM+ in annual benefits premiums across 10K customers in 48 states vs. traditional brokers which typically work within a single state.
Recruiting...
Greenhouse – Daniel Chait

THEN
Reactive / Complex...
Only Used by Recruiters

NOW
Greenhouse

Can improve time-to-hire & decrease overall hiring costs
Background Checks...
Checkr – Daniel Yanisse

THEN
Manual / Time Consuming Background Screenings

NOW
Checkr

Typically reduces background check turnaround times

Source: Checkr. Image: National Federation of Independent Business (left), Checkr (right).
Employee Knowledge / Training...
GuideSpark – Keith Kitani

**THEN**
Static Hardcopy Manuals

**NOW**
GuideSpark

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

Visitor Management...
Envoy – Larry Gadea

**THEN**
Sign-In Sheets

**NOW**
Envoy

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

@KPCB  Source: Envoy. Image: APT Research (left), Envoy (right).
Ten Years from Now, When We Look Back at How This Era of Big Data Evolved...

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

– Billy Bosworth, DataStax CEO (2015)
Re-Imagining Messaging...

With Lots of Improvements / Change / Growth Ahead
Messaging Apps = Top Global Apps in Usage + Sessions

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

Source: Quettra, Q1:15. Data ranked based on usage.
Quettra analyzes 75MM+ Android users spread out in more than 150 countries, collecting install and usage statistics of every application present on the device. Q1:15 data analyzed three months of data starting from 1/1/15. Data excludes Google apps and other commonly pre-installed apps to remove biases. Only apps with 10K+ installs worldwide and 100+ DAU are counted.
Communicating via Mobile Messaging = A Beautiful Thing

Asynchronous yet Instant

Expressive yet Fast

Engaging yet User Controlled

Casual yet Professional

Easy yet Productive

Personal yet Mainstream

Mobile yet Distributed

Instant yet Secure

Real-Time yet Replayable*

Current yet Evergreen

Accessible yet Global

Simple yet 24x7

*Up to 24 hours after original broadcast.

Images: Company websites, Flickr (creative commons).
### Selected Global Messaging Leaders

<table>
<thead>
<tr>
<th>App</th>
<th>LAUNCH YEAR</th>
<th>DESCRIPTION</th>
<th>MAU (Q1:15)</th>
<th>Y/Y CHANGE</th>
<th>MESSAGES SENT / DAY</th>
<th>REVENUE (Q1)</th>
<th>REVENUE CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WhatsApp</strong> (launched 2009)</td>
<td></td>
<td>Fast messaging</td>
<td>800MM</td>
<td>+60%</td>
<td>30B</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Facebook Messenger</strong> (launched 2011)</td>
<td></td>
<td>Messaging platform</td>
<td>600MM</td>
<td>+200%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Snapchat</strong> (launched 2011)</td>
<td></td>
<td>Ephemeral messages, pictures and videos</td>
<td>100MM</td>
<td></td>
<td>2B</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WeChat</strong> (launched 2011, China)</td>
<td></td>
<td>Messaging platform</td>
<td>549MM</td>
<td>+39%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LINE</strong> (launched 2011, Japan)</td>
<td></td>
<td>Messaging platform</td>
<td>205MM</td>
<td>+30%</td>
<td>13B</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>KakaoTalk</strong> (launched 2010, Korea)</td>
<td></td>
<td>Messaging platform</td>
<td>48MM</td>
<td></td>
<td>5.2B</td>
<td>$853MM</td>
<td>+19%</td>
</tr>
</tbody>
</table>

*Source: Company public filings, earnings transcripts, websites, statements to the press. Revenue figures are annualized as of most recent quarter. *Revenue of Daum Kakao.
### Messaging Platforms – Global Leaders = Implementing Playbooks & More

<table>
<thead>
<tr>
<th>Name</th>
<th>Facebook Messenger</th>
<th>Snapchat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch</td>
<td>August 2011</td>
<td>September 2011</td>
</tr>
<tr>
<td>Primary Country</td>
<td>Global</td>
<td>Global</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feature</th>
<th>Facebook Messenger</th>
<th>Snapchat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Messaging</td>
<td>✔</td>
<td>❌</td>
</tr>
<tr>
<td>Voice Calls</td>
<td>VoIP voice calls in US (2013)</td>
<td>❌</td>
</tr>
<tr>
<td>Stickers</td>
<td>Sticker support (2013)</td>
<td>❌</td>
</tr>
<tr>
<td>Games</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Commerce</td>
<td>Businesses on Messenger (2015)</td>
<td>❌</td>
</tr>
<tr>
<td>Media</td>
<td>❌</td>
<td>Discover (2015)</td>
</tr>
<tr>
<td>QR Codes</td>
<td>❌</td>
<td>QR Codes to add friends (2015)</td>
</tr>
<tr>
<td>Food Delivery</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Taxi Services</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>User Stories / Moments</td>
<td>❌</td>
<td>Shared Stories (2013)</td>
</tr>
</tbody>
</table>

Source: Company websites, press releases.
Notifications = Growing Rapidly & Increasingly Interactive...
Driving New Touch Points with Messaging Platforms + Other Apps

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

...More Up Close & Personal – as notifications appear on more & more mobile devices
Re-Imagining Content...

It’s Increasingly User-Generated / Curated & Surprising
User-Generated Video from Millions of Creators...
Curated by Snapchat = Growing Rapidly with Live Stories

**Music**
- Coachella
  - 4/15
  - 40MM Viewers Over 3 Days

**Holidays**
- New Year's Eve
  - 12/14
  - 37MM Viewers in 24 Hours

**Sports**
- Winter X-Games
  - 1/15
  - 30MM Viewers in 24 Hours

Source: Snapchat.
100MM Tracks
+33% Y/Y

Majority of content comes from creators not associated with known rights-holders
User-Generated Written Content / Stories = +140% Y/Y to 125MM Cumulative Stories on Wattpad

40MM Monthly Unique Visitors  
+48% Y/Y

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

Average engagement time = 30 minutes / user / session

90% Mobile Traffic

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

Source: Wattpad, all data as of 5/15.
User-Generated Reviews / Feedback (Reputation) = +140% Y/Y @ 14MM New Reviews on Airbnb, Last 12 Months

Source: Airbnb.
Imagine That...

Users Generating Their Content Are Recreating Their Internet
Smartphone ➔ A Very Smart Phone...
Re-Imagining Presence = All Visual...All the Time

Start a Broadcast
We need a few things before you can broadcast.

- Enable Camera
- Enable Microphone
- Enable Location

Don’t worry, you can choose to hide your location before each broadcast.

Source: Periscope.
Re-Imagining
Getting What You Want...
When You Want It
...‘Just in Time’ Products + Services = Enabled by Mobiles + Sensors + Humans

Selected On-Demand Company Fulfillment Time Estimates

<table>
<thead>
<tr>
<th>Transportation</th>
<th>Food</th>
<th>Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUXE ~10 min</td>
<td>Caviar &lt;20 min</td>
<td>POSTMATES</td>
</tr>
<tr>
<td>lyft Within minutes</td>
<td>Doordash Typically within 1 hour</td>
<td>Shyp ~20 min</td>
</tr>
<tr>
<td>Uber Within minutes</td>
<td>Munchery Typically within 20-40 minutes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dining</th>
<th></th>
<th>Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>OpenTable Instant booking</td>
<td>Sprig 15 min</td>
<td>Airbnb Instant booking</td>
</tr>
<tr>
<td></td>
<td>Munchery Typically within 20-40 minutes</td>
<td>Hotel Tonight Instant booking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entertainment</th>
<th>Groceries</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SeatGeek Instant booking</td>
<td>Instacart Typically within 1-2 hours</td>
<td></td>
</tr>
</tbody>
</table>

Source: Statements from company and publicly available information.
Note: Fulfillment time for transportation companies and Shyp is defined as wait time until pickup. Fulfillment time for food companies, Instacart, and Postmates is defined as time until delivery of goods. Fulfillment time for the remaining companies is defined as time until completion of the transaction.
Re-Imagining Consumer Spending
### Average Annual Expenditure of USA Household, 2013 – 2014

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

Lots of Innovation in Biggest Consumer Spending Categories...

Especially in Top 3 Areas

1) Housing
2) Transportation
3) Food
Innovation in *High Spend* Markets...

Average Annual USA Household Spending...

**Housing** = $17K  
33% of total spend

**Transportation** = $9K  
18% of total spend

**Food** = $7K  
14% of total spend  
$4K on food consumed in home...  
8% of spend

...Innovation in High Engagement Markets...

Average USA Individual...

- Needs Shelter Every Day
- Drives ~37 Miles per Day
- Visits Grocery Store 2x / Week...
  - 41 minutes each trip


“Grocery Shopping: Who, Where and When,” The Time Use Institute, 2008. Time spent grocery shopping excludes time spent getting to and from store.

Image: Airbnb, Uber, Instacart.

@KPCB
...Innovation in *Weak User Experience* Markets

Images: iMore, Uber, Instacart.
Re-Imagining Birds-Eye View...

Drone Growth = Uniquely Fast / Global...
Consumer / Commercial... & Regulators Engaged
Consumer Drone Shipments = Rising Rapidly... @ 4.3MM Units in 2015E, + 167% Y/Y, Revenue to $1.7B

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

- Market Size ($MM)
- Unit Shipments (000's)

Source: KPCB estimates.
Global Consumer Drones – Revenue by Region, 2014

- USA: 35%
- Europe: 30%
- China: 15%
- Rest of World: 20%

Source: KPCB estimates.
Commercial Drone Use = Very Broad... Operational Improvements / Resource Management / Public Safety

**Precision Agriculture**

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

**Infrastructure Inspection**

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

**Mining & Quarrying**

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

**Disaster Response**

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

Source: News sources.
Countries Ranked by Government Accommodation for Drones

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

Transportation

Construction

Electric Grid

Insurance


Note: Per the FAA, Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA) (PDF) grants the Secretary of Transportation the authority to determine whether an airworthiness certificate is required for a UAS to operate safely in the National Airspace System (NAS). This authority is being leveraged to grant case-by-case authorization for certain unmanned aircraft to perform commercial operations prior to the finalization of the Small UAS Rule, which will be the primary method for authorizing small UAS operations once it is complete.
Commercial Drone Market Future Potential = Bigger + More Constructive than Many Believe, Though With Risks
Cyber Attacks =
Growing in Size /
Complexity / Risk
Cyber Attacks = Growing Bigger / Faster...

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

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

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

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

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

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

...Cyber Attacks = Growing Bigger / Faster

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

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

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

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

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

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

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

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


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

Interest in urbanization is owing to the fact that many new, online, on-demand platforms / marketplaces typically focus on serving urban populations.
18-32 Year Olds Marriage Rates Declining = @ 26% vs. 65% Fifty Years Ago

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

Source: US Census Bureau.
Married defined as married, spouse present or married, spouse absent.

Married Age 18-32
Household Sizes Declining = @ 2.5 People vs. 3+ Fifty Years Ago, 4+ a Century Ago

Size of Average Household, USA, 1910 – 2014

Note: A household consists of all people who occupy a housing unit regardless of relationship. A household may consist of a person living alone or multiple unrelated individuals or families living together.
CONNECTIVITY HAS CHANGED
Connectivity (Via Internet) Up Dramatically = @ 84% of Population vs. 9% in 1995...

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

- Internet Penetration (%)
- Internet Penetration USA (%)

Source: World Bank, IDC
Connectivity (via Mobile Smartphones) Up Dramatically = @ 64% of Population vs. 18% in 2009

Smartphone Subscription Penetration, USA, 2009 – 2014


Smartphone penetration data are based on subscriptions (also referred to as connections), which may overstate actual users for those who have multiple devices or connections.
The Big 20-Year Change =

People Connected 24/7 with Mobile Devices
NEW FORMS OF COMMERCE
TRANSFORMING HOW PEOPLE CAN GET PRODUCTS + SERVICES
Commerce via Internet Up Dramatically = @ 9% of Retail Sales vs. <1% in 1998

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

Source: Forrester

$300B+ of Spend

E-Commerce as % of Total Retail Sales (%)

E-Commerce as Percent of Retail Sales (%)
1st Generation ‘Online Platforms / Marketplaces for Products Rising = Optimized for Desktop Internet + Traditional Shipping Delivery

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

Source: Companies are eBay, Amazon, Alibaba, JD.com, and Rakuten. Per publicly available company data, Morgan Stanley Research.
Consumers’ Expectation 
That They Can Get What They Want 
With Ease & Speed Will Continue to Rise...

This Changes Fundamental 
Underpinnings of Business & Can 
Create Rising Demand for Flexible Workers
CHANGES IN CONNECTIVITY + COMMERCE = IMPACT CONSUMPTION & WAYS PEOPLE CAN WORK... STILL EARLY INNINGS
More People Working in Flexible / Supplemental Jobs
Freelancers = Significant & Growing Portion of Workers
@ 53MM People, 34% of USA Workforce

**Freelancer Categories***

<table>
<thead>
<tr>
<th>Category</th>
<th>People</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Contractors</td>
<td>21MM</td>
<td>40%</td>
<td>Don’t have employer...do freelance, temporary, or supplemental work on a project-by-project basis</td>
</tr>
<tr>
<td>Moonlighters</td>
<td>14MM</td>
<td>27%</td>
<td>Professionals with a primary, traditional job who also moonlight doing freelance work</td>
</tr>
<tr>
<td>Diversified Workers</td>
<td>9MM</td>
<td>18%</td>
<td>Multiple sources of income; mix of traditional and freelance work</td>
</tr>
<tr>
<td>Temporary Workers</td>
<td>6MM</td>
<td>10%</td>
<td>Single employer, client, job, or contract project where employment is temporary</td>
</tr>
<tr>
<td>Business Owners who Consider Themselves Freelancers</td>
<td>3MM</td>
<td>5%</td>
<td>Business owners with 1-5 employees</td>
</tr>
</tbody>
</table>

Source: “Freelancing in America,” Survey of 5,000 Working Americans commissioned by Freelancer’s Union and Upwork (formerly Elance-oDesk), 9/14, USA.
*Freelancer defined as person / business engaged in supplemental, temporary, or project / contract-based work in the past 12 months.
Moonlighters responded that they have one employer and are also doing freelance work on the side to earn additional money. Diversified workers responded that they have multiple sources of income from a mix of traditional employment and freelance work.
Freelancers Use Internet to Get / Do Business

**Freelancers* Say...**

69% = Social networking has ‘drastically changed dynamics of networking’

65% = Internet makes it easier to find work

42% = Have done online freelance project

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

*Freelancer defined as person / business engaged in supplemental, temporary, or project / contract-based work in the past 12 months.
<table>
<thead>
<tr>
<th><strong>eBay</strong></th>
<th><strong>Etsy</strong></th>
<th><strong>airbnb</strong></th>
<th><strong>Upwork</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>eBay SMBs = 95% engage in export vs. &lt;5% of USA businesses</td>
<td>Etsy sellers = 35% started business without much capital investment, compared to 21% for small business owners.</td>
<td>Only a smartphone needed to set up a listing and become an Airbnb host. Hosts can get set up in minutes.</td>
<td>Ability for businesses to access talent quickly – time to hire averages 3 days on Upwork vs. longer time for traditional hiring.</td>
</tr>
<tr>
<td>Setting up export businesses historically required significant investment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eBay, Etsy, airbnb, Upwork, Uber, Thumbtack, SoundCloud, Stripe.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Car + smartphone + quick onboarding to be UberX driver-partner vs. materially more to purchase medallion (or equivalent) to be a Taxi driver.** | **SoundCloud Creators can use mobile devices to record / distribute audio content within minutes.** | **Thumbtack professionals pay $3-15 per introduction to services leads they are interested in vs. buying ads in directories monthly or yearly.** | **Stripe Connect powers most marketplace businesses and enables coordination of transactions between buyers and sellers.** |

Airbnb, Thumbtack, Stripe.
Rise of Connectivity + Online Marketplaces / Platforms = Helping People Earn Income & Work on Own Terms
Online Platforms Enabling Steady Growth in **Product** Commerce & Enabling Rapid Growth in **Service** Commerce

### Product Commerce

- **8.5MM+ Sellers**
- **2MM+ Third-Party Sellers**
- **25MM+ Sellers**
- **1.4MM+ Active Sellers**
  +26% Y/Y

### Service Commerce

- **35MM Total Guests All-Time**
  – nearly 25MM in Last Year
- **~1MM+ Driver-Partners**
  +6x Y/Y
- **10MM+ Freelancers**
  +63% 5-Year CAGR

Source: Alibaba. Active sellers only includes 3 China retail marketplaces: Tmall, Taobao, Juhuasuan, Q2:14 (LTM). eBay, 2014. Amazon, Q1:15 earnings call; sellers refer to worldwide active seller accounts. Etsy, Q1:15 public filings; active sellers defined as those who have incurred at least one charge from Etsy in the last 12 months. Upwork (formerly Elance-oDesk) database, 2015. 10MM+ is cumulative registered freelancers. Uber, 2015. Airbnb, 2015.
People Typically Use Online Platforms to Find Extra Income & Flexibility
Many People =
Use Online Platforms / Marketplaces to Supplement Income

Select Online Platforms – Personal Impact

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

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

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

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

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

“Redefining Entrepreneurship: Etsy Sellers' Economic Impact”, 11/13. Published by Etsy. Survey measured 5,500 USA-based sellers on Etsy's marketplace. Note Etsy data is USA only.
“Freelancing in America,” Survey of 5,000 Working Americans commissioned by Freelancer's Union and Upwork (formerly Elance-oDesk), 9/14. USA.
Thumbtack, 2015.
Note percentages may not add up to 100% owing to rounding.
Online Platform / Marketplace Income = Material for Many People

Average Annual Earnings – Selected Online Platforms

- **Median USA Household Income**: $51,900
- **Average $ Earned by Thumbtack Professionals**: $8,000
- **Average $ Earned by Typical Airbnb Host in NYC**: $7,700
- **Average $ Earned by eBay Seller**: $3,000
- **Average $ Earned by Etsy Seller**: $1,400

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

Select Online Platforms – Views on Flexibility

- **55%** = Sellers motivated to set up shop for greater flexibility (for self / family)
- **87%** = Driver-partners like Uber because they can be own boss / set own schedule
- **#2** = Rank of flexibility among motivations for freelancing
- **92%** = Freelancers who agree they have more freedom to work wherever

“Redefining Entrepreneurship: Etsy Sellers’ Economic Impact”, 11/13. Published by Etsy. Survey measured 5,500 USA-based sellers on Etsy’s marketplace. Note Etsy data is USA only.
“Freelancing in America,” Survey of 5,000 Working Americans commissioned by Freelancer’s Union and Upwork (formerly Elance-oDesk), USA, 9/14.
25% of ‘On-Demand’ Workers = Use Multiple Platforms

Source: MBO Partners and Emergent Research, “Independent Workers and the On-Demand Economy”, USA, 4/15. MBO Partners defines workers in the in the “On-Demand Economy,” as those who generate economic activity through the use of online platforms and marketplaces that help customers quickly connect and transact with suppliers of goods and services. These include services like Airbnb, Uber, Lyft, Handy, Etsy, TaskRabbit, and many others. * NOTE: MBO study only includes on-demand workers who devote at least one hour per week to an on-demand platform. Those who use these platforms less frequently are not counted. Figure has been de-duplicated.
Growth in Online Platforms / Marketplaces = Creates Benefits & Challenges
## Online Platforms / Marketplaces = Benefits & Challenges for Consumers

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice / Access – product depth + breadth...availability of goods / services / experiences previously hard to find / reach</td>
<td><strong>Time / Cost Tradeoff</strong> – Products with rapid delivery may be more expensive</td>
</tr>
<tr>
<td><strong>Time Savings</strong> – can offset incremental costs, if any</td>
<td><strong>Quality</strong> – unable to test products / services...reliant on feedback from peers / reviews</td>
</tr>
<tr>
<td><strong>Transparency</strong> – ability to research / set expectations / track process</td>
<td><strong>Trust</strong> – new marketplaces must prove trustworthiness to consumers</td>
</tr>
<tr>
<td><strong>Personalized</strong> – can get items / services on own schedule</td>
<td><strong>Time / Convenience Tradeoff</strong> – Convenience of delivery to home / work may mean delaying gratification of getting product immediately</td>
</tr>
<tr>
<td><strong>Online Reputation &amp; Trust Systems Often in Place</strong> – ability to read &amp; write reviews / ratings for merchants &amp; service providers</td>
<td></td>
</tr>
</tbody>
</table>

Source: Various.
This list is meant to be general, it is not mutually exclusive or collectively exhaustive. Some platforms / marketplaces may possess all these elements, while others will possess only a few.
# Online Platforms / Marketplaces = Benefits & Challenges for Workers

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial</strong> – ability to earn supplemental / primary income</td>
<td><strong>Incumbent Displacement</strong> – creates change / uncertainty</td>
</tr>
<tr>
<td><strong>Flexibility</strong> – choose own schedule / task, location / income goals-targets</td>
<td><strong>Financial</strong> – lack of predictable income possible</td>
</tr>
<tr>
<td><strong>Skill Set Match</strong> – can often effectively match skills with needed services</td>
<td><strong>Uncertainty</strong> – lack of clarity related to demand / work / reporting possible</td>
</tr>
<tr>
<td><strong>Feedback / Communication</strong> – often real-time / direct</td>
<td><strong>Benefits Clarity</strong> – insurance / vacation / sick leave / pension...</td>
</tr>
<tr>
<td><strong>Data</strong> – customer location + data can allow workers to provide more informed / efficient service</td>
<td><strong>Asset Use</strong> – potential job requirement to use personal items (cars / phones...)</td>
</tr>
<tr>
<td><strong>Customer Base</strong> – marketplaces can aggregate demand that may be fragmented / far-reaching (global)</td>
<td><strong>Training / Development</strong> – potentially limited training / development / supervision</td>
</tr>
<tr>
<td><strong>Growth</strong> – rising sector demand for services should boost opportunities / competition for workers</td>
<td><strong>Workplace Culture</strong> – people often dispersed</td>
</tr>
</tbody>
</table>

Source: Various. This list is meant to be general, it is not mutually exclusive or collectively exhaustive. Some platforms / marketplaces may possess all these elements, while others will possess only a few.
ONLINE MARKETPLACE / PLATFORMS = REGULATORY FOCUS EVOLVING
Traditional Challenge / Opportunity = Incumbents ↔ Regulators ↔ Innovators...
...Evolving Challenge / Opportunity = Incumbents ↔ Regulators ↔ Innovators

Consumers + Workers = Armed with Mobile Devices + Social Media (+ Ratings / Feedback) Helping Drive Innovation
• **Airbnb Emerges Victorious as New York City Regulators Overturn Host's $2,400 Fine**
  – The Verge, 9/13

• **Artist Sued for 'Subletting' Loft on Airbnb**
  – New York Post, 6/14

• **Sharing Economy Faces Patchwork of Guidelines in European Countries**
  – NY Times, 9/14

• **State Regulator Says Uber meets Florida Insurance Requirement**
  – Tampa Bay Times, 10/14

• **Handy.com Housecleaners’ Lawsuit Could Rock On-Demand Companies**
  – SF Gate, 11/14

• **Uber, Lyft Lawsuits Could Spell Trouble For the On-Demand Economy**
  – CNN, 3/15
California law defines whether workers are employees or independent contractors, and there’s a test, but the test and classification system are woefully outdated...

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

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

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

*Note that Lyft was eventually denied motion for summary judgement & case will need to be decided by a jury.*
...this is amazing, but it’s also complicated because there are laws that were written many decades ago – sometimes a century ago – that said,

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

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

- Brian Chesky, Co-founder and CEO of Airbnb, 11/14
Original Intent of Anti-Scalping Laws (passed in 1920s) = Protect Consumers...

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

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

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

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

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

With passage of time (& collaboration), StubHub has helped regulators do their jobs – effectively regulate what they had intended to regulate all along.
PEOPLE + SYSTEMS + REGULATIONS / POLICIES = NEED TO EVOLVE / ADAPT TO MORE CONNECTED SOCIETY
High-Level Summary...

- **Job Market** – Has been more difficult & work has been harder to find for many

- **Benefits** – Traditional employer-provided benefits like health insurance & retirement plans falling...Recipients of government benefits rising

- **Millennials** – Have different expectations for work than previous generations, for now...Shaped, in part, by Great Recession

- **Connectivity** – Has created efficiencies & changed work for many

- **Work** – Alternative work arrangements (including freelancing) increasing...Competition for workers may rise with demand
• **Online Platforms / Marketplaces Growing Rapidly** – Creating new work opportunities & challenges for individuals...These will continue to rise, similar to trends / impact from first-generation Internet companies, potentially faster / broader

• **Need to Shape Direction & Evolve Policies & Laws** – Industry participants (workers / businesses / governments) need to work together to be more aligned with rapidly emerging ways of doing business & creating work & recognize that emerging technologies / marketplaces can help solve for consumer & worker welfare

• **Innovative Online Platforms / Marketplaces Stand to Continue to Benefit Consumers** – As evinced by strong demand for their products & services...

• **Impact of Social Media (+ Feedback / Ratings) Should Not be Underestimated** – Empowered consumers increasingly – in effect – take elements of consumer protection into their own hands
BIG INTERNET MARKETS =

– CHINA = #1 IN SHEER MASS...
– INDIA = #1 IN NEW USER ADDITIONS
Large Scale
Internet Adoption History =

USA → China...
India Next?
India = Appears to Be at Internet Penetration Growth Inflection

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

- **USA**
- **China**
- **India**

Population Penetration (%)

100%

80%

60%

40%

20%

0%


Catalyst Companies

- Netscape
- Yahoo!
- Amazon.com
- eBay

Catalyst Companies

- Tencent
- Alibaba
- JD.com

India =

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

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

Source: IAMAI, 2014 year-end India Active Internet User (has used the Internet at least once in the last one month). Note: China is the largest Internet market in the world with 629MM Internet users at the end of 2014; China was the 2nd largest market in 2014 in Internet user additions per year, with 31 million Internet user additions. Figures here are year-end and may not match other figures in presentation, which are mid-year figures.
### India = Often #1 or #2 MAU Market for Global Internet Leaders

<table>
<thead>
<tr>
<th>Platform</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Facebook** | ![Facebook](facebook.png)  
India = 2nd Largest Market @ 112MM MAUs, 8% of Global MAUs, 9/14  
USA & Canada = Largest Markets @ 210MM MAUs, 3/15 |
| **LinkedIn** | ![LinkedIn](linkedin.png)  
India = 2nd Largest Market @ 24MM MAUs, 8% of Members, 2/14  
USA = Largest Market @ 100MM Members, 4/14 |
| **WhatsApp** | ![WhatsApp](whatsapp.png)  
India = Largest Market @ 70MM...10% of Global MAUs, 11/14...  
Global MAUs = 800MM, 3/15 |
| **Twitter** | ![Twitter](twitter.png)  
India = Fastest Growing User Market, 3/15 |
| **YouTube** | ![YouTube](youtube.png)  
70MM Users in India, ~7% of Global Users |
| **Amazon** | ![Amazon](amazon.png)  
“Amazon Announces Additional $2 Billion Investment in India,” 7/14 |

Source: Facebook, WhatsApp (per Facebook earnings call and statement by Neeraj Arora of Whatsapp), LinkedIn (per Company blog, press release, and earnings), Amazon, Twitter. YouTube data per Google.
Top India Android Apps =
1) WhatsApp  2) Facebook  3) MX Video Player  4) Facebook Messenger  5) Truecaller

Source: Quettra, Q1:15. Data ranked based on usage.
Quettra analyzes 75MM+ Android users spread out in more than 150 countries, collecting install and usage statistics of every application present on the device. Q1:15 data analyzed three months of data starting from 1/1/15. Data excludes Google apps and other commonly pre-installed apps to remove biases. Only apps with 10K+ installs worldwide and 100+ DAU are counted.
Mobile = 65% of India Internet Traffic...
More Mobilized vs. Most Other Countries

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

Source: Statcounter, 5/15.
Mobile = 41% of India E-Commerce…
= More Mobilized vs. Most Other Countries*

Mobile as % of Total E-Commerce Sales, 2014

India
China
UK
France
Brazil
Australia
USA
Germany
Russia
Japan

Source: Morgan Stanley Research.
India E-Commerce Leaders =
More Mobilized vs. Global Leaders

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

Source: Flipkart, Public filings (JD.com, Alibaba.com, eBay.com). Snapdeal data per public statements from Kunal Bahl (CEO). JD.com, Snapdeal, and JD.com based on order volume; Alibaba and eBay based on gross merchandise value (GMV). Flipkart data shown as a trendline from 5% in Q4:13 to 70% in Q1:15.
PUBLIC & PRIVATE COMPANY DATA
Global Internet Public Market Leaders = Apple / Google / Alibaba / Facebook / Amazon / Tencent...

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

Total: $2,513 $479,939

Source: CapIQ. 2015 market value data as of 5/22/15.
Note: Colors denote current market value relative to Y/Y market value. Green = higher. Red = lower. Purple = newly public within last 12 months.
Technology-Related Company Investing Observations

• **Booms / Busts** – In periods of material business disruption – like those brought about by the evolutions of the Internet – company creation typically goes through a boom → bust → boom-let cycle while wealth creation typically goes through a boom-let → bust → boom cycle.

• **Valuations** – There are pockets of Internet company overvaluation but there are also pockets of undervaluation – the one rule is that very few companies will win – those that do – can win big.

• **Platforms** – Race is won by those that build platforms & drive free cash flow over long-term (a decade or more).

• **Free Cash Flow** – Value of a business, over time, is the present value of its future cash flows.
RAN OUTTA TIME THOUGHTS
Re-Imagining
Design / User Experience
The longstanding discipline by Google to keep the homepage limited to a single search box has been key to maintaining its simplicity. Once a search term is typed into Google, it gets complex really quickly — but you don’t notice it at first.

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

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

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

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

Analogy: The “slide to unlock” feature on the Apple iPhone introduced the idea of translating an emphatic motion to a button press.
...Design Elements That Have Made a Difference... per John Maeda

**Snapchat**

*Start with the activity to bias towards*

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

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

**Uber**

*Entirely remove a constraint with technology*

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

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

**Typeform**

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

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

Analogy: The acclaimed film “Birdman” used the cinematic illusion of “the single take” to achieve a similar effect to create greater viewer immersion.
Healthcare – Continuing to Shift Towards Consumer-Driven, Value-Based Care = Opportunity for Technology Solutions
US Healthcare in the 21st Century Purchase + Delivery Change Forever

ACA and Government Effects

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

- In 2013, the US government spent $591 billion on Medicare. However, Medicare is projected to have insufficient funds to pay all hospital bills beginning in 2030.

- Chronic disease accounts for 86% of US healthcare costs, which can be reduced by enabling the healthcare ecosystem with innovative technology.

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<th>Condition</th>
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<td>Cardiovascular</td>
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Source: Beth Seidenberg, KPCB General Partner and Lynne Chou, KPCB Partner. Sources: Kaiser Family Foundation website and CDC website http://www.cdc.gov/chronicdisease/overview/
More

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

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

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

Stockpile maps created from aerial photo surveys provide faster & more accurate volumetric calculations for mining and quarry operations.
1) France & United Kingdom
   • Both countries allow Beyond Visual Line of Sight “BVLOS” commercial operations.
     • In France, users must obtain a proper pilot’s license plus 100 hours of flying experience &
       20 hours of drone training.
     • In United Kingdom, operator must be approved by the Civil Aviation Authority “CAA.”
   • France & UK both have training certifications, weight categories & relatively mature regulatory
     framework.

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

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

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

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

6) China

- Military allots only 1/5 of airspace to civilian use and is very sensitive about drone usage. While there is no blanket ban on commercial drone activity, China’s Civil Aviation Administration requires anyone operating a drone >7kg to have a license. For flying drones <7kg, no license is required as long as it’s below 400 feet and within operator’s line of sight. However, this policy has caused confusion among operators and regulators. In one example, the Beijing Police briefly detained a well-known aerial photographer for filming the Forbidden City - they confiscated his quadcopter and later returned it to the photographer at the airport on his flight out of China.

- **Other countries developing UAS regulations**
  - Mexico recently released framework including micro UAS rule.
  - New Zealand is behind but has proposed a solid risk-based set of regulations.

Source: News articles, KPCB analysis – Wen Hsieh / James Tang / Paul Yeh.
Appendix
Established ‘Big’ Internet Markets (China / USA / Japan / Brazil / Russia) = +6% Growth in 2014 vs. +7% Y/Y = Slowing, Most Well Past 50% Penetration

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Source: United Nations / International Telecommunications Union, US Census Bureau. Internet user data is as of mid-year. Internet user data for: China from CNNIC, India from IAMAI, Iran from Islamic Republic News Agency, citing data released by the National Internet Development Center, Indonesia from APJII / eMarketer.
Developing ‘Big’ Internet Markets (India / Indonesia / Nigeria / Mexico) = +24% Growth in 2014 vs. +23% Y/Y = Still Growing Strongly

### Countries with Internet Penetration ≤45%

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Source: United Nations / International Telecommunications Union, US Census Bureau. Internet user data is as of mid-year. Internet user data for: China from CNNIC, India from IAMAI, Iran from Islamic Republic News Agency, citing data released by the National Internet Development Center, Indonesia from APJII / eMarketer.
Established ‘Big’ Smartphone Markets (USA / Japan / Brazil / Germany / UK) = +13% Growth in 2014 vs. +18% in 2013 = Slowing, Most Well Past 50% Penetration

Markets with >45% Penetration

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Source: Informa. Note: Japan data per Gartner, Morgan Stanley Research, and KPCB estimates.
Developing ‘Big’ Smartphone Markets (China / India / Indonesia / Russia) = +28% Growth in 2014 vs. +29% in 2013 = Strong, Well Below 50% Penetration

### Markets with ≤45% Penetration

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<th>2013 Smartphone Sub Growth</th>
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<th>Total Population (MMs)</th>
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<td>World</td>
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<td>2,107</td>
<td>23%</td>
<td>27%</td>
<td>29%</td>
<td>7,176</td>
<td></td>
</tr>
</tbody>
</table>

Source: Informa.