2016 Communication Technology Update

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CES Eye Candy: Drones

CES Eye Candy: Double Washer

CES Eye Candy: Automotive
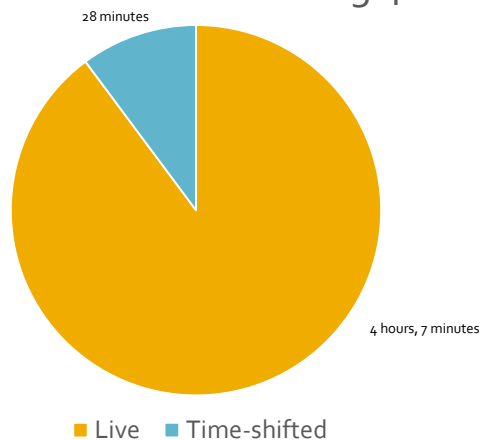
Virtual Reality

- Occulus Rift: $599

- New York Times
  - Google cardboard

- 3D stigma
- Need for glasses or head-mounted displays
- Need for content
  - Best predictor?

Television Update
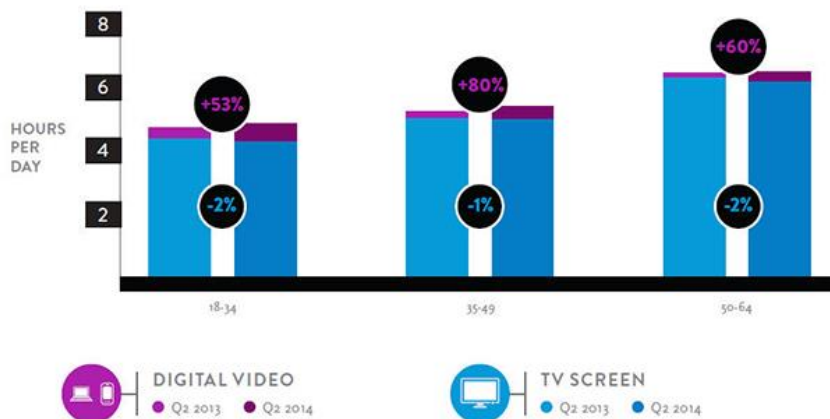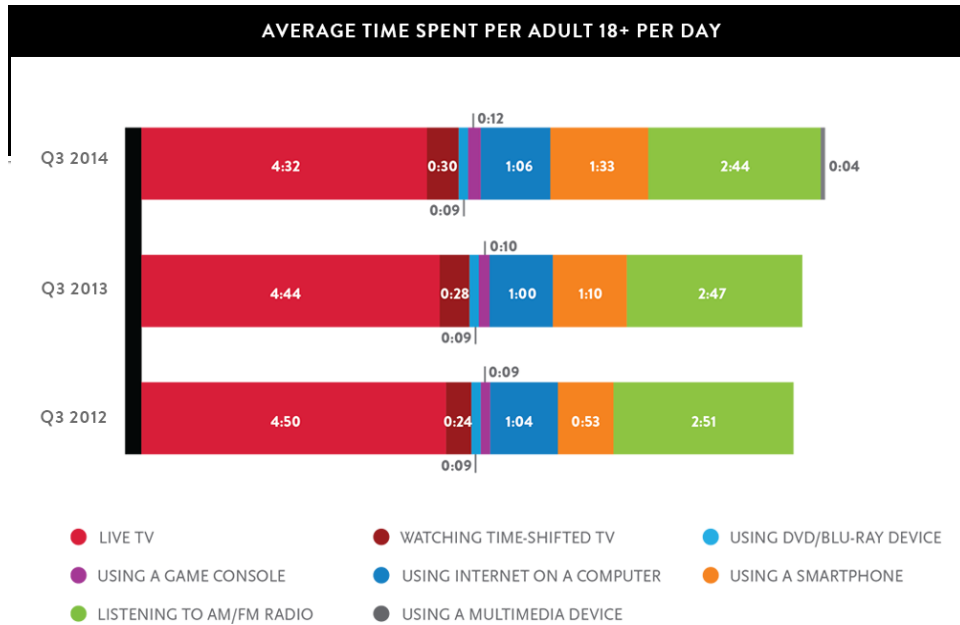
U.S. Adult Television Viewing 4Q 2015

28 minutes

4 hours, 7 minutes

■ Live ■ Time-shifted

Television Today—Audience

- Most popular medium in U.S.
- Most advertising revenue
- Most different ways to consume

Viewing Varies by Age

AVERAGE TIME SPENT PER ADULT 18+ PER DAY

Q3 2014: 4:32 | 0:30 | 0:12 | 1:06 | 1:33 | 2:44 | 0:04 | 0:09

Q3 2013: 4:44 | 0:28 | 0:10 | 1:00 | 1:10 | 2:47 | 0:09

Q3 2012: 4:50 | 0:24 | 0:09 | 1:04 | 0:53 | 2:51 | 0:09

- LIVE TV
- WATCHING TIME-SHIFTED TV
- USING DVD/BLU-RAY DEVICE
- USING A GAME CONSOLE
- USING INTERNET ON A COMPUTER
- USING A SMARTPHONE
- LISTENING TO AM/FM RADIO
- USING A MULTIMEDIA DEVICE

Source: Nielsen.

Television Update: 4K

- 4K penetration rising
  - 2014: 2%
  - 2015: 4-5%
- Premium product

- BUT: Viewers can't see the difference

4K Distribution

- Today
  - IPTV
  - DirecTV

- Coming soon...
  - Cable Television
- 2020 or later
  - Broadcast

Television Update: HDR

- HDR=High Dynamic Range
  - Superior color
  - Superior contrast ratio
  - More bandwidth needed
- Separate encoding and decoding needed
  - First adoption may be in cinemas
  - Add-on to high-end TVs within five years
  - BUT, will viewers be able to see the difference?

1/21/2016

Television Update: OTT

- Multiple services available:
  - a la carte:
    - HBO GO
    - CBS AllAccess
    - ESPN 3
  - Packages
    - Sling
    - Verizon
    - (Soon) Every cable operator

Radio Update

- Nothing to see here. Keep moving

Telephony Update

- Handset upgrades
  - Cameras
  - Screens
  - Processing power
  - Apps
- Industry
  - Continued decline of land lines (almost 50% are cord-cutters)
  - Elimination of subsidies for phones

Computer Update

- Mobile
- Mobile
- Mobile
- Mobile
- Mobile
- Mobile
- Mobile

Computer Update

- Windows 10
  - Increase in replacement cycle
  - Touch-screen technology
- Advances in processing power and storage
  - Limited consumer utility
- Proliferation of SaaS

Mobile Technology Update

- User base growing
  - Tablets
  - Smart phones
- "Free" WiFi continuing to proliferate
- Shift in advertising spending to mobile media
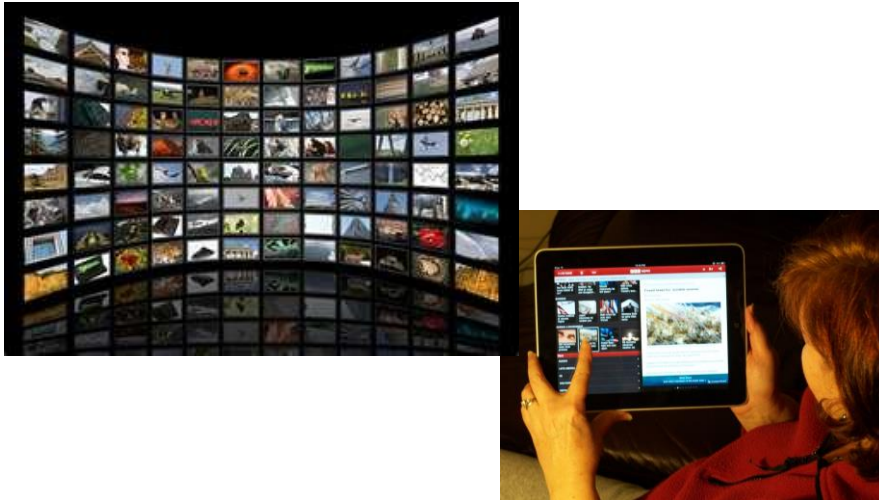
- BUT, no big innovations in 2016 (so far)

Internet of Things Update

- Largest growth area of consumer electronics
  - Embedded processing power
  - Embedded sensors and displays

- Unorganized industry
  - Standard OS
  - Networking
  - ISP
  - Internet resources (data, processing, memory, etc.)
  - Authentication/security/privacy

Networking Update

- IoT=New requirements for ISPs
  - Auto connectivity
  - Home security connectivity
  - Mobile device connectivity
- Who provides connectivity?
  - Telcos
  - Proprietary (white-label) networks
  - Wi-Fi
  - Other

Video Everywhere…

Thank you!

More Info:
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