



IAB Digital Trends: Consumer Usage, Ad Revenue and Impact

Full Year 2017 Report

Questions?

Kristina Sruoginis

IAB Research Director

Kristina@IAB.com

Digital Usage Trends: Topline Executive Summary

Overall Trends:

- 254 million Americans accessed the internet via computer or mobile device in an average month in 2017, spending 1.4 trillion minutes online.
- Overall digital ad revenue grew 22% over the year to reach \$72.5 billion in 2017.
- The number of internet users on computers, smartphones or tablets is relatively flat while the amount of time spent online has grown slightly by 3%.
- The top 5 properties visited on any device via app or site visitors are Google, Oath, Facebook, Microsoft and Amazon.
- Time spent on Google properties has grown over the year, significantly outpacing Facebook. Pandora maintains a strong #3 position in time spent online
- Internet advertising influences purchase decisions ranging from Electronics to Clothing, CPG, Auto and Finance. 39% of US adults are influenced by internet ads for Electronics.

Top Categories and Sites:

- Most Time Online is Spent with Entertainment, Services and Social Media. Most time spent on top categories is on a mobile device with the exception of Portals and Email which are primarily accessed using computers.
- Most visited properties are similar on desktop as on mobile, but time spent differs.

Digital Usage Trends: Detailed Summary Points

- Top 10 sites by time spent imply consumers stream video on desktop and stream audio on mobile: Hulu, Comcast NBC, eBay and Vevo are among the Top 10 desktop properties; Pandora, Spotify, Snapchat and Apple attract more of users' time on mobile devices.

Mobile:

- Mobile Advertising in 2017 Has Grown to \$50 Billion, Which is Over 10x Revenue of 2012
- The shift to mobile continues: 68% of time spent online is on a mobile device on average in 2017
- Ad dollars are catching up: 57% of digital ad revenue for 2017 is from mobile advertising.
- Most consumers (63%) use both desktop and mobile to access the internet with 24% using only mobile devices and 13% using only desktop computers, in an average month in 2017.
- Most time online, 68% on average, tends to be on a mobile device. Over the year, the shift to mobile, especially smartphones, has accelerated: 79% of time online in Dec. was from a mobile device. Smartphone time grew 9%.
- More mobile time is spent on apps (87%) than mobile web (13%); smartphones (88%) than tablets (12%) in a typical month in 2017.
- Consumers spend the most mobile time on Google, Facebook, Oath and Amazon whether by app or mobile web
- Time spent in apps differs from time spent on mobile web: Top apps include pure play streaming audio properties and gaming apps; top properties by time spent on mobile web include TV networks, portals and shopping sites

Digital Usage Trends: Detailed Summary Points

Digital Video:

- Video ad revenue is up 33% over the year to \$11.9 Billion in 2017, double what it was in 2015.
- 232 million Americans streamed 56 billion videos and 21 billion video ads in a typical month in 2017.
- The average user spent 15 hours 3 minutes streaming videos per month in 2017.
- Google is #1 in number of videos streamed and minutes spent streaming, towering over the next closest streaming competitors (Facebook in videos and Netflix in time spent). Netflix has outpaced Facebook in terms of time spent streaming videos by Dec. 2017.

Music and Audio:

- Digital audio ad revenue has grown 39% to \$1.6 billion.
- Nearly 200 million consumers, or 78% of the US population, visited entertainment music properties on computers or mobile devices, apps or sites, in December.
- Consumers spent 14 hrs per user per month on Music Apps or Sites in Dec. 2017.
- The podcast listener base is growing and US podcast ad revenue is expected to grow 111% by 2020 to \$659 million.

Social Media:

- Social Media revenue (mobile + desktop) has doubled in just two years to \$22.2 billion.
- Consumers spent more time on social media by the end of 2017, especially on Snapchat, Twitter and Reddit
- Social media influences purchase decisions especially in Electronics.

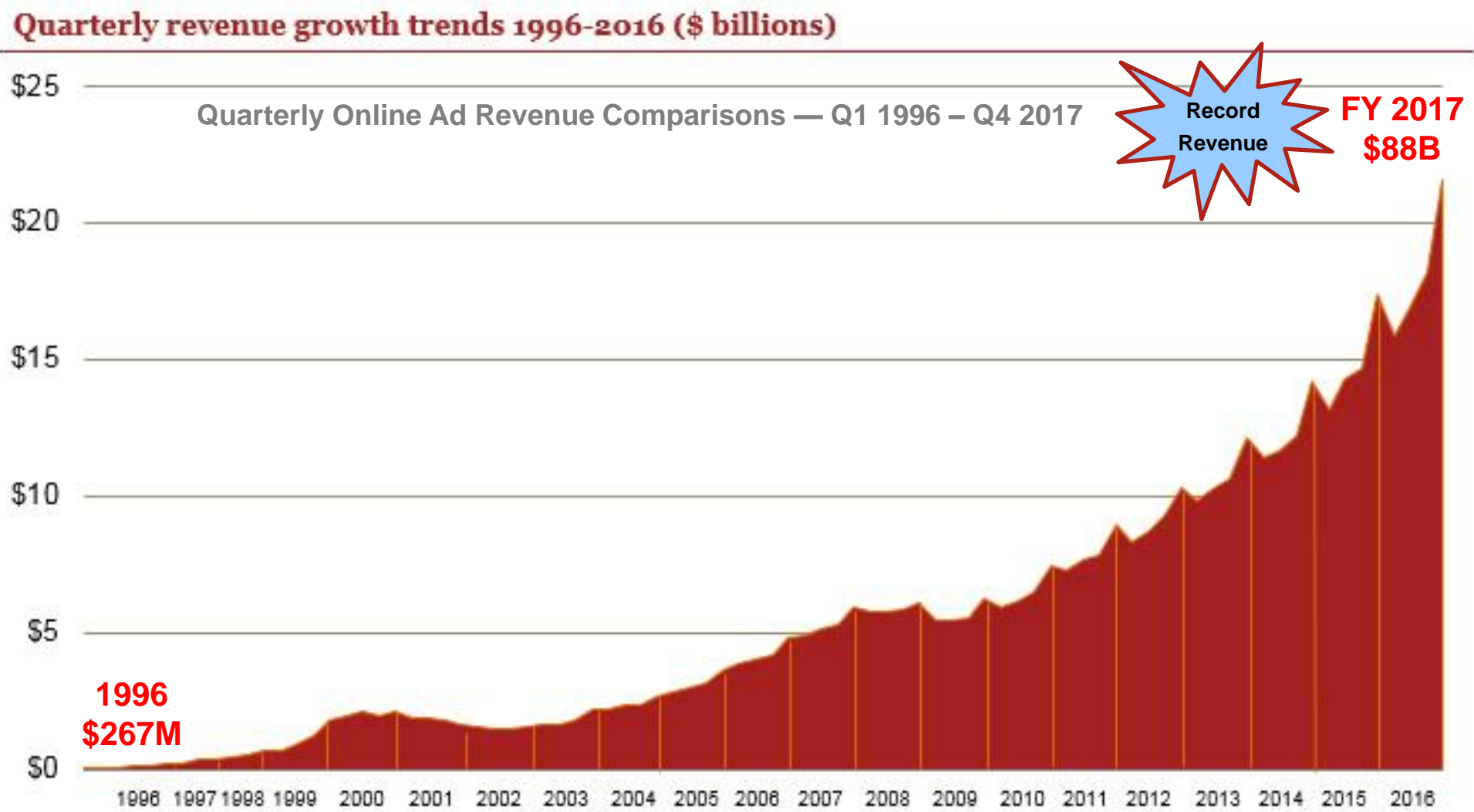


Total Digital Population: The Overall View

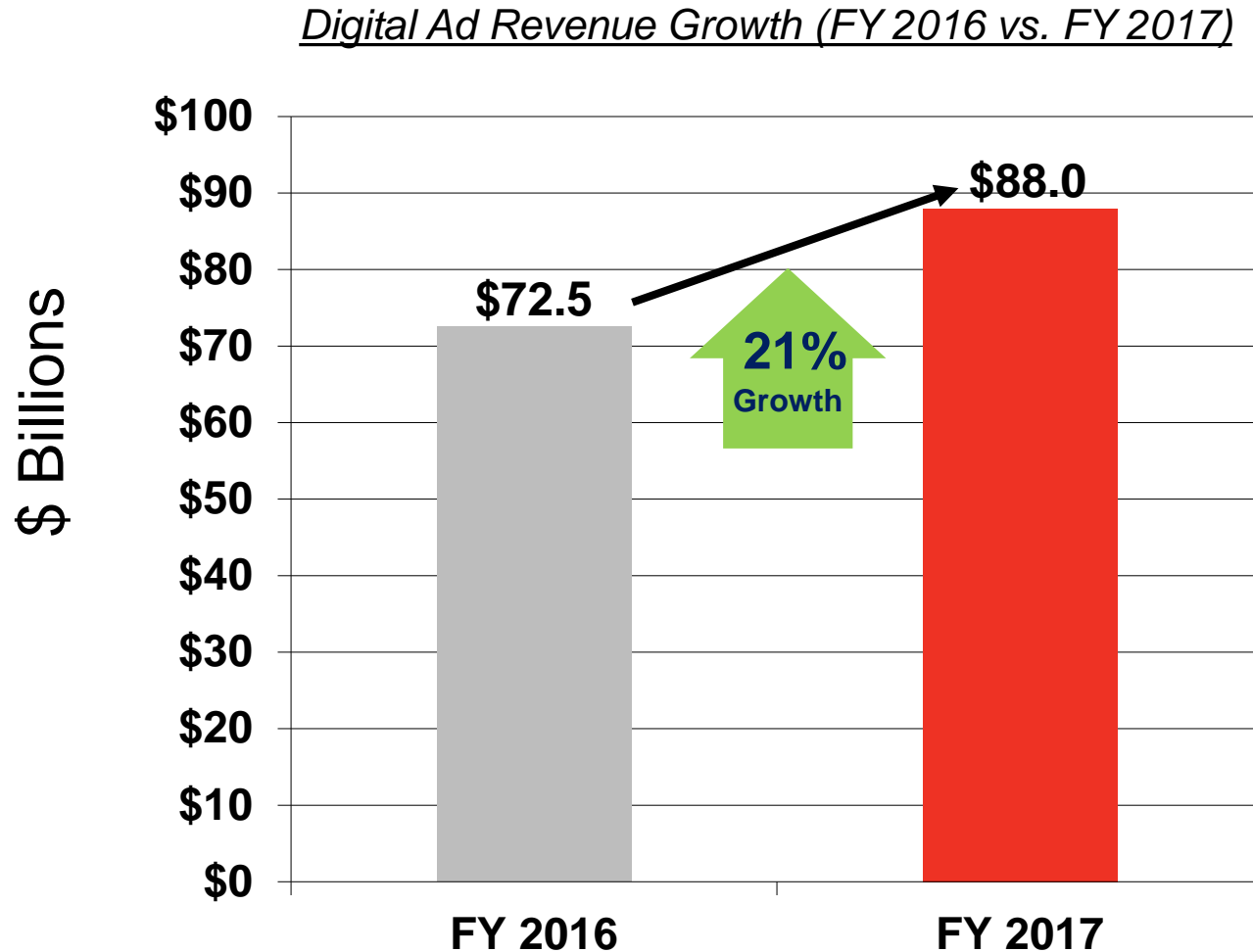
IAB Digital Trends 2017:

Consumer Usage, Ad Revenue and Impact

The Big Picture: Online Advertising Revenue Continues Its Incredible Growth



Desktop and Mobile Ad Revenue Has Grown 21% Year-Over-Year to \$88 Billion in 2017



Average Monthly Internet Usage Summary

- In an average month, 254 million Americans spend 1.4 trillion minutes online via desktop or mobile viewing 729 billion pages, videos or apps.



254 Million Users

Access the
Internet Monthly

on **Computers or
Mobile Devices**
on sites or apps
in a typical month



**1.4 Trillion
Minutes**

Spent
Online Monthly

on **Computers or
Mobile Devices**
on sites or apps
in a typical month



**729 Billion
Views**

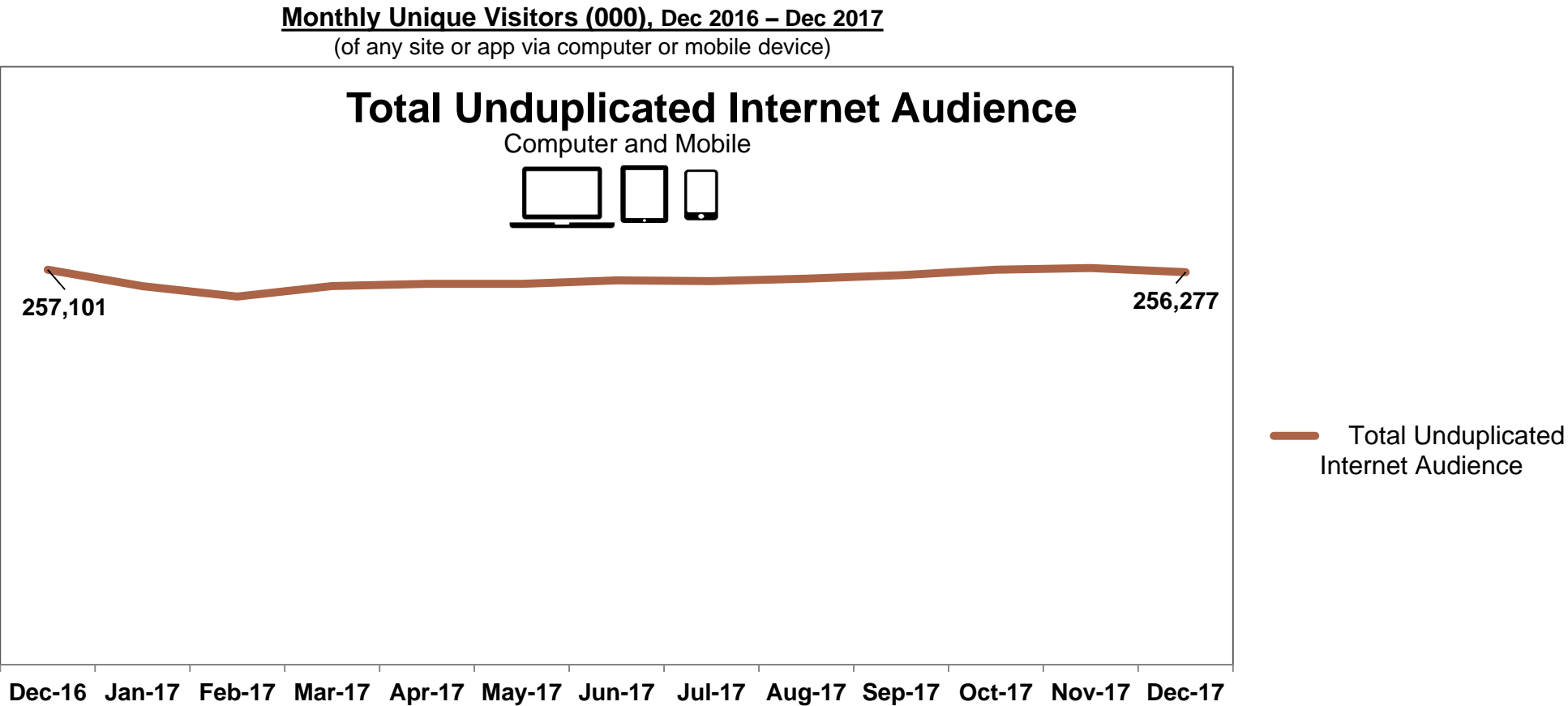
of Pages, Videos or Apps
Monthly

on **Computers or
Mobile Devices**
on sites or apps
in a typical month

ComScore US Media Metrix Multi-Platform 2017 Monthly Average

Number of Internet Users are Steady

- 256 Million Americans Accessed the Internet on Computers or Mobile Devices in Dec. 2017

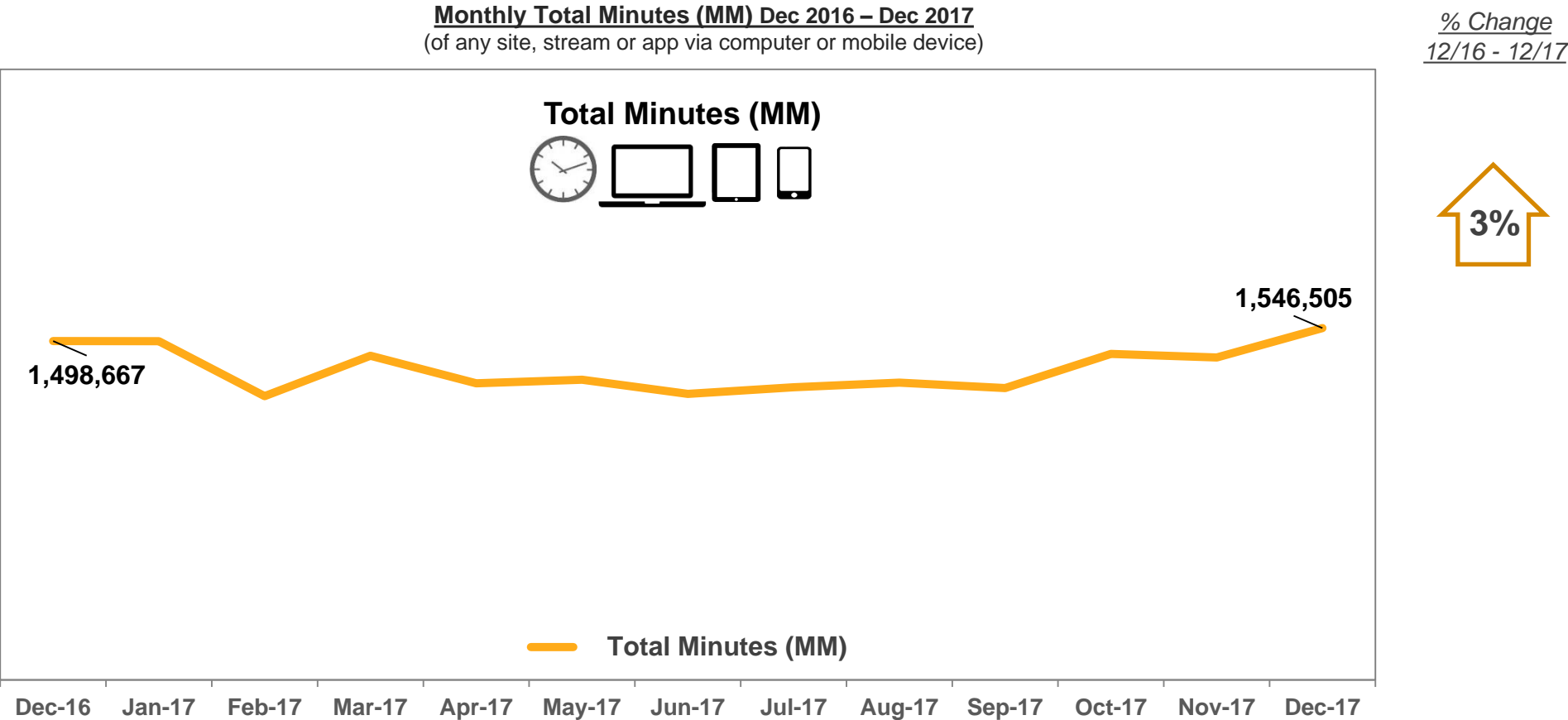


Effective with January 2017 data, the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products.

ComScore US Media Metrix Multi-Platform, Total Unduplicated Internet Audience.

Time Spent Online Via Computer or Mobile Device Has Grown Slightly

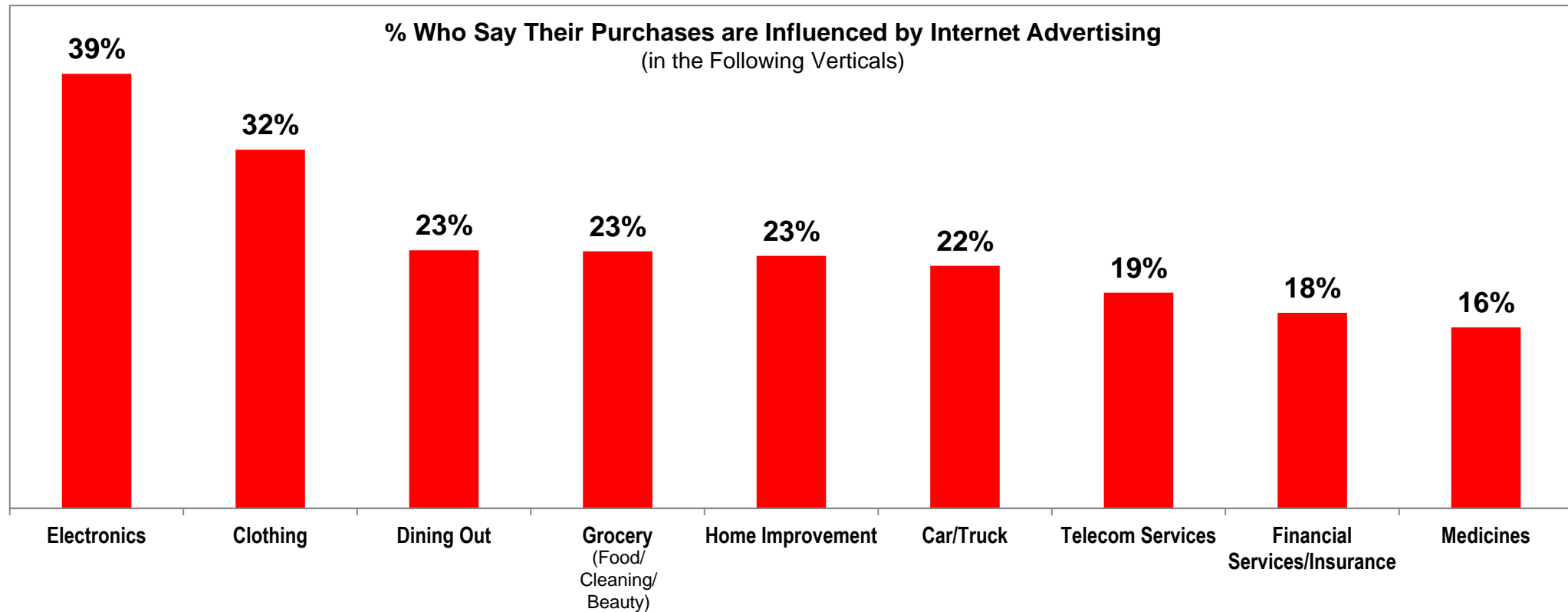
➤ Users spent over 1.5 trillion minutes per month online in December



Source: ComScore US Media Metrix Multi-Platform Dec. 2016 to Dec. 2017
Effective with January 2017 data, the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products.

Impact of Digital: Internet Advertising Influences Purchase Decisions

- 39% of US adults say their electronics purchases are influenced by internet advertising



Prosper Insights, Media Behavior and Insights data, Jan. 2017. n=16,644 US Adults 18+



Desktop and Mobile Usage Patterns

IAB Digital Trends 2017

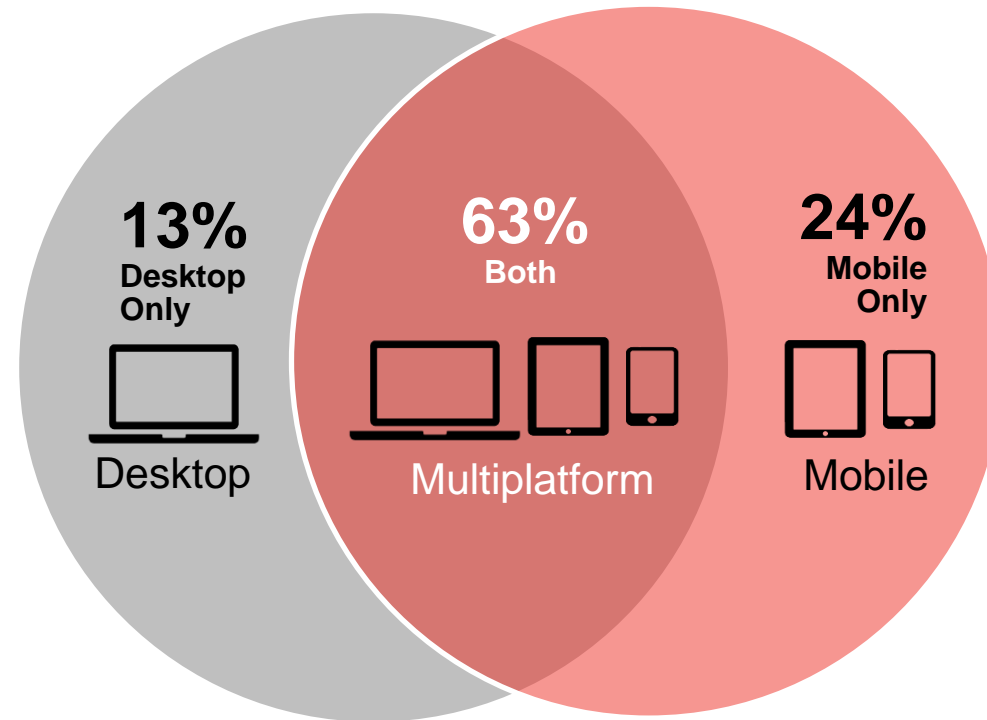
Consumer Usage, Ad Revenue and Impact

Most Users Access the Internet from Both Mobile and Desktop

Unique Monthly Users by Device

Avg. 2017

Desktop, Tablet or Smartphone (Mobile Browser or Apps)



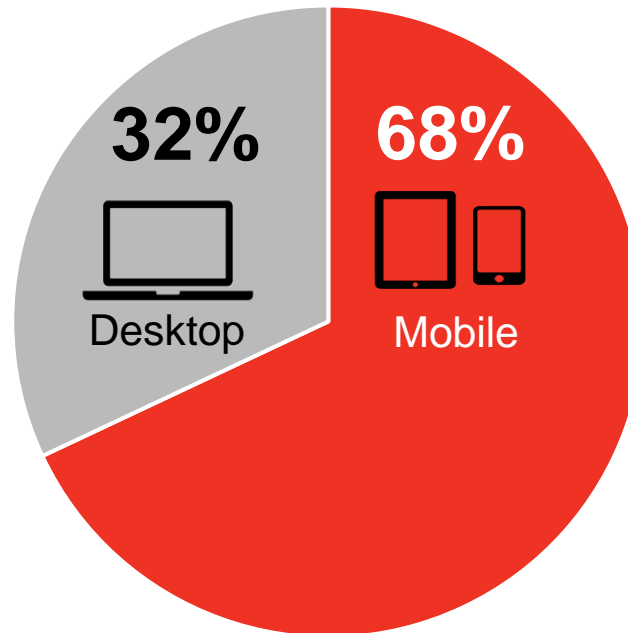
ComScore US Media Metrix Multi-Platform, Total Audience.

However, Most Time Spent Online Tends to be on a Mobile Device

- Nearly three-quarters of all internet time is spent on a mobile device

Time Spent Online by Device

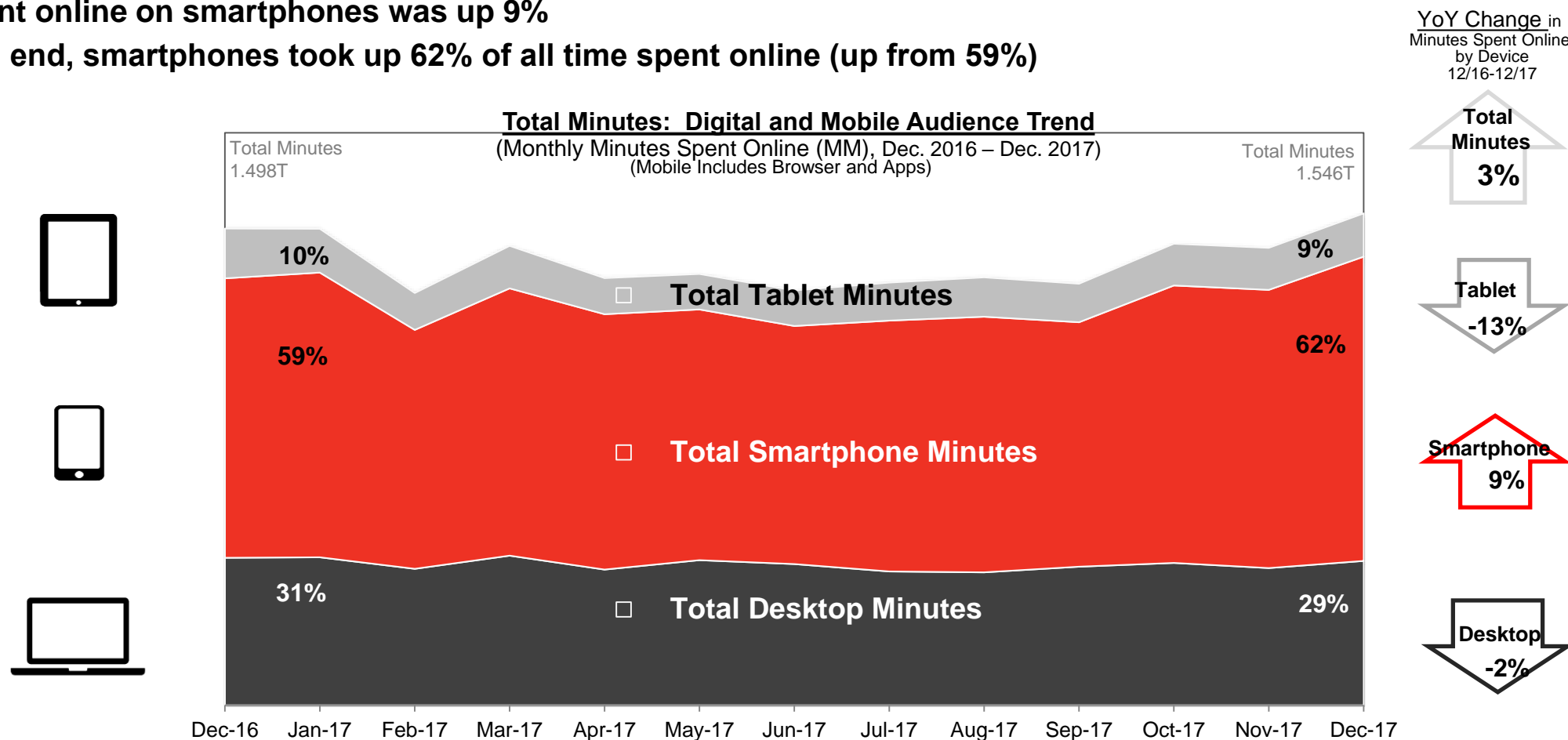
Monthly Online Minutes, (Avg, 2017)
Desktop, Tablet or Smartphone (Mobile Browser or Apps)



ComScore US Media Metrix Multi-Platform, Dec. '16 -Dec '17, Total Internet Time Spent (Avg.)

Time Spent Online is Further Shifting to Smartphones

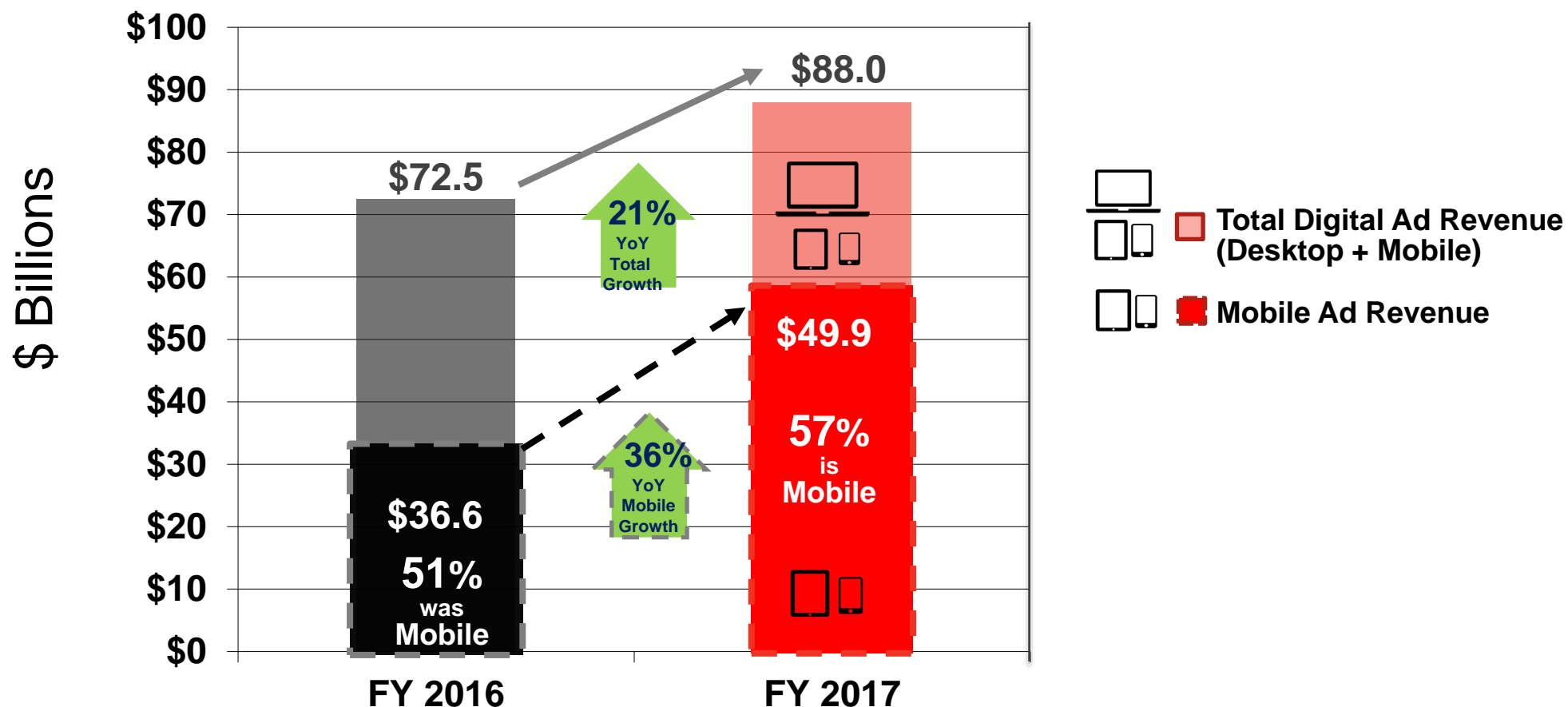
- While users continue to spend more time online overall (up 3%), most of that growth is driven by consumers on smartphones
- Time spent online on smartphones was up 9%
- By year's end, smartphones took up 62% of all time spent online (up from 59%)



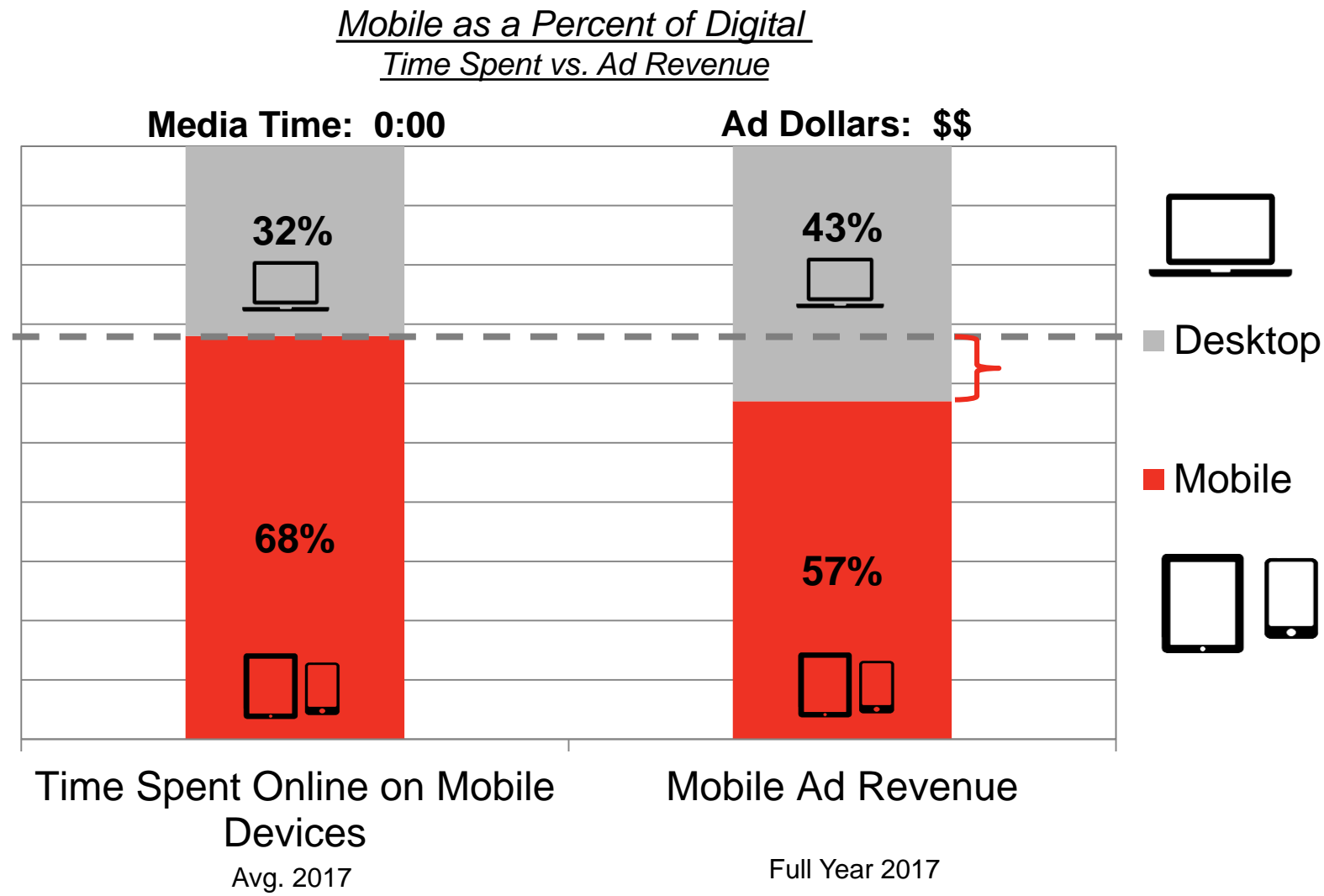
Source: comScore US Media Metrix Multi-Platform, Total Internet Time Spent (MM)
Effective with January 2017 data, released in Feb. 2017 the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products.

Mobile Has Grown to Account for Over Half of 2017 Digital Ad Revenue

*Mobile as a Percentage of Digital Ad Revenue Growth
(FY 2016 vs. FY 2017)*



Mobile Ad Revenue is Catching Up to Consumer Usage But Still Has Room for Growth



ComScore US Media Metrix Multi-Platform, Total Internet Time Spent (MM) in an avg. month in 2017

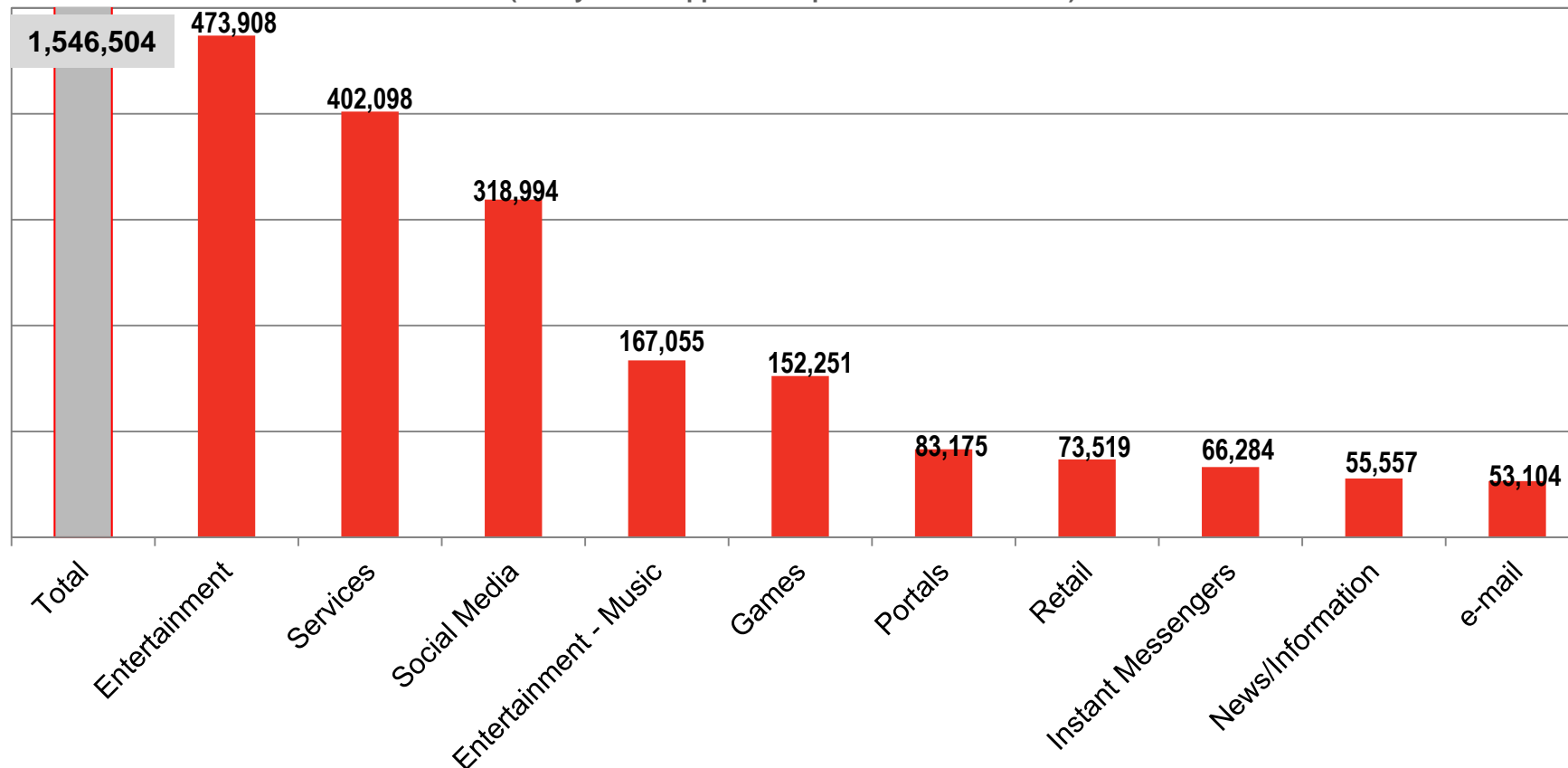
IAB Digital Usage Trend Report

Top Categories and Sites

Most Time Online is Spent with Entertainment, Services, Social Media

Top Categories by Time Spent on Any Device

Monthly Minutes (MM), Dec 2017
(to any site or app via computer or mobile device)

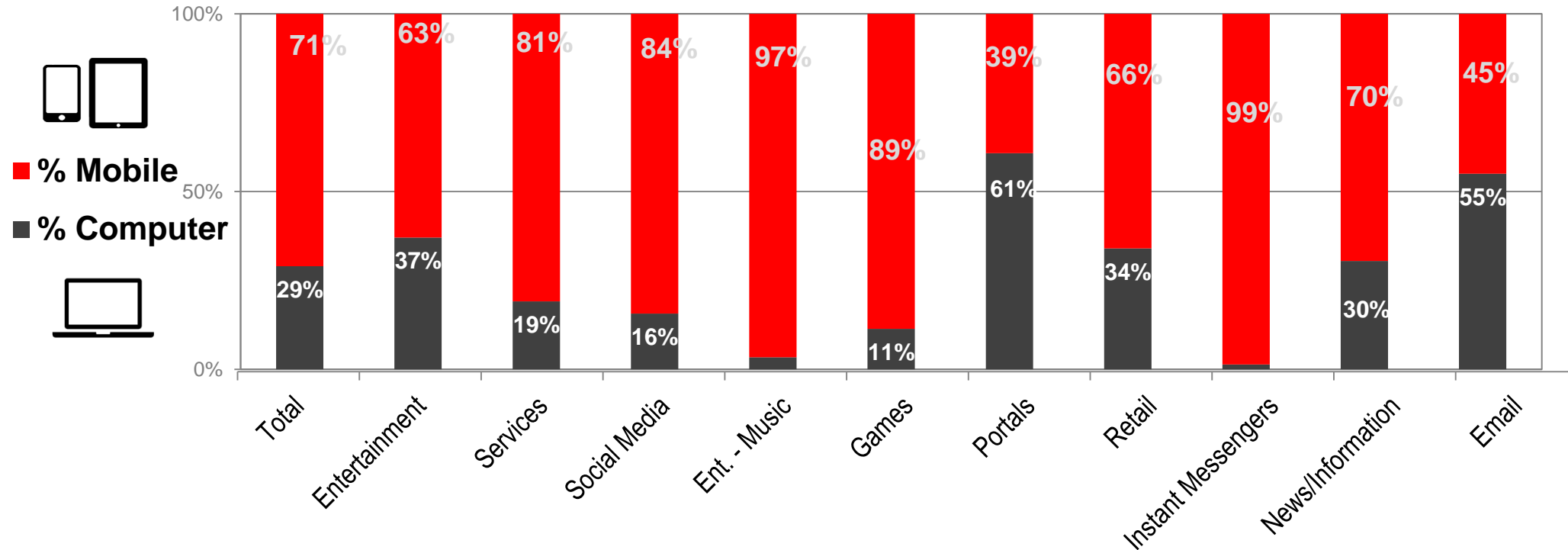


comScore US Media Metrix Multi-Platform, Dec '17, Total Unduplicated Internet Audience, Total Minutes

Most Top Categories by Time Spent Online Are Accessed Primarily from Mobile Devices

Mobile:Desktop Ratio of Top Categories by Time Spent Online

Monthly Minutes, Dec 2017
(to any site or app via computer or mobile device)

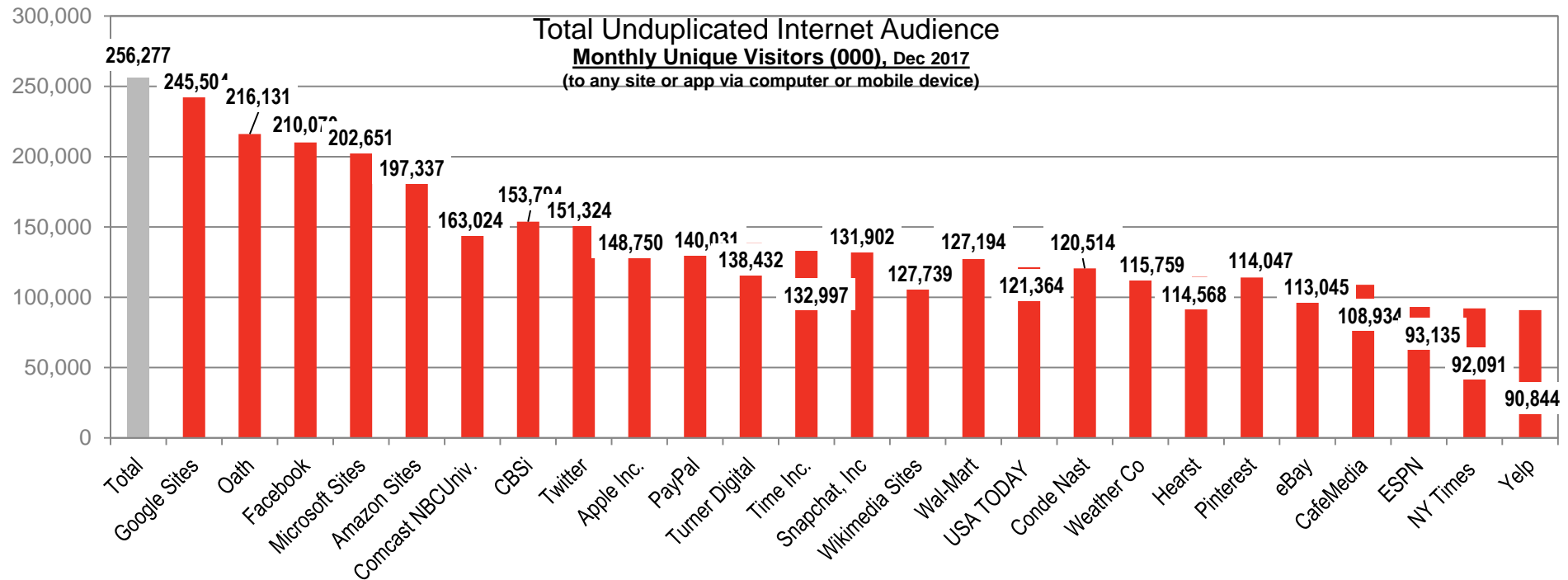


comScore US Media Metrix Multi-Platform, Total Unduplicated Internet Audience, Total Minutes

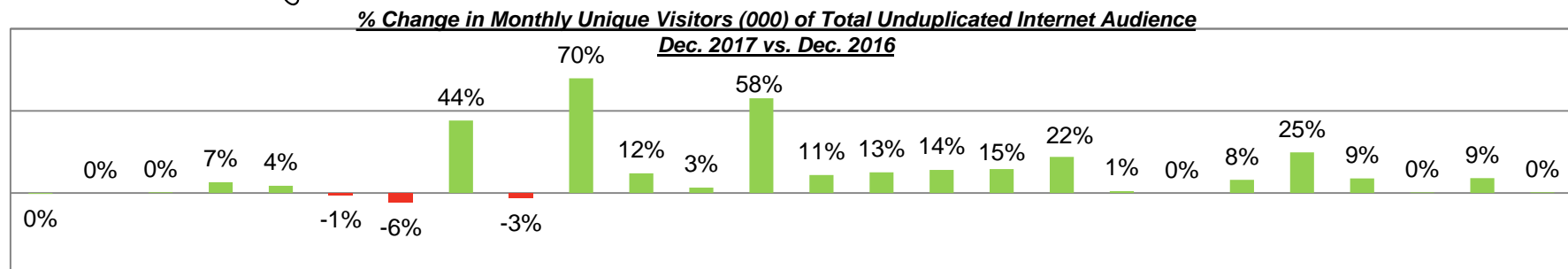
Top 25 Properties with the Most Visitors Accessed by Computer or Mobile

by Unduplicated Monthly Unique Visitors

- Apple had a surge in visitors in Dec. due to new devices



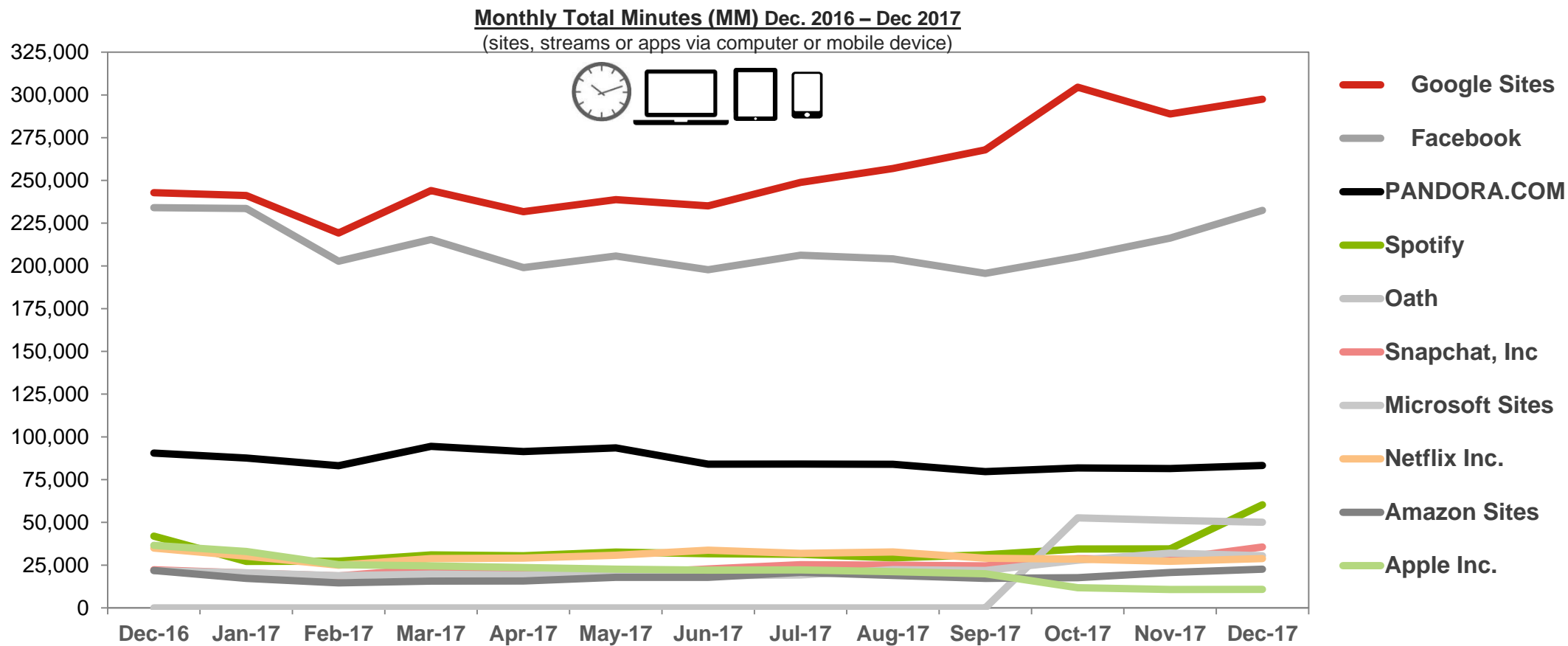
Growth
 from a year ago
Decline



comScore US Media Metrix Multi-Platform, Total Unduplicated Internet Audience, Monthly Unique Visitors (000)

One Year Trend of Time Spent on Top 10 Properties

- Time spent on Google properties has grown over the year, significantly outpacing Facebook
- Pandora maintains a strong #3 position in time spent online

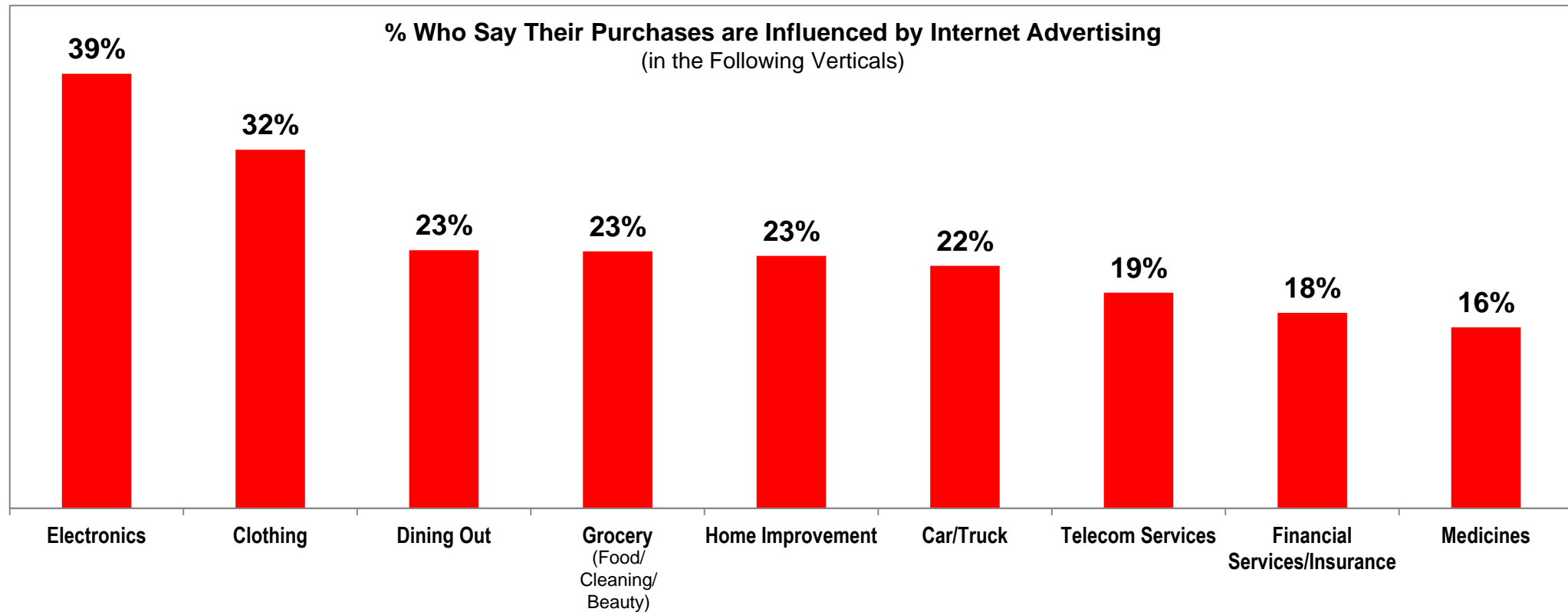


Source: ComScore US Media Metrix Multi-Platform

Effective with January 2017 data, the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products. Effective with January 2017 data, the comScore audience product suite underwent methodology and processing changes, resulting in break in trend. US Media Metrix Multi-Platform and Mobile Metrix data was restated for April 2017 and May 2017 data months, in relation to duration data for Android smartphones. YouTube, Spotify and Twitter data were restated over the course of the year.

Impact of Digital: Internet Advertising Influences Purchase Decisions

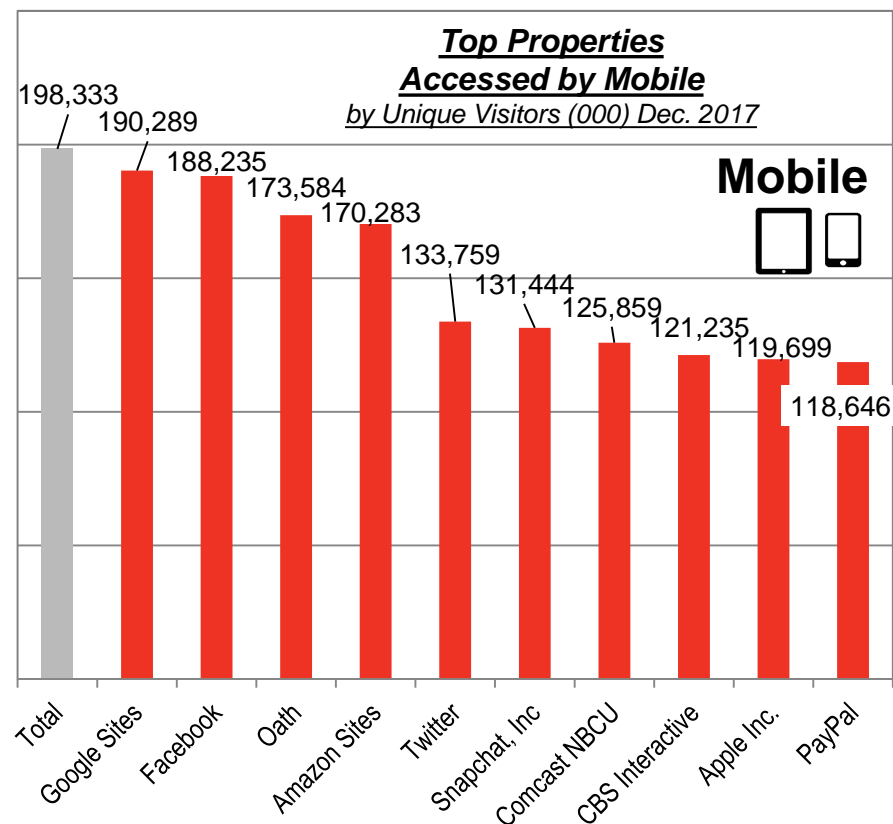
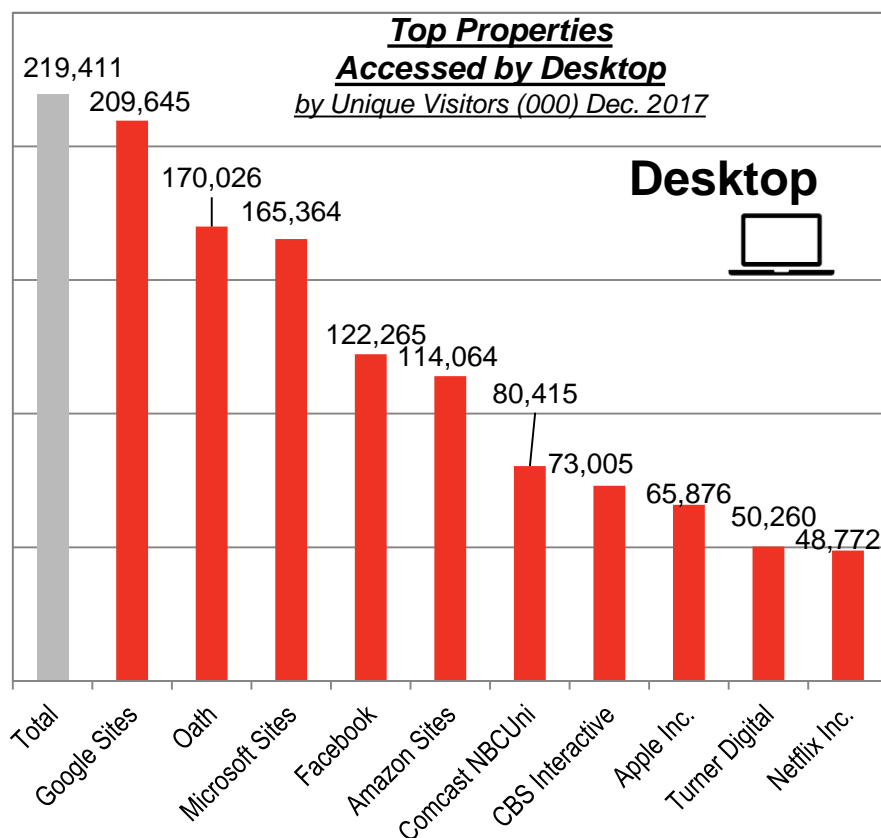
- 39% of US adults say their electronics purchases are influenced by internet advertising



Prosper Insights, Media Behavior and Insights data, Jan. 2017. n=16,644 US Adults 18+

Top 10 Properties by Monthly Unique Visitors by Device

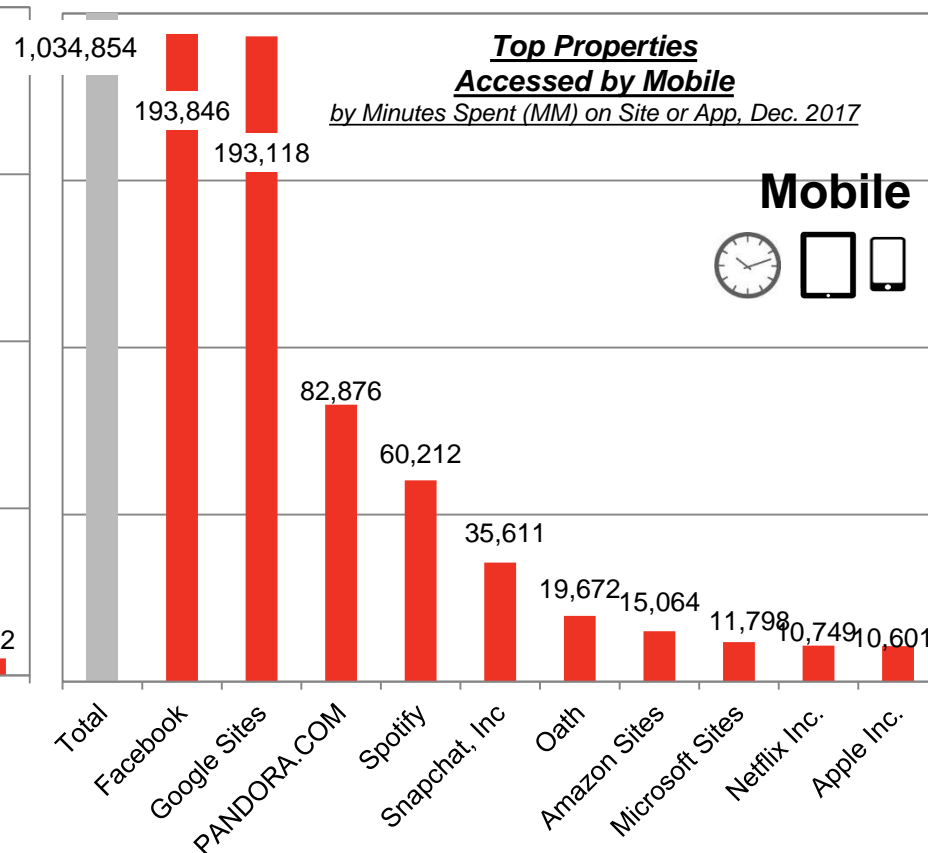
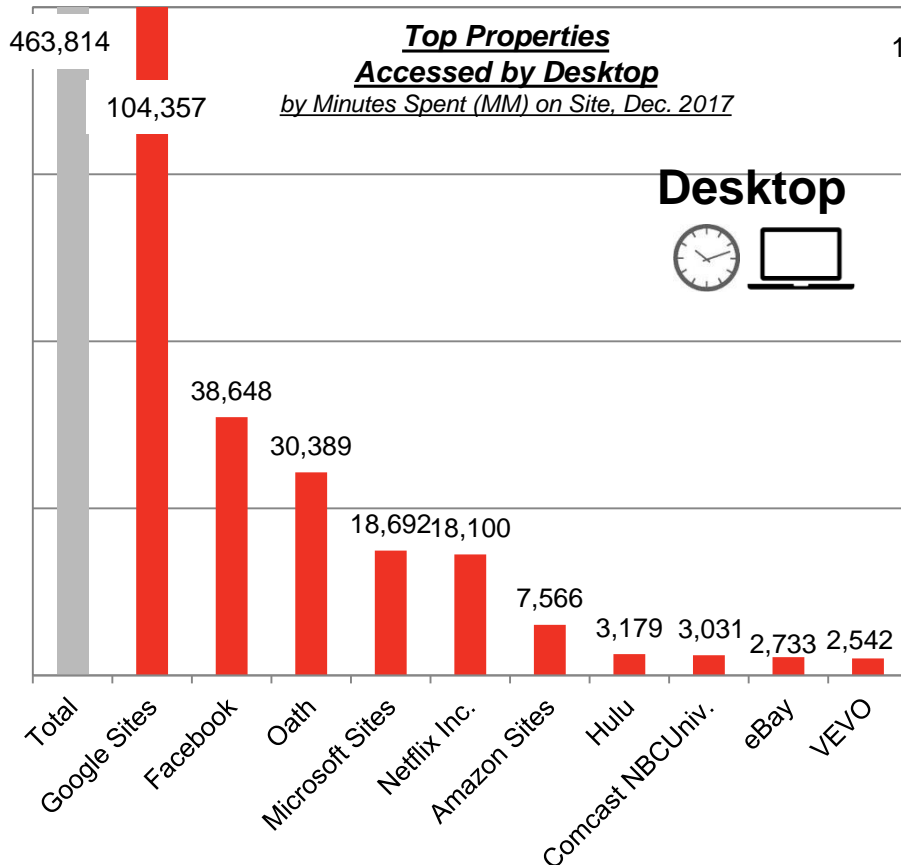
- Most popularly visited properties are similar whether accessed by unique monthly desktop users or mobile users with a few exceptions:
- Microsoft, Turner and Netflix are Top 10 among desktop users but not mobile users
- Twitter, Snapchat and PayPal are Top 10 among mobile users



comScore US Multiplatform Media Metrix, Monthly Unique Visitors (000).

Top 10 Properties by Time Spent Online by Device

- Most time is spent on Google and Facebook with desktop time on Google far exceeding that of Facebook.
- Top 10 sites by time spent imply consumers stream video on desktop and stream audio on mobile:
 - Hulu, Comcast NBC, eBay and Vevo are among the Top 10 desktop properties;
 - Pandora, Spotify, Snapchat and Apple attract more of users' time on mobile devices





Mobile

IAB Digital Trends 2017:

Consumer Usage, Ad Revenue and Impact

Monthly Mobile Internet Usage Summary



194 Million Users

Access the
Internet Monthly
on
Mobile Devices
to sites or apps
(Avg. 2017)



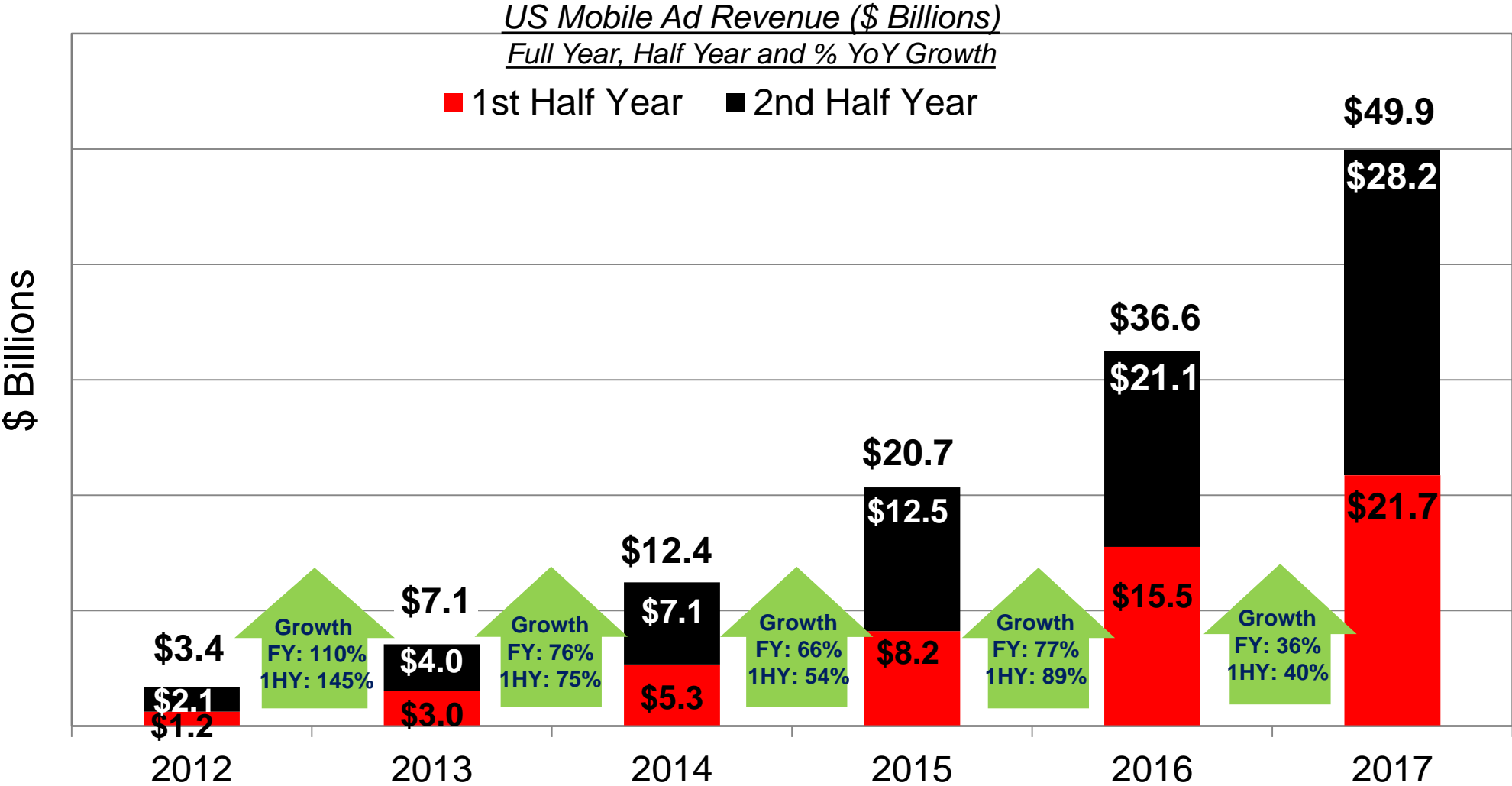
**948 Billion
Minutes**

Spent
Online Monthly
on
Mobile Devices
on sites or apps
(Avg. 2017)

ComScore US Mobile Metrix Avg. 2017

Mobile Ad Revenue 2017: \$50 Billion

Mobile Advertising in 2017 Has Grown to Over 10x Revenue of 2012

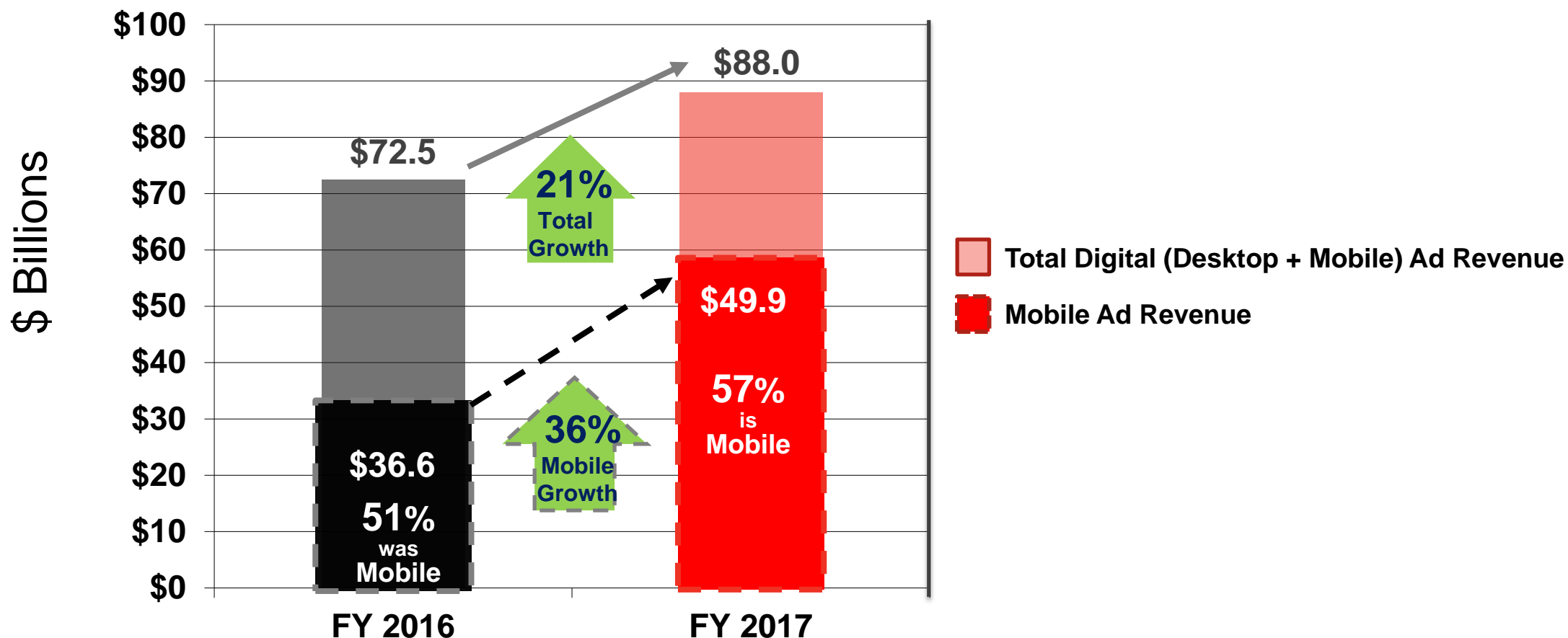


Note: Full Year totals accurately reflect the sum of Half Year totals as rounded to two decimal places.

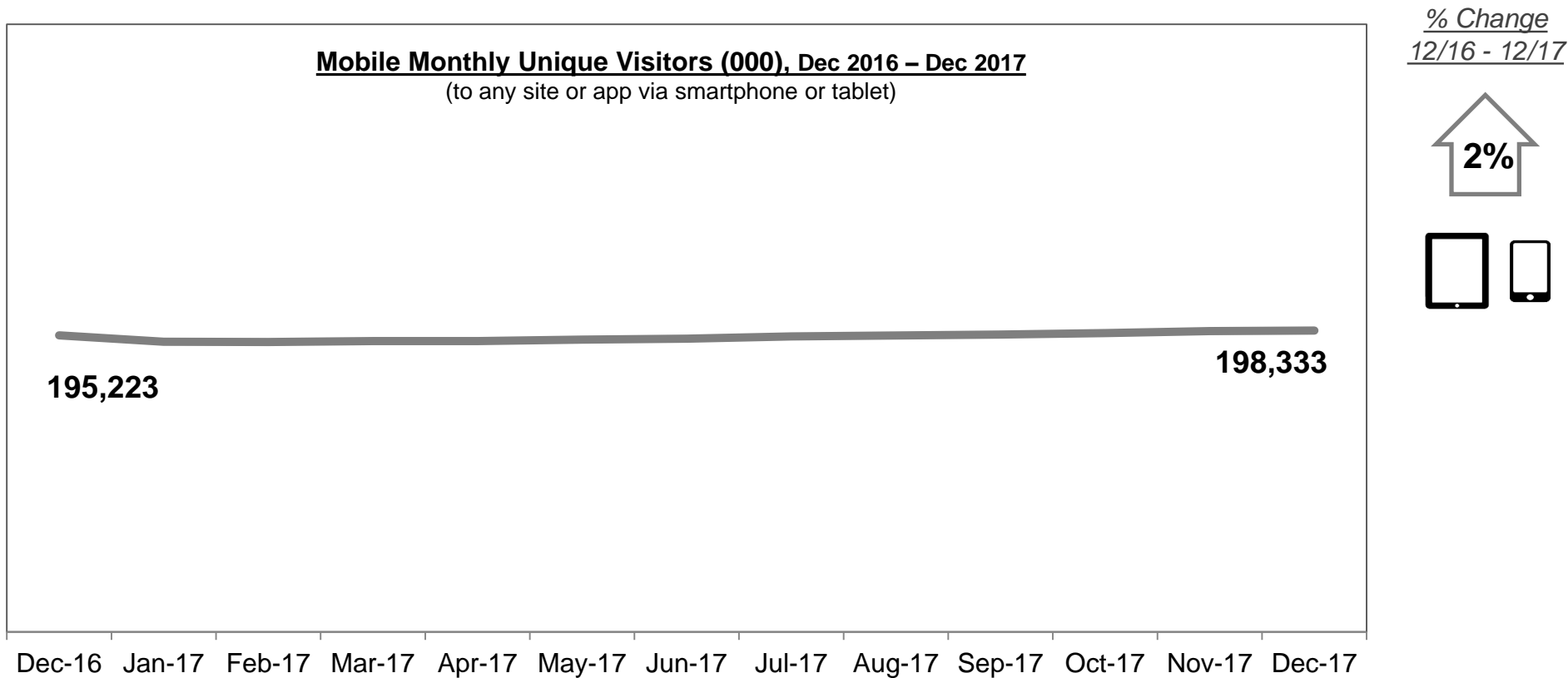
IAB Full Year 2017 and Q4 2017 Internet Advertising Revenue Report

Mobile Has Grown to Account for Over Half of Digital Ad Revenue in 2017

*Mobile as a Percentage of Digital Ad Revenue Growth
(FY 2016 vs. FY 2017)*



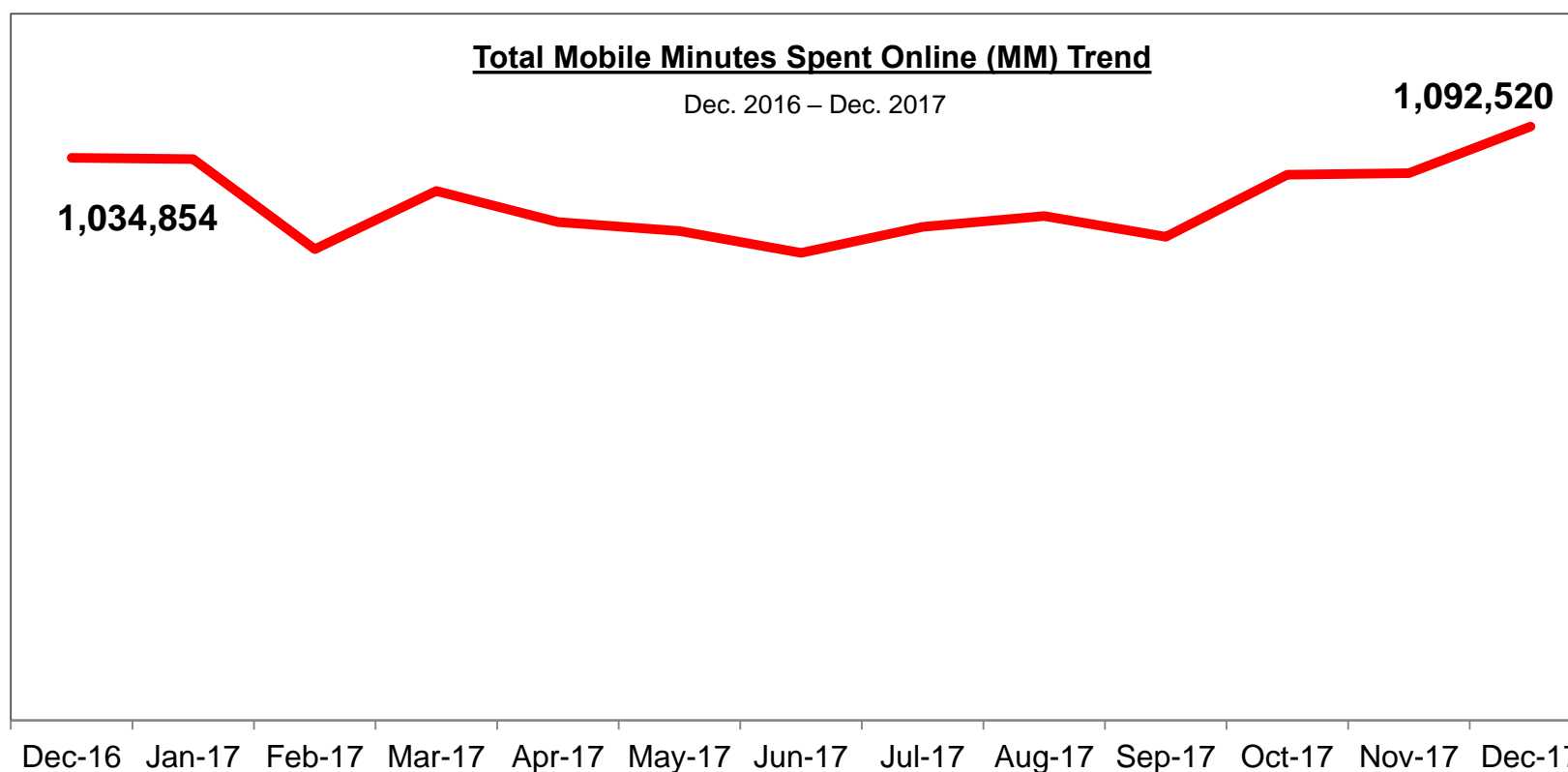
Number of Mobile Unique Visitors is Up Slightly



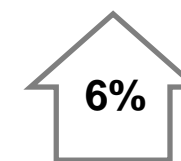
Source: comScore US Mobile Metrix Dec '16 – Dec '17, Total Unique Visitors on Smartphone or Tablet, Site or App.
Effective with January 2017 data, the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products.
Effective with October 2017 data, US Media Metrix Multi-Platform and Mobile Metrix are benefiting from several enhancements made to the mobile panel technology behind comScore's audience product suite.

Time Spent Online on Mobile Devices Has Grown

- Time spent online on mobile is up 6% from a year ago.



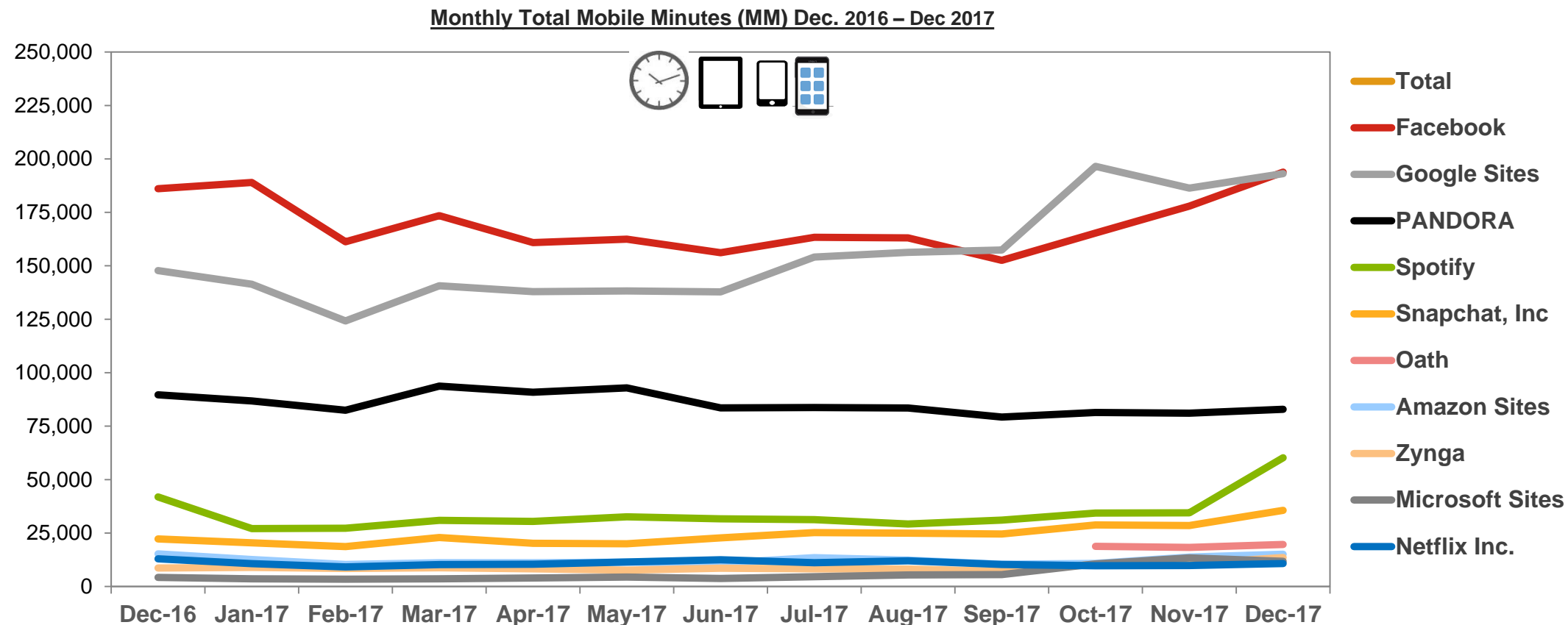
% Change
12/16 - 12/17



Source: comScore US Media Metrix Multi-Platform, Dec '17 – Dec '17, Internet Time Spent on Smartphone and Tablet, Total Monthly Minutes (MM). Mobile includes browser and apps
Effective with January 2017 data, the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products.
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One Year Trend of Time Spent on Top 10 Mobile Properties

- Facebook and Google finished the year neck and neck with Pandora a solid third place in terms of time spent on the mobile properties

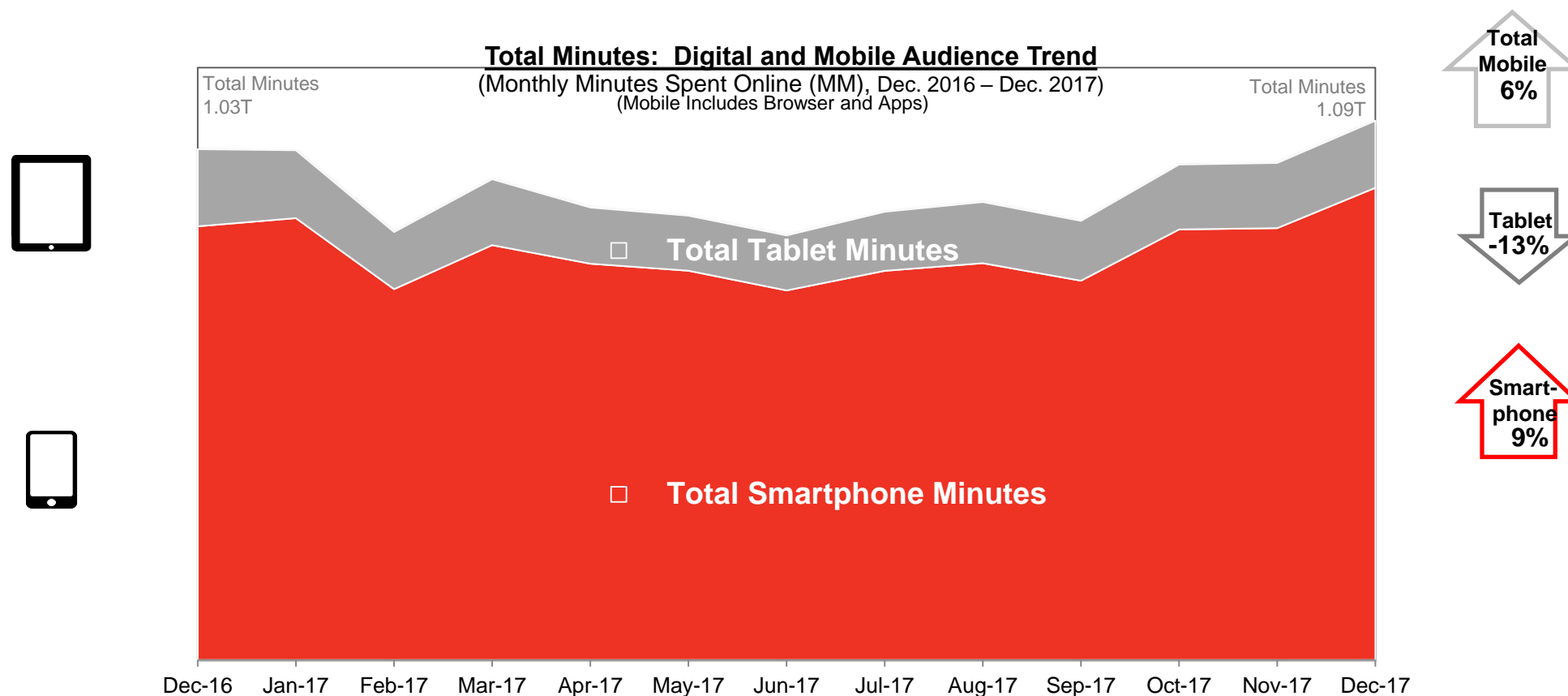


Source: ComScore US Media Metrix Multi-Platform

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Most Mobile Time Online is on Smartphones

- Mobile time spent online is up overall by 6%, largely driven by smartphone usage.
- Time spent online on smartphones is up 9% while tablet time is down -13% year over year



Source: comScore US Mobile Metrix, Total Internet Time Spent (MM)

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While Most Consumers Use Smartphones and Tablets, More Mobile Time is Spent Online Using a Smartphone

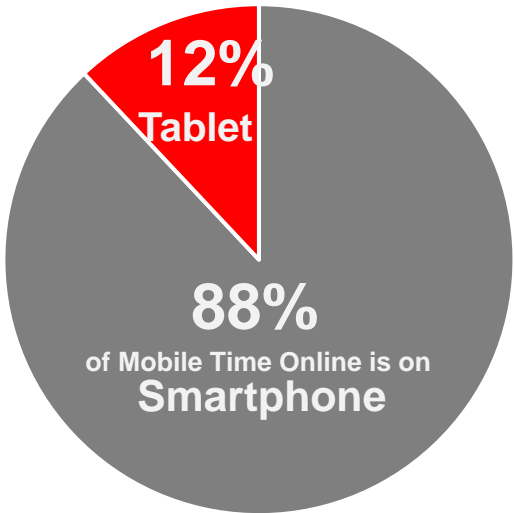
Total Mobile Minutes Online

Total Mobile Minutes on Browser vs. In App

- Total Smartphone Minutes
- Total Tablet Minutes



181 Million
were Online via
Smartphone
in Dec. 2017



Dec. 2017

97 Million
were Online via
Tablet
in Dec. 2017



comScore US Mobile Metrix, Dec '17, Total Minutes (000) Browsing, Applications
comScore US Media Metrix Multi-Platform, Dec '17, Total Monthly Unique Users Accessing Mobile App (MM)
Effective with October 2017 data, US Media Metrix Multi-Platform and Mobile Metrix are benefiting from several enhancements made to the mobile panel technology behind comScore's audience product suite



Mobile Apps vs. Mobile Web

IAB Digital Trends 2017:

Consumer Usage, Ad Revenue and Impact

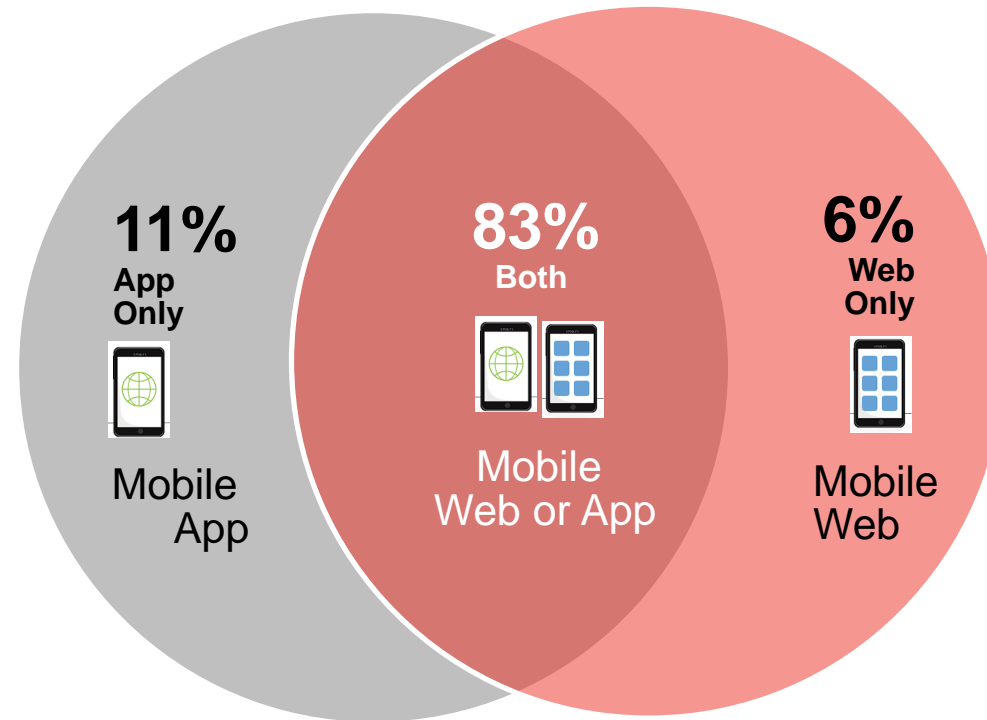
Effective with October 2017 data, US Media Metrix Multi-Platform and Mobile Metrix are benefiting from several enhancements made to the mobile panel technology behind comScore's audience product suite.

Most Mobile Users Access the Internet using Both Mobile Web and Apps

Unique Monthly Mobile Users by Web or App

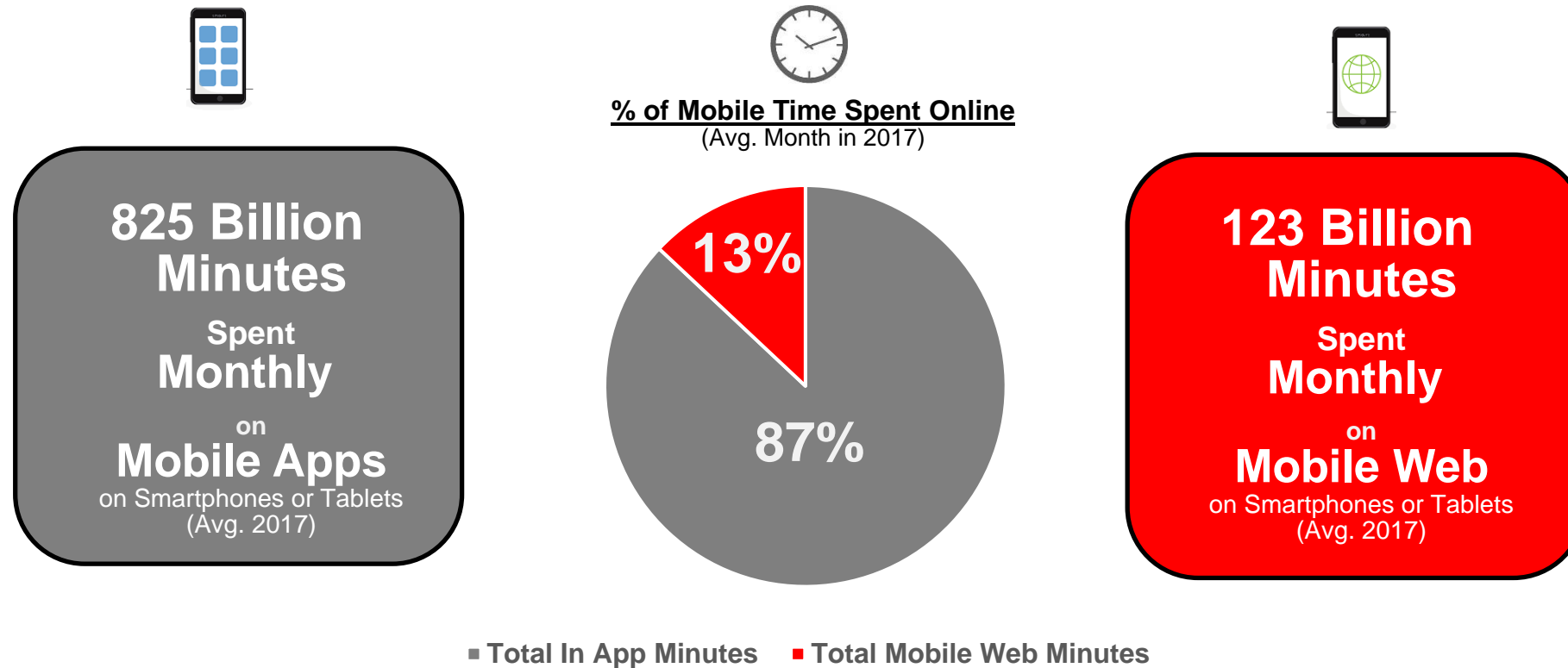
Avg. 2017

Tablet or Smartphone (Mobile Browser vs.. Apps)



ComScore US Mobile Metrix, Total Audience. Avg. month in 2017

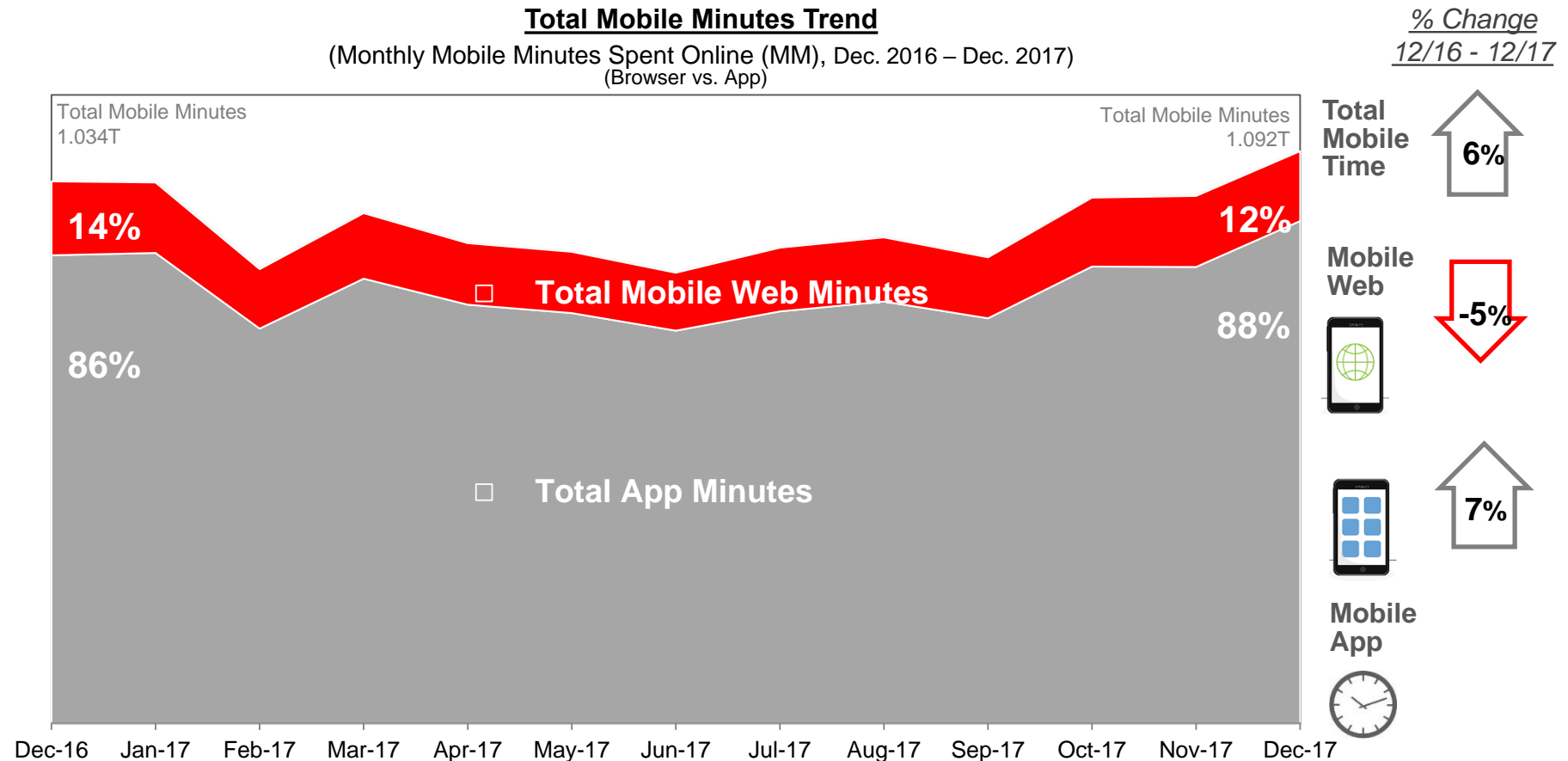
Most Monthly Mobile Internet Time is Spent on Apps



ComScore US Mobile Metrix Avg. 2017

Mobile Time Spent Online is Shifting to Apps: 88% of Mobile Time is on Mobile apps

- US consumers spent over 1 Trillion minutes online using a mobile device in December, up 6% from a year ago.
- Time spent online on mobile apps grows 7% while mobile web time drops by 5%



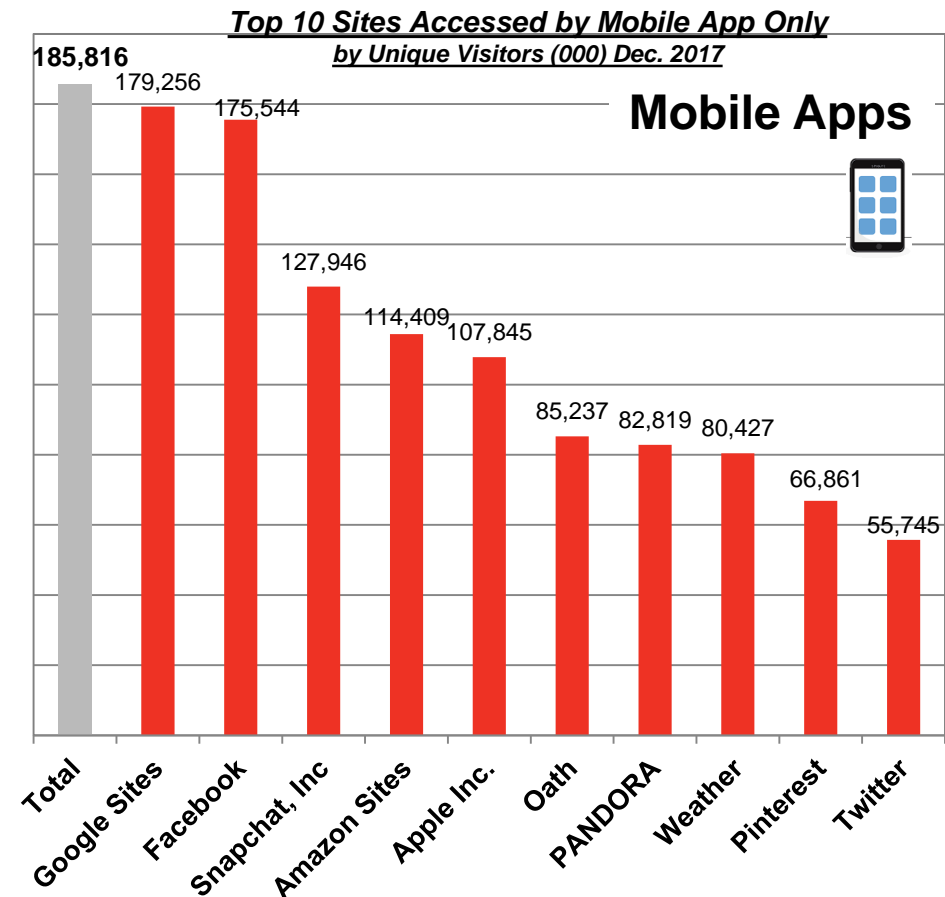
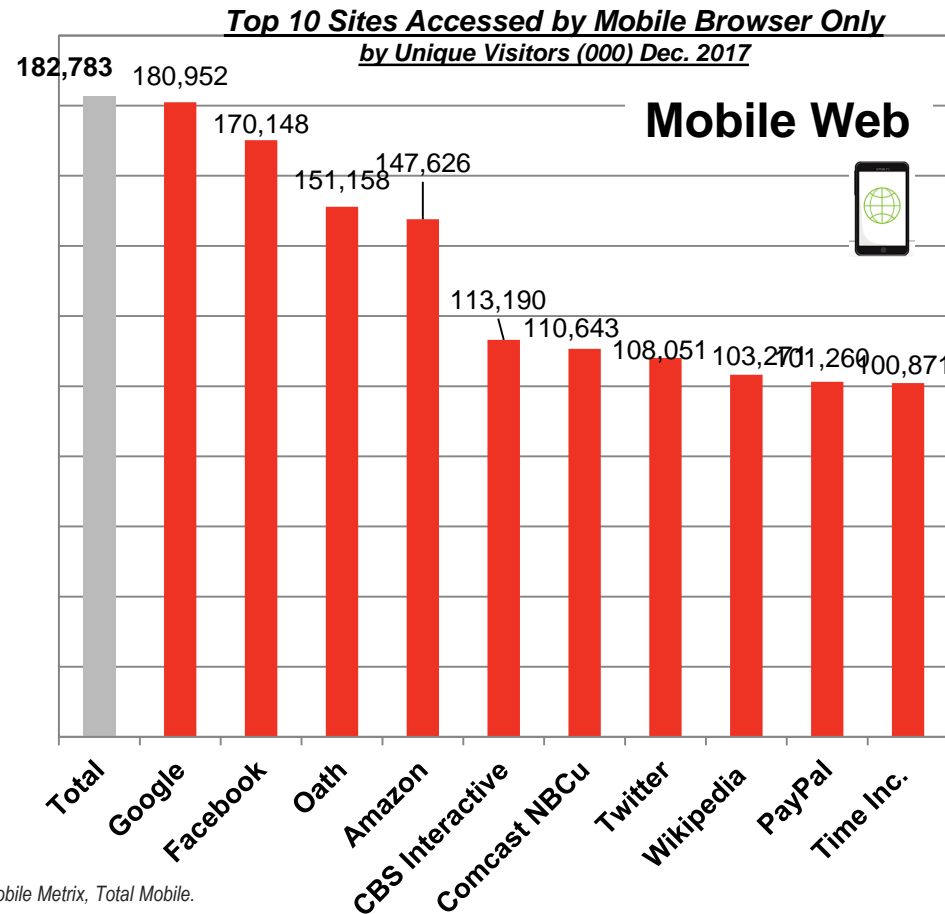
comScore US Mobile Metrix

Effective with January 2017 data, the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products. Effective with October 2017 data, US Media Metrix Multi-Platform and Mobile Metrix are benefiting from several enhancements made to the mobile panel technology behind comScore's audience product suite.

Some Sites are More Popularly Visited in Apps Than Mobile Web

by Unique Visitors

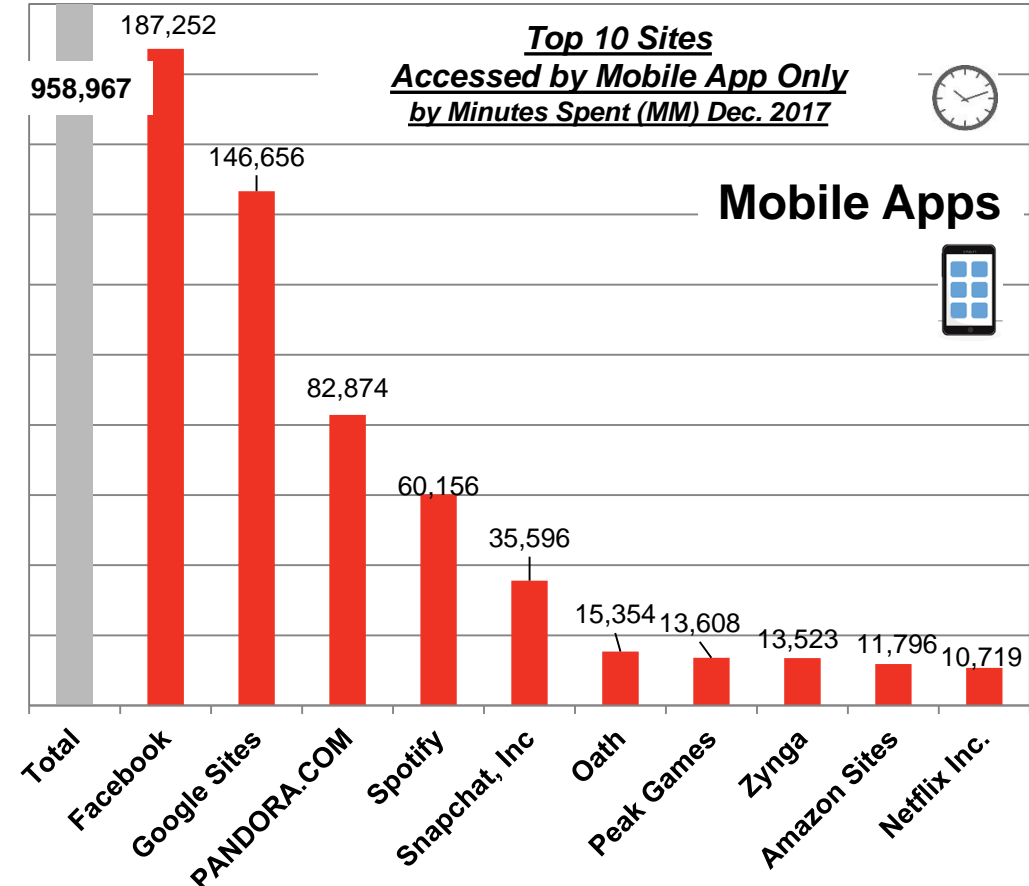
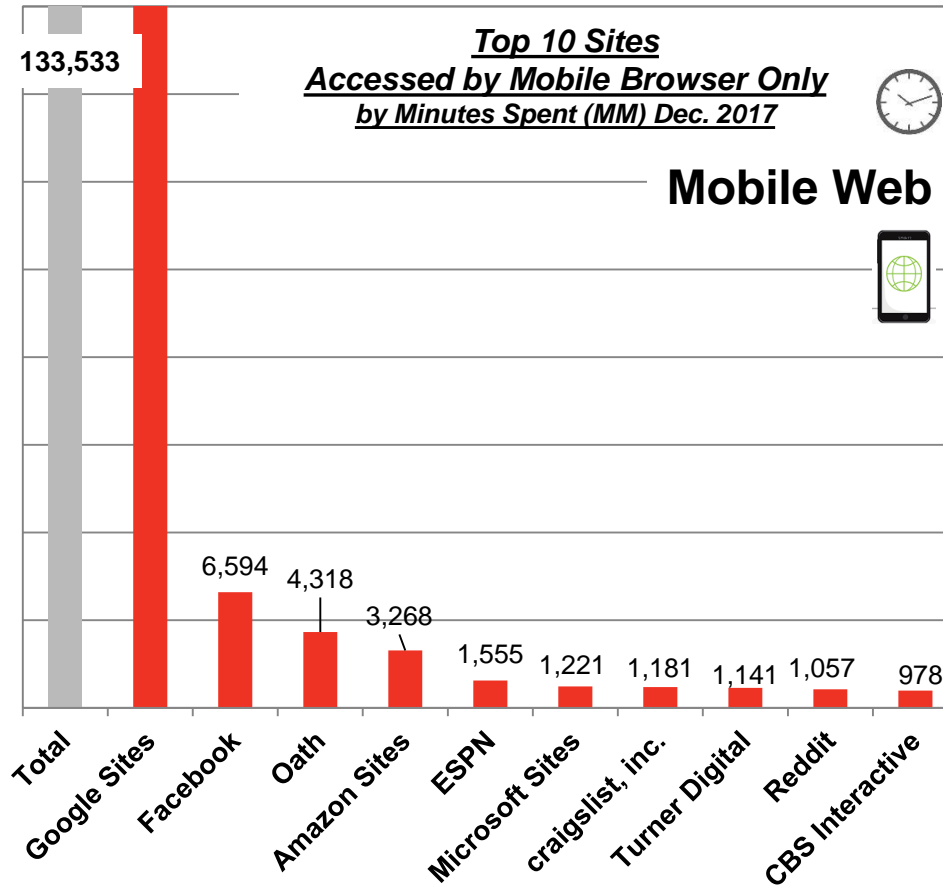
- Google, Facebook, Oath, Amazon, Twitter are among the top 10 mobile app or mobile web sites by unique monthly visitors
- Social media sites are accessed by web and app (Facebook) with some more leaning more heavily towards app (Snapchat, Pinterest) and some to mobile web (Twitter)
- Network sites (CBS, NBCu) are popularly visited on mobile web; Streaming audio (Pandora, Apple) are popularly visited by app



ComScore Mobile Metrix, Total Mobile.

Top Mobile Properties by Time Spent Online Vary by Mobile Web vs. In App

- Consumers spend the most mobile time on Google, Facebook, Oath and Amazon whether by app or mobile web
- Top properties by time spent on mobile web include TV networks, portals and shopping sites
- Top mobile apps by time spent include pure play streaming audio properties and gaming apps



ComScore Mobile Metrix, Total Mobile (All Smartphones,iPhone,Android Phone,All Tablets,iPad,Android Tablet), Mobile Browser Only, Mobile App Only

Note: Duplication is likely since someone who visits a site using a computer might also visit that site using a mobile device.



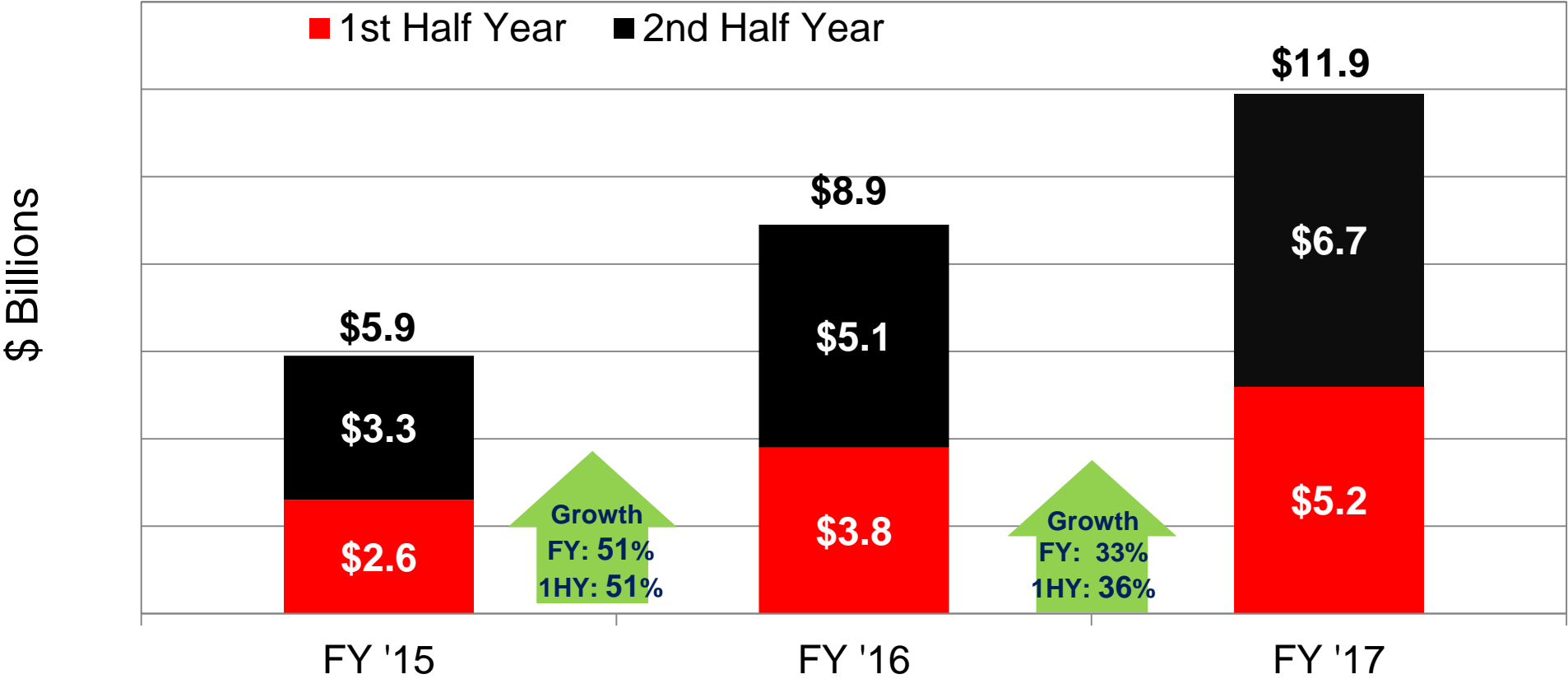
Digital Video

IAB Digital Trends 2017:

Consumer Usage, Ad Revenue and Impact

Total Video Ad Revenue (Mobile + Desktop) Has Doubled Since 2015

*US Total Video (Mobile + Desktop) Ad Revenue (\$ Billions)
Full Year, Half Year and % YoY Growth*



*Note: Full Year totals accurately reflect the sum of Half Year totals as rounded to two decimal places.
Note that FY'16 video revenue has been restated.

232 Million Users Stream 56 Billion Videos per Month

➤ The typical American spends just over 15 hours a month streaming nearly 250 videos

232 Million
Users Stream
Digital Video
in a typical month

56 Billion
Videos
Streamed
in a typical month

The Average
User Streams
242 Videos
per Month

The Average
User Spends
15 Hours 3 Minutes
Streaming
Videos
Per Month

ComScore VideoMediaMetrix Monthly Average from Jan. 17 - Dec. 17, Total Audience, Home and Work.
*US Census Bureau estimates US population to be 323M as of most recent figures on July 2017.

21 Billion Video Ads Are Streamed per Month

- In a typical month, the average user will stream 95 video ads

**21 Billion
Video Ads**
Streamed
in a typical month

The Average
User Streams
95 Video Ads
per Month
in an avg. month

ComScore VideoMediaMetrix Jan. 17 - Dec. 17, Monthly Average, Total Audience, Home and Work.

Half of Consumers Regularly Watch TV Shows Online, One-Third Watch ODV

Original Digital Video

Original digital
video

32%

of total US Pop.
Ages 13+

86 MM



Digital video viewers that watch professionally-produced and ad-supported video content made for digital distribution only. The original video content can include episodic shows, online clips/extras from TV shows or show-form video.

TV Shows Online

TV Shows
Online

50%

of total US Pop.
Ages 13+

135 MM



Digital video viewers that watch TV series online instead of through traditional linear TV via a pay TV service or over the air. These TV shows could be either currently airing on TV or aired in the past.

Subscription-Based, Ad-Free Digital Original Series

Ad-Free Only
Digital Original
Series

13%

of total US Pop.
Ages 13+

35 MM

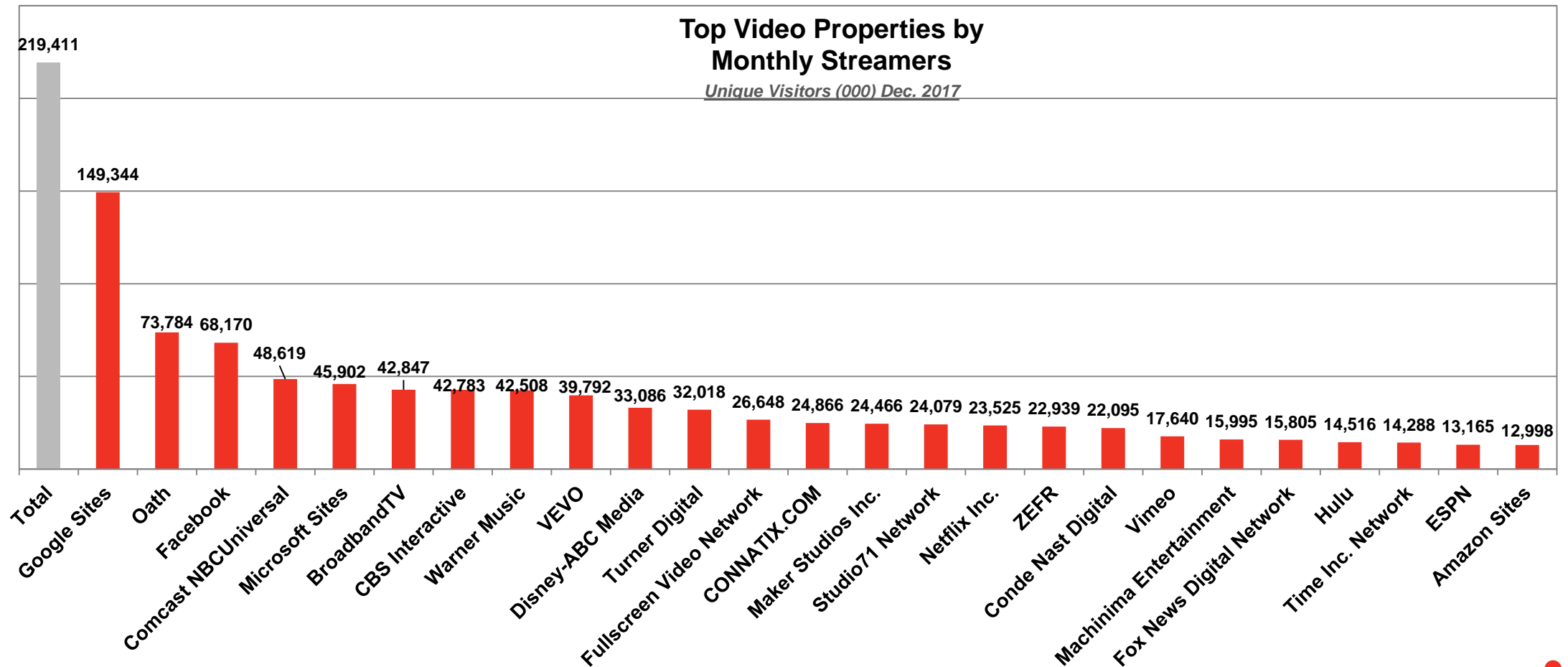


Digital video viewers that watch professionally-produced digital original series only through ad-free video streaming services such as Netflix and Amazon Prime.

Based on 2017 US Census (source: <https://www.census.gov/cps/data/cpstablecreator.html>)
Total US Population, Ages 13+ 268 million

Top 25 Most Popularly Visited Video Properties

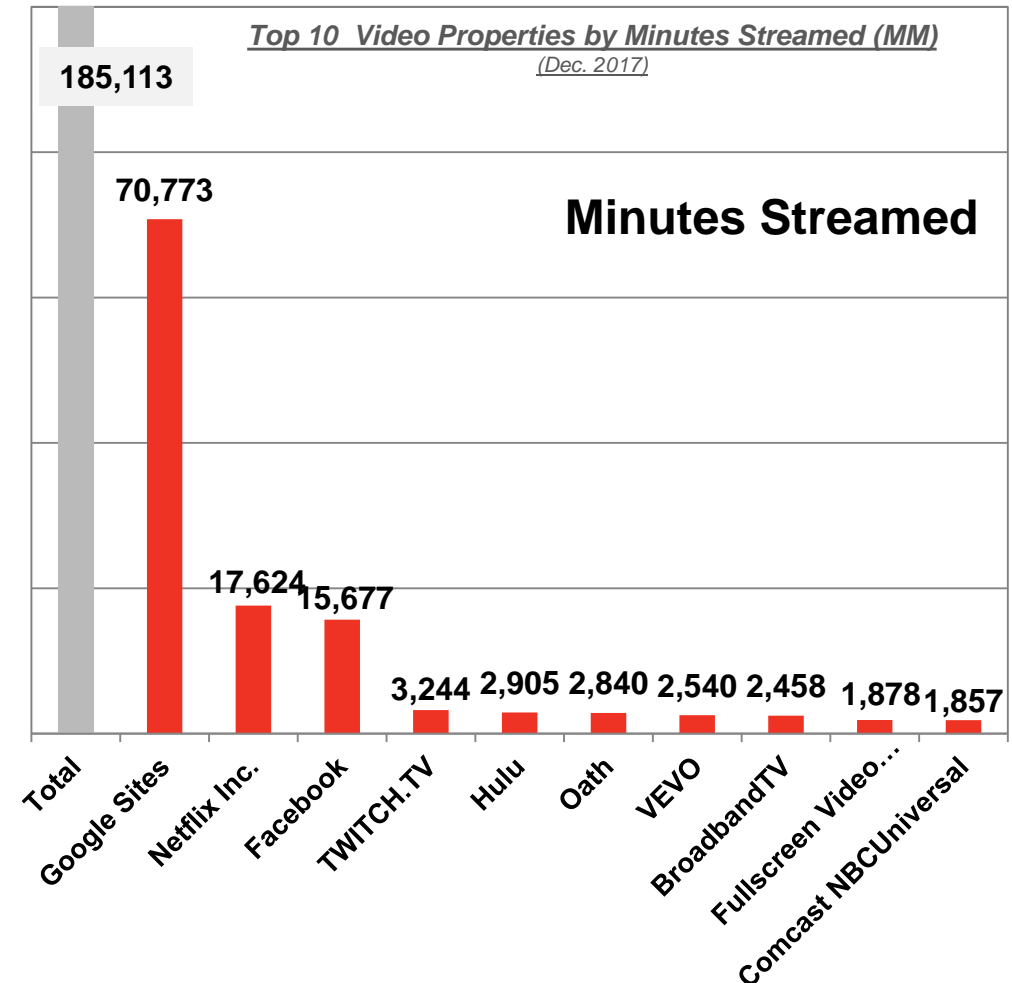
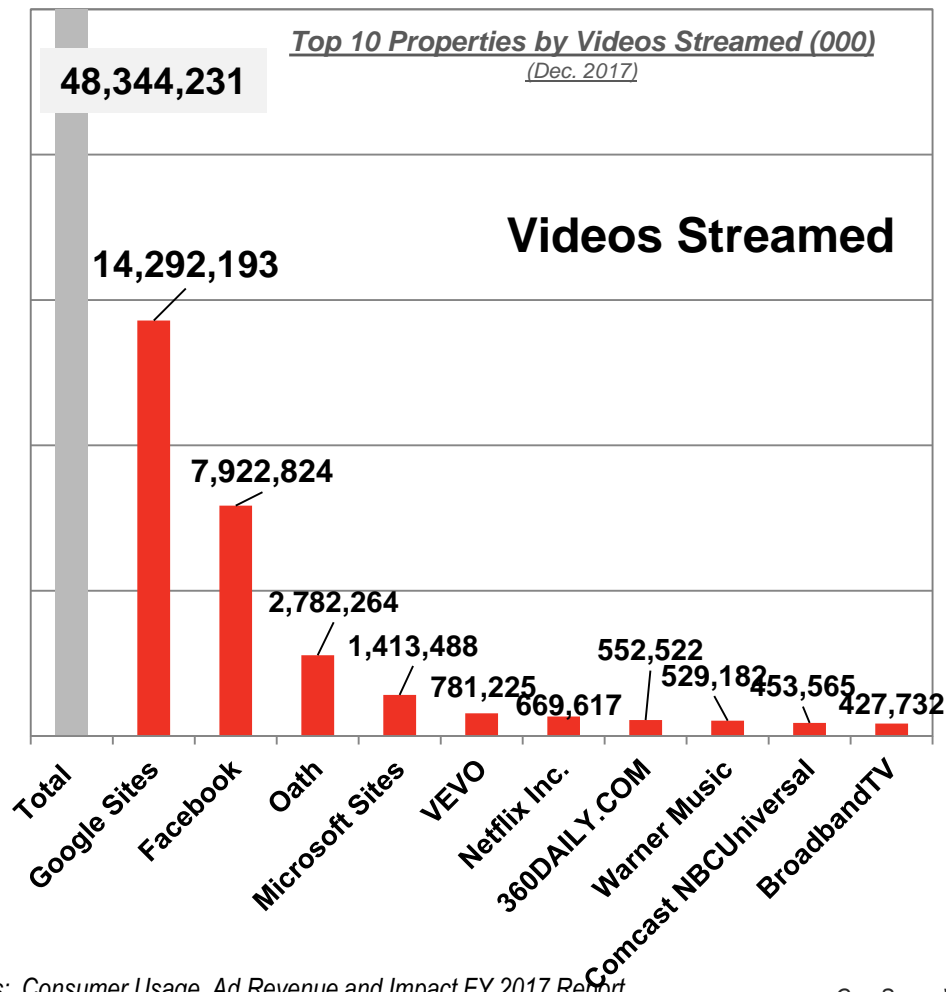
- Google (YouTube) continues to be the most visited video property with more than twice as many monthly visitors than any other video property
- Oath had more video streamers than Facebook by year's end



ComScore VideoMetrix Dec. 2017, Total Audience, Home and Work. Doesn't include mobile.

Top Video Properties by Videos Streamed and Time Spent Streaming

- Google is a strong #1 in number of videos streamed and minutes spent streaming, towering over the next closest streaming competitors (Facebook in videos and Netflix in time spent)
- Netflix has outpaced Facebook in terms of time spent streaming videos





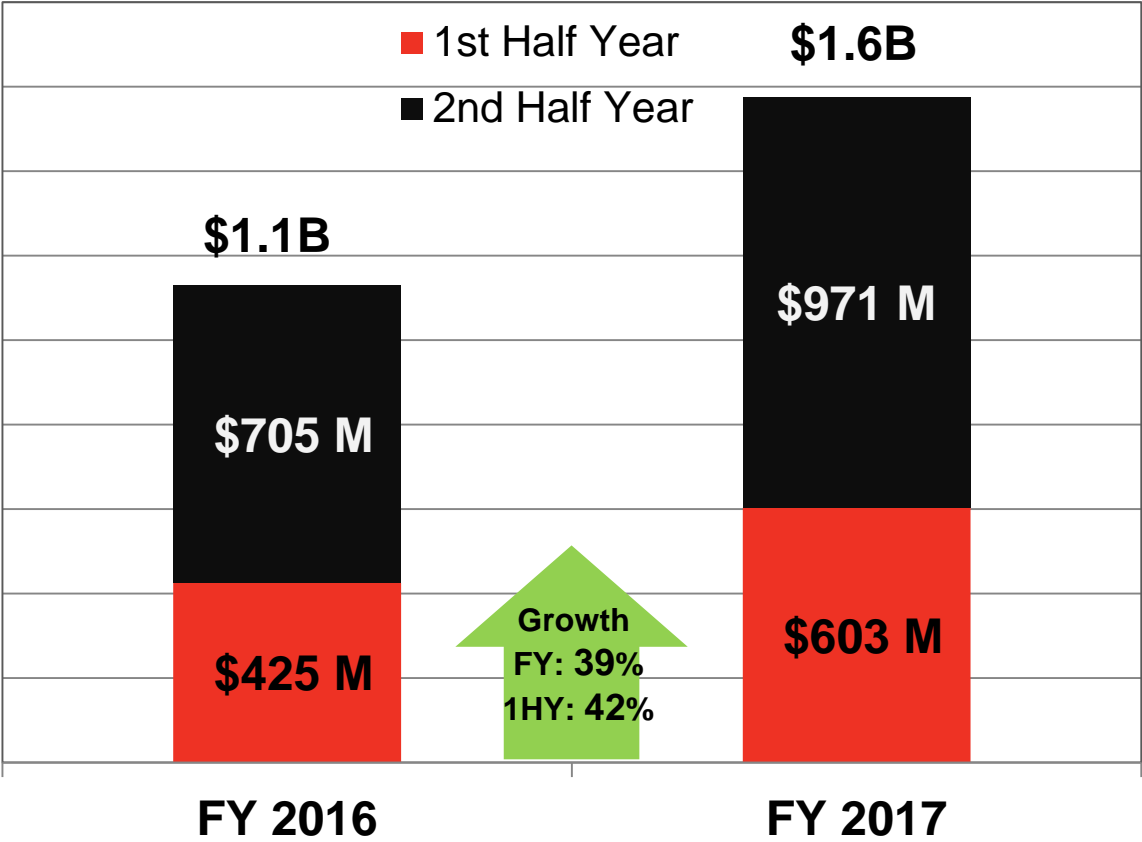
Digital Audio

IAB Digital Trends 2017:

Consumer Usage, Ad Revenue and Impact

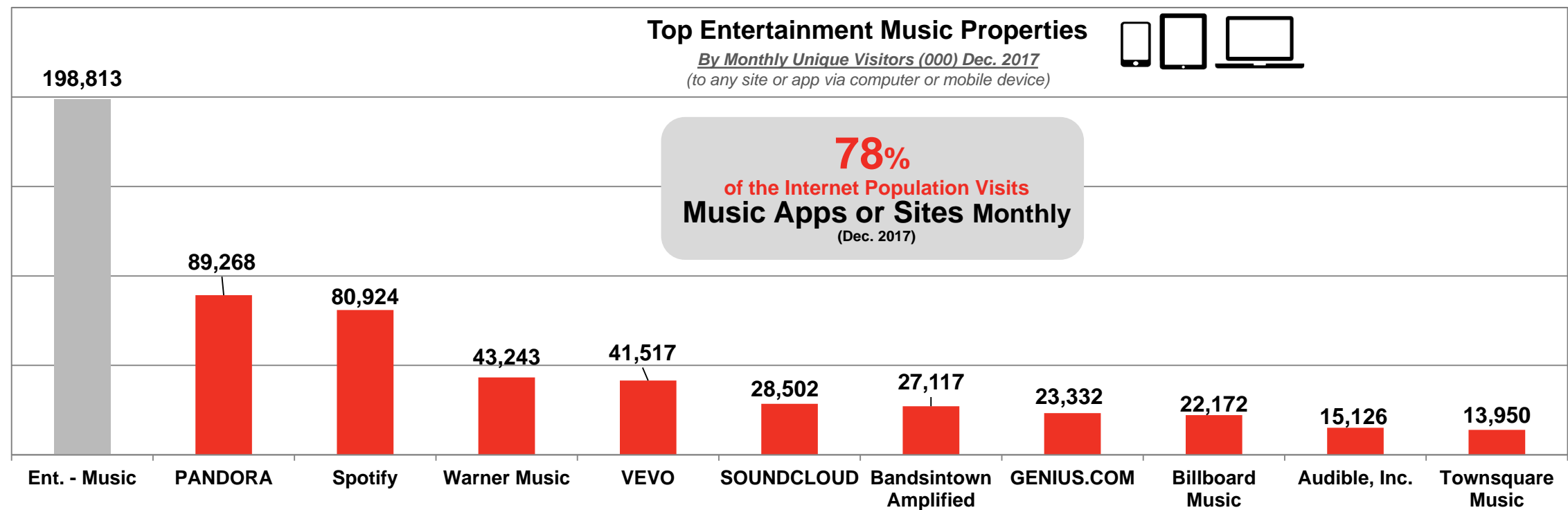
Total Audio Ad Revenue (Mobile + Desktop) Has Grown 39% Year Over Year

Total Audio Ad Revenue (Mobile + Desktop) (\$ Millions)
Full Year, Half Year and % YoY Growth



Nearly 200 Million Consumers Visited Entertainment Music Properties in December

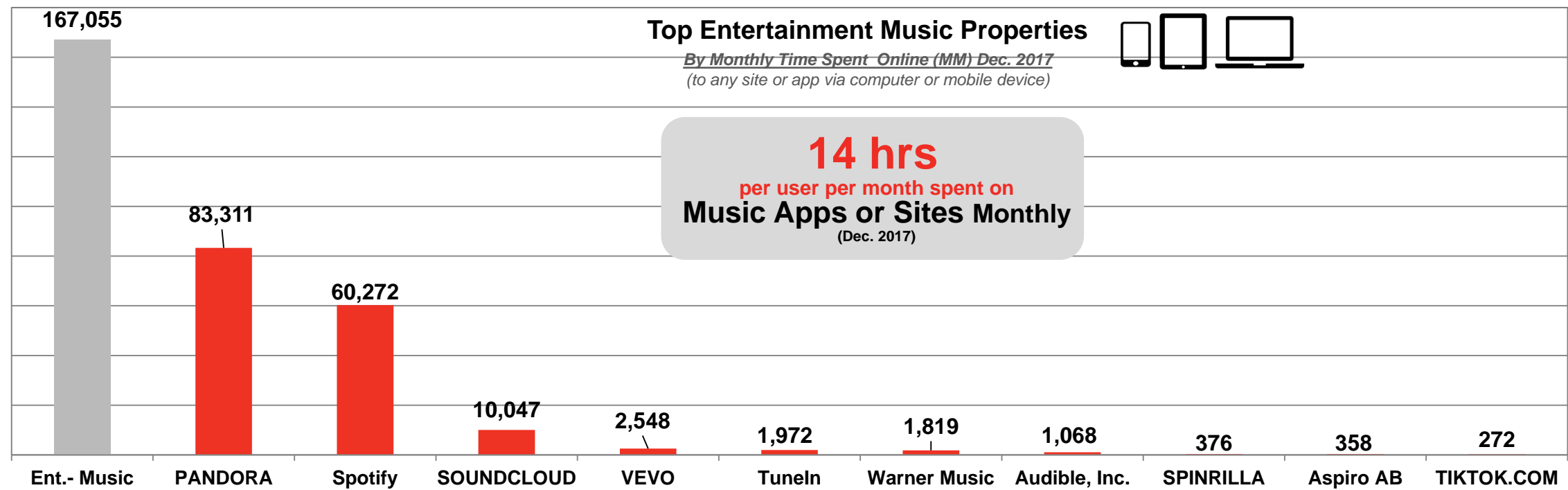
➤ Many top entertainment music properties are focused on streaming audio



comScore US Media Metrix Multi-Platform, Dec '17, Total Unduplicated Internet Audience

Consumers Spent 167 Billion minutes on music entertainment sites in Dec.

By far, consumers spent more time on Pandora or Spotify than any other music entertainment property

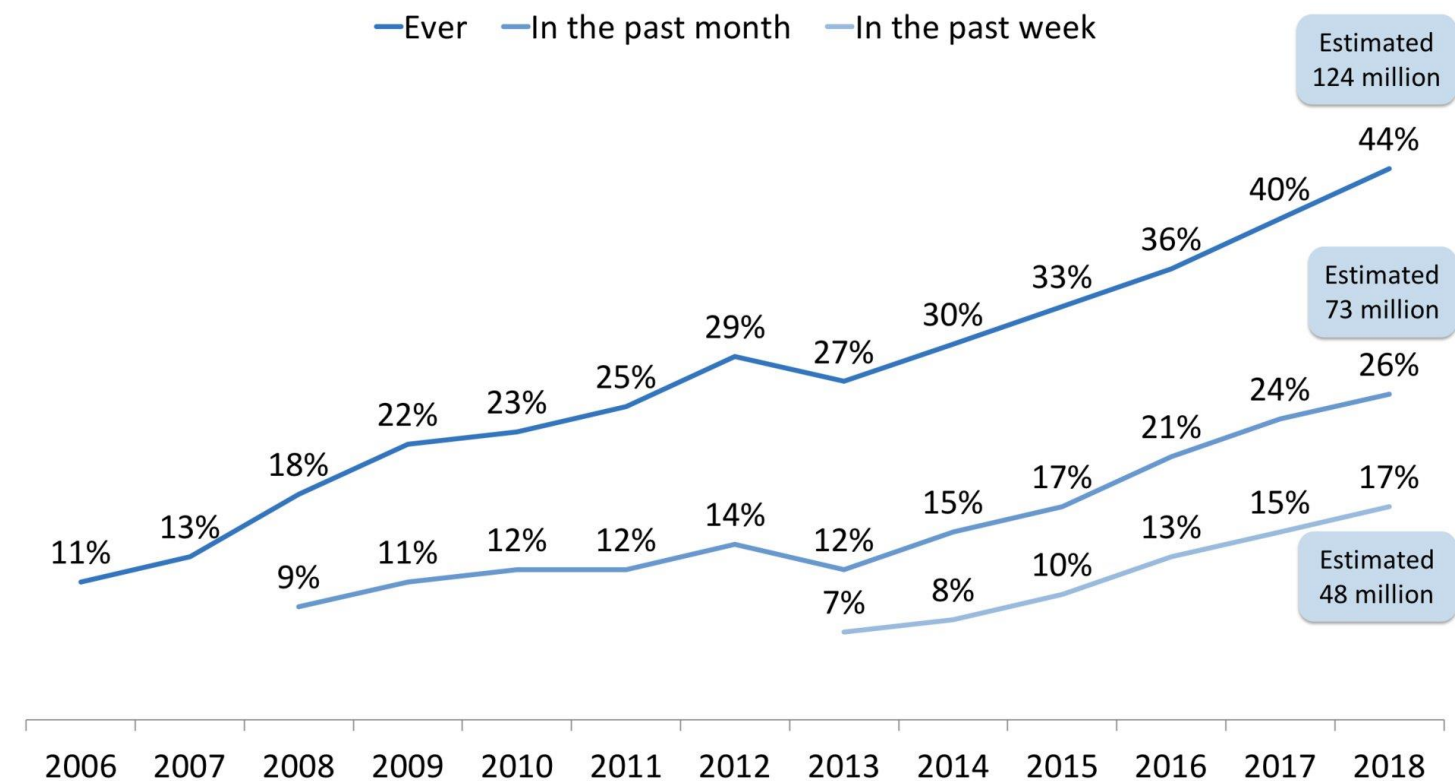


comScore US Media Metrix Multi-Platform, Dec '17,

The US Podcast Listener Base is Growing

The US Podcast Listener Base Is Growing

Share of consumers age 12+ who have listened to a podcast

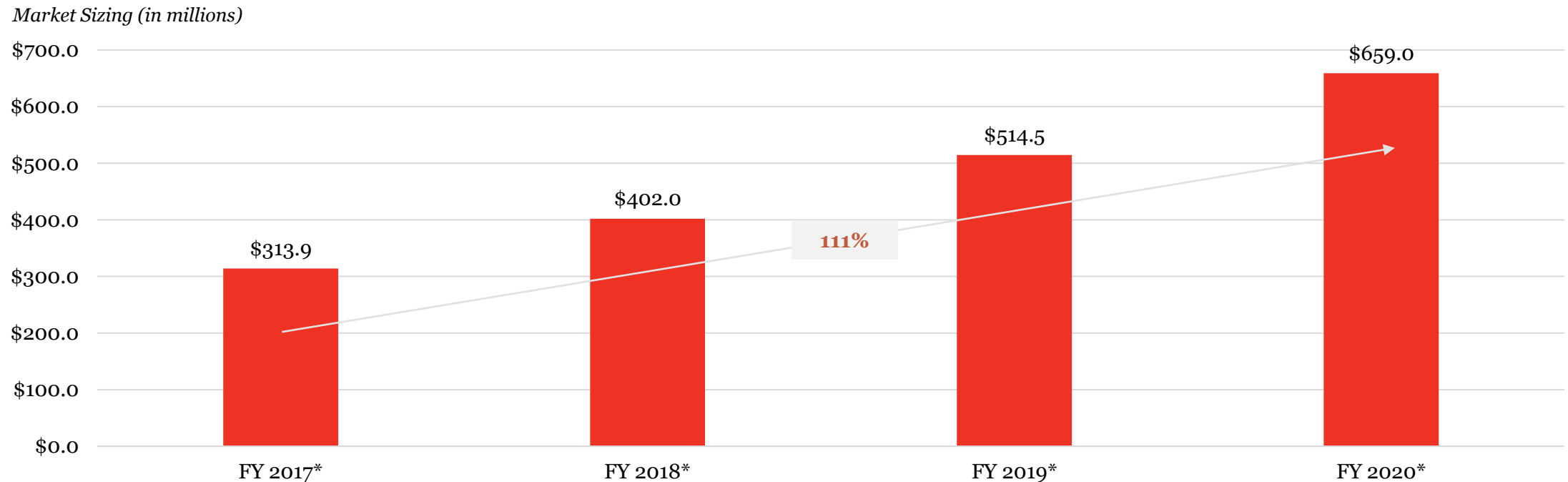


Note: Estimates are for the year 2018.

Source: Edison Research and Triton Digital, 2018

BUSINESS
INSIDER
INTELLIGENCE

US Podcast Ad Revenue is Expected to Grow 111% by 2020 to \$659 Million



*2017 - 2020 revenues are an estimate based total market sizing, not self-reported revenues
Market Sizing represents an estimate of the total US total podcast advertising market

IAB FY 2017 Podcast Ad Revenue Study, conducted by PwC, June 2018,

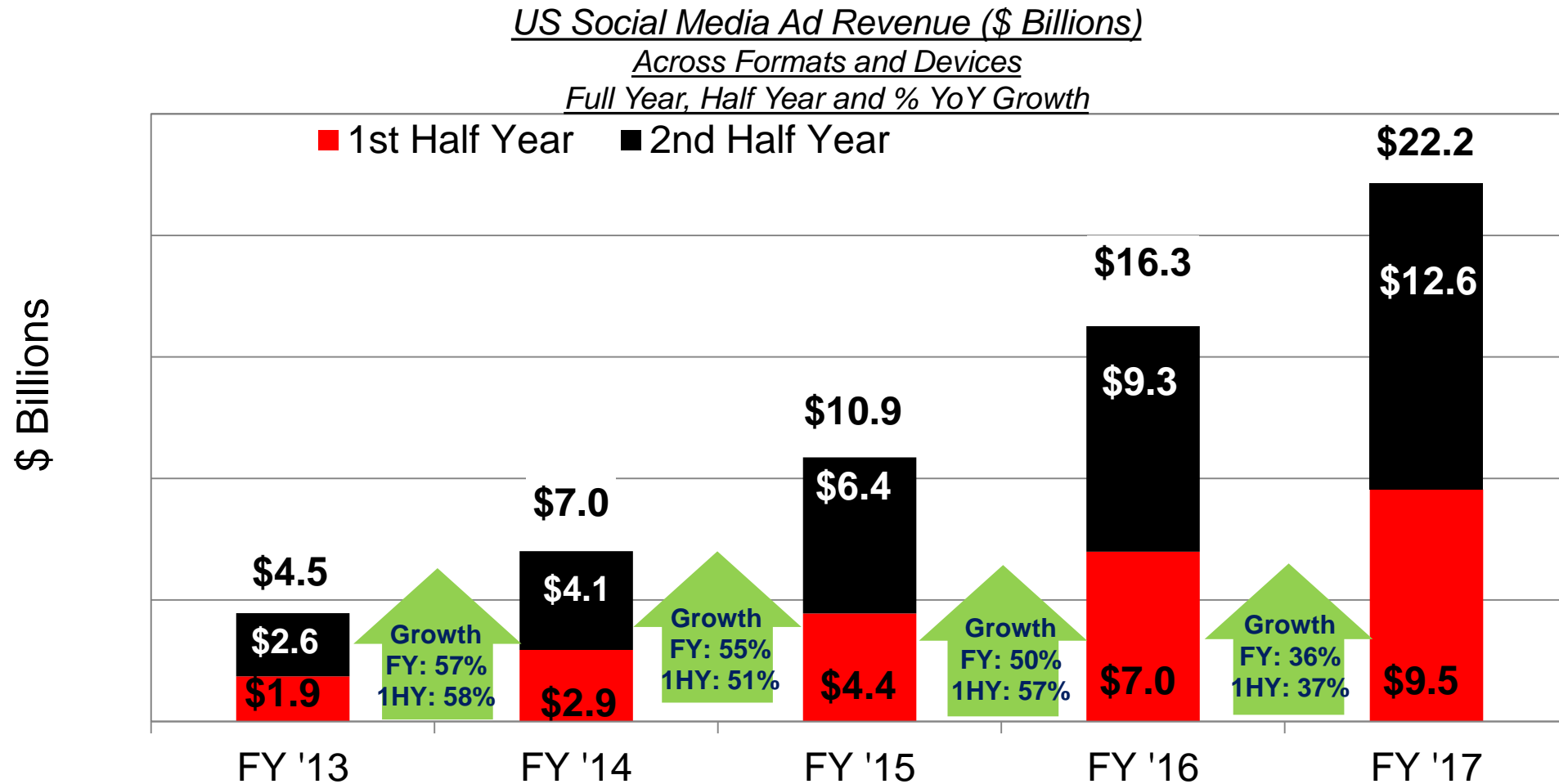


Social Media

IAB Digital Trends 2017:

Consumer Usage, Ad Revenue and Impact

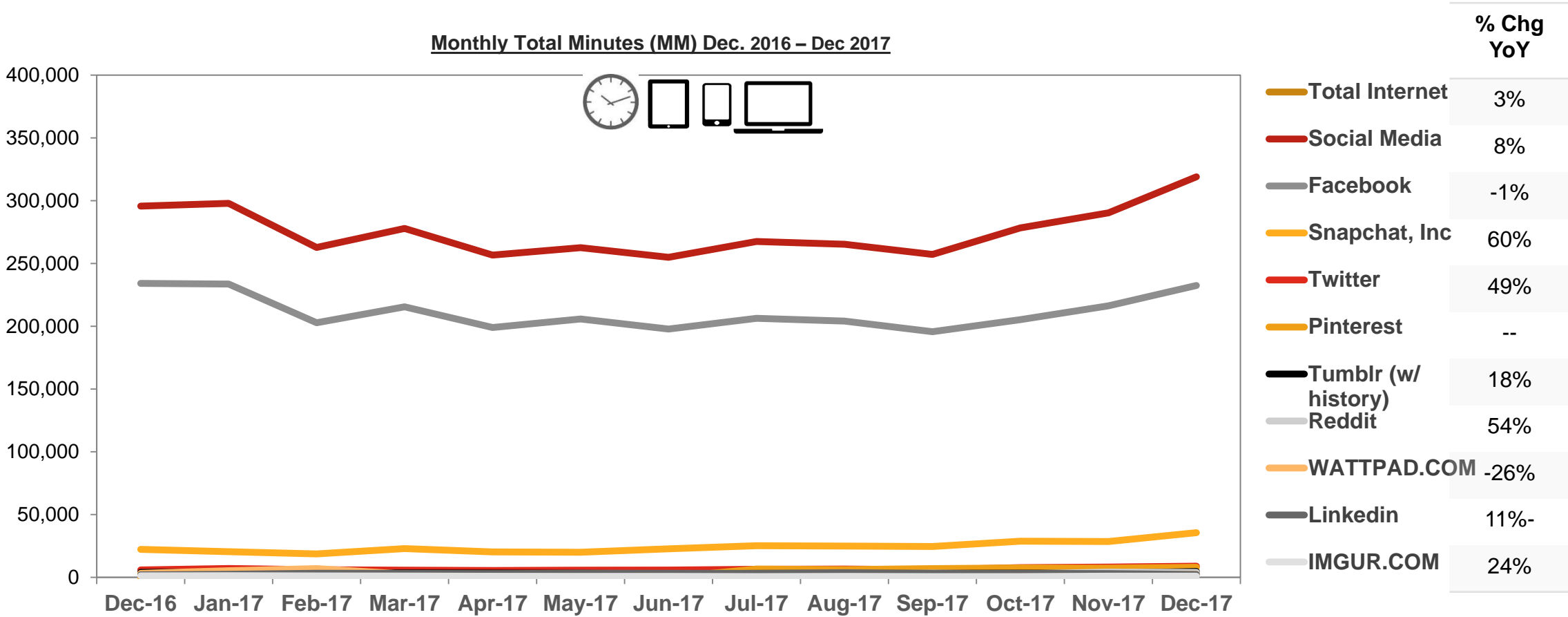
Social Media Revenue (Mobile + Desktop) Has Doubled in Just Two Years



Note: Full Year totals accurately reflect the sum of Half Year totals as rounded to two decimal places.

One Year Trend of Time Spent on Top 10 Social Media Properties

➤ Consumers spent more time on social media especially on Snapchat, Twitter and Reddit

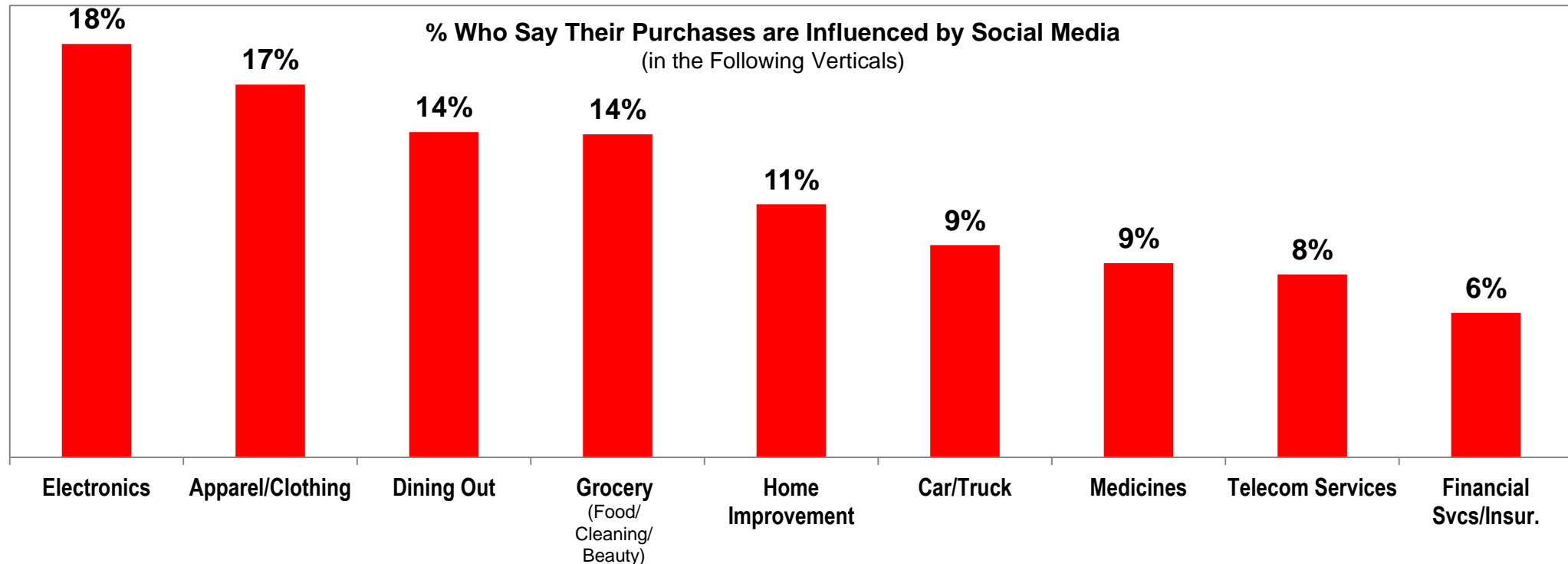


Source: ComScore US Media Metrix Multi-Platform

Effective with January 2017 data, the comScore audience product suite (Media Metrix MP, Media Metrix, Video Metrix, Mobile Metrix) underwent methodology and processing enhancements affecting all markets and all audience products. Effective with October 2017 data, US Media Metrix Multi-Platform and Mobile Metrix are benefiting from several enhancements made to the mobile panel technology behind comScore's audience product suite. The [C] Instagram (Mobile App), [M] Instagram.com, and [P] Facebook entities' total minutes were understated in October 2017 for the iPhone, iPad, and Total Mobile platforms in Mobile Metrix. Mobile Minutes for [M] Spotify (Mobile App) reported incorrectly due to a tagging issue. Revised data for the October, November, and December 2016 were restated. The [C] Instagram (Mobile App), [M] Instagram.com, and [P] Facebook entities' total minutes were understated in October 2017 for the iPhone, iPad, and Total Mobile platforms in Mobile Metrix, and therefore for the total digital population in Media Metrix Multi-Platform

Social Media Influences Purchase Decisions

- Electronics, Clothing, Dining and CPG purchases are most influenced by social media



Prosper Insights, Media Behavior and Insights data, Jan. 2017. n=16,644 US Adults 18+

Digital Trends 2017: Consumer Usage, Ad Revenue and Impact

➤ **Questions?**
Kristina Sruginis
Kristina@IAB.com

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