US AD Spending

eMarketer's Updated Estimates and Forecast for 2015–2020

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US AD SPENDING: EMARKETER'S UPDATED ESTIMATES AND FORECAST FOR 2015-2020

2016 will be a watershed year for digital media in the US. For the first time, digital will overtake TV ad spending by the end of the year. eMarketer estimates US digital media ad spending will top \$72 billion in 2016, vs. \$71.29 billion for TV.

- Paid media spending will rise by 6.9% in 2016, marking the strongest growth rate in more than eight years. Ad spending has been driven by the US presidential election and the Rio Summer Olympics, which have generated incremental ad expenditures beyond expectations. eMarketer expects growth to taper in 2017, but remain strong at 5.9%.
- Strong digital growth will continue for the next several years, climbing from \$72.09 billion in 2016 to \$113.18 billion in 2020. Google and Facebook will take the lion's share of digital ad revenues—about 58% in 2016.
- Mobile ad spending is the main reason for digital media's growth, with investment rising from \$45.95 billion in 2016 to \$86.84 billion in 2020. More than 23% of total media ad outlays—and over 63% of digital-will be spent to reach individuals on mobile devices like smartphones and tablets.
- Advertisers are devoting more of their digital spending dollars toward video, rich media and in-feed ad placements, most often found on social networking sites. Collectively, these display ad expenditures will surpass that of search in 2016 and will capture half of all US digital ad spending by 2020.
- TV ad spending is still growing, rising 3.5% in 2016. In fact, eMarketer increased its 2016 TV projections due to higher spending tied to the Olympics, the presidential election and a strong scatter market.

WHAT'S IN THIS REPORT? This report includes eMarketer's updated forecast for US total media and digital ad spending; digital ad spending by format; digital, search and display ad revenues for major ad publishers; mobile ad spending; mobile ad spending by format; and mobile, mobile search and mobile display ad revenues for major ad publishers. Projections run from 2015 to 2020, except where noted.

US Total Media Ad Spending Share, by Media, 2015-2020

% of total

,						
	2015	2016	2017	2018	2019	2020
Digital	32.7%	36.8%	40.0%	42.5%	44.8%	46.6%
—Mobile	17.3%	23.5%	27.7%	31.4%	33.7%	35.8%
TV*	37.6%	36.4%	35.1%	34.0%	32.9 %	32.1%
Print	15.4%	13.5%	12.4%	11.7%	11.0%	10.6%
-Newspapers**	8.0%	6.9%	6.2%	5.8%	5.4%	5.2%
-Magazines**	7.4%	6.6%	6.2%	5.9%	5.6%	5.4%
Radio***	7.8%	7.2%	6.9 %	6.5%	6.2%	5.9%
Out-of-home	4.0%	3.8%	3.7%	3.5%	3.4%	3.3%
Directories**	2.5%	2.2%	2.0%	1.8%	1.7%	1.6%

Note: numbers may not add up to 100% due to rounding; *excludes digital; **print only, excludes digital; ***excludes off-air radio and digital Source: eMarketer, Sep 2016 www.eMarketer.com 215527

KEY STAT: Nearly 37% of US paid media investments will go toward digital channels in 2016. This share is expected to surpass 46% by 2020, at the expense of TV, print, radio, directories and out-of-home (OOH) advertising.

Behind the Numbers

eMarketer's forecasts and estimates are based on an analysis of quantitative and qualitative data from research firms, government agencies, media firms and public companies, plus interviews with top executives at publishers, ad buyers and agencies. Data is weighted based on methodology and soundness. Each eMarketer forecast fits within the larger matrix of all its forecasts, with the same assumptions and general framework used to project figures in a wide variety of areas. Regular re-evaluation of available data means the forecasts reflect the latest business developments, technology trends and economic changes.

CONTENTS

- 2 US Ad Spending
- 3 **Total Media Ad Spending**
- 4 **Digital Ad Spending**
- **Mobile Ad Spending** 7
- **Complete Forecast** 9

TOTAL MEDIA AD SPENDING

US ad spending on paid media is expected to climb 6.9% in 2016, exceeding earlier eMarketer predictions and marking the strongest growth rate in more than eight years. This year's ad market has been driven by a host of major events, including the US presidential election and the Rio Summer Olympics, as well as significant growth across digital media formats.

billions						
	2015	2016	2017	2018	2019	2020
Digital	\$59.82	\$72.09	\$82.86	\$93.18	\$103.39	\$113.18
—Mobile	\$31.69	\$45.95	\$57.44	\$68.93	\$77.89	\$86.64
TV*	\$68.88	\$71.29	\$72.72	\$74.53	\$76.02	\$77.93
Print	\$28.16	\$26.44	\$25.78	\$25.58	\$25.51	\$25.62
-Newspapers**	\$14.65	\$13.48	\$12.94	\$12.68	\$12.55	\$12.61
—Magazines**	\$13.51	\$12.97	\$12.84	\$12.90	\$12.95	\$13.01
Radio***	\$14.32	\$14.18	\$14.20	\$14.25	\$14.28	\$14.30
Out-of-home	\$7.33	\$7.52	\$7.67	\$7.78	\$7.86	\$7.94
Directories**	\$4.56	\$4.25	\$4.08	\$3.95	\$3.87	\$3.80
Total	\$183.06	\$195.76	\$207.30	\$219.27	\$230.93	\$242.77
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US Total Media Ad Spending, by Media, 2015-2020 billions

Note: numbers may not add up to total due to rounding; *excludes digital; **print only, excludes digital; ***excludes off-air radio and digital Source: eMarketer, Sep 2016 215531 www.eMarketer.com

Digital media is predicted to overtake TV as the No. 1 media category in the US for the first time this year, with investments climbing 20.5% to \$72.09 billion. This is stronger than earlier eMarketer predictions, a reflection of increased advertiser demand for mobile and better-than-average performances from Facebook and Google, the two largest digital publishers in the US. In 2016, these two companies will claim 57.6% of the US digital advertising market and will continue to pull away from rivals, growing their share to 61.2% by 2018.

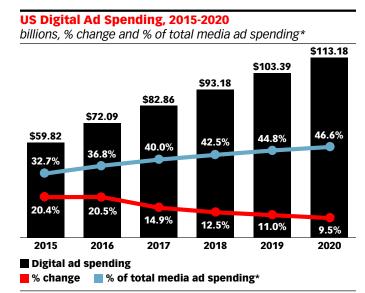
 Digital will capture 36.8% of total media ad spending this year, with mobile accounting for \$45.95 billion, or 23.5% of the total ad market. Mobile investments will surge at double-digit rates through 2020. By that time, more than one in every three dollars spent on advertising will go toward mobile formats.

- TV will be the No. 2 recipient of ad dollars starting this year. Although expenditures on TV are growing at a slow pace, the 2016 US presidential election has been a boon for TV networks, with political ad revenues hitting record levels. Data from Nomura Securities estimates US political ad spending will reach \$10.20 billion in 2016. The biggest chunk will be spent on broadcast TV, accounting for \$6.06 billion, or 59.4% of the total. Coupled with extra spending on the Rio Summer Olympics and a strong scatter market, eMarketer has raised growth estimates for TV ad spending this year to 3.5%; up from the previous 2.5%. But even with this adjustment, spending growth for TV still pales in comparison to digital, which will rise at nearly six times the rate of TV in 2016.
- Newspapers continue to experience deep declines in ad spending, even when taking into account digital revenues. Overall investment (including revenues from print and digital properties) will fall 5.6% in 2016 to \$17.56 billion, which is a bigger drop than previous estimates. The decline is due to falling print ad revenues of the three largest national newspapers and smallerthan-expected digital ad growth.
- Though ad spending on magazines—including print and digital formats—is trending downward, its declines are not as dramatic as those for newspapers, thanks to the format's ability to better monetize its digital audience. Magazines offer more targeted audiences, and the category's shift to digital has been somewhat easier than that of newspapers. While advertisers will spend 1.4% less on magazines this year than in 2015, outlays will rebound in 2017 when it returns to small, but positive growth.

- Ad spending on over-the-air radio, which excludes digital advertising, will fall by 1.0% in 2016 before returning to positive growth next year. Even though traditional radio will benefit somewhat from political advertising this year, it is becoming harder for the format to compete with internet audio alternatives. Spending on digital radio services like Pandora, as well as revenues derived from banner ads, pop-up ads, streaming ads and other digital ad formats on radio websites, will total \$3.15 billion, up 21.0% from 2015. Digital's size relative to traditional radio is still small, however, accounting for just 18.2% of total radio ad spending in 2016.
- Besides TV, OOH advertising is the only other traditional media category that will see ad spending growth in 2016. OOH ad spending will rise 2.6% in 2016 to reach \$7.52 billion, driven by continued investment in billboards, transit ads and cinema. However, this spending will represent just 3.8% of total US ad investment for the year.
- eMarketer has increased total media ad spending for every year of the forecast due to higher-than-projected spending on digital and mobile ad formats, and increased spending related to the US presidential election and the Rio Summer Olympics.

DIGITAL AD SPENDING

This year, for the first time, US digital ad spending will surpass outlays on TV, becoming the largest ad format in terms of investment. This milestone comes one year earlier than previous predictions, pushed ahead by increased spending on mobile as well as strong revenue growth from leading digital ad publishers. eMarketer expects digital ad expenditures to climb 20.5% in 2016 to \$72.09 billion.



Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; *includes digital (desktop/laptop, mobile and other internet-connected devices), directories, magazines, newspapers, out-of-home, radio and TV Source: eMarketer, Sep 2016 215866

- Double-digit growth of digital ad outlays will persist through at least 2020, driven primarily by increased spending on mobile devices. Mobile ad formats will see gains of 45.0% in 2016, to total \$45.95 billion-a figure larger than the combined total of print and radio ad spending.
- Mobile continues to be the main impetus behind digital growth, at desktop's expense. eMarketer estimates mobile will account for 63.7% of ad spending on digital channels in 2016, compared with 36.3% for desktop. The gap between mobile and desktop will continue to widen through the end of the forecast. By 2020, mobile's share of total digital ad investment will expand to 76.7%.

DIGITAL AD SPENDING, BY FORMAT

- Spending on display—which includes video, sponsorships, rich media, banners and other display formats—will surpass that of search for the first time, reaching \$34.56 billion in 2016, equivalent to 47.9% of total digital outlays. By 2020, display's share of US digital ad spending will pull even further ahead, reaching 50.0%, or \$56.63 billion. The main trends driving display's growth are programmatic advertising, cross-device targeting and measurement, as well as improvements in addressing ad fraud and viewability metrics.
- Search will command the second-highest share of total digital spend this year—46.2%—to total \$33.28 billion. With growth of 15.4% from last year, search won't climb as steeply as display, but will remain strong throughout the forecast period as advertisers allocate more dollars toward mobile and local search ads.
- Banners and other display formats, which include many types of native ads on popular social sites like Facebook and Twitter, will capture 41.6% of display ad spending and 20.0% of total digital ad spending in 2016—the largest percentage of any display format. Given the growing popularity of native ads, look for this category to maintain its position as the leading display format through at least 2020.
- Video will also command a large portion of ad spending allocated to digital in 2016: 14.3%, up from 12.8% in 2015. The influx of digital video content on publisher websites, as well as improvements in targeting and measurement, will continue to drive advertiser spending in video. By 2020, video ad spending will near \$18 billion, accounting for about 16% of total digital spending. [Editor's Note: This figure represents ads placed before, during or after video content in a video player but does not include in-feed video advertising on social platforms.]

- Rich media, which are display-related ads that integrate some component of streaming activity, will be the fastest-growing digital ad format throughout the forecast period. This is primarily driven by the growing adoption of out-stream video ads—that is, ads that play outside of video content, such as between paragraphs of text—and in-feed premium video ads on social platforms. These two ad types have emerged as some of the most popular forms of rich media.
- Spending on more mature digital ad formats, such as classifieds and directories, email and lead generation, will increase at much slower rates compared with search and display.
- When examining the formats within digital, eMarketer has revised all of its figures upward from 2015 to 2020 based on larger-than-expected growth in overall digital spending.

DIGITAL AD REVENUES, BY COMPANY

- eMarketer is forecasting a stronger year for Google and Facebook—two of the largest digital publishers in the US. Q2 2016 revenue performance for both companies exceeded expectations, leading eMarketer to increase ad revenue forecasts for this year and the next two years. After these adjustments, Google and Facebook will claim about 58% of the US digital advertising market in 2016 and will continue to pull away from rivals, growing their share to 61.2% by 2020.
- Google will generate nearly \$30 billion in US ad revenues this year, commanding 41.0% of the total digital ad market. This represents a growth rate of 19.8% from 2015, a significant jump from previous eMarketer estimates of 9.0%, thanks to the company's success from mobile search. More than 83%, or \$24.77 billion, of Google's total digital ad earnings in the US will come from search in 2016. Google's total digital revenues will continue to rise robustly, climbing 14.8% in 2017 and 13.5% in 2018.

- Another driver of Google's financial success is display revenues generated from YouTube. More advertisers have become comfortable with programmatic media buys on YouTube since they first became available on DoubleClick Bid Manager in September 2015. Thanks to its massive scale and rising monthly video consumption, YouTube US net digital ad revenues which exclude traffic acquisition costs (TAC) and content acquisition costs (CAC) paid to partner sites will grow by 30.0% in 2016, totaling \$2.92 billion. YouTube's video ad earnings will account for 20.9% of the US digital video ad market this year, while total net revenues—including banner, rich media and other display ads on the site—will account for 9.9% of Google's digital ad revenues.
- eMarketer has raised its projections for Facebook's US advertising revenue, based on the company's Q2 2016 revenue performance. This showed mobile advertising exceeding expectations. Facebook, the second-largest digital ad publisher in the US, is expected to generate \$11.93 billion in ad revenues in 2016, up 48.6% from last year. Digital ad spending on Facebook will climb by another 27.3% in 2017, and 22.2% in 2018 to reach \$18.57 billion. The company's ad revenue growth remains high because of increasing engagement on its platforms and increasing investment on video ads. In addition, the popularity of Instagram advertising is spurring further gains in Facebook's overall performance.
- Instagram has become a significant source of revenue for Facebook. Although Facebook does not break out Instagram ad revenues in its earnings statements, eMarketer projects it will reach \$1.58 billion in the US alone in 2016, up 165% from last year—impressive figures considering Instagram opened up advertising to all businesses in September 2015. By leveraging data and ad technologies from Facebook, Instagram will grow its revenues very quickly. By 2020, ad revenues will nearly triple, reaching \$4.65 billion.

- Microsoft will generate \$2.77 billion in US digital ad revenues this year, slightly higher than previous estimates, representing a 14.5% rise over 2015.
 eMarketer forecasts that the company's US digital ad revenues, which come entirely from search, will swell to \$3.38 billion by the end of 2018. Search ad dollars will come from the successful integration of Bing search results into all products and devices running Windows 10.
- Yahoo will record \$2.23 billion in US digital ad revenues in 2016, down 11.4% from last year, as the company fails to make meaningful headway in rebuilding its core advertising business. Search ad revenues will fall 17.7% this year, while display ad revenues will dip 5.2%, according to eMarketer. In its Q2 2016 earnings report, most likely one of its last as an independent company, search and display revenues saw declines, and the company's "Mavens" products—short for mobile, video, native and social—saw softer growth that fell short of company expectations. (In July 2016, Verizon announced that it would purchase Yahoo for \$4.8 billion, a deal that is expected to close in Q1 2017.)
- eMarketer has lowered its forecast for Twitter's US ad revenue based on revenues guidance from the company's Q2 2016 earnings report. User growth in the US is nearly flat, and the company says it's seeing less overall advertiser demand than expected. US ad revenue growth will fall from 54.6% in 2015 to 4.8% in 2016 to reach \$1.34 billion, eMarketer predicts. Some of the challenges facing the company include an inability to attract new users and increased competition for social marketing budgets from newer platforms like Snapchat and Instagram. However, user engagement among existing users is still high, which is a positive sign for the company. And as the platform continues to integrate live video into its content and products, eMarketer expects Twitter to see small but positive gains in ad revenues through 2018.

- US digital ad revenues from Verizon, which include display and a little bit of search ad revenues from Millennial Media and AOL, will total \$1.27 billion in 2016, up 4.7% from the previous year. Most of the growth will be sustained by AOL Networks, which includes The Huffington Post, TechCrunch and other properties. Until the acquisition of Yahoo is complete, eMarketer will continue to report Yahoo ad revenues separately from Verizon.
- Amazon's US digital ad revenues will surge 33.7% in 2016 to reach \$940 million, and eMarketer expects the total will eclipse \$1 billion next year. These are higher than previous estimates, based on the success of Amazon's Prime Day, which exceeded company expectations.
- LinkedIn's US digital ad earnings have increased to \$730 million since eMarketer's previous projections as a result of strong Q2 2016 performance from Marketing Solutions, the company's main advertising business. US digital ad revenues are expected to increase 19.9% this year and 10.5% in 2017. In June 2016, Microsoft announced plans to acquire LinkedIn, and until the deal is complete, eMarketer will continue to report ad revenues from LinkedIn separately from Microsoft.
- IAC/InterActiveCorp's US digital ad revenues will fall 22.3% this year to total \$610 million. This is down significantly from previous eMarketer predictions due to a dramatic slowdown in the company's search and applications properties.
- Yelp will take in \$590 million in US digital ad revenues in 2016, up 26.2% from 2015. eMarketer has slightly increased estimates for Yelp this year and for the entire forecast period as local search advertising, the company's core strength, continues to show steady growth.

MOBILE AD SPENDING

US advertisers are investing heavily in mobile channels as they look to follow consumers' media consumption habits. US mobile ad spending will total \$45.95 billion in 2016, a 45.0% increase from last year.

	2015	2016	2017	2018	2019	2020
Mobile ad spending (billions)	\$31.69	\$45.95	\$57.44	\$68.93	\$77.89	\$86.84
—% change	65.5%	45.0%	25.0%	20.0%	13.0%	11.5%
—% of digital ad spending	53.0%	63.7%	69.3%	74.0%	75.3%	76.7%
—% of total media ad spending	17.3%	23.5%	27.7%	31.4%	33.7%	35.8%
Note: includes classifiec email, lead generation, r advertising; includes ad Source: eMarketer, Sep	nessagin spending	g-based	advertisi	edia, vide ng and s	o and oti earch	her),

- Advertiser enthusiasm for mobile is strong due in part to the advancements in programmatic buying, including targeting and measurement, as well as a greater selection of mobile ad formats. By 2020, mobile ad expenditures will climb to \$86.84 billion, driven by new advertising opportunities on mobile and funds shifting away from traditional media.
- Mobile's share of total US digital ad spending will reach 63.7% this year, up from 53.0% in 2015. Mobile continues to grow faster than digital as a whole, grabbing a bigger slice of the total each year. By 2020, 76.7% of all digital ad spending will go to mobile, while only 23.3% will go toward spending on desktop/laptop devices.
- Mobile is also making a sizable dent in overall ad spending. eMarketer estimates mobile will account for 23.5% of US paid media advertising this year. By 2019, this share will increase to 33.7%—at that point mobile will surpass TV and become the largest advertising channel in the US.
- eMarketer has adjusted its forecast for mobile ad spending growth since its March 2016 estimates.
 eMarketer now expects mobile ad expenditures to increase 45.0% in 2016, up significantly from its previous estimate of 38.0%.

MOBILE AD SPENDING, BY FORMAT

- Mobile display formats—which include banners, rich media, sponsorships, video and other options—are collectively the biggest mobile ad category and will remain so throughout the forecast period. In 2016, spending on mobile display will total \$23.60 billion, accounting for 51.4% of total mobile spending. Increased demand for mobile display formats, especially rich media and video, will help fuel growth through 2020, when spending across mobile display will reach \$44.68 billion.
- Spending on mobile search ads is forecast to reach \$20.28 billion, or 44.1% of total US spending on mobile this year, up from \$14.17 billion in 2015. Mobile search will continue to benefit from advertisers looking to leverage location data to reach consumers.

MOBILE AD REVENUES, BY COMPANY

- Google is the largest mobile ad publisher and will remain so for the foreseeable future. Google will capture 32.0% of the US mobile ad market in 2016, with revenues on track to reach \$14.69 billion. The bulk is generated by the company's mobile search business, which will total \$12.73 billion this year, up 49.0% over 2015, eMarketer estimates. In fact, during Google's Q2 2016 earnings report, the company credited mobile search as the key force behind its strong quarterly results. Additionally, a number of key enhancements, including expanded text ads across all devices and the ability to place local ads on Google Maps, will help the company generate additional mobile revenues in the next few years.
- eMarketer projects US mobile ad revenues for Facebook will increase 64.1% this year to reach \$10.14 billion. The company continues to make significant inroads in advancing revenues from mobile advertising: Mobile's share of total digital revenues for Facebook will climb from 77.0% in 2015 to 85.0% in 2016. This growth will be primarily attributed to popular in-feed mobile formats, such as native video, as well as from revenues generated by Instagram. About 15% of Facebook's mobile ad revenues, a total of \$1.58 billion, will come from Instagram this year.

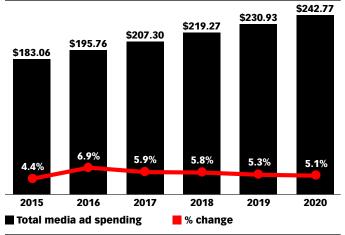
- Twitter's mobile advertising business will generate \$1.18 billion in revenues this year, making Twitter the third-largest mobile ad publisher in the US—still far behind Google and Facebook, but ahead of Yahoo. In 2016 and 2017, Twitter will have the highest share of total digital ad revenues coming from mobile of any company included in eMarketer's forecast. Dollars generated from mobile placements will represent 88.5% of Twitter's overall US advertising earnings in 2016. By comparison, Facebook's share will be 85.0%.
- Mobile ad revenues for Yahoo will total \$1.07 billion this year, representing 48.0% of the company's total US digital ad revenues and 2.3% of US mobile ad revenues overall. Mobile revenues for the company will be fairly evenly split between search and display this year, with approximately 55% of mobile revenues coming from search and 45% from display.
- Pandora will generate \$847.1 million in US mobile display ad dollars in 2016, up 17.2% from last year.
 However, Pandora will face challenges throughout the forecast due to rising content acquisition costs, flattening user growth and increased competition from digital streaming services.
- YP will generate \$765.5 million in US mobile search revenues this year, accounting for 3.8% of the total US mobile search ad market. Mobile ad revenues in the US for the search and directories company will surpass \$1 billion by the end of 2018 as marketers continue to spend more on location-based targeted ads.
- For the first time, eMarketer is forecasting net US mobile ad revenues for Snapchat. Over the past year, the company has expanded its portfolio of ad products to include a wider array of video ads, more sponsored geofilters and sponsored lenses. In addition, the company has also invested in an expansion of its API technology. eMarketer expects Snapchat's US net mobile display advertising revenues to rise from \$348.4 million in 2016 and to over \$1.32 billion by 2018. At that point, Snapchat will rank among the top three revenue generators for mobile display ads in the US—still far below Facebook (\$16.71 billion) and Google (\$2.91 billion), but ahead of Twitter (\$1.31 billion). [Editor's Note: Snapchat has not publicly reported advertising revenue figures.]

COMPLETE FORECAST

US TOTAL MEDIA AD SPENDING

US Total Media Ad Spending, 2015-2020

billions and % change



Note: includes digital (desktop/laptop, mobile and other internet-connected devices), directories, magazines, newspapers, out-of-home, radio and TV Source: eMarketer, Sep 2016

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US Total Media Ad Spending, by Media, 2015-2020 billions

	2015	2016	2017	2018	2019	2020
Digital	\$59.82	\$72.09	\$82.86	\$93.18	\$103.39	\$113.18
—Mobile	\$31.69	\$45.95	\$57.44	\$68.93	\$77.89	\$86.64
TV*	\$68.88	\$71.29	\$72.72	\$74.53	\$76.02	\$77.93
Print	\$28.16	\$26.44	\$25.78	\$25.58	\$25.51	\$25.62
-Newspapers**	\$14.65	\$13.48	\$12.94	\$12.68	\$12.55	\$12.61
—Magazines**	\$13.51	\$12.97	\$12.84	\$12.90	\$12.95	\$13.01
Radio***	\$14.32	\$14.18	\$14.20	\$14.25	\$14.28	\$14.30
Out-of-home	\$7.33	\$7.52	\$7.67	\$7.78	\$7.86	\$7.94
Directories**	\$4.56	\$4.25	\$4.08	\$3.95	\$3.87	\$3.80
Total	\$183.06	\$195.76	\$207.30	\$219.27	\$230.93	\$242.77

Note: numbers may not add up to total due to rounding; *excludes digital; source: eMarketer, Sep 2016

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US Total Media Ad Spending Growth, by Media, 2015-2020

% change

-	2015	2016	2017	2018	2019	2020
Digital	20.4%	20.5%	14.9%	12.5%	11.0%	9.5%
-Mobile	65.5%	45.0%	25.0%	20.0%	13.0%	11.5%
Out-of-home	4.1%	2.6%	2.0%	1.5%	1.0%	1.0%
TV*	0.5%	3.5%	2.0%	2.5%	2.0%	2.5%
Radio**	-2.6%	-1.0%	0.2%	0.3%	0.2%	0.2%
Print	-7.5%	-6.1%	-2.5%	-0.8%	-0.3%	0.4%
—Magazines***	-7.0%	-4.0%	-1.0%	0.5%	0.4%	0.4%
-Newspapers***	-8.0%	-8.0%	-4.0%	-2.0%	-1.0%	0.5%
Directories***	-7.0%	-6.8%	-4.0%	-3.0%	-2.0%	-2.0%
Total	4.4%	6.9 %	5.9 %	5.8 %	5.3%	5.1%

Note: *excludes digital; **excludes off-air radio and digital; ***print only; excludes digital Source: eMarketer, Sep 2016

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US Total Media Ad Spending Share, by Media, 2015-2020

% of total

	2015	2016	2017	2018	2019	2020
Digital	32.7%	36.8%	40.0%	42.5%	44.8%	46.6%
—Mobile	17.3%	23.5%	27.7%	31.4%	33.7%	35.8%
TV*	37.6%	36.4%	35.1%	34.0%	32.9 %	32.1%
Print	15.4%	13.5%	12.4%	11.7%	11.0%	10.6%
-Newspapers**	8.0%	6.9%	6.2%	5.8%	5.4%	5.2%
—Magazines**	7.4%	6.6%	6.2%	5.9%	5.6%	5.4%
Radio***	7.8%	7.2%	6.9 %	6.5%	6.2%	5.9%
Out-of-home	4.0%	3.8%	3.7%	3.5%	3.4%	3.3%
Directories**	2.5%	2.2%	2.0%	1.8%	1.7%	1.6%

Note: numbers may not add up to 100% due to rounding; *excludes digital; **print only, excludes digital; ***excludes off-air radio and digital Source: eMarketer, Sep 2016 215527

www.eMarketer.com

US Newspaper Ad Spending, by Segment, 2015-2020 billions and % change

	-					
	2015	2016	2017	2018	2019	2020
Print*	\$14.65	\$13.48	\$12.94	\$12.68	\$12.55	\$12.61
—% change	-8.0%	-8.0%	-4.0%	-2.0%	-1.0%	0.5%
Digital	\$3.96	\$4.08	\$4.24	\$4.37	\$4.48	\$4.59
—% change	6.9%	3.2%	3.9%	3.1%	2.5%	2.3%
Total	\$18.61	\$17.56	\$17.18	\$17.05	\$17.03	\$17.20
—% change	-5.2%	-5.6%	-2.2%	-0.7%	-0.1%	1.0%

Note: includes classified, national and retail; numbers may not add up to total due to rounding; *eMarketer benchmarks its US newspaper ad spending projections against the Newspaper Association of America (NAA) data, for which the last full year measured was 2013 Source: eMarketer, Sep 2016

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US Magazine Ad Spending, by Segment, 2015-2020 billions and % change

	2015	2016	2017	2018	2019	2020
Print	\$13.51	\$12.97	\$12.84	\$12.90	\$12.95	\$13.01
—% change	-7.0%	-4.0%	-1.0%	0.5%	0.4%	0.4%
Digital	\$4.09	\$4.40	\$4.67	\$4.87	\$5.02	\$5.16
—% change	8.5%	7.4%	6.2%	4.3%	3.1%	2.8%
Total	\$17.60	\$17.36	\$17.51	\$17.77	\$17.98	\$18.17
—% change	-3.8%	-1.4%	0.8%	1.5%	1.1%	1.1%
Noto: includo	C DOD COD	sumar loor	l and Sund	low numb	are may no	t add un

Note: includes B2B, consumer, local and Sunday; numbers may not add up to total due to rounding Source: eMarketer, Sep 2016

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www.eMarketer.com

US Print Ad Spending Share, by Segment, 2015-2020 billions and % of total

	2015	2016	2017	2018	2019	2020
Traditional	\$28.16	\$26.44	\$25.78	\$25.58	\$25.51	\$25.62
—% of total	77.8%	75.7%	74.3%	73.5%	72.9%	72.4%
Digital	\$8.05	\$8.48	\$8.91	\$9.24	\$9.50	\$9.75
—% of total	22.2%	24.3%	25.7%	26.5%	27.1%	27.6%
Total	\$36.21	\$34.92	\$34.69	\$34.82	\$35.01	\$35.37

Note: includes newspapers and magazines; numbers may not add up to total due to rounding

Source: eMarketer, Šep 2016

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US Radio Ad Spending, by Segment, 2015-2020 billions and % change

	2015	2016	2017	2018	2019	2020
Air	\$14.32	\$14.18	\$14.20	\$14.25	\$14.28	\$14.30
—% change	-2.6%	-1.0%	0.2%	0.3%	0.2%	0.2%
Digital	\$2.60	\$3.15	\$3.74	\$4.83	\$5.49	\$5.96
—% change	23.9%	21.0%	18.7%	29.2%	13.7%	8.5%
Total	\$16.92	\$17.33	\$17.94	\$19.08	\$19.77	\$20.26
—% change	0.7%	2.4%	3.6%	6.3%	3.6%	2.5%
Note: number			total due to	o rounding		

Source: eMarketer, Sep 2016 215863 www.eMarketer.com

US TV* vs. Digital Video** Ad Spending, 2015-2020 hillions and % change

DIIIIOIIS allu 70	change					
	2015	2016	2017	2018	2019	2020
TV*	\$68.88	\$71.29	\$72.72	\$74.53	\$76.02	\$77.93
—% change	0.5%	3.5%	2.0%	2.5%	2.0%	2.5%
Digital video**	\$7.68	\$10.30	\$12.55	\$14.40	\$16.29	\$17.95
—% change	46.6%	34.1%	21.8%	14.7%	13.1%	10.2%

Note: *includes broadcast TV (network, syndication and spot) and cable TV; **includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices; includes advertising that appears before, during, or after digital video content in a video player Source: eMarketer, Sep 2016

215839

www.eMarketer.com

US TV* vs. Digital Ad Spending, by Device, 2015-2020 billions

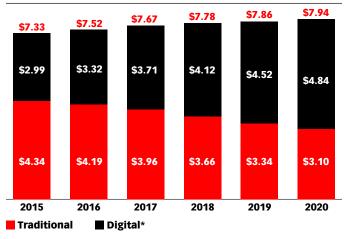
	2015	2016	2017	2018	2019	2020
TV*	\$68.88	\$71.29	\$72.72	\$74.53	\$76.02	\$77.93
Digital**	\$59.82	\$72.09	\$82.86	\$93.18	\$103.39	\$113.18
—Mobile	\$31.69	\$45.95	\$57.44	\$68.93	\$77.89	\$86.84
-Desktop/laptop	\$28.13	\$26.14	\$25.42	\$24.25	\$25.50	\$26.34
Digital video***	\$7.68	\$10.30	\$12.55	\$14.40	\$16.29	\$17.95
-Desktop/laptop	\$4.79	\$5.84	\$6.68	\$7.29	\$8.18	\$8.88
—Mobile	\$2.89	\$4.47	\$5.87	\$7.11	\$8.11	\$9.08
Total media ad spending	\$183.06	\$196.76	\$207.30	\$219.17	\$230.93	\$242.77

Note: *includes broadcast TV (network, syndication and spot) and cable TV; **includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; ***includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices; includes advertising that appears before, during or after digital video content in a video player

Source: eMarketer, Sep 2016 215845

www.eMarketer.com

US Out-of-Home Ad Spending, by Segment, 2015-2020 billions



Note: includes alternative, billboards, cinema, street furniture and transit; *includes out-of-home advertising that is internet-connected Source: eMarketer, Sep 2016

216119

US DIGITAL AD SPENDING

US Digital Ad Spending, 2015-2020 billions, % change and % of total media ad spending* \$113.18 \$103.39 \$93.18 \$82.86 \$72.09 46.6% \$59.82 44.8% 42.5% 40.0% 36.8% 32.7% 20.4% 20.5% 14.9% 12.5% 11.0% 9.5% 2015 2016 2017 2018 2019 2020

Digital ad spending

% of total media ad spending* % change

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; *includes digital (desktop/laptop, mobile and other internet-connected devices), directories, magazines, newspapers, out-of-home, radio and TV Source: eMarketer, Sep 2016 www.eMarketer.com

215866

US Digital Ad Spending, Q1 2015-Q4 2016

	Digital ad spending (billions)	% change vs. prior quarter	% change vs. same period of prior year
Q1 2015	\$13.18	-6.9%	15.5%
Q2 2015	\$14.30	8.5%	22.5%
Q3 2015	\$14.69	2.7%	20.3%
Q4 2015	\$17.38	18.3%	22.8%
Q1 2016	\$15.90	-8.5%	20.6%
Q2 2016*	\$17.40	9.4%	21.7%
Q3 2016*	\$17.70	1.7%	20.5%
Q4 2016*	\$20.80	17.5%	19.7%

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; excludes mobile messaging; *eMarketer projections Source: IAB/PwC, Dec 2015; eMarketer, Sep 2016

215867

www.eMarketer.com

US Digital Ad Spending, by Format, 2015-2020 billions

	2015	2016	2017	2018	2019	2020
Display	\$26.92	\$34.56	\$40.86	\$46.19	\$51.51	\$56.63
—Banners and other*	\$11.91	\$14.38	\$16.18	\$17.84	\$19.51	\$21.45
—Video	\$7.68	\$10.30	\$12.55	\$14.40	\$16.29	\$17.95
—Rich media	\$5.60	\$7.97	\$10.07	\$11.79	\$13.45	\$14.87
—Sponsorships	\$1.73	\$1.90	\$2.05	\$2.16	\$2.27	\$2.36
Search	\$28.84	\$33.28	\$37.44	\$42.18	\$46.86	\$51.37
Lead generation	\$1.73	\$1.85	\$1.95	\$2.02	\$2.07	\$2.12
Classifieds and directories	\$1.79	\$1.80	\$1.98	\$2.14	\$2.27	\$2.37
Email	\$0.28	\$0.31	\$0.34	\$0.37	\$0.39	\$0.41
Mobile messaging	\$0.27	\$0.29	\$0.29	\$0.29	\$0.28	\$0.28
Total	\$59.82	\$72.09	\$82.86	\$93.18	\$103.39	\$113.18

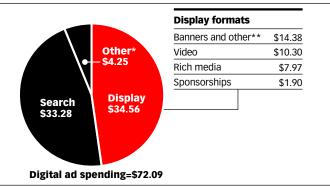
Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices on all formats mentioned; numbers may not add up to total due to rounding; *includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets

Source: eMarketer, Sep 2016

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www.eMarketer.com

US Digital Ad Spending, by Format, 2016 billions



Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices on all formats mentioned; numbers may not add up to total due to rounding; *includes classifieds and directories, email, lead generation and mobile messaging; **includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets Source: eMarketer, Sep 2016

215541

US Digital Ad Spending Growth, by Format, 2015-2020 % change

2015	2016	2017	2018	2019	2020
27.8%	28.4%	18.2%	13.1%	11.5%	9.9%
50.9%	42.4%	26.4%	17.0%	14.1%	10.6%
46.6%	34.1%	21.8%	14.7%	13.1%	10.2%
13.1%	20.8%	12.5%	10.3%	9.3%	10.0%
9.1%	10.2%	7.6%	5.7%	4.8%	4.0%
16.4%	15.4%	12.5%	12.6%	11.1%	9.6%
11.7%	13.2%	9.7 %	7.1%	6.5%	5.5%
13.9%	7.9 %	-0.4%	-1.6%	-2.7%	-0.1%
5.8%	7.3%	5.2%	3.4%	2.8%	2.4%
3.2%	0.5%	10.4%	7.8%	6.2%	4.5%
20.4%	20.5%	14.9%	12.5%	11.0%	9.5%
	27.8% 50.9% 46.6% 13.1% 9.1% 16.4% 11.7% 13.9% 5.8% 3.2%	27.8% 28.4% 50.9% 42.4% 46.6% 34.1% 13.1% 20.8% 9.1% 10.2% 16.4% 15.4% 11.7% 13.2% 13.9% 7.9% 5.8% 7.3% 3.2% 0.5%	27.8% 28.4% 18.2% 50.9% 42.4% 26.4% 46.6% 34.1% 21.8% 13.1% 20.8% 12.5% 9.1% 10.2% 7.6% 16.4% 15.4% 12.5% 11.7% 13.2% 9.7% 13.9% 7.9% -0.4% 5.8% 7.3% 5.2% 3.2% 0.5% 10.4%	27.8% 28.4% 18.2% 13.1% 50.9% 42.4% 26.4% 17.0% 46.6% 34.1% 21.8% 14.7% 13.1% 20.8% 12.5% 10.3% 9.1% 10.2% 7.6% 5.7% 16.4% 15.4% 12.5% 12.6% 11.7% 13.2% 9.7% 7.1% 13.9% 7.9% 0.4% 1.6% 5.8% 7.3% 5.2% 3.4% 3.2% 0.5% 10.4% 7.8%	2015 2016 2017 2018 2019 27.8% 28.4% 18.2% 13.1% 11.5% 50.9% 42.4% 26.4% 17.0% 14.1% 46.6% 34.1% 21.8% 14.7% 13.1% 13.1% 20.8% 12.5% 10.3% 9.3% 9.1% 10.2% 7.6% 5.7% 4.8% 16.4% 15.4% 12.5% 12.6% 11.1% 11.7% 13.2% 9.7% 7.1% 6.5% 13.9% 7.9% 0.4% -2.7% 5.8% 7.3% 5.2% 3.4% 2.8% 3.2% 0.5% 10.4% 7.8% 6.2% 20.4% 20.5% 14.9% 12.5% 11.0%

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices on all formats mentioned; *includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets Source: eMarketer, Sep 2016

215889

www.eMarketer.com

US Digital Ad Spending Share, by Format, 2015-2020 % of total and billions

	2015	2016	2017	2018	2019	2020
Display	45.0%	47.9 %	49.3%	49.6%	49.8 %	50.0%
—Banners and other*	19.9%	20.0%	19.5%	19.2%	18.9%	19.0%
—Video	12.8%	14.3%	15.1%	15.5%	15.8%	15.9%
—Rich media	9.4%	11.1%	12.2%	12.7%	13.0%	13.1%
-Sponsorships	2.9%	2.6%	2.5%	2.3%	2.2%	2.1%
Search	48.2%	46.2%	45.2%	45.3%	45.3%	45.4%
Lead generation	2.9 %	2.6%	2.4%	2.2%	2.0%	1.9%
Classifieds and directories	3.0%	2.5%	2.4%	2.3%	2.2%	2.1%
Email	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%
Mobile messaging	0.5%	0.4%	0.4%	0.3%	0.3%	0.2%
Total	\$59.82	\$72.09	\$82.86	\$93.18	\$103.39	\$113.18

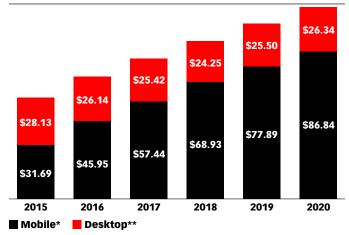
Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices on all formats mentioned; numbers may not add up to 100% due to rounding; *includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets

Source: eMarketer, Sep 2016

215882

www.eMarketer.com

US Digital Ad Spending, by Device, 2015-2020 billions



Note: *includes classifieds, display (banners, rich media, video and other), email, lead generation, messaging-based advertising and search; includes ad spending on tablets; **includes spending primarily on desktop-based ads

Source: eMarketer, Sep 2016

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www.eMarketer.com

2020

\$86.84

\$44.68

\$35.61

US Digital Ad Spending, by Device and Format, 2015-2020 bil

billions					
	2015	2016	2017	2018	2019
Mobile*	\$31.69	\$45.95	\$57.44	\$68.93	\$77.89
Display	\$16.18	\$23.60	\$29.62	\$35.47	\$40.08
—Banners, rich	\$13.29	\$19.14	\$23.75	\$28.36	\$31.98

media, sponsorships

and other**						
—Video	\$2.89	\$4.47	\$5.87	\$7.11	\$8.11	\$9.08
Search	\$14.17	\$20.28	\$25.06	\$29.87	\$33.60	\$37.43
SMS/MMS/P2P messaging	\$0.27	\$0.29	\$0.29	\$0.29	\$0.28	\$0.28
Other (classifieds and directories, email and	\$1.06	\$1.78	\$2.47	\$3.30	\$3.93	\$4.45

lead generation)

Desktop***	\$28.13	\$26.14	\$25.42	\$24.25	\$25.50	\$26.34
Search	\$14.67	\$13.00	\$12.38	\$12.31	\$13.27	\$13.94
Display	\$10.73	\$10.96	\$11.24	\$10.72	\$11.43	\$11.95
—Video	\$4.79	\$5.84	\$6.68	\$7.29	\$8.18	\$8.88
—Banners, rich media, sponsorships and other**	\$5.94	\$5.12	\$4.55	\$3.43	\$3.25	\$3.08
Other (classifieds and directories, email and lead generation)	\$2.73	\$2.18	\$1.81	\$1.22	\$0.81	\$0.45
Total	\$59.82	\$72.09	\$82.86	\$93.18	\$103.39	\$113.18

\$82.86 \$93.18 \$103.39 \$113.18 \$59.82 \$72.09

Note: *includes ad spending on tablets; **includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets; ***includes spending primarily on desktop-based ads Source: eMarketer, Sep 2016

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US Digital Ad Spending Growth, by Device and Format, 2015-2020 % change

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	2015	2016	2017	2018	2019	2020
Mobile*	65.5%	45.0%	25.0%	20.0%	13.0%	11.5%
Display	67.8%	45.8%	25.5%	19.8%	13.0%	11.5%
—Video	88.0%	54.5%	31.4%	21.2%	14.1%	11.9%
—Banners, rich media, sponsorships and other**	63.9%	44.0%	24.1%	19.4%	12.7%	11.4%
Search	62.6%	43.1%	23.6%	19.2%	12.5%	11.4%
SMS/MMS/P2P messaging	13.9%	7.9%	-0.4%	-1.6%	-2.7%	-0.1%
Other (classifieds and directories, email and lead generation)	93.3%	67.5%	38.8%	33.6%	19.0%	13.5%
Desktop***	- 7.9 %	-7.1%	-2.7%	-4.6%	5.2%	3.3%
Display	-6.0%	2.1%	2.6%	-4.6%	6.6%	4.6%
—Video	29.4%	21.9%	14.5%	9.1%	12.2%	8.5%
—Banners, rich media, sponsorships and other**	-23.0%	-13.9%	-11.0%	-24.6%	-5.4%	-5.3%
Search	-8.6%	-11.4%	-4.8%	-0.6%	7.8%	5.0%
Other (classifieds and directories, email and lead generation)	-10.9%	-20.0%	-17.2%	-32.3%	-34.0%	-44.0%

Note: *includes ad spending on tablets; **includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets; ***includes spending primarily on desktop-based ads Source: eMarketer, Sep 2016

215878	www. eMarketer .com

US Digital Ad Spending Share, by Device and Format, 2015-2020

% of total digital ad spending

	2015	2016	2017	2018	2019	2020
Mobile*	53.0%	63.7%	69.3 %	74.0%	75.3%	76.7%
Display	27.1%	32.7%	35.7%	38.1%	38.8%	39.5%
—Banners, rich media, sponsorships and other**	22.2%	26.5%	28.7%	30.4%	30.9%	31.5%
—Video	4.8%	6.2%	7.1%	7.6%	7.8%	8.0%
Search	23.7%	28.1%	30.2%	32.1%	32.5%	33.1%
SMS/MMS/P2P messaging	0.5%	0.4%	0.4%	0.3%	0.3%	0.2%
Other (classifieds and directories, email and lead generation)	1.8%	2.5%	3.0%	3.5%	3.8%	3.9%

Desktop***	47.0%	36.3%	30.7%	26.0%	24.7%	23.3%
Search	24.5%	18.0%	14.9%	13.2%	12.8%	12.3%
Display	17.9%	15.2%	13.6%	11.5%	11.1%	10.6%
—Video	8.0%	8.1%	8.1%	7.8%	7.9%	7.8%
—Banners, rich media, sponsorships and other**	9.9%	7.1%	5.5%	3.7%	3.1%	2.7%
Other (classifieds and directories, email and lead generation)	4.6%	3.0%	2.2%	1.3%	0.8%	0.4%

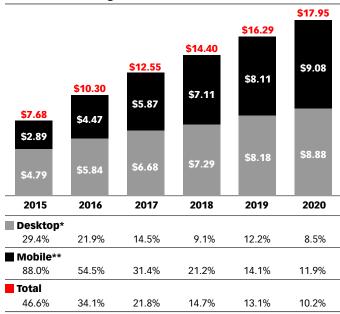
Note: *includes ad spending on tablets; **includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets; ***includes spending primarily on desktop-based ads

Source: eMarketer, Sep 2016

215876

www.eMarketer.com

US Digital Video Ad Spending, by Device, 2015-2020 billions and % change



Note: includes advertising that appears before, during or after digital video content in a video player; numbers may not add up to total due to rounding; *includes advertising that appears on desktop and laptop computers and other internet-connected devices; **includes mobile phones and tablets Source: eMarketer, Sep 2016

216109

www.eMarketer.com

US Digital Video Ad Spending Share, by Device, 2015-2020

% of total media ad spending

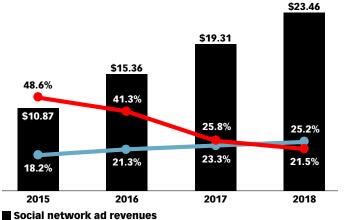
	2015	2016	2017	2018	2019	2020
Desktop*	2.6%	3.0%	3.2%	3.3%	3.5%	3.7%
Mobile**	1.6%	2.3%	2.8%	3.2%	3.5%	3.7%
Total digital	4.2%	5.3%	6.1%	6.6%	7.1%	7.4%

Note: includes advertising that appears before, during or after digital video content in a video player, *includes spending primarily on desktop-based ads; **includes ad spending on tablets Source: eMarketer, Sep 2016

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US Social Network Ad Revenues, 2015-2018

billions, % change and % of digital ad spending



Social lietwork au revenues

📕 % change 🛛 📕 % of digital ad spending

Note: includes paid advertising appearing within social networks, social network games and social network apps; excludes spending by marketers that goes toward developing or maintaining a social network presence Source: eMarketer, Sep 2016

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US Social Network Ad Revenues, by Venue, 2015-2018 millions, % change and % of total

	2015	2016	2017	2018
Facebook	\$8,027.6	\$11,932.4	\$15.193.8	\$18.570.2
—% change	51.9%	48.6%	27.3%	22.2%
—% of total	73.9%	77.7%	78.7%	79.2%
Twitter	\$1,277.6	\$1,338.7	\$1,404.3	\$1,469.1
—% change	54.6%	4.8%	4.9%	4.6%
—% of total	11.8%	8.7%	7.3%	6.3%
LinkedIn	\$609.4	\$730.8	\$807.5	\$911.5
—% change	35.4%	19.9%	10.5%	12.9%
—% of total	5.6%	4.8%	4.2%	3.9%
Snapchat	\$58.1	\$348.4	\$804.5	\$1,320.1
—% change	-	500.1%	130.9%	64.1%
—% of total	0.5%	2.3%	4.2%	5.6%
Social games	\$311.2	\$336.9	\$357.6	\$375.9
—% change	13.6%	8.3%	6.2%	5.1%
—% of total	2.9%	2.2%	1.9%	1.6%
Other	\$584.0	\$669.5	\$745.6	\$811.4
—% change	21.9%	14.6%	11.4%	8.8%
—% of total	5.4%	4.4%	3.9%	3.5%
Total	\$10,867.8	\$15,356.6	\$19,313.3	\$23,458.2

Note: includes paid advertising appearing within social networks, social network games and social network apps; excludes spending by marketers that goes toward developing or maintaining a social network presence; numbers may not add up to total due to rounding Source: company reports; eMarketer, Sep 2016

215966

www.eMarketer.com

www.eMarketer.com

US Ad Spending per User, by Venue, 2015-2018 \$ per person and CAGR

	2015	2016	2017	2018	CAGR (2015- 2018)
Digital ad spend per internet user ⁽¹⁾	\$229.37	\$269.64	\$303.23	\$335.22	13.5%
Social network ad spend per social network user ⁽²⁾	\$60.35	\$82.67	\$101.04	\$119.51	25.6%
Facebook ad spend per Facebook user ⁽³⁾	\$49.51	\$71.52	\$88.65	\$105.78	28.8%
Digital video ad spend per digital video viewer (4)	\$37.09	\$47.90	\$56.58	\$63.29	19.5%
Twitter ad spend per Twitter user ⁽⁵⁾	\$24.96	\$25.64	\$26.38	\$27.10	2.8%
Snapchat ad spend per Snapchat user ⁽⁶⁾	\$1.26	\$5.94	\$12.07	\$18.03	142.8%

Note: among users of the above via any device at least once per month; (1) includes classifieds/directories, banners and other, email, lead generation, mobile, rich media, search, sponsorships and video; (2) includes paid advertising appearing within social networks, social network games and social network apps; excludes spending by marketers that goes toward developing or maintaining a social network presence; (3) paid advertising only; excludes spending by marketers that goes toward developing or maintaining a facebook presence; (4) includes advertising that appears before, during or after digital video content in a video player; (5) paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Twitter presence; (6) paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Social network that goes toward developing or maintaining a Social network presence; (6) paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Twitter presence; (6) paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Twitter presence; (6) paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Twitter presence; (6) paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Social network to avert developing or maintaining a Social network toward toward developing or maintaining a Social network toward toward developing or maintaining a Social network toward to

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US DIGITAL AD SPENDING, BY INDUSTRY

US Digital Ad Spending, by Industry, 2015-2020 billions and CAGR

	2015	2016	2017	2018	2019	2020	CAGR (2015- 2020)
Retail	\$13.18	\$15.81	\$18.15	\$20.41	\$22.65	\$24.78	13.5%
Automotive	\$7.45	\$9.13	\$10.64	\$12.15	\$13.69	\$15.21	15.3%
Financial services	\$7.33	\$8.77	\$10.09	\$11.23	\$12.35	\$13.39	12.8%
Telecom	\$6.62	\$7.90	\$8.99	\$10.02	\$11.02	\$11.95	12.5%
CPG & consumer products	\$5.07	\$6.25	\$7.26	\$8.26	\$9.27	\$10.26	15.1%
Travel	\$4.95	\$5.96	\$6.77	\$7.52	\$8.24	\$8.90	12.5%
Computing products & consumer electronics	\$4.53	\$5.46	\$6.27	\$7.05	\$7.82	\$8.57	13.6%
Media	\$3.46	\$4.24	\$4.79	\$5.38	\$5.97	\$6.54	13.6%
Entertainment	\$2.86	\$3.45	\$4.04	\$4.64	\$5.25	\$5.86	15.4%
Healthcare & pharma	\$1.67	\$2.02	\$2.32	\$2.66	\$3.00	\$3.34	14.8%
Other	\$2.69	\$3.10	\$3.54	\$3.87	\$4.14	\$4.40	10.3%
Total	\$59.82	\$72.09	\$82.86	\$03 18	\$103.30	\$113.18	13.6%

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; numbers may not add up to total due to rounding Source: eMarketer, Sep 2016

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US Digital Ad Spending Share, by Industry, 2015-2020 % of total

	2015	2016	2017	2018	2019	2020
Retail	22.0%	21.9%	21.9%	21.9%	21.9%	21.9%
Automotive	12.5%	12.7%	12.8%	13.0%	13.2%	13.4%
Financial services	12.3%	12.2%	12.2%	12.0%	11.9%	11.8%
Telecom	11.1%	11.0%	10.9%	10.8%	10.7%	10.6%
CPG & consumer products	8.5%	8.7%	8.8%	8.9%	9.0%	9.1%
Travel	8.3%	8.3%	8.2%	8.1%	8.0%	7.9%
Computing products & consumer electronics	7.6%	7.6%	7.6%	7.6%	7.6%	7.6%
Media	5.8%	5.9%	5.8%	5.8%	5.8%	5.8%
Entertainment	4.8%	4.8%	4.9%	5.0%	5.1%	5.2%
Healthcare & pharma	2.8%	2.8%	2.8%	2.9%	2.9%	3.0%
Other	4.5%	4.3%	4.3%	4.2%	4.0%	3.9%

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; numbers may not add up to 100% due to rounding Source: eMarketer, Sep 2016

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US Digital Ad Spending Growth, by Industry, 2015-2020 % change

	2015	2016	2017	2018	2019	2020
CPG & consumer products	21.7%	23.3%	16.1%	13.7%	12.2%	10.7%
Media	24.6%	22.6%	12.9%	12.5%	11.0%	9.5%
Automotive	22.2%	22.4%	16.6%	14.2%	12.7%	11.1%
Entertainment	22.8%	20.5%	17.2%	14.7%	13.2%	11.6%
Healthcare & pharma	20.0%	20.5%	14.9%	14.5%	12.9%	11.4%
Computing products & consumer electronics	20.3%	20.5%	14.8%	12.5%	11.0%	9.5%
Travel	20.3%	20.5%	13.4%	11.1%	9.6%	8.1%
Retail	20.3%	20.0%	14.8%	12.5%	11.0%	9.4%
Financial services	19.3%	19.5%	15.1%	11.2%	10.0%	8.4%
Telecom	19.2%	19.4%	13.8%	11.4%	9.9%	8.5%
Other	13.1%	15.2%	14.1%	9.3%	6.9%	6.3%
Total	20.4 %	20.5 %	14.9%	12.5%	11.0%	9.5%

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms Source: eMarketer, Sep 2016

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US MOBILE AD SPENDING

US Mobile Ad Spending, 2015-2020

	2015	2016	2017	2018	2019	2020
Mobile ad spending (billions)	\$31.69	\$45.95	\$57.44	\$68.93	\$77.89	\$86.84
—% change	65.5%	45.0%	25.0%	20.0%	13.0%	11.5%
—% of digital ad spending	53.0%	63.7%	69.3%	74.0%	75.3%	76.7%
—% of total media ad spending	17.3%	23.5%	27.7%	31.4%	33.7%	35.8%
Note: includes classified email, lead generation, l advertising; includes ad Source: eMarketer, Sep	messagin spending	g-based	advertisi			her),

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	2015	2016	2017	2018	2019	2020
Mobile internet ad spending (billions)	\$31.42	\$45.66	\$57.15	\$68.64	\$77.61	\$86.56
—% change	66.1%	45.3%	25.2%	20.1%	13.1%	11.5%
—% of digital ad spending	52.5%	63.3%	69.0%	73.7%	75.1%	76.5%
—% of total media ad spending	17.2%	23.3%	27.6%	31.3%	33.6%	35.7%

Note: includes banners and ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets, rich media, sponsorships and video, video on WAP sites, mobile HTML sites and embedded in-app/in-game advertising; excludes SMS, MMS and P2P messaging-based advertising; includes ad spending on tablets

Source: eMarketer, Sep 2016 215972

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US Mobile Ad Spending, by Format, 2015-2020 billions

	2015	2016	2017	2018	2019	2020
Display	\$16.18	\$23.60	\$29.62	\$35.47	\$40.08	\$44.68
—Banners, rich media, sponsorships and other*	\$13.29	\$19.14	\$23.75	\$28.36	\$31.98	\$35.61
—Video	\$2.89	\$4.47	\$5.87	\$7.11	\$8.11	\$9.08
Search	\$14.17	\$20.28	\$25.06	\$29.87	\$33.60	\$37.43
SMS/MMS/P2P messaging	\$0.27	\$0.29	\$0.29	\$0.29	\$0.28	\$0.28
Other (classifieds, email, lead gen)	\$1.06	\$1.78	\$2.47	\$3.30	\$3.93	\$4.45
Total	\$31.69	\$45.95	\$57.44	\$68.93	\$77.89	\$86.84

Note: includes ad spending on tablets; numbers may not add up to total due to rounding; *includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets Source: eMarketer, Sep 2016

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US Mobile Ad Spending Growth, by Format, 2015-2020 % change

2015	2016	2017	2018	2019	2020
67.8%	45.8%	25.5%	19.8%	13.0%	11.5%
88.0%	54.5%	31.4%	21.2%	14.1%	11.9%
63.9%	44.0%	24.1%	19.4%	12.7%	11.4%
62.6 %	43.1%	23.6%	19.2%	12.5%	11.4%
13.9 %	7.9 %	-0.4%	-1.6%	-2.7%	-0.1%
93.3%	67 .5%	38.8%	33.6%	19.0%	13.5%
65.5%	45 0%	25.0%	20.0%	13.0%	11.5%
	67.8% 88.0% 63.9% 62.6% 13.9% 93.3%	67.8% 45.8% 88.0% 54.5% 63.9% 44.0% 62.6% 43.1% 13.9% 7.9% 93.3% 67.5%	67.8% 45.8% 25.5% 88.0% 54.5% 31.4% 63.9% 44.0% 24.1% 62.6% 43.1% 23.6% 13.9% 7.9% -0.4% 93.3% 67.5% 38.8%	67.8% 45.8% 25.5% 19.8% 88.0% 54.5% 31.4% 21.2% 63.9% 44.0% 24.1% 19.4% 62.6% 43.1% 23.6% 19.2% 13.9% 7.9% -0.4% -1.6% 93.3% 67.5% 38.8% 33.6%	67.8% 45.8% 25.5% 19.8% 13.0% 88.0% 54.5% 31.4% 21.2% 14.1% 63.9% 44.0% 24.1% 19.4% 12.7% 62.6% 43.1% 23.6% 19.2% 12.5% 13.9% 7.9% -0.4% -1.6% -2.7% 93.3% 67.5% 38.8% 33.6% 19.0%

Note: includes ad spending on tablets; *includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets Source: eMarketer, Sep 2016

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US Mobile Ad Spending Share, by Format, 2015-2020 % of total

2015	2016	2017	2018	2019	2020
51.1%	51.4%	51.6%	51.5%	51.5%	51.5%
41.9%	41.6%	41.4%	41.2%	41.1%	41.0%
9.1%	9.7%	10.2%	10.3%	10.4%	10.5%
44.7%	44.1%	43.6%	43.3%	43.1%	43.1%
0.9%	0.6%	0.5%	0.4%	0.4%	0.3%
3.4%	3.9 %	4.3%	4.8 %	5.0%	5.1%
	51.1% 41.9% 9.1% 44.7% 0.9%	51.1% 51.4% 41.9% 41.6% 9.1% 9.7% 44.7% 44.1% 0.9% 0.6%	51.1% 51.4% 51.6% 41.9% 41.6% 41.4% 9.1% 9.7% 10.2% 44.7% 44.1% 43.6% 0.9% 0.6% 0.5%	51.1% 51.4% 51.6% 51.5% 41.9% 41.6% 41.4% 41.2% 9.1% 9.7% 10.2% 10.3% 44.7% 44.1% 43.6% 43.3% 0.9% 0.6% 0.5% 0.4%	51.1% 51.4% 51.6% 51.5% 51.5% 41.9% 41.6% 41.4% 41.2% 41.1% 9.1% 9.7% 10.2% 10.3% 10.4% 44.7% 44.1% 43.6% 43.3% 43.1% 0.9% 0.6% 0.5% 0.4% 0.4%

Note: includes ad spending on tablets; numbers may not add up to 100% due to rounding; *includes ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets Source: eMarketer, Sep 2016

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US DIGITAL AD REVENUES, BY COMPANY

Net US Digital Ad Revenues, by Company, 2015-2018 *billions, % change and % of total*

	2015	2016	2017	2018
Google	\$24.68	\$29.56	\$33.93	\$38.51
—% change	26.3%	19.8%	14.8%	13.5%
—% of total	41.3%	41.0%	40.9%	41.3%
Facebook	\$8.03	\$11.93	\$15.19	\$18.57
—% change	51.9%	48.6%	27.3%	22.2%
—% of total	13.4%	16.6%	18.3%	19.9%
Microsoft	\$2.42	\$2.77	\$3.11	\$3.38
—% change	18.1%	14.5%	12.5%	8.5%
—% of total	4.0%	3.8%	3.8%	3.6%
Yahoo	\$2.51	\$2.23	\$2.26	\$2.29
—% change	-1.3%	-11.4%	1.5%	1.5%
—% of total	4.2%	3.1%	2.7%	2.5%
Twitter	\$1.28	\$1.34	\$1.40	\$1.47
—% change	54.6%	4.8%	4.9%	4.6%
—% of total	2.1%	1.9%	1.7%	1.6%
Verizon (AOL and Millennial Media)	\$1.21	\$1.27	\$1.32	\$1.37
—% change	5.7%	4.7%	4.4%	3.9%
—% of total	2.0%	1.8%	1.6%	1.5%
Amazon	\$0.71	\$0.94	\$1.03	\$1.14
—% change	8.7%	33.7%	9.4%	10.0%
—% of total	1.2%	1.3%	1.2%	1.2%
LinkedIn	\$0.61	\$0.73	\$0.81	\$0.9 1
—% change	35.4%	19.9%	10.5%	12.9%
—% of total	1.0%	1.0%	1.0%	1.0%
IAC	\$0.78	\$0.61	\$0.61	\$0.63
—% change	-4.2%	-22.3%	0.8%	2.3%
—% of total	1.3%	0.8%	0.7%	0.7%
Yelp	\$0.47	\$0.59	\$0.71	\$0.85
—% change	35.5%	26.2%	20.0%	19.0%
—% of total	0.8%	0.8%	0.9%	0.9%
Snapchat	\$0.06	\$0.35	\$0.80	\$1.32
—% change	-	500.1%	130.9%	64.1%
—% of total	0.1%	0.5%	1.0%	1.4%
Total digital ad spending	\$59.82	\$72.09	\$82.86	\$93.18

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites

Source: company reports; eMarketer, Sep 2016

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Net US Search Ad Revenues, by Company, 2015-2018 billions, % change and % of total

	2015	2016	2017	2018
Google	\$20.47	\$24.77	\$28.67	\$32.54
—% change	25.8%	21.0%	15.8%	13.5%
—% of total	71.0%	74.4%	76.6%	77.2%
Microsoft	\$2.42	\$2.77	\$3.11	\$3.38
—% change	18.1%	14.5%	12.5%	8.5%
—% of total	8.4%	8.3%	8.3%	8.0%
Yahoo	\$1.25	\$1.03	\$1.04	\$1.06
—% change	-5.3%	-17.7%	1.0%	2.0%
—% of total	4.3%	3.1%	2.8%	2.5%
Yelp	\$0.44	\$0.59	\$0.71	\$0.85
—% change	40.5%	35.0%	20.0%	19.0%
—% of total	1.5%	1.8%	1.9%	2.0%
IAC	\$0.73	\$0.55	\$0.54	\$0.55
—% change	-5.6%	-25.1%	-0.5%	1.0%
—% of total	2.5%	1.6%	1.5%	1.3%
Amazon	\$0.18	\$0.24	\$0.26	\$0.28
—% change	8.7%	33.7%	9.4%	10.0%
—% of total	0.6%	0.7%	0.7%	0.7%
Verizon (AOL)	\$0.21	\$0.21	\$0.21	\$0.21
—% change	-3.9%	-1.4%	1.6%	1.0%
—% of total	0.7%	0.6%	0.6%	0.5%
Total search ad spending	\$28.84	\$33.28	\$37.44	\$42.18

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices; net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes contextual text links, paid inclusion, paid listings (paid search) and SEO Source: company reports; eMarketer, Sep 2016

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Net US Digital Display Ad Revenues, by Company, 2015-2018

billions, % change and % of total

	2015	2016	2017	2018
Facebook	\$8.03	\$11.93	\$15.19	\$18.57
—% change	51.9%	48.6%	27.3%	22.2%
—% of total	29.8%	34.5%	37.2%	40.2%
Google	\$4.21	\$4.79	\$5.26	\$5.97
—% change	28.8%	13.7%	9.9%	13.5%
—% of total	15.6%	13.8%	12.9%	12.9%
Twitter	\$1.28	\$1.34	\$1.40	\$1.47
—% change	54.6%	4.8%	4.9%	4.6%
—% of total	4.7%	3.9%	3.4%	3.2%
Yahoo	\$1.27	\$1.20	\$1.22	\$1.24
—% change	3.1%	-5.2%	2.0%	1.0%
—% of total	4.7%	3.5%	3.0%	2.7%
Verizon (AOL and Millennial Media)	\$1.00	\$1.06	\$1.11	\$1.16
—% change	7.9%	6.0%	5.0%	4.4%
—% of total	3.7%	3.1%	2.7%	2.5%
Amazon	\$0.53	\$0.71	\$0.77	\$0.85
—% change	8.7%	33.7%	9.4%	10.0%
—% of total	2.0%	2.0%	1.9%	1.8%
Linkedin	\$0.38	\$0.46	\$0.50	\$0.56
—% change	39.0%	21.2%	9.9%	11.2%
—% of total	1.4%	1.3%	1.2%	1.2%
Snapchat	\$0.06	\$0.35	\$0.80	\$1.32
—% change	-	500.1%	130.9%	64.1%
—% of total	0.2%	1.0%	2.0%	2.9%
IAC	\$0.05	\$0.06	\$0.07	\$0.08
—% change	19.1%	16.8%	12.3%	12.0%
—% of total	0.2%	0.2%	0.2%	0.2%
Total digital display ad spending	\$26.92	\$34.56	\$40.86	\$46.19

Total digital display ad spending \$26.92 \$34.56 \$40.86 \$46.19

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices; net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes banner ads and other (static display ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets), rich media, sponsorships and video (including advertising that appears before, during or after digital video content in a video player) Source: company reports; eMarketer, Sep 2016

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Net US Digital Ad Revenue Share, by Company, 2015-2018

% of total media ad spending and billions

	2015	2016	2017	2018
Google	13.5%	15.1%	16.4%	17.6%
Facebook	4.4%	6.1%	7.3%	8.5%
Microsoft	1.3%	1.4%	1.5%	1.5%
Yahoo	1.4%	1.1%	1.1%	1.0%
Twitter	0.7%	0.7%	0.7%	0.7%
Verizon (AOL and Millennial Media)	0.7%	0.6%	0.6%	0.6%
Amazon	0.4%	0.5%	0.5%	0.5%
LinkedIn	0.3%	0.4%	0.4%	0.4%
IAC	0.4%	0.3%	0.3%	0.3%
Yelp	0.3%	0.3%	0.3%	0.4%
Snapchat	-	0.2%	0.4%	0.6%
Total digital	32.7 %	36.8 %	40.0%	42.5 %
Total media ad spending	\$183.06	\$195.76	\$207.30	\$219.27

(billions)

Note: includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; total media includes digital (desktop/laptop, mobile and other internet-connected devices), directories, magazines, newspapers, out-of-home, radio and TV

Source: company reports; eMarketer, Sep 2016

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Google Net US Ad Revenues, by Device and Format, 2015-2018

billions and % of total

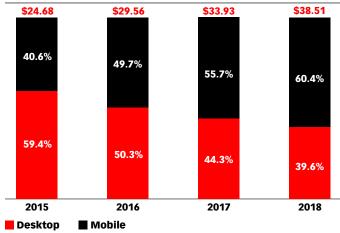
	2015	2016	2017	2018
Search				
Mobile	\$8.54	\$12.73	\$16.42	\$20.36
—% of total	34.6%	43.1%	48.4%	52.9%
Desktop	\$11.92	\$12.04	\$12.25	\$12.18
—% of total	48.3%	40.7%	36.1%	31.6%
Display				
Desktop	\$2.74	\$2.83	\$2.79	\$3.06
—% of total	11.1%	9.6%	8.2%	7.9%
Mobile	\$1.47	\$1.96	\$2.47	\$2.91
—% of total	6.0%	6.6%	7.3%	7.6%
Total	\$24.68	\$29.56	\$33.93	\$38.51

Note: net ad revenues after company pays traffic acquisition costs (TAC) and content acquisition costs (CAC) to partner sites; mobile includes tablets; numbers may not add up to total due to rounding Source: company reports; eMarketer, Sep 2016

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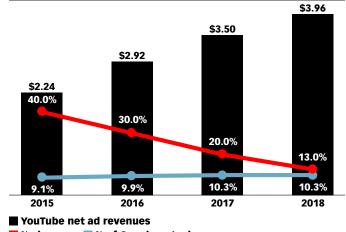
Google Net US Ad Revenues, by Device, 2015-2018 *billions and % of total*



Note: net ad revenues after company pays traffic acquisition costs (TAC) and content acquisition costs (CAC) to partner sites; mobile includes tablets; numbers may not add up to 100% due to rounding Source: company reports; eMarketer, Sep 2016 216106 www.eMarketer.com

YouTube Net US Ad Revenues, 2015-2018

billions, % change and % of Google net ad revenues

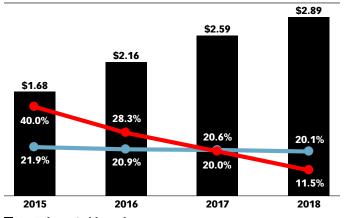


📕 % change 🛛 📕 % of Google net ad revenues

Note: net ad revenues after company pays traffic acquisition costs (TAC) and content acquisition costs (CAC) to partner sites; includes banners, rich media, search and video ads Source: company reports; eMarketer, Sep 2016

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YouTube Net US Video Ad Revenues, 2015-2018 billions, % change and % of total video ad revenues



YouTube net video ad revenues

📕 % change 🛛 📕 % of total video ad revenues

Note: net ad revenues after company pays traffic acquisition costs (TAC) and content acquisition costs (CAC) to partner sites Source: company reports; eMarketer, Sep 2016

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YouTube Net Ad Revenues Worldwide, US vs. Non-US, 2015-2018

billions and % of total

	2015	2016	2017	2018
US	\$2.24	\$2.92	\$3.50	\$3.96
-% of worldwide total	52.5%	52.3%	49.6%	48.5%
Non-US	\$2.03	\$2.66	\$3.55	\$4.20
—% of worldwide total	47.5%	47.7%	50.4%	51.5%
Worldwide	\$4.28	\$5.58	\$7.05	\$8.16

Note: net ad revenues after company pays traffic acquisition costs (TAC) and content acquisition costs (CAC) to partner sites; includes banners, rich media, search and video ads

Source: company reports; eMarketer, Sep 2016

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Facebook Ad Revenues Worldwide, US vs. Non-US, 2015-2018

billions and % of total

	0045	0047	0047	0040
	2015	2016	2017	2018
US	\$8.03	\$11.93	\$15.19	\$18.57
—% of worldwide total	47%	46%	45%	44%
Non-US	\$9.05	\$14.01	\$18.57	\$23.63
—% of worldwide total	53%	54%	55%	56%
Worldwide	\$17.08	\$25.94	\$33.76	\$42.20

Note: paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Facebook presence Source: company reports; eMarketer, Sep 2016

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Instagram Net Mobile Ad Revenues Worldwide, US vs. Non-US, 2015-2018

billions, % change and % of total

	2015	2016	2017	2018
US	\$0.60	\$1.58	\$2.73	\$4.65
—% change	-	165%	73%	70%
—% of worldwide total	95%	85%	75%	68%
Non-US	\$0.03	\$0.28	\$0.91	\$2.19
—% change	-	788%	227%	140%
-% of worldwide total	5%	15%	25%	32%
Worldwide	\$0.63	\$1.86	\$3.64	\$6.84
—% change	-	196%	96%	88%

Note: paid advertising only; excludes spending by marketers that goes toward developing or maintaining an Instagram presence; numbers may not add up to total due to rounding Source: eMarketer, Sep 2016

216114

www.eMarketer.com

Instagram Net Mobile Ad Revenue Share of Facebook Mobile Ad Revenues Worldwide, US vs. Non-US, 2015-2018

	2015	2016	2017	2018
% of US Facebook net mobile ad revenues	9.6%	15.6%	20.4%	27.8%
% of non-US Facebook net mobile ad revenues	0.4%	2.4%	5.6%	10.3%
% of Facebook net mobile ad revenues worldwide	4.8 %	8.4 %	12.3%	18.0%
Note: paid advertising only; excludes spend toward developing or maintaining an Instag Source: eMarketer, Sep 2016			rs that go	oes

216115

www.eMarketer.com

US Facebook and Twitter Ad Revenue Share, by Device, 2015-2018

billions and % of total

	2015	2016	2017	2018
Facebook				
Mobile	77.0%	85.0%	88.0%	90.0%
Desktop	23.0%	15.0%	12.0%	10.0%
Total	\$8.03	\$11.93	\$15.19	\$18.57
Twitter				
Mobile	88.0%	88.5%	89.0%	89.5%
Desktop	12.0%	11.5%	11.0%	10.6%
Total	\$1.28	\$1.34	\$1.40	\$1.47

Note: paid advertising only; excludes spending by marketers that goes toward developing or maintaining a social networking presence Source: company reports; eMarketer, Sep 2016 216093

Twitter Ad Revenues Worldwide, US vs. Non-US, 2015-2018

billions and % of total

	2015	2016	2017	2018
US	\$1.28	\$1.34	\$1.40	\$1.47
—% of worldwide total	64%	59%	56%	53%
Non-US	\$0.72	\$0.92	\$1.12	\$1.32
—% of worldwide total	36%	41%	44%	47%
Worldwide	\$1.26	\$2.26	\$2.53	\$2.79

Note: paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Twitter presence; net ad revenues after company pays traffic acquisition costs (TAC) to partner sites; includes ad spending on tablets; excludes SMS, MMS and P2P messaging-based advertising; numbers may not add up to total due to rounding Source: company reports; eMarketer, Sep 2016 216095

www.eMarketer.com

LinkedIn Ad Revenues Worldwide, US vs. Non-US, 2015-2018

millions and % of total

	2015	2016	2017	2018
US	\$609.4	\$730.8	\$807.5	\$911.5
—% of worldwide total	64%	63%	62%	62%
Non-US	\$348.5	\$430.5	\$486.3	\$555.5
—% of worldwide total	36%	37%	38%	38%
Worldwide	\$957.9	\$1,161.3	\$1,293.7	\$1,467.0

Note: figures represent revenue from LinkedIn's Marketing Solutions business segment and job posting classifieds ad revenue from Talent Solutions; numbers may not add up to total due to rounding Source: company reports; eMarketer, Sep 2016 216096

www.eMarketer.com

Snapchat Ad Revenues Worldwide, US vs. Non-US, 2015-2018

millions and % of total

	2015	2016	2017	2018
US ad revenues	\$58.1	\$348.4	\$804.5	\$1,320.1
—% of worldwide total	98.0%	95.0%	86.0%	75.0%
Non-US ad revenues	\$1.2	\$18.3	\$131.0	\$440.0
—% of worldwide total	2.0%	5.0%	14.0%	25.0%
Worldwide	\$59.2	\$366.7	\$935.5	\$1,760.1

Note: paid advertising only: excludes spending by marketers that goes toward developing or maintaining a Snapchat presence Source: eMarketer, Sep 2016

215545

www.eMarketer.com

US Snapchat Ad Revenues, by Source, 2015-2018 millions and % of total

	2015	2016	2017	2018
Snap Ads—Discover	\$58.1	\$149.8	\$243.2	\$401.0
—% of total	100.0%	43.0%	30.2%	30.4%
Snap Ads—Live Stories	-	\$96.3	\$304.0	\$481.2
—% of total	-	27.7%	37.8%	36.4%
Sponsored lenses	-	\$73.0	\$164.3	\$273.8
—% of total	-	21.0%	20.4%	20.7%
Sponsored geofilters	-	\$29.2	\$93.1	\$164.3
—% of total	-	8.4%	11.6%	12.4%
Total	\$58.1	\$348.4	\$804.5	\$1,320.1

Note: paid advertising only; excludes spending by marketers that goes toward developing or maintaining a Snapchat presence Source: eMarketer, Sep 2016

215547

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NET US MOBILE AD REVENUES, **BY COMPANY**

Net US Mobile Ad Revenues, by Company, 2015-2018 millions

	2015	2016	2017	2018
Google	\$10,017.5	\$14,690.4	\$18,891.8	\$23,277.7
Facebook	\$6,181.3	\$10,142.5	\$13,370.5	\$16,713.2
Twitter	\$1,124.3	\$1,184.7	\$1,249.8	\$1,314.1
Yahoo	\$879.3	\$1,068.2	\$1,242.8	\$1,375.5
Pandora	\$722.6	\$847.1	\$986.3	\$1,124.4
YP	\$637.9	\$765.5	\$895.6	\$1,021.0
Snapchat	\$58.1	\$348.4	\$804.5	\$1,320.1
Yelp	\$211.4	\$272.7	\$330.9	\$406.4
LinkedIn	\$151.2	\$206.2	\$251.9	\$308.1
Amazon	\$105.9	\$188.9	\$258.3	\$397.8
Other	\$11,600.4	\$16,235.6	\$19,155.3	\$21,667.1
Total	\$31,689.8	\$45,950.2	\$57,437.7	\$68,925.2

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes classified, display (banners, rich media, video and other), email, lead generation, messaging-based advertising and search advertising; includes ad spending on tablets; numbers may not add up to total due to revention. total due to rounding

Source: company reports; eMarketer, Sep 2016 216041

Net US Mobile Ad Revenue Growth, by Company, 2015-2018 % change

	2015	2016	2017	2018
Snapchat	-	500.1%	130.9%	64.1%
Amazon	63.0%	78.3%	36.8%	54.0%
Facebook	74.5%	64.1%	31.8%	25.0%
Google	41.8%	46.6%	28.6%	23.2%
LinkedIn	178.1%	36.4%	22.1%	22.3%
Yelp	60.5%	29.0%	21.3%	22.8%
Yahoo	39.0%	21.5%	16.3%	10.7%
YP	25.0%	20.0%	17.0%	14.0%
Pandora	29.1%	17.2%	16.4%	14.0%
Twitter	62.0%	5.4%	5.5%	5.1%
Other	96.8%	40.0%	18.0%	13.1%
Total	65.5 %	45.0%	25.0%	20.0%

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes display (banners, rich media, video and other), search, classified, email, lead generation and messaging-based advertising; includes ad spending on tablets

Source: company reports; eMarketer, Sep 2016

216052

www.eMarketer.com

Net US Mobile Ad Revenue Share, by Company, 2015-2018

% of total and billions

	2015	2016	2017	2018
Google	31.6%	32.0%	32.9%	33.8%
Facebook	19.5%	22.1%	23.3%	24.2%
Twitter	3.5%	2.6%	2.2%	1.9%
Yahoo	2.8%	2.3%	2.2%	2.0%
Pandora	2.3%	1.8%	1.7%	1.6%
YP	2.0%	1.7%	1.6%	1.5%
Snapchat	0.2%	0.8%	1.4%	1.9%
Yelp	0.7%	0.6%	0.6%	0.6%
Amazon	0.3%	0.4%	0.4%	0.4%
LinkedIn	0.5%	0.4%	0.4%	0.4%
Other	36.6%	35.3%	33.3%	31.4%
Total	\$31.69	\$45.95	\$57.44	\$68.93

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes display (banners, rich media, video and other), search and messaging-based advertising; includes ad spending on tablets; numbers may not add up to 100% due to rounding Source: company reports; eMarketer, Sep 2016

216050

www.eMarketer.com

Net US Mobile Ad Revenues as a Percent of Digital Ad Revenues, by Company, 2015-2018

	2015	2016	2017	2018
Twitter	88.0%	88.5%	89.0%	89.5%
Facebook	77.0%	85.0%	88.0%	90.0%
Google	40.6%	49.7%	55.7%	60.4%
Yahoo	35.0%	48.0%	55.0%	60.0%
Yelp	45.0%	46.0%	46.5%	48.0%
LinkedIn	24.8%	28.2%	31.2%	33.8%
Amazon	15.0%	20.0%	25.0%	35.0%
Total	53.0%	63.7%	69.3 %	74.0%

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes classified, display (banners, rich media, video and other), email, lead generation, messaging-based advertising and search advertising; includes ad spending on tablets Source: company reports; eMarketer, Sep 2016

216047

www.eMarketer.com

Net US Mobile Display Ad Revenues, by Company, 2015-2018

millions

	2015	2016	2017	2018
Facebook	\$6,181.3	\$10,142.5	\$13,370.5	\$16,713.2
Google	\$1,473.5	\$1,959.8	\$2,469.3	\$2,913.8
Twitter	\$1,124.3	\$1,184.7	\$1,249.8	\$1,314.1
Pandora	\$722.6	\$847.1	\$986.3	\$1,124.4
Yahoo	\$351.7	\$480.7	\$596.5	\$687.8
Snapchat	\$58.1	\$348.4	\$804.5	\$1,320.1
LinkedIn	\$151.2	\$206.2	\$251.9	\$308.1
Amazon	\$105.9	\$188.9	\$258.3	\$397.8
Yelp	\$4.2	-	-	-
Other	\$6,011.1	\$8,245.0	\$9,630.8	\$10,694.1
Total	\$16,183.8	\$23,603.3	\$29,618.0	\$35,473.3

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes banners and ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets, rich media, sponsorships and video; video on WAP sites, mobile HTML sites and embedded in-app/in-game advertising; excludes SMS, MMS and P2P messaging-based advertising; includes ad spending on tablets; numbers may not add up to total due to rounding. rounding

Source: company reports; eMarketer, Sep 2016

216054

Net US Mobile Display Ad Revenue Growth, by Company, 2015-2018 % change

	2015	2016	2017	2018
Snapchat	-	500.1%	130.9%	64.1%
Amazon	63.0%	78.3%	36.8%	54.0%
Facebook	74.5%	64.1%	31.8%	25.0%
Yahoo	85.4%	36.7%	24.1%	15.3%
LinkedIn	178.1%	36.4%	22.1%	22.3%
Google	30.0%	33.0%	26.0%	18.0%
Pandora	29.1%	17.2%	16.4%	14.0%
Twitter	62.0%	5.4%	5.5%	5.1%
Yelp	-35.8%	-	-	-
Other	76.7%	37.2%	16.8%	11.0%
Total	67.8%	45.8%	25.5%	19.8 %

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes banners and ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets, rich media, sponsorships and video; video on WAP sites, mobile HTML sites and embedded in-app/in-game advertising; excludes SMS, MMS and P2P messaging-based advertising; includes ad spending on tablets

Source: company reports; eMarketer, Sep 2016

216065

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Net US Mobile Display Ad Revenue Share, by Company, 2015-2018 % of total and billions

	2015	2016	2017	2018
Facebook	38.2%	43.0%	45.1%	47.1%
Google	9.1%	8.3%	8.3%	8.2%
Twitter	6.9%	5.0%	4.2%	3.7%
Pandora	4.5%	3.6%	3.3%	3.2%
Yahoo	2.2%	2.0%	2.0%	1.9%
Snapchat	0.4%	1.5%	2.7%	3.7%
LinkedIn	0.9%	0.9%	0.9%	0.9%
Amazon	0.7%	0.8%	0.9%	1.1%
Yelp	0.0%	0.0%	0.0%	0.0%
Other	37.1%	34.9%	32.5%	30.1%
Total (billions)	\$16.18	\$23.60	\$29.62	\$35.47

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes banners and ads such as Facebook's News Feed Ads and Twitter's Promoted Tweets, rich media, sponsorships and video; video on WAP sites, mobile HTML sites and embedded in-app/in-game

advertising; excludes SMS, MMS and P2P messaging-based advertising; includes ad spending on tablets; numbers may not add up to 100% due to rounding

Source: company reports; eMarketer, Sep 2016

216058

www.eMarketer.com

Net US Mobile Internet Search Ad Revenues, by Company, 2015-2018

millions, % change and % of total

	2015	2016	2017	2018
Google	\$8,544.0	\$12,730.6	\$16,422.5	\$20,363.9
—% change	44.1%	49.0%	29.0%	24.0%
—% of total	60.3%	62.8%	65.5%	68.2%
YP	\$637.9	\$765.5	\$895.6	\$1,021.0
—% change	25.0%	20.0%	17.0%	14.0%
—% of total	4.5%	3.8%	3.6%	3.4%
Yahoo	\$527.6	\$587.5	\$646.2	\$687.8
—% change	19.2%	11.4%	10.0%	6.4%
—% of total	3.7%	2.9%	2.6%	2.3%
Yelp	\$207.1	\$272.7	\$330.9	\$406.4
—% change	65.6%	31.7%	21.3%	22.8%
—% of total	1.5%	1.3%	1.3%	1.4%
Other	\$4,257.2	\$5,920.7	\$6,766.2	\$7,389.6
—% change	149.2%	39.1%	14.3%	9.2%
—% of total	30.0%	29.2%	27.0%	24.7%
Total	\$14,173.8	\$20,276.9	\$25,061.4	\$29,868.6

Note: net ad revenues after companies pay traffic acquisition costs (TAC) to partner sites; includes advertising on search engines, search apps and carrier portals; includes ad spending on tablets; excludes SMS, MMS and P2P messaging-based advertising; numbers may not add up to total due to rounding

Source: company reports; eMarketer, Sep 2016

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