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IAB internet advertising revenue report

2018 full year results

Prepared by PwC

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Background

About the IAB internet advertising revenue report

Commissioned by the IAB and conducted by PricewaterhouseCoopers LLP on an ongoing basis, with results released quarterly, the “IAB internet advertising revenue report” was initiated by the Interactive Advertising Bureau (IAB) in 1996. This report utilizes data and information reported directly to PwC from companies selling advertising on the internet as well as publicly available corporate data.

The results reported are considered to be a reasonable measurement of internet/online/mobile advertising revenues because much of the data is compiled directly from information supplied by companies selling advertising online. The report includes data reflecting desktop and mobile online advertising revenues from websites, commercial online services, ad networks and exchanges, mobile devices, and email providers, as well as other companies selling online advertising.

The report is conducted independently by PwC on behalf of the IAB. PwC does not audit the information and provides no opinion or other form of assurance with respect to the information. Only aggregate results are published and individual company information is held in strict confidence with PwC. Further details regarding scope and methodology are provided in the appendix to this report.

Executive summary

Digital revenues for full year 2018 surpassed \$100 billion for the first time

Internet advertising revenues in the United States totaled \$107.5 billion for the full year (“FY”) of 2018, with Q4 2018 accounting for approximately \$31.4 billion and Q3 2018 accounting for approximately \$26.6 billion. Revenues for FY 2018 increased 21.8% over FY 2017.

Quarter over quarter digital revenues increase 18.1% for Q4 2018

Advertising revenues delivered on mobile devices totaled \$69.9 billion in FY 2018, a 39.7% increase from the prior FY 2017 revenues of \$50.1 billion. Advertising delivered on a mobile device now makes up 65.1% of total internet advertising revenues.

Advertising revenues from digital video totaled \$16.3 billion for FY 2018, up 37% from the prior year. Revenues from digital video now make up more than 15% of total revenues.



Surpassing \$100 billion in annual revenue is a watershed moment for the digital advertising ecosystem—one built on its power to build direct relationships between brands and today’s consumers. Innovative platforms like over-the-top television, podcasts, virtual reality, and augmented reality all have the potential to help marketers forge even stronger ties with audiences, as brands navigate the new ‘consumer first’ playing field.”

| Randall Rothenberg, President and CEO, IAB



Year after year, brands have been increasing their commitment to digital as a primary channel to reach consumers. The analysis in this report highlights important drivers and trends that could influence interactive’s trajectory in the years to come, as marketers look to new formats and technologies to help them connect with consumers.”

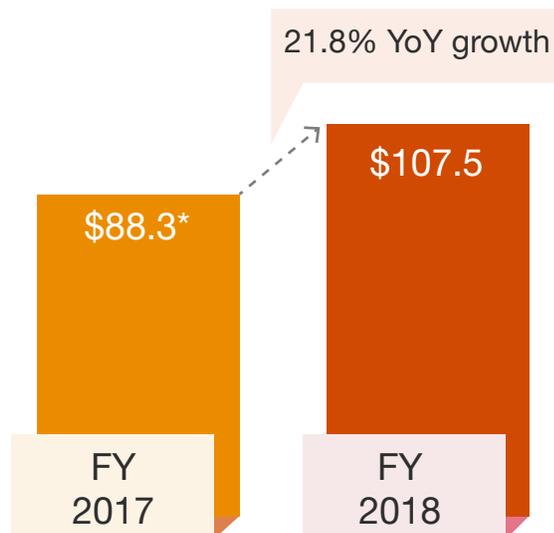
| David Silverman, Partner, PwC

2018 revenues show continuing strong growth

Digital revenues totaled \$107.5B in FY 2018

Revenues for FY 2018 totaled \$107.5 billion, \$19.2 billion (21.8%) higher than in FY 2017.

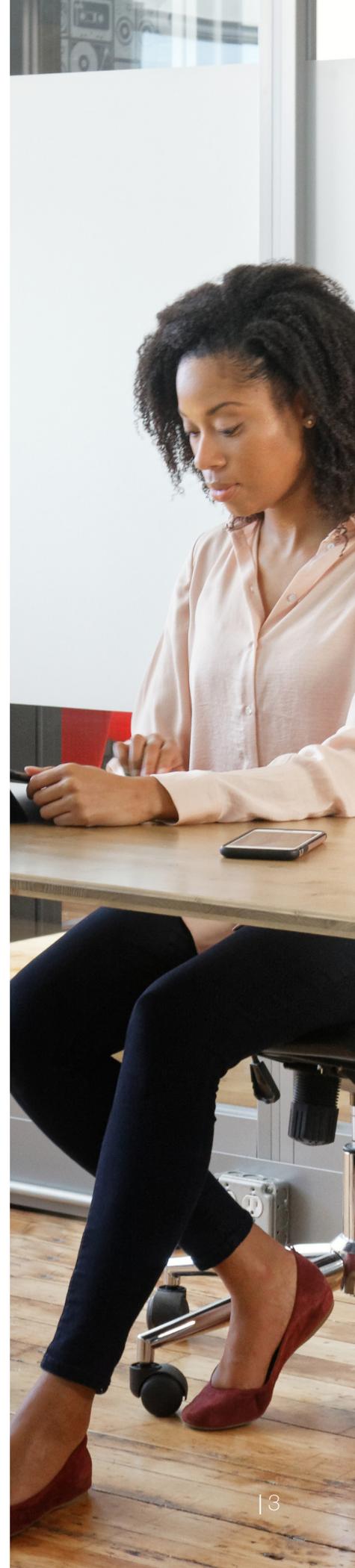
FY 2017 vs. FY 2018 revenue (\$ billions)



* Restated due to inclusion of podcast revenue

(\$ millions)	Q1 2017	Q2 2017	Q3 2017	Q4 2017
As originally reported	\$19,352	\$20,786	\$21,764	\$26,106
As revised	\$19,404	\$20,847	\$21,832	\$26,183

Source: IAB/PwC Internet Ad Revenue Report, FY 2018



Key growth drivers

The Battle for Market Supremacy

At this point, disruption in the United States digital advertising industry is the operational normal. Since the industry's founding two decades ago new entrants and realignments of leading players have brought significant power shifts with disruptive change, and, in recent years, a handful of leading companies generating much of the growth. Digital ad giants are able to gain such strength by advancing capabilities and control over the end-to-end purchase lifecycle, leveraging data, Artificial intelligence (AI) and e-commerce.

Smaller players across the industry are also making moves to boost their ad revenues by forming strategic partnerships to leverage

natural strengths and cast a wider net of user impressions through simple inventory expansion and increased addressability. As consumers shift away from traditional media, digital leads the way in regaining their attention, first from desktop to mobile devices and more recently to connected TV, audio devices, and digital out of home, the steady stream of eyeballs (and ears) continue to drive growth across the space.

In more mature market segments, the fight over the existing eyeballs is heating up. Large players that service both their own properties as well as offering sophisticated ad platforms that serve the "open" internet continue to put pressure on stand alone publishers and smaller ad networks and platforms.

The Resurgence of eCommerce

Digital ad revenue stemming from eCommerce, including the emergence of the direct brand economy, has been a key driver of recent growth. Players continue to add features, making it easier for advertisers to target audiences ready to buy and convert searches into purchases. Combining the use of data in new and innovative ways with continuing advancements in AI, publishers and advertisers alike are able to extrapolate lucrative insights across the complete consumer journey and create a unique opportunity for advertisers: ad targeting according to anticipated purchase intent.



Companies are capitalizing on their trove of consumer data, including purchasing and browsing history, enabling advertisers to programmatically reach audiences in more effective ways. Shoppable ads combining product photos with one-to-one targeting as well as sophisticated search capabilities within an ecommerce platform are turning clicks into veritable conversions.

eCommerce is no longer constrained to digital stores; social stories serve as a conduit for, and driving force behind, 'direct-to-consumer' (DTC) retail. Large and small advertisers alike are able to deliver engaging content in new and innovative ways.

Storytelling Catches Fire

Led by social media, brand storytelling is a growing trend across platforms. Social media, is continuing to disrupt the industry and is providing advertisers new and unique ways to engage with consumers, including through "social stories", which are ads catered specifically to the platform. As a result, the growth from social media continues to outpace the overall industry and has been a key driver of growth. Consumers, especially Gen Z, are adopting social stories at warp speed, while, at this rate, we approach a future where social stories may surpass social feeds in becoming the prevalent way consumers engage with advertisements on social media. With ads that take up the entire screen on a platform already conducive to consumer

engagement, the stories format presents a potential antidote to the issue of capturing consumer attention.

As a result, advertisers (a group that now includes social influencers) are rushing to push-out ads in a vertical video format in an effort to turn consumer interaction into actual conversions. Yet, given the substantial resources required to create ads in the vertical video format and to continuously create the dynamic and engaging content needed for stories, it will be up to social media companies to convince advertisers of the efficacy of the story ad platform in order to continue to grow the medium.

While the presence of social media is still growing, recent regulatory pressure, from the passing of GDPR and other looming regulations, is leading social media sites (and others) to rethink their strategies as they grapple to balance revenue growth and compliance. Pressure is also coming from concerned users about the storing and use of consumer data and the fact that younger consumers are keen to jump from one social platform to the next.

Introduction of GDPR/CCPA

For the past several years, data driven advertising has experienced substantial revenue growth aided in large part by the access players have had to data on consumer preferences and the sophistication of models to evaluate the data. Recent regulations such as GDPR

and the soon-to-be-enforced CCPA, which both arose out of increased curiosity and worry by consumers about how their online data is being shared and monetized, are impacting many US companies and this impact will likely grow.

While still in its nascency, GDPR is precipitating a greater chasm in the balance of power between smaller and larger players. With their abundance of resources, larger players are in an advantageous position to continue their growth momentum and invest in compliance. Smaller players in the space may have more difficulty in setting up regulatory guardrails, with some going as far as blocking European visitors, limiting traffic and valuable impression opportunities as they work on finding solutions towards compliance.

As can be expected, complementing the regulatory roll-out, there is an uptick in fines related to non-compliance. Even large sophisticated companies are not immune to the impact, and players across the space grapple with the complexity of adhering to the new laws.

Talk around data regulation is mounting in the U.S. and is not expected to lose steam. More US states are contemplating following in the steps of the European and Californian leaders in enacting formal data governance. As can be expected, companies are proactively rethinking strategy and are working towards solutions to foster transparency and trust

to keep advertisers and users confident in their security and fair use of data.

While these concerns will most certainly provide challenges within the market, there is potential opportunity for companies to successfully navigate regulatory compliance and innovate in the future.

Programmatic Advertising

Programmatic ad revenues currently account for 80% of all digital display advertising revenues.

The benefit of programmatic advertising is the efficient buying and selling of ads, cost savings, and smart addressability. However, there is money that the buyer is spending that gets soaked up in the supply chain that does not make it to the publisher (i.e., platform fees).

Over the past several years, platforms have been used to drive more effective advertising to potential consumers and have gained share of how ads are bought and sold. Walled gardens, or closed ecosystems in which all operations are controlled by the ecosystem operator, continue to drive greater adoption of programmatic, and have been particularly adept at attracting small businesses.

Innovation of New Ad Technology

In 2017, the IAB Internet Advertising Revenue Report highlighted technological advances and new business

models as a driving force of the robust advertising environment. Since then, advertising platforms and publishers have continued to innovate in their use of data and other technologies to improve the effectiveness of their advertisements.

The ever-increasing sophistication of digital advertising operations has proven to be invaluable to brands, advertisers and publishers over the last several years. Driven by the vast amounts of data available, and as the labyrinth of platform networks gets ever-more complicated, AI is on track to keep the momentum going. AI will allow advertisers to harness data and deliver ads with higher perfection (think greater relevance, matched context, and greater personalization), and, as a result drive revenue-earned per ad higher and higher. This development and its adoption has been of particular value to DTC brands, where the cost efficiency of customer acquisition becomes a defining factor in the long term success of the business. In any regard, we expect to see the convergence of big data and AI power continue to drive innovation in digital advertising to new levels.

Smart Companies will need to deftly navigate the use of these powerful new tools with consumer concerns over privacy and the use of highly personal data. Over zealous or inappropriate use of these tools can lead consumers to the tipping point, and lead to the call for major changes to the overall environment.

Blockchain technology continues to be a buzzword when it comes to digital advertising. Although the digital ledger and smart contract may fill an important need, this technology is still in its infancy with respect to digital advertising. Regardless of where we stand at the moment, blockchain presents a number of opportunities for the digital advertising space, and publishers and advertisers continue to explore how these technologies can be implemented to connect with the digital advertising stack with greater efficiency. In fact PwC recently issued a report “Is blockchain the answer to digital advertising’s trust gap?” which provides further insights as to the possible opportunities blockchain can provide in the advertising ecosystem.*

5G technology is looming large. In the very foreseeable future, data will be processed and exchanged at incrementally higher speeds than we’ve experienced thus far. In anticipation, enterprises across the United States are looking to put themselves in the best position for the roll-out of 5G over the course of the year. 5G will enable advertisers to operate at higher efficiency with the potential to reduce latency, spur advancements in location-based technology and programmatic technology, as well as to allow for developments in creative formats. What this means for consumers is an overall improvement in the mobile video experience.

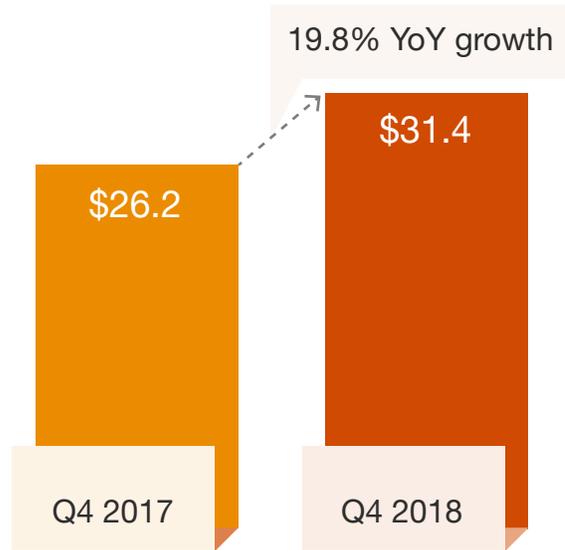
* PwC, *Is Blockchain the answer to digital advertising’s trust gap?*, 2019

Quarterly growth

Revenues totaled \$31.4 billion in Q4 2018

Total revenues in the fourth quarter of 2018 were \$31.4 billion, \$5.2 billion (19.8%) higher than in the fourth quarter of 2017 and \$4.8 billion (18.1%) higher than in the third quarter of 2018.

Q4 2017 vs. Q4 2018 revenue (\$ billions)



Q3 2017 vs. Q3 2018 revenue (\$ billions)



Source: IAB/PwC Internet Ad Revenue Report, FY 2018

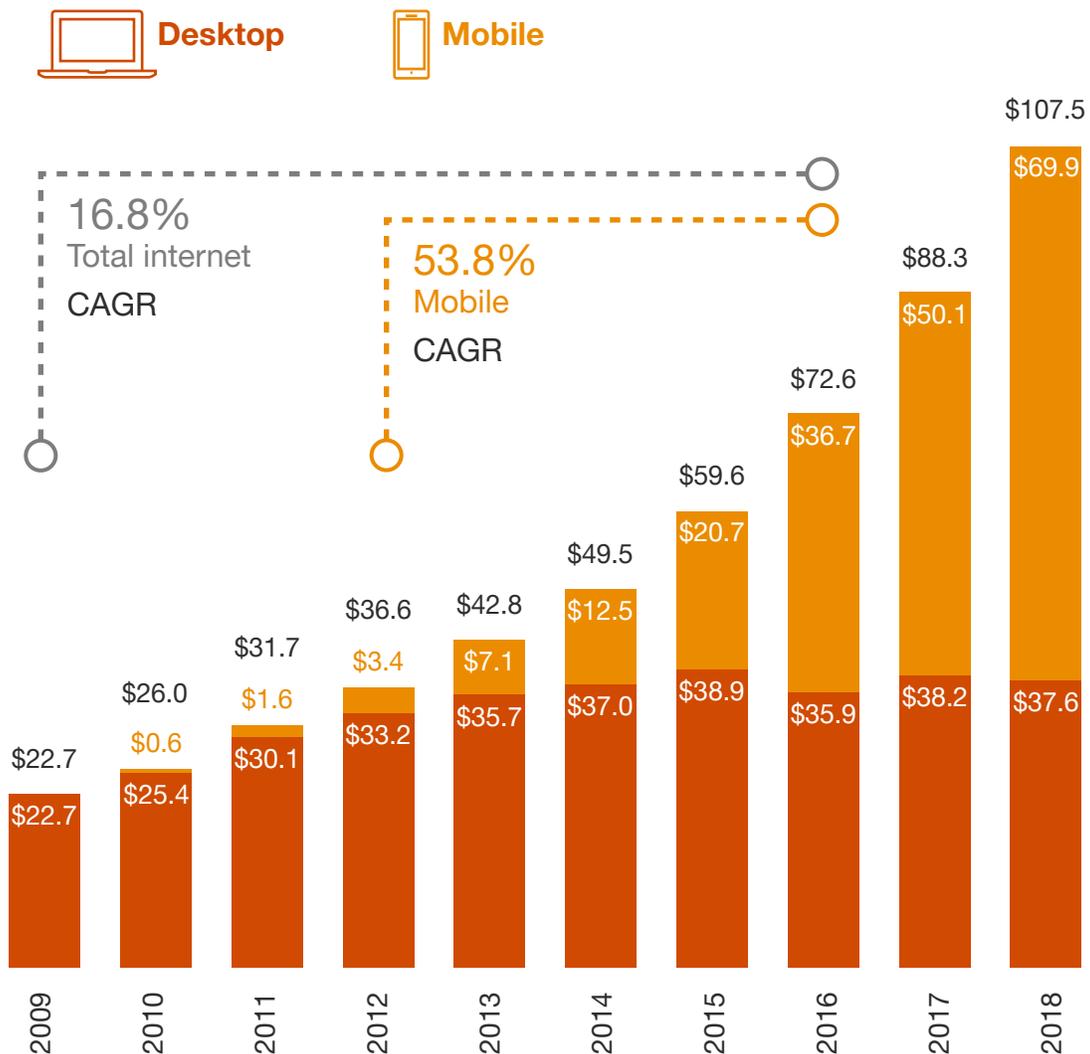


Desktop vs. mobile

Advertising revenues from mobile devices continue to grow faster than the overall market, with mobile increasing its revenue share to 65.1% in 2018.

As consumers continue to shift their viewing behavior, advertisers have followed them. On a year-over-year basis, mobile internet advertising revenues increased 39.7%, increasing its share of total revenues from 56.7% in FY 2017 to 65.1% in FY 2018. Reflecting the industry's overall growth is a compounded annual growth rate (CAGR) over the past 10 years of 16.8% which over the past few years has been largely driven by the growth of mobile. The rapid growth of the mobile advertising platform has resulted in a CAGR of 53.8% over the past five years. Mobile revenues continue to benefit from advancements in single-click eCommerce, creative ad formats and placements on social media sites.

Desktop vs. mobile internet advertising revenue (Full year results, \$ billions)



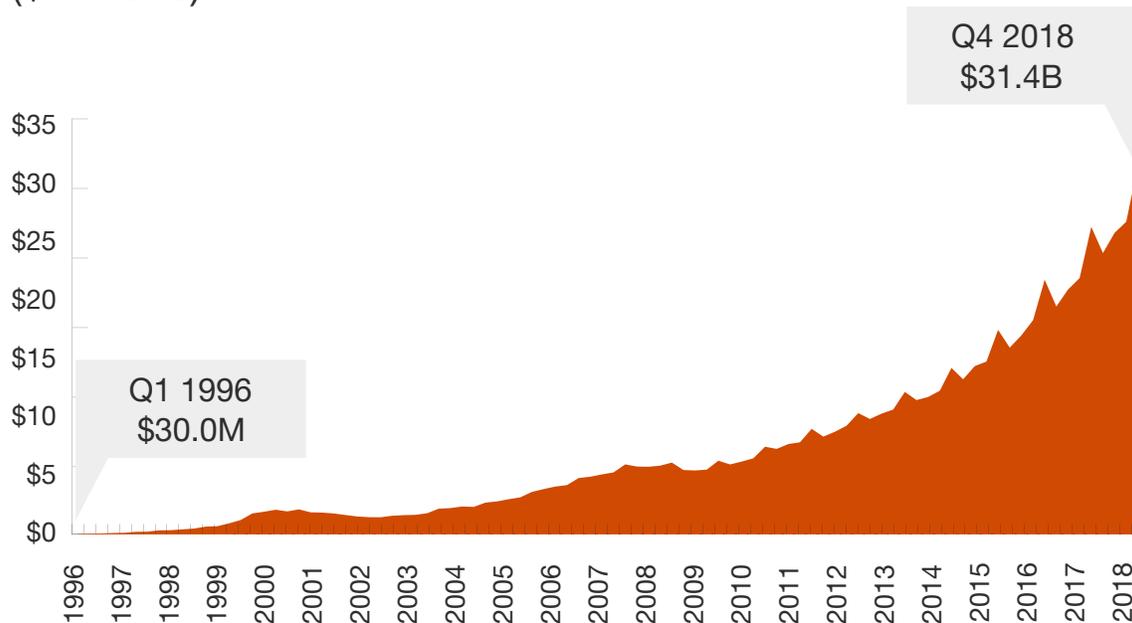
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Historical quarterly revenue trends

Quarterly growth continued upward trend reaching \$31.4 billion in Q4 2018

No matter the year, the fourth quarter leads the pack of advertising revenue dollars. Fourth quarter 2018 revenues (\$31.4 billion) alone tops 2010's full year total of \$26.0 billion.

Quarterly revenue growth trends 1996–2018 (\$ billions)



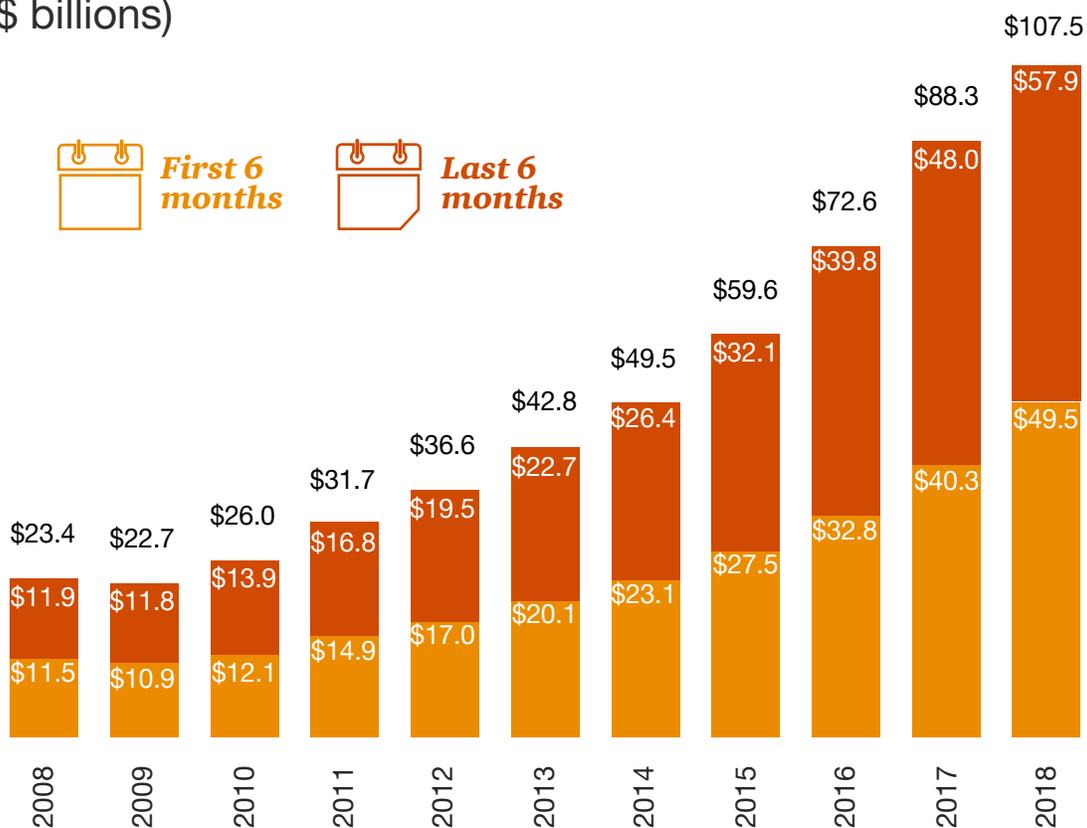
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Historical revenue mix

Second half revenues help FY 18 revenues exceed \$100 billion

Second-half revenues totaled \$57.9 billion in 2018, an increase of \$9.9 billion from second-half revenues of 2017. Second-half revenues represented 53.9% of total revenues in 2018, a slight decrease from the 54.4% reported in 2017, but consistent with the broader trend of increased revenues in the second half of each year. The continued industry growth and the seasonal spike in fourth quarter ad spend both contribute to the historically high proportion of revenues in the second half of the year.

Historical revenue mix, first half vs. second half (\$ billions)



Source: IAB/PwC Internet Ad Revenue Report, FY 2018

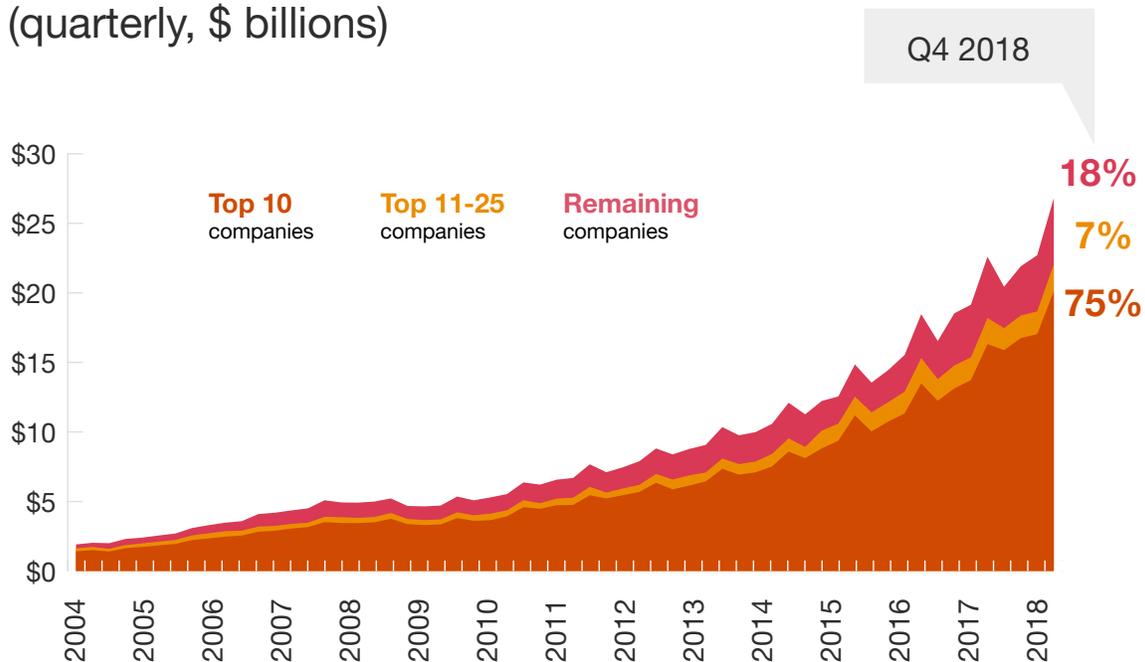
Revenue concentration

Top 10 companies account for three-quarters of total ad revenues in Q4 2018

75% of internet advertising revenues in Q4 2018 remain concentrated with the top 10 leading ad-selling companies. This is 3% higher from the percentage reported in Q4 2017 (72%). Companies ranked 11th to 25th accounted for 7% of revenues in Q4 2018, a one percentage point decrease from the 8% reported in Q4 2017.

The concentration of top 10 revenues has fluctuated between 69% and 77% over the past ten years.

% share of total revenues (quarterly, \$ billions)



Note: Totals may not equal 100% due to rounding.

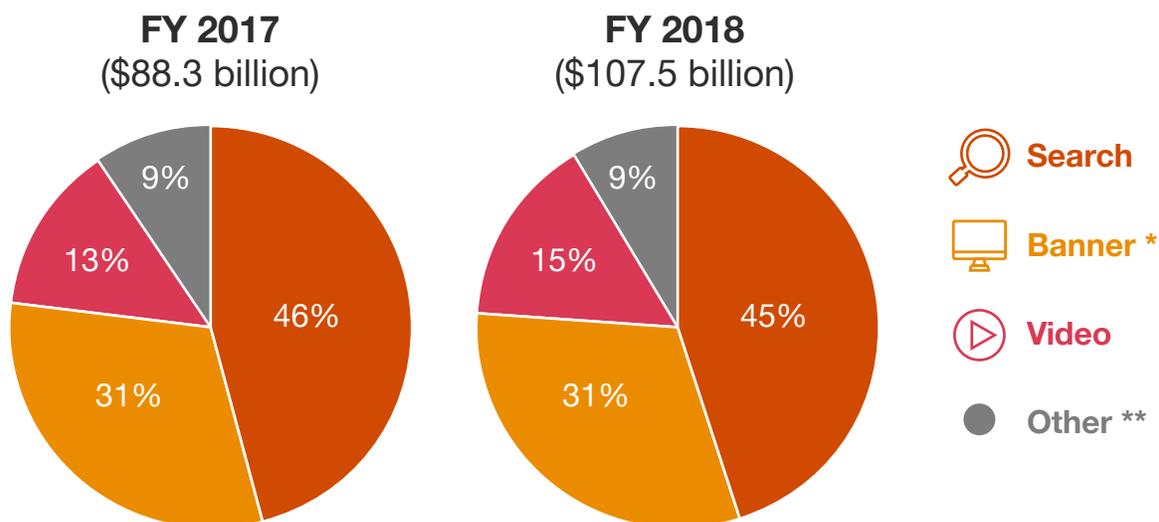
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

FY 2018 results

Digital video advertising revenue showed the largest growth among formats in the full year 2018 report

- Search totaled revenues of \$48.4 billion in FY 2018, up 19.2% from FY 2017 (\$40.6 billion).
- Search's representation of 45.1% of total internet advertising revenue for FY 2018 is slightly down from FY 2017's 46.0%.
- Digital video totaled \$16.3 billion for FY 2018, up \$4.4 billion or 37.2% from FY 2017.
- Banner* revenues totaled \$33.5 billion in FY 2018, representing a 21.9% increase from FY 2017 (\$27.5 billion). Banner related advertising includes ad banners/display (\$29.5 billion), rich media (\$3.0 billion), and sponsorships (\$996 million).
- The Other** category, which accounted for 8.6% of total FY 2018 revenues was primarily composed of classifieds (\$3.8 billion), lead generation (\$3.1 billion), and audio (\$2.3 billion).

Advertising format revenue, full year results



* Banner includes: Ad Banners/Display, Rich Media, and Sponsorship.

** Other includes: Classifieds, Lead Generation, Audio, and Unspecified.

Note: Totals may not equal 100% due to rounding.

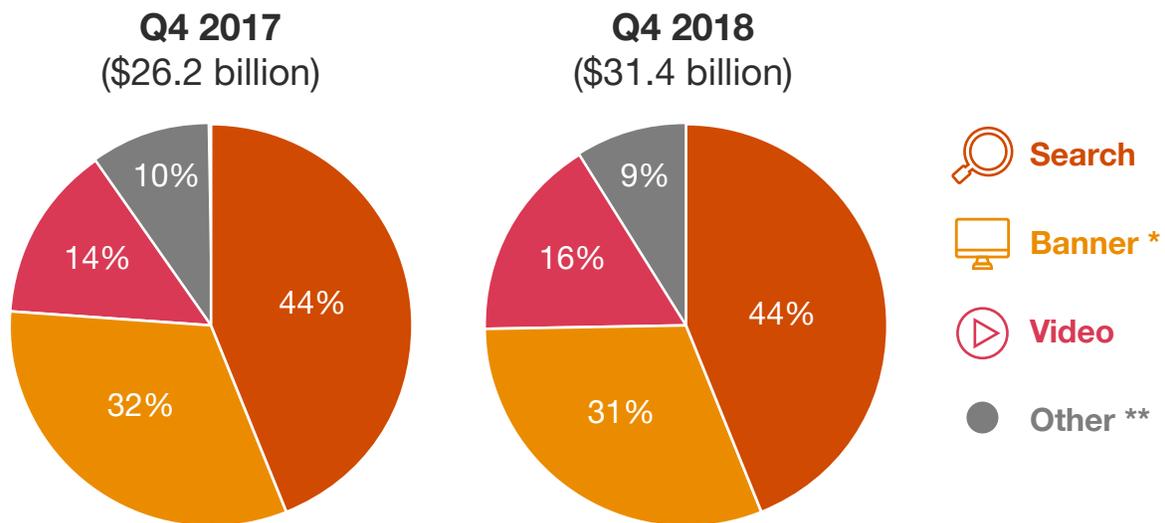
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Q4 2018 results

As a percentage of overall digital ad revenues, digital video across desktop and mobile devices increased \$1.4 billion from Q4 2017

- The Search format totaled revenues of \$13.8 billion in Q4 2018, up 19.5% from Q4 2017 (\$11.5 billion). The Search format's representation of 43.9% of total internet advertising revenue for Q4 2018 is a slight year-over-year decrease from Q4 2017's 44.1%.
- Digital video totaled \$5.1 billion for Q4 2018, up \$1.4 billion or 38.9%, from Q4 2017's \$3.7 billion.
- Banner* revenues totaled \$9.7 billion in Q4 2018, representing a 15.2% increase from Q4 2017 (\$8.4 billion). Banner related advertising includes ad banners/display (\$8.6 billion), rich media (\$843 million), and sponsorships (\$305 million).
- The Other** category, which accounted for 8.8% of Q4 2018 revenues is primarily comprised of classifieds (\$1.1 billion), lead generation (\$924 million), and audio (\$711 million).

Advertising format revenue, fourth quarter results



* Banner includes: Ad Banners/Display, Rich Media, and Sponsorship.
** Other includes: Classifieds, Lead Generation, Audio, and Unspecified.
Note: Totals may not equal 100% due to rounding.

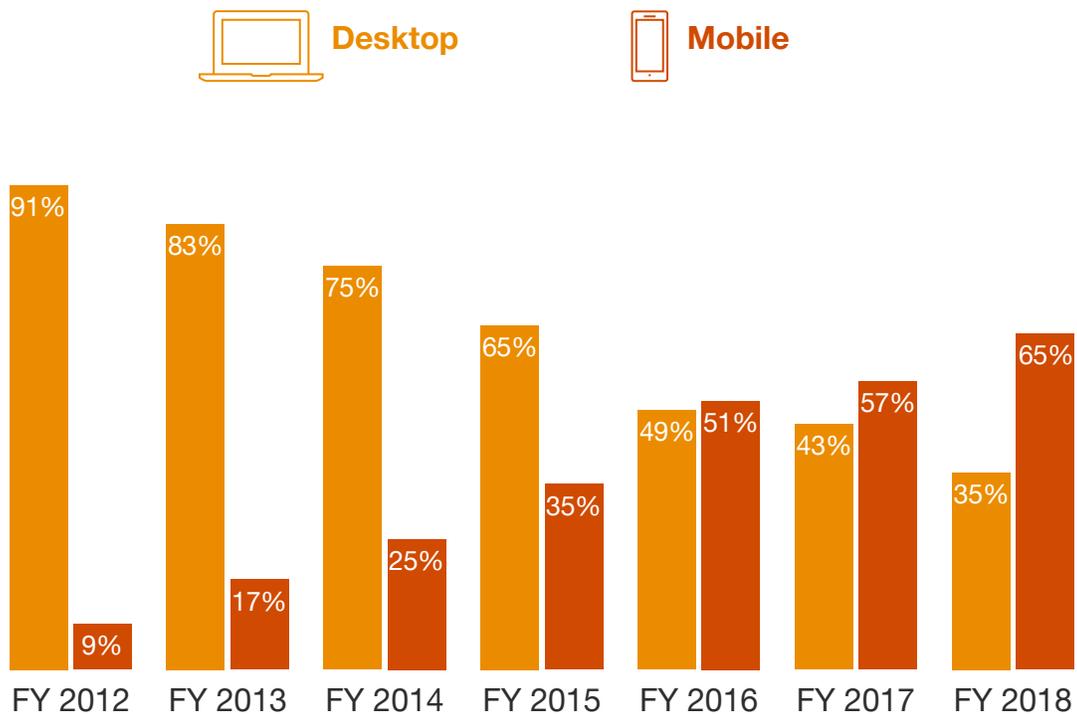
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Historical trends (desktop vs. mobile)

Mobile as the leading device

- Mobile ad revenues represented 65.1% of total FY 2018 revenues, as compared to 56.7% of total revenues reported in FY 2017 and 50.6% in FY 2016.
- Mobile ad revenues are those revenues generated on mobile devices, including smartphones and tablets.

Historical desktop vs. mobile trends, full year results (\$ billions)



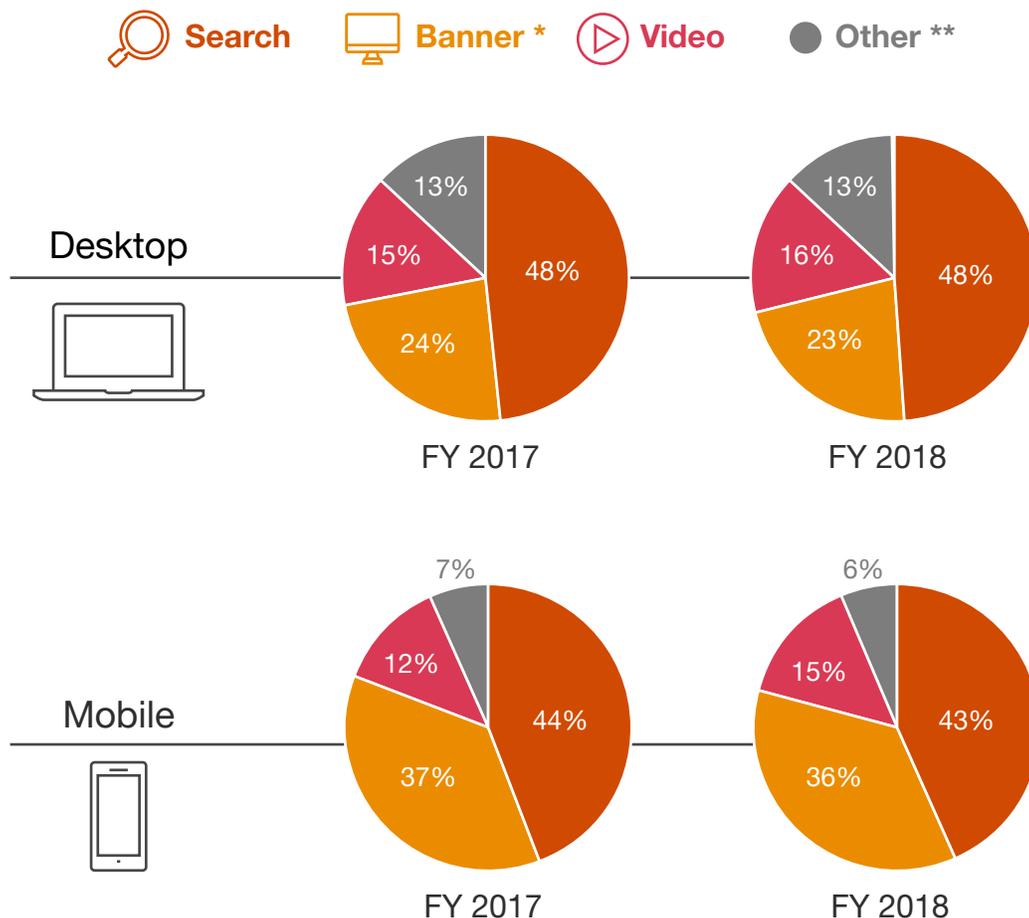
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Formats (desktop and mobile)

Video is becoming a preferred method

- On desktop, most formats are experiencing flat or small revenue declines. Video is the only format with meaningful growth, up 6.6% from the prior year.
- Most formats showed strong gains on mobile devices, with Search and Banner up 37% and 36%, respectively. But video once again was the leading growth format, up 65% over the prior year.

Advertising format revenue, desktop vs. mobile



* Banner includes: Ad Banners/Display, Rich Media, and Sponsorship.

** Other includes: Classifieds, Lead Generation, Audio, and Unspecified.

Note: Totals may not equal 100% due to rounding.

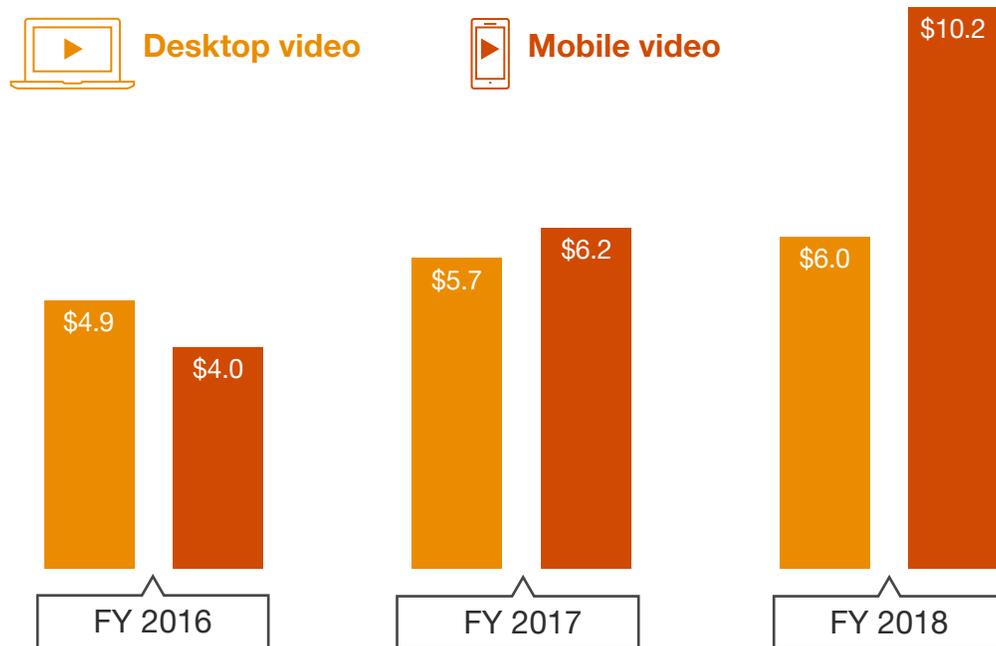
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Digital video (desktop vs. mobile)

Digital video dominance strengthens share of mobile and desktop growth in FY 2018

- Total digital video, including mobile and desktop, rose to \$16.2 billion in FY 2018, up 37.2% from \$11.9 billion in FY 2017.
- Video ad revenues on mobile devices now comprise 62.9% of all digital video ad revenues, up from 52.2% in the prior year.
- Growth of digital video on smartphones and tablets continued, reaching \$10.2 billion in FY 2018, a 65.2% rise from FY 2017.

Historical digital video revenues, full year results (\$ billions)



Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Social media

Social media advertising revenue grows 30.6% in 2018 to \$28.9 billion

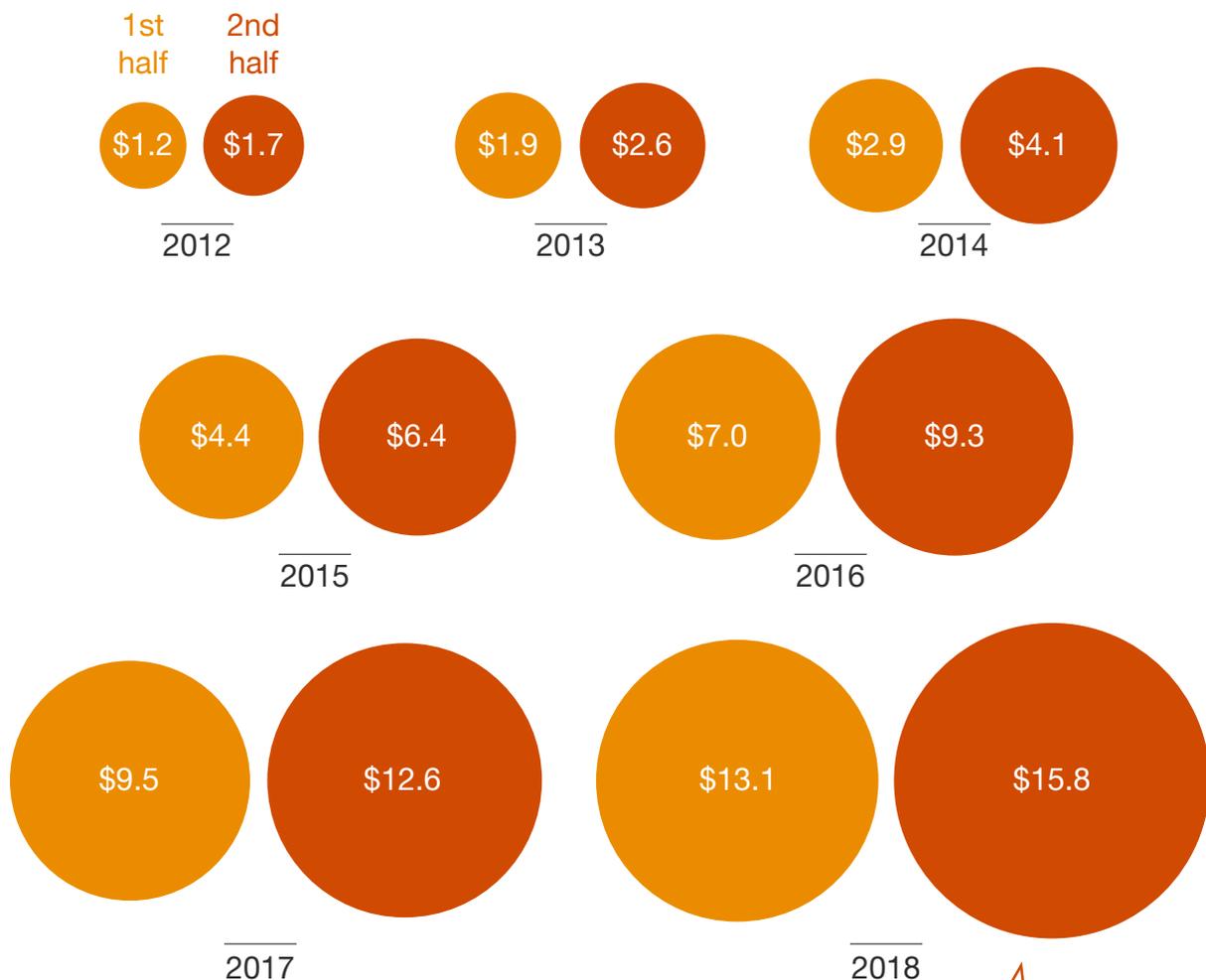
For the second half of 2018, social media revenue was \$15.8 billion, with full year revenues totalling \$28.9 billion, bringing 30.6% growth over FY 2017. Social continues to out-pace the overall industry, however growth has been slowing and is well below the 46.6% compound annual growth rate of social from 2012 to 2018.

Social media sites tend to foster consumer interaction and during a time when capturing the attention of the consumer is so critical, it is no coincidence we are seeing social media drive revenue. Ripe with various formats primed to take advantage of future technologies, revenue derived from advertisements on social media sites is expected to continue to grow in the future.

Note: We define social media as advertising delivered on social platforms, including social networking and social gaming websites and apps, across all device types, including desktop, laptop, smartphone and tablet.

Social media advertising revenue, full year results

(\$ billions)



Source: IAB/PwC Internet Ad Revenue Report, FY 2018

46.6%
FY CAGR

Digital audio

In 2018, digital audio advertising revenue reached \$2.3 billion

This represents a 22.9% increase over FY 2017's revenue of \$1.8 billion. A large percentage of this growth is from podcast advertising revenues. Podcast advertising revenues will be shared in a separate report at a later date.

Though digital audio advertising revenues continue to grow year-over-year, its share of the total internet advertising revenue pie remained at 2.1% in FY 2018.

Digital audio advertising revenue, full year results

(\$ millions)



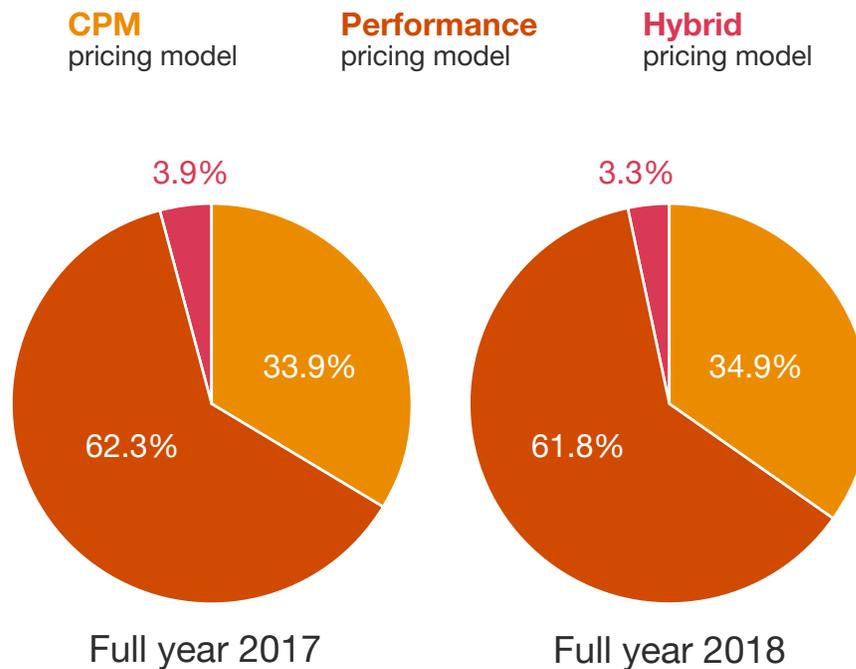
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Revenues by pricing model

Slight shift in pricing models to CPM

- 61.8% of FY 2018 internet advertising revenues were priced on a performance basis, down a few points from the 62.3% reported in FY 2017. The decrease in the use of this pricing model has shifted to the CPM model.
- 34.9% of FY 2018 internet advertising revenues were priced on a CPM basis, up one basis point from the 33.9% reported in FY 2017.
- 3.3% of FY 2018 internet advertising revenues were priced on a hybrid basis, a slight decrease from the 3.9% reported in FY 2017.

Revenue by pricing model, full year basis (\$ billions)



Note: Totals may not equal 100% due to rounding.

Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Historical pricing model trends

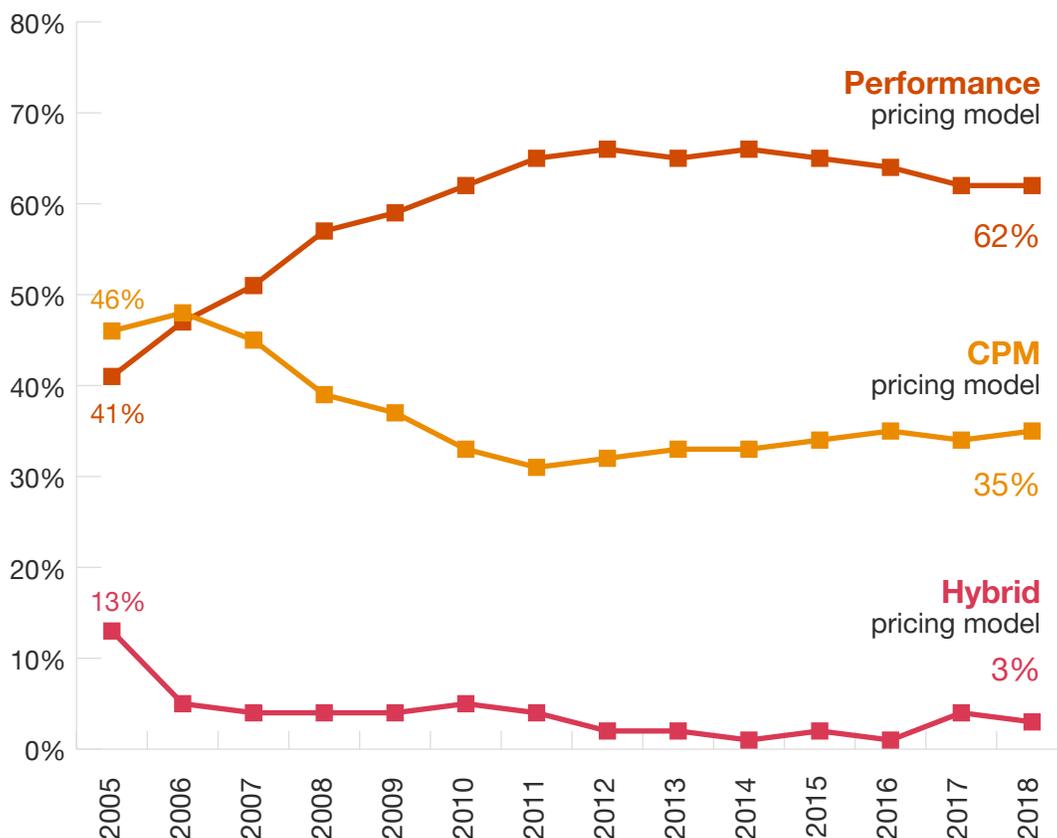
Performance-based pricing is still the preferred model for advertisers

Performance-based pricing, the leading pricing model since 2006, dipped slightly to 61.8% of total revenue in FY 2018.

CPM/impression-based pricing ticked up in FY 2018, up to 34.9% of revenue from 33.9% in FY 2017.

Hybrid pricing decreased to 3.3% of total revenues in FY 2018, down slightly from the 3.9% reported in FY 2017.

Internet advertising revenue by pricing model*, 2005-2018 (% of total revenue)



* Pricing model definitions may have changed over the time period depicted both within the survey process and as interpreted by survey respondents.

Note: Totals may not equal 100% due to rounding.

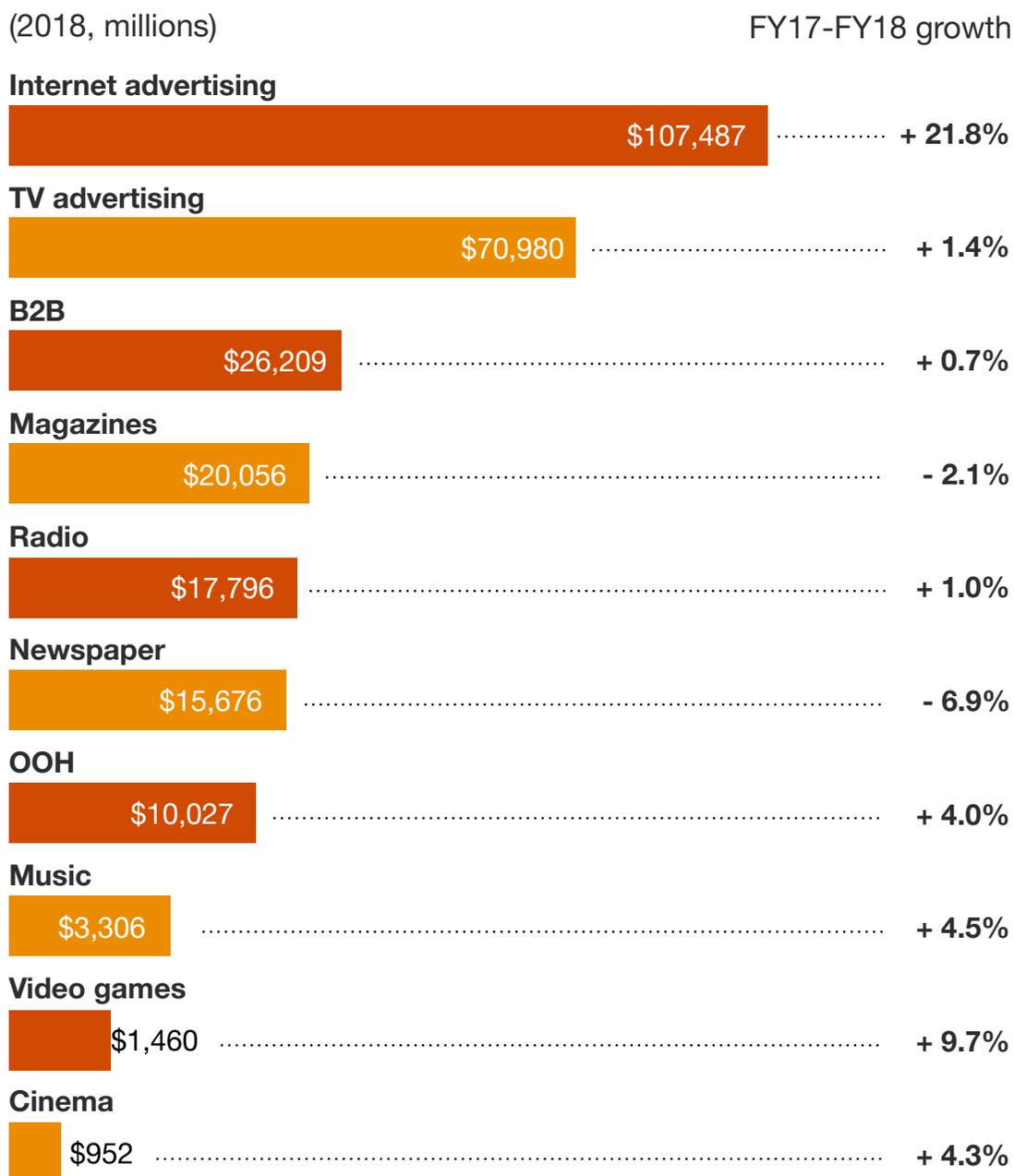
Source: IAB/PwC Internet Ad Revenue Report, FY 2018

Advertising market share by media

Internet advertising passed the \$100 billion mark for the first time in history

Internet advertising continues to grow its share of the total advertising market. Internet advertising leads TV advertising by \$36.5 billion in FY 2018.

Advertising market share by media



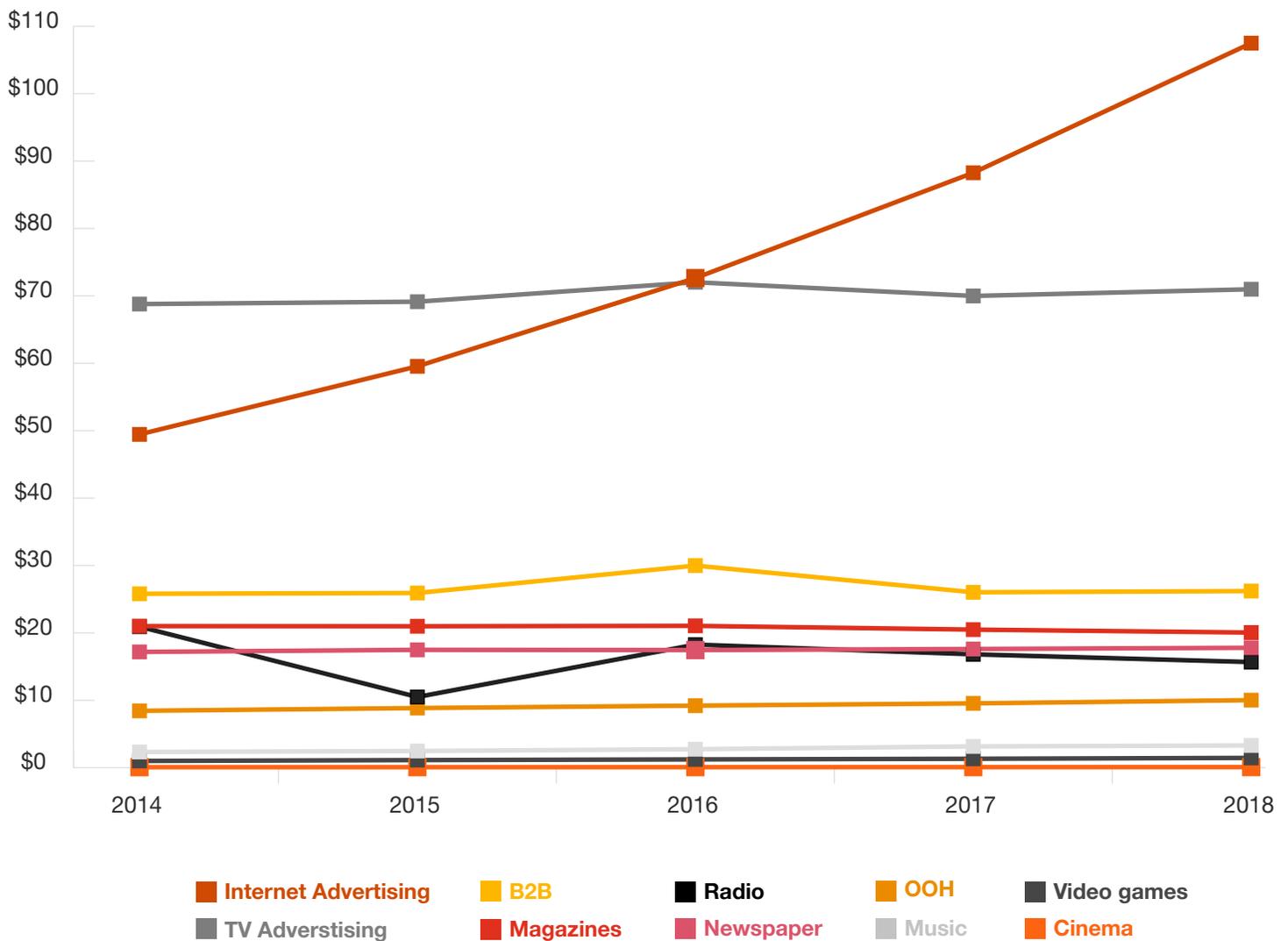
Source: PwC, IAB/PwC Internet Ad Revenue Report, FY 2018

Historical advertising market share

Internet advertising is the only media type that has experienced double digit growth year-over-year

Besides internet advertising, the year-over-year growth rate for all media types is in the single digits. Internet advertising has sustained its growth in part by the mainstream emergence of existing digital formats.

Historical advertising market share



Source: PwC, IAB/PwC Internet Ad Revenue Report, FY 2018

Appendix



Definitions of advertising formats and pricing models

Banner advertising	Advertiser pays an online company for space on one or more of the online company's pages to display a static or linked banner or logo.
Sponsorship	<p>Advertiser pays for custom content and/or experiences, which may or may not include ad elements such as display advertising, brand logos, advertorial, or pre-roll video. Sponsorships fall into several categories:</p> <ul style="list-style-type: none">• Spotlights are custom-built pages incorporating an advertiser's brand and housing a collection of content usually around a theme.• Advergaming can range from an advertiser buying all the ad units around a game or a "sponsored by" link to creating a custom branded game experience.• Content & section sponsorship is when an advertiser exclusively sponsors a particular section of the site or email (usually existing content) re-skinned with the advertiser's branding.• Sweepstakes & contests can range from branded sweepstakes on the site to a full-fledged branded contest with submissions and judging.
Search	<p>Fees advertisers pay online companies to list and/or link their company site domain name to a specific search word or phrase (includes paid search revenues). Search categories include:</p> <ul style="list-style-type: none">• Paid listings—payments made for clicks on text links that appear at the top or side of search results for specific keywords. The more a marketer pays, the higher the position it gets. Marketers only pay when a user clicks on the text link.• Contextual search—payments made for clicks on text links that appear in an article based on the context of the content, instead of a user-submitted keyword. Payment only occurs when the link is clicked.• Paid inclusion—payments made to guarantee that a marketer's URL is indexed by a search engine (i.e. advertiser isn't paid only for clicks, as in paid listings).• Site optimization—payments made to optimize a site in order to improve the site's ranking in search engine results pages (SERPs). (For example, site owner pays a company to tweak the site architecture and code, so that search engine algorithms will better index each page of the site).
Lead generation	Fees paid by advertisers to online companies that refer qualified potential customers (e.g., auto dealers which pay a fee in exchange for receiving a qualified purchase inquiry online) or provide consumer information (demographic, contact, and behavioral) where the consumer opts in to being contacted by a marketer (email, postal, telephone, fax). These processes are priced on a performance basis (e.g., cost-per-action, -lead or -inquiry), and can include user applications (e.g., for a credit card), surveys, contests (e.g., sweepstakes) or registrations.
Classifieds and auctions	Fees paid by advertisers to online companies to list specific products or services (e.g., online job boards and employment listings, real estate listings, automotive listings, auction-based listings, yellow pages).
Rich media	<p>Display-related ads that integrate some component of streaming interactivity. Rich media ads often include flash or java script, but not content, and can allow users to view and interact with products or services (e.g., scrolling or clicking within the ad opens a multimedia product description, expansion, animation, video or a "virtual test-drive" within the ad).</p> <p>All IAB Rising Stars ad formats are considered rich media. Video commercials that appear in video players are considered video ads, not rich media.</p> <p>"Interstitials" have been consolidated within the rich media category and represent full- or partial-page text and image server-push advertisements which appear in the transition between two pages of content. Forms of interstitials can include a variation of the following terms:</p> <ul style="list-style-type: none">• Splash screens—a preliminary page that precedes the regular home page of a website that usually promotes a particular site feature or provides advertising. A splash page is timed to move onto the home page after a short period of time.• Pop-up ads and pop-under ads—an advertisement that appear in a separate window which automatically loads over an existing content window, without an associated banner.• Daughter windows—an advertisement that runs in a separate window associated with a concurrently displayed banner. The content and banner are typically displayed first, followed by the daughter window.• Superstitials—ads that are distinct from interstitials because of the much higher ad quality, and that they play instantly (ads are fully downloaded before they are displayed).

Definitions of advertising formats and pricing models

Digital audio	<p>Partially or entirely advertising-supported audio programming available to consumers on a streaming basis, delivered via the wired and mobile internet. This includes a wide range of services, such as the following:</p> <ul style="list-style-type: none">• Online audio streams of terrestrial radio stations;• Purely online radio stations, with either professional or amateur DJs;• Personalized (i.e., without human editors/DJs) and on-demand, streamed audio services that create playlists based on user preferences of artists, tracks, or genres; <p>Music or spoken word audio content delivered within a different website or application, e.g., in-game music services.</p> <p>Digital audio is currently included in other.</p> <p>A podcast is a digital audio program, often comprised of a series of episodes, which may be livestreamed for immediate listening, or downloaded from the Internet to a computer or mobile device, for on demand listening.</p>
Digital video advertising	<p>Advertising that appears before, during or after digital video content in a video player (i.e. pre-roll, mid-roll, post-roll video ads). Digital video ads include TV commercials online and can appear in streaming content or in downloadable video. Display-related ads on a page (that are not in a player) that contain video are categorized as Digital video ads.</p> <p>Video overlays are also categorized as digital video advertising. Video overlays include small ads that appear on top of digital video content. They can appear to be display, video, rich media, text or another ad format but are contained within the video player. OTT revenue is included in digital video advertising revenues, however, is not separately accounted for from participating companies.</p>
Mobile advertising	<p>Advertising tailored to and delivered through wireless mobile devices such as smartphones, feature phones (e.g. lower-end mobile phones capable of accessing mobile content), and media tablets. Typically taking the form of static or rich media display ads, text messaging ads, search ads, or audio/video spots, such advertising generally appears within mobile websites (e.g. websites optimized for viewing on mobile devices), mobile apps (e.g. applications for smartphones running proprietary or open operating systems), text messaging services (i.e. SMS, MMS) or within mobile search results (i.e., 411 listings, directories, mobile-optimized search engines).</p> <p>Mobile advertising formats include: search, display-related (banner ads, video, sponsorships, and rich media), and other (lead generation, classifieds and directories, and audio) advertising served to mobile devices.</p>
Social media advertising	<p>Advertising delivered on social platforms, including social networking and social gaming websites and apps, across all device types, including desktop, laptop, smartphone and tablet.</p>
CPM	<p>Cost-per-thousand (CPM) pricing model.</p>
Performance-based	<p>Cost-per-click, sale, lead, acquisition, or application (e.g., credit card application) or straight revenue share (e.g., % commission paid upon sale).</p>
Hybrid	<p>Any mix of impression-based pricing plus performance-based compensation within one ad campaign. Shoppable ads may fall across CPM and performance pricing models.</p>

Survey scope and methodology

Survey scope The “IAB internet advertising revenue report” is part of an ongoing IAB mission to provide an accurate barometer of internet advertising growth.

To achieve differentiation from existing estimates and accomplish industry-wide acceptance, key aspects of the survey include:

- Obtaining historical data directly from companies generating internet/online/mobile advertising revenues;
- Making the survey as inclusive as possible, encompassing all forms of internet/online/mobile advertising, including websites, consumer online services, ad networks and exchanges, mobile devices, and email providers; and
- Ensuring and maintaining a confidential process, releasing only aggregate data.

PwC performs the following:

- Compiles a database of industry participants selling internet/online and mobile advertising revenues;
 - Conducts a quantitative mailing survey with leading industry players, including web publishers, ad networks and exchanges, commercial online service providers, mobile providers, email providers, and other online media companies;
 - Acquires supplemental data through the use of publicly disclosed information;
 - Requests and compiles several specific data items, including monthly gross commissionable advertising revenue by industry category and transaction;
 - Identifies non-participating companies and applies a conservative revenue estimate based on available public sources; and,
 - Analyzes the findings, identifies and reports key trends.
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Historical data findings

Annual and quarterly revenue growth

	Revenue (in mil)	Q/Q growth	Y/Y growth
Q1 2003	\$1,632	3%	7%
Q2 2003	\$1,660	2%	14%
Q3 2003	\$1,793	8%	24%
Q4 2003	\$2,182	22%	38%
Total 2003	\$7,267		21%
Q1 2004	\$2,230	2%	37%
Q2 2004	\$2,369	6%	43%
Q3 2004	\$2,333	-2%	30%
Q4 2004	\$2,694	15%	24%
Total 2004	\$9,626		33%
Q1 2005	\$2,802	4%	25%
Q2 2005	\$2,985	7%	26%
Q3 2005	\$3,147	5%	35%
Q4 2005	\$3,608	15%	34%
Total 2005	\$12,542		30%
Q1 2006	\$3,848	7%	37%
Q2 2006	\$4,061	6%	36%
Q3 2006	\$4,186	3%	33%
Q4 2006	\$4,784	14%	33%
Total 2006	\$16,879		35%
Q1 2007	\$4,899	2%	27%
Q2 2007	\$5,094	4%	25%
Q3 2007	\$5,267	3%	26%
Q4 2007	\$5,946	13%	24%
Total 2007	\$21,206		26%
Q1 2008	\$5,765	-3%	18%
Q2 2008	\$5,745	0%	13%
Q3 2008	\$5,838	2%	11%
Q4 2008	\$6,100	4%	2%
Total 2008	\$23,448		11%
Q1 2009	\$5,468	-10%	-5%
Q2 2009	\$5,432	-1%	-5%
Q3 2009	\$5,500	1%	-6%
Q4 2009	\$6,261	14%	3%
Total 2009	\$22,661		-3%
Q1 2010	\$5,942	-5%	9%
Q2 2010	\$6,185	4%	14%
Q3 2010	\$6,465	5%	18%
Q4 2010	\$7,449	15%	19%
Total 2010	\$26,041		15%

	Revenue (in mil)	Q/Q growth	Y/Y growth
Q1 2011	\$7,264	-2%	22%
Q2 2011	\$7,678	6%	24%
Q3 2011	\$7,824	2%	21%
Q4 2011	\$8,970	15%	20%
Total 2011	\$31,735		22%
Q1 2012	\$8,307	-7%	14%
Q2 2012	\$8,722	5%	14%
Q3 2012	\$9,236	6%	18%
Q4 2012	\$10,307	12%	15%
Total 2012	\$36,570		15%
Q1 2013	\$9,806	-5%	18%
Q2 2013	\$10,260	5%	18%
Q3 2013	\$10,609	3%	15%
Q4 2013	\$12,106	14%	17%
Total 2013	\$42,781		17%
Q1 2014	\$11,414	-6%	16%
Q2 2014	\$11,678	2%	14%
Q3 2014	\$12,207	5%	15%
Q4 2014	\$14,152	16%	17%
Total 2014	\$49,451		16%
Q1 2015	\$13,179	-7%	16%
Q2 2015	\$14,302	9%	23%
Q3 2015	\$14,688	3%	20%
Q4 2015	\$17,382	18%	23%
Total 2015	\$59,550		20%
Q1 2016*	\$15,872	-9%	20%
Q2 2016*	\$16,917	7%	18%
Q3 2016*	\$18,204	8%	24%
Q4 2016*	\$21,647	19%	25%
Total 2016*	\$72,640		22%
Q1 2017*	\$19,404	-10%	22%
Q2 2017*	\$20,847	7%	23%
Q3 2017*	\$21,832	5%	20%
Q4 2017*	\$26,183	20%	21%
Total 2017*	\$88,266		22%
Q1 2018	\$23,913	-9%	23%
Q2 2018	\$25,628	7%	23%
Q3 2018	\$26,573	4%	22%
Q4 2018	\$31,373	18%	20%
Total 2018	\$107,487		22%

* Digital advertising revenue figures have been adjusted for 2016 and 2017 to include Podcast advertising revenue.

	2016				2017			
(\$ millions)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
As originally reported	\$15,849	\$16,889	\$18,175	\$21,607	\$19,352	\$20,786	\$21,764	\$26,106
As revised	\$15,872	\$16,917	\$18,204	\$21,647	\$19,404	\$20,847	\$21,832	\$26,183

Source: IAB/PwC Internet Ad Revenue Report, FY 2018

About the Interactive Advertising Bureau

The Interactive Advertising Bureau (IAB) empowers the media and marketing industries to thrive in the digital economy. Its membership is comprised of more than 650 leading media and technology companies that are responsible for selling, delivering, and optimizing digital advertising or marketing campaigns. The trade group fields critical research on interactive advertising, while also educating brands, agencies, and the wider business community on the importance of digital marketing. In affiliation with the IAB Tech Lab, it develops technical standards and best practices. IAB and the IAB Education Foundation are committed to professional development and elevating the knowledge, skills, expertise, and diversity of the workforce across the industry. Through the work of its public policy office in Washington, D.C., IAB advocates for its members and promotes the value of the interactive advertising industry to legislators and policymakers. Founded in 1996, the IAB is headquartered in New York City and has a San Francisco office.

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PwC's technology and entertainment, media, and communications practices

As business, accounting, and tax advisors to many of the world's leading technology, media, and telecommunications (TMT) companies, PwC (www.pwc.com/us/tmt) has an insider's view of trends and developments driving the industry. With approximately 1,200 practitioners serving TMT clients in the United States, PwC is deeply committed to providing clients with industry experience and resources. In recent years, our work in TMT has included developing strategies to leverage digital technology, identifying new sources of financing, and marketplace positioning in industries characterized by consolidation and transformation. Our experience reaches across all geographies and segments, including broadband, wireless, film, television, music, publishing, advertising, gaming, sports, theme parks, computers and networking, software and technology services. With thousands of practitioners around the world, we're always close at hand to provide deep industry knowledge and resources.

Our services include:

- Business assurance services
- Web audience measurement and advertising delivery auditing and advisory
- Privacy policy structuring, attestation, and compliance advisory
- Mergers & acquisitions assistance
- Tax planning and compliance
- Capital sourcing and IPO assistance
- Marketing & media operations enablement

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