Internet Advertising Revenue Report

Full-year 2021 results
April 2022

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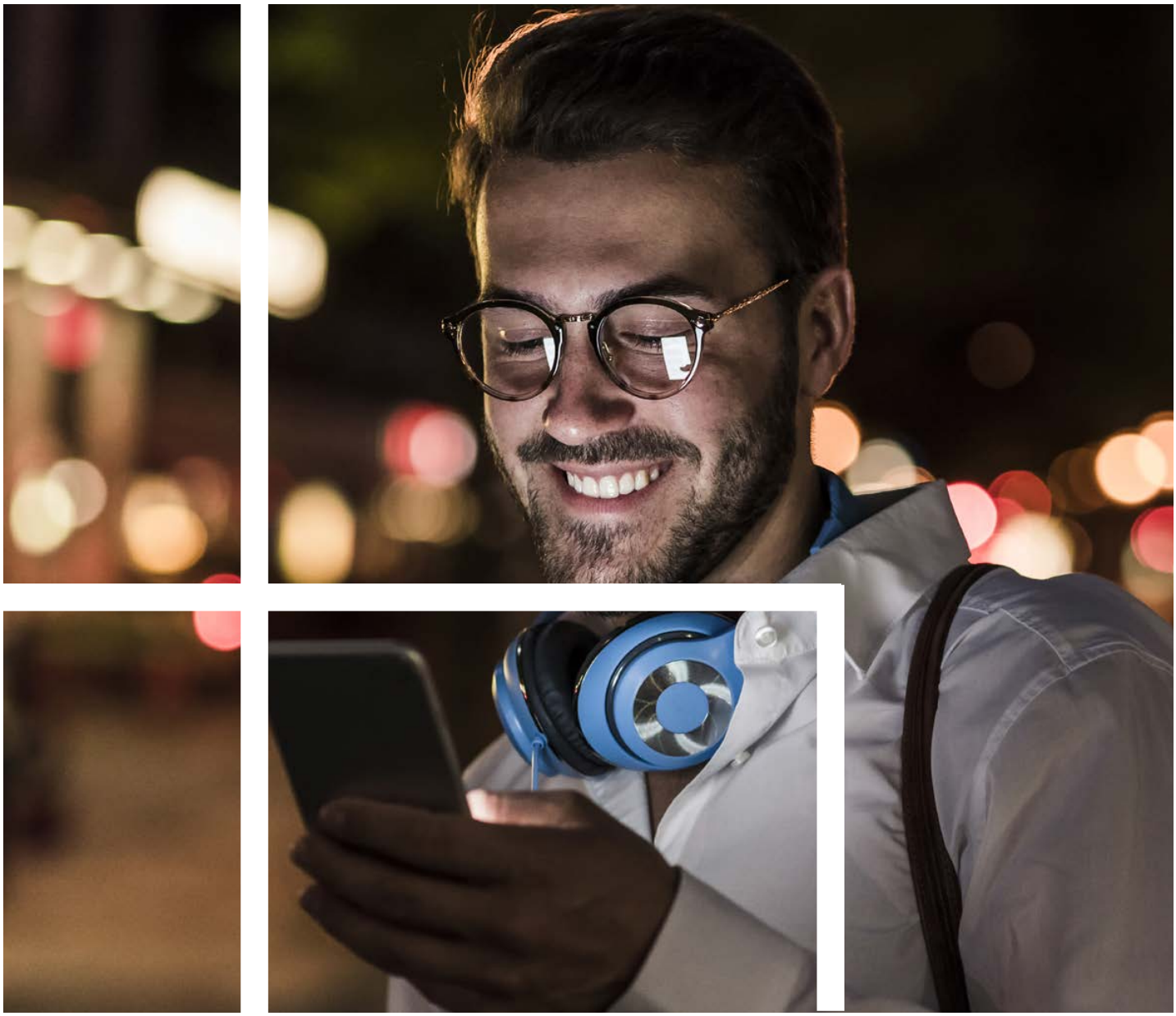
1 Summary



Introduction

U.S. digital advertising experienced tremendous growth in 2021. During the past year, the industry was able to capitalize on the resurgence of marketing budgets throughout the year (following a decline in Q2 of 2020) and the influx of isolated consumers who relied on digital media as their primary connection during the pandemic. Overall, digital ad revenue increased 35.4% year-over-year—the highest growth since 2006.

Digital ad revenues benefited as the entire digital market has expanded. According to a study from Harvard Business School, commissioned by IAB, the internet economy has grown seven times faster than the U.S. economy over the past four years and now accounts for 12% of the U.S. GDP[1]. As consumer time spent and attention on digital media channels continues to grow, advertising expenditures allocated to digital media are following, particularly across digital video (including CTV/OTT), digital audio, social media, and search. Advertisers also looked to capitalize on opportunities to message consumers who, buoyed by government stimulus packages and a reopening economy, increased spending in 2021. The explosion of new businesses created in 2021 was undoubtedly an additional growth driver. According to the Census Bureau[2], 2021 saw the greatest business growth in history with 5.4 million new businesses created. Those businesses rely upon the ad-supported internet to attract new customers and provide ongoing products and services. We believe the small business growth engine will be a key contributor to fueling ongoing digital media and marketing ecosystem acceleration.

Looking forward to 2022, IAB and PwC forecast continued digital ad growth across channels, from both established and new publishers and platforms, as digital is inevitably becoming the de-facto media delivery mechanism. As comparatively new digital ad players continue to launch and elevate ad products from channels such as retail media, CTV/OTT, gaming, and digital audio, the digital ad ecosystem will continue to evolve and grow digital's share of total media. Additionally, emerging digital media (such as AR/VR, the metaverse, and new Web3 technologies) will also evolve and offer marketers the ability to engage with consumers in new and exciting ways, driven by the power of next-gen digital technology.

Despite 2021's impressive growth and expansion, the industry continues to face headwinds in the form of tension and uncertainty surrounding privacy regulation, the deprecation of third-party cookies and identifiers, measurement, and supply chain transparency.

Nevertheless, brands have spoken, and digital is where they are putting their dollars. By continuing to focus on and invest in the areas needed to evolve the consumer value chain, the digital industry has the opportunity to tune established models from a position of financial strength and vibrant growth.

[1] https://www.iab.com/news/study-finds-internet-economy-grew-seven-times-faster/
[2] https://www.census.gov/econ/bfs/data.html

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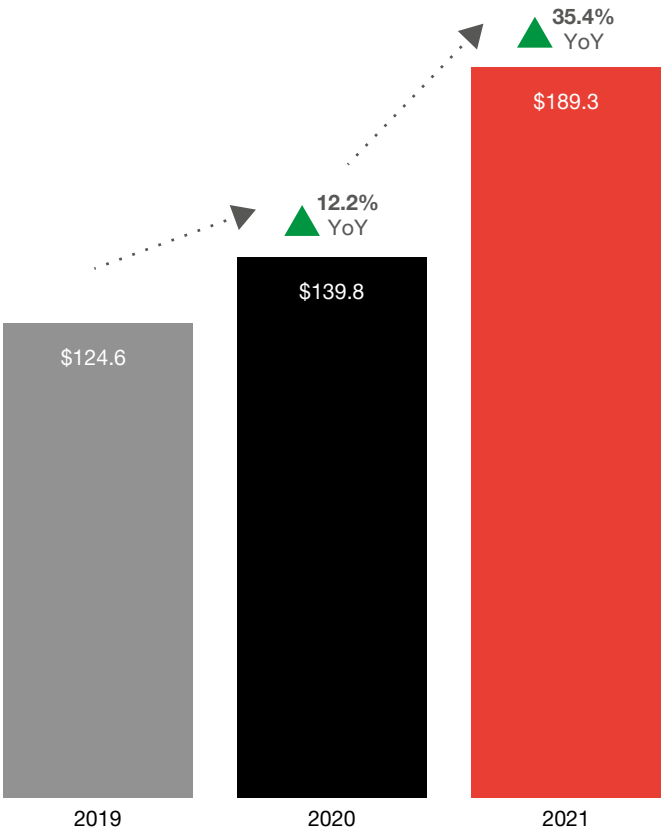
2021 vs. 2020 internet advertising revenue

Exponential growth in the second year of the COVID-19 pandemic

Year-over-year (YoY) growth of internet advertising revenue nearly tripled from the year prior, at 35.4% between 2020 to 2021. The rapid acceleration has exceeded Wall Street expectations and shown the resilience of the U.S. internet advertising industry coming out of the pandemic.

Three year (2019 – 2021) internet advertising revenue trend ($ billions)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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2021 Highlights

Digital Advertising Revenue and Growth Rate

- Coming in at a total of $189 billion, 2021 YoY growth for total digital ad revenues climbed 35.4% which is the highest increase since 2006. This growth is nearly three times larger than the previous year's growth of 12.2% and is more than two times the growth between 2019 and 2018. Revenues increased by $50 billion in just one year.
- There was strong YoY internet ad revenue growth across each quarter of 2021 and growth looks set to continue in 2022.
- The largest YoY growth was between Q2 of 2020 and Q2 of 2021 at 62.2%. This is consistent with Alphabet, Amazon, Meta platforms, Snap, and Twitter smashing Wall Street expectations and delivering record-breaking revenues in Q2, largely driven by advertising.
- Consumers' continued adoption of e-commerce was prominent, particularly during the holiday season, as digital ad revenues in Q4 2021 reached their highest level to date at $55 billion, up nearly $10 billion from last year's reported high.
- The programmatic growth trend continues in 2021 as it grew 39.0% YoY and increased its share of overall non-search ad revenue to 89.2% (from 88.0% in 2020). Programmatic's share of total digital revenue (including search) increased YoY to 52.3% (vs. 50.9% in 2020).
- While search revenue grew substantially (32.8%) in 2021, it did not grow as strong as other formats like digital video (up 50.8%), leading to a slight decrease in total revenue share (reduction of 0.8 percentage points).

Digital advertising revenue grows overall and across formats.

Mobile growth reaccelerates in 2021.

Mobile

- By growing 37.4% to a total of $135 billion, mobile advertising revenue reversed a three-year trend of decelerated growth (13.4% growth in 2020 vs. 24.0% in 2019 vs. 40% growth in 2018). The proliferation of mobile video and gaming, as well as the continued adoption of mobile e-commerce, were key contributors to the growth of increased revenue streams. However, the proportion of desktop vs. mobile ad dollars remained consistent with roughly $7 out of every $10 ad dollars being allocated to mobile—it now makes up 71.3% of overall ad revenue which is insignificant growth from last year's 70.3%. This levelling off of proportional growth is a sign of continued stability in revenues across devices. It also may reflect the reality that many consumers allocated significant amounts of time consuming internet-enabled experiences through desktop, CTV, console, and other non-mobile formats, partly due to consumers being confined to their homes in 2021.

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2021 Highlights (continued)

Digital video

- With strong growth in digital video revenue last year, our 2020 report posed the following question: "Was 2020 an anomaly or a glimpse into the streaming future?"
- 2021 growth demonstrates that the future is streaming, with an astonishing 50.8% YoY revenue growth in digital video (inclusive of CTV/OTT). This represents the second highest YoY growth rate by ad format in 2021, only behind digital audio. Revenue totalled $39.5 billion, and digital video's share of digital revenue grew to 20.9%, up 2.2 percentage points from 2020.
- Growth was consistent across devices, as digital video revenue grew 58.2% on desktop and 47.8% on mobile.

Digital video—the future is streaming.

Social media sees strong growth after plateauing in the beginning of the pandemic.

Social

- Social media advertising saw strong growth in 2021 as consumers continue to use both industry veterans like Meta platforms, Twitter and Snapchat as well as newer platforms like TikTok. Revenue totalled $57.7 billion, up 39.3% from 2020.
- Additionally, the proliferation of influencers and content creators has been a catalyst for social media's growth in usage and attention, which makes the channel an overall more attractive vehicle for brand advertising and partnerships. In fact, IAB's Brand Disruption Survey 2021 found that 8-in-10 U.S. brands are now working with influencers and content creators, and nearly half of them entered these partnerships for the first time since COVID-19 began.

Digital audio

- Digital audio (including podcasting) saw the highest growth rate, by format, in 2021 with a YoY growth rate of 57.9%, substantially larger than last year's increase of 13.1%. Revenue totalled $4.9 billion, and digital audio's share of total digital revenue grew slightly from 2.2% in 2020 to 2.6% in 2021.
- This growth is consistent with the 55% growth rate that the industry was expecting in 2021 prior to COVID-19, per the 2020 Internet Advertising Revenue Report.
- The majority of digital audio growth was from mobile devices, as revenue increased 66.1% YoY and mobile's share of revenue increased to 85% from 81%. Just like other ad formats, digital audio ad revenues are growing faster on mobile devices compared to the desktop.
- Podcasts will continue to drive growth in digital audio revenue as according to the Global Entertainment & Media Outlook, monthly podcast listeners are anticipated to grow in the U.S. at a 6.7% CAGR from 2021 to 2025. (For further information on podcast revenues, please refer to the 2021 IAB U.S. Podcast Advertising Revenue study available in May 2022.)

Digital audio is leading the charge in growth.

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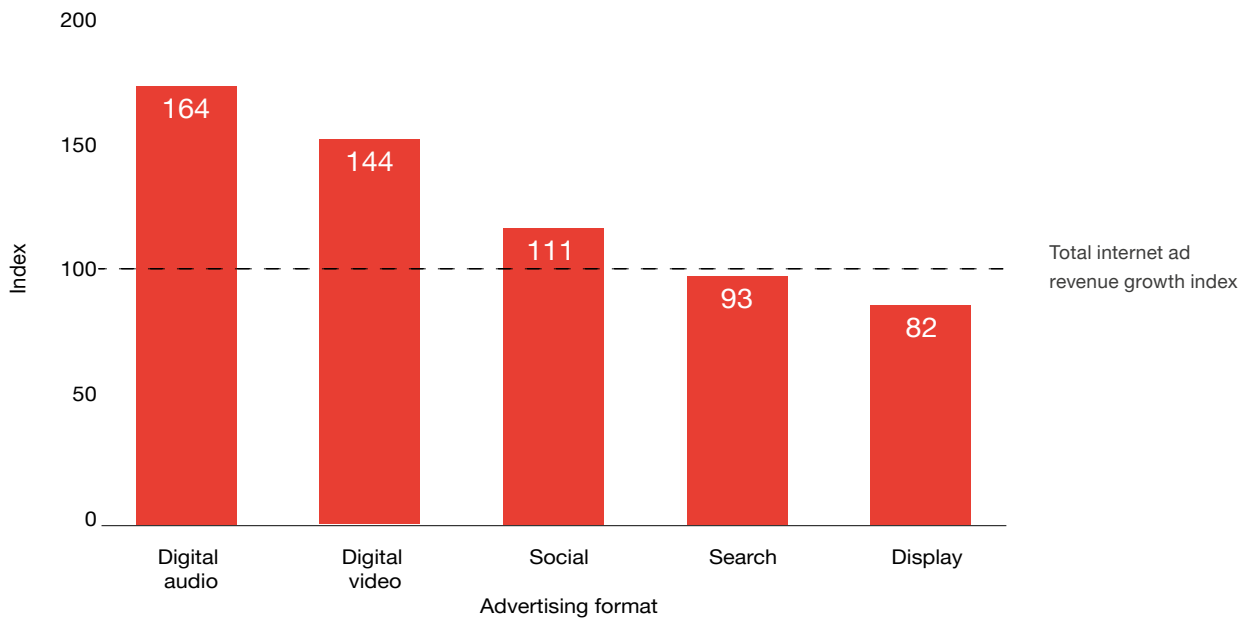
2021 Highlights (continued)

Growth Index (2021 vs. 2020)

Streaming media (digital video and digital audio) are significantly outpacing the overall industry in growth.

Indices represent individual growth rates vs. Total internet ad revenue growth

Growth Index



Note: formats with index scores above 100 indicate a greater than average growth rate

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State of the Industry: 2022 and beyond

Below are four key trends industry leaders are focusing on in the near future:

1. Dollars Flowing into Digital

Consumer time spent on digital media is continuing to grow as evidenced by multiple consumer insights studies. Per PwC's Global Entertainment & Media Outlook, as consumer attention grows in these channels, advertising expenditures will continue to follow, particularly across digital video, digital audio as well as social media and search. Sustained ad growth between 2021 and 2022 will also flow into other digital channels such as gaming and esports. The rapid growth of both ad monetization embedded in gaming and emerging devices/experiences (such as VR and the metaverse) will likely provide further revenue opportunities for publishers, content creators, and tech companies.

Another trend likely to drive ad investment into digital is the continued rise of e-commerce which has grown significantly over the past two years—up 50% to $870 billion in 2021 per the U.S. Department of Commerce[1]. Retail media networks are capitalizing on this growth in e-commerce and are expected to continue to generate an additional stream of digital ad revenue for major retailers as they leverage first-party data and closed loop reporting. Additionally, according to a Global Consumer Insights Pulse Survey run by PwC in December 2021, smartphone shopping is at a historic high as 41% of survey respondents said they shop daily or weekly via a smartphone. As a result, advertisers will want to surround their messaging where transactions are occurring.

2. Privacy and Addressability's Impact on Measurement and Monetization

The digital advertising ecosystem is at a critical inflection point, where evolving consumer privacy and addressability have the real potential to slow ad monetization. Increased regulations, the evolution of new business and technical requirements, and platform upgrades by technology companies such as Apple, Google, and Meta are decreasing both the size of addressable audiences and the ability to measure performance. For example:

- Due to the privacy change Apple made to its iOS operating system in 2021, Meta platforms expect a decrease in their ad revenues by ~$10 billion in 2022, according to Meta CFO Dave Wehner (Source: CNBC[2])
- Up to $10 billion of additional publisher sell-side annual revenue is also in jeopardy as addressability and measurement in OpenRTB programmatic buying is heavily reliant on third-party cookies and identifiers. (Source: IAB and Deighton Associates, 2/10/20[3])

Protecting consumer privacy has shifted the value exchange between advertisers and consumers. As consumers become increasingly aware of the value of their data, publishers/platforms are offering ad-free, ad-light, or ad-heavy content experiences in exchange for consumer data. The consumer migration to these ad-free, subscription-based experiences is threatening the revenues of ad-supported streaming services. Advertisers are finding themselves at a crossroads: continue down the path where legacy models deliver expected ad content and ad loads, or pave a trail of innovation toward personalized content delivered on the consumer's terms.

3. Trust and Transparency

The need for trust and transparency across the digital ad supply chain has never been more important and is threatening ad revenue generation and publishers' bottom lines. Meeting that need requires continually evolving frameworks and investments to verify ad sellers, human traffic, viewable impressions, content precision, as well as brand safe and suitable environments. With trust and transparency efforts becoming increasingly complex in the face of privacy-driven requirements and regulations, publishers will need to stay ahead of the curve and stay compliant to not run the risk of losing advertiser dollars. While marketers must prepare for regulatory change, the industry should continue to push transparency and educate consumers about what their information is being used for and how it's being used.

4. Diversity, Equity & Inclusion / Purpose-Driven

As the consumer population rapidly diversifies (across race, ethnicity, sexual orientation, etc.), consumers are expecting brands to place diversity, equity, and inclusion at the forefront of their business operations, pushing the demand for DEI-inspired messaging, products and services. Additionally, a recent PwC Global Consumer Insights Pulse Survey showed that over half of consumers are also starting to consider factors such as supporting local communities, strong company values, and staff well-being when making purchasing decisions. As advertisers heighten their needs to be purpose-driven, inclusive, and authentic, their publishing partners will also need to exhibit business practices and messaging that adhere to those values.

[1] https://www.forbes.com/sites/jasongoldberg/2022/02/18/e-commerce-sales-grew-50-to-870-billion-during-the-pandemic/?sh=2741580d4e83

[2] https://www.cnbc.com/2022/02/02/facebook-says-apple-ios-privacy-change-will-cost-10-billion-this-year.html

[3] https://www.iab.com/insights/the-socioeconomic-impact-of-internet-tracking/

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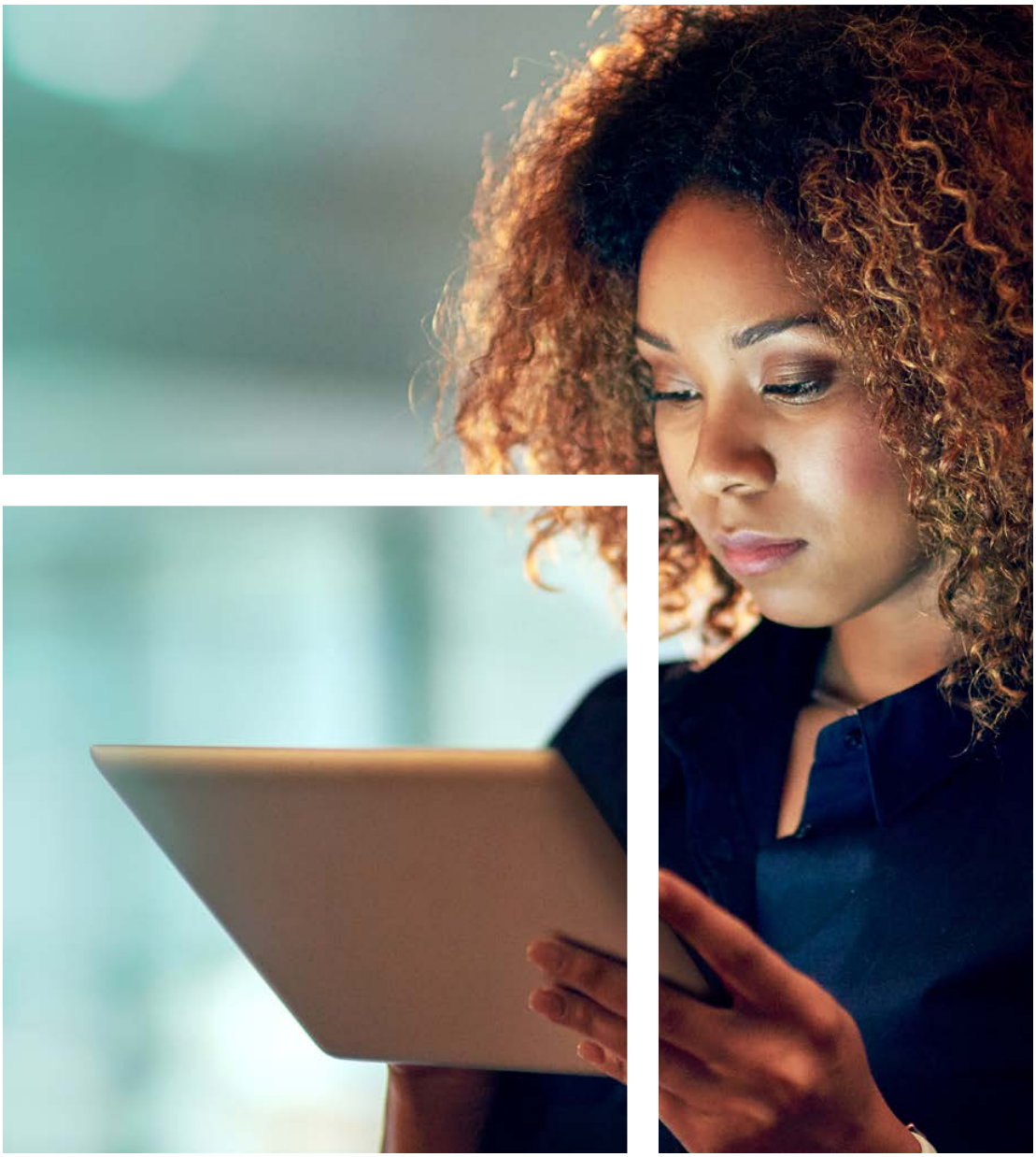
Full-year trends



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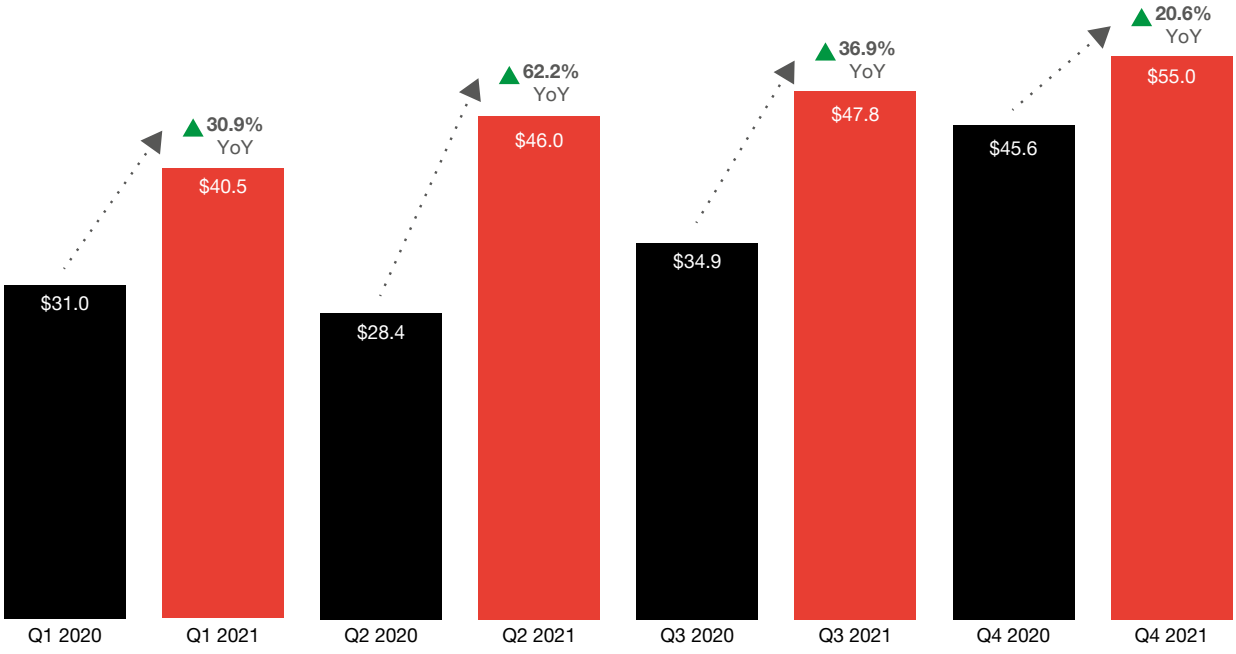
Quarterly growth

Strong year-over-year growth across each quarter of 2021

2021 continued from where 2020 left off. With many U.S. states lifting stay-at-home orders, the vaccination rollout gaining momentum, and consumers adapting to a post-pandemic world, this growing confidence is reflected in strong YoY internet ad revenue growth across each quarter of 2021. This is especially the case for Q2 2021, which saw a 62.2% increase in revenues versus the same quarter of 2020 - showcasing just how strongly the U.S. market has rebounded since that period of uncertainty and fragility. With Q3 and Q4 YoY growth similarly impressive (albeit more modest) at 36.9% and 20.6% respectively, revenue growth looks set to continue into 2022.

Revenues were consistently strong throughout the year, with the second half of 2021 reaching a combined $102.8 billion.

2020 vs. 2021 quarterly internet advertising revenues ($ billions)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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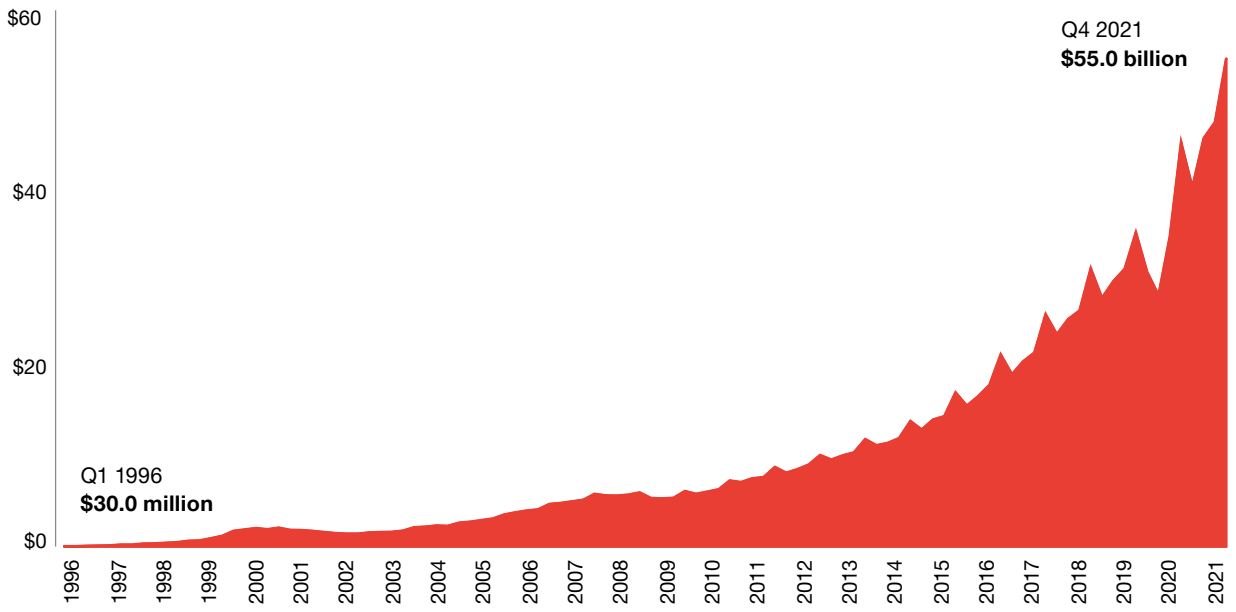
Historical quarterly revenue trends

Holiday ad spend advanced Q4 revenues to the highest ever

Despite the impact of further pandemic related lockdowns and restrictions at the beginning of 2021, the graph below shows the rebound in advertising revenues for Q4 in particular. Fueled by holiday advertising spend, ad revenues in Q4 of 2021 reached their highest to date at $55 billion, up nearly $10 billion (20.6%) from last year's reported high. The trajectory in recent years suggests there is no slowing down for the industry.

Ad revenues in Q4 were up nearly $10 billion from 2020, reaching $55 billion.

Quarterly internet advertising revenue growth trends 1996 – 2021 ($ billions)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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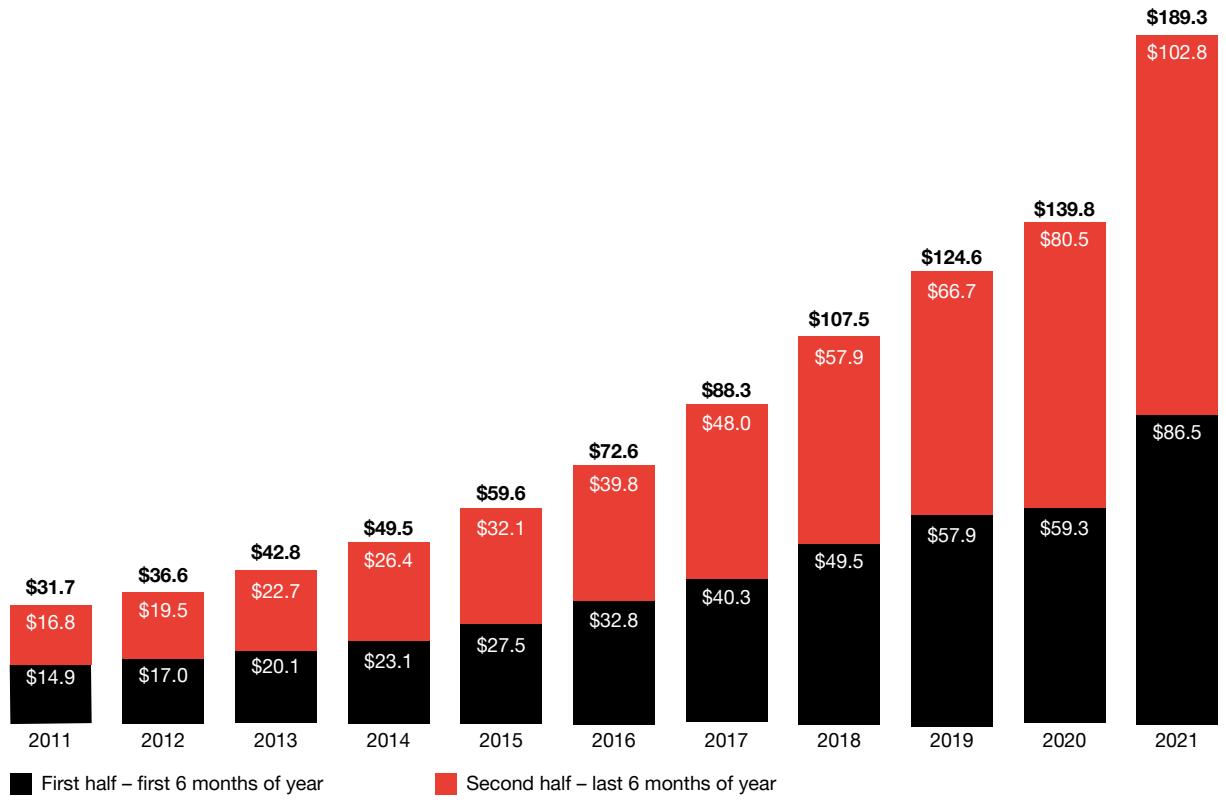
Second half vs. first half revenues

Strongest first half digital ad performance seen over the past 10 years

Compared with the first halves of previous years, the first half of 2021 saw the highest revenues on record at $86.5 billion. It also saw the strongest YoY growth (46% increase on 2020's first half) – signaling the market's impressive rebound since the turbulent first half of 2020.
As has historically been the case, Q3 and Q4 continue to account for a higher proportion of revenues, with the second half of 2021 experiencing similarly strong growth versus the same period of 2020 (+28%).

Advertising revenues for the second half of 2021 accounted for 54% of total revenue.

Historical revenue mix, first half vs. second half (2011 – 2021) ($ billions)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021
Note: First and second halves may not add up to total due to rounding

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Desktop vs. mobile revenues

Record levels of growth for both mobile and desktop ad revenues

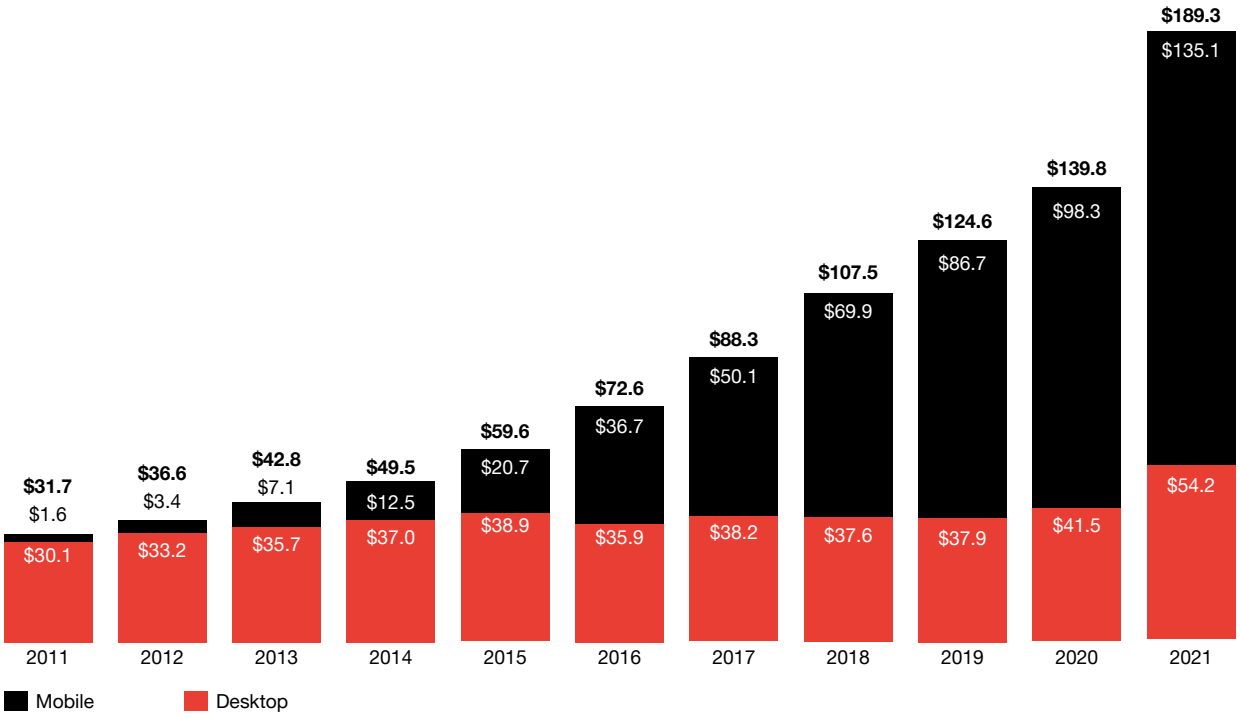
2021 has seen record levels in both mobile and desktop ad revenues, the rate of growth far exceeding what has been seen in recent years, with mobile revenue growing by 37.4% YoY and desktop 30.7% YoY.

A variety of factors are likely at play, which are contributing to high levels of growth:

- Firstly, the permanent shift to hybrid working from both the office and home as well as reduced business travel compared to pre-pandemic levels, are likely to be a major factors for these increases, with mobile and desktops being used in conjunction with one another.
- Consumers spending more time with all forms of digital media, particularly mobile when it comes to online shopping.[1]
- Economic recovery following COVID-19 lockdowns and restrictions.[2]

Total internet advertising revenue has seen a compound annual growth rate (CAGR) of 19.6% since 2011, an increase from 18% measured between 2010 and 2020. Mobile CAGR over the same period is 55.8% (a drop from 66.5% between 2010 – 2020) while desktop growth remains in single digits at 6.1% (an increase from 5.0% CAGR between 2010 – 2020).

Desktop vs. mobile internet ad revenues (2011 – 2021) ($ billions)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

[1] https://www.pwc.com/gx/en/industries/consumer-markets/consumer-insights-survey.html

[2] https://www.pwc.com/gx/en/research-insights/economy/global-economy-watch/projections.html

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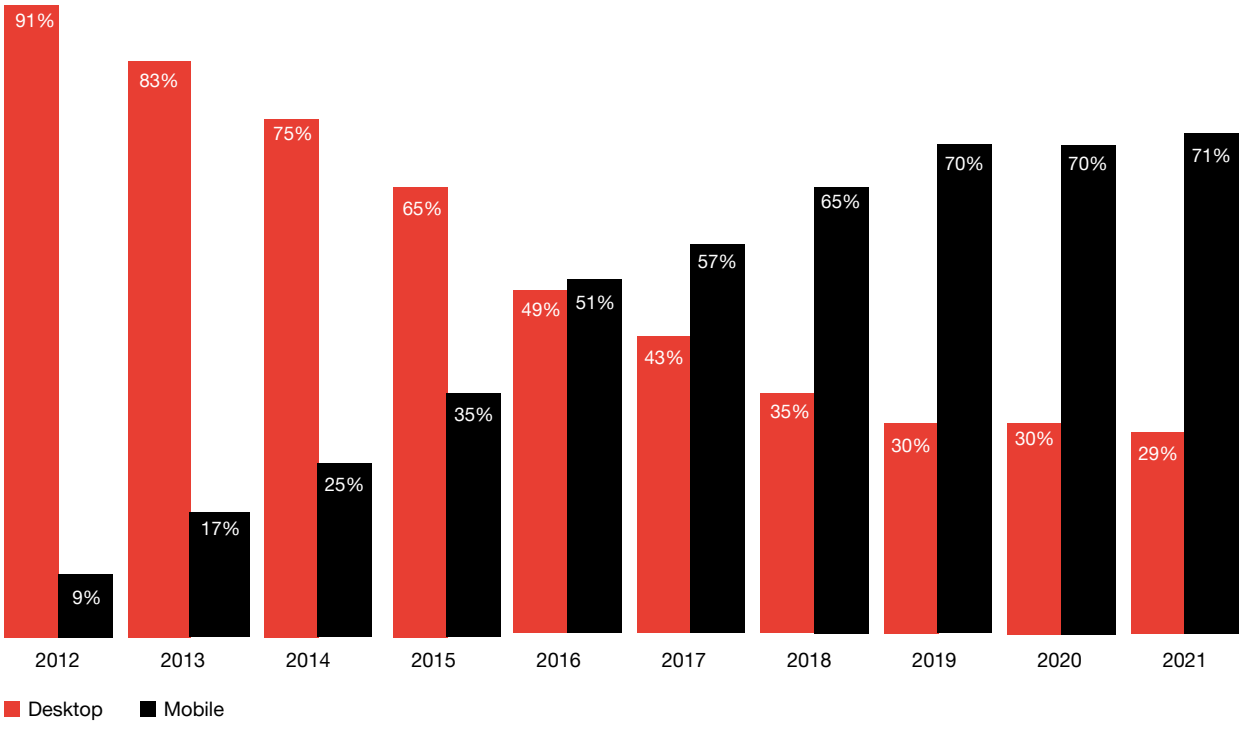
Desktop vs. mobile, by percentage

The proportion of mobile ad dollars remains consistent at $7 in every $10

As predicted last year, there appears to be greater stability in revenues across devices, with just over $7 out of every $10 derived from mobile devices (smartphone or tablet), consistent with what was seen in 2020 and 2019.

Mobile growth, as expected, has plateaued due to penetration.

Historical desktop vs. mobile trends, full-year results (2012 – 2021)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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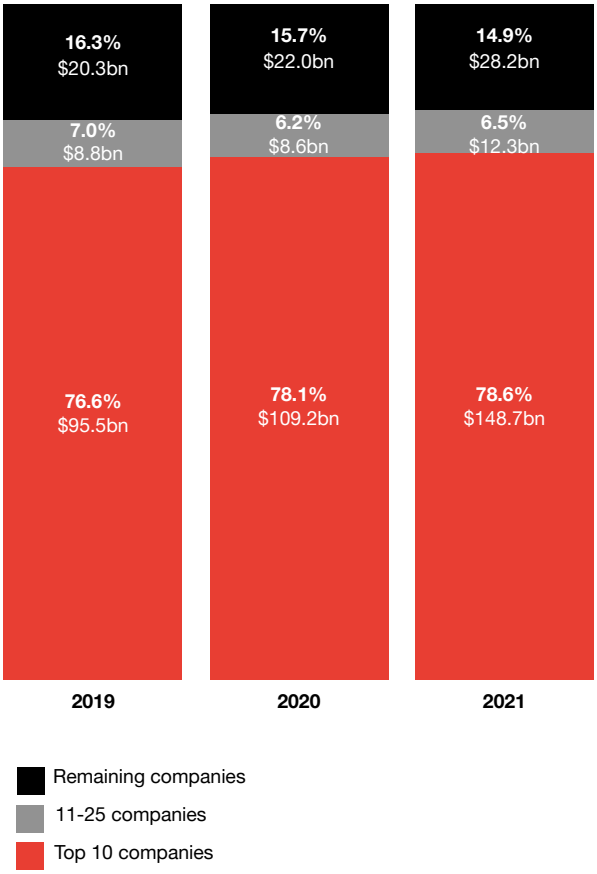
Revenue concentration

Although the top 10 companies continue to represent over three-quarters of digital ad revenue, their share of growth has slowed

The deceleration of the share of growth among the top 10 companies, combined with a reversal of multi-year loss in share among the mid-tier publishers (a 0.3% increase to 6.5% share in 2021), suggests a growing democratization of advertising revenue across the mid-tier and long-tail publishers.

Three year (2019 – 2021) internet advertising revenue concentration



Source: IAB / PwC Internet Ad Revenue Report, FY 2021
Note: Totals may not equal 100% due to rounding

Overall advertising revenues for the top 10 companies are now approaching $150 billion.

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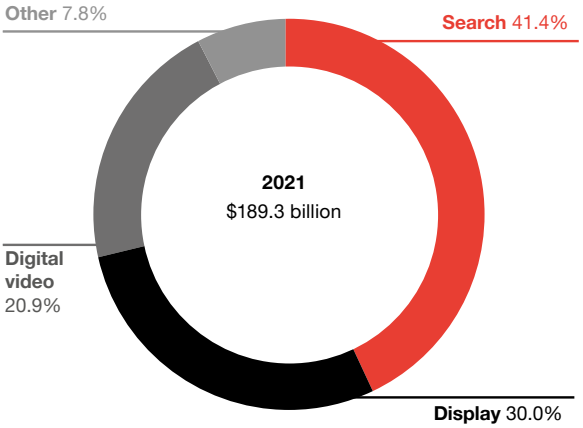
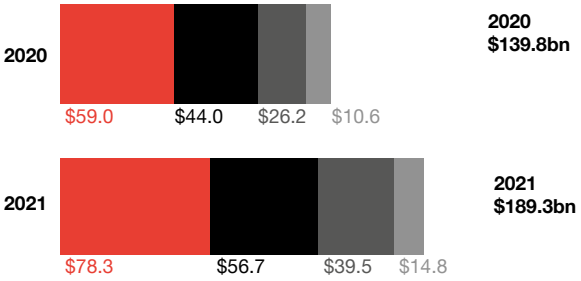
2021 results, by format

When looking at the top formats, search maintains the largest share, but digital video again saw the most growth in revenue

2021 advertising format by share



2020 vs. 2021 advertising format, by revenue ($ billions)



Digital video experienced the most advertising growth since 2020 with a 51% increase in revenue and a 2.2 percentage point increase in market share.

Search

$78.3 billion in revenues in 2021, representing a 33% increase since 2020. As has historically been the case, search remains the most prominent format, accounting for 41.4% of total internet advertising revenue in 2021. This share has decreased slightly (reduction of 0.8 percentage points) since 2020, representing a YoY decrease since 2019.

Display*

In 2021, revenues totaled $56.7 billion, representing an increase of 29% since 2020. Display holds a 30% share of total internet advertising revenue in 2021. This represents a slight decrease (reduction of 1.5 percentage points) since 2020.

Digital Video

$39.5 billion totaled revenues in 2021. This is an increase of 51% since 2020, representing the format with the strongest revenue growth since last year. It now holds a 20.9% share of total internet advertising revenue in 2021, which is an increase of 2.2 percentage points since 2020.

Other

$14.8 billion in revenues in 2021, representing an increase of 40% since 2020. 'Other' is made up of revenues from classifieds ($5.3 billion), lead generation ($4.6 billion), and digital audio ($4.9 billion) formats. The category holds a 7.8% share of total internet advertising revenue in 2021, a slight increase of 0.2 percentage points since 2020.

*Display includes Banner, Rich Media, and Sponsorships

Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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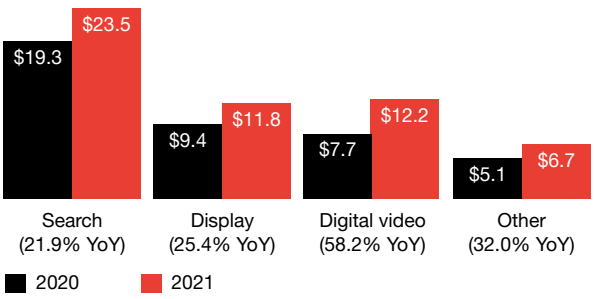
Formats by device

When looking only at the top formats, each continues to grow on both mobile and desktop

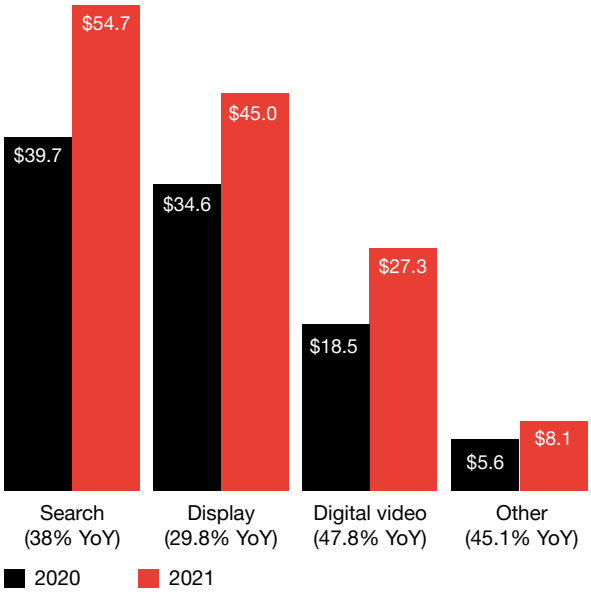
- Search accounts for the biggest proportion of total revenue on desktop and mobile.
- Digital video saw the most YoY growth across desktop and mobile, and grew its revenue on each device by 58.2% and 47.8% respectively.
- Display has experienced strong revenue growth across both devices. For mobile, display revenues continue to follow closely behind search – although the distance between the two has grown in 2021.
- Other revenues have also seen impressive growth over the last 12 months, but overall market share remains consistent with 2020.

Digital video has gone from strength to strength, seeing the strongest revenue growth on both desktop (58.2%) and mobile (47.8%) in 2021 across all formats.

Desktop revenues, 2020 vs. 2021 ($ billions)



Mobile revenues, 2020 vs. 2021 ($ billions)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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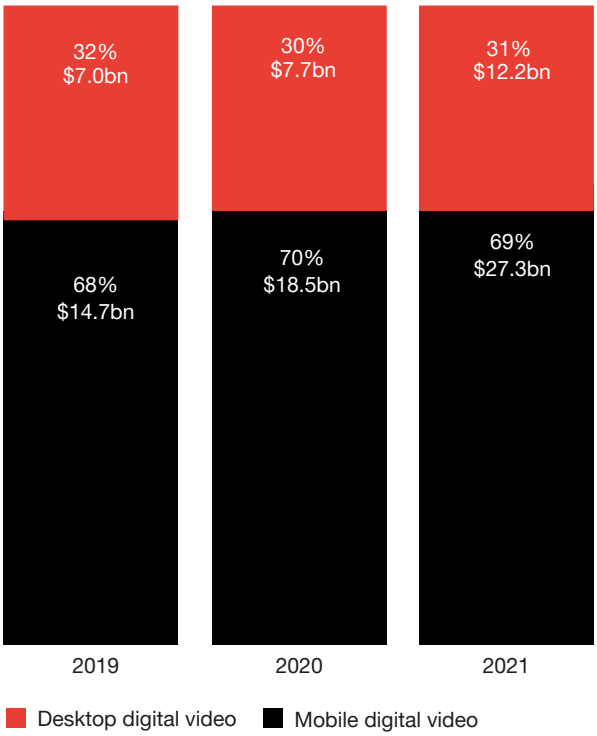
Digital video (desktop vs. mobile)

Digital video achieves major growth

Total digital video advertising revenues, which are inclusive of CTV/OTT, have increased by $13.3 billion (or 50.8%) since 2020, to $39.5 billion in 2021. Whilst mobile still accounts for the majority ($27.3 billion) of digital video revenues, there has also been a steady growth in desktop digital video revenues, increasing from $7.7 billion in 2020 to $12.2 billion in 2021. However, its share of total digital video revenue remains consistent at 31%.

The large increase in digital video advertising revenue is a reflection of the record levels of growth seen in mobile and desktop ad revenues, which is likely being partially driven by consumers spending more time with all forms of digital media.

Percentage share digital video revenues, full-year results (2019 – 2021)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

Total digital video advertising revenue increased 50.8%, with mobile accounting for the majority of that growth.

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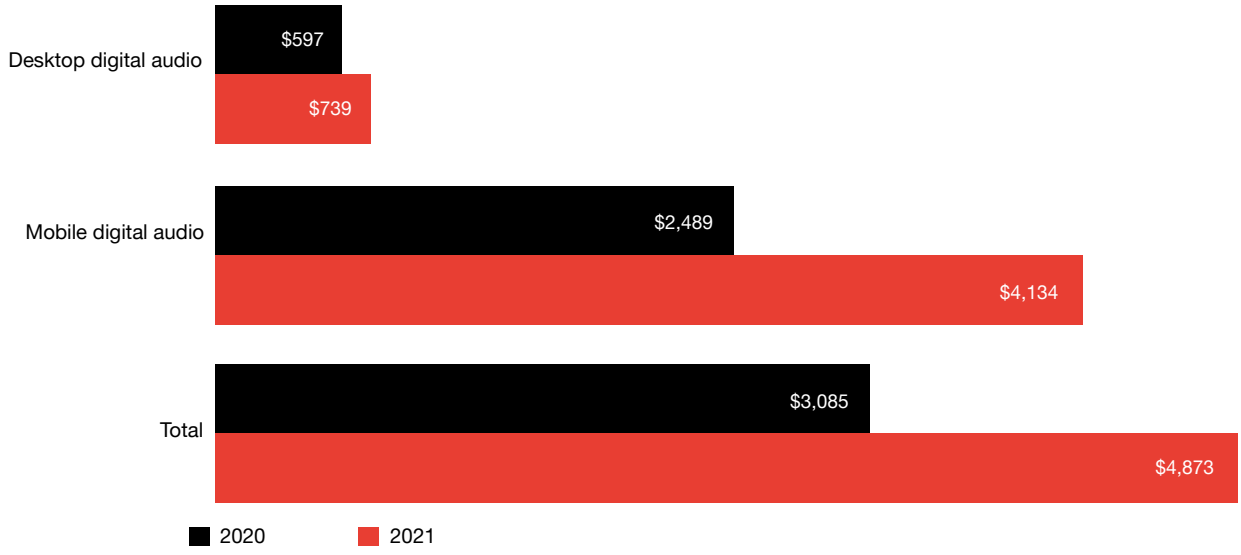
Digital audio (desktop vs. mobile)

Beyond the screen: Digital audio follows digital trends with significant growth in 2021

Digital audio advertising revenues increased by over $1.7 billion in 2021, which equates to 57.9% YoY growth, driven largely by mobile digital audio revenues. Whilst desktop digital audio revenues remain lower at $739 million, this still represents a 23.8% YoY increase since 2020.

Digital audio (including podcasting) advertising revenues, full-year results (2020 – 2021) ($ millions)



For further information on podcast revenues, please refer to the 2021 IAB U.S. Podcast Advertising Revenue study available in May 2022.

Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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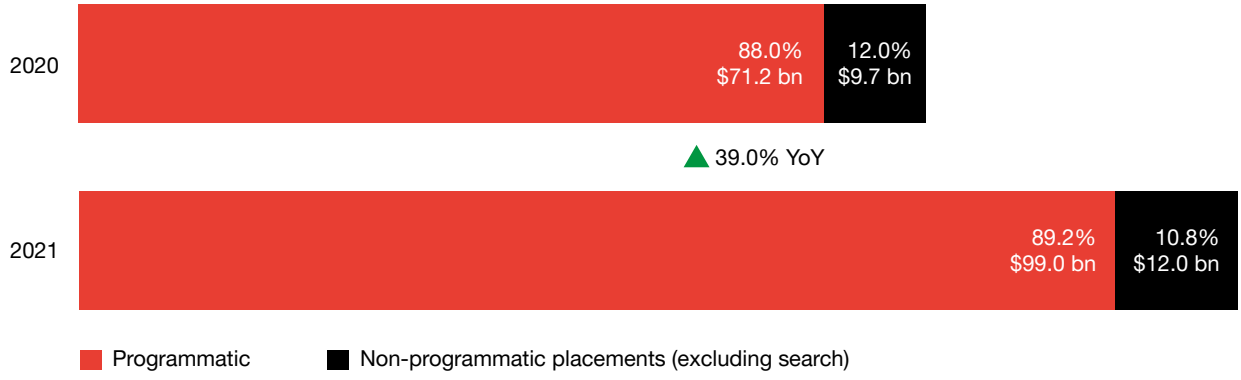
Programmatic

The programmatic growth trend continues

Programmatic advertising revenues continue to grow, increasing by $27.8 billion within the last year, an increase of 39%. Specifically, digital video (a component of programmatic) has seen the largest increase year-over-year vs. other non-search advertising methods, particularly on mobile devices as they play a more prominent role (see page 18).

Programmatic (excluding search), full-year results (2020 – 2021)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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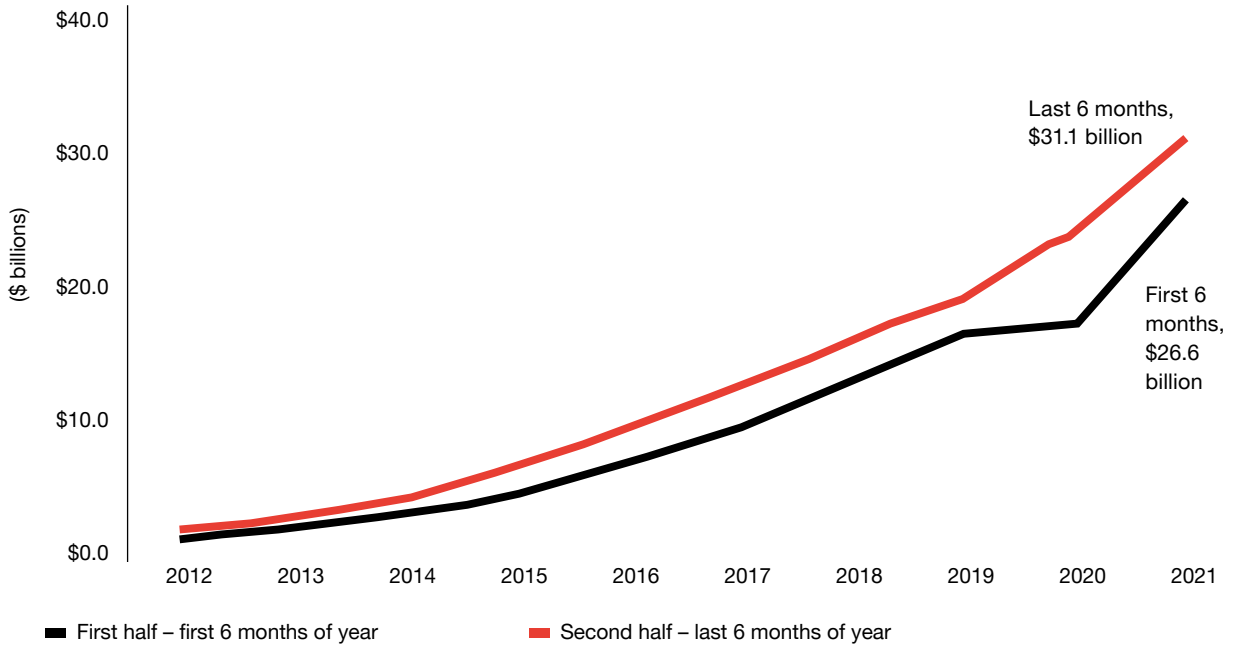
Social media

Social media sees recovery of first half revenues from 2020

Social media advertising revenues totaled $57.7 billion in 2021, an increase of $16.3 billion since 2020. After plateauing in the first half of 2020 at the start of the pandemic, first half revenues of 2021 have come back stronger, following the more upward trends seen in previous years.

Social media advertising revenues, full-year results (2012 – 2021) ($ billions)



Source: IAB / PwC Internet Ad Revenue Report, FY 2021

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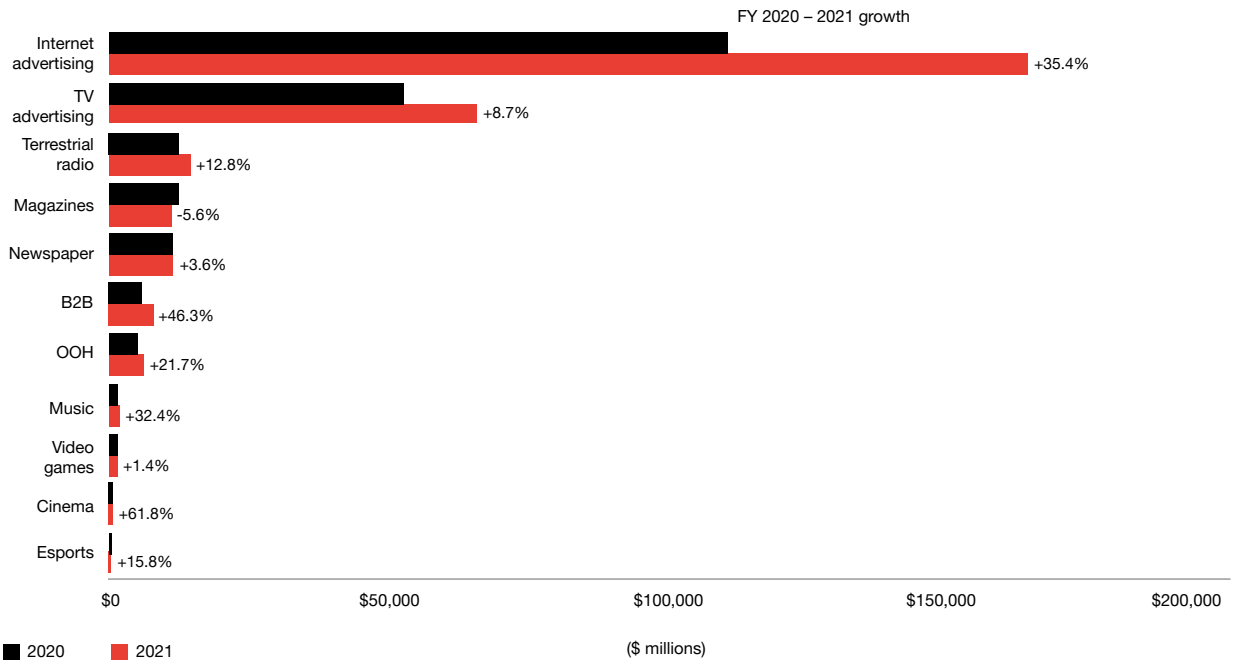
Advertising revenues and growth, by media (digital & non-digital media)

The majority of media types have seen positive advertising revenue growth since 2020, with only Magazines recording lower revenues vs. 2020.

In 2020, most media types, with digital being a notable exception, recorded negative growth from the year prior in the face of the COVID-19 pandemic and economic uncertainty. Now, in 2021, it appears that media advertising is rebounding impressively, with positive growth seen across the majority of media types. Internet advertising continues to be the dominant presence in terms of overall revenue, while smaller share media types cinema, B2B and music have shown strong revenue growth since last year (61.8%, 46.3% and 32.4% respectively).

Advertising revenues and growth, by media (2020 vs. 2021 growth) ($ millions)



Please note, definitions for the above media types can be found on page 28

Source: Internet advertising data from IAB / PwC Internet Ad Revenue Report, FY 2021

Source: All other data points from PwC Entertainment and Media Outlook

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3 Appendix

About the IAB Internet Advertising Revenue Report

Commissioned by IAB and conducted by PwC Advisory Services LLC ('PwC') on an ongoing basis, with results released annually, the IAB Internet Advertising Revenue Report was initiated by the Interactive Advertising Bureau ('IAB') in 1996.

This report uses 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, including research by their in-house market research team, 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 of this report.

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Definitions of advertising formats

Digital audio (podcast, streaming music, streaming radio)	Advertising that is served within an online audio environment, e.g. through a streaming audio platform or website
Digital video	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) which contain video are categorized as rich media ads.
Display (Banners / Rich Media)	Ad banners (also known as banner ads) are one of the most dominant forms of advertising on the internet. Banner ads are a form of display advertising that can range from a static graphic to full motion video. Ad Types included Horizontal, Vertical, Tiles, Full Page Portrait, Full Page Landscape and Feature Phone Sizes. Interactive features that engage the user and initiate new content experiences. Interactive features could be animation or elements that trigger ad expansion or video play or other interactive experiences. Rich media experiences that require files or creative assets in addition to initial load and subload limits should be user initiated. This definition also includes any advertising experience where visiting a website in an initial browser window initiates a secondary browser window to deliver an ad impression directly above the initial browser window. Video commercials that appear in video players are considered digital video Ads, not Rich Media. “Interstitials” are defined as between-the-page ad units, also known as “interstitial” ads, between-the-page ad units display as a user navigates from one webpage to the next webpage. The ad appears after the user leaves the initial page, but before the target page displays on the user’s screen. The ad is self-contained within its own browser window and may not appear as an overlay on the target page content. Forms of interstitials can include a variation of the following terms: Splash screens – a preliminary page that precedes the regular home page of a website and 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. 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). Expandable Ads - Rich media ads that can be enlarged to dimensions beyond the initial dimensions of the placement they fill on the webpage. The user initiates expanding events, sometimes after the ad initially expands briefly on its own to catch the user’s attention. Overlay: An ad unit that displays over the webpage content briefly when initiated. Pop-up ads and pop-under ads – an advertisement that appears in a separate window that automatically loads over an existing content window, without an associated banner.
Mobile	Advertising tailored to and delivered to smartphones (e.g. iPhone, Galaxy S, Blackberry, etc.).

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Definitions of advertising formats (continued)

Programmatic advertising revenue	Earned revenue for machine-based buying and selling of digital media including, but not limited to: programmatic direct via private marketplace or automated guaranteed, OpenRTB via programmatic/ DSP, publisher direct via a proprietary ad platform (i.e. self-serve), ad network. (Note: Programmatic refers to different ways of selling ads overall; it is not a separate format. Therefore, revenue may appear duplicative to other revenues listed.)
Search / Search Engine Marketing (SEM)	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). 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).
Social media	Advertising that reaches targeted audiences through social media platforms, messaging apps, and news feeds.

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Definitions of advertising media from PwC's Entertainment and Media Outlook

Internet advertising	This segment comprises spending by advertisers either through a wired Internet connection or via mobile devices. The types of advertising (wired or mobile) are classified primarily by format rather than transport mechanism or device. This revenue is digital, and from advertiser spending. Total Internet advertising comprises online television, newspaper, consumer magazine, trade magazine, directory advertising and online radio (for North America only), which are also all included in their respective segments. The wired sub-segments consider paid search, display and classified formats. Display is broken out further between video and other display.
TV advertising	This segment comprises all TV advertising revenue, including broadcast and online. Broadcast television covers all advertising revenues generated by free-to-air networks (terrestrial) and pay-TV operators (multichannel). Online TV advertising consists of in-stream adverts and reflects revenues from pre-roll, mid-roll and post-roll ads around TV content distributed by broadcaster-owned websites.
Music, radio and podcasts	This segment comprises consumer spend on music, including both physical and digital recorded music and live music played at concerts, as well as revenue from sponsorship of live music, but does not include revenue from merchandise or concessions at live music events. It also includes revenue from consumer spend on radio license fees (where applicable) and all advertising spend on radio stations and radio networks. Finally, it includes revenue from podcast advertising, podcasts being defined as a piece of principally spoken-word recorded audio content delivered over the internet, excluding audiobooks, that can be either downloaded or streamed. This segment includes both digital and non-digital revenue, and revenue from both consumer and advertising spending.
Cinema	This segment comprises cinema revenue (including box office and advertising). This revenue is non-digital, and includes both consumer and advertising spending.
Newspaper and consumer magazines	This segment comprises revenue from both circulation (consumer spend) and advertising in newspapers and consumer magazines. It considers both physical print editions and digital editions. It includes all daily newspapers, including weekend editions and free dailies. Weekly newspapers are included in markets where data is available. This revenue is both digital and non-digital, and is from both consumer and advertising spending.
OOH	The out-of-home (OOH) advertising market consists of advertiser spending on out-of-home media. OOH comprises total advertiser spending on all formats of out-of-home media, and is split between physical and digital. Advertising spend is tracked as net of agency commissions, production costs and discounts. Traditional physical out-of-home media includes billboards, street furniture (bus shelters, kiosks) transit displays (bus sides, taxi toppers), sports arena displays, and captive ad networks (in such venues as elevators). Digital OOH includes any out-of-home advertising media that is Internet-connected (e.g. smart billboards).
Business-to-business (B2B)	This segment covers business-to-business media, comprising business information, trade magazines, professional books and trade shows.
Video games and esports	This segment comprises consumer spending on video games software and services (not hardware or devices) across both traditional and social/casual gaming, as well as revenue from advertising via video games. It also includes revenue from consumer and advertiser spend on esports.

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Survey scope and methodology

Survey scope

The Interactive Advertising Bureau (IAB) retained PwC to establish a benchmark for measuring the size and growth of internet / online / mobile advertising revenues. 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, commercial online services, ad networks and exchanges, mobile devices and email providers.
- 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 online 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-type.
- Identifies non-participating companies and applies a conservative revenue estimate based on available public sources.
- Analyzes the findings and 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%**

	Revenue (in mil)	Q/Q growth	Y/Y growth
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%**
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	**$31,736**		**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	**$36,572**		**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%**

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Historical data findings (continued)

	Revenue (in mil)	Q/Q growth	Y/Y growth
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	**$59,551**		**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%**

	Revenue (in mil)	Q/Q growth	Y/Y growth
Q1 2019	$28,019	-11%	17%
Q2 2019	$29,898	7%	17%
Q3 2019	$31,271	5%	18%
Q4 2019	$35,425	13%	13%
Total 2019	**$124,613**		**16%**
Q1 2020	$30,952	-13%	11%
Q2 2020	$28,350	-8%	-5%
Q3 2020	$34,925	23%	-12%
Q4 2020	$45,601	31%	29%
Total 2020	**$139,828**		**12%**
Q1 2021	$40,507	-11.2%	30.9%
Q2 2021	$45,998	13.6%	62.2%
Q3 2021	$47,814	3.9%	36.9%
Q4 2021	$54,991	15%	20.6%
Total 2021	**$189,310**		**35%**

Source: IAB/ PwC Internet Ad Revenue Report, FY 2021

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About IAB

The Interactive Advertising Bureau empowers the media and marketing industries to thrive in the digital economy. Its membership comprises more than 700 leading media companies, brands, agencies, and the technology firms responsible for selling, delivering, and optimizing digital ad 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, IAB develops technical standards and solutions. IAB is 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., the trade association advocates for its members and promotes the value of the interactive advertising industry to legislators and policymakers. Founded in 1996, IAB is headquartered in New York City.

The IAB Global Network brings together a total of 45 IAB organizations, including three regional organizations, to share challenges, develop global solutions, and advance the digital advertising industry worldwide. IABs are located in North America, South America, Africa, Asia Pacific and Europe. Each association is independently owned and operated, functioning under bylaws consistent with local market needs to further the best interests of the industry they serve.

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PwC's technology, media and telecommunications practice

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
- IAB Measurement Certification Compliance auditing
- Privacy policy structuring, attestation and compliance advisory
- Mergers and acquisitions assistance
- Tax planning and compliance
- Capital sourcing and IPO assistance
- Marketing & media operations enablement

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PwC Research

PwC Research is the firm's global center of excellence for bespoke research and insight, working with clients to help them build industry leading insight capabilities and solve their business challenges.

Our real-time insight and analytics and unique advisory frameworks help businesses achieve sustained outcomes as they transform in the digital age.

For over 25 years we have been trusted to undertake some of the most prestigious and thought-provoking research in the UK, Europe, the Americas and Asia Pacific. We deliver impactful and visual insight for global clients ranging from Fortune 500 companies to national governments, informing strategy, driving performance improvement and supporting change.

With the unique ability to connect with subject-matter experts across the PwC global network, we can integrate and embed global citizen, customer, market and employee insight at the right time within an organization's decision making.

Our research and insight services include:

- Market sizing
- Insight consulting
- Market assessment
- Customer experience
- Product design and brand
- Conduct and culture
- Agile data collection
- Thought leadership

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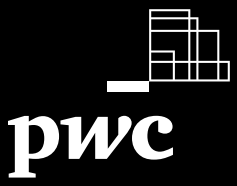

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