Innovation is a constant force driving the evolution of the digital media ecosystem. Digital channels are expected to provide nearly all incremental spend flowing into global ad budgets through 2020, and programmatic will account for most of that growth. Publishers and media buyers must understand the nuances and key trends impacting the market in order to capitalize on the vast opportunities available.

In such a fast-evolving industry, reliable data is the foundation of good business decisions. We have put together a compilation of key metrics, charts and insights to inform your 2019 strategies. This guide includes global advertising forecasts, growth trends for emerging and evolving formats, trends in header bidding, fraud protection, and more!
PROJECTED AD REVENUE GROWTH IN NORTH AMERICA, BY MEDIA TYPE

Digital media will account for nearly all advertising growth momentum in 2019.

Following a positive growth year, boosted by the World Cup and the midterm elections, Local TV is expected to experience double digit declines in 2019. Out of home is the only traditional media type forecasted to grow next year.

Source: Magna Global
Digital ad spend growth remains strong in the US, where over half of total media ad spend will be devoted to digital in 2019. That share is projected to rise to nearly two-thirds by 2022.

Source: eMarketer
The share of digital spend allocated to display advertising is expected to remain flat over the next four years. However, as digital advertising as a whole rises, display ad spend is projected to nearly double in the US between 2018-2022.

Source: eMarketer
Already the norm for digital display ad spend in the US, programmatic transactions will gain further market share as automation innovation continues to expand into new environments including in-app and video.

Source: eMarketer
PROJECTED SHARE OF US PROGRAMMATIC DIGITAL DISPLAY AD SPEND, BY DEVICE

Mobile growth will outpace that of desktop to represent two-thirds of programmatic transactions in the US come 2019.

Source: eMarketer
LEADING PRIORITIES OF US COMPANIES’ MEDIA SPENDING OVER THE NEXT YEAR

% of Respondents, November 2018

Efficiency, measurement and attribution represent the leading priorities for US media buyers in 2019. Publishers and technology vendors alike can provide valuable tools and insights to support the continuation of advertising budget flows toward digital channels.

Source: Xaxis
GLOBAL DIGITAL & PROGRAMMATIC MARKET
Digital display formats, including video, will contribute over half of incremental ad spend dollars projected for the 2017-2020 period. Display will represent over half of digital ad spend by 2019.

Digital as a whole will provide nearly all the projected growth for the global advertising market through 2020.

Source: Zenith
Global digital ad spend growth rates remain strong. By 2020, digital advertising will represent that majority of total media ad spend worldwide.

Source: eMarketer
**TOP 5 DIGITAL AD SPEND MARKETS WORLDWIDE**

$ billions and % YOY change

China and the US are the only markets with over $10 billion in digital ad spend projected to grow at double-digit rates in 2019, expanding their lead as the largest digital ad markets in the world.

Source: PricewaterhouseCoopers; PubMatic calculations
Indonesia is the fastest-growing digital advertising market in the world, followed by India. Both are home to large populations of increasingly digital and mobile users.
Programmatic transactions will represent more than two-thirds of digital display ad spend around the globe in 2019.

Source: Zenith
TOP 5 PROGRAMMATIC* DIGITAL AD SPEND MARKETS WORLDWIDE

$ billions and % YOY change

Double-digit YOY growth rates remain the norm among the largest programmatic advertising markets in the world. China, Japan and Australia stand out, however, underlining revenue growth opportunities for APAC publishers prepared to offer inventory through automation technology next year.

Source: Magna Global; PubMatic calculations
*excludes search and social media
Indonesia, India and Brazil will be the fastest-growing programmatic digital ad markets in annual terms in 2019. Brazil will become only the seventh programmatic market to reach a billion-dollar valuation next year.
MOBILE ADVERTISING
PROJECTED MOBILE AD SPEND WORLDWIDE

Mobile advertising will surpass $200 billion worldwide in 2019. Growth rates will remain in double-digit territory through 2022, at which point mobile is projected to represent more than three-quarters of global digital ad spend.

Source: eMarketer
TOP 5 MOBILE AD SPEND MARKETS WORLDWIDE

$ billions and % YOY change

US mobile ad spend will expand most in absolute terms, raising the value of the US market by more than $11 billion in 2019 compared to a year prior. China is expected to experience the largest growth as a percentage of spend among the five largest mobile advertising markets.

Source: PricewaterhouseCoopers; PubMatic calculations
MAJOR MOBILE AD SPEND MARKETS WORLDWIDE

Indonesia and Russia are expected to experience the fastest mobile advertising growth in 2019, with each market rising 34% year over year. Additionally, Russia, Germany, Mexico, and Canada are projected to surpass $1 billion in mobile ad spend for the first time in 2019.

Source: PricewaterhouseCoopers; PubMatic calculations
Mobile internet uptake has reached critical mass among consumers, with over 85 percent of internet users accessing the web via handheld devices. This provides advertisers and publishers alike with a strong incentive to increase investment in mobile strategies.

Source: eMarketer
MOBILE WEB VS. IN-APP

Mobile internet uptake among consumers is increasingly driven by apps, where users spend considerably more time per day. For advertisers and publishers, apps are a fundamentally different environment that brings new challenges and opportunities to the fore.

MOBILE WEB
- Cookies
- Web activity (e.g., shopping habits, favorite websites)
- Vulnerability to in-browser ad blockers
- 33 minutes

IN-APP
- Device ID
- GPS location, device type, OS, gender, age, wireless carrier
- Ad blocking technology has not advanced to universally block in-app ads
- 3 hours 8 minutes

Source: Smaato
In-app environments are driving mobile ad spend growth to approach $80 billion in the US in 2019. More than eight-in-ten mobile ad dollars in the US will be allocated to in-app advertising next year.

Similar estimates are not yet available worldwide, but growing app adoption among global consumers is likely to spur in-app ad spend around the globe next year. In Q2 2018 alone, nearly 30 billion apps were downloaded worldwide.*

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*App Annie

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2019 GLOBAL DIGITAL AD TRENDS / 23
VIDEO
ADVERTISING
Video is expected to remain a key driver of advertising expenditures on display, projected to represent nearly two-thirds of non-social display ad spend next year.

Source: Zenith; PubMatic calculations
PROJECTED DIGITAL VIDEO AD SPEND WORLDWIDE, BY PLATFORM

Global video ad spend is quickly shifting toward mobile with the share of handheld devices rising from half to more than 70% in four years.

Source: Cowen and Company; PubMatic calculations
DIGITAL VIDEO METRICS WORLDWIDE

Although mobile video ad spend has gained a strong footing, representing the majority of digital video spend, the portion of video ad budgets allocated to handheld devices still trails mobile’s penetration of digital video viewership globally.

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video ad spend ($ billions)</td>
<td>$17.4</td>
<td>$19.3</td>
<td>$20.0</td>
<td>$28.9</td>
</tr>
<tr>
<td>% YOY change</td>
<td>16%</td>
<td>11%</td>
<td>54%</td>
<td>44%</td>
</tr>
<tr>
<td>% share of digital video ad spend, by device</td>
<td>47%</td>
<td>40%</td>
<td>53%</td>
<td>60%</td>
</tr>
<tr>
<td>Viewership (billions)</td>
<td>0.51</td>
<td>0.49</td>
<td>1.87</td>
<td>2.04</td>
</tr>
<tr>
<td>% YOY change</td>
<td>-4%</td>
<td>-4%</td>
<td>12%</td>
<td>9%</td>
</tr>
<tr>
<td>% penetration of digital video viewers</td>
<td>21%</td>
<td>19%</td>
<td>78%</td>
<td>81%</td>
</tr>
</tbody>
</table>

Source: eMarketer, Cowen and Company; PubMatic calculations
Nearly 60% of digital ad budgets were allocated to video, totaling more than $10 billion in 2018. Although desktop video ad budget allocation remains strong, positive advertiser sentiment toward mobile platforms should fuel further growth for the coveted format via handheld devices.

Source: Interactive Advertising Bureau
Just over half of digital video ad spend outside the walled gardens of social media was transacted programmatically in 2018. The programmatic* share worldwide should rise above 60% in 2019.

Source: PubMatic calculations based on Zenith and Magna Global estimates; *excludes search and social media
Automation technology is only beginning to gain traction for video monetization and robust double-digit growth rates remain commonplace even in the US. Brazil will be the fastest-growing market in this group, rising 54% to approach $1 billion in 2019.
Indonesia will see programmatic video ad spend double in 2019, making it the fastest-growing market for the format in the world. India and Hong Kong are projected to expand more than 50% YOY during the same period.
PRIVATE MARKETPLACES
US private marketplaces (PMPs) will continue to grow at double digit rates through 2020 as buyers and sellers of digital impressions seek more control over their transactions.

Source: eMarketer
More than half of all US programmatic digital display ad spend will be transacted by private marketplaces by 2020.

Source: eMarketer; *excludes programmatic direct
Mobile will account for over two-thirds of all US PMP ad spend by 2020. However, it will continue to trail the share the device achieves of overall programmatic ad spend.

Source: eMarketer; *excludes programmatic direct
Globally, the expansion of mobile private marketplace volume has been fueled by growth within in-app environments.

Source: PubMatic
Over three-quarters of publishers that have embraced programmatic advertising have adopted header bidding. However, the technology remains in the early stages among the majority of the Alexa Top 3,000.

Source: Adzerk
Header bidding is considered a mature browser technology, including both desktops and the mobile web.

Source: PubMatic
MONETIZED IN-APP HEADER BIDDING VOLUME WORLDWIDE

Triple-digit quarterly growth rates have been the norm in the early days of in-app header bidding adoption in 2018. Expect further gains in 2019 as current SDK drawbacks are addressed with server-to-server setups.

Source: PubMatic
MAIN FACTORS PREVENTING APP PUBLISHERS IN NORTH AMERICA FROM USING IN-APP HEADER BIDDING

For in-app header bidding adoption to become widespread, ad tech providers must ensure the technology is understood by publishers.

Source: InMobi
INVENTORY AND AD QUALITY
QUALITY MATTERS TO DIGITAL AD BUYERS AND SELLERS

WHAT IS AD QUALITY?
Ad quality covers anything from advertiser category mapping to malicious creatives.

WHAT IS INVENTORY QUALITY?
Inventory quality covers anything from domain spoofing to viewability to fraudulent arbitrage.

LEADING CHALLENGES OF ADDRESSING AD QUALITY ISSUES

- It's difficult to track down bad actors in the supply chain
  +59%
- Ad tech solutions don't scan every ad for issues
  +41%
- Demand partners don't do enough to resolve issues
  +34%
- Partners don't respond when issues arise
  +33%
- Ad tech solutions don't block bad ads
  +30%

MAJOR CHALLENGES OF PROGRAMMATIC BUYING

- Lack of transparency around media buys
  +78%
- Brand safety
  +59%
- Technological capabilities of third-party technology
  +54%
- Accessing quality data
  +52%
- Lack of education/understanding
  +52%

Source: AdLightening, ExchangeWire
As in-app ad spend balloons, challenges remain ahead. An estimated $25.8 billion worth of ad spend was wasted globally in 2018, including 42.3% linked to app install farms or SDK spoofing.

Source: Juniper Research
3 MYTHS ABOUT INVENTORY QUALITY IN DIGITAL ADVERTISING

QUALITY IS A 100% SOLVABLE PROBLEM

The most common, and maybe most damaging of myths, is that quality management can be solved completely. In reality, as soon as the industry comes up with one solution, bad actors find a way to circumvent the system. The goal is to use all tools available to you to be as close to 100 percent solved as possible.

FRAUD DETECTION TECH ALONE WILL PROTECT ME

Third-party fraud detection is now considered “table stakes” for any large player, buyer or seller, in the digital ecosystem. Though fraud detection vendors play an important role in helping to identify and avoid invalid traffic (IVT), not every vendor measures quality the same way so reports may vary widely for the same inventory. Deep dive investigations will uncover other signals that support one report or another.

RISK ACROSS EVERY SSP IS THE SAME

Unlike something like open marketplace RTB protocol, there’s no IAB-standardized and clear way to solve for quality. This means each SSP is left to their own devices to decide for themselves how to solve for this. Some may only partner with a third-party detection vendor, others only use their own tools, and some take a hybrid approach.
**DIGITAL AD VIEWABILITY RATES WORLDWIDE, BY PLATFORM, FORMAT AND PURCHASE METHOD**

Consumers are watching more video content and moving their viewing habits to multiple screens and devices. The engaging format remains the most viewable across devices. On the other hand, mobile display viewability remains essentially a toss-up as just over 50% of banners actually in view across apps and the mobile web in H1 2018.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Publisher direct</th>
<th>Programmatic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Desktop</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>61.2%</td>
<td>63.7%</td>
</tr>
<tr>
<td>Video</td>
<td>64.3%</td>
<td>72.4%</td>
</tr>
<tr>
<td><strong>Mobile Web</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>51.8%</td>
<td>54.5%</td>
</tr>
<tr>
<td>Video</td>
<td>65.2%</td>
<td>71.5%</td>
</tr>
<tr>
<td><strong>Mobile App</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>53.7%</td>
<td>53.2%</td>
</tr>
</tbody>
</table>

Source: Integral Ad Science
Among major digital advertising markets in Europe and the Americas, viewability* rates have improved most in the United Kingdom and France. Germany remains the leading market in the category, with more than two-thirds of desktop display ads in view in H1 2018.

Source: Integral Ad Science; *per MRC standard
DESKTOP DISPLAY AD FRAUD RATE IN SELECT COUNTRIES

Roughly half of all programmatic ad spend worldwide is still devoted to the US market. At such scale, it is hardly surprising that fraudsters target this market more aggressively than any other. US-led initiatives such as TAG certification and ads.txt appeared to have a positive impact however, with ad fraud rates in the US market dropping 10% YOY in H1 2018.

Source: Integral Ad Science
About PubMatic
PubMatic is a publisher-focused sell-side platform for an open digital media future. Featuring leading omni-channel revenue automation technology for publishers and enterprise-grade programmatic tools for media buyers, PubMatic’s publisher-first approach enables advertisers to access premium inventory at scale. Processing over 12 trillion advertiser bids per month, PubMatic has created a global infrastructure to drive publisher monetization and control over their ad inventory. Since 2006, PubMatic’s focus on data and technology innovation has fueled the rise of the programmatic industry as a whole. Headquartered in Redwood City, California, PubMatic operates 13 offices and six data centers worldwide.

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