PubMatic

QUARTERLY MOBILE INDEX

Q2 2016

PubMatic's **Quarterly Mobile Index** (QMI) report was created to provide both publishers and advertisers with key insights into the mobile advertising industry.

About PubMatic's Quarterly Mobile Index (QMI)

By analyzing the billions of digital impressions that flow through our platform, we at PubMatic are able to observe real-time developments in the mobile space that allude to broader digital industry trends. We can then compare this information to other published data to further understand changes in the mobile landscape. We are committed to providing best-in-class mobile tools and services, and we believe that information sharing is crucial in aligning the digital industry towards best practices and, ultimately, growth in mobile advertising.

In our QMI report for calendar Q2 2016, we have updated and added several benchmarks for mobile advertising performance around pricing, volume and growth.

Note that directional data might not be comparable with prior quarter reports.

IN Q2 2016, THE FOLLOWING THREE KEY TRENDS HAVE EMERGED

KEY TREND #1: Android eCPM values nearly double YOY, while iOS continues to provide highest eCPMs.

KEY TREND #2: As buyers increasingly transact on premium inventory programmatically, the value of mobile PMPs skyrocketed nearly 4X YOY.

KEY TREND #3: As mobile grows as a revenue driver for premium publishers, the percentage of mobile spend from optimized impressions remains unexpectedly flat at near 30%.

What does this mean for publishers and advertisers?

1. While mobile web continues to represent the largest share of **mobile ad spend, mobile app inventory is growing at the fastest rate** and has significantly higher eCPMs, indicating greater market value for these impressions.

Apple app inventory has historically garnered the highest rates, but Android saw the greatest growth rate YOY in Q2 and is steadily catching up to iOS eCPMs. Publishers looking to maximize the revenue potential of their highly-engaged app consumers need to ensure that their strategies align with the platform pricing divide.

2. The high levels of transparency and control that exist within private marketplace (PMP) transactions have led to a **surge in mobile PMP spend**. Brand adoption of PMPs is growing as these deals provide a comfortable environment for advertisers to purchase premium inventory programmatically.

Publishers should make more of their mobile inventory available via PMPs and maximize the data and controls they provide to buyers in order to increase the monetization value of their premium mobile impressions.

3. As mobile ad spend continues to rise worldwide, publishers need to focus on ensuring that their **properties are optimized for mobile viewing**. Optimized inventory is more viewable by nature and yields higher eCPMs than non-optimized inventory, which is indicative of advertisers' higher willingness to pay for these valuable impressions. Yet our data shows that in Q2 2016 the share of mobile ad spend for optimized impressions has not grown year-over-year.

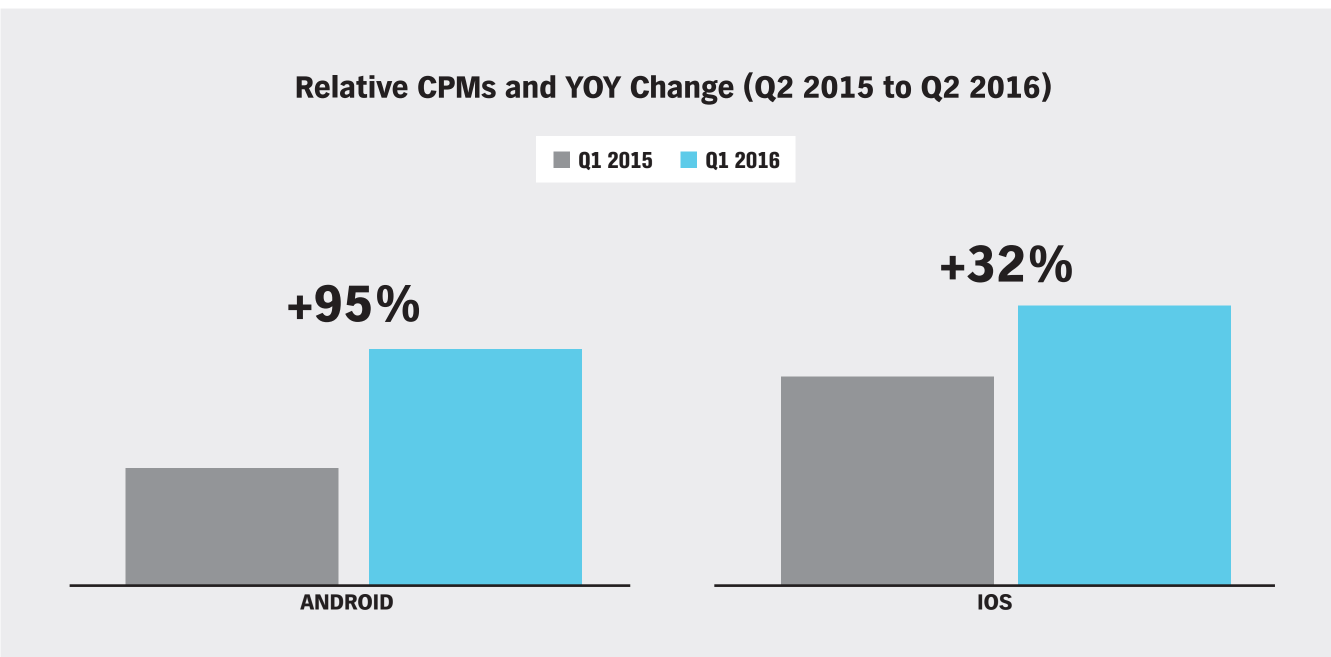
KEY TREND #1:

Android app eCPMs nearly double YOY, while iOS continues to provide highest eCPMs.

Mobile apps were key drivers of mobile growth in Q2 2016. Android eCPMs increased by the largest rate, up 95% year-over-year, though Android app eCPMs still trail iOS app eCPMs by approximately 15%. As the advertising industry catches up to consumer behavior, which favors apps over mobile web, we see monetization of mobile apps continuing to increase.

Mobile app advertising is becoming increasingly popular and scalable. The Association of National Advertisers and Forrester Research found that one in three US marketers plan to buy mobile app ads programmatically in 2016, up from only one in five in 2015.

Consumers spend approximately 79% of their time on apps vs. mobile web, according to eMarketer†, and the shift in the advertising industry toward embracing this trend is timely. As access to this valuable inventory becomes more streamlined with programmatic automation, the market should see increased mobile app eCPMs and continued growth in app monetization opportunities.



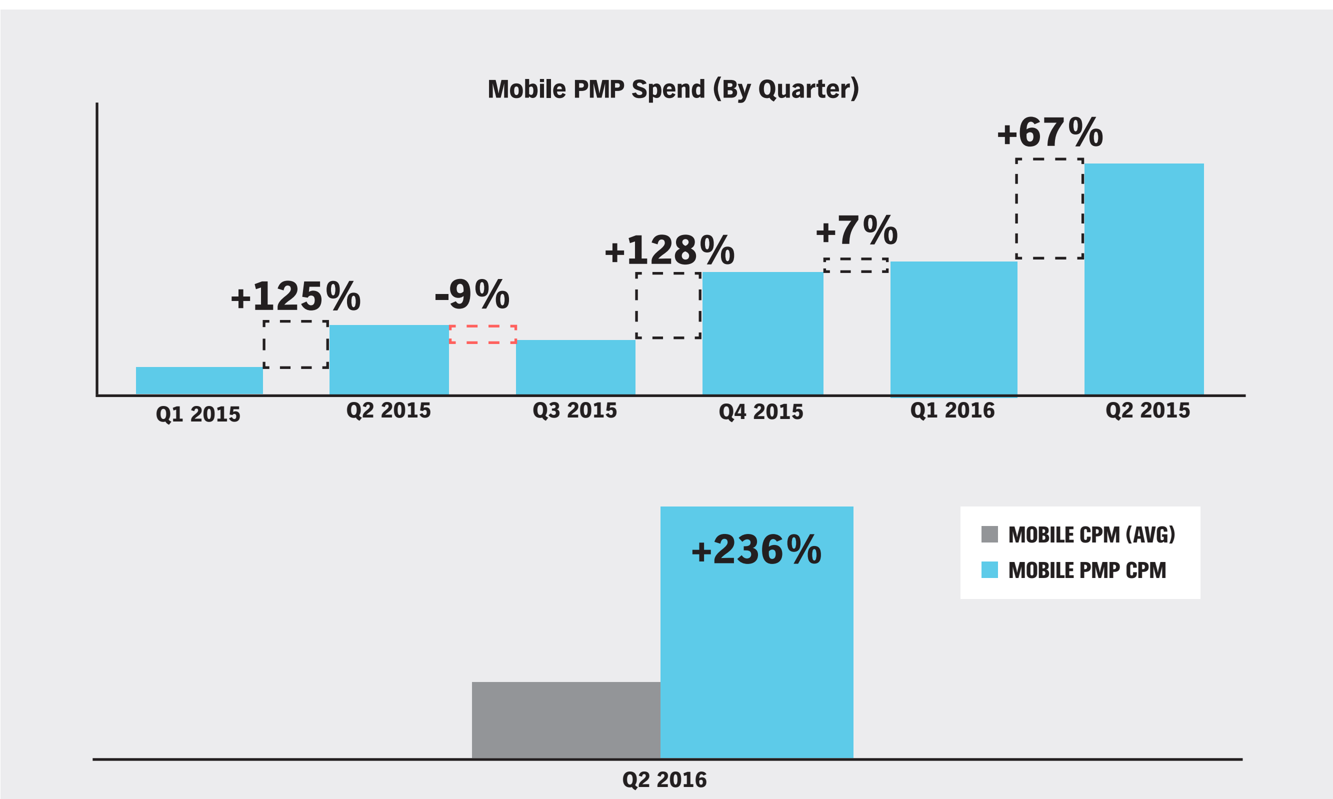
KEY TREND #2:
As buyers increasingly transact on premium inventory programmatically, the value of mobile PMPs skyrocketed nearly 4X YOY.

Over the past few quarters, we have seen a steady shift in advertiser activity towards mobile PMPs. In Q2, this trend continued with overall mobile PMP spend rising 267% year-over-year. PMPs provide buyers with more transparency into the inventory they are purchasing, making many of them more comfortable transacting programmatically for premium inventory. As a result, our Q2 data indicated that mobile PMPs can garner eCPMs as much as 236% higher than the average for mobile inventory.

Across the industry, the demand for high quality inventory is increasing. Marketers are spending more of their programmatic ad dollars on premium placements, resulting in a rise in private deals and packages. eMarketer‡ estimates that PMPs will receive over one quarter of total US real-time bidding mobile ad display spend in 2016.

We anticipate advertiser investment in mobile PMPs to continue to grow as:

- Consumer preference continues to sway toward mobile-first browsing behavior;
- Publishers make more of their high-value inventory available and easily accessible via programmatic channels on both a guaranteed and non-guaranteed basis;
- Market concerns over ad fraud increase buyer focus on clean, viewable inventory;
- Technology companies build more transparency and controls into buying platforms.



KEY TREND #3:

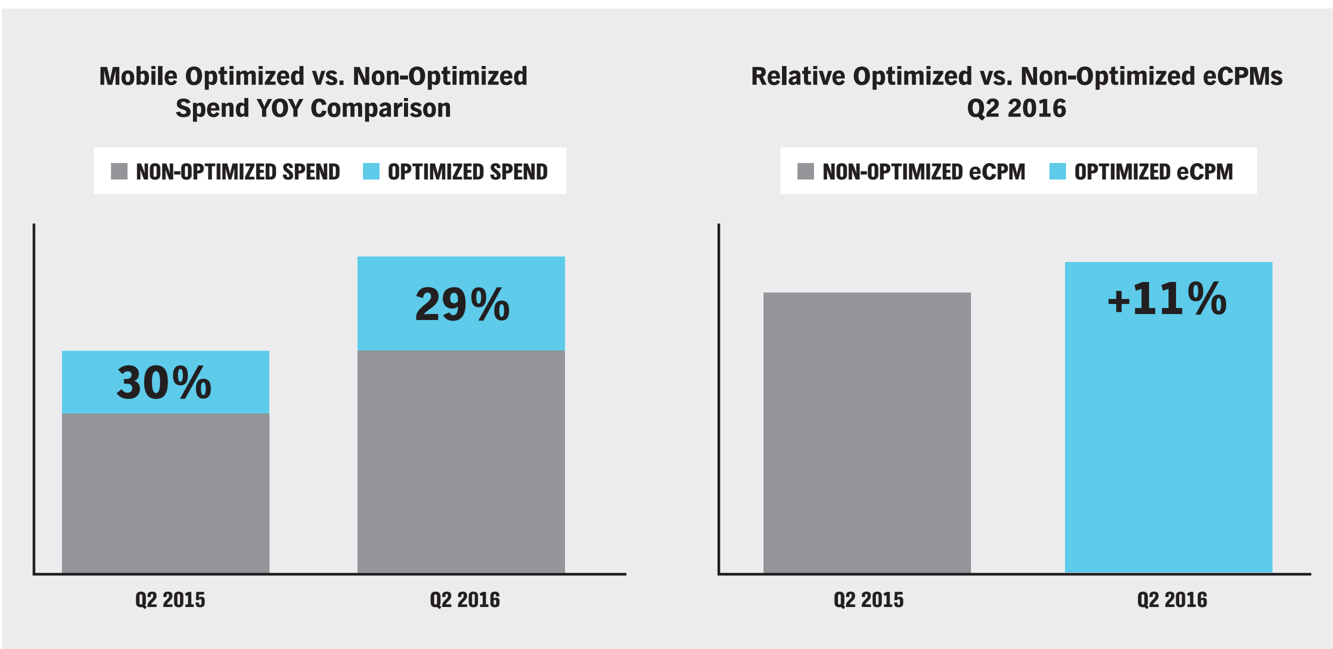
As mobile grows as a revenue driver for premium publishers, the percentage of mobile spend from optimized impressions remains unexpectedly flat at near 30%.

Mobile continues to account for an increasing share of total digital ad spend. Our Q2 2016 data shows that mobile spend increased by more than 40% year-over-year, now representing approximately 30% of overall spend across our platform.

However, the share of mobile ad spend going to non-mobile optimized experiences grew in lockstep, accounting for a near flat 30% of total global mobile ad spend year-over-year. According to an eMarketer[II] estimate, more than one quarter (28.7%) of the global population will have smartphones in 2016 . As consumers worldwide become more mobile-first in their browsing habits, publishers need to invest more to ensure that their websites are optimized for mobile screens. This should not only improve their mobile user experience, but should also allow publishers to achieve higher yield for their inventory.

Our data shows optimized eCPMs remain more than 10% higher than non-optimized eCPMs. Additionally, the improvement in user experience that comes from mobile optimization leads to lower bounce rates and more return visitors, resulting in larger pools of highly monetizable impressions and increased topline revenue for publishers.

To increase the opportunities inherent in today's mobile-first environment, publishers who have not yet optimized their sites for mobile should work with their development teams to quantify the effects that their design is having on their user experience. Likewise, media buyers should actively target mobile inventory and sizes to ensure that their ads are being viewed in appropriate formats within user-friendly environments.



QMI Methodology

PubMatic's yield and data analytics team analyzes billions of impressions on a daily basis, utilizing the company's best-in-class analytics capabilities. The Q2 2016 QMI incorporates impression, revenue and eCPM data from these daily reports to provide a high-level glimpse of key trends within the mobile advertising industry. Data is from calendar year Q2 2016, i.e. April 1, 2016 through June 30, 2016. "Monetized impressions" are defined as impressions that were sold through the PubMatic platform, and "eCPM" is defined as the cost per one thousand monetized impressions.

About PubMatic

PubMatic is the automation solutions company for an open digital media industry. Featuring the leading omni-channel revenue automation platform for publishers and enterprise-grade programmatic tools for media buyers, PubMatic's publisher-first approach enables advertisers to access premium inventory at scale. Processing nearly one trillion ad impressions per month, PubMatic has created a global infrastructure to activate meaningful connections between consumers, content and brands. Since 2006, PubMatic's focus on data and technology innovation has fueled the growth of the programmatic industry as a whole. Headquartered in Redwood City, California, PubMatic operates 12 offices and six data centers worldwide.

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* ANA/Forrester Survey, March 2016
† eMarketer, "App Inventory: Programmatic's Diamond in the Rough," July 2016
‡ eMarketer, "US Real-Time Bidding (RTB) Mobile Display Ad Spending, by Segment, 2014-2017," April 2016
π eMarketer, "Worldwide Internet and Mobile Users: eMarketer's Estimates for 2016," June 2016