MOBILE APPS VS. MOBILE BROWSERS

How Usage, Ad Spending and Mobile Commerce Sales Differ by Channel

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EXECUTIVE SUMMARY

The mobile app vs. mobile web debate reignited in 2014 when multiple sources reported mobile users spent roughly 80% of their time using apps and 20% of the time using mobile websites. For many, these findings raised familiar questions about the need for an app, and the value of a mobile website.

Using a single metric—time spent—to gauge the potential of mobile apps vs. mobile websites provides limited insight, however. So this report will compare the two channels on multiple levels: Usage patterns; consumer attitudes toward each channel; mobile display ad prices; search behavior; mobile ad spending and mcommerce sales by channel.

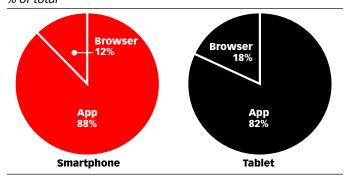
Highlights of this research include eMarketer's inaugural forecast on the size of the US app-using audience and the outlook for growth through 2018, as well as eMarketer's forward-looking estimate on the share of mobile ad dollars spent to serve ads in mobile apps vs. mobile websites.

The bottom line: Mobile internet users frequently use both channels. That means the app vs. mobile web debate needs to move beyond either-or arguments to discussions about the goals each channel can achieve for a business and the timeline by which those goals can be achieved.

KEY QUESTIONS

- How do consumers choose which channel to use?
- Of the total amount spent on mobile advertising in the US, how much is spent to advertise in apps vs. mobile websites?
- Why do mobile websites generate a larger share of mcommerce sales?

Share of Time Spent with Mobile Apps vs. Mobile Web Among US Smartphone and Tablet Users, June 2014 % of total



Note: ages 18+

Source: comScore, "The US Mobile App Report," Aug 21, 2014

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KEY CONSIDERATIONS

Three factors need to be taken into consideration before comparing mobile app to mobile website usage. Those factors include:

- **1.** How eMarketer defines app users and distinguishes them from mobile web users.
- 2. The size of the app-installing audience in the US, a group of particular interest to businesses that are unlikely to have their apps preinstalled on a device by the manufacturer or a wireless carrier.
- **3.** How the availability of mobile content—or lack thereof—within each channel affects usage.

eMarketer defines a mobile app as a software application that is developed specifically for the mobile operating system used on a wireless computing device, such as a smartphone or tablet. Unless otherwise noted, eMarketer's definition includes apps that are preinstalled on the device as well as those installed via an app store.

App users are defined by eMarketer as individuals ages 14 and over who use an app at least once per month. This population segment includes three subsets of users:

Preinstalled App Users: Individuals who use apps installed on the device by the manufacturer or wireless carrier at least once per month.

App Installers: Individuals who have installed at least one app via an app store for use on their mobile device during the calendar year.

App Buyers: Individuals who have purchased at least one app via an app store for use on their mobile device during the calendar year. Those who download free apps and subsequently make in-app purchases or upgrade to a subscription version of the app, are not accounted for in this group.

eMarketer's forecast includes estimates for the number of US mobile app users, app installers and app buyers only. Projections are based on the analysis of survey data and app user and app install data from other research firms and regulatory agencies, historical trends, company-specific data and demographic and socioeconomic factors.

THE SIZE OF THE APP-USING AUDIENCE

By the end of 2015, eMarketer projects 199.5 million US consumers—roughly 96% of smartphone users and 92% of tablet users—will use a mobile app at least once per month. The rapid adoption of smart devices, particularly smartphones, has had a snowball effect on the use of mobile apps. By the end of 2015, eMarketer expects the population of mobile app users to be 20% larger than it was in 2013, a significant uplift considering the base of users two years ago was already large.

Looking ahead, growth in the number of mobile app users will continue, but at a much slower pace as the number of new smartphone and tablet users tapers off.

| US Mobile App Users, by Device, 2013-2018 | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|--|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
| Smartphone (millions) | 132.3 | 155.1 | 174.0 | 189.1 | 200.7 | 210.5 | |
| —% change | 28.9% | 17.2% | 12.2% | 8.6% | 6.2% | 4.9% | |
| —% of smartphone users | 93.7% | 94.6% | 95.6% | 95.8% | 96.0% | 96.6% | |
| Tablet (millions) | 101.6 | 117.5 | 127.4 | 135.4 | 141.7 | 146.7 | |
| —% change | 39.6% | 15.6% | 8.4% | 6.3% | 4.7% | 3.6% | |
| —% of tablet users | 87.5% | 90.5% | 92.0% | 93.2% | 94.4% | 95.2% | |
| Total (millions) | 166.3 | 185.9 | 199.5 | 209.2 | 217.6 | 223.9 | |
| —% change | 31.5% | 11.8% | 7.3% | 4.9% | 4.0% | 2.9% | |
| —% of mobile users | 71.9% | 78.8% | 82.9% | 85.6% | 87.8% | 88.9% | |

Note: ages 14+; mobile device users who have used at least one mobile app on their mobile device at least once per month; smartphone and tablet app users are not mutually exclusive; there is overlap between groups Source: eMarketer, Feb 2015

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Where do search engine apps and browsers fit in?

Although mobile web browsers like Safari, Opera, Firefox and Chrome fit eMarketer's definition of an app, users of mobile browsers are not accounted for in eMarketer's forecast of mobile app users because the primary use case for mobile browsers is to search and access mobile websites.

App Installers

Preinstalled apps on mobile devices introduce mobile users to the convenience of the app channel. Once initiated, the vast majority of smartphone and tablet users turn to one of the leading app stores to install more. eMarketer estimates 92.9% of US smartphone users (169.1 million consumers) and 90.3% of tablet users (125 million consumers) will install an app from an app store at least once this year.

Smartphone users are slightly more likely than tablet users to install apps and that trend is expected to continue through 2018.

| US Mobile App Installers, by Device, 2013-2018 | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|--|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
| Smartphone (millions) | 127.5 | 149.7 | 169.1 | 184.5 | 196.9 | 207.0 | |
| —% change | 28.6% | 17.3% | 13.0% | 9.1% | 6.7% | 5.1% | |
| —% of smartphone app users | 96.4% | 96.5% | 97.2% | 97.6% | 98.1% | 98.3% | |
| —% of smartphone users | 90.3% | 91.3% | 92.9% | 93.5% | 94.2% | 95.0% | |
| Tablet (millions) | 99.3 | 114.7 | 125.0 | 133.0 | 139.4 | 144.5 | |
| —% change | 39.2% | 15.5% | 9.0% | 6.4% | 4.8% | 3.7% | |
| —% of tablet app users | 97.7% | 97.7% | 98.2% | 98.3% | 98.4% | 98.5% | |
| —% of tablet users | 85.5% | 88.4% | 90.3% | 91.6% | 92.9% | 93.8% | |
| Total (millions) | 160.5 | 181.6 | 196.2 | 206.4 | 215.4 | 222.1 | |
| —% change | 29.9% | 13.1% | 8.1% | 5.2% | 4.4% | 3.1% | |
| —% of mobile app users | 96.5% | 97.7% | 98.4% | 98.7% | 99.0% | 99.2% | |
| —% of mobile users | 69.4% | 77.0% | 81.5% | 84.5% | 87.0% | 88.2% | |

Note: ages 14+; mobile device users who have installed at least one mobile app on their mobile device during the calendar year; includes paid and free apps; smartphone and tablet app installers are not mutually exclusive; there is overlap between groups
Source: eMarketer, Feb 2015

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App Buyers

Put a dollar sign in front of an app, and the number of app installers drops dramatically, among both the smartphone and tablet user groups. eMarketer estimates 65.2 million smartphone users and 60.9 million tablet users will pay to install an app this year.

Three trends suggest the share of smartphone and tablet users who pay for apps will tick downward over the next four years, despite the continued growth in the number of smartphone and tablet users and the number of app users overall:

■ The preference for free, ad-supported apps is rising among mobile users. For example, an October 2014 survey conducted by research firm Zogby Analytics found 58% of US adults who downloaded apps preferred free, ad-supported apps to those that required some form of payment (either at download or in-app).

- The number of paid apps is shrinking. While paid apps can and do attract a sizeable and loyal audience—some in the productivity, business and navigation categories, for example—developers cognizant of consumers' preference for free apps have been steadily moving away from putting up paywalls to attract a larger base of users. A November 2014 survey of app developers and publishers conducted by mobile ad network Millennial Media found the percentage of those marketing paid apps decreased from 45% in 2013 to 34% in 2014.
- The total revenue generated by paid apps is small in comparison to revenue generated by the vast number of free apps that utilize other means of monetization, namely in-app purchases, subscriptions and in-app advertising. Many developers have tested the paid download model against the various iterations of the free model and on the whole, they've found the latter approach to be more lucrative.

| US Mobile App Buyers, by Device, 2013-2018 | | | | | | | | |
|--|---|--|--|---|--|--|--|--|
| 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | | | |
| 42.4 | 59.0 | 65.2 | 70.1 | 73.8 | 76.9 | | | |
| 57.0% | 39.3% | 10.4% | 7.5% | 5.3% | 4.2% | | | |
| 30.0% | 36.0% | 35.8% | 35.5% | 35.3% | 35.3% | | | |
| 54.6 | 58.4 | 60.9 | 63.3 | 65.1 | 66.7 | | | |
| 28.8% | 7.0% | 4.3% | 3.9% | 2.9% | 2.4% | | | |
| 47.0% | 45.0% | 44.0% | 43.6% | 43.4% | 43.3% | | | |
| 62.9 | 77.1 | 80.1 | 82.3 | 83.7 | 85.0 | | | |
| 50.4% | 22.6% | 3.9% | 2.7% | 1.8% | 1.5% | | | |
| 27.2% | 32.7% | 33.3% | 33.7% | 33.8% | 33.8% | | | |
| | 2013 42.4 57.0% 30.0% 54.6 28.8% 47.0% 62.9 50.4% | 2013 2014 42.4 59.0 57.0% 39.3% 30.0% 36.0% 54.6 58.4 28.8% 7.0% 47.0% 45.0% 62.9 77.1 50.4% 22.6% | 2013 2014 2015 42.4 59.0 65.2 57.0% 39.3% 10.4% 30.0% 36.0% 35.8% 54.6 58.4 60.9 28.8% 7.0% 4.3% 47.0% 45.0% 44.0% 62.9 77.1 80.1 50.4% 22.6% 3.9% | 2013 2014 2015 2016 42.4 59.0 65.2 70.1 57.0% 39.3% 10.4% 7.5% 30.0% 35.8% 35.5% 54.6 58.4 60.9 63.3 28.8% 7.0% 4.3% 3.9% 47.0% 45.0% 44.0% 43.6% 62.9 77.1 80.1 82.3 50.4% 22.6% 3.9% 2.7% | 2013 2014 2015 2016 2017 42.4 59.0 65.2 70.1 73.8 57.0% 39.3% 10.4% 7.5% 5.3% 30.0% 36.0% 35.8% 35.5% 35.3% 54.6 58.4 60.9 63.3 65.1 28.8% 7.0% 4.3% 3.9% 2.9% 47.0% 45.0% 44.0% 43.6% 43.4% 62.9 77.1 80.1 82.3 83.7 50.4% 22.6% 3.9% 2.7% 1.8% | | | |

Note: ages 14+; mobile device users who have purchased at least one app via an app store for use on their mobile device during the calendar year; excludes virtual goods and subscriptions; smartphone and tablet app buyers are not mutually exclusive; there is overlap between groups Source: eMarketer, Feb 2015

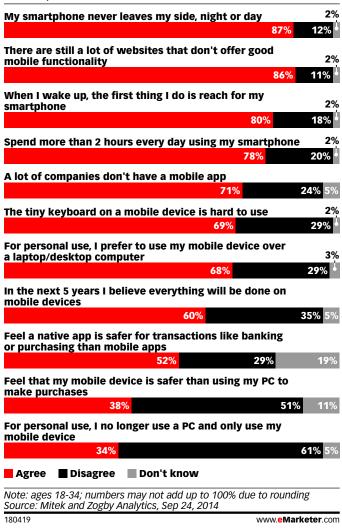
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CONTENT AVAILABILITY

Many mobile users, particularly younger demographic groups, remain frustrated by the limited availability of content across both mobile channels, websites and apps. In a June 2014 survey conducted by Zogby Analytics for mobile solution company Mitek Systems, 86% of the millennial smartphone users polled said many of the websites they're looking for still don't offer good mobile functionality. They weren't happy with the state of mobile apps, either: Seventy-one percent said a lot of companies they're interested in don't have a mobile app.

Attitudes Toward Mobile Devices According to US Millennial Smartphone Users, June 2014

% of respondents



A basic, but critical, takeaway from survey results like these is businesses simply need to move faster. Consumers are looking for mobile content in both channels and businesses are putting their brand image at risk and giving competitors the opportunity to gain valuable ground by not providing a quality experience in at least one channel.

ATTITUDINAL AND BEHAVIORAL DIFFERENCES

When presented with the choice of using a mobile app or a mobile website, consumers' channel preference is influenced by how easy the channel is to use and in some instances the type of content or service the person is seeking.

A December 2014 survey conducted by Harris Poll on behalf of the Interactive Advertising Bureau (IAB) found just over 60% of smartphone users who use apps more frequently than mobile websites did so because they considered mobile apps to be more convenient and easier to use. Interestingly, smartphone owners who use mobile websites most often said the same thing: 42% felt it was easier to use their phone's browser than apps. Ultimately, what these users are saying—and what businesses need to keep in mind at every stage of development—is ease-of-use is paramount in both channels.

Reasons that US Smartphone Owners Prefer* Using Mobile Apps vs. Mobile Web, Dec 2014 % of respondents Reasons for using mobile apps (n=344) Mobile apps are more convenient 64% Mobile apps are easier to use Mobile apps work when my phone's not connected 19% Mobile websites often don't look good on my phone 19% Other 11% Reasons for using mobile web (n=277) Don't like spending money on apps Using a web browser is easier than using apps Disappointed by apps I've downloaded previously Don't have free space on my phone 26% Finding apps takes too much time 14% Downloading apps takes too much time 13% Don't know how to download apps Other 23%

Note: ages 18+ who own a smartphone and use mobile internet; *use the method more often

Source: Interactive Advertising Bureau (IAB) Mobile Marketing Center for Excellence, "Apps and Mobile Web: Understanding the Two Sides of the Mobile Coin" conducted by Harris Poll, Jan 14, 2015

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Two other findings from the IAB/Harris Poll survey are worth noting, one on each side of the channel fence:

Apps are perceived as a cost center by some smartphone users: Forty-nine percent of smartphone owners who use mobile websites instead of apps said they do so because they don't like spending money on apps. It's unclear whether this aversion applies to buying apps only, or to in-app purchases and subscriptions as well. Either way, businesses should be mindful of this perception of apps as a cost center, particularly when monetizing an app in ways other than in-app advertising.

The mobile web fails to deliver a quality user experience and the industry is failing to equip web developers with better tools: Roughly one in five smartphone app users surveyed in the IAB study preferred apps because mobile websites didn't render well on their phone. One of the reasons mobile websites are not improving at the same pace as apps is mobile web developers don't have the advantages that Google and Apple provide for app developers.

"Apple and Google do such a good job building app developer tools, but there is no well-financed proponent that's building those tools for the mobile web," said Alex Austin, CEO and cofounder of app technology provider Branch Metrics. "It's really hard to make a site mobile optimized. It takes a lot of code and a lot of testing. And it will still be inferior to a native experience."

The bottom line, particularly for businesses with desktop websites, is to avoid assuming desktop web developers can easily apply their knowledge, skills and existing toolset to build mobile web experiences. Significant support from within the organization is required.

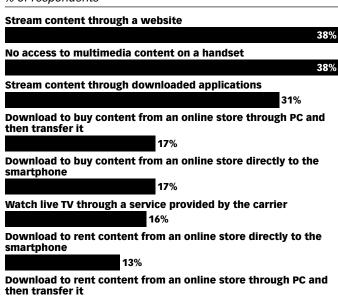
ACTIVITY INFLUENCES CHANNEL CHOICE, SOMEWHAT

It is unlikely that the breadth of content and services in each mobile channel is equal, which itself influences which channel a consumer might use for various activities. However, recent surveys do suggest consumers have preferences for one channel over the other when it comes to specific activities.

For example, smartphone users exhibited clear channel preferences when it comes to mobile search and banking. Forty-two percent of smartphone users in the IAB/Harris Poll said they preferred to use mobile websites for search, compared with 20% who preferred apps. For banking, the opposite was true: 40% said they preferred to use apps and 13% liked mobile websites best.

For other key activities, including multimedia consumption, news and shopping, survey findings suggest channel usage was more balanced. Results of a June 2014 survey conducted by 451 Research showed little difference in the share of smartphone users who consumed multimedia content via the mobile web vs. apps. Thirty-eight percent of those polled said they streamed content through a website on their phone compared with 31% who said they streamed content through downloaded applications.

Sources of Multimedia Smartphone Content According to US Smartphone Users, June 2014 % of respondents



Note: n=1.457

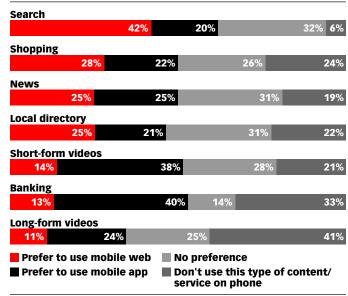
Source: 451 Research, "2014 US Consumer Survey" as cited in company blog, July 28, 2014

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Similarly, respondents to the IAB/Harris Poll said their channel usage was more evenly split when shopping, consuming news and accessing local information on a smartphone. For video-viewing, the length of the video influenced the channel choice. Most smartphone users preferred apps for short-form video, but for long-form video, preferences weren't as clear cut. Twenty-four percent of smartphone users in the Harris Poll said they preferred to use an app, but a near-equal number (25%) said they had no channel preference; an answer the IAB interprets as meaning respondents' channel preferences were balanced.

US Smartphone Owners Who Prefer Using Mobile Apps vs. Mobile Web to Access Select Content, Dec 2014

% of respondents



Note: n=938 ages 18+ who own a smartphone and use mobile internet; numbers may not add up to 100% due to rounding Source: Interactive Advertising Bureau (IAB) Mobile Marketing Center for Excellence, "Apps and Mobile Web: Understanding the Two Sides of the Mobile Coin" conducted by Harris Poll, Jan 14, 2015

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On the one hand, the balanced use of mobile websites and apps for key activities is a reason why businesses should have a presence in both mobile channels. However, it may also suggest that consumer behavior is in a state of flux, which means the window of opportunity is still open for businesses to build loyalty in the channel of their choosing.

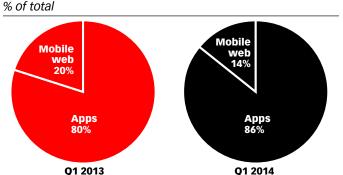
APPS ARE STICKY, BUT TRICKY

eMarketer estimates that daily time spent with mobile media (nonvoice) by US adults totaled 2 hours, 51 minutes in 2014, which represents more than half the time consumers spent with digital media each day. Research from three sources suggests the bulk of that time is spent using apps.

comScore: June 2014 data from the research firm's panel-based measurement tools showed US smartphone users spent 88% of their time using mobile apps compared with 12% of time using mobile browsers. Tablet users exhibited similar preferences: 82% of tablet time was spent using apps and 18% was spent using browsers.

- Nielsen: In a March 2014 blog post, Nielsen reported smartphone users spent 89% of their mobile media time using apps in Q4 2013. Women were the most avid users, spending nearly 1.5 hours more per month using apps compared with men.
- Flurry: US mobile users spent 86% of their time in Q1 2014 using apps and just 14% of the time on mobile websites, a slight shift from the 80-20 split observed by Flurry in Q1 2013.

Time Spent Using Mobile Internet in the US, Mobile Web vs. Apps, Q1 2013 & Q1 2014



Source: Flurry as cited in company blog, April 1, 2014

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Digging down to the app level, it's impossible to ignore how much time is concentrated in apps produced by the largest digital media brands—Google, Apple, Yahoo, Amazon, eBay and particularly Facebook. comScore data shows mobile users across all age groups spent the largest share of app time using Facebook's flagship app. Roll that time together with the amount spent with the Facebook Messenger and Instagram apps, Facebook's portfolio of apps comprised more than 20% of the time spent with apps used by mobile users between the ages 18 and 54.

Major media brands' dominance in apps should come as no surprise considering these brands lead the way in the web world as well. However, one significant difference noted by Flurry is app users spend more time with second- and third-tier apps—what Flurry refers to as "Torso and Tail" apps.

"If you look at the web, the top 10 properties—Google, Yahoo, Microsoft, AOL and a few others—make up 87% to 90% percent of all usage. That's definitely not the case with mobile apps," said Simon Khalaf, president and CEO of Flurry. "Facebook, Google, Yahoo and a couple of others combined represent less than 40% of time spent in apps in the United States. The majority of time is spent using 'Torso and Tail' apps."

Flurry contends the "Torso and Tail" category was directly responsible for driving the time spent with apps higher in 2014. The time spent with the top 25 apps increased a mere 1% between Q1 and Q3 2014 while time spent with "Tail and Torso" apps grew 21% in the same period. The double-digit growth suggests mobile users' still have a healthy appetite for apps, and not just gaming and entertainment apps. Khalaf said the lower-tier category is largely comprised of boutique shopping apps, health-related apps and a large number of utility apps.

The Tricky Part

It's easy to point to the abundance of time consumers spend in apps as a reason why businesses should focus attention and increase investments in app development. But it's important to bear in mind studies of time spent with apps include the use of search engines. Such "apps" lead the user to mobile webpages, blurring the line between app and mobile website usage.

comScore noted that apps in the search/navigation category were where Android users spent the majority of their time in June 2014. Also, data released by Nielsen in July 2014 showed roughly one-third of the time spent in apps in Q4 2013 was spent using search, portals and social apps.

Social media apps are another tricky area. Mobile users and advertisers often share URLs via social apps and when a user taps the link, a mobile webpage either opens within the framework of the app, or the mobile browser on the device is launched to render the page. But, if a consumer is viewing a mobile webpage inside an app, or if an app launches a web browser on the device, is that time counted as app or web time? It's a gray area.

Raising this point is not meant to diminish the importance of apps, but rather to emphasize the connection between two channels. The amount of time spent in apps, when paired with an understanding that the channels are strongly linked by consumers' social sharing practices, creates a strong case for businesses to have both a mobile website and app.

MOBILE ADVERTISING: APPS LEAD THE WAY

The app vs. mobile web debate comes up often in advertising circles and, depending on whether the participants' focus is mobile display or search advertising, the discussions can differ dramatically. On the whole, three questions tend to come up and this section aims to address these most common queries:

- **1.** Which channel receives the larger share of mobile advertising dollars?
- 2. How do display ad prices compare across channels?
- **3.** What influence does—or should—the high rate of app usage have on mobile search advertising strategies?

AD SPENDING, BY CHANNEL

To accurately project US mobile ad spending by channel, eMarketer used a bottoms-up approach to account for multiple factors, including time spent with each channel, the split of ad inventory across channels and the difference in ad performance by channel.

Calculations are based on the analysis of reported revenues from major mobile ad-selling companies, mobile advertising trends reported by other research firms, survey data, consumer mobile device usage trends and eMarketer interviews with industry leaders.

On the whole, US advertisers have spent—and will continue to spend—significantly more each year to advertise in apps vs. on mobile websites. The amount spent to serve in-app ads in 2014 totaled \$13.5 billion, which represents 71.3% of the total amount spent on mobile advertising in the US last year. Looking ahead, in-app ad spending is expected to increase by double-digit percentages in 2015 and 2016 to total \$20.6 billion and \$29.3 billion, respectively.

Growth in mobile web ad spending will not be quite as steep compared with in-app ad spending, but it, too, will increase by double-digit percentages over the next two years. eMarketer estimates the amount spent to serve ads to mobile websites will total \$7.9 billion this year and rise to \$10.9 billion next year. Mobile web ad spending will comprise 27.8% of the total spent on mobile advertising in the US this year and 27.2% next year.

US Mobile Ad Spending, In-App vs. Mobile Web, 2014-2016

| | 2014 | 2015 | 2016 |
|-----------------------|------------|------------|------------|
| In-app (millions) | \$13,534.2 | \$20,565.3 | \$29,256.0 |
| —% change | 86.2% | 52.0% | 42.3% |
| —% of total | 71.3% | 72.2% | 72.8% |
| Mobile web (millions) | \$5,453.7 | \$7,916.5 | \$10,903.3 |
| —% change | 60.4% | 45.2% | 37.7% |
| —% of total | 28.7% | 27.8% | 27.2% |
| Total (millions) | \$18,987.9 | \$28,481.8 | \$40,159.4 |

Note: ad spending on tablets is included; numbers may not add up to total due to rounding Source: eMarketer, Feb 2015

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DISPLAY AD PRICING, BY CHANNEL

Agency trading desk VivaKi reported the average eCPM paid to serve ads to smartphone users on mobile websites in Q2 2014 was nearly 50 cents higher than prices paid to serve ads to smartphone users in apps. Yet, the opposite pricing relationship existed for tablets, according to VivaKi. The eCPM for in-app tablet inventory was 17 cents above the eCPM paid for mobile web tablet inventory.

CTR and Average eCPMs for US Mobile Display Ads, by Device, Q2 2014

based on client data from the AOD SkyScraper platform

| | eCPMs | CTR |
|--------------|--------|-------|
| Smartphone | | |
| In-app media | \$1.45 | 0.56% |
| Web media | \$2.00 | 0.41% |
| Total | \$1.35 | 0.52% |
| Tablet | | |
| In-app media | \$1.36 | 0.63% |
| Web media | \$1.19 | 0.10% |
| Total | \$1.36 | 0.67% |
| - | | |

Note: represents client data from the AOD SkyScraper platform, broader industry metrics may vary; excludes social media and video Source: VivaKi, "Audience on Demand (AOD) Benchmark Report," Oct 17, 2014

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Data from mobile ad management firm Sizmek showed the average eCPM in Q3 2014 for low-end mobile web inventory bought across multiple sources was 75 cents. On the app side, eCPMs for the same type of inventory ranged between 50 cents and 75 cents—so, nearly the same.

Because of the conflicting data, eMarketer dug deeper to identify and understand the factors influencing prices paid for in-app and mobile web inventory in 2014. Following is a summary of the leading factors that had positive and negative effects on pricing in both channels.

In-App:

Factors Driving Prices Up

- Advertisers tend to pay premium prices for social mobile ad inventory, the bulk of which is in apps.
- App inventory is more likely than mobile web inventory to have precise location data appended, which advertisers have been buying at premium prices.
- Performance of in-app ads is higher, which drives prices up.

Factors Driving Prices Down:

- Cheap banner inventory, often in gaming apps, drives the average price of in-app inventory down.
- The breadth and depth of user data offered by mobile-only, app-only businesses is small relative to longstanding web-based businesses. Therefore, the ceiling for upcharges related to data-driven targeting parameters is lower in-app compared with mobile web.

Mobile Web:

Factors Driving Prices Up

- Publishers that understand users at the login level can connect desktop and mobile web data to target users across devices and tack on significant upcharges for this popular targeting capability.
- Cookie-based targeting, which is a comfort for desktop advertisers venturing into mobile for the first time and important to those aiming to target users across devices, is widely available on Android devices, but limited on iOS devices.
- A larger percentage of mcommerce transactions are generated from mobile websites, which raises the value of advertising on the channel in which the conversion is more likely to occur. More detail regarding this trend will be provided in the following section.

Factors Driving Prices Down

- Bundling of desktop and mobile web inventory, particularly when mobile impressions are offered for free as a value-add, depresses mobile web eCPMs.
- Comparatively less time spent on mobile web means less time to interact with ads, which can discourage advertisers from investing in more time-intensive and expensive mobile ad formats like mobile rich media and mobile video. eMarketer's conclusion is the benefits and drawbacks associated with each channel's inventory offset one another, resulting in little price difference between the two channels in 2014.

A more in-depth analysis of mobile display CPMs can be found in eMarketer's December 2014 report, "Mobile Display Ad CPMs: The Going Rates and the Inventory Advertisers Value Most."

PAID SEARCH: NO LONGER A BROWSER-ONLY BUY

App usage is altering consumer search patterns, particularly in consumers' reliance on the mobile browser. The most compelling insight for search marketers comes from three consumer studies.

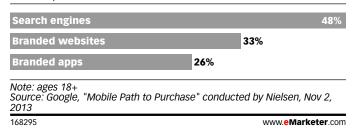
First, the IAB/Harris Poll findings mentioned previously showed 20% of US smartphone owners preferred to use an app to search for mobile web content. Moreover, 32% said they had no preference, suggesting nearly one-third of smartphone users likely use both apps and browers for search.

Second, the results of an October 2014 survey conducted by mobile advertising platform provider Supersonic showed one-third of the US smartphone app users said they preferred to search in a specific app like Yelp or KAYAK than use a mobile browser.

Third, a November 2013 survey conducted by Nielsen on behalf of Google found that one in four US smartphone owners began searching for product information in a branded app as opposed to a search engine.

Types of Mobile Sites or Apps on Which US Smartphone Owners Begin Researching Products, Nov 2013

% of respondents



The app shares in all three surveys paled in comparison to the search engine shares, but research that indicates 20% to 33% of mobile users were searching in apps first, or in apps only, was a wake-up call for many marketers.

Essentially, the vertical search behavior that has long been a part of the desktop world has moved to mobile, specifically within apps. A March 2014 survey by Forrester Consulting found that significant numbers of smartphone owners used apps in categories that have historically generated a high volume of search engine queries. Close to half of those polled used apps for navigation/mapping (47%) and for finance and banking purposes (42%). One-third used retail apps, one-fourth used apps for comparison shopping and 15% used travel apps.

"It's a world of generalists and specialists," said David Lebow, executive vice president and general manager at local marketing solutions provider YP. "Our belief is that consumers want both. People are going to go to multiple sources to search—a specialist and a generalist."

eMarketer sees the pattern of search spending in category-specific apps chipping away at Google's share of mobile search revenue. eMarketer projects almost 22% of US mobile search revenue in 2015 will be generated by companies in the "other" category, which includes many category-specific apps. In 2016, the revenue share for this group will top 24%.

For more information on mobile search trends, read eMarketer's November 2014 report, "Mobile Search Trends: Dominating SERPs While Venturing into Apps and Anticipatory Search."

MCOMMERCE: MOBILE WEBSITES RULE (FOR NOW)

Bucking trends in other areas, mobile websites outpaced apps in generating retail mcommerce sales in 2014. But 2015 should be a pivotal year. The number of retailers with apps increased significantly over the past 12 months and that trend is expected to continue in 2015.

Mobile web visits comprised 85% of US retailers' total mobile web traffic and 90% of mobile revenue between October 2013 and 2014, according to Skava, a mobile commerce technology provider that analyzed billions of user sessions on leading US retailers' desktop and mobile websites and apps between October 2013 and October 2014. Comparatively, mobile apps accounted for 15% of US mobile retail traffic and just 10% of sales.

The in-app sales percentage reported by Internet Retailer was significantly higher—42% of mcommerce sales worldwide—but the figure still represents a minority share of total mcommerce sales.

eMarketer's July 2014 report, "Mobile Commerce Deep Dive: The Products, Channels and Tactics Fueling Growth" identified four factors as key reasons mobile websites generated more retail sales transactions compared with mobile apps:

- 1. Ecommerce and "brick-and-click" retailers tend to develop mobile websites first, resulting in a greater number of retail mobile websites overall compared with the number of retail apps.
- 2. Tablet users generated the bulk of US mcommerce sales and those big-spending tablet users were more likely to buy through a mobile website than an app.
- **3.** Shopping apps face stiff competition from popular social networking, communication and game apps, which makes it difficult for retailers to carve out a large share of mobile users' app time.
- **4.** Apps often lack ecommerce functionality. Even if a retailer has an app, the odds are good the app will launch a mobile browser when the shopper moves to order.

However, there are indications the tide is changing and the two channels may reach parity as sources of mcommerce sales in 2015. First, Flurry's year-end analysis of app usage in 2014 showed the use of apps in the shopping and lifestyle category on Android and iOS devices increased by the largest measure in 2014—174%—compared with all other app categories. Looking at Android devices in isolation, shopping app usage increased 220% last year.

Second, the Mobile 500—defined by Internet Retailer as the 500 leading retailers in mobile commerce worldwide—passed an important milestone in 2014. For the first time, more than half of the group reported having a mobile app, up 14.4% from the prior year. In addition, mcommerce sales among those with app storefronts grew 80%, outpacing the 70% growth in sales among retailers without apps.

eMarketer projects US mcommerce sales will grow from \$76.79 billion in 2015 to \$133.35 billion in 2018. The trends noted by Flurry and Internet Retailer suggest apps will play a more significant role—if not an equal role—in generating mobile sales going forward.

| US Retail Mcommerce Sales, 2013-2018 | | | | | | | |
|--------------------------------------|---------|---------|---------|---------|----------|----------|--|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
| Retail mcommerce sales (billions) | \$42.28 | \$58.07 | \$76.79 | \$98.61 | \$115.06 | \$133.35 | |
| —% change | 69.4% | 37.3% | 32.2% | 28.4% | 16.7% | 15.9% | |
| —% of retail ecommerce sales | 16.0% | 19.0% | 22.0% | 25.0% | 26.0% | 27.0% | |
| —% of total retail sales | 0.9% | 1.2% | 1.6% | 1.9% | 2.2% | 2.4% | |

Note: includes products or services ordered using the internet via mobile devices, regardless of the method of payment or fulfillment; excludes travel and event tickets; includes sales on tablets Source: eMarketer, Sep 2014

178710 www.**eMarketer**.com

EMARKETER INTERVIEWS

Mobile Web Outpaces Apps for Retail Transactions



Sonia Nager
Senior Director
RetailMeNot
Interview conducted by on January 19, 2015

Audience and Use Cases Differ for Mobile Apps vs. Mobile Web



Lucinda Newcomb
Vice President, Mobile and
Site Product Management
Sephora

Interview conducted on February 3, 2015

HotelTonight Sees Benefits of Mobile Apps Come into Focus



Mark Phillips

CMO

HotelTonight

Interview conducted on January 16, 2015



Kevin Deegan
CTO
On.com
Interview conducted on January 7, 2015



Peter Dille
CMO
Tapjoy
Interview conducted on September 15, 2014



Anne Frisbie
Vice President and General Manager,
Global Alliances
InMobi

Interview conducted on January 16, 2015



Brad Griffith
CEO
Gametime
Interview conducted on January 16, 2015



Dave Hoch
Business Analyst
Localytics
Interview conducted on January 12, 2015



Simon Khalaf
President and CEO
Flurry
Interview conducted on July 25, 2014



David Lebow
Chief Revenue Officer
YP
Interview conducted on October, 1, 2014



Puneet Mehta
CEO
MobileROI
Interview conducted on January 12, 2015



Craig Palli
Chief Strategy Officer
Fiksu
Interview conducted on November 5, 2014



Joe Ryan
Sales Director
OtherLevels
Interview conducted on January 15, 2015



Himanshu Sareen
CEO
Icreon Tech
Interview conducted on January 7, 2015



Josh Todd

CMO

Localytics

Interview conducted on January 12, 2015

Alex Austin
CEO and Cofounder
Branch Metrics

Interview conducted on September 25, 2014

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Mobile Display Ad CPMs: The Going Rates and the Inventory Advertisers Value Most

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