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October 2016

APP INSTALL ADVERTISING:
KEY CHALLENGES, TRENDS AND EFFECTIVENESS RATINGS

The number of US app users continues to rise and so too does the amount of time consumers spend using mobile apps each day. The trouble for app developers is mobile users have millions of apps to choose from and are tough critics of those they've chosen, installing apps without hesitation but ditching them quickly when not satisfied. To succeed in this challenging environment, advertisers' goals have shifted from acquiring the largest quantity of new users to acquiring a steady volume of quality users.

presented by

ıl Localytics

Dear eMarketer Reader,

eMarketer is pleased to make this report, **App Install Advertising: Key Challenges, Trends and Effectiveness Ratings**, available to our readers.

This report is a great example of eMarketer data and insights that examine the challenges faced by mobile app install advertisers and how strategies have evolved. It also includes a scorecard in which app install advertisers grade the effectiveness of select media channels.

We invite you to learn more about **eMarketer's approach to research** and why we are considered the industry standard by the world's leading brands, media companies and agencies.

We thank you for your interest in **App Install Advertising: Key Challenges, Trends and Effectiveness Ratings** and **Localytics** for making it possible for us to offer it to you today.

Best Regards,

Crystal Gurin
SVP President and Publisher

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APP INSTALL ADVERTISING: KEY CHALLENGES, TRENDS AND EFFECTIVENESS RATINGS

The number of US app users continues to rise and so too does the amount of time consumers spend using mobile apps each day. The trouble for app developers is mobile users have millions of apps to choose from and are tough critics of those they've chosen, installing apps without hesitation but ditching them quickly when not satisfied. To succeed in this challenging environment, advertisers' goals have shifted from acquiring the largest quantity of new users to acquiring a steady volume of quality users.

- Mobile app install advertisers face significant challenges: They have more than 2 million apps to compete with in each of the leading app stores, user retention rates are dropping, smartphone and tablet owners use just a handful of apps each day, and the number of mobile users worldwide is not growing as quickly as the pool of available apps.

- To succeed under these conditions, app advertisers have largely changed their strategy. Instead of advertising to acquire the largest volume of new users and worrying about retention later, acquisition campaigns are structured with retention in mind. This requires a keen understanding of the lifetime value of their best users, precision targeting, and measurement methods that weigh the value of the users acquired against the acquisition costs.

- Social media, search and video ads served to mobile devices receive top scores from app advertisers and measurement firms for their ability to attract a steady volume of quality users. Television, radio and print ads have proven to be less useful, aside for raising brand awareness.

WHAT'S IN THIS REPORT? This report examines the challenges faced by mobile app install advertisers and how strategies have evolved. It also includes a scorecard in which app install advertisers grade the effectiveness of select media channels.

Mobile App Store Downloads Worldwide, Android vs. iOS, Q1 2015 & Q1 2016
billions
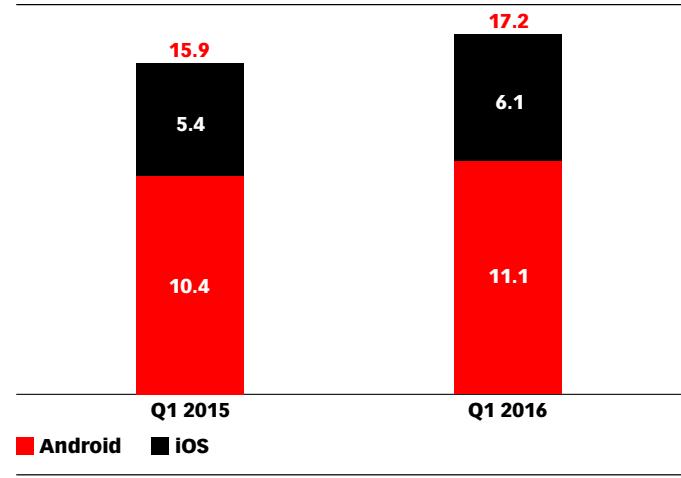
	Q1 2015	Q1 2016
Total	15.9	17.2
iOS	5.4	6.1
Android	10.4	11.1

■ Android ■ iOS

Note: includes smartphone and tablet apps; excludes downloads and re-installs of the same app by the same user to multiple devices; numbers may not add up to total due to rounding
Source: Sensor Tower, "Store Intelligence: Q1 2016 Data Digest," April 18, 2016

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KEY STAT: In Q1 2016, 17.2 billion mobile apps were downloaded worldwide, an 8% increase over the corresponding period of 2015.

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THE APP ENVIRONMENT: MORE CHALLENGING THAN EVER

The record-breaking adoption of Pokémon Go has stifled arguments that mobile apps have seen their heyday. But one runaway hit doesn't diminish two significant challenges faced by app developers: acquiring and retaining high-value users. Every app now competes with more than 2 million others in each of the leading app stores. Getting discovered and downloaded is more challenging than ever, and retaining users is getting more difficult, too.

Nearly every US smartphone and tablet user regularly uses apps, due in large part to apps coming preinstalled on those devices. But most app users will also download apps from the leading app stores. By eMarketer's estimate, roughly 98% of US smartphone and tablet app users ages 14 and older will install at least one app this year. Most of these users will download free apps.

Looking ahead, eMarketer expects the number of smartphone and tablet app installers to increase as adoption of both devices continues to tick upwards. By 2020, eMarketer projects, the number of smartphone and tablet app installers will reach 219.9 million and 144.2 million respectively, up from nearly 185 million and 126 million this year.

US Smartphone App Users, Installers and Buyers, 2014-2020

	2014	2015	2016	2017	2018	2019	2020
Smartphone app users [1] (millions)	155.1	174.0	189.1	200.7	210.5	218.1	223.1
—% change	17.2%	12.2%	8.6%	6.2%	4.9%	3.6%	2.3%
—% of smartphone users	94.6%	95.6%	95.8%	96.0%	96.6%	96.9%	97.2%
Smartphone app installers [2] (millions)	149.7	169.1	184.9	197.6	207.3	215.0	219.9
—% change	17.3%	13.0%	9.4%	6.8%	4.9%	3.7%	2.3%
—% of smartphone app users	96.5%	97.2%	97.8%	98.4%	98.5%	98.6%	98.6%
—% of smartphone users	91.3%	92.9%	93.7%	94.5%	95.2%	95.6%	95.8%
Smartphone app buyers [3] (millions)	59.0	65.2	70.1	73.8	76.9	79.4	80.9
—% change	39.3%	10.4%	7.5%	5.3%	4.2%	3.3%	1.8%
—% of smartphone app installers	39.4%	38.5%	37.9%	37.4%	37.1%	36.9%	36.8%
—% of smartphone app users	38.1%	37.4%	37.1%	36.8%	36.5%	36.4%	36.3%
—% of smartphone users	36.0%	35.8%	35.5%	35.3%	35.3%	35.3%	35.3%
—% of smartphone buyers [4]	87.8%	83.3%	79.8%	77.6%	76.4%	75.3%	73.9%

Note: ages 14+; (1) smartphone users who have used at least one app on their smartphone at least once per month; (2) smartphone users who have installed at least one app on their smartphone during the calendar year; includes paid and free apps; (3) smartphone users who have purchased at least one app via an app store for use on their smartphone during the calendar year; excludes virtual goods and subscriptions; (4) smartphone users who have used their smartphone to make at least one purchase via web browser or mobile app during the calendar year
Source: eMarketer, March 2016

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US Tablet App Users, Installers and Buyers, 2014-2020

	2014	2015	2016	2017	2018	2019	2020
Tablet app users (1) (millions)	**111.0**	**120.6**	**128.1**	**133.4**	**138.2**	**142.4**	**146.0**
—% change	15.8%	8.7%	6.2%	4.1%	3.6%	3.0%	2.5%
—% of tablet internet users	93.2%	94.5%	95.2%	95.6%	96.1%	96.5%	96.7%
Tablet app installers (2) (millions)	**108.2**	**118.2**	**125.8**	**131.5**	**136.3**	**140.5**	**144.2**
—% change	15.8%	9.2%	6.4%	4.5%	3.7%	3.1%	2.6%
—% of tablet app users	97.5%	98.0%	98.2%	98.5%	98.6%	98.7%	98.8%
—% of tablet internet users	90.9%	92.7%	93.5%	94.3%	94.8%	95.3%	95.5%
Tablet app buyers (3) (millions)	**58.4**	**61.0**	**63.3**	**65.1**	**66.7**	**68.1**	**69.2**
—% change	7.0%	4.4%	3.8%	2.9%	2.4%	2.0%	1.7%
—% of tablet app installers	54.0%	51.6%	50.3%	49.5%	49.0%	48.4%	48.0%
—% of tablet app users	52.6%	50.6%	49.4%	48.8%	48.3%	47.8%	47.4%
—% of tablet internet users	49.0%	47.8%	47.1%	46.7%	46.4%	46.1%	45.9%
—% of tablet buyers (4)	66.2%	63.8%	62.3%	61.6%	61.0%	60.6%	60.1%

Note: ages 14+; (1) tablet internet users who have used at least one app on their tablet at least once per month; (2) tablet internet users who have installed at least one app on their tablet during the calendar year; includes paid and free apps; (3) tablet internet users who have purchased at least one app via an app store for use on their tablet during the calendar year; excludes virtual goods and subscriptions; (4) tablet internet users who have used their tablet to make at least one purchase via web browser or mobile app during the calendar year
Source: eMarketer, March 2016

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The time consumers spend using mobile apps each day is also rising. On average, eMarketer estimates, US smartphone and tablet users ages 18 and older will spend a total of 3 hours, 18 minutes each day using such apps this year, up 10 minutes per day from 2015. That total is projected to increase to 3 hours, 33 minutes in 2018.

The bulk of mobile app usage involves a relatively small number of apps. Verto Analytics monitored mobile usage among a group of 20,000 US adults in December 2015 and found that participants used, on average, 32 unique apps on their smartphone in a month and 13 unique apps on their tablet. On a daily basis, respondents used an average of 10 smartphone apps and four tablet apps.

Average Number of Apps Used Daily vs. Monthly Among US Smartphone and Tablet Users, by Generation, Dec 2015

	Smartphone		Tablet	
	Daily	**Monthly**	**Daily**	**Monthly**
Millennials (18-34)	11.6	36.6	4.0	12.4
Gen X (35-49)	9.9	32.8	4.0	13.1
Baby boomers (50-70)	9.8	31.9	4.3	13.5
Total	**10.0**	**32.0**	**4.0**	**13.0**

Source: Verto Analytics, "App Report," Feb 2016

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The painful truth is most apps are failing to keep mobile users interested and engaged for long. An April 2016 analysis conducted by Localytics showed 23% of mobile app users worldwide gave up on an app after using it just once. The trend was similar in the US, where 20% of US smartphone users polled in October 2015 by Research Now on behalf of Localytics said they would stop using an app after trying it only twice, while 6% said they would only try it once. The largest share of the group (56%) was somewhat more forgiving; they would use an app three to five times before giving up on it.

The 24 hours after an app is first used is when most users disappear. Only 24% to 29% of iOS users who installed an app used it again within 24 hours of their first app session, according to a Q1 2016 analysis conducted by measurement firm adjust. Android users performed slightly better: Between 27% and 40% of those studied returned to the app within one day.

Thirty days after the first session, user retention rates fell to single-digit percentages among both operating system (OS) groups, Research Now found, with roughly 3% to 7% of new users returning to the app 30 days after their first session.

Performance Metrics on Day 1 vs. Day 30 for iOS App Installs Worldwide, by App Category, Q1 2016

[1] Retention rate   **[3] Time spent per session (seconds)**
[2] Sessions per user

	Day 1			Day 30		
	[1]	[2]	[3]	[1]	[2]	[3]
Books & magazines	26.1%	1.75	487.0	4.4%	1.55	265.0
Education	26.5%	1.77	513.5	6.0%	1.57	334.0
Entertainment	26.4%	1.86	509.0	5.1%	1.62	361.0
Finance & business	26.3%	1.74	411.5	6.9%	1.65	287.0
Food & drink	26.0%	1.81	555.0	5.1%	1.55	318.0
Games	27.1%	1.84	566.0	4.5%	1.57	348.0
Hobbies	29.7%	1.93	646.0	5.5%	1.63	403.0
Lifestyle	26.7%	1.94	637.0	5.2%	1.58	373.0
Social & communication	24.6%	1.82	531.0	5.8%	1.67	299.0
Travel & transport	25.9%	1.80	501.0	5.9%	1.70	310.5
Utilities	25.8%	1.84	551.0	5.2%	1.65	372.5

Note: represents activity on adjust's platform, broader industry metrics may vary; all values represent median; app classification based on categories used by Apple App Store
Source: adjust, "Mobile Benchmarks Q1 2016," May 17, 2016

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Performance Metrics on Day 1 vs. Day 30 for Android App Installs Worldwide, by App Category, Q1 2016

☐1 **Retention rate**   ☐3 **Time spent per session (minutes)**
☐2 **Sessions per user**

	Day 1			Day 30		
	☐1	☐2	☐3	☐1	☐2	☐3
Books & magazines	40.7%	2.10	687.0	3.6%	1.93	292.0
Ecommerce	27.6%	2.00	646.0	5.3%	1.71	419.0
Education	30.4%	1.71	378.0	7.0%	1.49	241.0
Entertainment	30.9%	1.94	654.0	5.5%	1.72	590.0
Finance & business	35.7%	2.18	966.0	5.9%	2.07	691.0
Games	33.0%	2.18	856.0	6.1%	1.98	645.0
Hobbies & health	29.7%	1.91	540.0	5.1%	1.76	410.0
Lifestyle	28.0%	1.84	475.0	4.7%	1.58	340.5
Social & communication	30.7%	1.89	750.0	6.5%	1.79	609.5
Travel & transport	28.9%	1.78	518.0	5.6%	1.64	387.0
Utilities	36.0%	2.29	1,185.0	6.9%	2.04	978.0

Note: represents activity on adjust's platform, broader industry metrics may vary; all values represent median; app classification based on categories used by Google Play
Source: adjust, "Mobile Benchmarks Q1 2016," May 17, 2016

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Facebook has noticed a similar fall-off in users among the app developers it works with: "After 30 days, only 6% of people who installed an app were still using it," said Jehan Damji, product manager at Facebook. "This is a big problem in the app ecosystem. Retaining users and keeping them engaged is necessary for apps to be successful."

Usage appears to stabilize somewhat after the 30-day mark. An analysis conducted by Appboy between November 2015 and March 2016 showed retention rates declined 18 percentage points over the first 30 days, dropping from 24% at Day 1 to 6% at Day 30. From there until the 90-day point, retention rates dropped another 2 percentage points, declining from 6% to 4%.

Average App Retention Rates over the First 90 Days of Use Among Mobile App Users Worldwide, by OS, Nov 2015-March 2016

	Android	iOS	Total*
1	27%	23%	24%
2	20%	17%	17%
3	17%	14%	15%
4	15%	13%	13%
5	14%	12%	12%
6	13%	11%	12%
7	13%	11%	12%
14	10%	9%	9%
30	7%	6%	6%
45	6%	5%	5%
60	5%	5%	5%
90	4%	4%	4%

*Note: represents activity on Appboy's platform, broader industry metrics may vary; read as in 2016, 27% of Android users used an app 1 day after first use; *includes platforms other than Android and iOS*
Source: Appboy, "Spring 2016 Mobile Customer Retention Report," May 19, 2016

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Research also indicates retention rates are getting worse each year. Localytics conducted a year-over-year comparison of 30-day retention rates and found the percentage had dropped from an average of 42% in June 2015 to 37% by June 2016. Additionally, the 2016 analysis showed 80% of new users had stopped using an app three months after the install, up from 75% in 2015.

Despite such challenges, the number of apps keeps growing. Apple announced in June 2016 that its app store had 2 million apps, an increase of roughly 500,000 over the previous year and equal to a 33% year-over-year growth rate. Google Play has even more apps, nearly 2.4 million as of early September 2016, according to app-tracker AppBrain, which also reports that tens of thousands of apps are being added to Google Play each month.

The trouble is that the potential user base for apps is growing at a slower pace than the number of available apps, and so too is the rate of downloads. By eMarketer's estimate, the number of smartphone and tablet users worldwide grew by 16% in the 12 months ending 2015. As for downloads, data from Sensor Tower showed that the total number of mobile app store downloads in Q1 2016 was 8% higher than in Q1 2015.

Mobile App Store Downloads Worldwide, Android vs. iOS, Q1 2015 & Q1 2016
billions
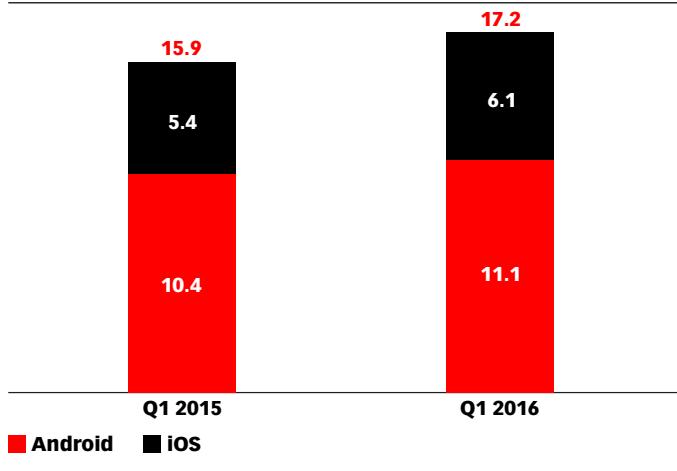
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Source: Sensor Tower, "Store Intelligence: Q1 2016 Data Digest," April 18, 2016

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The disparity in these growth rates suggests the supply of apps is outpacing demand for them among consumers. Under such circumstances, app owners are likely to rely more heavily on paid media to attract and retain users. In turn, the pressure to deliver a significant return from those investments is rising.

PERFORMANCE MEASUREMENT HAS MATURED

App marketers are the epitome of performance marketers. The most successful of the lot look beyond top-of-the-funnel measures such as click-to-install rates. They rely on retention-based measures such as lifetime value (LTV) and return on ad spend (ROAS) to gauge the effectives of ad campaigns.

That's not to say the number of installs generated by a campaign are ignored. They're certainly not. Fifty-nine percent of agency marketers and 71% of client-side marketers polled worldwide by Econsultancy in May 2016 said they used download numbers as a means of measuring the success of their app. But it was not the only measure used. Between 32% and 46% of those polled used four other performance measures: time spent in the app, revenues/leads generated, conversion rate and recurrent usage.

Metrics Used to Measure Mobile App Success According to Client-Side vs. Agency Marketers Worldwide, May 2016
% of respondents

	Agency marketers	Client-side marketers
Number of downloads	59%	71%
Time spent	41%	45%
Revenues/leads generated	38%	38%
Conversion rate	36%	37%
Recurrent usage	32%	46%
Custom metrics (e.g., social shares)	18%	17%
Reduced costs	17%	15%
Improved employee efficiency	16%	18%
Reduced time to market	12%	11%
External metrics (e.g., reduced cost in customer service due to fewer phone calls)	9%	13%
None of the above	8%	7%

Note: n=968 agency marketers; n=519 client-side marketers
Source: Econsultancy, "Digital Intelligence Briefing: Taking Advantage of the Mobile Opportunity" in association with Adobe, July 12, 2016

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DECLINING IMPORTANCE FOR INSTALL AND CLICKTHROUGH RATES

Successful app install advertisers "have become increasingly more sophisticated and they don't really care as much about the install anymore," said Facebook's Damji.

One reason is because measuring clicks and downloads alone can steer marketers' attention away from sources that are attracting a healthy volume of quality users. Sources with mediocre clickthrough rates (CTRs) and install numbers might be deemed poor performers, even though they might have been attracting a significant volume of quality users.

Take Facebook, for example. App advertisers are attracted to the social network for its ability to target "lookalikes"—consumers that have similar behaviors and characteristics to an app's best users. However, precision targeting tactics can eliminate lower quality, high-clicking users from the campaign and drive down overall clickthrough rates.

eMarketer's analysis of a sample of performance metrics from app install ad campaigns run over the past year showed Facebook's CTR averages were lower than the click-to-install averages for mobile display ads. The same was true with Instagram's and Twitter's averages. Yet, app advertisers have found that social networks attract healthy volumes of quality users. Therefore, gauging the value of Facebook, Twitter and Instagram using CTRs and install rates alone might lead marketers to mistakenly believe the social networks are a weaker source of new users.

The app advertising performance data compiled and analyzed by eMarketer for this report can be found in the accompanying worksheet, **"Comparative Performance Metrics, App Install Advertising, 2015 and 2016."**

It's also worth noting that the future of the install itself has been called into question by a recent innovation from Google. In May 2016, the company introduced Android Instant Apps, a means for apps to run on a device without requiring installation. "Android Instant Apps will allow a user to test drive an app without actually installing it, which means the 'install' will become even more irrelevant as a metric," said Jenny Crosby, group marketing manager for Intuit's TurboTax brand.

Time will tell whether Android Instant Apps will revolutionize app advertising. In the meantime, app marketers are cognizant that retaining quality users is the key to their success and are turning to more meaningful measures to gauge the effectiveness of paid media.

RETENTION-BASED MEASURES TAKE CENTER STAGE

Looking beyond installs to usage metrics and specific in-app actions taken by newly acquired users are more reliable means of gauging the performance of app install campaigns, according to some mobile app marketers.

"We have custom early indicators specifically determined per game to monitor the quality of the user," said Ville Heijari, CMO at Rovio Entertainment. "There are a lot of early indicators for user retention in game behavior, such as tutorial completion, level progression, first purchase, and so forth."

Of course, when apps are new and they need to make a name for themselves, "they simply buy out the market with the largest install volumes possible," said Andre Kemp, performance marketing lead at shopping app Zalando. "As soon as they dominate the market, however, they typically focus more on LTV than getting new installs with paid advertising. It's a dynamic process."

An analysis conducted by ironSource showed two-thirds of app install advertisers that ran campaigns with the ad network in H1 2016 used retention-based key performance indicators (KPIs) as a means of measuring campaign performance. The most common metric in this case was the number of app opens on Day 1.

A sizeable number of app advertisers—20% in H1 2016, according to ironSource's analysis—went a step further and tracked specific post-install actions as a means of measuring campaign performance. The ad network found the two most common events measured by its advertisers were level achieved by Day 14 and the number of app registrations obtained by Day 7.

Game developers monitored post-install actions with the highest frequency, according to Omer Kaplan, CMO and co-founder of ironSource. "The level-based structure of their apps makes it easy to define clear engagement KPIs (like level achieved). But social, lifestyle and shopping apps commonly use engagement KPIs with install campaigns."

A growing number of ad sellers are enabling app advertisers to measure post-install actions. Opera Mediaworks is one example. The mobile ad network supports post-install tracking for 22 different events.

"Advertisers that are able to track in-app events can predict the lifetime value of a new user much faster and more accurately," said Bryan Buskas, chief customer officer at AdColony, a division of Opera Mediaworks. "The hardest thing in an LTV calculation is knowing if the user is going to be active for one day or a thousand days. Tracking post-install events help advertisers forecast retention and value."

Facebook took the post-install event concept to the next level when it launched its App Event Optimization product on July 19, 2016. According to the company, the new product enables app install advertisers to deliver ads to the people who are likely to take valuable actions within their apps.

"A lot of advertisers tell us that they care about return on their ad spend, or only engaging customers who help build their business," said Facebook's Damji. "So we're providing an offering that doesn't only optimize for installs but also optimizes for people who are likely to perform specific in-app actions, like making a purchase, adding a product to a cart, etc." Instead of bidding per install, Damji added, an app advertiser can base their bid on the user taking one of 14 post-install actions.

Marketers often assign a value to such in-app actions and by tracking the actions taken by new users, projections can be made about the potential lifetime value of a newly acquired user. Such LTV calculations enable advertisers to project return on ad spending, which is where the rubber meets the road.

"The actual revenue you are making per user is a metric that doesn't lie. It's real money in your pocket," said Jarkko Rajamäki, director at Unity Technologies.

"ROAS is emerging as the key metric to measure campaign performance for a lot of our retail and ecommerce app clients, as it relates directly to the ROI for the campaign," said Arun Pattabhiraman, vice president and global head of marketing at inMobi. "Typically, they expect to generate $5 to $8 in revenue per transaction for every dollar of ad spend. An ROAS greater than $10 is deemed a very high-performing campaign."

Buskas expressed a similar sentiment: "Pretty much 100% of app install advertisers we work with are tracking return on ad spend back to the install."

QUALITY COSTS MORE THAN QUANTITY

The cost to acquire a loyal user has ticked steadily higher over the past four years, according to monthly analyses conducted by demand-side platform provider Fiksu DSP, a unit of Fiksu. In April 2016, advertisers worldwide on Fiksu DSP's platform paid an average of $2.51 to acquire a loyal iOS app user (defined as people who open an app three times or more). While this latest average was slightly lower compared with costs in April 2015, it's roughly $1 more than what advertisers paid in the previous three years.

Mobile App User Acquisition Benchmarks Worldwide: Average Cost of Acquiring a Loyal iPhone App User, April 2011-April 2016
activity analyzed by Fiksu DSP

April 2011	April 2012	April 2013	April 2014	April 2015	April 2016
$1.02	$1.46	$1.50	$1.52	$2.74	$2.51
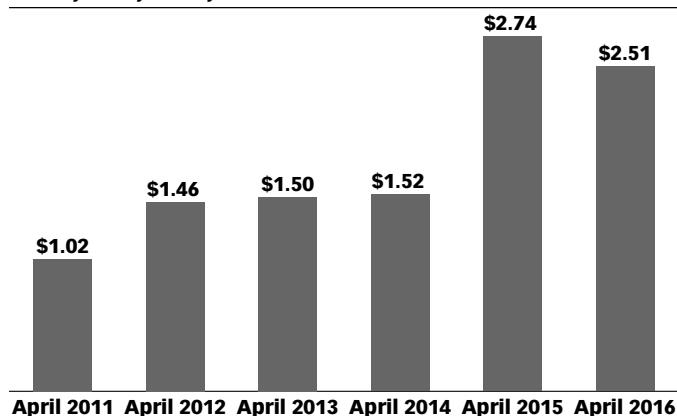
Note: represents activity via Fiksu DSP's platform, broader industry metrics may vary; loyal user defined as one who opens an app (from brands that actively market their apps) 3+ times
Source: Fiksu DSP, "Fiksu Indexes," May 26, 2016
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Marketers' increased focus on attracting valuable users, not just a large volume of users, is largely responsible for the rising costs. There are a handful of reasons why valuable users force acquisition costs higher:

- **Precision targeting tools are used more frequently:** App marketers know the value and unique behaviors of their best users and over the past year more advertising platforms and publishers have brought "lookalike" targeting tools to market. The use of such audience-based targeting tools typically adds to the overall cost of the campaign.

- **Greater competition for high-value audience segments:** As more app advertisers focus on attracting valuable users, many are competing to reach similar sets of consumers. On programmatic platforms, this results in bidding wars for impressions linked to desirable device IDs. The increased demand for specific subsets of impressions drives up the price. The rise is typically more noticeable within app categories that run a high volume of ad campaigns, such as games or shopping, for example.

- **Increased usage of more immersive—and costly—ad units:** Higher-priced ad formats make up a larger share of campaign spend. Video ads are a prime example; app developers have found that video ads give potential users a realistic sense of what the app experience is like, and they're spending more on this ad type.

Like prices in any advertising channel, those paid for mobile app install ads are highly variable. Many businesses avoid sharing average prices for this reason. Price volatility does reduce the value of point-in-time averages, but an analysis by eMarketer of average prices paid for app install ads during the first three months of this year brings three trends to light.

- Cost-per-install (CPI) rates are typically lower for ads served to mobile websites compared with rates for in-app ads.

- Advertisers pay higher CPI rates for video ads because the experiential nature of the format generates higher quality users.

- Advertisers often pay the most for ads served on social networks because of their broad reach and robust targeting capabilities.

The pricing data compiled and analyzed by eMarketer for this report can be found in the accompanying worksheet, **"Comparative Pricing, App Install Advertising, 2016."**

The number of marketers making decisions about future media buys based on cost measures alone is declining. "It doesn't matter how much you're spending to acquire new users if you're making a positive return on those users," said John Koetsier, mobile economist at Tune. Increasingly, the value of a media source is measured by weighing the volume of quality users acquired against the cost of acquiring those users. According to AppsFlyer, 10 media sources outperformed all others for efficiently generating a high volume of quality users for its app clients in H1 2016, but the mix of companies in the top 10 varied by operating system and gaming vs. nongaming app advertisers

The attribution firm looked at the top media sources for gaming apps vs. nongaming apps and the top performers for Android vs. iOS apps. In all cases, Facebook was the most valuable source of new names and Google AdWords ranked among the top three sources.

Top 10 App Install Media Sources for Gaming vs. Nongaming Apps Worldwide, by OS, H1 2016
index*

	Gaming		Nongaming	
	Android	**iOS**	**Android**	**iOS**
1.	Facebook	Facebook	Facebook	Facebook
2.	Google AdWords	AppLovin	Google AdWords	Google AdWords
3.	AppLovin	Google AdWords	Avazu	Twitter
4.	Unity	Unity	Mobvista	AppLovin
5.	Chartboost	Chartboost	AppFlood	Liftoff
6.	Tapjoy	AdColony	Twitter	Mobvista
7.	AdColony	AppLift	Cheetah Mobile	ironSource
8.	Fyber	Vungle	StartApp	Taptica
9.	ironSource	Tapjoy	AppLovin	Chartboost
10.	Vungle	Fyber	Yeahmobi	AppLift

Note: represents app install activity tracked by AppsFlyer, broader industry metrics may vary; *custom index based on 30-day post-install app retention and total install quantity
Source: AppsFlyer, "The AppsFlyer Performance Index: H1 2016," Aug 9, 2016
215869 www.**eMarketer**.com

While this insight is helpful for understanding which mobile media sources are most effective, app marketers invest in more than just mobile ads. To understand how effective app install advertising is overall, it is necessary to account for ads served in traditional media as well.

To understand how various media channels and ad types stack up, eMarketer solicited feedback from app advertisers and mobile attribution firms. Each expert was asked to grade four media channels (mobile, television, radio and print) and five mobile ad types for their effectiveness at acquiring new users, keeping users engaged and reactivating lapsed users.

As one might expect, mobile beat out all three traditional media channels in effectively attracting new app users. "The beauty of mobile is that everything is measurable, from the install, to the sign-up, to lower-funnel conversion metrics," said Shelly Lipton, head of marketing at Roomi, a roommate-finding app.

Within mobile, social was the star performer, followed by video and browser-based search. App store search advertising received the lowest effectiveness scores compared with the other mobile options, due primarily to the newness of the ad type.

Following is a summary of the average scores awarded to each media channel and ad type, ranked from best performing to least. We have included key takeaways and specific insights gleaned from interviews with our panel of experts.

MOBILE SOCIAL ADS

AVERAGE SCORE: A-

The qualities that attract most advertisers to social platforms—highly engaged users, enhanced audience targeting capabilities and substantial reach—also draw app advertisers to these platforms. Facebook was the star performer among those assigning grades, while Twitter's Audience Network proved particularly effective for some.

Effective for acquisition and retargeting, but not always for in-app sales: "Social channels offer a large audience pool and enhanced targeting capabilities to acquire users, retarget specific audiences and optimize campaign spend." —*Daniel Kahtan, Director, Market Development, AppsFlyer*

"We can get a ton of installs, but converting those installs into GrubHub diners is a challenge when acquiring users with social ads." —*Deepal Shah, Director, Growth Marketing, GrubHub*

Facebook's app ads are best: "The demographic and interest-based targeting ability of Facebook puts this network ahead of all the others." —*Oliver Birch, Director, Marketing, Hothead Games*

But Facebook can be expensive: "Facebook is more expensive than other channels. The quality of users it attracts usually pays for itself though, if you're measuring LTV." —*Janice Ryan, Vice President, Product, JumpRamp Games*

MOBILE VIDEO ADS

AVERAGE SCORE: B

Video's appeal varied among the app advertisers consulted. Game app advertisers sang the praises of video ads while those in the shopping and food categories weren't yet sold on the ad format. The latter group saw the potential of video but most were still experimenting with it.

Video works for some apps, not all: "Video is the most effective way of capturing the audience's attention and explaining the theme and content of a game. It's our biggest paid-install driver at the moment." —*Ville Heijari, CMO, Rovio Entertainment*

"Mobile video is a great way to show what the TurboTax app is all about. It's highly effective in driving installs and additional actions and engagement." —*Jenny Crosby, Intuit*

"For a fashion app like ours, video is OK, but reach is limited." —*André Kempe, Performance Marketing Lead, Zalando*

"In general, video is an average-performing vehicle for us." —*Marissa Tarleton, CMO, North America, RetailMeNot*

App advertisers have only scratched the surface with video: "There are massive opportunities for app developers on platforms like YouTube, Snapchat and even Apple TV. They can deliver better messaging and convey a lot more about their app in a 10- or 15-second video ad vs. a small, animated banner ad." —*Christian Henschel, CEO, adjust*

BROWSER-BASED MOBILE SEARCH ADS

AVERAGE SCORE: B

Participants noted several positives and negatives about browser-based search. On the up side, most felt the intent-based nature of the channel attracted higher-quality users, and the opportunity to deploy targeted campaigns at scale is powerful. However, the divide between the web and app channels makes installs harder to track, and some advertisers have found users acquired via mobile search ads were less likely to make in-app purchases.

A source of quality users for some apps but not others: "Search is an intent-driving channel and conversion rates are extraordinarily high, with high LTV." —*André Kempe, Zalando*

"Search ads drive installs, but we haven't been able to convert those installs into diners at a large scale." —*Deepal Shah, GrubHub*

Advertisers extend their reach via search: "Search ads are an opportunity to reach the audience that rarely goes to the app store. Browser-based search is becoming a more important traffic source, and early indicators show Google's new Trial Run ads that let users experience the content of an app before installing it, increase engagement." —*Ville Heijari, Rovio Entertainment*

Lack of device IDs poses problems:

"Tracking app installs from mobile web is significantly more difficult because a form of fingerprinting [device recognition] is used rather than device advertising ID for attribution." —*Oliver Birch, Hothead Games*

MOBILE DISPLAY ADS

AVERAGE SCORE: B-

eMarketer limited the question about the effectiveness of mobile display ads to traditional banners and rich media ad units. The key takeaway from participants was that these ad formats "still get the job done," particularly when the objective is to generate a high volume of installs at a good price.

A staple for many app advertisers—still: "This is our bread and butter outside of Facebook and video. Driving users to the app stores from mobile display ads delivers the path of least resistance. Optimization of campaigns at a network level are key to success, but not a guarantee. With patience these campaigns can be effective." —*Oliver Birch, Hothead Games*

Targeting is the key to success: "There is the question of relevance with display ads, because you don't necessarily capture the consumer at the point of need. When targeted correctly, display is far more effective. For example, serving a display ad related to shopping while a person is at the mall is interesting and effective." — *Marissa Tarleton, RetailMeNot*

Banners are not the best: "Compared to native and rich media placements, tiny banners on tiny screens don't perform as well." —*Jenny Crosby, Intuit*

APP STORE SEARCH ADS

AVERAGE SCORE: C

This low score is more likely a reflection of the nascent stage of app store search and advertisers' inexperience with the ad type than a weakness in the offerings in either store. App store search advertising—the serving of ads into app store search results—was the newest ad type that participants were asked to score. Google rolled out search ads in the Google Play store in late July 2015, and Apple invited advertisers to begin testing its App Store search ads in June 2016. As such, participants' experience with app store search was limited and predominantly reflects experiences with Google Play's search offerings.

Criticisms at this early stage centered mostly around the limited scale of the ad type and advantages established brands have over lesser known apps, due to keyword targeting. Conversely, the relevancy of the ad to the intent of the users and the context of the search results were hailed as the biggest benefits.

Established brands have a leg up on indie apps:
"With high demand for the Angry Birds brand, it is more economical to leverage app store search ads and get a reasonable amount of traffic via these ads. A completely unknown app would have to spend much more to get an equal number of ads served." —*Ville Heijari, Rovio Entertainment*

Clear intent makes app store search attractive:
"Because the consumer is in the store looking for apps, that person should be a more qualified user compared to someone surfing online. When they're in the app store, intent is there. But app store search is so new, the scale isn't there yet. It's an area of opportunity, and we're hopeful it grows." —*Janice Ryan, JumpRamp*

Has great potential: "App store search will continue to evolve and should provide good visibility among users who are intent on discovering and downloading apps." —*Daniel Kahtan, AppsFlyer*

TELEVISION ADS

AVERAGE SCORE: C-

Advertising apps on television is the domain of deep-pocketed developers who are looking to extend their reach beyond mobile app advertising. Such advertisers invest in TV ads primarily to raise brand awareness among a broader audience. The high price tag and difficulties in directly attributing installs to TV ads were the primary reasons the channel received poor marks.

Reach is the most interesting attribute: "Millennials, cord-cutters and so forth only represent about 50% of our addressable smartphone audience. Therefore, we need to look at different avenues and media like television for growth." —*Ville Heijari, Rovio Entertainment*

Raises awareness and keeps users engaged: "Our TV advertising is primarily a top-of-the-funnel awareness play. It also reengages customers by reinforcing the brand." —*Deepal Shah, GrubHub*

Assumptions are required to measure results: "To measure the impact of our TV ads, we map our TV flighting days and times to our organic install trends. We can infer that the TV commercials had a positive effect on native app installs when there are spikes that correlate with the times the commercials were shown." —*Jenny Crosby, Intuit*

RADIO ADS:

AVERAGE SCORE: D

Not only was use of terrestrial and digital radio rare among our scorecard participants, it mostly performed poorly for those that had used it. However, specific use cases were noted.

Time-sensitive offers make radio ads effective: "Radio works for us when we have specific promotions. For example, we're running an iHeartRadio campaign right now on Z100 New York (WHTZ), and on the iHeartRadio app as well. It's hard to attribute installs directly to radio, though. And frequency matters. You can't just say, 'OK, I'm here on radio for one week.' You're not going to get any installs that way." —*Janice Ryan, JumpRamp*

The broad reach and creative flexibility make it attractive: "We use digital radio in the peak shopping season. It's a broad-reach vehicle and is something we can execute, target and put out locally or nationally pretty quickly." —*Marissa Tarleton, RetailMeNot*

PRINT ADS

AVERAGE SCORE: D

Print advertising in its many forms—newspaper ads, magazine ads, direct mail, etc. —was not a viable channel for generating app installs, according to our scorecard participants.

Not the norm, but it's not irrelevant either: "Print is an unusual channel for app advertisers, but it can work for specific objectives." —*Christian Henschel, CEO, adjust*

Makes sense if there's little to no cost: "For example, if a newspaper ad is for the newspaper's own app then the cost to run that ad would be the 'opportunity cost' of other content on that page. With little to no investment, print can be an effective channel." —*Daniel Kahtan, AppsFlyer*

While each channel and ad type has strengths and weaknesses, the magic in acquiring and retaining quality users comes from the mix of media used. Moreover, the blend can make each channel and ad format more effective. As RetailMeNot's Tarleton put it: "Combined together, the channels elevate each other's performance."

Coverage of a Digital World

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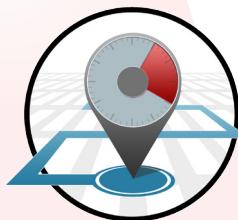
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