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MOBILE GAMING · APPS REPORT ·

2018 User Acquisition Trends and Benchmarks

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Introduction

It's official. As of July 2018, more money has been spent on Gaming—in all its forms and formats—than any other kind of entertainment on the planet. It's a massive industry worth almost 3 times as much as the movie industry. One growth engine is mobile, and its contribution to the total is nearly as epic as the hit titles and game franchises it has produced.

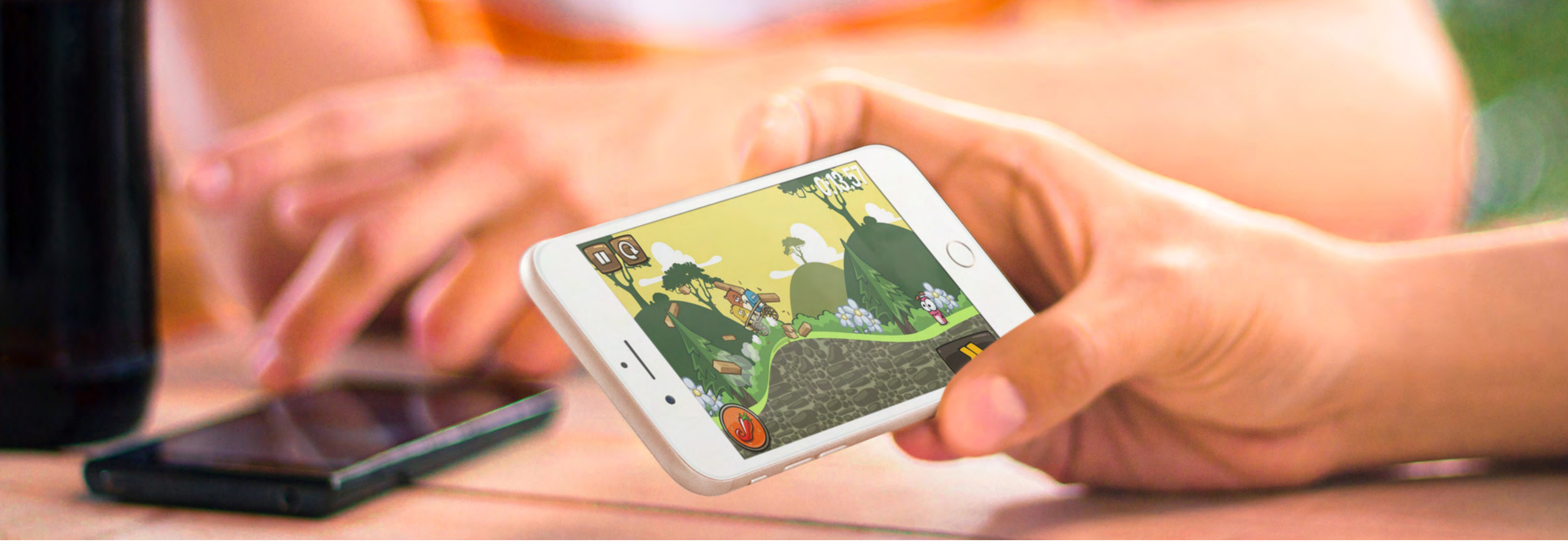
On the demand side, insane growth is fueled by 3.39 billion mobile users worldwide and an explosion in the number of micro-leisure moments—minutes of downtime when users can (and increasingly do) reach to mobile games to add interest and excitement to their daily routine.

On the supply side, app market data provider App Annie counts nearly 900,000 games live across the app stores globally (approximately 350,000 on the Apple App Store and approximately 550,000 on Google Play). Do the math and mobile gaming apps represent about 15% of the total apps live in the app stores today.

Other app categories are on the move, but mobile gaming apps continue to lead the pack. In fact, global games research firm Newzoo forecasts that games will account for a whopping 72% of total global app revenues, or $58.1 billion, by 2020.

Clearly, an avalanche of apps indicates a healthy and robust App Economy where companies with the right app and the right approach can lay the groundwork for a solid and sustainable app business. However, a maturing market is also a crowded and competitive space where the ability to collect data and analytics on its own is no longer a source of competitive advantage.

App marketers in this hotly contested market require insights around the activities, opportunities and events that will allow them to get the most mileage out of their chosen monetization strategies. Marketers that embrace the F2P model need data to turn players into



> Games will account for a whopping 72% of total global app revenues, or $58.1 billion, by 2020.

purchasers; marketers that monetize their games through advertising need data to match campaigns with audiences. In both cases this report equips app marketers with what they need to make data-informed decisions, ensuring they acquire and engage audiences that are both high-value and highly profitable.

The 2018 Mobile Gaming Apps Report draws from Liftoff internal data from June 1, 2017, through May 31, 2018—spanning nearly 47 billion impressions (46,776,245,374 to be exact) across over 658 million (658,586,911) clicks and over 15 million (15,358,421) installs.

Specifically, the report tracks costs and engagement metrics across the entire Gaming funnel: Install, Register, In-App Purchase. It also breaks down data by platform (iOS and Android), user demographics (gender) and region (APAC, EMEA, LATAM and North America).

This new edition of the report also compares data across a variety of gaming categories (Casino, Casual and Strategy) and uniquely offers actionable insights on how app marketers can harness rewarded video as an effective monetization tool.

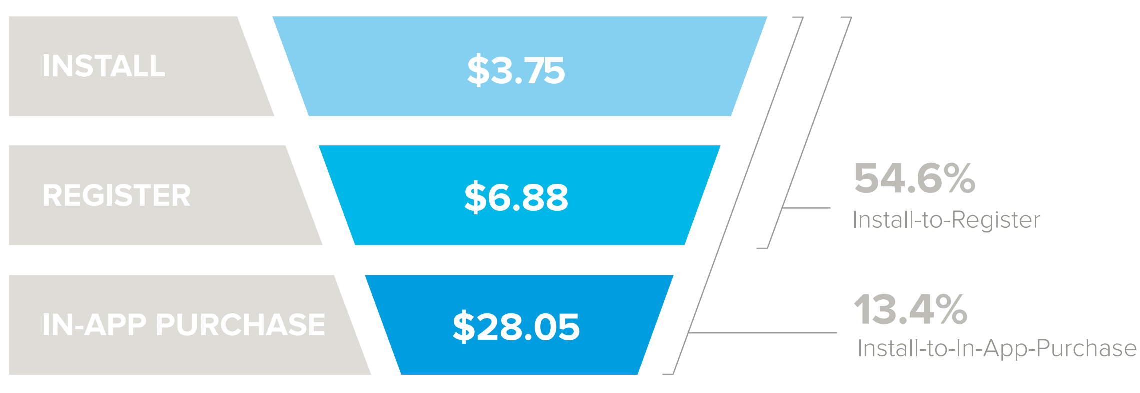
Average Costs & Conversion Rates

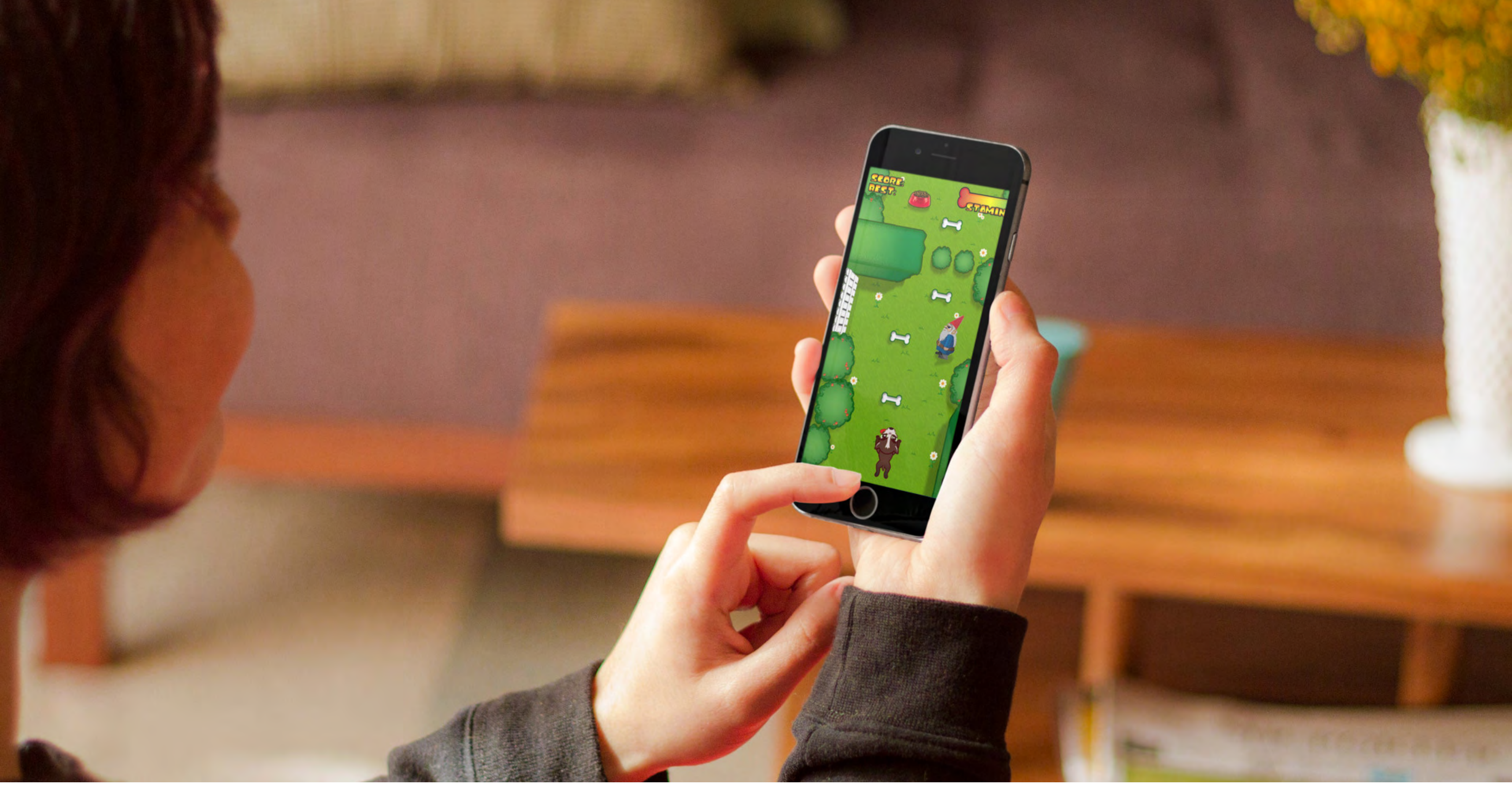
Lower costs and higher engagement rates tell two stories. It could be that gaming apps are becoming an integral part of how users spend and enjoy time on mobile.

Or it could be that app marketers have become data-savvy and increasingly excel at using data to activate and motivate their target audiences. Either way, it's a positive and promising development that bodes well for marketers determined to inspire and influence users at intent-rich moments (Registration and In-App Purchase) after the install.

As the Gaming Engagement funnel shows, it costs an average of $3.75 to acquire an install. That's nearly 8% down on the previous year ($4.07)—all the more remarkable if we consider that fierce competition would typically push acquisition costs through the roof. At first glance, it would appear that data-savvy marketers are indeed at the top of their game. But it may also be that many of the popular gaming title categories analyzed in this dataset have cemented themselves as real "crowd-pleasers" thanks to enjoyable—even addictive—game mechanics. The data doesn't say for sure.

OVERALL GAMING APPS COSTS & CONVERSIONS



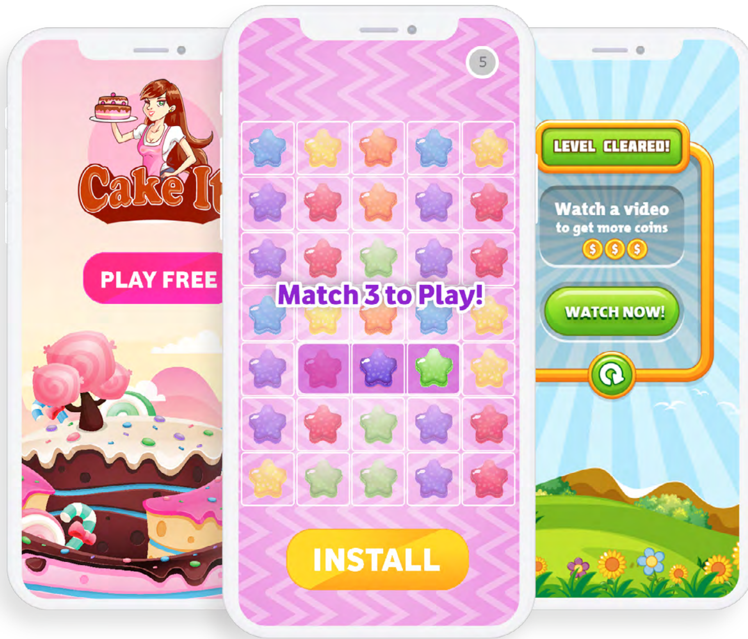


Registration

Deeper in the funnel, the situation is similar. The cost to acquire a user who completes a registration ($6.88) is 23% less than the previous year ($8.94), while engagement rates at that stage show a 20% increase.

This suggests users understand and appreciate gaming apps and respond to their advertising campaigns. It's impressive growth that should spur app marketers to do more to engage further now that the barriers are down.

Some inspiration comes from mobile video ad network AdColony. It observes that 71% of the top publishers across all categories "use 3 or more engagement methods to retain their users," with push notifications topping the list. Gaming app marketers have cleared the Registration hurdle, breaking the ice in a conversation where more interaction via more channels (messaging, email and modal messaging) can help clinch the deal.



In-App Purchase

Which brings us to in-app purchases (IAP), a fairly common and very lucrative model where app marketers drive purchases ('Gold,' 'Power-Ups' or 'Continue Playing' passes) allowing users to enhance the playing experience.

It works when app marketers succeed in making tantalizing offers and users commit to opening up their wallets.

It's not a walk in the park, but Liftoff data shows that app marketers could be in their stride. What appears to be a modest engagement rate at 13.4% represents a massive 67% increase over the previous year. At $28.05, the cost to acquire a user who completes an IAP is almost a bargain compared to the $50.69 price tag in 2017.

Once again, the relationship between costs and engagement rates should inspire app marketers to go the distance and develop user acquisition campaigns that capture audience attention and catapult spend. Stakes are high, but so is the pay-off as some strategy games chalk up in-app spend, on average, of $550. (Analytics and measurement firm Slice Intelligence, now Rakuten Intelligence, reports mobile gamers spend an average of $87 on IAPs.)

> “Integrating creatives that amaze and engage can make all the difference in your campaign.”

Mobile games can generate tremendous amounts of revenue from IAPs, but more gaming apps in the marketplace mean more competition for marketers determined to grow their share of the pie. App marketers with these ambitions have to get smarter about how they wield data to identify and influence Big Spenders. But improved targeting is just a part of it. Remember: this is a market where netting “Whales,” the 10% of the in-game purchasing population that accounts for 90% of mobile gaming sales is getting harder, and finding the “white whales,” the top one percent of whales that account for an astonishing 58% of total in-app purchases, is nearly impossible. Integrating creatives that amaze and engage can make all the difference in your campaign.

Gaming App Engagement by Platform

Overall, iOS users come at a higher price. But high engagement rates suggest iOS users also offer app marketers better value for money.

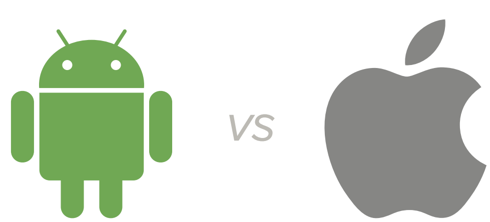
At $5.31, the cost-per-install on iOS is 60.4% more than Android ($3.31). This gap is even greater further down in the Gaming funnel. For example, the cost to acquire an iOS user who goes on to register ($11.08) is 73.9% more than Android. Significantly, the gap narrows at the next stage to just 21.7%.

But looking at costs in isolation is a strategy likely to burn as much money as it generates. At a time when app marketers are laser-focused on creating value for their users—and their companies—after the install, an approach that prioritizes engagement rates has serious merit.

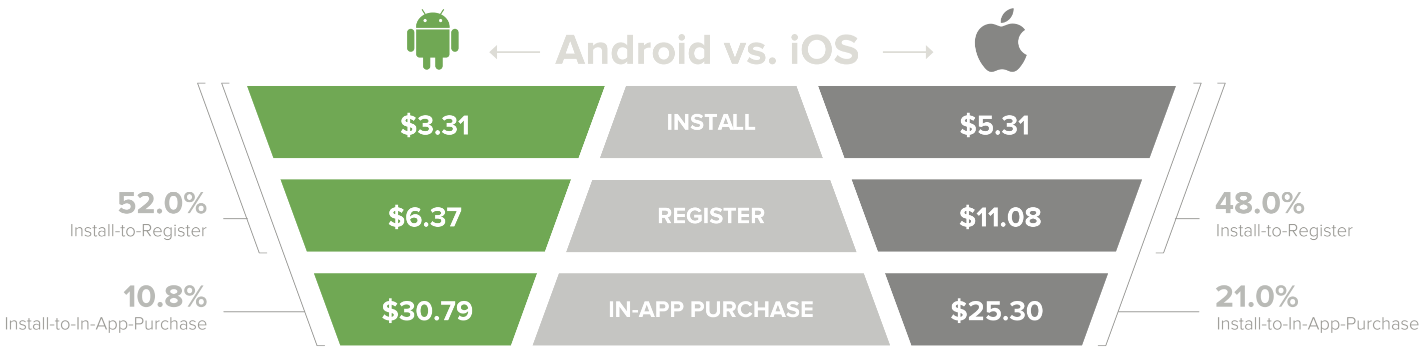
A closer examination of conversion rates suggests app marketers who spend on iOS are getting good value for money. While iOS users are not rushing to register, they are eager to purchase. At 21%, IAP conversion rates are nearly double that of Android users (10.8%).

Are Android users uninterested in making a purchase? Or are app marketing campaigns failing to inspire the all-important impulse buy? The data doesn't say for sure. To be fair, we must also consider that Liftoff data, which draws from campaigns across 350 Gaming apps (58% iOS and 42% Android), may overemphasize this disconnect somewhat–but that doesn't negate the substantial evidence that app marketers may be missing the mark.

Similar to the engagement patterns we observed in our 2018 Mobile Shopping Apps Report, we see that Android costs and conversions at the middle-funnel stage of Registration are in a rare balance.



GAMING APPS COSTS AND CONVERSIONS BY PLATFORM

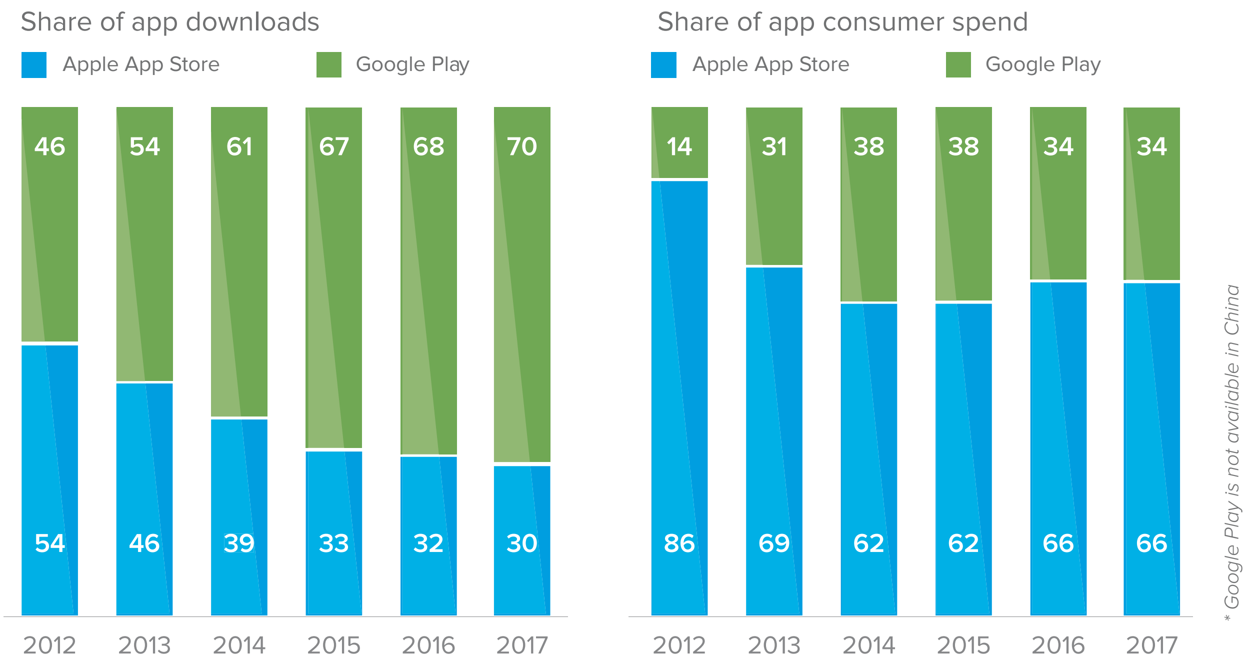


On the cost side, Android users are a steal at $6.37. Couple that with an impressive install-to-register rate of 52% (8.4% more than iOS), and it's clear that app marketers have cleared a significant hurdle. They have earned the attention (even trust) of Android users who are willing to interact with the app and input essential data that smart app marketers can use to engage and re-engage these users to drive deeper funnel conversions.

So, why aren't they doing it?

The answer is likely linked to the perception that iOS is the platform preferred by Big Spenders. To be fair, it's not a mere stereotype. It's supported by data across a variety of reports and surveys. App market data provider App Annie, for example, reports that iOS users, as a rule, are far more likely than Android users to spend money in and on apps. An examination of total app downloads across all app categories in 2017 reveals that Android users accounted for 70% of total downloads, but generated only 34% of total app consumer spend. (Significantly, App Annie also tells us that "Games accounted for nearly 80% of worldwide consumer spend across iOS, Google Play and Third-Party Android app stores.")

APPLE USERS MORE WILLING TO PAY FOR APPS



Share of Worldwide App Downloads and Consumer Spend by App Store (in %)*.
Source: Statista

It would seem that iOS users are the prize. But a review of market data, collected and collated by Nebojsha Mitrikeski, independent researcher and Game Director at Snowball Games, indicates Android is coming on strong. "We're witnessing the rise of the Android market," he tells Liftoff in an interview. "It *is* finally happening." In 2017, for the first time, he reports the industry was "starting to see high-grossing games that make the same amount of IAP revenue on both platforms." As he sees it: "Android spenders do exist, they just need to be carefully targeted by UA because there is a lot of jitter and noise in the Android shops."

His observations dovetail with new findings from AppsFlyer. The mobile app tracking and attribution analytics platform teamed up with Facebook to examine differences between organic and non-organic traffic and the impact on lifetime value (LTV). Among the key findings: the performance gap between

iOS and Android is much smaller in Gaming than it is in Shopping and Travel apps. Specifically, revenue from an average iOS user is only 28% more than Android. It attributes this to the advancement of Android as a platform and the application of data-driven marketing by app marketers to target and trigger purchases.

When it comes to driving deep-funnel engagement, Android users are apparently a tough nut to crack. However, the massive growth of Android as a platform, which has pulled ahead of iOS boosted by 1.5 million new Android devices activated daily, will certainly reward app marketers who have the perseverance to try.

> “iOS users, as a rule, are far more likely than Android users to spend money in and on apps.”

Gaming App Engagement by Gender

A comparison of acquisition costs and engagement rates indicates males cost more and engage less compared to females, a demographic that has evolved to become both power users and super-shoppers.

While marginal differences in install costs ($3.66 for males and $3.84 for females) would indicate males are the bargain, a closer examination of conversion rates reveals females are in fact the most valuable gamers.

Take the middle-funnel stage of Registration. At $7.51, females cost 20.2% less than males to acquire. Even better, the conversion rates for females are 26% higher than for males. IAPs are also a stage where differences between males and females point the way to massive opportunity to buy low and sell high. At 16.7%, the install-to-purchase rate for females is an incredible 79% higher than for males. This is a far cry from the conversion rates (9.39% for females and 7.16% for males) Liftoff observed in 2017.

The message to app marketers: females are a premium user segment, so open the aperture of how you view and pursue this gender. But don't be blind to some of the more noteworthy differences between males and females, starting with game genre taste and preferences. DeltaDNA, an insight consultancy providing data analytics to help developers make games better, observes that "women have a strong preference for puzzle games, while men prefer strategy and action games." Casino games, it adds, are "near gender neutral."

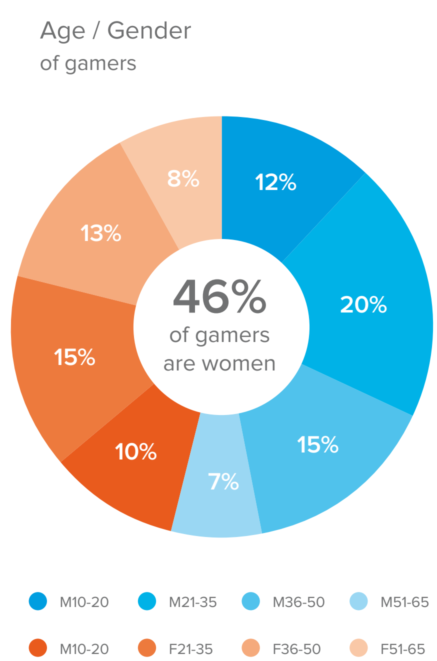
> "The install-to-purchase rate for females is an incredible 79% higher than for males."

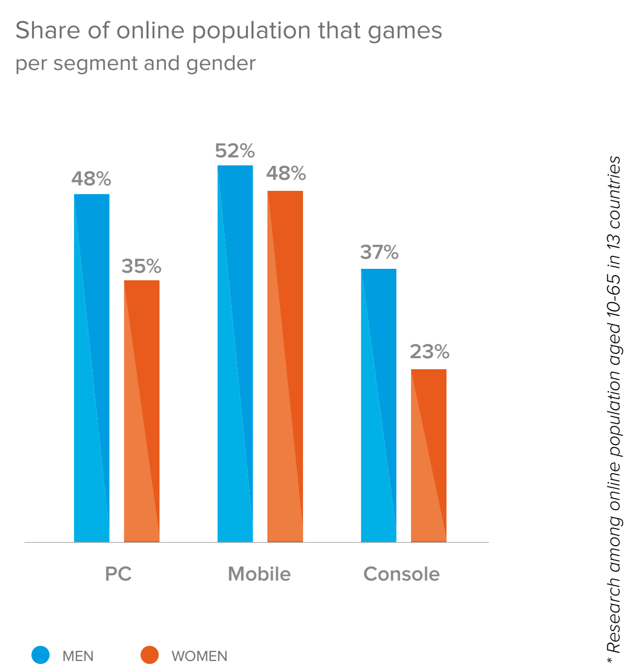
This has powerful implications for app marketers, particularly as recent data from games research firm Newzoo shows [“women are playing more than ever before.”] Significantly, males and females may be alike in their passion for mobile gaming apps, but they differ in how they discover them. This insight alone provides important clues on the contexts (and channels) where advertising (and targeting) can deliver positive results.

Specifically, Newzoo reports, social circles are key for female players, with 39% of them discovering a game through friends or family, and 20% through social networks. Males are a different story. “A comparatively low 27% discover games through friends or family. Instead, 26% of men discover new titles through review or game sites and 24% through online video channels.”

While app marketers should appreciate the obvious differences between males and females, they should not overplay them. Newzoo’s examination of the gender and age divide of all gamers shows “the gap between the two genders in the overall games market is narrow.” Mobile gaming apps are almost equally popular among males and

GAMING GOES MAINSTREAM

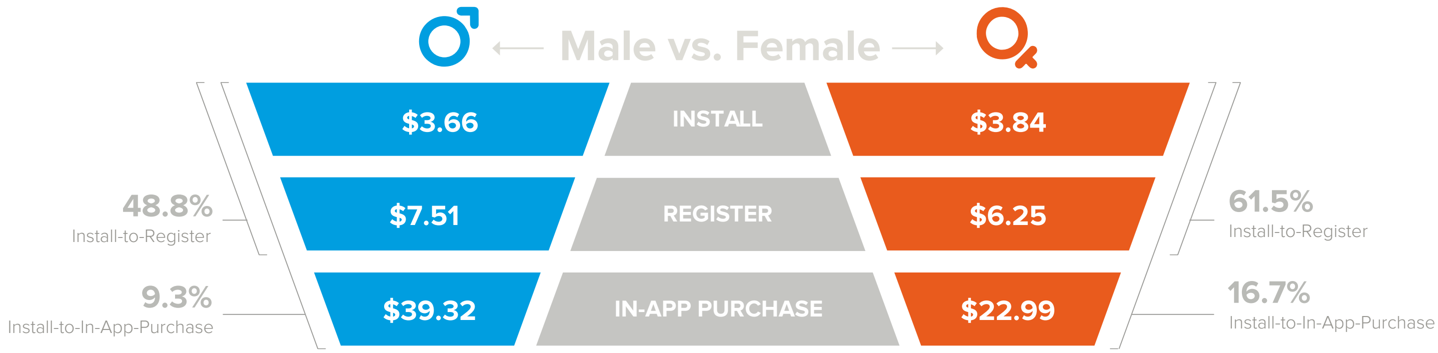




Demographic Insights on Gamers 2017

Source: Newzoo

GAMING APPS COSTS & CONVERSIONS BY GENDER



females, with “52% of males and 48% of females playing mobile games more than once a month.

In theory, that means more opportunities to reach and engage females with effective campaigns and appealing creatives. In practice, however, that isn’t happening—yet.

It may be that app marketers are focused on return-on-ad-spend (ROAS) and getting back the money their companies invested to produce strategy and action games which target males and—as a rule—are vastly more expensive and complicated to maintain than puzzle games, for example. Or it may be that app marketers, surprised by the shift in gaming behavior, have yet to adapt to the fact that females are playing in unprecedented numbers.

Either way, app marketers could be leaving money on the table. A recent study of gender in mobile gaming reveals that, of the top 100 grossing games on Google Play, the vast majority of icons feature male characters. Little wonder that 60% of women who play mobile games believe most games are not made for them. Based on this, the report concludes that “although women prefer mobile games more than men, the mobile gaming world has a long way to go before it’s truly inclusive.”

Indeed, there is a noticeable bias against female players that could be costing app marketers a bundle. From icons to creatives, app marketers are well advised to review their assets and approaches to make sure they have what it takes to attract, acquire and convert females.

Gaming App Engagement by Region

A review of costs and conversion rates suggests the action is concentrated in North America, but the future opportunity is in APAC.

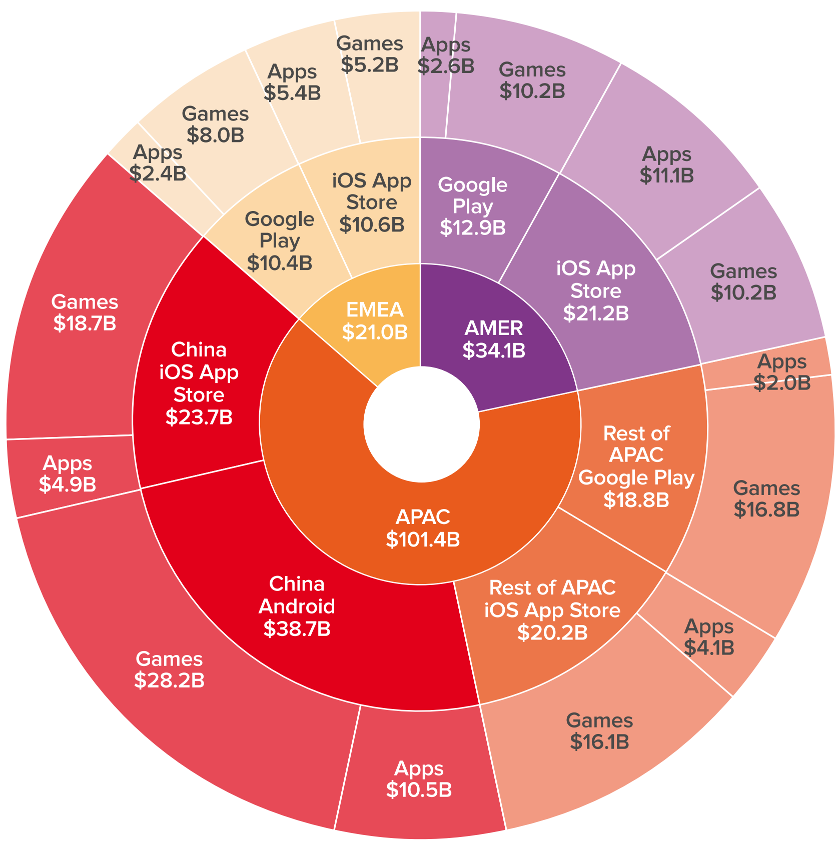
North America, the birthplace of iOS devices and the starting point for the tremendous growth of the global App Economy, is an advanced and mature market. It's also a market where mobile gaming apps compete with other forms of entertainment for two scarce resources: consumer attention and spend. Games may still be a hot item, but other app categories including Video (Netflix), Music (Spotify) and Social (Tinder) are also accounting for a more significant percentage of time and money spent. Against this backdrop, games research firm Newzoo forecasts games growth and spend will experience a slow down—albeit at an extremely high level.

In contrast, **APAC** is a market full of growth potential. Granted, there are important differences between the individual countries, with much slower growth (but higher spend) in mature markets like Japan and South Korea and much more rapid growth in China and Southeast Asia. But, on the whole, the region is booming.

It's dramatic growth that app market data provider App Annie calls out in its most recent data and a milestone report that recounts the data and events that shaped the last 10 years of the iOS app store. It was only two years ago that China overtook the U.S. to become the largest market by app store consumer spend, and the region has been the epicenter of dynamic growth ever since. In 2017, App Annie observes, China "dominated the charts," and nearly half of all top apps were owned by China-headquartered companies.

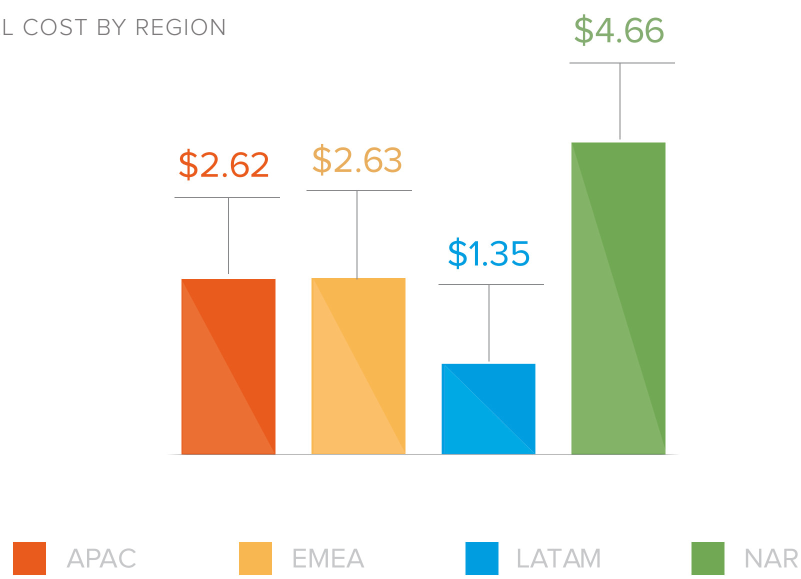
By 2022, App Annie forecasts APAC will account for 64.8% of app store spend and 72.4% of global downloads. Over half of the total will come from China alone. Moreover, mobile gaming apps will continue to "make up the lion's share of consumer spend" across all the app stores—iOS, Google Play and Third-Party Android stores in China.

APP STORE CONSUMER SPEND IN 2022



Note: Spend is gross; app store's fees are included
Source: App Annie

GAMING APPS INSTALL COST BY REGION

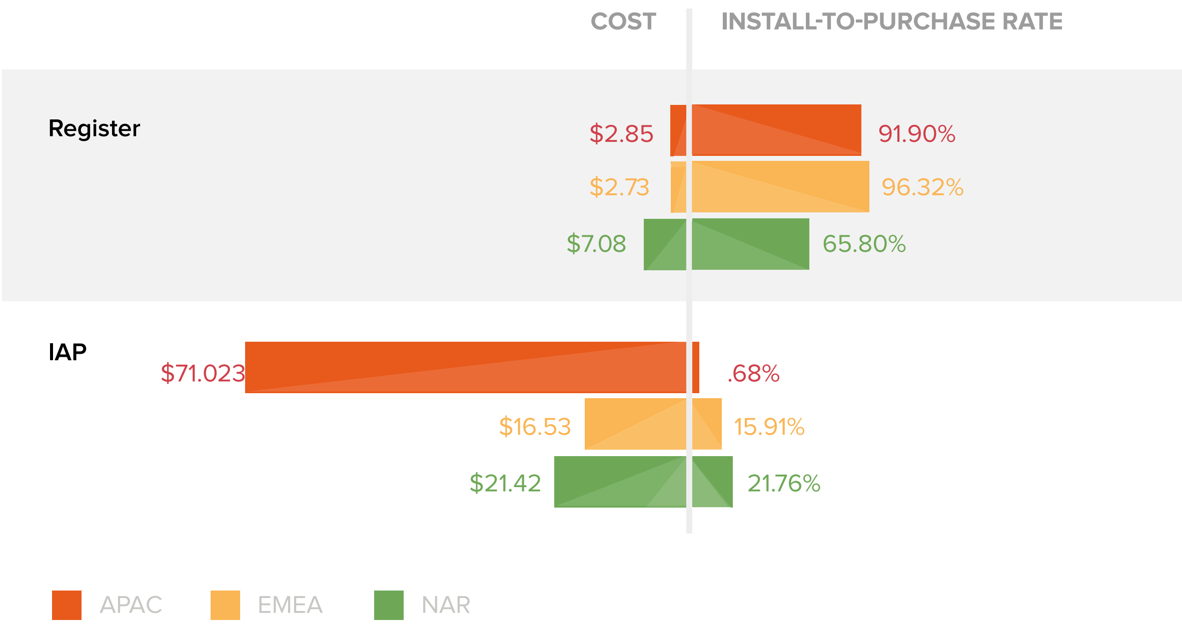


EMEA, a diverse region where slow economic growth in some countries, such as the U.K., Spain and Italy has limited app spend, is nonetheless united in its enormous and growing passion for mobile gaming apps. Traditionally, the region lags behind North America, but the gap is narrowing. App Annie forecasts app store consumer spend will total $21.01 billion by 2022, with mobile gaming apps accounting for more than half (63%) of revenues.

This dynamic is reflected in Liftoff data, which draws on costs and conversion rates to highlight significant differences and opportunities across the same three regions. The analysis breaks consumer spend down by region, providing invaluable insights app marketers can use to make sure they target key markets and "fish where the fish are."

At $4.66, the cost-per-install in North America is at the higher end of the spectrum, but it's also what you would expect in a mature and crowded market. A lot of mobile gaming apps chasing a lot of users at the middle-funnel stage of Registration also drives costs higher ($7.08) and engagement rates lower (65.80%). Significantly, costs and conversions for in-app purchases are quite the opposite. At $21.42 the cost to acquire a user who makes an in-app purchase is moderately higher than the cost in EMEA ($16.53). But it's an outright steal compared to the massive $71.02 price tag attached to users in APAC. They come in at a whopping 3X the cost and engage at the incredibly low rate of 3.68%.

REGION: REGISTER & PURCHASE COSTS AND CONVERSIONS



This is quite a departure from the previous year. Compared to 2017 data the cost to acquire a user in APAC who makes an in-app purchase ($50.28) has increased by 41%. Over the same period, this cost has declined in both EMEA and North America, indicating that data-savvy app marketers may have become more adept at reaching and influencing their target audience. The data doesn't say for sure. But the data does reveal a shift in conversion rates for the better. Overall, at 21.76% the install-to-purchase rate in North America has nearly doubled from the previous year (11.96%). It's an even more dramatic story in EMEA. There install-to-purchase rates have nearly quadrupled, hitting a high of 15.91% up from just 3.32% the previous year.

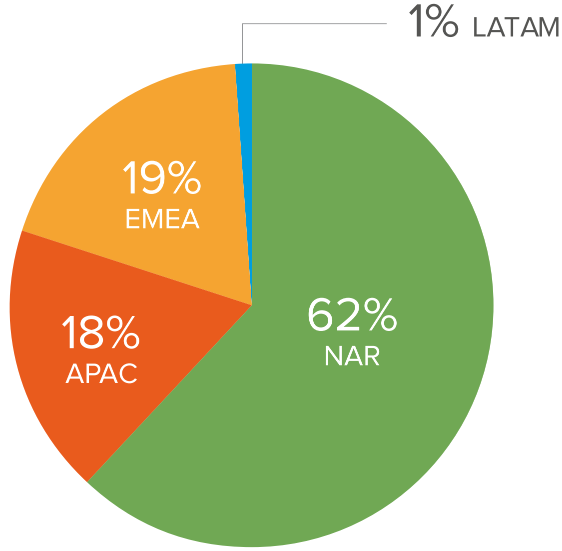
Industry data on **LATAM**, a market on the move, is sketchy. Many companies skim over the region entirely, and the fact that Liftoff lacks complete data on engagement rates likewise shows that gaming companies and app marketers (whose campaign data feeds into Liftoff insights) are not focusing a great deal of attention or spend on acquiring and converting users in the region.

A review of campaign spend by region underlines the disconnect, showing that only 1% of the total spend is focused on LATAM compared to other regions.

Significantly, 62% of campaign spend is concentrated in North America. EMEA (19%) and APAC (18%) tie for a very distant second place.

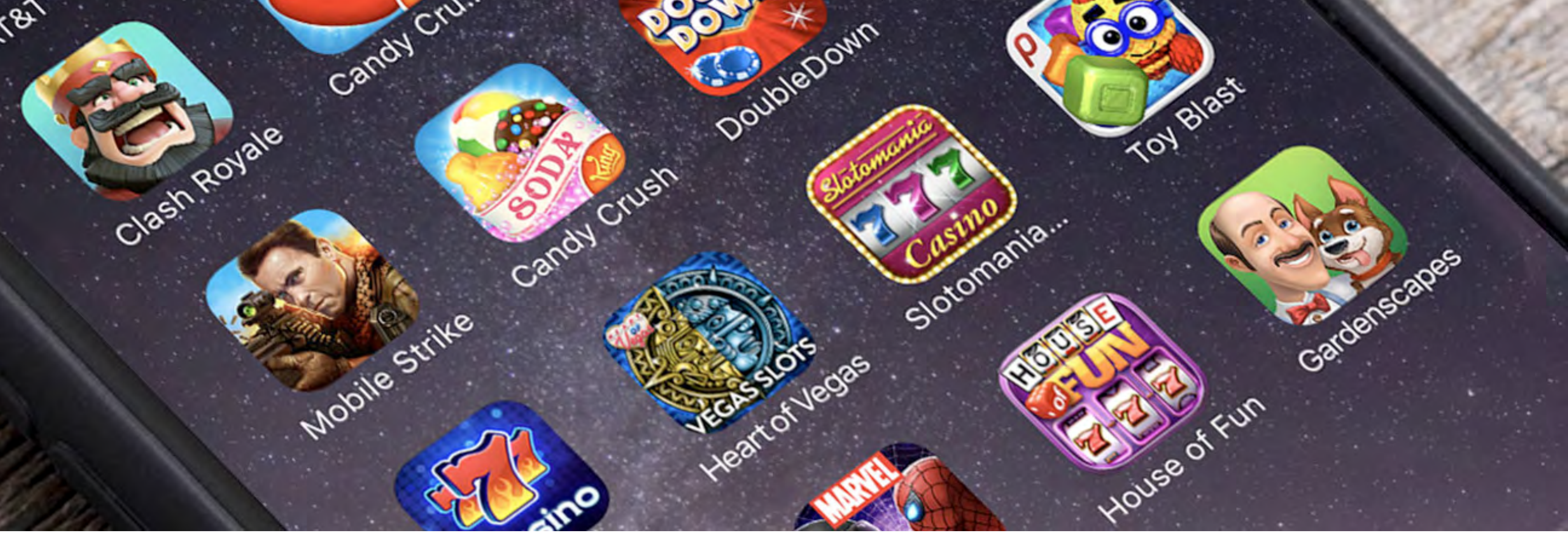
Coming from a relatively low base, the growth of the total app market in LATAM can be characterized as slow and steady. But a closer look reveals subtle differences and exciting opportunities. (No doubt linked to the low cost-per-install, a data point Liftoff pegs at just $1.35.)

CAMPAIGN SPEND BY REGION



Consider the overall mobile market potential of LATAM, a hot topic at the 2018 Nordic Games conference. The region is home to a population of 650 million, 210 million of them gamers split evenly between male and female players. LATAM, led by growth in Mexico and Brazil, is a market full of promise. Presenters at Nordic Games need little convincing. Their decks highlighted eye-watering year-on-year games revenue growth rates of 13.5%, resulting in a market worth an impressive $5 billion.

There is merit in "fishing where the fish are"—and that's why North America has the edge. But there is also value in building competitive advantage in untapped markets and "blue oceans." Your strategy and priorities will always depend on your category of app and your company goals, but the promise and potential of markets outside North America, specifically APAC and EMEA, should encourage app marketers to move out of their comfort zone to explore opportunities before their competitors get wise–and move fast.



Monthly Trends

Cost-per-Install by Month

Seasonality is a factor that continues to impact acquisition costs and cost-per-action. However, a closer examination of the data reveals important windows of opportunity when app marketers can drive positive results without draining budget.

At a high level, it's interesting to note the monthly CPI trend is nearly identical to the pattern observed in the 2017 Gaming Apps Report. Predictably, the peak season is around the holidays, a period when users are unpacking smartphones they received as gifts and spending a multitude of micro-leisure moments exploring the wealth of gaming apps at their fingertips.

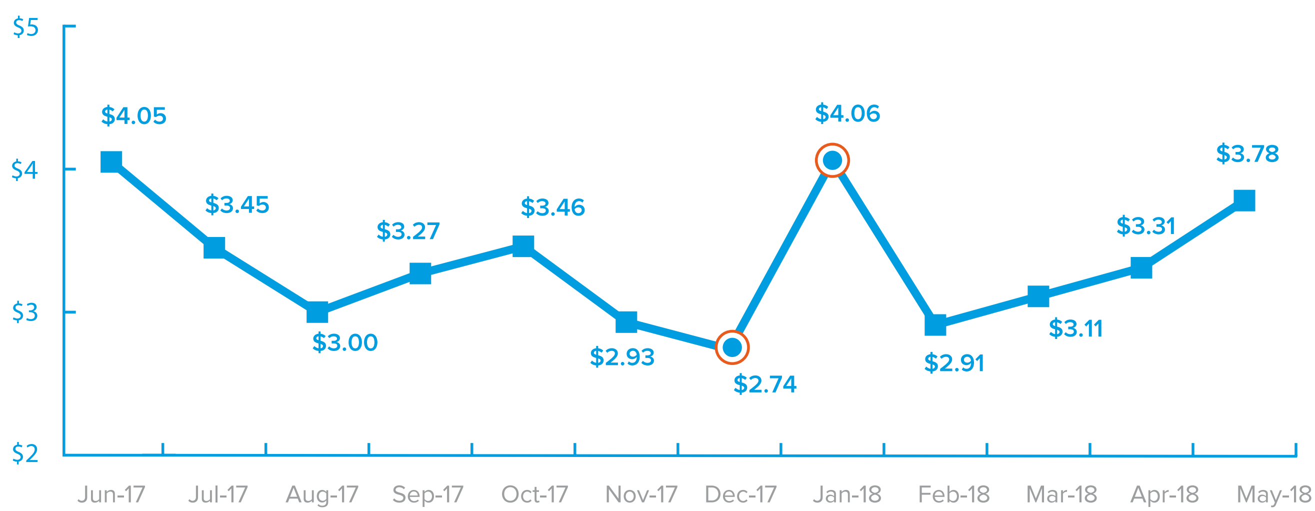
App marketers have a choice. They can choose to compete for users—and pay increasing CPIs–in the run-up to the holidays when users' attention is likely riveted on mobile gaming apps. (Although data also shows other forms of entertainment, such as streaming music and video are also competing for time and money spent.) Or they can target different periods, such as summer (notably August when CPIs

> "App marketers can choose to compete for users—and pay increasing CPIs — in the run-up to the holidays. Or they can target different periods, such as summer."

hover around $3.00), when users are wrapping up vacations and staycations and turn their attention to finding fun ways they can end the season on a high note.

Even better is the month of February, when CPIs are $2.91 and users appear to have shifted focus from fresh starts and New Year's resolutions and put life goals on the back burner. Maybe they are playing games to pass the time left after attempts to find new partners or friends didn't work out. Or perhaps users are treating themselves to quality entertainment, downloading games as a reward for making tough decisions and sticking to them. The data can't tell us for sure. But it does highlight several months when app marketers can count on acquiring users at bargain prices.

GAMING APPS AVERAGE COST-PER-INSTALL BY MONTH



Registration Cost and Engagement by Month

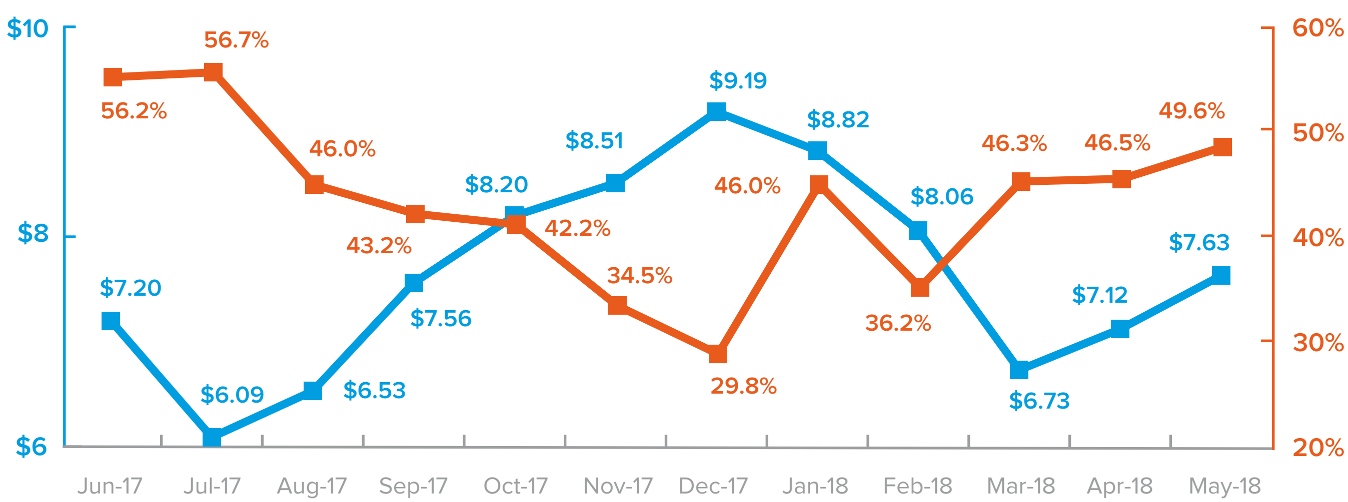
Of course, the real payoff comes when app marketers can buy low and engage high. An examination of Liftoff cost and conversion data at the middle-funnel stage of Registration reveals several months when conditions are conducive to achieving both.

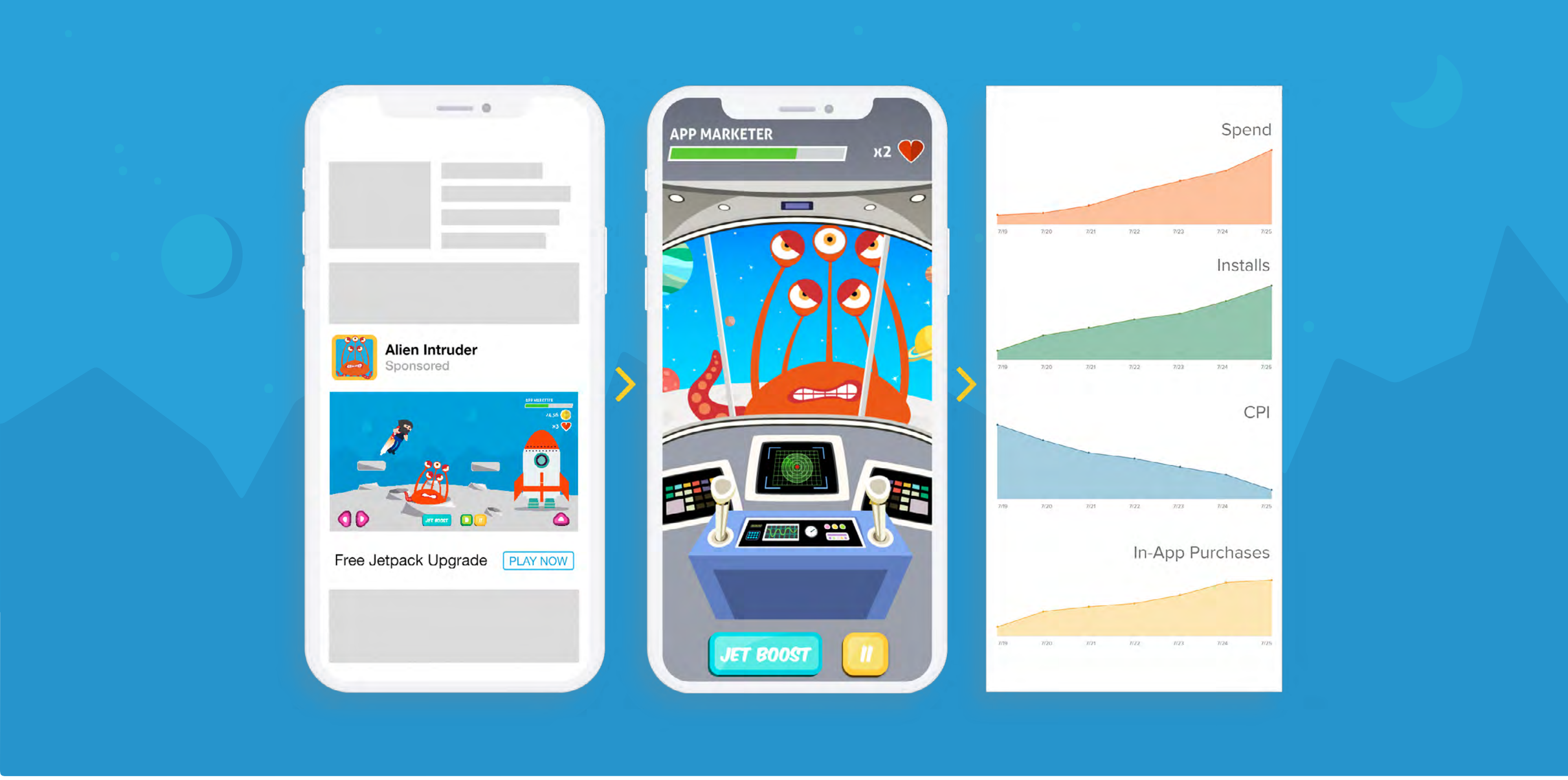
One such month is July, when the cost to acquire a user who completes a registration hits a low of $6.09, and the install-to-register rate soars to a high of 56.7%. July is also a late summer month when downtime is abundant. Strict routines give way to vacations, staycations or just a general winding down of the daily grind of work, school or college. With some extra time on their hands, users are more open to interacting with gaming apps and inputting the information that paves the way for deeper funnel engagement and—ultimately—in-app purchases. Whether users are on the beach, stuck at the airport or just eager for a change of pace, gaming apps can provide on-demand entertainment to match the moment.

After July, costs increase and engagement decreases, a dynamic that indicates users are settling back into the routine that demands a bigger chunk of their attention. Work, school and the run-up to the holiday shopping season occupy users' minds. Moreover, new seasons of favorite shows on Netflix or new releases of films leave less downtime. January, a month synonymous with fresh starts, is a month when users are receptive to checking out new gaming apps. But engagement has a high price. The install-to-register rate hits an impressive 46%, but registration costs rocket to $8.82 as other apps and app categories compete for user attention.

Hot competition for eyeballs and audiences cools after January, driving a dip in costs that unfortunately coincides with a decline in engagement rates. Campaigns in March, however, benefit from a readjustment. Costs hit an acceptable $6.73, and install-to-conversion rates climb to 46.3%. In many ways March is a mirror image of July, indicating that uneventful months are perhaps the best times to target in order to grab user attention and encourage interaction with your gaming app.

GAMING APPS REGISTRATION COSTS & CONVERSIONS BY MONTH





In-App Purchase Cost and Engagement by Month

Driving registrations is about capturing user attention and trust; driving in-app purchases is about capturing share of wallet.

It's all about pinpointing the right times to influence behavior and encourage the all-important impulse buy. An obvious match is the winter holiday season, a time when splurges and sprees are part of our collective default state.

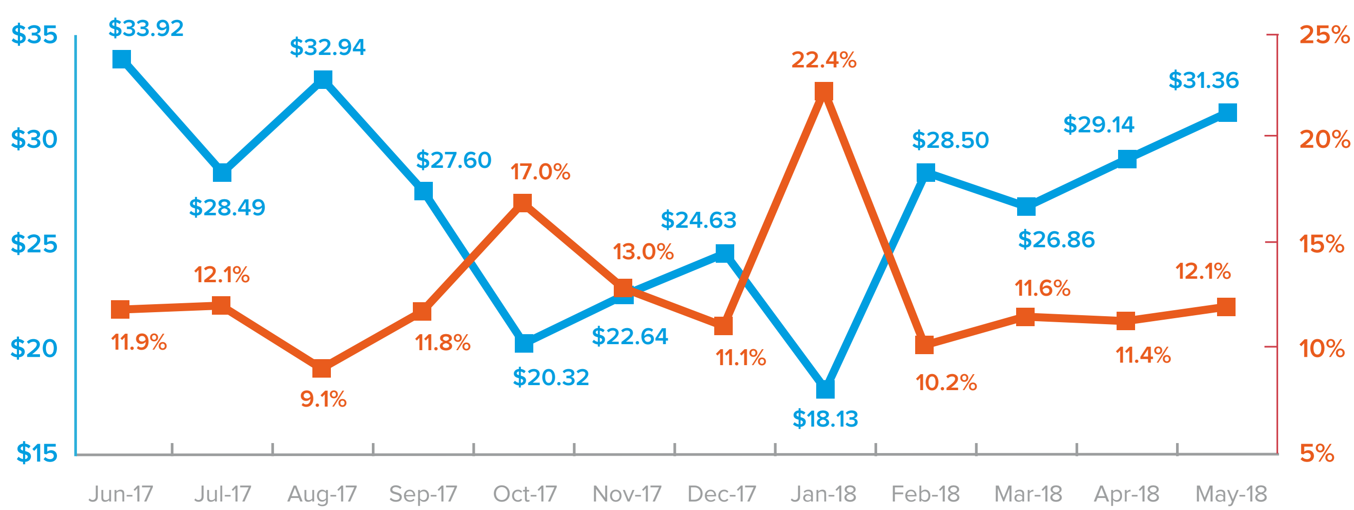
It's a time to buy apps of all kinds, especially games, which is why Apple reported a "record-breaking holiday season" in 2017. Indeed, app and games shopping was bigger than "ever before," culminating in $300 million in purchases made on New Year's Day 2018 alone. Apple further reported that total spending on apps (purchases and downloads) during the holiday week beginning December 24 hit an astronomic $890 million.

This dynamic dovetails with Liftoff data that shows install-to-purchase rates reach their highest point (22.4%) in January. Importantly, acquisition costs are also low as many apps, not just gaming apps, appear to have dialed down their holiday spend. While the window of opportunity is wide open in January, it shuts abruptly in February, when engagement rates drop by 54% to hit 10.2%, and acquisition costs rise through the roof to reach $28.50. Two explanations for this spring to mind. It could be that users are reserving spend for other events, such as Valentine's Day. Or it could be that engaging and entertaining campaigns worthy of their attention, which were in over-supply during the holidays, have lost their mojo.

Another month worth noting is October when app marketers can buy low ($20.32 IAP) and engage high (17.0%). But rather than focus efforts on months that offer opportunities, such as October and January, app marketers should also ask themselves if they can do more to drive sustained purchases all year long.

The emergence of games as the most popular form of entertainment in the world and the recognition that consumers, because of mobile, are "never not shopping" are developments in our culture and our "selves" that have a profound impact. Campaigns that target our growing passion for games or our willingness to dip in and out of mobile offers during our multitude of micro-leisure moments have a higher likelihood of reaching us in a context that matters to us as individuals. Granted, seasonality has some influence on user behavior and preferences, but it doesn't dictate them.

GAMING APPS IN-APP PURCHASE COSTS & CONVERSIONS BY MONTH



Engagement by Gaming Subcategory

Gaming apps are growing in number and variety at a rapid rate. In the process, they have not only evolved in terms of graphics and mechanics.

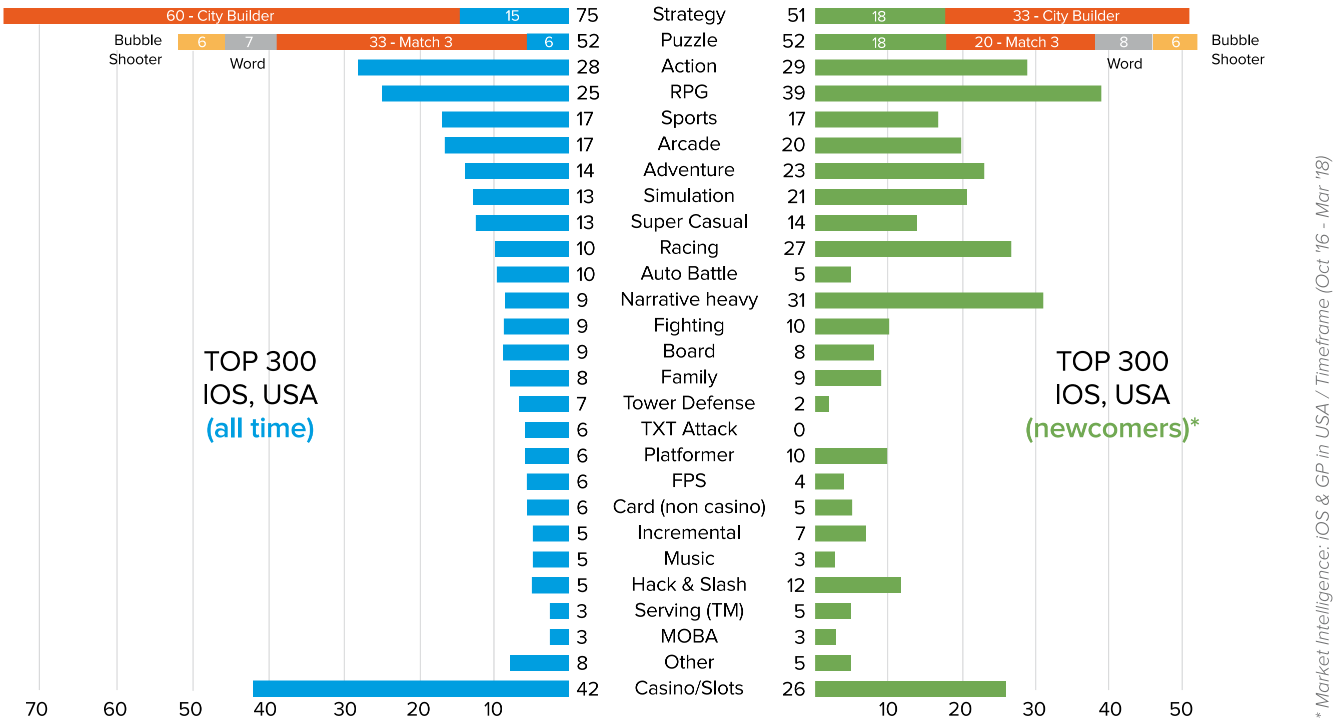
Acquisition Costs and Engagement by Subcategory

Today gaming apps also span many genres that target an even greater number of audience segments, personas and player types. In this expanding market gaming companies can win big with blockbuster titles or build a sustainable business catering to "long tail" tastes.

The route you choose will always depend—first and foremost—on your business goals. But it's also helpful to know which app categories are crowded and competitive, and which ones are full of potential. With this in mind, Nebojsha Mitrikeski, independent researcher and Game Director at Snowball Games, decided to move beyond the app store rating and rankings to determine the *real* winning games types and categories.

Drawing on data provided by Apptopia and the results of personally playing and testing both the all-time top 300 grossing games in the U.S. Apple App Store and the top 300 grossing games from newcomers, Nebojsha shows that Strategy and Puzzle game genres lead the pack. Casino and Slots games also enjoy a top-notch spot in the all-time hits list.

USA TOP GROSSING GAMES: THE REAL GAME TYPES



Source: Snowball Games

Serendipitously, the genres that have proven crowd appeal are also a match with the leading gaming app subcategories Liftoff has chosen to detail in its breakdown of data by acquisition costs and engagement rates. Map this data to a deeper understanding of the defining characteristics of each gaming subcategory and some intriguing patterns emerge.

At a high level, the more involved the gameplay (for example, Strategy), the more effort (and expense) needed to acquire users who will go the distance. However, the opposite is also true.

The less demanding the gameplay (for example, Casual), the less the cost.

This can be linked to a number of factors:

GENRE: Strategy games are as common as fish in the ocean, but only 10% of all app users across all gaming categories combined are whales. Are app marketers up against tough odds from the get-go? Fierce competition and complex gameplay might explain why this group also has the highest CPIs ($5.75) and the highest cost-per-purchase ($41.76). Casual games, on the other hand, are also common, but they don't require substantial time commitments. Onboarding is a breeze and players can be up and running (and paying) in no time. Might this explain why installs are a steal at just $3.12 and install-to-purchase costs ($27.05) are the lowest of the group?

GENDER: Males gravitate to Strategy games while females prefer Casual. Earlier sections in this report show males are expensive to acquire and suggest females may be excluded from many campaigns and creatives. Could app marketers be painting themselves into a corner? Again, it certainly goes a long way toward explaining the significant difference in install costs.

INTENT: Casino games are gender neutral, but users of both sexes engage with this subcategory with a goal in mind. Whether it's a chance to win at Poker or the opportunity to make a bet on the outcome of a championship soccer game, users understand the value proposition. This might explain why costs are moderate across the gaming funnel, and less than those of Strategy games, where the benefit is less clear-cut.

It's a similar story for conversion rates. Casual games, the easy, breezy subcategory that users can dip in and out of as and when they please, don't require a lot of commitment. Casual games have to convince users to come back, and they have to rise above the noise in a crowded market space. Little wonder that they come in cheap but also at the lower end of the scale with the lowest engagement rates in the group.

GAMING APPS COSTS BY SUBCATEGORY

	Casino	Casual	Strategy
INSTALL	$5.24	$3.12	$5.75
REGISTER	$6.88	$8.47	$6.17
IN-APP PURCHASE	$30.36	$27.05	$41.76

> “Casino games offer a chance to win, and users will pay for the privilege. This helps explain why the install-to-purchase rate for this subcategory leads the group with an impressive 17.3%.”

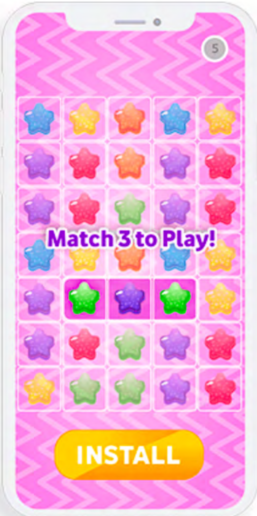
Casino and Strategy games are subcategories with a purpose that demands user attention and buy-in. Casino games offer a chance to win, and users will pay for the privilege. This helps explain why the install-to-purchase rate for this subcategory leads the group with an impressive 17.3%.

Strategy games may start out as a hard-sell, but they are also addictive. Overall, it’s a subcategory that enjoys massive and lasting appeal among highly engaged and loyal “tribes” who tend to play these games over months, even years.

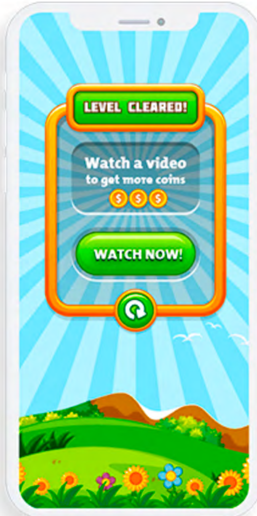
Of course, exploring all the possible reasons and scenarios to explain the differences in costs and conversion by subcategory is beyond the scope of this report. The purpose here is not to answer the “why” question. The aim is to provide app marketers with a benchmark, allowing them to gauge campaign efforts and set performance goals they can optimize to moving forward.

GAMING APPS CONVERSIONS BY SUBCATEGORY

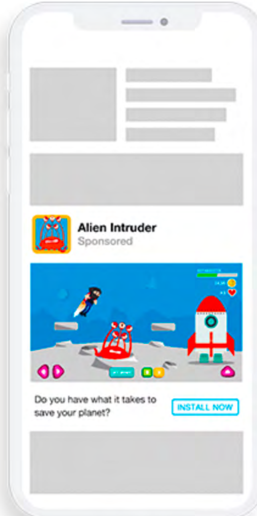
	Casino	Casual	Strategy
INSTALL-TO-REGISTER	76.1%	36.8%	93.2%
REGISTER-TO-IAP	17.3%	11.5%	13.8%



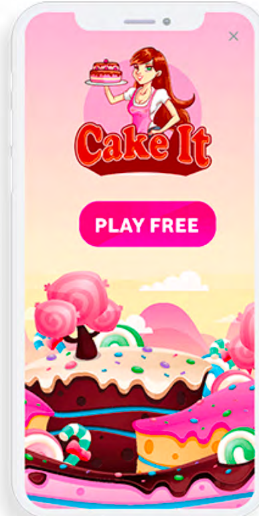
Playable



Rewarded video



Native



Video

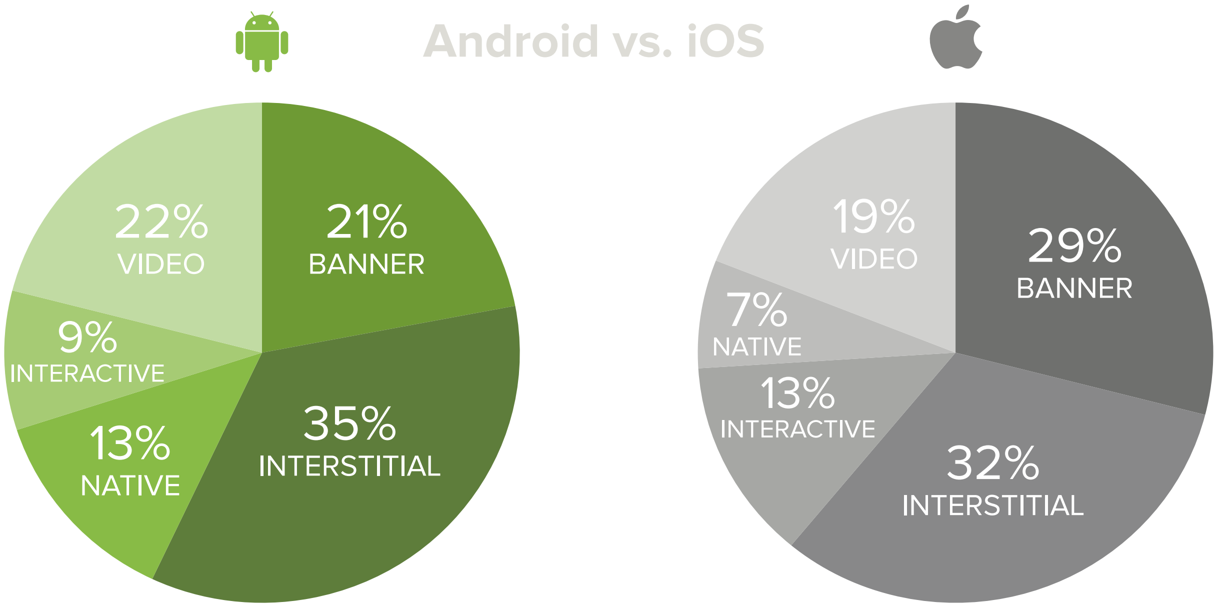
Gaming Ad Spend by Ad Format

For the first time, Liftoff examines acquisition and engagement costs across the Gaming funnel, breaking down the data by platform (iOS and Android) and ad format (Banner, Interstitial, Native and Video).

At a high level, the breakdown of ad spend by format–a data snapshot based on the last 30 days–shows that app marketers focus the majority of their spend on static formats (banner and interstitial). This combination accounts for 56% of ad spend on Android and 61% of ad spend on iOS.

The choice is a safe one. Banner and interstitial ads are familiar territory for most app marketers who cut their teeth in digital marketing on the web. More importantly, these ad formats are universally understandable and accessible by users everywhere on the planet—regardless of whether they have a high-end device or a low-end legacy smartphone. This is particularly important for the 2.3 billion Android users on the planet–many of whom are using phones that are two or more years old.

AD SPEND BY FORMAT: ANDROID VS IOS



Granted, static ads bridge the digital divide, but they also top the list of mobile ads that tend to annoy users most. In fact, a recent Brand Receptivity Neuro Lab Study, which was designed to help marketers understand how consumers react to and engage with different ad formats using technology to monitor people's neuro and biometric responses before, during and after the delivery of a mobile ad, found that users respond negatively to intrusive ads.

The emotional response to a full-page interstitial ad is off the charts, resulting in pupil dilation, increased heart rate and other biometric data that shows this ad format actually activates the brain's "fight-or-flight" center. But static ad formats are not just annoying. A 2017 survey of mobile users in the U.K. places them among the ads users are also most likely to forget.

While app marketers can harness better ad creatives and approaches to get more value out of banners and interstitials (perhaps even reinforcing the message with emails or more personalized push notifications once users opt-in and provide that information), there's plenty of mileage in more interactive and innovative formats such as native and video.

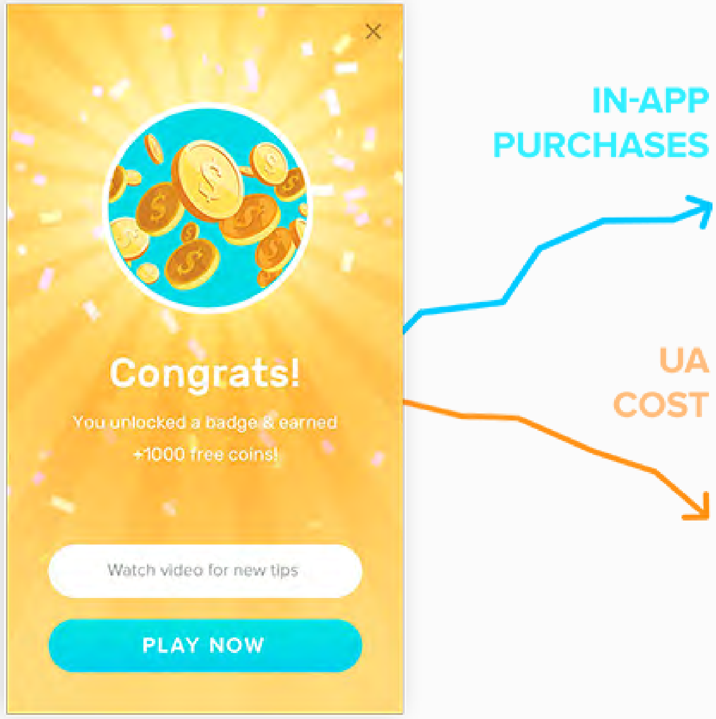
> Consumers engage with native ads 20-60% more than standard banner ads. Native ads are less likely to lead to user churn and ad fatigue.

According to research from global business analyst IHS Technology and commissioned by Facebook's Audience Network, nearly two-thirds (63.2%) of all mobile display ads will be native by 2020. And for a good reason. The same study found that consumers engage with native ads "20-60% more than standard banner ads." Native, the report observes, is less likely to lead to user churn and ad fatigue.

More importantly, it's an ad format that drives higher retention rates (up to 3x), eCPMs (up to 2x) and click-through rates. Based on the benefits and current rates of uptake among advertisers, the researchers forecast native will account for $53 billion in total advertiser spend by 2020. With so much promise and potential, it's surprising that native accounts for such a comparatively small percentage of current spend. Specifically, Liftoff data shows native accounts for 13.4% of ad spend on Android and just 7.5% on iOS.

Perhaps it's early days, or maybe gaming app marketers have yet to grasp the mechanics of social and storytelling to get the most out of their campaigns. The data doesn't say for sure.

Video appears to be more ready for prime-time. Liftoff data indicates app marketers are becoming aware of the opportunity, which is why this ad format already counts for 22% of ad spend on Android, and 19% of ad spend on iOS. While this data snapshot doesn't provide clear evidence that video ads are the ones to watch (no pun intended), a review of market data confirms that video advertising is "rising up to take a central role in influencing and enhancing the purchasing process." It's why mobile measurement company Zenith forecasts mobile video ad spending will grow 49% to nearly $18 billion this year, while fixed online video ad spending is expected to decline 1.5% to $15 billion.



Spotlight on Rewarded Video

One type of video ad that quite literally pays dividends is rewarded video.

The ad format, which gives players the opportunity to watch an ad in exchange for a reward within the game, satisfies both stakeholders. For publishers looking to reduce their dependency on in-app purchases, which are great to earn but harder to encourage, rewarded video offers an effective monetization tool.

Players, on the other hand, gain additional benefits in the game without having to wait or pay. In fact, a recent user survey from video ad network Unity Ads reports almost 80% of players are open to engaging with a video ad for an in-game reward. The same study found that "less than 1-in-10 developers saw retention drop after introducing rewarded video ads. Little wonder that Unity Ads hails rewarded video as the market's "hottest revenue generator."

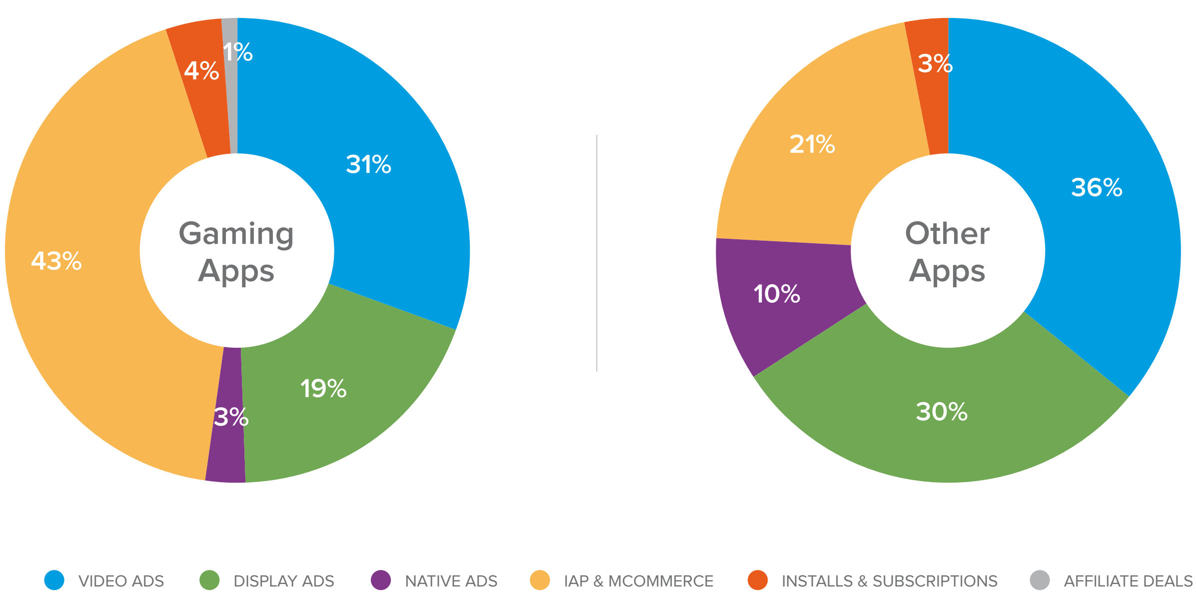
How big is the surge toward rewarded video and how much does it deliver?

Global real-time advertising platform [Smaato draws from 2017 data] to offer some answers. It reports that spending on rewarded video by its clients has more than doubled (153%). Impressions from rewarded video are up 96%, and eCPMs are up 48%. Much of the growth came from gaming apps.

Liftoff data from the last 30 days (June 27 through July 26) shows that rewarded video accounts for just under 17% of total ad spend. As this is a snapshot, it's not possible to evaluate the trend or calculate the growth trajectory. Fortunately, a wealth of third-party research has already made that case crystal clear.

Mobile video ad network [AdColony reports that], on average, video ads drive a significant share of publisher revenues (31% for gaming apps and 36% for non-gaming apps). Moreover, a March 2017 survey by the same company found that game publishers believe rewarded video offers the best user experience, with 75% calling it out as the most effective monetization method for mobile. IAPs came in second place with 63% and interstitials (44%) came in a distant third.

THE REVENUE DIVIDE: GAMES VS OTHER APPS



Advertising Provides 76% of Revenue for Non-Gaming Apps
Source: AdColony

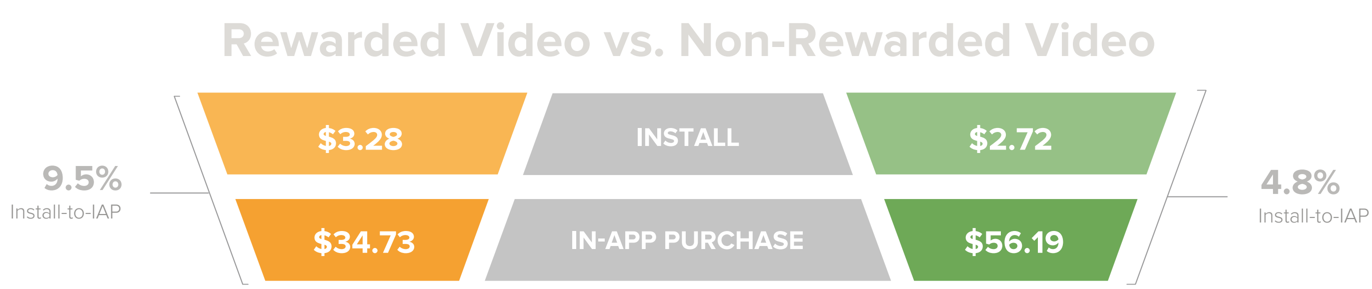
“CPIs may not be the biggest bargain–but there’s tremendous value in using rewarded video to motivate and activate quality users.”

Clearly, rewarded video is an extremely effective ad format. But it’s also more expensive. Liftoff’s data snapshot confirms what you would expect: added-value comes at a higher price tag. At $3.28, CPIs for rewarded video are 20.5% more than for non-rewarded video ads ($2.72).

Focus only on the cost-side of the equation and you might be blinded to the impressive conversion rates that result when you present users with an ad format they accept and appreciate. No dilated pupils, no heavy breathing. Just quiet contemplation as users view an ad format that can enhance gameplay, not interrupt it.

This dovetails with Liftoff conversion data which shows conversion rates for rewarded video (9.45%) are double the rates for non-rewarded video (4.84%). Even better, the cost to acquire users who will take an action after viewing a rewarded video is significantly less. Do the math, and CPIs may not be the biggest bargain–but there’s tremendous value in using rewarded video to motivate and activate quality users.

GAMING APPS COSTS & CONVERSIONS BY VIDEO AD TYPE



Harry Bienenstock

Digital Marketing Manager, WSOP

Playtika

Rewarded video is crushing it and Playtika's Harry Bienenstock helps you place your bets–and your priorities.

The data shows rewarded videos is a top performing ad format across the board. It contributes to increased revenues for app companies and a better quality experience for users, who prefer the ad format to all others. There's a lot to win and a lot at stake.

To help you place your bets and map out a strategy that will ensure you get the most mileage and value out of your rewarded video spend, we get a crash course with [Harry Bienenstock, a Mobile Hero] and a digital marketing manager specializing in user acquisition for Playtika, the world's largest social casino gaming company. Harry is responsible for the #1 mobile poker game in the U.S., World Series of Poker (WSOP). He draws from six years of experience in digital marketing–previously working in affiliate management and digital marketing for iGaming then moving into user acquisition in social casino gaming—to share his pick of the top 4 factors you need to have top of mind.

VIDEO FORMATS: More formats = more reach. Videos come in a variety of formats, so make sure your videos fit the medium and the message. Landscape and portrait are a must if you want to tap into all of the available inventory. But it doesn't pay to scrimp on square, the most popular format for social and channels including Facebook and Google AdWords. Having one video in three formats is by far the most cost-effective approach. To save time and money when you're creating videos (either in-house or outsourcing), give the team the direction and edits for the video, then when finalized, have them create a version across all sizes.

VIDEO LENGTH: Time is money. Approach rewarded video as you would if you were advertising on TV. You're laying down cash upfront for airtime. But there's a big difference playing in your favor: your audience can't click away. You have up to 30 seconds with an engaged audience (that you're paying to be in front of in the first place), so make the most of it. Don't short-change yourself or your app business by using shorter clips.

CREATIVE: Tell a story. The best video ads use the full 30 seconds to tell a story, so do exactly that. Storyboard your clip and follow the same steps

you would if you were producing a short film. That means starting with an introduction, followed by rising action, a climax, and—most importantly–a conclusion. Repurpose with a purpose. Rewarded video should capture user attention with the help of effective and–above all–proven creatives. Aim for brand consistency and harness elements and images that are already delivering results as part of your app preview videos, Facebook videos or other ad units. Mix and mash it up to produce a compelling video. But don't get carried away with bells and whistles. Make sure the final cut resonates with your users, and it's not just what your marketing team thinks looks good.

USER QUALITY: Buy the best users. Even the best videos can miss the mark if you don't focus on hitting the right audience. Follow the numbers to ensure you are both netting and converting high quality users. Research shows rewarded video is the ad format that can attract highly engaged users from the get-go, so check your metrics (monetization, retention and engagement) to make sure they measure up. If a source delivers lower quality users, then pay less for them, or else you'll find yourself acquiring lower quality users at a lousy price point.

The bottom line: *If you think you can buy low CPIs and bet on high engagement rates, then think again. Rewarded videos may not be a bargain, but the payoff is worth it. Get it right, and you can even foster lasting loyalty to your game.*

Conclusion

COSTS & CONVERSION RATES: Lower costs and higher engagement rates signal a positive and promising development that bodes well for marketers determined to inspire and influence users at intent-rich moments (Registration and IAP) after the install. Significantly, the install-to-purchase rate of 13.4% represents a massive 67% increase over the previous year. At $28.05, the cost to acquire a user who completes an IAP is almost a bargain compared to the $50.69 price tag in 2017.

PLATFORM: Overall, iOS users come at a higher price. But high engagement rates suggest iOS users also offer app marketers better value for money. While iOS users are not rushing to register, they are eager to purchase. At 21%, IAP conversion rates are nearly double that of Android users (10.8%). There's no denying that when it comes to driving deep-funnel engagement, Android users are not easy to convince. However, the massive growth of Android as a platform offers marketers a good reason to try.

> “The more involved the gameplay (for example, Strategy), the more effort (and expense) needed to acquire users who will take action deeper in the funnel.”

GENDER: At first glance, marginal differences in install costs ($3.66 for males and $3.84 for females) would indicate males are the bargain. But a more in-depth examination of conversion rates reveals quite the opposite. At 16.7%, the install-to-purchase rate for females is an incredible 79% higher than for males.

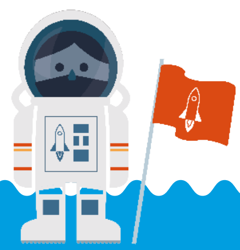
REGION: At $21.42, the cost to acquire a user in North American who makes an in-app purchase is moderately higher than the cost in EMEA ($16.53). But it's an outright steal compared to the massive $71.02 price tag attached to users in APAC. Overall, a review of costs and conversion rates suggests the action is concentrated in North America, but the future opportunity is in APAC. EMEA is a market on the move and app marketers would be wise to move out of their comfort zone to explore opportunities in the region before the competition heats up.

MONTHLY TRENDS: Seasonality is a factor that continues to impact acquisition costs and cost-per-action. However, the data reveals important windows of opportunity when app marketers can drive positive results without draining budget. One such month is July, when the cost to acquire a user who completes a registration hits a low of $6.09, and the install-to-register rate soars to a high of 56.7%. Another month worth noting is October, when app marketers can buy low ($20.32 IAP) and engage high (17.0%).

GAMES BY SUBCATEGORY: A breakdown of data by acquisition costs and engagement rates shows these metrics are inextricably linked with the defining characteristics of gameplay. In a nutshell, the more involved the gameplay (for example, Strategy), the more effort (and expense) needed to acquire users who will take action deeper in the funnel. However, the opposite is also true. The less demanding the gameplay (for example, Casual), the less the cost—but the greater the competition for user attention and loyalty.

AD FORMAT: A data snapshot based on the last 30 days of Liftoff data shows that app marketers focus the majority of their spend on static formats (banner and interstitial). This combination accounts for 56% of ad spend on Android, and 61% of ad spend on iOS. Rewarded video accounts for just under 17% of total ad spend. More importantly, conversion rates for rewarded video (9.45%) are double the rates for non-rewarded video (4.84%) and the cost to acquire users who will take action after viewing a rewarded video is significantly less.

* GAME OVER *



LIFTOFF

Liftoff is a full-service mobile app marketing and retargeting platform which uses post-install data to run true CPA-optimized mobile user acquisition and retention campaigns. With Liftoff, campaigns are optimized to drive specific actions beyond the install, to acquire users who engage in more profitable post-install events like booking a hotel, subscribing to a service or making a purchase.

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