Ultimate Growth Hacking Guide for Mobile App Developers

What is growth hacking?

Mobile app developers that can master the art of growth hacking can also typically master the art of profitability.

Growth hacking is more than just bolstering user acquisition; it's an interdisciplinary practice that spurs development teams to:

- Draw the most relevant and profitable new users to download an app;
- Create compelling features and content specifically targeted to existing users to keep them engaging with the app regularly; and
- Develop product value and psychological hooks that encourage users to spend time and money in the app to optimize monetization.

There's both an art and a science to growth hacking for mobile apps. The best growth hackers adjust their tactics based on innovative hunches—but they use analytics and metrics to prove or disprove their hypotheses. Using those numbers, they refine app features, app store content, advertising, and user interactions accordingly.

This kind of metrics-driven, rapid experimentation means that successful growth hackers aren't simply trying everything and crossing their fingers in hopes that something leads to growth, but they are highly analytical and meticulous throughout the entire process, from forming hypotheses and experiments to analyzing and implementing results.

Organizations that do it well are disciplined with their approach. And they are financially rewarded as a result. This guide is meant to help you emulate the best and start growth hacking like a pro.

How growth hacking differs for mobile developers

The idea of growth hacking has been around for a long time in software development and general business environments. The driving philosophy is universal, but in mobile app development there are some unique considerations to keep in mind.

Rapid rates of change in the market: User habits, mobile platforms, devices and market conditions are in a constant state of transition

Low barrier to entry for competition: It's easy to develop and submit an app and app stores are cluttered with competitors and digital noise

Low switching costs for users: Mobile apps are free or inexpensive to purchase and easily uninstalled by users

Limited user 'head space': The typical user only has the time and energy to engage with a few apps every day

Given all that, growth hacking for mobile apps must be driven by a detailed and measured understanding of how users interact with the app. In order to gain this understanding, companies need some form of analytics integrated into their app environment that goes beyond the universal metrics (install, sessions, and retention) that the app stores provide.

Ideally, this scientific understanding will provide clues to:

- Satisfy and engage current users
- Identify your most valuable users
- Target new users with the most efficient spend
- Test new features
- More effectively monetize the app and relevant services

The mobile app user lifecycle

Great growth hacking strategies should track to every stop along the mobile app user lifecycle to increase downloads, engagement, and profitable interactions.

User acquisition

User acquisition is step one in the growth hacking continuum and involves a variety of strategies to attract new users to your app through organic and paid channels, all while reducing the cost per new user.

This means spending less in advertising by finding the most effective paid channels. And it means acquiring more users through organic channels like social media, word of mouth, email, app store features, and press opportunities. It's also done by using experimentation to increase the discoverability of the app in the Apple and Google Play app stores with effective App Store Optimization. In other words, you want to ensure that your app store pages are successfully converting visitors into active users, or else all other acquisition efforts will be for nothing.

User engagement

Once a user has downloaded the app, developers should be seeking to reduce friction wherever possible. This starts by making onboarding simple and creating incentives right out of the gate to get them to habituate to using the app.

Growth hacking pros look for the moments or features that lead to increased engagement, like signing in, connecting with a friend, passing the first level, joining clans or user groups, gaining special deals on products or services, and more.

Mistake to avoid

Putting all of your investment in user acquisition and none in engagement

When app developers or app marketers spend all of their effort and money on bringing in new users without commensurate investment in keeping them engaged, they end up burning cash. For most app categories, a good D7 retention rate (that is 7 days after a user installs the app) is around 20% - 25%. That means even successful apps lose up to 80% of their users after the first week, illustrating the importance of investing time and money on engagement efforts.

User retention and monetization

User retention and monetization is where the rubber meets the road for growth hackers. Ultimately, app developers are seeking to increase profitable interactions with users while reducing—or at least minimizing—the churn rate within the user base.

The best growth hackers know how to orchestrate the constant escalation of relationships with users, and how to identify the optimal moments to seek permission for push notifications, social connections, or suggest upgrades or purchases. This depends upon not only the right mix of features and content, but also minimizing crashes and bugs in the app that will drive paying users away forever.

Key retention concepts

Golden nugget

The main value or benefit the user finds in the app that keeps the user loyal and engaged

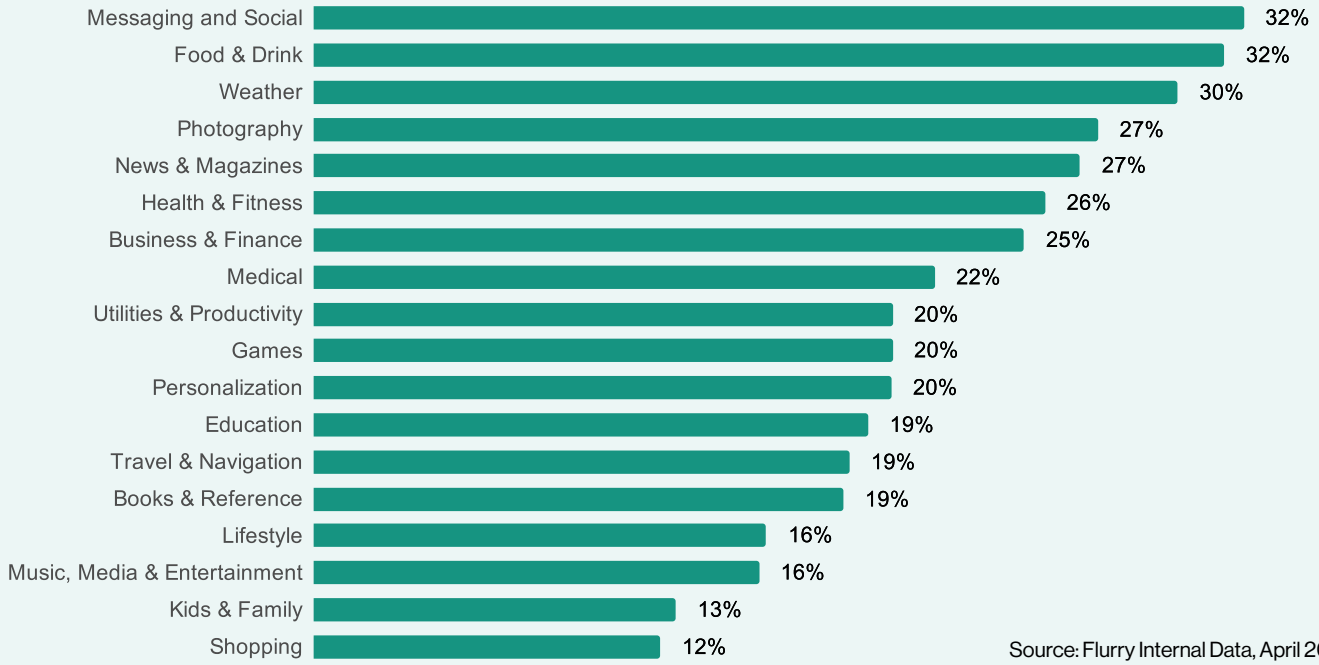
Core loop

Most associated with games, this is the core series of actions a user engages in to progress and level up

Return hook

An incentive or mechanism like push notifications that gets the user to open an app again

Average day 7 retention rates by app category



Source: Flurry Internal Data, April 2019

FLURRY

Segmentation and microtargeting across the lifecycle

When thinking about users and the mobile app user lifecycle, it's crucial to keep in mind that not all users are created equally. Some users are more profitable than others. Segmenting your audience by profitability or activity levels can help you focus acquisition efforts on acquiring the right users who will translate into profits for your business. In an ideal world, an app developer would much rather have 100 loyal users grinding the core loop voraciously than 1,000 infrequent users.

Profitability has its own nuances, too. Different users may be profitable in different ways. Some are more finicky about viewing ads, while others are not. Some are more likely to make in-app purchases, and some may never do so. The right metrics will help organizations identify segments to target for maximum profit.

Successful growth hackers study metrics to understand user intent and user behavior in the app and use that insight to adjust the following by user segment:

- User acquisition strategies
- Select product features or content
- Advertising and push notifications to drive existing users back into the app
- The content and timing of 'asks' to customer for conversion events, such as turning on push notifications, subscribing, viewing ads in exchange for in-app currency, and making purchases

Mistake to avoid

Considering every user equally valuable

"Not every user is equally valuable. This is a lesson I think you'll learn once you start doing global campaigns. You'll realize a user in one country is fundamentally less valuable than a user in another, so don't bid the same everywhere. One of the biggest mistakes people make around user acquisition and monetization is they don't really look at downstream metrics to determine whether who they've acquired is valuable or not."

Gaurav Sharma
Head of Business Operations and Monetization, Unity 3d

Show me the money: thoughts on monetization

At the end of the day, growth hacking is all about driving revenue and increasing profits. Mobile developers have so many opportunities to monetize their apps, including by getting users to:

- Buy products
- Buy subscriptions
- Buy in-game or in-app upgrades
- Watch advertisements
- Any combination of the above

The trick is finding the right incentives, the right product design, the right marketing—all presented at the right time in the user lifecycle—to not only acquire and retain engaged users, but also grow revenue per user. Oftentimes, it isn't a one-size fits all approach—you need to carefully analyze your different segments and understand what will increase the revenue per user of each segment.

But there's a delicate balance and interconnectedness between user engagement and monetization. Monetization and engagement aren't a mutually exclusive balancing act where you either have one or the other. The more engaged users are, the easier it is to monetize the relationship; however, people don't like to be pushed too soon or too far out of their comfort zone.

It's like dating—if you push for too much, too soon on the first date, you'll turn off a potential partner forever. Similarly, if you try to monetize too aggressively or too soon, you may cost yourself in the engagement and long-term value of a potentially loyal user. For example, the more you shove ads in users' faces, the more likely they are to churn out and never come back.

Pro tip

You have to be very careful about how you monetize users and the value you provide them and then how you reward the fact that they are purchasing your game. And that reward doesn't have to just be an additional premium currency. It can be additional access to features, it can be content, it can be just a recognition that they're a loyal player. And then you give them extra free bonuses along the way. But it's also important to understand that your non-payers also have an impact on the other people in the game.

Scott Koenigsberg
SVP Product, Zynga

Companies that are good at growth hacking use metrics to scientifically track monetization moments and the timing of those moments across numerous dimensions.

With the right metrics it's possible to measure the sliding scale relationship between the incremental revenue gain from a certain monetization 'ask' and the impact that action has on user engagement. Doing so makes it possible to find the perfect sweet spot between optimal profit and minimal churn.

Best metrics for mobile app growth hacking

So, which metrics are the right ones to shape your growth hacking strategies? This is a tough question to answer with a blanket response because it really depends on app functionality, target audience, and monetization strategy specific to the app. However, the following metrics are a good place to start in choosing the right metrics for you. These are the most common foundational metrics used by experienced growth hackers, but please note, tracking all of them might be overkill.

Acquisition

App store page conversion rate: Percentage of users that download an app after viewing your app's page in an app store. This is available in the App Store and Google Play and they provide benchmarks for your app category so you can see how you compare to the competition.

Cost Per Install (CPI): The cost of acquiring new users through marketing and paid install campaigns. It's total advertising spend in the campaign divided by total measured installs attributed to the campaign.

Organic lift: Download rates that aren't spurred by paid download campaigns, typically through app store optimization and natural user growth and momentum.

Customer Acquisition Cost (CAC): Similar to CPI, CAC is the cost of acquiring all new customers. It can be used to not only track install costs averaged across the entire customer base, but can also be calculated in context of the cost of getting customers to other conversion stages, including registration, purchase, and subscription.

Cost per loyal user: One of the most important acquisition metrics, this is essentially CAC keyed into whatever user dimension your team deems to be *loyal*, be it purchases, subscriptions, push notifications, and so on. The critical question to answer to calculate this is 'What is a loyal user?'

Active users

Daily Active Users (DAU): Helps you more accurately clock your audience size compared to download rates. These are the average number of users expected on a given day. Calculated by averaging the daily unique users over a given time period, typically either monthly, quarterly, or annually.

Weekly Active Users (WAU): Average number of users expected in a given week. Similar to DAU, this metric offers an alternate view of audience size that may provide a more accurate picture for apps designed for periodic consumption. Calculated by averaging the weekly unique users over a given time period, typically either monthly, quarterly, or annually.

Mistake to avoid

Getting hung up on downloads

One mistake to avoid is to not get hung up on download rates. Most experienced mobile professionals will tell you that downloads are mostly a vanity metric for two big reasons. First, download rates are often artificially pumped up through paid campaigns to help boost app store momentum and game their search algorithms. Second, and possibly more importantly, is that a download does not equal an active, profitable user.

Monthly Active Users (MAU): Average number of users expected in a given month. Another view of user activity, this one offers a longer-term horizon to gauge audience size. On its own it is sometimes viewed as a bit of a vanity metric, but it is particularly useful when taking DAU / MAU as a metric for app 'stickiness' or intensity of user engagement. Calculated by averaging the monthly unique users over a given time period, typically either monthly, quarterly, or annually.

Engagement and retention

Retention rate: Percentage of users who continue to use an app over a measured time period. Most commonly measured retention rates are after one day (D1), one week (D7), and one month (D30).

Churn rate: The converse of the retention rate, this is the percentage of users who abandon your app after a certain time period.

Time spent: How long is an app user likely to use the app per session in a given period of time.

Retention curve: The graph plotting out retention rate over time—it typically features a steep drop-off in the first days after download and begins to taper after D7 and really level off after D30. The more engaged the audience, the higher the curve over time. Experts say D7 is one of the most important inflection points as improvements in retention in the first week tend to lift the curve across the entire lifecycle.

DAU/MAU: Dividing DAU by MAU offers a way to measure stickiness of an app by finding approximately how many days a month a typical user returns to the app. Generally, a DAU/MAU of 20% is considered 'good' for the mobile industry, meaning that the average user returns six out of 30 days per month.

DAU/WAU: Less frequently used but also similarly useful, the DAU/WAU ratio can provide a little more insight into more regular user engagement. Organizations that are focusing on getting users habituated to visiting an app regularly over a week would do well to focus on bumping up DAU/WAU.

In-app conversion rates: Conversion rates can be tracked not only for downloads but just about any major moment in the user lifecycle, be it viewing product or completing checkouts in mobile commerce apps, viewing content in media apps, or making an in-game purchase in a gaming app. These are critical for tracking the efficacy of the 'ask' for any of these given moments.

Cost per X user: This is a business, which means that you should be able to peg costs to engagement improvements. Various cost metrics include cost per DAU, cost per WAU, and cost per D7. The latter is particularly important if you've targeted the first week as a critical time in which to re-engage and are seeking to do that as cost effectively as possible.

Monetization

Average Revenue Per User (ARPU): Helps you track profitability not only across the entire user base, but also in context of user segments to keep track of the most valuable types of users. Most basic, ARPU is the app revenue divided by user count, which means before you can calculate ARPU, you need to know the associated revenue.

Mobile User Lifetime Value (LTV): total value of a customer across the entire lifecycle of the relationship. The most basic calculation is LTV = Retention * [Time Spent * (Revenue)], although varying business models could mean slightly different calculations.

Tips

Using metrics like a growth hacking pro

Keep it tight

Don't focus on so many metrics that they become overwhelming and underutilized. The idea is to pick a few top metrics that suit your use case, app maturity, and top goals. For example, a mature mobile commerce app may be focused primarily on pumping up LTV and also reducing cart abandonment rates. A media subscription-driven app may be focused primarily on DAU/MAU and in-app conversion rates to rate content engagement. Newer apps may be initially focused on app store conversion rates to ensure that they're optimizing the organic channels.

Measure deltas

Remember the point of growth hacking is to drive continuous improvement. The idea is to strive for measuring change in metrics over time. Some metrics change gradually and will only need to be checked in semi-periodically. Some change rapidly and should be measured/observed continuously. The only way to accurately measure these deltas is to ensure that the metrics you observe are collected and calculated consistently. Develop a sound methodology and stick with it for as long as it makes sense.

Revenue earned from user via X: Revenue earned from user via in-app purchases, advertising, subscriptions, etc.

Return on Investment (ROI): The ultimate unit economics measure, ROI for an average mobile user or user segment is (LTV/CAC)*100.

Incentivize properly

Ensure teams are working toward the same metrics across the organization. For example, marketing shouldn't be focused solely on driving installs while product teams are looking only at retention rates or daily active users. Growth leadership needs to incentivize the right metrics and cross pollinate across teams. For example, management at shops with multiple apps may consider creating DAU/WAU leaderboards to keep all teams laser focused on 'stickiness' as a key goal.

Growth hacking in action

The whole point behind the previous rundown of metrics is to tee up the conversation about what's at the heart of successful growth hacking:

At its core, growth hacking is all about data-driven experimentation.

Curiosity and risk taking are what drive innovation. But taking wild guesses as to what might draw users to install an app, which features they might like, or what will keep them engaged and profitable is no way to run a business. Even somewhat measured experiments that have teams blindly running A/B tests based on gut instinct will quickly become too expensive to support long-term.

Advice from a pro

Looking at the data first has the propensity to lead you down the wrong path. The most successful growth hackers think outside the box and say, "I wonder if we did X, Y, and Z, will that improve engagement? I don't know if our engagement is actually good or bad or if we can move it, but I can assume that I can always get more engagement out of our users." Unless one hundred percent of our users are playing seven days a week, there's usually an opportunity.

Scott Koenigsberg
SVP Product, Zynga

The best in the business use in-app metrics to develop data-driven experimentation. They still use business instincts to set the direction for experiments, but they supplement those with analytics to help them create hypotheses. Better than hunches, these hypotheses are based on existing data and the ability to measure changes in that data when they tweak advertising, app features, user interactions, and conversion 'asks.' Those measurable changes can help the team further test out hypotheses and shape decisions moving forward.

Let's look at some examples of what that might look like in the real world.

Marketing and user acquisition

ASO and marketing experiments:

App Store Optimization (ASO) is all about making sure your app store pages are converting as many new users as possible with a clear user value proposition combined with eye-catching images (that most commonly include at least some of the app's UI). A lot of ASO is centered around experimentation by testing app titles, subtitles, descriptions, images, and more. The Google Play Store offers easy A/B tests to optimize copy and images to improve conversion rates.

Marketers should similarly be testing out design and copy elements, as well as value propositions, through A/B tests built into paid campaigns. Segmenting new users who come in organically versus new users through paid channels to see how they behave can also be a helpful exercise. If organic users have better metrics—are more engaged and profitable—then it might be time to reevaluate how acquisition dollars are spent. The cheapest user may not be profitable at all.

Microtargeting the most valuable prospects:

The data science team at Verizon Media has always strived to run rigorous A/B testing for experiments across the company. In the most recent years, the team has stepped the practice up a notch by studying how engaged users interact with a mobile product to understand valuable segments better and use that information to microtarget more valuable new users for acquisition and retention.

Advice from a pro

We do this using a segmentation method the data scientists call 'K-means clustering,' which basically groups users by 10 different behavioral dimensions. So, for example, in our Yahoo Sports app we identified particularly engaged clusters of users by dimensions such as how often they engaged with sports-related statistics or commented in community forums. We then turned around and leveraged users from those segments to run lookalike campaigns on Facebook. Through experimentation, those campaigns not only brought in users at higher conversion rates than users brought in through generalized Facebook acquisition campaigns, but they also had double the D7 retention rates of recent installers. Accordingly, this experimentation also reduced the cost per week to retain users.

Miao Chen
Head of Media Product Data Science, Verizon Media

Advice from a pro

Don't rush to your destination with A/B testing. Sometimes product owners or marketers try to combine A and B and C and D in one step of testing. But if you combine the experiments, the results may be very confusing. You can actually go faster if you go slower. Be patient, and if you have a strong opinion on A, experiment and validate that—finish that step and then move on to A plus B.

Miao Chen
Head of Media Product Data Science, Verizon Media

Engagement and retention

Continuous on-boarding

Rather than spending all of your money on straight user acquisition, consider experimenting with a process of 'continuous on-boarding' where you take a bucket of users and spend advertising dollars on retargeting them back into your app. Use user attributes and device identifiers to personalize ads to the audience for maximum relevance. Watch engagement metrics to track the efficacy of the experiment and to understand how much investment is needed to create a long-term, loyal user. Don't forget to compare the engagement of this bucket of users to the control to understand the incremental cost of re-engagement efforts and gauge the overall value of continuous on-boarding.

Push notification optimization

Push notifications are valuable to maintain stickiness of an app and engagement with users. But it takes constant experimentation to decide when to ask for permission to send push notifications and to decide the triggers for and frequency of sending these messages. Use A/B testing to optimize the right timing for users and user segments, as well as to experiment for incentives for gaining push notifications. These experiments should help answer questions such as, 'Should I ask certain users for push permission immediately?' Which users should I withhold the ask and for how long?' and 'How many notifications a month will start to impact opt-out rates for push notifications and/or churn?'

Advice from a pro

Improvements in onboarding affect your user acquisition. If you can onboard users and convert them at a better rate, you can spend more on user acquisition, and your cost to acquire new, valuable users will go down. The cost to acquire on an installer probably won't go down, but the cost to acquire a revenue-generating user will.

Jordan Gaphni
User Acquisition Pro, Pixite LLC

Product management and UX design

Using app store reviews as UX hypotheses

Not every app developer can afford to run focus groups with real users to generate ideas for beneficial product or UX design changes. But smart growth hackers know how to use easily available signals to direct their efforts. For example, one way to do this is to scan through app store reviews for common UX or feature requests. Then take those to develop rapid A/B testing to gauge engagement. Interestingly, many times this kind of testing will find that what people say they want isn't actually what they really want!

Advice from a pro

Setting up A/B tests is a great way to get a quantitative understanding of what ideas work and what don't, but setting up the right A/B test can be a challenge. This is where coordination between different teams or individuals with different expertise comes into play. The project manager's experience is useful in identifying what ideas to prioritize when running the test. The data scientist's experience is crucial for finding the right bucket of users and understanding the statistical significance of the test results. So, close collaboration is necessary to set up these tests.

Lali Kesiraju
Senior Data Scientist, Verizon Media

Monetization

Bucket tests using ad revenue

As you seek to understand the escalation of conversion asks—including content, tone, timing—consider doing bucket tests using ad revenue and engagement as comparative benchmarks. So for any given experimental change, look at incremental revenue versus engagement and see how that shifts as you make changes in how frequently or when you show an ad or establish a monetization moment.

By creating the right buckets you might find that you are better off with maintaining 100 engaged users that can be monetized at $100 each per month compared to making a change that increases monthly revenue to $110 per user, but which scares off 20 loyal users.

This kind of change creates a higher value per user but net negative in revenue:

$100/user x 100 engaged users
= $10,000 monthly

>

$110/user x 80 engaged users
= $8,800 monthly

Finding max revenue per user before churn

The key is finding the balance of monetizing a user as much as you can before churn. For example, how many ads can you serve before they abandon their session? Or how many times can you serve a pop-up asking them to subscribe before they quit your app altogether?

Regardless of your monetization model, carefully conducting experiments with very small subsets of your users will help you find the point of maximum revenue per user. In other words, how high can your ARPU go without causing churn? This could translate to the number of ads you show, the number of times you ask for upgrades or in-app purchases.

Identifying low-risk guinea pigs

Even when it's done in a methodical and measured manner, experimentation on loyal users does have its risks. Go too far afield and it might be possible to alienate an otherwise habituated user. Revenue-based metrics can sometimes be used to identify the perfect low-risk guinea pigs for experimentation.

Say your metrics show that there's a small segment that isn't bringing any revenue to the app and are not projected to bring in any revenue soon. This segment could be ripe for lots of tests and experimentation, since it won't hit the bottom line if they churn.

Advice

Let us help you grow

Obviously, growth hacking strategies and tactics will vary by monetization model, audience, and app maturity. The unifying factor across all of these variables is that organizations need to be data-oriented, they need to feed metrics into how they design their products, how they market, who they market to, how they engage with users, and what they ask of their users. At the core of that is rapid experimentation. To learn more about how Flurry can help fuel your growth hacking success, visit **www.flurry.com**.