CUSTOMLYTICS

eBooks

Mobile Analytics & User Feedback

This information was written by the Customlytics team for inclusion in the Mobile Developer's Guide To The Galaxy.

For a full copy of the developer's guide, visit the Customlytics website

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1   Introduction

If you are a mobile app marketer, product manager or app developer, would you trust your gut feeling in order to craft outstanding mobile app experiences for your users? Probably not. According to McKinsey, "companies that use customer analytics comprehensively report outstripping their competition in terms of profit almost twice as often as companies that do not" ([Source](#)). In this chapter we will focus on the value for app publishers to gain understanding beyond numerical data such as app downloads. But look at patterns in user behavior by means of quantitative and qualitative analytics to reach their business goals.

Getting users to download your app doesn't mean they will stick around. One of the biggest challenges and barriers around app audience growth is linked to user retention. According to numbers by [Localytics](#), over 70% of app users churn, that is delete the app, after 90 days. This is disappointing because app companies work hard and burn marketing cash on user acquisition (UA) campaigns. In order to retain existing users you have to start collecting user behavior data inside your app. It's time to find your focus and start using mobile analytics.

Mobile analytics refers to a method of collecting user behavior data in the mobile web, native iOS or Android apps, gathering insights into the hidden lives of your app users and act on them ([source](#)). These data points guide marketing, sales, product and development teams in making data-informed decisions. Ultimately, you want to know how well your app works and what to optimize.

This chapter will answer questions around mobile app analytics that push beyond beyond features and functionality of the traditional web. Familiar metrics and mechanisms from your web analytics experience might not get you far at all. We are just using mobile apps completely different than the web. In this chapter you will learn what type of analytics information is gathered; from quantitative data (performance, product and marketing analytical data) to qualitative data insights via user feedback. By the end of this chapter you will understand why everyone from marketing to product and development needs analytics data.

2   Defining goals

Without hard data, app publishers and developers are left flying blind. Or they fall prey to arbitrary feature development sourced from their intuition or eager managers. Analytics data provides a base from which different app business units can actually strategize. This is powerful for marketers and developers alike and enables them to create an app experience that is more useful and engaging for their users. For instance, if an e-commerce app publisher discovers that a big amount of their users drops out in the shipment screen, there must be a technical problem or an issue with the user interface.

Before you immerse yourself in the mobile analytics world, it's worth understanding how to set the stage for your analytics strategy. This should be rooted in your KPIs and the business value you hope to derive from the app.

There are many business units working alongside to develop, optimize and promote an app. Each of these departments - product, marketing, business development, the technical team and management - should make up their mind about:

- What they want to accomplish

- What their key performance indicators (KPIs) are

- How they will determine whether they're achieving them

Establishing a KPI hierarchy for all departments helps to counteract conflicting KPIs between departments ensuring visibility to the objective of each team. What is important is to establish only a few *key* performance indicators and supporting metrics that a business unit can actually influence and that make sense to measure.

The metrics supporting your KPIs will differ from whether you are chasing app installs, retain users, or turn users into (paying) customers. Each app and each business model is different. If you want to know more about mobile metrics that app developers use to measure success, there are many resources online such as Braze's article 10 Essential Mobile App KPIs And Engagement Metrics (And How To Use Them).

3 Deciding what to track and measure: three types of mobile analytics

What would you like to measure to understand how the app is being used? Certainly this depends whether you are concerned with product management, marketing or the development/technical unit of an app business.

Mobile analytics guide marketing teams to create better campaigns. For example; by segmenting users and automating campaigns, it helps product teams to A/B test new features to develop the product further. This gives app developers a roadmap to track performance and be aware of technical problems before they occur.

Let's take a look at three categories of analytics:

- App Performance Analytics

- Product Analytics

- Marketing Analytics

Again, as we obtain more data, interpreting the details becomes more complicated. Hence, it is important to focus on a handful of KPIs that are (relevant/meaningful/ significant - something like this you can choose) to your business goals.

3.1 App-Performance Analytics for product and development teams

App performance analytics provide answers to questions such as:

- Why is my app crashing?

- When and on which devices?

- Where do users encounter problems?

- Are any third party SDKs slowing the app down?

App-Performance Analytics for product and development teams (continued)

Technically, app performance tracking is part of product analytics. It is about understanding how often and why the app crashes and identifying remedies for points of failure. According to data from [Apteligent](#), 30% of consumers indicate that they will consider leaving a brand due to poor app experience. Monitoring your app's performance-based metrics is the backbone of a successful optimisation. Your task as a developer is to fight any performance issues and optimise the code so your users can enjoy a fault-free, seamless mobile application.

The following KPIs can be used to tweak your app accordingly:

- User device attribution (iOS vs Android)

- Crashes

- Launch time and resume time

- Load time

- Battery consumption

- Error rate

- Number and length of sessions

- UI average response time

- Screen dimensions

[Google Firebase](#) is sufficient if you are looking for a simple app performance analytics solution. For more in-depth analyses that can detect bugs or slow data connection, commercial analytics tools are necessary. Public transport apps for instance are interested in analysing the connection speed data over the day. With commercial tools such as [Apteligent](#) or [NewRelic](#) peak times and rush hours can be evaluated.

3.2 Product Analytics for product management teams

Product analytics provide answers to questions such as:

- How do users interact and engage with the app?

- At which point and screen does a user leave the app?

- Where do users get stuck?

- What features get the most use?

- How long does a user stay in the app and how many users return to your app?

To craft a data-based product strategy, product teams use analytics insights to build and defend their product roadmaps. User behavior is a tough nut to crack. Knowing how users interact with your product, how certain features are used, or whether they are used at all is essential to offer users a positive UX (user experience).

As a product manager you want to look at some of the following KPIs to tweak your app :

- Ratings and reviews in App Store and Google Play Store

- Stickiness

- Daily/weekly/monthly active users (DAU/WAU/MAU)

- Crashes

- Load time

- Number of uninstalls

- Retention

- Session length

- Number of opens

3.2 **Product Analytics for product management teams (continued)**

Tracking these KPIs involves using dedicated tools with the capabilities to map user behavior within your app with heatmaps, user flow and screen recordings. We will provide more information on how to track responsibly in that regard in chapter six. The data collected from product analytics can then be shared with development teams, marketing and growth teams to create better UX.

4 Qualitative Data Sources - User Feedback

Hard, quantitative data is a great source for improvements of your app. Yet, another way of receiving insights into user behavior is combining analytics together with qualitative data via user feedback.

4.1 **Advantages**

How can app developers actually understand motives of their apps users? Well, the answer to this lies in communicating with users, receiving feedback and leveraging it to improve the user experience. There are several reasons why you start integrating user insights in your app analytics:

- Validating assumptions you are making based on the information you are receiving from your analytics sources.

- Reducing costs by allocating resources to features that will add value

- Boosting the connection with your users and opening possibilities for more engagement.

- Improving the product road map und UX to prioritize features that matter most to users.

Collecting and Managing User Feedback

How do app developer actually get user feedback? You may want to consider collecting feedback via:

Apple App Store and Google Play Store

The app store rating is the amount of stars you see in both the Google Play as well as Apple's App Store. It is basically showing the average customer rating that your app is getting. iOS and Android developers can program a prompt for users to rate the app and leave reviews. Optimizing the review flow is incredibly important in order to maximize your chances of getting reviews from your users. You can read more on this in the App Store Optimization Chapter.

In-app Feedback

Specific in-app user feedback tools such as Apptentive can help developers to strategically obtain user feedback requesting it right there on the spot in the app with certain mechanism such as feature request managements or in-app surveys. Create feedback functions, such as contact forms and basic surveys, within the app in easily discoverable locations. It should be convenient for customers to reach out inside the app. Your app is definitely *the* best place to collect feedback. If a user just completed the next level in a gaming app, *now* is the time to ask them about their experience without leaving the app. Nevertheless, don't forget that multiple feedback channels can work together.

Social Media, forums and communities

Facebook, Twitter, Instagram and Co. are meaningful channels through which you can collect valuable feedback from your target groups. Once your app has got a considerable amount of traction. if you don't have that traction yet you might want to begin with social listening monitoring mentions of your app (and your competitors).

5   Marketing Analytics

Marketing analytics provide answers to questions such as:

- Which acquisition channel generates the most (valuable) users?

- Which parts of the app lead to conversions?

- How much did you spend on acquiring a user?

- Is there any danger of fraudulent traffic from my traffic sources?

There is an overlap between product managers and marketing managers both relying heavily on user behavior data. The data will be different for marketers, as they are more concerned with measuring the quality of their marketing activities by evaluating the quality of users from respective acquisition sources against each other. Hence, an attribution software provider is at the heart of any marketing setup to review performance and budget allocations for acquisition measures.

As a marketing manager you want to look at some of the following KPIs:

- Installs

- Retention (this could be weekly, monthly or after day 1, day 7 and day 30)

- Store Page views

- DAU/WAU/MAU

- Stickiness

- Activation rate

- Conversion rates from Google Play and Apple App Store

- Churn rate

- Returning vs new users

- Total amount spend on advertising

- Push notification click conversion

5   Marketing Analytics (continued)

After clicking on an ad, users are directed to the Apple App Store or Google Play Store. In the stores it is not directly possible to capture the information as to whether the user is installing the app or not. In order to fill this gap many mobile measurement partners (MMPs) have entered the market around the traffic attribution of app installs.

Why do you need a commercial attribution tracking tool? Google Analytics is not suited at all for mobile attribution tracking because it doesn't collect traffic from important app traffic sources such as Facebook, Apple Search Ads and ad networks. An attribution tool allows you to attribute any incoming app install to its corresponding source.

Secondly, it will also measure your post-install user behavior to give you valuable insights about what your users do in your app, related to the source of the install. This post-install behavior will be measured via events that the user triggers. This information is collected centrally and should be impartially assessed by traffic providers. The market is dominated by MMPs such as [Appsflyer](#) and [Adjust](#). These tools vary widely in features and functionalities (fraud detection, deeplinking) and provide a different pricing model.

6   Choosing an analytics data source

In order for your mobile app to succeed, there are numerous metrics you need to be measuring and analyzing. This means you will need to find a source to actually get your data from. After setting up KPIs and supporting metrics you need to define your sources:

- Developer consoles: With [App Store Connect](#) or the [Google Play Console](#) developers can manage and submit apps; yet they can also acquire information on analytics data.

6 Choosing an analytics data source (continued)

- Mobile analytics platforms: Google's own analytics tool, [Google Firebase](#) is the most popular free tool. App developers often choose Firebase because it seems to be meeting many marketing requirements. The actual usability for marketing managers is unfortunately very limited. Mobile app analytics tools saturating the market are adapting to the need and giving app creators innovative new ways to track and understand user behavior. An analysis of your own requirements for such an app analytics tool and comparing the market, is worthwhile in any case.

When it comes to choosing the right mobile analytics tool for your app, you can easily become quite overwhelmed. Some main commercial tool options available today from a marketing and products point of view include the following:

Attribution / Marketing Analytics:

- Adjust

- AppsFlyer

- Branch

- Kochava

Product Analytics:

- Firebase

- Amplitude

- Mixpanel

- Countly

7 How does mobile analytics technology work?

Mobile analytics track user behavior and interaction within an app. In terms of technology, we have to distinguish between mobile web that primarily relies on Java Script and cookies; and mobile apps that require a software development kit (Source). SDKs contain a package of pre-written code that developers embed in the mobile app in order to measure metrics that are important to your analytics strategy. Different platforms need different SDKs, which exist for Android and iOS.

As pointed out in the differences between web- and mobile analytics, mobile analytics SDKs generate a unique identifier for each device. They don't depend on web cookies. This is how analytics tools can track and compile a reporting.

What does mobile analytics software usually track?

- Visits

- Sessions

- Visitors

- Page views

- Socation

- Source data

- Device information

- Login/logout

- Custom event data

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8   Tracking and handling data responsibly

You as a developer are responsible to limit and safeguard the user data that you collect. App publishers have to tell their users when, why and how they are tracking them to avoid legal actions. When a user performs an action in the app the tracking code sends data directly to the data collection server of a respective tool provider. In terms of terminology and the wake of GDPR, "tracking users" has stirred up negative conversation when it comes to user privacy (source). Respecting your users' privacy means to collect only data from the get-go that is directly relevant to your app's core functionality. Be thoughtful and carefully consider the costs and benefits of collecting data. Grabbing any information beyond that might just lead to bad press and lack of trust with users.

8 Tracking and handling data responsibly (continued)

Furthermore, hold on to data just as long as you need it. Just because you need location information doesn't mean you actually need to keep that data forever. Delete it once it has fulfilled the the purpose for which it was collected. This helps the potential harm of data breach and other privacy issues. In that regard, it is incredibly important for app companies to sign a data processing agreement/NDA with any mobile analytics software provider.

The purpose behind the tracking and the kind of data collected should be well-informed in the terms and conditions or data policy of your app. Marketing analytics tools such as Adjust have already implemented the "right to be forgotten" with a dedicated opt-out option for users.

9 What to consider when implementing mobile analytics

If you want to avoid common mistakes, there are a wide range of topics to consider when implementing and integrating mobile analytics in mobile apps. The following are some of the most critical:

Having enough users/traffic

You need enough data to make qualified decisions. If your app just launched and you haven't tested your channels yet, you need to nail user acquisition first before starting with mobile app retention and analytics to feed your retention campaign.

Asking the right questions

As mentioned in chapter three, you have to ask the right questions from the start and focus on key metrics that are of importance to your department (marketing, product management, development, management). You need to know how to link business results with the factors that drive those results, know what metrics to track and finally, know what value you want to get out of them.

What to consider when implementing mobile analytics (continued)

Vanity metrics

These are metrics that are irrelevant and don't act as an indicator of the success of your mobile app business. They sound impressive but they don't mean anything and do not focus on user behavior.

Having a tracking concept in place

Implementing a tracking concept is of utmost importance Most analytics tools are event driven relying on events to collect data. An event is simply an action by a user such as launching the app, signing up for your product, activating a subscription or accepting push notifications. The tracking concept shouldn't be too complex but functional to the marketing targets.

Testing and calibrated results

As a data analyst, avoid trusting and interpreting your data blindly. If you find significant patterns in your data, consult with product managers who understand user behaviors and the product itself.

Betraying user's trust

We have covered this issue in chapter six "tracking responsibly". In terms of tracking users with SDKs, make sure that you do not blindly "hand over the jewels".

Visualizing data correctly

Data visualization is about taking raw app data and transforming it into graphs, charts and images. Creating value out of data visualization can be a complex process. That's why good data visualization relies on good design and should be easy to understand for your different stakeholders looking at the dashboard.

10 Learn more

This chapter covers the basics of mobile app analytics, which is a field that is ever evolving. It's a complex topic and it's impossible to cover everything. We hope this chapter has whetted your appetite to learn more about mobile analytics. Here are some places to start your ongoing research:

- Amplitude is a mobile analytics tool. They provide a comprehensive guide to mobile analytics, Mobile Analytics: A Complete Guide to App Retention and Engagement

- Data Stories, A podcast on data visualization with Enrico Bertini and Moritz Stefaner http://datastori.es/

- The Digital Analytics Power Hour, a podcast http://analyticshour.libsyn.com/

- The Mobile Analytics Playbook by Julian Harty and Antoine Aymer includes material on using mobile analytics to help improve testing of mobile apps.

- Mixpanel is another analytics software provider and is offering an ultimate guide to mobile analytics

- Big data blog by Reddit

- Venture Beat Big Data blog

- Customlytic's CEO & Co-Founder Christian Eckhardt gives an overview on how to measure metrics that matter most in this podcast on webmaster RADIO.FM