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Amplitude

Product Analytics

for dummies®
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Gain insight into customer behavior

Drive growth with your product

Create experiences that build loyalty

Amplitude® 2nd Special Edition

About Amplitude

Amplitude is a leading digital analytics platform that helps companies unlock the power of their products. More than 2,100 customers, including Atlassian, Jersey Mike's, NBCUniversal, Shopify, and Under Armour, rely on Amplitude to gain self-service visibility into the entire customer journey. Amplitude guides companies every step of the way as they capture data they can trust, uncover clear insights about customer behavior, and take faster action. When teams understand how people are using their products, they can deliver better product experiences that drive growth. Amplitude is the best-in-class analytics solution for product, data, and marketing teams, ranked #1 in multiple categories by G2. Learn how to optimize your digital products and business at amplitude.com.

Product Analytics

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Product Analytics For Dummies®, Amplitude® 2nd Special Edition

Publisher's Acknowledgments

Introduction

I n today's crowded digital market, more products than ever are vying for customers' time, attention, and money.

Product analytics are a must for creating unique experiences to stand out from the competition and are the cornerstone of any product-led growth strategy. They provide rich customer insights that have propelled companies to become category leaders.

While tackling product analytics may seem daunting, getting started has never been easier. Today's product analytics tools and technologies have made these products accessible to anyone. And understanding these insights can pay dividends for years to come.

About This Book

If you're new to product analytics, this book offers guidance and resources from industry experts on how to get started.

Find out why product analytics are important to building better products and driving business outcomes such as acquisition, retention, and monetization.

Icons in This Book

We occasionally use icons to draw your attention to useful information:

REMEMBER

This icon marks a paragraph with information that you'll find helpful to remember in the future.

TIP

Take note of these shortcuts to help streamline your process.

This icon marks spots where we highlight how businesses have successfully used product analytics to grow.

EXAMPLE

Beyond the Book

In addition to this book, check out our other product analytics resources:

» Product-Led Growth Guide Volume 1: `amplitude.com/resources/what-is-product-led-growth`

» The Amplitude Guide to Product Metrics: `info.amplitude.com/product-metrics`

» The Amplitude Guide to Behavioral Data & Event Tracking: `info.amplitude.com/behavioral-data-event-tracking`

» Get started with a free Amplitude account: `analytics.amplitude.com/signup`

Chapter **1**
Understanding Product Analytics

As a product team, how do you know if your product is valuable to customers? What features do users love the most? Where do they get stuck? Is your product driving acquisition, retention, and monetization?

Product analytics answer those essential questions, illuminating how customers engage with digital products by tracking, visualizing, and analyzing real-time behavioral data. Indeed, product analytics have dramatically changed how product teams operate. More than ever, businesses can put customers first by identifying opportunities to better meet customer needs and improve the digital experience. And that translates into customer loyalty with direct business impact.

This chapter covers how product analytics lead to business growth and foster collaboration within your organization. It also helps you choose use cases, ask the right questions, and build customer journeys.

Driving Product-Led Growth

Product analytics matter more than ever. Under pressure to do more with less, businesses are increasingly turning to *product-led growth (PLG)*. PLG uses products to drive customer acquisition, retention (including activation and engagement), and monetization with the benefit of lowering the cost of customer acquisition.

REMEMBER

The key to PLG is product analytics. After all, the success of any PLG strategy hinges on a deep understanding of your customers' end-to-end journey: where they experience friction during onboarding, which features bring them back, and what triggers conversion. Insights like these enable you to create products customers love — ones that grow and sustain your business.

PRODUCT ANALYTICS IN ACTION: UNDER ARMOUR

EXAMPLE

After acquiring popular apps like MapMyRun and MyFitnessPal in 2015, Under Armour Connected Fitness became the leading digital fitness company. Eager to see how these new mobile offerings helped users meet their fitness goals, Under Armour turned to Amplitude.

Among its first tasks: testing Form Coaching Tips, a product designed to inspire MapMyRun users to log more weekly runs. The product takes aim at poor form, which can cause injury and pain, keeping runners off the road. Using Amplitude's Cohort, Segmentation, and Retention analyses, Under Armour saw the feature was a success, boosting day-seven retention by 30 percent. "This was something that really lifted retention for us, and that equates to dollars for us because the more users we have using our app, the more money we're making," Kaiti Carpenter, former Under Armour Senior Product Manager, said.

Building a Collaborative Learning Loop

Organizations that maximize learning flows between teams, tools, and products achieve better outcomes. When teams think of their product as a learning system, they shift from thinking about product development as a linear journey to thinking about it as a loop.

A learning loop (see Figure 1-1) is designed to inspire discovery, kick off analysis, measure outcomes, and continuously learn.

Step 1: Ask: Start a learning loop by asking a question, such as:

» What goal are we trying to achieve?

» What behaviors or experiences are hindering this goal?

» Why are users behaving this way? Why are these experiences not working?

TIP Use a mix of quantitative and qualitative research to answer your questions.

Step 2: Act: Use the findings from Step 1 to align, decide, and take action.

FIGURE 1-1: A four-step learning loop.

Step 3: Measure: Use product analytics to measure the outcomes of your actions. Be sure every release is tied to an outcome you can track over time.

Step 4: Share: Broadcast your findings, whether they were successful changes that drove impact, neutral changes, or negative changes you had to roll back.

Understanding What Questions to Ask

Product analytics are a powerful tool — but they're only useful if you know what questions to ask. To figure that out, create a map of your customer journey, from acquisition to monetization (see Figure 1-2). Customer journeys help your team home in on the moments you want to better understand.

Different teams might leverage different tools to analyze various customer journey stages. But these analyses have become less siloed as tools such as Amplitude have unlocked insights across the entire customer journey.

After mapping your customer journey, identify your use cases for each stage and translate them into the questions you need to ask. Use cases represent how users leverage your product to meet their goals.

REMEMBER

Identifying the right questions to ask is crucial to meeting your goals. The data they yield forms the bedrock of your product analytics and helps shape your customers' product experiences.

Stage	Acquisition	Retention (Activation and Engagement)	Monetization
Metrics	New sign-ups	Activation rate	Net revenue retention
	Qualified leads	Time to activate	Monthly recurring revenue
	Customer acquisition cost	Free-to-paid conversions	Average revenue per user
	Payback period	Monthly active users	
		Feature usage	
		Retention rate	
		Churn rate	
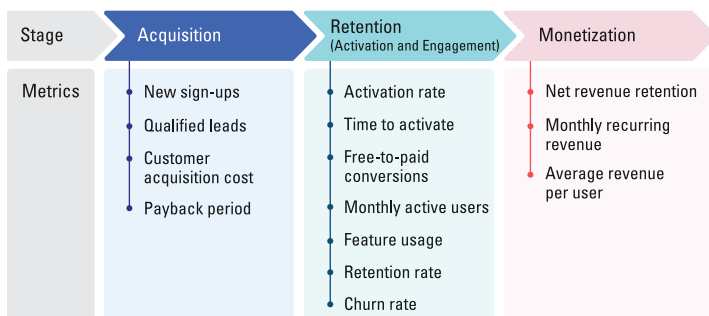
FIGURE 1-2: A customer journey map with example product metrics for each stage.

Acquisition use case

Your company hopes to acquire new customers and understand how various acquisition sources impact product KPIs. You can track the number of new leads, signups, trials, and subscribers to identify when customers start using your product and what digital campaigns and channels led them to it. This data informs your best acquisition strategies, campaigns, and channels. Consider:

» How are acquisition channels contributing to key conversion KPIs?

» What is the impact of specific campaigns or channels on engagement?

» What is campaign attribution when tied to subscriber growth, product outcomes, and revenue?

» How does product or subscription revenue vary by campaign?

Retention use case

You want to boost retention and understand how new user onboarding and trial experiences impact activation and engagement. To do this, you can track in-product engagement, conversion paths, user retention, and sticky features. Consider:

» Do certain trial features influence new user engagement and retention?

» Which onboarding experience leads to higher free-to-paid trial conversions?

» Which onboarding experience leads to higher two-week retention?

» Do customers who engage with certain product features have a higher two-week retention rate?

Monetization use case

Increasing revenue is your company's topline goal. A good use case might focus on increasing paid subscription conversion over the next six months — a direct revenue driver. (See Chapter 1 for

more about use cases.) Tracking user behavior, especially power user behavior, helps you find ways to improve the user experience and, in turn, boost the number of paid subscriptions. Consider:

>> How soon do users convert to a paid subscription after a free trial?

>> What types of user behavior tend to lead to paid subscriptions?

>> What are the journeys that converting users take?

>> What percentage of free users who access personalized recommendations convert?

PRODUCT ANALYTICS IN ACTION: WEMONEY

EXAMPLE

WeMoney, one of Australia's fastest-growing financial wellness platforms, found out through Amplitude that users who set a financial wellness goal had a higher retention rate at the 12-month mark than users who didn't. But the company's goal feature was buried on its homepage. WeMoney changed that and built goal-setting into its onboarding process. The result yielded a 20-percent increase in retention. Amplitude also helped WeMoney learn more about these power users so they could send them personalized messages, reducing retention costs by 85 percent.

Chapter **2**
Getting Your Data Right

ata management, or how you plan for and organize behavioral data, is fundamental to product analytics. Good data management ensures the right data is available to the right people in the right places. Choosing what questions to answer, as Chapter 1 outlines, can inform what data to track. By focusing on the data that matters most, teams can achieve success sooner and avoid unnecessary risks. Once you have determined what to track, you can identify your product's various data sources and use pipelines to funnel that data into your product analytics tool.

REMEMBER

Product analytics need to be accurate, secure, and accessible. At scale, you can achieve this by practicing data governance, which enables you to maximize the potential of your product data as it grows and changes over time.

This chapter covers which customer data to collect, which product metrics to measure, and how to document both in a tracking plan.

Understanding Your Data

Amplitude's platform is *event-based*; it analyzes data that consists of the actions customers take with your products and helps you work more efficiently. Knowing what data is available enables you to accurately project scope and make the most of engineering resources.

Whenever an instrumented event fires in your product, that data is sent to the platform in the form of events, as well as its associated event and user properties:

» **Events** refer to users' behavioral actions, but you can designate any action in your product as an event.

» **Event attributes or properties** add context to an event. For example, if the event is clicking an ad, the ad's campaign ID might be an event property. If it's a purchase, it might be the cart amount.

» **User properties** are attributes specific to each user that describe the user's state, such as where they are located, what platform they joined, how they were referred, and how many friends they invited.

Building a Tracking Plan

An *event tracking plan* is a document that acts as a source of truth for your event data. It's a living document that contains all the information related to the data you gather about your customers' product interactions.

In practice, you should update the tracking plan every time you gather a new event or event property, modify the name of an event, modify the name or the data type of a property, or stop tracking an event or a property.

Keeping an up-to-date tracking plan has many benefits, including:

» **Ease of implementation:** Tracking plans include a repository of data to track and specify the sources where the data comes from, the destinations where the data needs to be sent, and who is responsible for implementation.

» **Quick reference:** After implementation, different teams consume and use the data across destinations. Tracking plans provide the meaning and purpose of each event or property, making it easy for teams to analyze and act upon that data.

» **Knowledge transfer:** An updated tracking plan helps organizations avoid the many challenges of project handoffs or employee onboarding by making it quick and easy for new team members to get up to speed.

TIP

To get started, try this tracking plan template: `amplitude.com/resources/event-tracking-plan-template`.

Defining Your Product Metrics

Product metrics show how users interact with your product. They typically have a numeric component such as time, ratio, or rate. For example, activation rates measure how well your efforts increase the number of new active users. Product metrics help you better understand what users find helpful, what keeps them coming back, and the best way to turn them into loyal customers.

Product metric categories

Product metrics help gauge your efforts at each stage of the customer journey:

>> **Acquisition** metrics, such as the *number of new signups and qualified leads*, *customer acquisition cost*, and *payback period*, measure when someone starts using your product or service. They're great for understanding what marketing channels are working best.

>> **Activation** metrics, including the *activation rate*, *time to activate*, and *free-to-paid conversions*, show how well you move users from acquisition through that critical "aha" moment, where they discover why your product is valuable to them and become active users.

>> **Engagement** metrics, like *monthly active users* and *feature usage*, measure how (and how often) users interact with your product. Those interactions might include sharing a song or editing their profile.

>> **Retention** metrics, such as *retention and churn rate,* gauge how many users return to your product over a certain period.

>> **Monetization** metrics, such as *net revenue retention*, *monthly recurring revenue*, and *average revenue per user,* capture how well your business turns engagement into revenue.

Choosing the right metrics

You need data to make informed decisions about changing, improving, and growing your product. But the sheer volume of data available to product teams today is so vast that it can

complicate the process of deciding what to measure and how, including:

» Choosing a tool that gathers high-quality data and presents it in an intuitive format

» Matching the data to your overall product goals

» Deciding the right questions to ask and the right data to track to find a meaningful answer

» Interpreting the data to reveal insights and next steps

» Determining benchmarks for products in your industry and comparing how your product stacks up against competitors

Practicing Good Data Governance

Data governance describes the people, methods, and tools orga-nizations use to ensure their data is accurate and useful. Effective data governance enables teams to trust their insights when they rely on data to make strategic decisions.

A good data governance process includes:

» **Creating a data taxonomy.** Maintaining a taxonomy and supporting documentation helps you ensure consistency.

» **Planning new events.** Working with product and engineer-ing teams helps you determine plans to instrument new features and updates.

» **Setting up data approval and maintenance.** Verifying data accuracy addresses broken, missing, or inconsistent data on a regular basis.

» **Controlling access.** Managing permissions and access controls ensures the right data is accessible to the right people.

» **Removing data.** Regularly removing outdated, irrelevant, or unused events and properties every 30 days means you can declutter your analytics tool.

By collaborating with engineering teams, you can establish scal-able approaches to data governance. Sharing the same analytics goals makes it easier to keep pace with a rapidly changing product.

Chapter **3**
Answering Ten Key Questions with Product Analytics

Product analytics help teams answer important questions about customer behaviors, product experiences, and overall performance. This chapter includes ten example questions and the types of analyses you can use in Amplitude to answer them.

1. **How many users from a specific country tried a specific feature last month?**

Event Segmentation lets you define which users, periods, countries, and other criteria to analyze.

2. **What is the retention rate for iPhone versus Android users? Does it improve if they use the social sharing feature in their first 30 days?**

Retention Analysis shows how often users return to your product over time. You can also compare retention for *Behavioral Cohorts* — groups of users who act similarly within a specific period.

3. Why do users drop off during onboarding?

Funnel Analysis uncovers friction points. Conversion Drivers show the behavioral differences between users who convert and those who drop off.

4. What journeys do users take before converting?

Journeys show the paths users take within your product between selected events. It helps uncover behavioral patterns that drive conversion or cause friction.

5. How do power users behave differently from other users?

Stickiness shows the distribution of engagement levels to identify how many users have formed product usage habits.

6. Which features perform well? Which should be deprecated?

Engagement Matrix determines which features are used. Data Tables compare the engagement of multiple features and whether specific campaigns influence feature usage.

7. Which users are predicted to make a purchase in the next 30 days?

Predictions can segment users with the lowest and highest propensity to purchase so you can take tailored actions.

8. How many products does an online shopper need to view before making a first purchase?

Milestone Analysis enables you to track the behavior of a desired outcome. Historical Counts helps you understand how repetitive behaviors influence outcomes.

9. What is driving a sudden drop in a specific KPI?

Anomaly Detection automatically monitors metrics. Root Cause Analysis detects meaningful changes and explains impact.
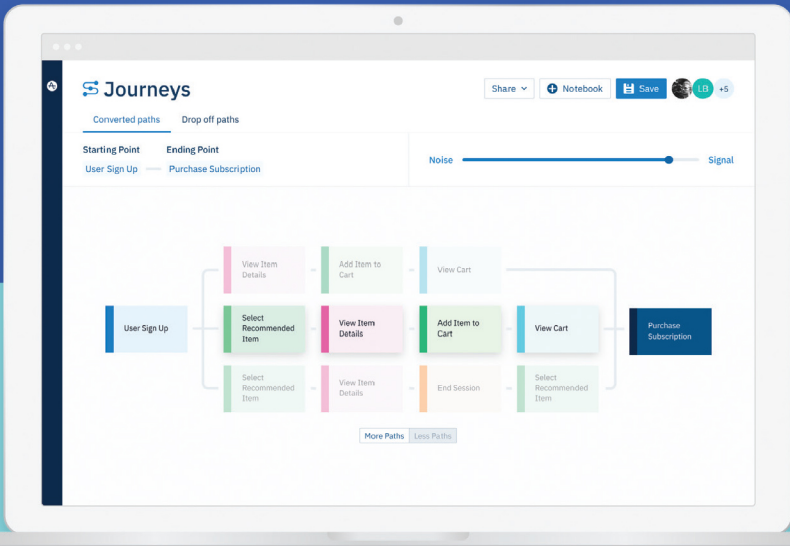
10. Are the new users we acquire each month active the following month?

Lifecycle tracks whether users remain active or dormant so you can reengage them.

Amplitude

Great products are built with great data.

Get started at **amplitude.com**

The key to unlocking product-led growth

Product analytics offer a deep understanding of your customers' experiences: where they're experiencing friction during onboarding, which features bring them back, and what triggers conversion. Insights like these enable you to create products customers love — ones that grow and sustain your business.

Inside…

- Drive product-led growth
- Build a culture of collaboration
- Understand what questions to ask
- Manage your event data
- Track the right metrics
- Practice data governance

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