

Brought to you by:



Product Analytics

for
dummies[®]
A Wiley Brand



Gain insight about
customers' behavior

Create excellent
product experiences

Drive revenue with
digital products

Amplitude[®] Special Edition

Brittany Fuller
Anastasia Fullerton

About Amplitude

Amplitude is the leading product analytics platform that helps companies use their customer data to build great product experiences for sustainable growth. Headquartered in San Francisco with offices in New York, London, Paris, Amsterdam, and Singapore, Amplitude is the cross-platform analytics solution of choice for modern product and growth teams. Amplitude powers more than 40,000 digital products at companies such as Microsoft, Adidas, CapitalOne, NBC, HubSpot, and Procter & Gamble. Learn more about Amplitude at **amplitude.com**.



Product Analytics

Amplitude® Special Edition

**by Brittany Fuller
Anastasia Fullerton**

**for
dummies®**
A Wiley Brand

Product Analytics For Dummies®, Amplitude® Special Edition

Published by
John Wiley & Sons, Inc.
111 River St.
Hoboken, NJ 07030-5774
www.wiley.com

Copyright © 2021 by John Wiley & Sons, Inc., Hoboken, New Jersey

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without the prior written permission of the Publisher. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

Trademarks: Wiley, For Dummies, the Dummies Man logo, The Dummies Way, Dummies.com, Making Everything Easier, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc. and/or its affiliates in the United States and other countries, and may not be used without written permission. Amplitude, Amplitude Product Intelligence Platform, Amplitude Engage and the Amplitude “A” logo are trademarks or registered trademarks of Amplitude, Inc. in the United States and other countries, and may not be used without written permission. All other trademarks are the property of their respective owners. John Wiley & Sons, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: THE PUBLISHER AND THE AUTHOR MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS WORK AND SPECIFICALLY DISCLAIM ALL WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES OR PROMOTIONAL MATERIALS. THE ADVICE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR EVERY SITUATION. THIS WORK IS SOLD WITH THE UNDERSTANDING THAT THE PUBLISHER IS NOT ENGAGED IN RENDERING LEGAL, ACCOUNTING, OR OTHER PROFESSIONAL SERVICES. IF PROFESSIONAL ASSISTANCE IS REQUIRED, THE SERVICES OF A COMPETENT PROFESSIONAL PERSON SHOULD BE SOUGHT. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR DAMAGES ARISING HEREFROM. THE FACT THAT AN ORGANIZATION OR WEBSITE IS REFERRED TO IN THIS WORK AS A CITATION AND/OR A POTENTIAL SOURCE OF FURTHER INFORMATION DOES NOT MEAN THAT THE AUTHOR OR THE PUBLISHER ENDORSES THE INFORMATION THE ORGANIZATION OR WEBSITE MAY PROVIDE OR RECOMMENDATIONS IT MAY MAKE. FURTHER, READERS SHOULD BE AWARE THAT INTERNET WEBSITES LISTED IN THIS WORK MAY HAVE CHANGED OR DISAPPEARED BETWEEN WHEN THIS WORK WAS WRITTEN AND WHEN IT IS READ.

ISBN 978-1-119-74854-0 (pbk); ISBN 978-1-119-74856-4 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

For general information on our other products and services, or how to create a custom *For Dummies* book for your business or organization, please contact our Business Development Department in the U.S. at 877-409-4177, contact info@dummies.biz, or visit www.wiley.com/go/custompub. For information about licensing the *For Dummies* brand for products or services, contact BrandedRights&licenses@Wiley.com.

Publisher's Acknowledgments

Some of the people who helped bring this book to market include the following:

Development Editor:

Rebecca Senninger

Acquisitions Editor: Ashley Coffey

Editorial Manager: Rev Mengle

Business Development

Representative: Molly Daugherty

Production Editor:

Tamilmani Varadharaj

Table of Contents

INTRODUCTION	1
About This Book	2
Icons Used in This Book.....	2
Beyond the Book.....	2
CHAPTER 1: Understanding Product Analytics	3
Product Analytics in Today's World	4
The Five Parts of Product Analytics	5
Good data management.....	5
Behavioral insights.....	6
Product-led growth.....	7
Targeting and recommendations	8
Collaborative learning	8
CHAPTER 2: Establishing Good Data Management	9
Focusing on the Data That Matters Most.....	10
Ensuring Accurate, Secure, and Accessible Data	11
Data Governance in Practice.....	12
CHAPTER 3: Creating New Opportunities with Behavioral Insights	15
Understanding Behavioral Insights.....	15
Analyzing the Customer Journey	17
Getting Started with Behavioral Insights.....	19
CHAPTER 4: Leveraging a Product-Led Growth Strategy	21
Why Product-Led Growth Matters	21
Using a Product-Led Growth Framework.....	23
Exploring the Five Phases of the Product-Led Growth Journey.....	24
Acquisition	24
Engagement.....	25
Revenue	25
Retention.....	26
Expansion.....	27

	The Five Key Growth Tactics.....	28
	Using the North Star Framework	29
	Supporting Product-Led Growth	30
CHAPTER 5:	Unlocking Growth Potential with Targeting and Recommendations	33
	Powering the Era of Hyper-Personalization	34
	Achieving Sustainable Product-Led Growth with Targeting and Recommendations	34
	Using Machine Learning to Predict Behavior	35
CHAPTER 6:	A Collaborative Learning Culture	37
	Product Analytics Is a Team Sport.....	37
	Using a Collaborative Learning Framework.....	38
	Building a Culture of Trust	40
	Data storytelling.....	41
	Learning backlogs and experiment roadmaps	41
	Using the word “bet”	42
CHAPTER 7:	Answering Ten Questions with Product Analytics	43

Introduction

The most innovative digital teams use product analytics to deliver the world's most successful products. Household brands such as NBC, Gap, and AB InBev as well as business software giants like Intuit and HubSpot all use product analytics to bring their products to life.

Whether a new startup or a 20-year-old company in the midst of a digital transformation, product analytics is part of the toolkit for success.

Effective use of product analytics requires a cohesive five-part approach to product development that includes good data management, behavioral insights, product-led growth, behavioral targeting, and collaborative learning.

In today's market customers have more choices than ever before. Digital products compete for time, money, and attention, all the while customer expectations and demands are evolving at a rapid pace. Product organizations can either rise to these new challenges and keep up with those demands or risk becoming irrelevant to a competitor who can.

For many domains, shipping quickly is table-stakes. Other domains are not far behind. The winning product teams are learning as quickly as they ship. And to do that, they need product analytics.

Product analytics makes it easier for organizations to learn than ever before. The rate at which an organization learns impacts its rate of innovation, ability to recruit top talent, and growth. If it takes too long to learn, product decisions and efforts are slowed, or worse, skipped altogether.

Limited access to learning creates a risky and chaotic work environment talented people won't want to work in. Competitive salespeople, creative designers, influential marketers, talented engineers . . . few of these people can be successful or happy in an organization that isn't committed to making data-informed decisions.

With product analytics teams will create better customer experiences, unlock sustainable growth potential, make better product bets, and ultimately foster a culture of collaborative learning where teams are aligned and informed no matter how challenging the task ahead.

About This Book

Product Analytics For Dummies, Amplitude Special Edition is a blue-print for building winning products.

This book explains how product analytics shapes some of the most successful products from brands like IBM, HubSpot, NBC, NerdWallet, and more. You find out what's needed to effectively employ product analytics in your organization from a technical, practical, and organizational perspective.

Icons Used in This Book

We occasionally use special icons to focus attention on important items. Here's what you find:



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.



WARNING

Pay close attention to text with this icon to save yourself from roadblocks and other aggravations.



TECHNICAL
STUFF

If you like knowing the fine details of how something works, look for the text with this icon. Otherwise, you can safely skip them.

Beyond the Book

This book helps you understand more about the importance of product analytics. However, because this is a relatively short, introductory book to product analytics, be sure to check out the Amplitude website at <https://amplitude.com/> for more information.

- » Introducing product analytics
- » Stepping through product analytics: data management, behavioral analytics, product-led growth, behavioral targeting, and collaboration

Chapter 1

Understanding Product Analytics

Product analytics is a key component to building great products. This special type of analysis focuses on the data captured when people engage with a digital product. This behavior is tracked, visualized, and analyzed through the use of product analytics tools.

These real-time insights into engagement have dramatically changed the way product teams operate. Teams empowered by product analytics are “closer to the edge” — closer to their customers, their experiences, and better able to solve their problems.



WARNING

Teams that don't use product analytics are at a disadvantage. They understand less about customers, take unnecessary risks, work harder instead of smarter, and have less understanding about the impact of their work.

Fortunately, it's easier than ever for your organization to adopt and use product analytics. In this chapter, we introduce product analytics, discuss why teams need it, and offer a brief introduction to the five parts of successful product analytics.

Product Analytics in Today's World

Product analytics is proven to accelerate business and growth potential. In a survey of more than 350 business and product leaders, the use of product analytics was correlated with higher growth. Forty-four percent of businesses effectively using product analytics tools grew by at least 25 percent year-over-year (YoY), compared to only 8 percent of businesses that didn't, according to Amplitude's 2020 Product Intelligence Report.

Even more proof is found in the day-to-day usage by today's top brands. They employ product analytics to create entirely new product experiences that redefine what's possible in the digital world.

It's hard to discuss innovative product experiences without thinking of the products driving the at-home fitness revolution. One company, known for their bikes, treadmills, and boutique fitness classes streamed right to your home, grew to become a public company worth billions of dollars with millions of customers in less than a decade. Their product experience spans software, hardware, in-home installations, online and in-person retail, and content creation, as well as a thriving community of evangelists. Their teams use product analytics to understand those experiences and constantly improve, making them the success story it is today.

Also consider the longest continuously operating subscription TV service in the US. When the industry shifted from relying on cable network providers to including on-demand subscriptions across devices, they used product analytics to embrace that digital transformation head on. They pivoted their product offerings, reshaped their customer experiences, and quickly iterated to launch new products.

The insights gleaned from product analytics also shape the success of the top business-to-business (B2B) digital brands such as HubSpot, the B2B software giant that created the inbound marketing category. Their team leverages product analytics to build the software thousands of businesses rely on to run their daily marketing operations.



These high-profile success stories used product analytics to build new product experiences. Regardless of size or industry or whether your business is digital-native or not, companies of all shapes and sizes use product analytics to create better customer experiences and achieve success.

The Five Parts of Product Analytics

This book introduces product analytics with a five-part blueprint for success, including:

- » Good data management
- » Behavioral insights
- » Product-led growth
- » Targeting and recommendations
- » Collaborative learning



Modern product analytics tools use innovative technologies, including secure data processing, powerful querying engines, and artificial intelligence. While these technologies play a vital role, you do not need a technical background to be successful with product analytics. The following chapters focus less on technical details and implementation, and more on *how to be successful with technology*, including practical examples, frameworks, and best practices.

Good data management

Innovators used data to create, personalize, and grow customer experiences long before the digital age. From the first shop-keeper who memorized customers' names and buying habits to the sophisticated big data strategies we see today, every business runs on data.

Data management, or how an organization creates and keeps data organized and useful, is the first step toward achieving sustainable success with product analytics.



Good data management can feel like a moving target. That's because it isn't a destination, it's a journey. Without the right tools, people, and process to support that journey, data quality can decline.

WHY TEAMS NEED PRODUCT ANALYTICS

How is such a new solution making big impacts for some of the world's most successful digital products? The answer is simple. Product analytics help teams focus on work that matters. In the long-run, this means better outcomes for customers and teams alike.

Without product analytics, teams are reactive and always a step (or more) behind what their customers are doing or what their customers want. The situation is even worse for non-technical teams or executives who don't have the skills, the time, or access to find the data they need.

This figure shows the types of shifts product analytics help organizations make and highlights a few of the topics we touch on in the following chapters.

PRODUCT ANALYTICS SUPPORTS THE SHIFTS...

FROM	TO
Product as cost-center	Product as revenue engine
Delivery Velocity and "Ship and forget"	Outcome velocity and collaborative learning
Centralized and Siloed	Decentralized and accessible
Reporting	Testing, learning, and discovery
Pageviews and Clicks	Experiences, behaviors, and engagement
Counts	Relationships and milestones
"Unique Users"	Behavior-driven personas
Sign-up rates and conversions	Lifetime Value (LTV), retention, and expansion
Websites	Products and experiences

No matter how large or complex data problems might be, Chapter 2 makes the case for why teams need good data management and practical steps to get there.

Behavioral insights

After you have a good data management foundation, the introduction of behavioral insights is the next part of success with product analytics. Behavioral insights is a special area of product analytics that focuses on how customers interact with digital products.



WARNING

Don't confuse product analytics with another popular technology category, business intelligence (BI). Traditional BI tools, such as Tableau or Looker, ingest an organization's data from a cloud database, such as Amazon's Redshift or Snowflake, or an on-premises database. These databases, often called "the organizational source of truth," combine data from sources across the organization, including financial, operational, HR, customer, IT, and other cross-organization data sets. BI tools are data storage and visualization platforms; they're not built to create behavioral insights or support the sophisticated products of today. BI tools need a technical expert to implement and run SQL queries to find needed data. BI tools usually have less distributed access across teams and maintain a higher level of complexity for collaborating, adding, changing, or deleting data.

The use of behavioral insights arose because traditional feedback and learning took too long. Consider revenue, for example. Revenue is a lagging success indicator. A product might experience revenue growth in the same quarter customer engagement declines. It might take months or even several quarters to see that decrease in engagement reflected as a correlating decrease in revenue. Without insights into engagement with behavioral analytics, teams are reactive about the problem of lost revenue, rather than proactive months sooner about a decline in engagement.

Chapter 3 introduces behavioral insights, why it matters, and how to incorporate behavioral data into your product analytics.

Product-led growth

Growth is always part of the conversation for digital teams. Growth can't be an afterthought. Digital products either grow to keep pace with these changes or become irrelevant.

Product-led growth is a cross-functional growth strategy inspired by the potential of products. Product-led growth is the belief that design and technology — and the resulting product — can be a source of sustainable, differentiated growth. Product-led growth makes it easier for cross-functional teams to break down the silos between "the business" and "the product" and embraces the idea that the business is the product.

Chapter 4 outlines how to use product analytics to power a product-led growth strategy. Through examples, case studies, and a step-by-step look at the most essential growth metrics, you find out why you can't ignore product-led growth.

Targeting and recommendations

Small businesses, startups, and Fortune 500 companies alike all recognize product experience as their number-one competitive advantage and top new growth channel.

In the product-led era, customers have more choices than ever before. Who they give their money, attention, and data to matters. Personalized product experiences are made possible with the next part of product analytics: behavioral targeting and recommendations. This uses product analytics to create cohorts of customers based on their needs or interests and serves them personalized experiences.

Behavioral targeting is a win-win for the customer and the organization. It's a win for the customer because they have better experiences and a win for the organization because behavioral targeting unlocks untapped growth potential.

Chapter 5 explores the most successful strategies, how machine learning is influencing personalization efforts at scale, and actionable steps to introduce behavioral targeting as an extension of your product-led growth strategy.

Collaborative learning

Great products are built by teams. Great teams are built with the last part of product analytics: collaborative learning. Collaborative learning is a method of learning that promotes interaction and a shared responsibility to create knowledge. Collaborative learning within a product organization includes the workflows, tools, and culture around learning.

By applying the scientific process of discovery and experiments, a small cross-functional team can accomplish a staggering amount of success.

If great products are made by great teams, and teams are made of people, then great products are made by great people. A culture of trust creates a safe environment for people to be creative, take the right risks, and be themselves. Chapter 6 ties everything together into ways teams can work together to create the maximum impact from product analytics.

- » Deciding what data you want to track
- » Setting up a system with data that teams can trust
- » Building data governance

Chapter 2

Establishing Good Data Management

Data management, or how you plan for and organize behavioral data, is the first part of product analytics. The purpose of good data management is to make sure the right data is available, in the right places, to the right people.

First, you need to choose the right data to track. By focusing on the data that matters most, teams can achieve success sooner and avoid unnecessary risks. Next, you identify your product's various data sources and use data pipelines to integrate that data to your product analytics tool.

Product analytics needs to be accurate, secure, and accessible. At scale, this is achieved with team effort and intentional planning. Teams can deploy a mix of people, tools, and practices to create data governance. With data governance, teams ensure they're maximizing the usefulness of their product data, even as the data grows and changes over time.

Focusing on the Data That Matters Most

The data you choose to track with your product analytics tool determines the types of insights you can create. By focusing on the right data, your product analytics can help you:

- » Discover trends and insights.
- » Create dashboards about your customers' behavior.
- » Personalize customer experiences.
- » Use historical data to predict future behaviors.
- » Track and measure end-to-end experiences.

With product analytics, you use two main types of data to track and analyze user behavior:

- » **Events:** Represent distinct actions users can perform in your product
- » **Properties:** Attached to either users or events to give additional details

When deciding what events and attributes to include, narrow the focus and scope to only include data that:

- » Can be used to improve the customer experience
- » Helps teams align and measure impact on key performance indicators (KPIs)
- » Creates insights around engagement and end-to-end behavior journeys



WARNING

Instead of overwhelming yourself or your teams with too many events and properties, prioritize the most important events. By starting with a max of 15 to 20 events and properties, you have less noise, experience value from product analytics sooner, and have an opportunity to address issues early on.

When you start making decisions about the events and properties to send to your product analytics tool, you'll build this list in a specific format to create your data taxonomy. A *data taxonomy* is an organized collection of all your events, their names, definitions,

and properties. Typically, you would create your taxonomy in a spreadsheet during the planning stage and then import it directly to your analytics tool.

Ensuring Accurate, Secure, and Accessible Data

For product analytics to be successful, the data needs to be accurate, secure, and accessible.

Often a source of concern in product analytics is inaccurate data. One way to solve this problem is to map your customer experiences. This helps you understand all the data sources you currently have so you can integrate those sources directly into your product analytics tool. Modern product analytics tools, such as Amplitude, have data pipeline integrations to securely connect data sources, keeping product analytics accurate and up to date.

Product analytics can't help teams understand their customers or build great products if they don't trust their data. One example of this comes from the Boston-based public software company that defined inbound marketing as a category and now boasts more than 80,000 customers. Their head of Product Analytics said before adopting Amplitude his teams struggled with an in-house analytics solution.

His teams were frustrated by outages, slow load times, and unreliable reports. Over time it became clear: The challenge wasn't building their own analytics tool. Rather the challenge for them was maintaining a system that created organizational trust and engagement.

"This was like a death spiral," he said. "It got to the point where people were increasingly skeptical of the data that came out of the system and not using it very much."

Now about 600 people from the team use Amplitude's behavioral cohorts to discover which types of accounts are performing better than others. From there, they can understand how to improve the experience for those underperforming cohorts. "That's a really, really exciting thing for a team to discover."



TIP

While most of the data management focus is on the data you do want to include in your product analytics, it's just as important to be intentional about the types of data you don't want to include. Teams can avoid legal or security concerns by excluding Personally Identifiable Information (PII) as user properties. Because product analytics is primarily useful for discovering and understanding trends or patterns, personal data isn't needed or helpful. This also applies to the exclusion of sensitive data such as passwords, social security numbers, or credit card information.

In addition to being accurate and secure, your product analytics data should also be accessible. Because product analytics impacts all sorts of teams, it benefits from being democratized, or in other words, access made available to everyone without gatekeepers or hurdles.

Data Governance in Practice

Sometimes an organization works really hard to start using product analytics. They add lots of events. They get great insights. Things feel good. Fast-forward a year or two and the same team looks at their product analytics tool and feels confused or frustrated. There are unidentifiable or duplicative event names. Nobody knows what events actually mean or whether they're working. They don't trust the insights and can't depend on them to measure impact.

Data governance describes the people, methods, and tools used by organizations to ensure their data is accurate and useful. When teams need to rely on their data to make big and strategic decisions, effective data governance allows organizations to trust their insights.

The five main aspects of a data governance process for product analytics are:

- » **Curate the taxonomy.** Starting and maintaining the taxonomy and supporting documentation.
- » **Plan new events.** Works with the product and engineering teams to determine conventions and plans to instrument new features and updates.

- » **Set up data approval and maintenance.** Verifies data accuracy and addresses broken, missing, or inconsistent data on a regular basis.
- » **Control access.** Manages permissions and access controls to ensure the right data is accessible to the right people.
- » **Remove data.** Regularly removes outdated, irrelevant, or unused events and properties every 30 days to declutter the analytics tool.



WARNING

Data governance is a team effort. Inevitably data issues will arise. By collaborating with engineering teams early on, you can establish scalable approaches to instrument and test. When engineering teams are aligned on product analytics goals, it makes it easier for your data to keep pace with a rapidly changing product.



TECHNICAL
STUFF

Your taxonomy is part of a process called data instrumentation. Instrumentation is a process broadly used in programming that involves adding code to your product to start tracking the things you care about. Once tracked, there are a number of ways to start sending this information to a product analytics platform. With Amplitude you can send and receive data using one of the many Software Developer Kits (SDKs), an application programming interface (API), a direct integration with a customer data platform such as Segment, or a growing list of data pipeline integrations from tools such as Marketo, Intercom, and more. Implementation with Amplitude is made even easier with a built-in staging environment to test your instrumentation before merging new or updated data to your live account.

Here are five steps to build a foundation of good data management for your product analytics:

1. Identify the owner(s).

Understand who is responsible for each part of good data management. Ideally there is a dedicated data governor. It's also possible to list the data governance responsibilities and delegate those tasks across several people or departments.

2. Make a plan.

Be intentional. Your plan should include the main business objectives, which events and properties you plan to use, and how you'll incorporate data governance into your workflows.

3. Create a quality control process.

A process to verify events are being tracked and imported as expected, such as Amplitude's testing environment or permission controls, helps avoid unauthorized changes to your instrumentation.

4. Plan to fix data.

You won't always be the first person to notice when a part of your product analytics data is broken or missing. Create a centralized place, where people can log known data issues. Invest in understanding the features in your analytics tool that help you fix data problems. For example, in Amplitude validation rules and the ingestion debugger identify and resolve potential errors.

5. Get team buy-in.

Product analytics has better data management when teams are aligned. A shared vision, playbook, and simple workflows for product analytics help create sustainable data management.

AMPLITUDE DATA MANAGEMENT TOOLS

Amplitude's Govern features allow teams to easily automate and manage their data. Some of those features include:

- **Data connectors:** Use integrations, SDKs, and APIs to ingest and send data with Amplitude.
- **Data transformation:** Allows you to modify your instrumentation without code, including such things as merging or renaming event data. This is helpful when there are big changes to a feature, or a data strategy needs to change course.
- **Data controls:** Manage data access, notifications, privacy, and sharing across your organization. Data control helps prevent sensitive or malformed data from harming your analytics, which can be helpful for privacy protection or GDPR compliance, as well as maintain data quality for accuracy, security, and usefulness.

- » Understanding the business case for using behavioral insights
- » Gaining insight into customer journeys
- » Getting started with behavioral insights

Chapter 3

Creating New Opportunities with Behavioral Insights

Product analytics help digital product teams understand how people interact with their products using *behavioral insights*.

Now that there are more digital products and complex product experiences than ever before, teams use product analytics to improve digital experiences based on what they know people are *actually doing* in their products. Behavioral insights are a core function of successful product analytics.

Understanding Behavioral Insights

A key part of product analytics is understanding behavioral insights, a special focus on the data that tells you how users behave in mobile applications or on websites.

Before product analytics, analog businesses had a few advantages over digital in creating great customer experiences.

Consider the early days of an e-commerce website compared to a traditional retail experience. When a customer came into a store, the shopkeeper could greet them, ask if they needed help, have a conversation, show them relevant products, and take a hands-on approach to creating a pleasant and helpful end-to-end experience.

Compare this retail experience to an early e-commerce website. People would visit your site and you would have no idea they were even there. You wouldn't know which products they were looking at. When they had questions, you couldn't answer them. You couldn't save them time by suggesting products. You never knew how often people ran into payment problems.

Now digital experiences, from e-commerce to enterprise software, use modern technology to do things a little differently, and that's a good thing for businesses and customers. By tracking the right behavioral data across your digital experiences, you can use your product analytics tool to:

- » Create dashboards and share learnings.
- » Optimize your customer journey.
- » Discover meaningful patterns.
- » Identify high value opportunities for improvement.



REMEMBER

Events are discrete actions taken by users in your app or on your website. Events and properties form the bulk of your product analytics data. See Chapter 2 for more about events and properties.

Behavioral insights go beyond metrics such as monthly active users, page views, and clicks. You can use behavioral insights to understand complex customer behavior, even across multi-channel and multi-session experiences.

Consider how behavioral data might help you understand your product's retention. *Customer retention* is the percentage of customers active in a given period who are still customers in the next period. Retention rates are valuable success indicators because they measure how well your product works over time.



TIP

We revisit the topic of retention in Chapter 4. There you find more ways to use product analytics to measure growth, including how to use the North Star Framework to find the most important metric for your product.

Analyzing the Customer Journey

The business imperative for visibility into the customer journey has never been greater. According to Amplitude's 2020 Product Intelligence Report, 94 percent of the more than 350 digital businesses surveyed said getting a better understanding of their users' behavior is a priority.

When analyzing the customer journey, or the paths customers take in your product, you will find certain sequences of events matter most. These sequences of events are often referred to as *funnels*. Digital experiences such as onboarding journeys or check-out processes can be represented as a funnel.

To see a funnel in action, imagine your product is designed to help salespeople book appointments. With behavioral analytics you might discover that your users are more likely to become high-value customers once they use your product to book their first sales appointment. The users who never start the process or who “fall off” somewhere in the funnel before they finish are more likely to churn.

Sometimes valuable insights are found outside of these expected sequences. For example, some users might fall out of this funnel and instead take a different path that still leads to activation and better retention. These types of unexpected journeys can be analyzed using your analytics tool to look at emerging event patterns. Specifically, with the Journeys feature in Amplitude you can use machine learning to see all paths taken by converted and dropped-off users, group customers into cohorts, and measure outcomes to predict growth. Figure 3-1 illustrates a user journey analysis, or the process of examining the path your users take from the moment they interact with your website or app. These “maps” help you answer questions such as:

- » How do users download your product?
- » What are the first actions someone takes?
- » What incentives are given to return or reuse the application?

Often teams find that the most insightful behaviors from the customer journey are repeated behaviors. Together these repeated behaviors form a threshold of events, or a milestone. For example,

you might actually notice customers are more likely to have good retention once they book at least three new sales meetings instead of just one. These types of historical event counts reveal patterns of successful behavior you can use to inspire your experiments and improve the customer experience.

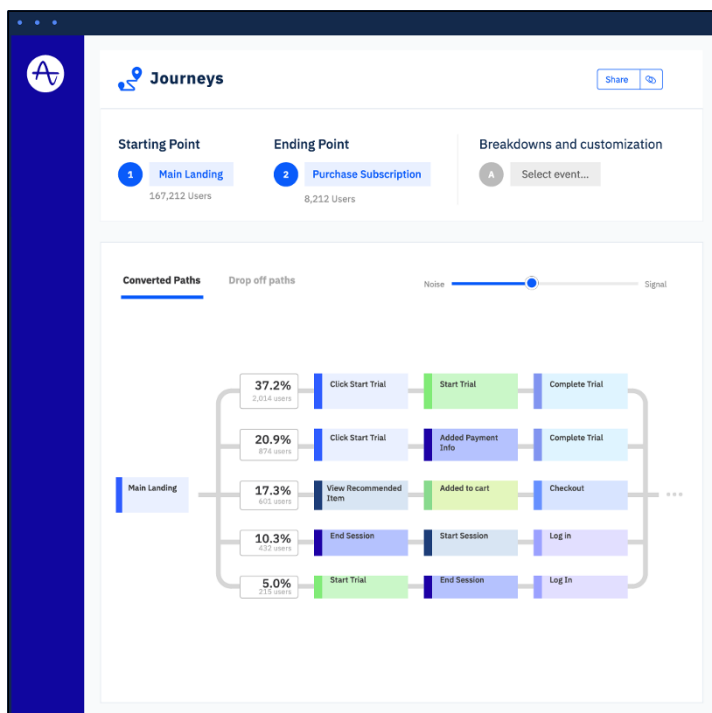


FIGURE 3-1: Create user journeys to understand customer behaviors.

With behavioral insights, you can

- » Make better product decisions.
- » Improve customer experiences.
- » Create alignment around measurable outcomes.

Teams make better product decisions with behavioral analytics. These unique behavioral insights help teams

- » Be data-informed or data-inspired.
- » Develop an appetite for experimenting and collaborative learning.
- » Reinforce the idea that product efforts should have measurable outcomes.
- » Maintain a customer-centric perspective.



TIP

Discover more ways to incorporate product analytics into your teams' workflows and encourage collaborative learning in Chapter 6.

Behavioral insights go beyond the decision-making phase to help teams improve customer experiences and shape how they measure the success of those improvements.

For example, at one of the leading companies providing accounting software for small and medium-sized businesses, their teams used behavioral analytics to improve one of their key metrics, a good new user experience (NEUX). A good NEUX sets users on a path for better Lifetime Value (LTV).

The head of Data Science and Analytics shared his team's experience with behavioral analytics in an Amplitude case study. There he explained how they drilled down into the behaviors of their best-performing power users to understand the actions they took in their first 45 days.

They then used those findings to reshape their NEUX, adding prompts to guide users through critical milestones. Behavioral analytics helped their team achieve an impressive 10 percent increase in activation.

Getting Started with Behavioral Insights

Incorporate behavioral insights to your product analytics strategy by starting with your overarching outcome objectives and defining the types of questions you want to answer. For example, you might want to answer questions such as:

- » How can we increase new user activation rates?
- » How can we better monetize our features?

- » How can we convince executives our feature launches are successful?

By defining the most important questions you have, it helps you focus on the behavioral insights needed to find the answers you're looking for.

AMPLITUDE BEHAVIORAL INSIGHTS TOOLS

Amplitude's behavioral insights tools are designed to help teams answer the most important questions about their customers' behaviors. By anticipating the types of insights teams need to be successful, these tools are fast, simple, and accessible. Some of those features include:

- **Funnels:** Analyze how users convert through a series of defined events to understand roadblocks or how to improve an experience.
- **Journeys:** Explore the interesting patterns of behavior between funnel steps to see what paths accelerate outcomes.
- **Milestone analysis:** Count events and track milestones over time using Historical Count, a feature exclusive to the Amplitude platform. Historical Count looks back at historical data and differentiates how many times users perform repetitive behaviors to identify event "thresholds" and the patterns of successful outcomes.

- » Understanding product-led growth
- » Understanding the five phases of product-led growth and growth tactics
- » Finding success with the North Star Framework
- » Measuring the most important metrics and events

Chapter 4

Leveraging a Product-Led Growth Strategy

Today's most successful digital product teams no longer think about products as a “cost center” but rather as a revenue engine. These teams recognize that the digital life cycle creates opportunities for measurable growth outcomes. These outcomes are referred to as *product-led growth*.

For effective product-led growth, you need to understand the various types of growth strategies, as well as how to use product analytics to identify the most important growth metrics unique to your products and customers.

Why Product-Led Growth Matters

Product-led growth is a cross-functional growth strategy that focuses on a product's measurable growth outcomes, including acquisition, engagement, revenue, retention, and expansion.

Product-led growth is an organization's unique competitive advantage. For example, consider the growth strategies with Google advertising. If you have a budget and understand Google

Ads, you can advertise on Google in a relatively similar way as your competitors. Advertising only has so many opportunities because the variables of advertising are outside of your control. You can't control the price-per-click Google charges as you and your competitors bid up the price for valuable keywords. You can't control how your competitors advertise. However, with product-led growth, you have almost limitless control over the opportunities to analyze behaviors, experiment, and fine-tune your product's unique value proposition and experience.

Product-led growth doesn't mean that the product replaces or rules over sales and marketing's contribution to growth. It also doesn't mean being led by product managers. And it doesn't only matter for certain products or industries. Product-led growth's relationship with sales and marketing is complementary and collaborative.

Companies invest in product analytics to enable product-led growth because they recognize that products are a revenue engine, a unique competitive advantage, and a driver of customer loyalty.

Recognizing a product as a revenue engine means using product experiences to acquire, engage, convert, and retain customers, while focusing on maximizing the lifetime value of customers. Teams that leverage their product as a revenue engine recognize the customer experience doesn't end at acquisition. Figure 4-1 illustrates a digital product's full experience.

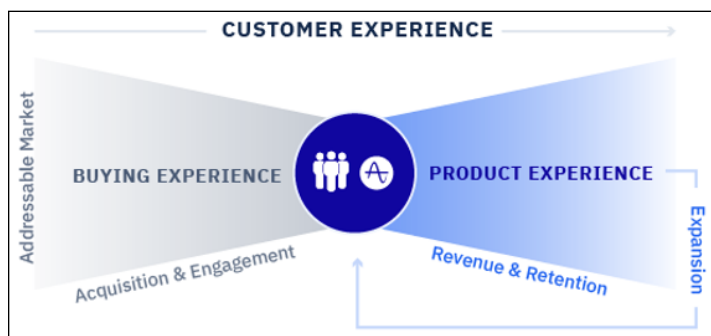


FIGURE 4-1: How a digital product is tracked over time.

Using a Product-Led Growth Framework

Product-led growth focuses on key phases of the customer experience, the metrics used to measure success, and the growth tactics teams use to influence those metrics. Several popular product-led growth frameworks, such as Google’s HEART framework, Reforge’s Retention Loops, and many others, inspired the product-led growth framework in Table 4-1. It shows the phases of the customer experience, the success loop involved, and the relevant product metrics, as well as the most popular growth tactics used across these phases. A success loop is defined by a series of desired outcomes that take place within a particular phase of the customer journey.

TABLE 4-1 **A Product-Led Growth Framework Focusing on Sustainable, Long-Term Growth**

Phase	Product Success Loop	Sample Product Metrics	Growth Tactics
Acquisition	Awareness	New User Acquisition	Education
	Exploration	Acquisition by Source	
	Assessment	Retention by Source	
Engagement	Discovery	Active Users	Optimization
	Activation	Feature Usage	
	Adoption	Conversion Rate	
Revenue	Value	Purchase Milestone	Experimentation
	Stickiness	Revenue Driving Events	
	Milestones	Repeat Purchases	
Retention	Onboarding	Retention Curves	Behavioral Targeting
	Value Over Time	Stickiness	
	Loyalty	Churn Reactivation	
Expansion	Endorsement	Referrals	Recommendations
	Increased Value	Repeat Purchases	
	Maximized Lifetime Value (LTV)	Cross-Sells Upsells	



Each of these phases is presented as a loop because products are not a linear sequence toward a static goal. They're a dynamic system of actions and outcomes that can be revisited, analyzed, and improved over and over again to discover more growth opportunities.

Exploring the Five Phases of the Product-Led Growth Journey

The following sections highlight how to use product analytics for each phase: acquisition, engagement, revenue, retention, and expansion.

Acquisition

Acquisition refers to a product's ability to acquire new potential customers and drive them to become revenue-generating customers. Here the product success loop includes product experiences that support

- » **Awareness:** The beginning of the acquisition phase starts with awareness. It's not enough to have a great product or a new feature if nobody knows it exists.
- » **Exploration:** The next step is exploration. This is going beyond the brand, home page, or product update to understand how your product might be helpful or entertaining.
- » **Assessment:** The point of exploration is assessment. During assessment, a user learns the utility or entertainment value to answer the question: *"Could this be for me?"*

The metrics to measure success in the acquisition phase include

- » **New user acquisition:** Calculates how your audience acquisition changes over time.
- » **Acquisition by source:** Explores acquisition rate by channel or campaign over time.
- » **Retention by source:** Analyzes the long-term impact of an acquisition channel or campaign by seeing which have the best retention over time.

Engagement

The engagement phase refers to how a product either increases overall product usage or targets usage of a particular feature or set of features. The product success loop for the engagement phase includes product experiences that lead to

- » **Discovery:** When assessment is positive, it leads to discovery or an “ah-ha” moment where the user recognizes potential value.
- » **Activation:** Beyond discovery, a new user could be considered activated if they are a new sign-up or reach a certain event in your funnel. For an existing customer, activation might mean finding value in new features.
- » **Adoption:** Once a user is activated, the next part of the engagement loop is adoption. They have enough information to create an informed perception of value, as well as decide how they will determine whether a product or feature is worth their time or money.

A few examples of engagement metrics include:

- » **Active users:** Starts with defining a user as active once they do something meaningful in your product. Then apply a time band such as daily, weekly, or monthly to see how many active users you have on a regular basis.
- » **Feature usage:** Shows which features are used, how often, by who, and the most and least popular features.
- » **Conversions:** Tracks the outcome of key events or value exchanges to see how users progress through critical paths to value.

Revenue

The revenue phase represents monetization events. These events are usually tracked with conversions or revenue driving events. The product success loop for the revenue phase includes product experiences that lead to

- » **Value:** The goal of digital experiences is to create value. Here it's up to the brand or product experience to execute and hold up to expectations.

- » **Stickiness:** The next part of the journey is “stickiness.” Here the user engages with some aspect of the product and experiences value. For example, this might be a “freemium” product experience or a free trial.
- » **Revenue milestone:** When a user realizes enough value or perceived value, they become a customer to continue receiving or pursuing that value. A revenue milestone represents monetization events such as a purchase, subscription, or upgrade.

Some examples of metrics from the revenue phase include

- » **Purchase conversion rate:** Represents the percentage of people who enter a purchase event funnel and how many make a purchase.
- » **Total revenue driving events:** Tracks the growth of your revenue driving events over time.
- » **Predicted LTV:** Identifies the users who have the highest LTV potential.

Retention

Retention is one of the most important reasons digital teams can’t afford to ignore product-led growth. Retention is a time-based comparison of value metrics such as revenue or engagement to understand how those metrics change over time. For example, a customer would be considered retained if their account is active one month and they’re still active the following month. If they cancel their account during that time period they would be considered “churned.”

The product success loop for the retention phase includes

- » **Onboarding:** Whether onboarding is explicit in the product or not, every digital product has onboarding. This is where a customer learns how they will be successful.
- » **Value over time:** To retain customers, your product or features have to deliver more value over time.
- » **Loyalty:** As customers experience consistent or increasing value over time, it creates loyalty. Loyalty creates sustainable growth because it simultaneously diminishes churn while driving low-cost awareness.

A few metrics used to analyze retention with product analytics include

- » **Retention curves:** Measures various types of retention using *retention curves*. Divide by customer segments, behavioral cohorts, campaigns, or channels to see the differences in retention.
- » **Stickiness:** Shows how frequently users engage with your product in a given time period, such as multiple times in a day, week, or month.
- » **Churn:** Represents the number of users who do not come back. If you're tracking retention you should also track churn to investigate these experiences, strategize reactivation, and ensure other customers don't have this experience.
- » **Reactivation rate:** Tracks customers who churn but eventually come back and reactivate. Often referred to as reactivated, resurrected, or "boomerang" customers.



TIP

To learn more about retention, visit Amplitude's online play-book *Mastering Retention* at www.Amplitude.com/mastering-retention.

Expansion

Expansion in the product-led growth framework represents new business opportunities possible through product experiences. It includes everything from in-app opportunities to make referrals to the tactics used to increase revenue from existing customers such as upgrades or renewals.

The success loop for the expansion phase includes product experiences that lead to

- » **Endorsement:** A significant sign of customer loyalty is the willingness to make a referral, leave positive reviews, participate in case studies, or evangelize on social media.
- » **Increased value:** Increased value might mean making more purchases, upgrading a subscription, or expanding a subscription to include more users.
- » **Maximized lifetime value (LTV):** The ultimate goal of the expansion loop is to maximize the lifetime value (LTV) of your customers.

A few examples of expansion metrics include

- » **Referrals:** Reports on which users make referrals (and when) and filter users sourced through referrals.
- » **Repeat revenue:** Shows how many customers are coming back to be monetized again and again.
- » **Cross-sells:** Tracks when your customers are monetized in more than one of your products.
- » **Upsells:** Shows revenue generated through add-ons or offers.

The Five Key Growth Tactics

Product teams can use five key growth tactics to maximize product-led growth, including

- » **Education:** A focus of creating product-led growth is identifying opportunities to increase awareness. Education is especially vital for products that are complex, have long life cycles, or frequent updates. Product analytics is particularly helpful for identifying the right people to educate at the right time, and then determining whether that education was effective.
- » **Optimization:** While it's common to assume building new features and products would lead to product-led growth, often there is just as much (if not more!) growth achieved by improving the features and experiences that already exist. These subtle improvements are referred to as optimizations, or micro-optimizations.
- » **Experimentation:** Two main types of experiments drive growth. The first involves releasing something small and then doubling down on it if it's a success. The second involves A/B testing to find the top performer. Sometimes experiments won't feel successful, but often they illuminate new discoveries that wouldn't have been found without broad support for experimentation.

- » **Behavioral targeting:** With product analytics, teams use behavioral data to create better customer campaigns and experiences for particular groups. See Chapter 5 for an in-depth look at behavioral targeting.
- » **Recommendations:** Personalize product experiences and make relevant recommendations.

Using the North Star Framework

Digital products have so much growth opportunity that it's possible for teams to "lose sight of the forest for the trees," meaning they pay attention to growth and have growth wins, but they don't feel focused or create the *right* wins.

The North Star Framework is a four-part product management model developed by Sean Ellis, a pioneer of the growth hacking movement. Product teams use this framework to identify a single metric that "best captures the core value that your product delivers to [its] customers." The four parts of the framework include

- » **The North Star Metric:** This metric is a single rate, count, or ratio that represents your product strategy.
- » **Results and value:** The North Star Metric is a leading indicator of sustainable business results and customer value. As this metric changes, results change accordingly.
- » **Inputs:** A small set of contributing factors (3-5) that you believe most directly influence the North Star Metric. These inputs should be both descriptive and actionable.
- » **"The Work":** The North Star Metrics and inputs should be connected to the tasks of research, design, engineering, and such. The work these teams do should be guided by their North Star Metric and inputs.

See Figure 4-2 for an illustration of the four parts of the North Star Framework.



TIP

To learn more about the North Star Framework, including how to host a North Star workshop, read Amplitude's North Star Playbook at www.Amplitude.com/North-Star.

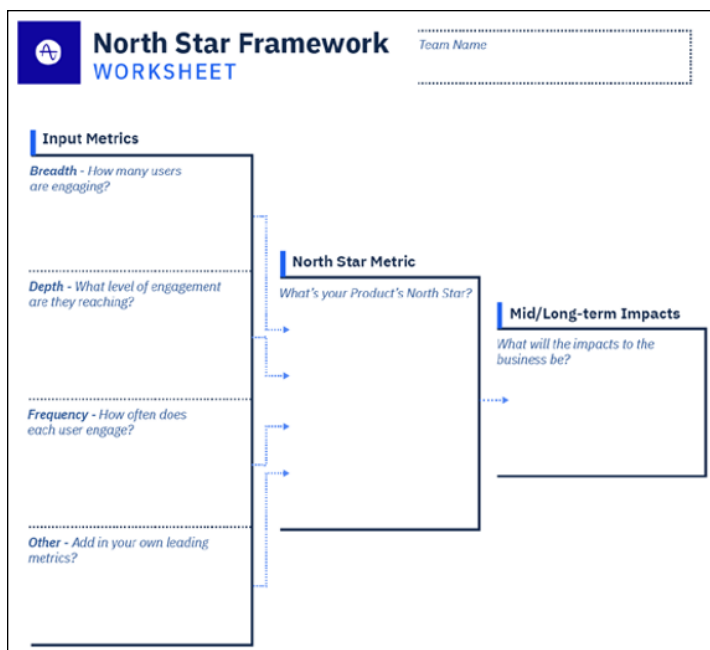


FIGURE 4-2: The North Star Framework.

Supporting Product-Led Growth

To maximize product-led growth, teams need more than metrics, tools, and tactics. They also need an intentional and supportive environment.

Without a product-led growth focus, teams fall into the “feature factory” trap, accountable to a schedule of new output, without consideration of impact or time for experiments.

Product teams with successful product-led growth share three things in common:

- » **They are obsessed with their customers.** They interact with their customers directly and use data to inform product discovery, not just to validate decisions.
- » **They decentralize decision-making.** The people who are closest to the customers have the power to act.

AMPLITUDE PRODUCT-LED GROWTH TOOLS

Amplitude has tools designed specifically for product-led growth.

- **Engagement matrix:** Shows the overall engagement of features in your product by breadth and frequency.
- **Impact analysis:** Helps you understand how first-time engagement with one feature affects the rate of other behaviors.
- **Retention analysis:** Shows how often users return after taking a specific action. Segment by behavioral cohorts, customer segments, and campaigns channels.

» **They understand and communicate the impact of their work.** Product teams set objectives and key results (OKRs), then share these outcomes in a way that builds trust between product teams and the broader business.

- » Breaking away from the one-size-fits-all strategy towards personalization
- » Sustaining growth through targeting and recommendations
- » Predicting outcomes and personalizing experiences with machine learning

Chapter **5**

Unlocking Growth Potential with Targeting and Recommendations

Widespread digital adoption means modern consumers are keenly aware of what's possible with behavioral targeting. While most wouldn't know to label their expectations "personalization," customers recognize the difference between products designed for them versus products designed for everyone.

From having to skip through forms that aren't relevant to getting "tips" or messages that don't make any sense, customers recognize when a product treats everyone the same because it often doesn't work very well.

Innovative product teams use behavioral targeting and recommendations to personalize and improve customer experiences. Both rely on product analytics and machine learning to identify groups of users based on past, present, and predictable behavior. At scale, meaningful targeting and recommendations create a sustainable channel of product-led growth.

Powering the Era of Hyper-Personalization

Personalization swept the digital world so fast that many teams are still struggling to adapt to the new expectations of today's customers. According to joint research done by the *Harvard Business Review* and Amplitude, 81 percent of digital product leaders say that users' expectations for great digital experiences have never been higher.

In addition to rising customer expectations, products also have to compete for attention in an increasingly noisy world. It's no longer effective to send the same messages to everyone at the same time.

The concept of targeting isn't new. Traditionally teams relied on static inputs such as demographic data to analyze their customers.

Product analytics enable teams to use behavioral segmentation, dynamic targeting, and impact measurement. This helps product teams build experiences for groups of customers, called *cohorts*, based on what they do, not just what they say. In digital products, that means creating personalized experiences and marketing campaigns based on past, present, and predictable behaviors.

Achieving Sustainable Product-Led Growth with Targeting and Recommendations

Targeting and recommendations expands the potential for product-led growth. Using product analytics to create personalization is sustainable because it unlocks new growth opportunities from low-cost, predictable channels.



REMEMBER

When an app or digital product uses personalization, it means targeting the right person, at the right time, with the right experience.

Behavioral targeting creates a new sustainable channel for product-led growth. Unlike high-cost or volatile acquisition strategies, the investment in behavioral targeting can be minimal and still have a big impact. For example, when product teams

introduce behavioral targeting to an existing acquisition strategy, it can reduce acquisition costs.

One of Amplitude's customers, a Colombian delivery tech startup operating in over 28 Latin American cities, shared that by focusing on high impact segments and targeting those audiences with personalized campaigns, they increased first-time orders by +10 percent and decreased acquisition costs by 30 percent. This is a huge win considering this product brings in millions of new users each month.

Using Machine Learning to Predict Behavior

Product analytics at scale with targeting and recommendations adds more complexity to your product-led growth strategy and your dataset. Figure 5-1 shows the inverse relationship between complexity and personalization.

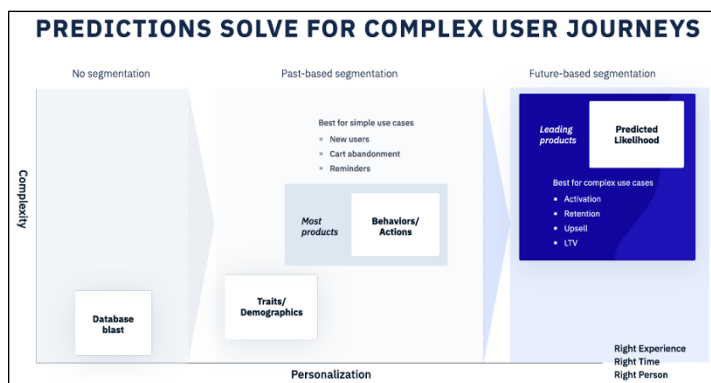


FIGURE 5-1: As more personalization is added, analytics becomes more complex.

At some point there is so much data in play that teams are limited, not by their data, but by their ability to process data with traditional analytics and human intellect.

Fortunately, product analytics data is a prime candidate to benefit from the latest machine learning technology. Machine learning, such as Amplitude's Nova AutoML System, is the use of computer algorithms and statistical models programmed to learn

from a dynamic database and make predictions. A core function of machine learning is its ability to learn and improve without being explicitly programmed. This means teams can use machine learning to tackle complexity without having to explicitly update their algorithms as their datasets grow or change.

Consider the success of another Amplitude customer, a media giant known for producing and distributing premium content. They use out-of-the-box machine learning features to predict the likelihood of someone subscribing with a welcome series email campaign. They found the top 20 percent of recipients had a 5 percent lift in performance, but the bottom 80 percent had a *negative* 25 percent lift. These insights led their team to stop emailing the bottom 80 percent of their audience and led to an overall increase in revenue.

Machine learning features embedded within your product analytics platform allow you to

- » Use out-of-the-box predictive algorithms to analyze the likelihood of outcomes.
- » Create personalization based on likely future outcomes.
- » Be proactive about risks or outcomes before they happen.

With flexible modeling, you can predict almost any outcome and see how the underlying models retrain on a daily basis.

AMPLITUDE TARGETING AND RECOMMENDATION TOOLS

Amplitude's features for targeting and recommendations include proprietary machine learning, as well as a growing number of integrations marketing teams can use to power their campaigns.

- **Predictive cohorts:** Uses machine learning to group users together based on the actions Amplitude anticipates they will make in the future.
- **Engage:** Engage extends behavioral and predictive cohorts into the marketing tools you use, making it possible to run targeted campaigns.
- **Destinations:** Integrate cohorts to engage audiences with the tools for advertising, marketing automation, and in-app messaging, including Facebook, Google, Marketo, Appcues, and more.

- » Recognizing product analytics and learning is a team sport
- » Using a collaborative learning framework
- » Building a culture of trust

Chapter 6

A Collaborative Learning Culture

Maximizing the value of product analytics involves collaborative learning.

When teams embed learning into their workflows, they accept a shared responsibility for knowledge discovery. Over time, curiosity and a focus on measurable outcomes build trust.

Organizations with a culture of trust emphasize learning and measurable outcomes. A culture of trust maximizes the potential for creativity and increases innovation.

Product Analytics Is a Team Sport

Today's complex digital experiences make it impossible for one person to be an expert in every aspect of the customer journey. Product analytics is a team sport. Insights have a limited impact if you're the only one who learns from them.

Collaborative learning is a method of learning that promotes a shared responsibility to create knowledge. Collaborative learning

within a product organization includes the workflows, tools, and culture around learning.

Using a Collaborative Learning Framework

Organizations that maximize the flows of learning 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 a future destination and instead start thinking in loops.

A learning loop is designed to inspire discovery, kick off experiments, measure outcomes, and continuously learn. Figure 6-1 illustrates the four-step framework to use learning loops in your organization.



FIGURE 6-1: The framework for learning loops.

Step 1: ASK

Start a learning loop off by asking questions. For example, you might ask questions 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?

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

Step 2: ACT

Use the learnings gained from Step 1 and decide your course of action. Align on decisions and drive action.

Step 3: MEASURE

Use product analytics to measure the outcomes of your actions. Be sure every release is tied to a measurable outcome with cohorts that can be tracked over time.

COLLABORATIVE LEARNING WITH THE LEADER OF AT-HOME FITNESS

An American at-home fitness company, the self-proclaimed “stickiest” fitness product of all-time, is known for its passionate community. From thriving groups on Reddit and Facebook, to in-person meetups at retail locations and virtual run clubs, to people getting tattoos of their logo, the vibrancy of their community is unique.

This team’s success is especially impressive when you consider what it takes to create the product experience: a mix of hardware, software, studio production, retail, and even in-home installations.

The Director of Product spoke at Amplitude’s Amplify 2020 conference and shared his team’s experience using collaborative learning and product analytics. By giving a behind-the-scenes look at some of his team’s unsuccessful and scrapped features, he highlighted how those failures created new learnings that ultimately inspired some of the most engaging features they have today.

Learning from failure and not letting pride or ego get in the way of a good product experience doesn’t happen naturally. “You have to show vulnerability in order to make that work,” the Director of Product said.

Step 4: SHARE

Broadcast your learnings whether it was a successful change that drove impact, a neutral change, or a negative change that you had to roll back. Use this opportunity to give your team the freshest perspective possible as you prepare to embark on your next challenge.

While it might sound counterintuitive to product managers who are used to linear thinking such as with sprints or roadmaps, a loop sets the expectation from the beginning that learning and building products is one continuous cycle.

Building a Culture of Trust

When an organization emphasizes collaborative learning and teams trust both their data and each other, it builds a culture of trust. A culture of trust emphasizes the importance of learning, recognizing the possibility of failure, and increasing innovation.

Teams learn to trust each other through the course of collaborative learning. Teammates who can be counted on to make data-informed decisions, measure outcomes, and broadcast learnings, help leadership trust that even if a product initiative fails, the organization still gains valuable learnings.

With trusted product analytics data and learning workflows, it's easier for leadership to be generous with trust. In an organization with rampant trust, leadership drives the vision and is confident with decentralized decision-making.

In a culture of trust, organizations appreciate discovery and have an appetite for experimentation. This culture creates a rational and predictable work environment, where it's easier for people to feel included, calm, and able to make an impact. With product analytics and an emphasis on collaborative learning, teams know that even when faced with negative results, they can still be genuine about failures and maintain the integrity of collective learnings.

A culture of trust increases innovation because it helps teams achieve the full potential of their creativity. As emerging technology, such as machine learning or artificial intelligence, plays

a bigger role in product development, the creativity output from teams becomes more valuable. Organizations that value learning and trust their employees create a safe environment to share ideas, be vulnerable, and gain the courage needed to take the right risks.

The following sections details three actionable steps to improve collaborative learning with product analytics.

Data storytelling

Data in its raw format isn't enough to understand a problem or motivate people to solve it. "No one ever made a decision because of a number. They need a story," said Daniel Kahneman, a Nobel Prize-winning psychologist.

Data storytelling means compiling data and insights in a format that is compelling and easy to understand. Storytelling with product analytics ranges from big opportunities such as stringing together live dashboards in a narrative that uses text and rich media to tell a story, to small opportunities such as annotating your charts on a regular basis.

When it's time to make big product decisions, data storytelling accelerates collaborative learning and increases team buy-in.

Learning backlogs and experiment roadmaps

Most product teams are familiar with the concept of a backlog. A backlog is a list of ideas, tasks, features, bugs, or updates that aren't on the roadmap or currently being worked on.

Similarly, most product teams either use roadmaps or are familiar with their meaning. While there are lots of tools, methods, and variations to product roadmaps, in general a *roadmap* is a high-level view of the projects your team is working on and plans for the future.

To emphasize collaborative learning, teams can create a learning backlog and an experiment roadmap. Because teams need to learn as often and as quickly as they ship, this strategy "productizes" learning, so insights stay organized and keep pace alongside development.

Using the word “bet”

Framing product decisions as “bets” unlocks conversations about risk, learning, and opportunity. When you make a product bet, you acknowledge that even with product analytics and a talented team on board, there is still risk.

Instead of saying “We should build feature X” instead, you would say “Feature X is a bet I’d be willing to make.”

From the beginning, the word bet frames the conversation around the fact that you could be wrong. People lose bets all the time. Losing a bet is to be expected because every bet can’t be a winner. When you talk about bets instead of features or hypothetical outcomes, you create a proverbial safety net that allows teams to acknowledge failure, learn, and move on, rather than double-down on losing bets because failure was never part of the conversation.

AMPLITUDE’S COLLABORATIVE LEARNING TOOLS

Amplitude’s product analytics platform has collaborative learning tools to help teams communicate and share insights, including

- **Dashboards:** Customizable dashboards feature built-in tools for collaboration, including annotations, the ability to leave comments, mention teammates, and even a “TV mode” that displays large-format visuals to broadcast key metrics on public displays.
- **Notebooks:** Notebooks are dynamic documents in Amplitude designed for data storytelling. Use notebooks to embed live charts, point out relevant takeaways, add rich media, and give overall context for your data. Share notebooks and collect feedback to align teams around learnings as well as future projects.
- **Team Spaces:** A Team Space is a place for teams to organize charts, dashboards, notebooks, and cohorts. Team members who join a Team Space are subscribed to email updates, so they know whenever new content is added.

Chapter 7

Answering Ten Questions with Product Analytics

Product analytics helps product teams answer important questions about their customers, experiences, and product performance. Here are questions followed by the type of analysis you would use in Amplitude to find your answer.

- » *How many users used Feature X last month in the EU?* **Segmentation:** Segmentation lets you define which users, time periods, countries, and other criteria to analyze.
- » *How does retention for customers from paid advertising compare to retention for customers from SEO?* **Retention:** Retention analysis shows how often users return to your product over time. Set different types of retention time period tracking and compare different scenarios, such as retention curves for different cohorts.

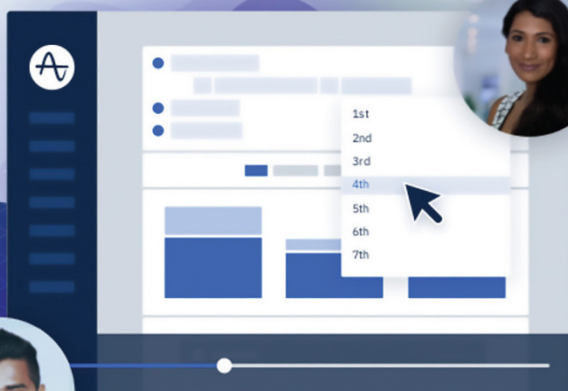
- » *Why do most of our users fall off in our onboarding funnel?* **Funnels with conversion drivers:** Funnels are a key tool for uncovering friction points. Conversion drivers show the difference in behaviors between users who convert and those who drop off.
- » *How can we see emerging user behavior?* **Pathfinder:** Pathfinder shows all the events and paths between chosen events users take within your product during a chosen time.
- » *How do power users behave differently from other users?* **Stickiness:** Stickiness shows the distribution of engagement levels. The graphs tell you how many users have formed product usage habits.
- » *Which features are top-performing and which features are good candidates for deprecation?* **Engagement matrix:** Use an engagement matrix to determine which features are used and which aren't. The matrix helps you compare breadth and frequency. Breadth is the number of users in the product at any one time and frequency is how often they use a feature over time.
- » *What is the retention rate for all users who have used Feature X in their first 30 days?* **Behavioral cohorts:** Behavioral cohorts are groups of users who act in similar ways within a specific time period.
- » *How many times does a user use Feature X before they convert?* **Milestone analysis and historical counts:** Allows you to track the behavior of a desired outcome with milestone analysis. Use historical counts to analyze how repetitive behaviors influence outcomes.
- » *What is driving this sudden drop in our KPI?* Amplitude automatically monitors subgroups' metrics, detects meaningful changes, and explains impact.
- » *What do users do instead of converting?* **Journeys:** Journeys uncover patterns of behavior and drive transitions between two key states, such as free to paid, or those that cause friction.



Build smarter, faster, and *together*

Product intelligence gives teams the data and insights they need to build great product experiences—and do it at scale.

Let's talk about conversion drivers.



Seeing changes in retention? Let's explore.

■ Learn more at www.amplitude.com

Drive real growth with a product-led strategy

Product analytics is key to growing a digital business. It encompasses a five-part process that includes good data management, behavioral insights, product-led growth, targeting and recommendations, and collaborative learning. Product analytics help product teams create the best customer experiences, increase loyalty, and create sustainable growth. With *Product Analytics For Dummies*, Amplitude Special Edition you learn how to maximize your success with product analytics.

Inside...

- Use data management best practices
- Understand user behavior and patterns
- Increase product-led growth and revenue
- Personalize experiences with targeting
- Build trust with collaborative learning



Brittany Fuller was Chief Strategy Officer at Resume.io & a co-founder & CEO at Roadmap. In her work, she's helped millions of people improve their careers. **Anastasia Fullerton** is a product expert at Amplitude where she's helped hundreds of companies adopt product analytics to drive growth.

Go to **Dummies.com™**
for videos, step-by-step photos,
how-to articles, or to shop!

ISBN: 978-1-119-74854-0
Not For Resale

**for
dummies®**
A Wiley Brand



WILEY END USER LICENSE AGREEMENT

Go to www.wiley.com/go/eula to access Wiley's ebook EULA.