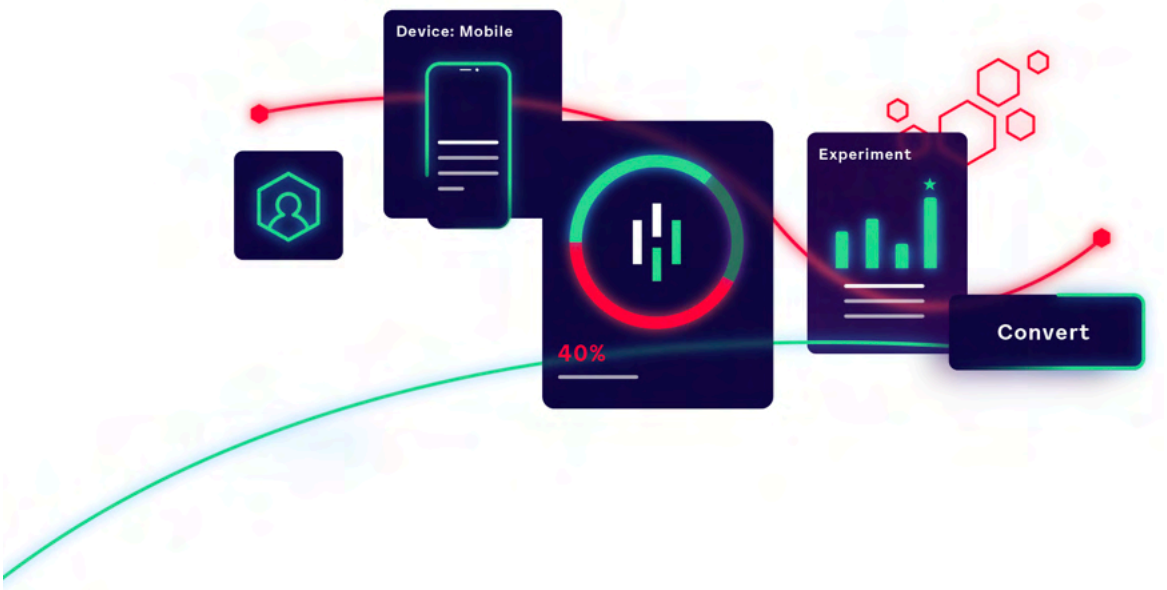
Heap

How to Increase Revenue by Measuring Customer Behavior



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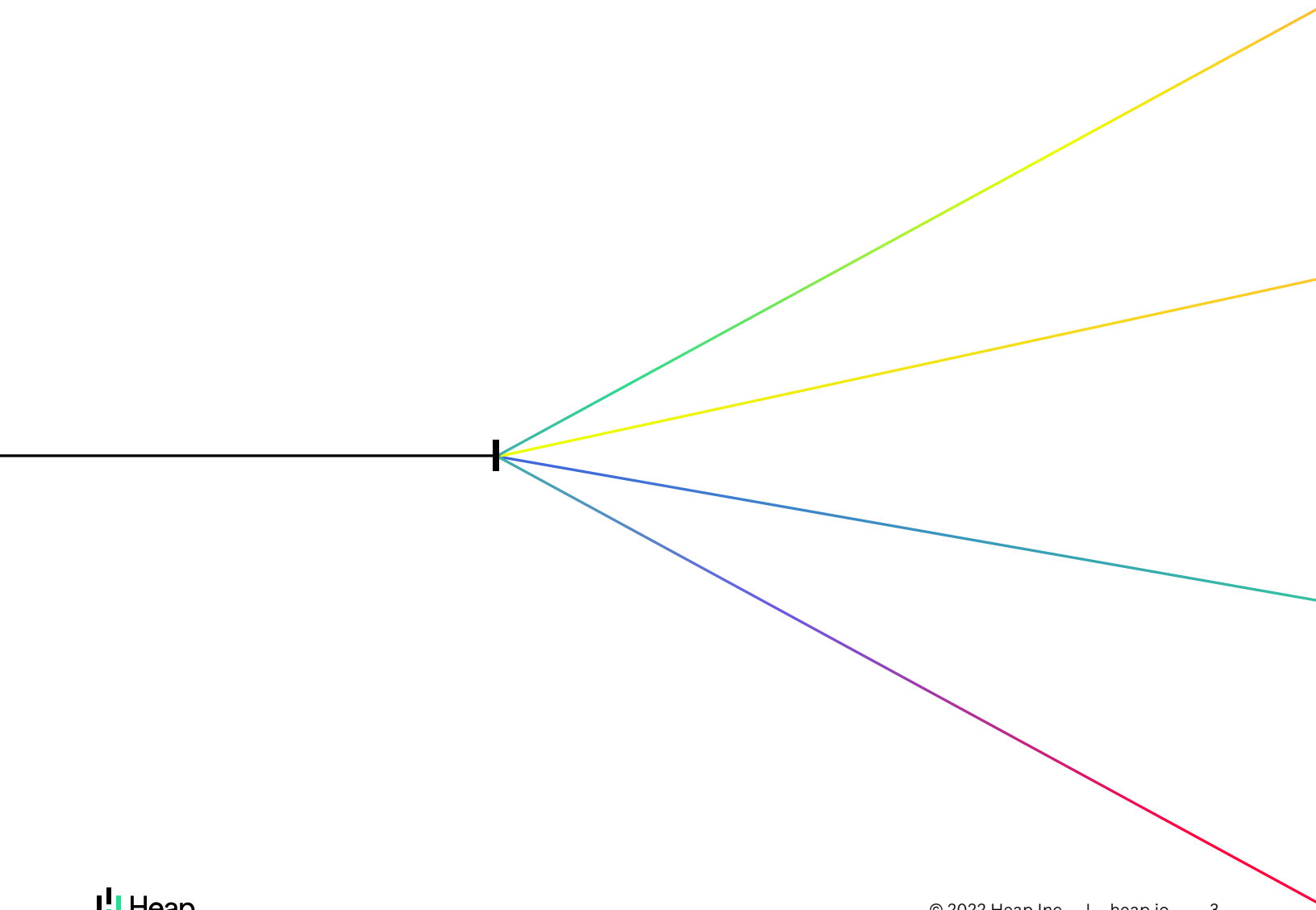
CHAPTER 1

Introduction



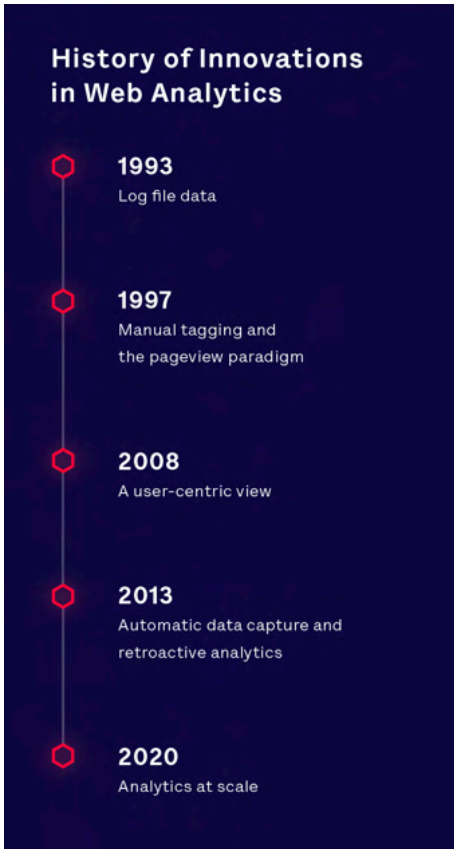
Introduction

Since 1993, the Internet has seen several significant evolutions in the way web traffic is measured. Analytics has changed rapidly from its humble beginnings as hit counters for web pages, to server log events, manual event tagging, and now to fully automated technology that tracks the entire customer journey.

Today, the industry is worth over $3 billion.[1] Meanwhile, 50% of brands say they still don't have the tools they need.

The numbers speak for themselves: analytics will continue to become an indispensable tool for brands and businesses.

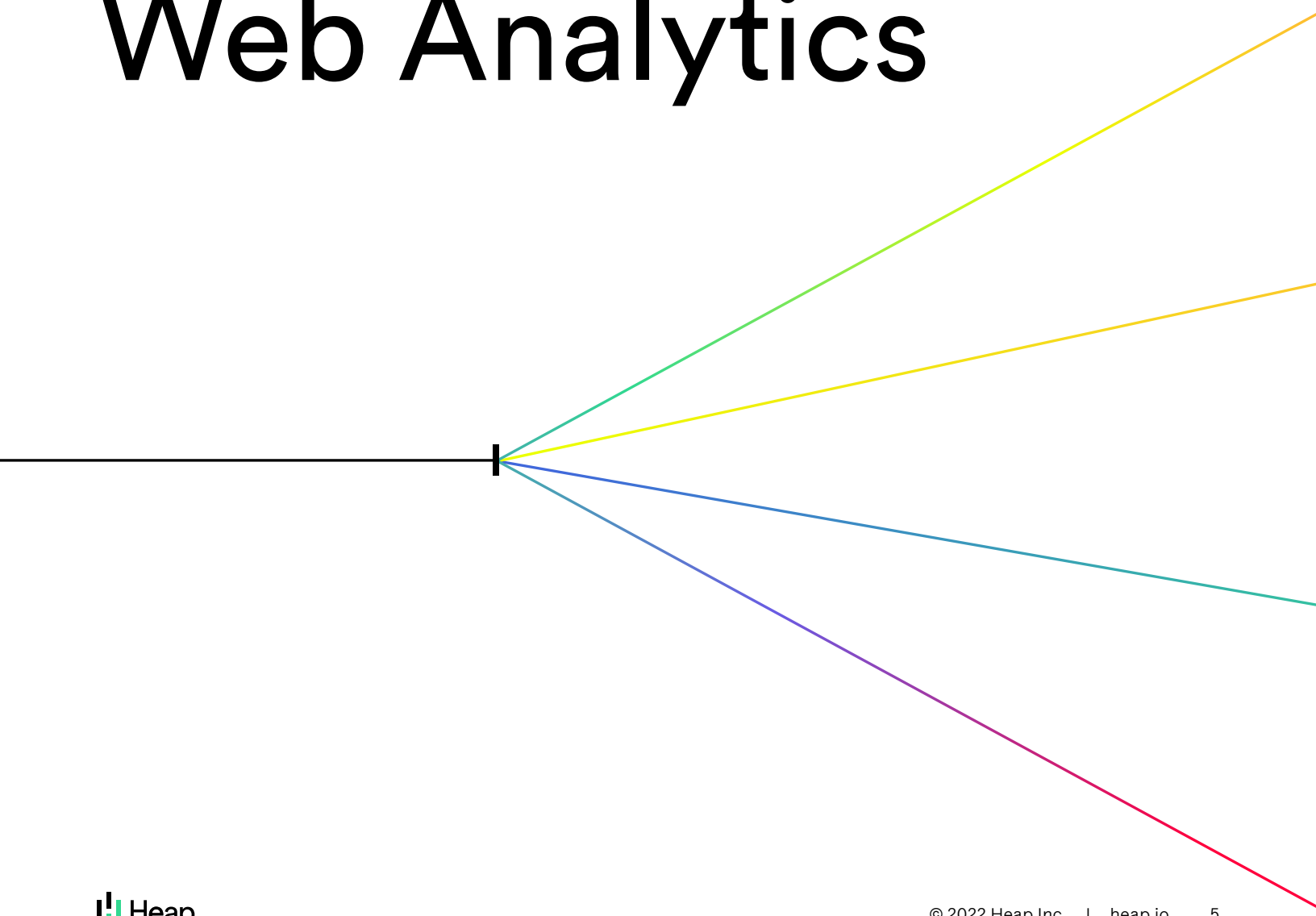
To get a full understanding of the potential that analytics can unlock, we need to understand how we got here.



[1] https://www.marketsandmarkets.com/PressReleases/web-analytics.asp

CHAPTER 2

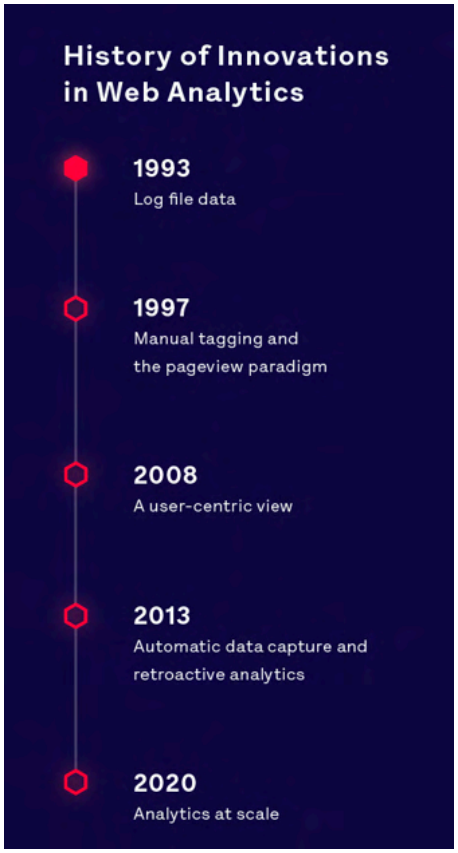
The History of Innovations in Web Analytics



The First Innovation

1993 – Log file data

The 90s were a simpler time for the web. Websites were “web pages” and everything was static. These web pages didn’t require much effort to track, so the hit counter was all that was needed. Anytime a web page element was requested or loaded it was called a “hit,” a very crude metric for recording page visits.



In the very beginning, a basic understanding of web page activity could be grasped by reading and interpreting server log file data. Server log files kept a record of HTTP request information with attributes such as the source IP address, timestamp, the request type, status, and bytes transferred. But the problem with this data is that it required technical skills to access and interpret. Analog was the first free log file analysis tool which made log file data more understandable to the average user. Only premium analytics solutions like Business Objects helped users understand the insights from these technical sources, and they were out of the price range for anyone but enterprise businesses.

Around this time, web page counters were popularized, with the most popular being HitWebCounter. These counters gave you a basic idea of your product and company’s health but zero visibility into what your users are doing. Then came Analog, the world’s first free log file interpreter, which paved the way for the analytics industry.

The Second Innovation

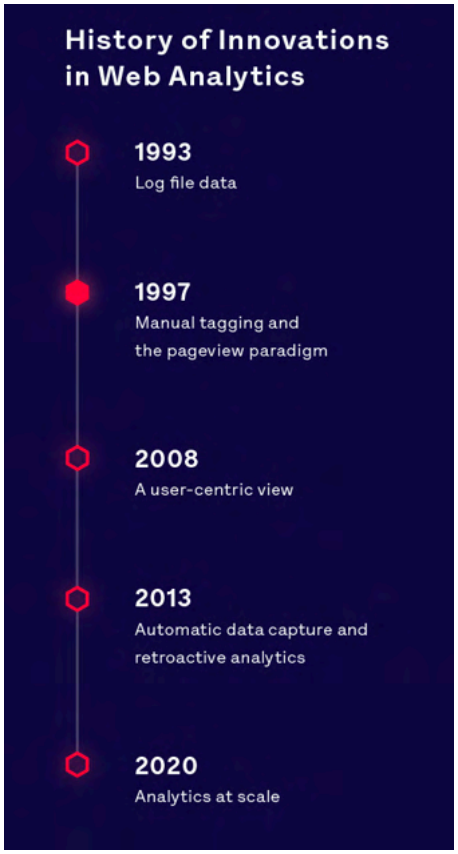
1997 – Manual tagging and the pageview paradigm

Next came manual tagging. The web wasn't dynamic just yet, so the page you loaded was the page you would be interacting with. This was perfect for manual tagging. There weren't many elements on the page, pages were not complex, and when you tagged your website or product, nothing else needed to change unless you redesigned your interface.

During this period, Omniture was founded (1996), and Urchin was acquired by Google to become Google Analytics (2005). Both products allowed users to create dashboards, reports, and calculated metrics.

You now had visibility into things like pageviews, sessions, and other things that today we would consider to be fundamental web metrics. You could even filter by date ranges. All of this gave you a basic understanding of your company's health.

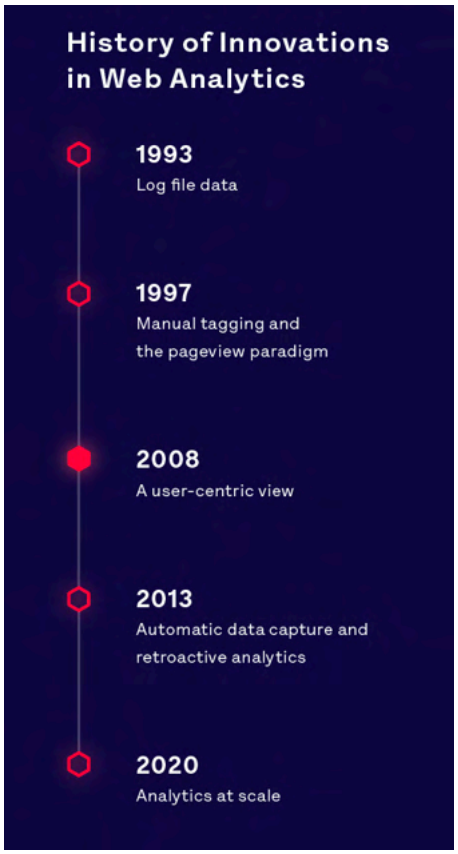
However, companies still had little visibility into what their users were doing on each page of their site. Tags were difficult to implement, and as websites became more dynamic, they became difficult to implement and maintain. This led to the development of a cottage industry of implementation consultants who worked alongside businesses to plan, implement, and maintain their analytics platforms.



The Third Innovation

2008 – A user-centric view

By 2008 websites were getting both complicated and personalized. All of a sudden teams needed to ask questions like, "What was our drop off between step 4 and step 5 of our 6-part funnel, and how can we improve that?" Data driven, growth-focused companies gave rise to an industry of conversion rate optimizers (CROs), funnel hackers, and growth marketers.



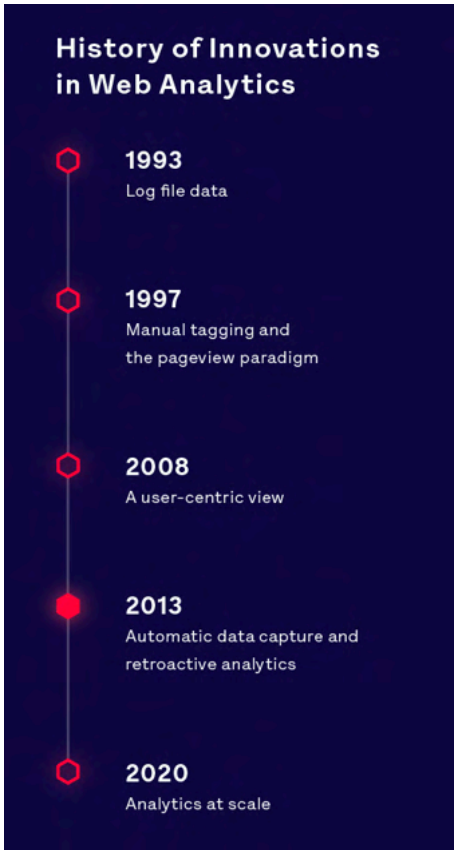
These new roles helped shift the industry from session-based tools like GA and Adobe Analytics to more user-centric solutions. These new tools still required manual tagging, but added fancier visualizations to make things more readable. Tools like KISSmetrics, Mixpanel, and Amplitude made analytics more approachable for non-technical marketers and business teams. They let users develop and test limited hypotheses, create funnels and cohorts, and sometimes even track users on mobile web, iOS, and Android.

This user-centric approach was fundamentally different from that found in earlier web analytics tools. Now marketers, analysis, and product manager could dive deeply into customer behaviors, and start to understand what their users were doing and why. Nonetheless, these tools were still built on early 90's, static web architecture: manual tagging. They still brought (and continue to bring) major pain around implementation, tagging, and maintenance of events. Many also experience major difficulties when connecting to BI tools, including inconvenient schemas, missing data, the need to build pipelines, and lots of data munging. And if you want to do serious data analysis in a BI tool, many experience major difficulties: inconvenient schemas, missing data, the need to build pipelines to your BI tool, and lots of data munging.

The Fourth Innovation

2013 – Automatic data capture and retroactive analytics

Enter the 4th innovation in web analytics. Pioneered by Heap, this innovation leveraged technology to capture all web data automatically, then let users label and organize this data on a separate visualization layer.



This development freed teams from tedious tagging, and allowed them to spend time slicing and visualizing data in any way they needed. Often, the answers to the questions we ask lead us to new questions. If you need data on something you didn't think to tag six months ago, your analytics platform should have that available retroactively at your fingertips. The impetus for this development was the idea that teams should have instant, complete access to every click, swipe, tap, form change, or other event that occurs on your site or app. That technology should free you from spending time tagging events, and instead let you spend time surfacing insights and business critical data points.

Using Heap's Event Visualizer, you can click and define events without engineering or technical assistance, allowing you to retroactively track any event and satisfy your on-the-fly curiosity.

This innovation causes a massive shift in thinking. It's like writing out a research report by hand, then typing it on a typewriter, versus writing and editing the whole thing in a word processor. Considering everything that Heap collects, it's exciting to think about all the impactful predictive models you and your team now have time and bandwidth to build.

The Fifth Innovation

2020 - Analytics at scale

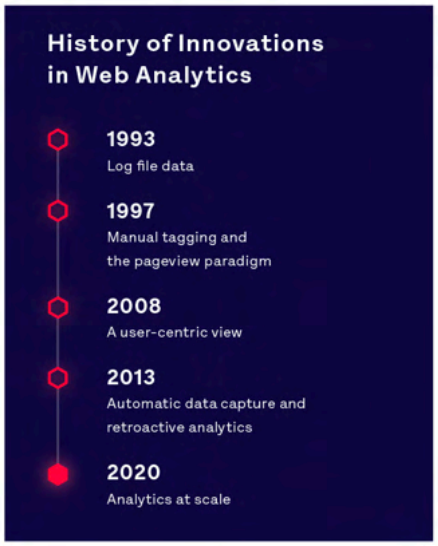
Autocapture freed teams from manual tracking, and ushered in a new era in analytics. As capabilities grew, companies started shifting focus from simply gathering data to finding ways to make that data usable.

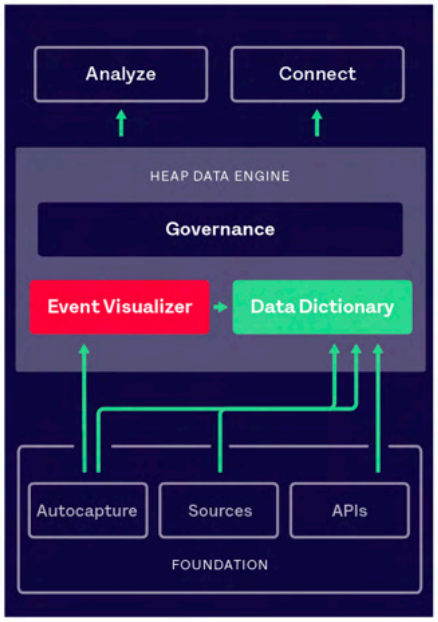
Unfortunately, they found that at scale data was often a mess, plagued by inconsistency and lacking centralized processes that kept teams on the same page. Small groups of users might build silos to manage the data that was relevant for their projects, but large-scale initiatives were almost impossible.

In 2020 Heap introduced the Heap Data Engine, a set of features designed to keep data trustworthy and organized at scale. This was the next innovation in web analytics.

In the Heap Data Engine, all data is verified and organized before being used by the team. A Data Dictionary keeps data consistently named and structured for usability. Governance workflows guide admins to archive unused definitions and validate new events. Together, these tools keep data clean and usable.

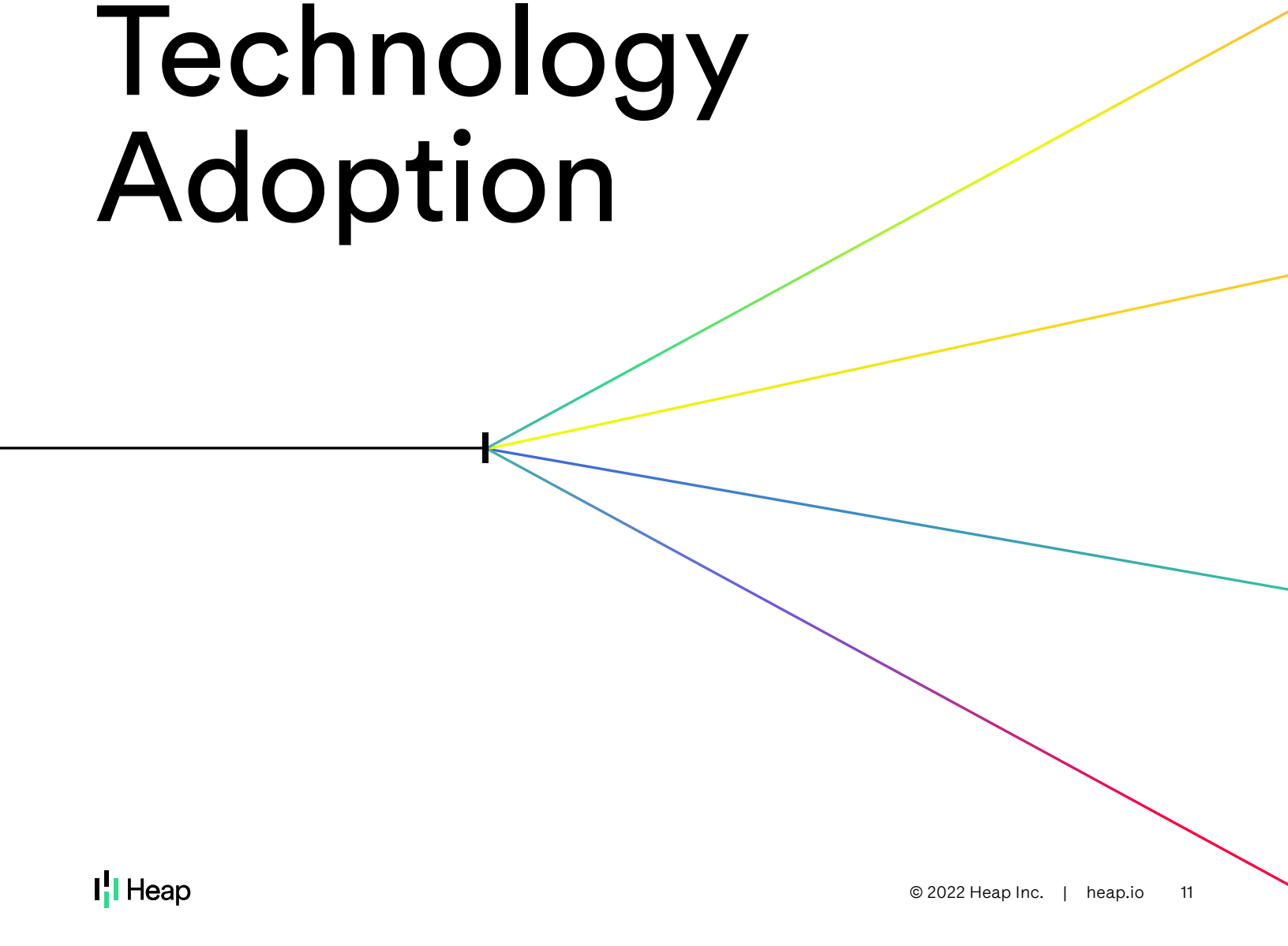
With the Heap Data Engine, data moved from simply being available, to being maximally usable, even at scale.





CHAPTER 3

Successful Examples of Technology Adoption



Overview

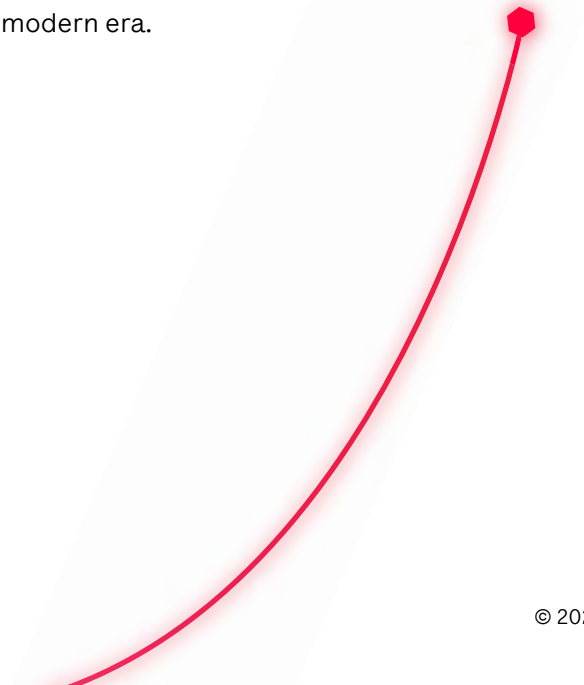
Many businesses today are still stuck in a pageview paradigm. They are not looking at a user-centric view of their data. These businesses are making decisions based on aggregate, high-level metrics like pageviews and bounce rate that come from legacy analytics tools.

Despite feeling like they are data-driven, basing decision-making on these types of metrics is fundamentally flawed. These businesses have little or no visibility into the behavior of individual users, including repeat users and buyers. They have no idea how their customers interact across different platforms (website, mobile, in-product, etc.).

Having a user-centric view from your analytics tools provides the understanding needed to build a customer journey that makes sense, and tackle things like optimizing conversion rates across key touchpoints.

A user-centric view is not enough, though. Businesses need to ensure they are not bogged down by manually tagging events, fixing broken tracking, and managing massive tracking plans and expensive implementation processes. These are all things that can now be accomplished by technology, leaving humans to focus on the most impactful things: driving better experiences through the customer journey and optimizing conversion rates.

Here are some great examples of businesses that have moved away from legacy analytics tools and into the modern era.



Casper

RESULTS:

20%

increase in their checkout conversion rate

"We used to find ourselves having to de-prioritize analytics or even put deployments entirely on hold to make sure analytics were set up prior to launch. With Heap, we make no sacrifices when it comes to the robustness of our data."

Michelle Ballen

Senior Data & Analytics Manager

Casper increases conversion by measuring everything

Before turning to Heap, Casper had sparse and brittle event measurement in place. Growth efforts had been focused solely on increasing customer volume rather than optimizing the customer journey.

At first, their data team turned to tools like Google Analytics, but they recognized that manually implementing tagging was too resource intensive, which made it impossible to get data and answer questions quickly.

Time and time again, when someone wanted to understand particular user behavior, the data team was forced to respond with, "*sorry, we don't measure that.*"

They realized this was a problem and switched to an analytics tool built for the modern web environment. Since Casper started using Heap in 2015, **they've increased their checkout conversion rate by 20% for key audience segments.**

opploans

RESULTS:

5%

Increase in conversion rate

"Having the complete customer data gives us the ability to define events we didn't even know we needed to look at."

Luke Liskey

Senior Associate, Marketing & Analytics

OppLoans smooths out the conversion funnel

As a growth-stage start-up, OppLoans has a busy engineering team that cannot be burdened with building, testing, and implementing a homegrown set of solutions. When OppLoans' marketing team was interested in improving conversion - primarily by making it easier for customers to complete the form-filled application process - it needed "something lightweight and easy to launch," says CMO John O'Reilly.

The team was able to use Heap not only to home in on attribution, but to analyze user data to find the moments in the application funnel that gave users the most trouble. That they were able to do this without having to turn to engineering was enormously empowering.

"Heap enabled us to identify and eliminate friction in the customer experience," says Matt Gomes, Marketing Manager. "When Heap showed us, with specificity, how the fourth step in our funnel was broken, we were able to make meaningful improvements to our pre-pop experience. This resulted in a seven-figure lift in new issued principal annually and a 5-percent increase in conversion rate for direct mail."

Sur la table

RESULTS:

6%

Increase in conversions

"Our developers sat with the Heap solutions team and got it right away. It was a totally different approach."

Walter Euyang

E-Commerce & Marketing Analyst

Sur La Table improves conversion by leaving Google

Before to switching over to Heap, the e-commerce growth team at Sur La Table used a combination of Adobe Analytics and Google Analytics. It allowed them to have a high-level understanding of their users, but it didn't provide any information on why users behaved the way they do.

Moreover, whenever the team rolled out new landing pages or made iterative changes to the purchase funnel, they needed to wait for engineering to implement new tags in Adobe Analytics.

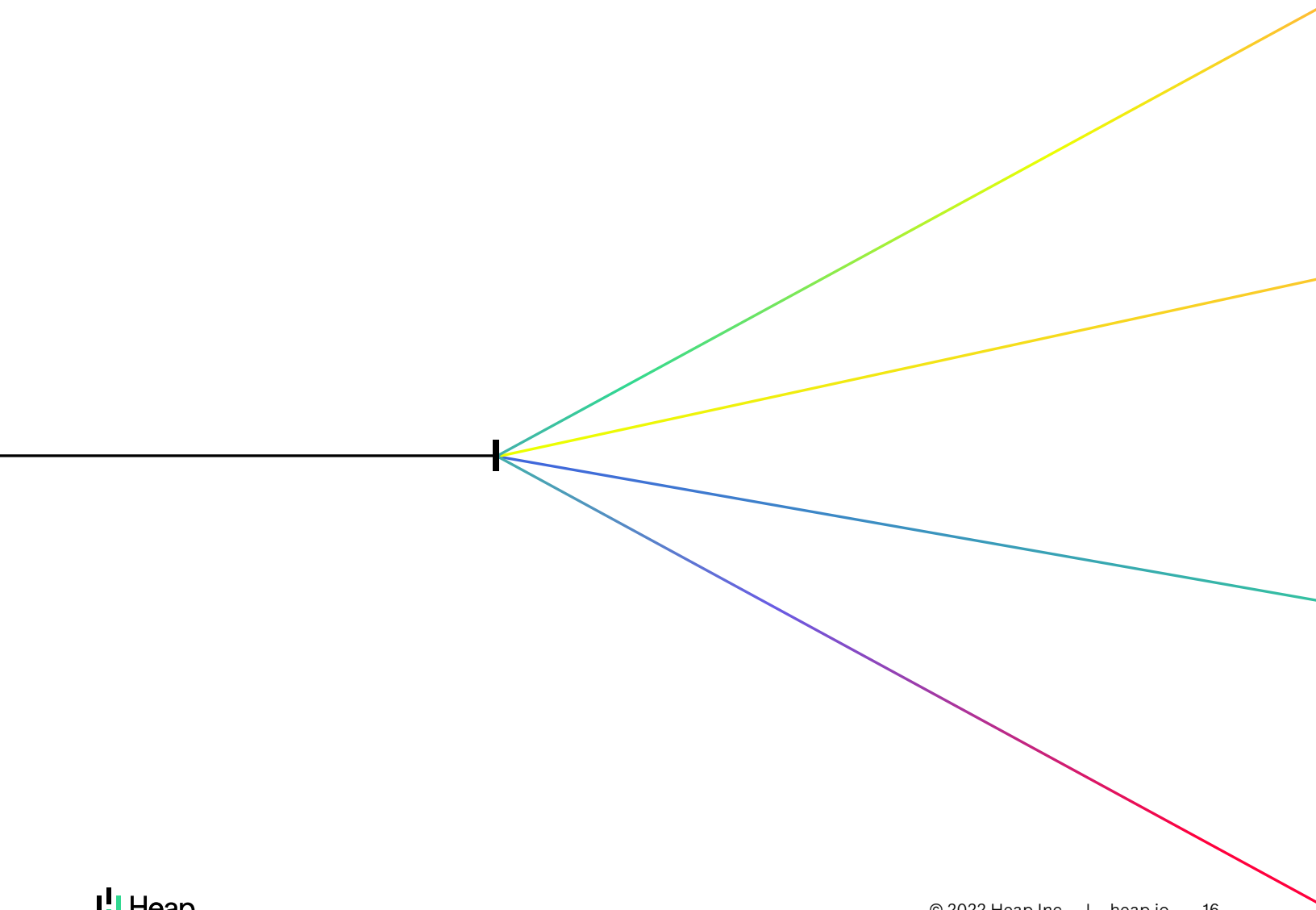
The back and forth between growth and engineering slowed the growth team's process down massively, leading them to seek out a solution like Heap. "*Our developers sat with the Heap solutions team and got it right away*," said Walter Euyang, Sur La Table's e-commerce and marketing analyst.

Using Heap's event visualizer and retroactive data allowed the team at Sur La Table to move faster and perform ad-hoc analysis. These tools enabled the e-commerce team to discover their first win–they found that the more product pages a user viewed, the more likely they were to convert.

With these new insights—only available to the team from Heap—Sur La Table made the necessary changes within their product and newsletter that lead to a 12% increase in total views and a **6% increase in conversions.**

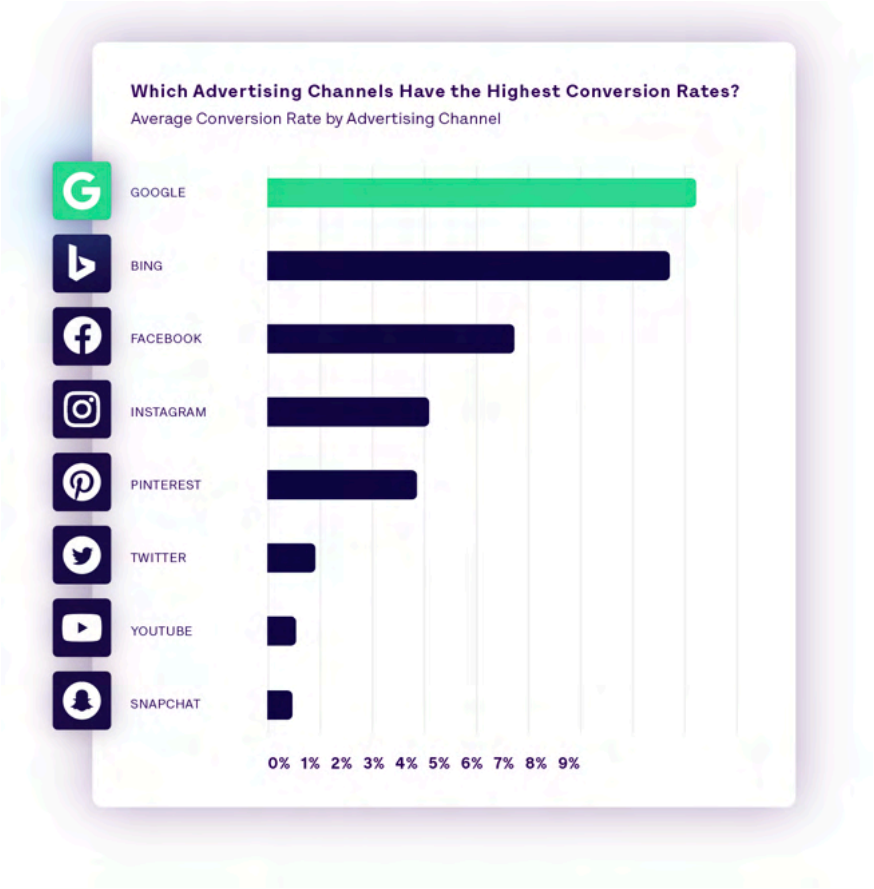
CHAPTER 4

Industry Benchmarks



Overview

To give you a better sense of what your conversion rates should be, let's take a look at some data we've compiled from numerous sources. While it's true that conversion rates will vary widely depending on your target customer, your product, and your industry, it's always good to know average industry benchmarks.



E-Commerce

Conversion Rate

The average conversion rate across e-commerce companies is 3.63%. This information was gathered using anonymized data across 25 leading e-commerce companies.

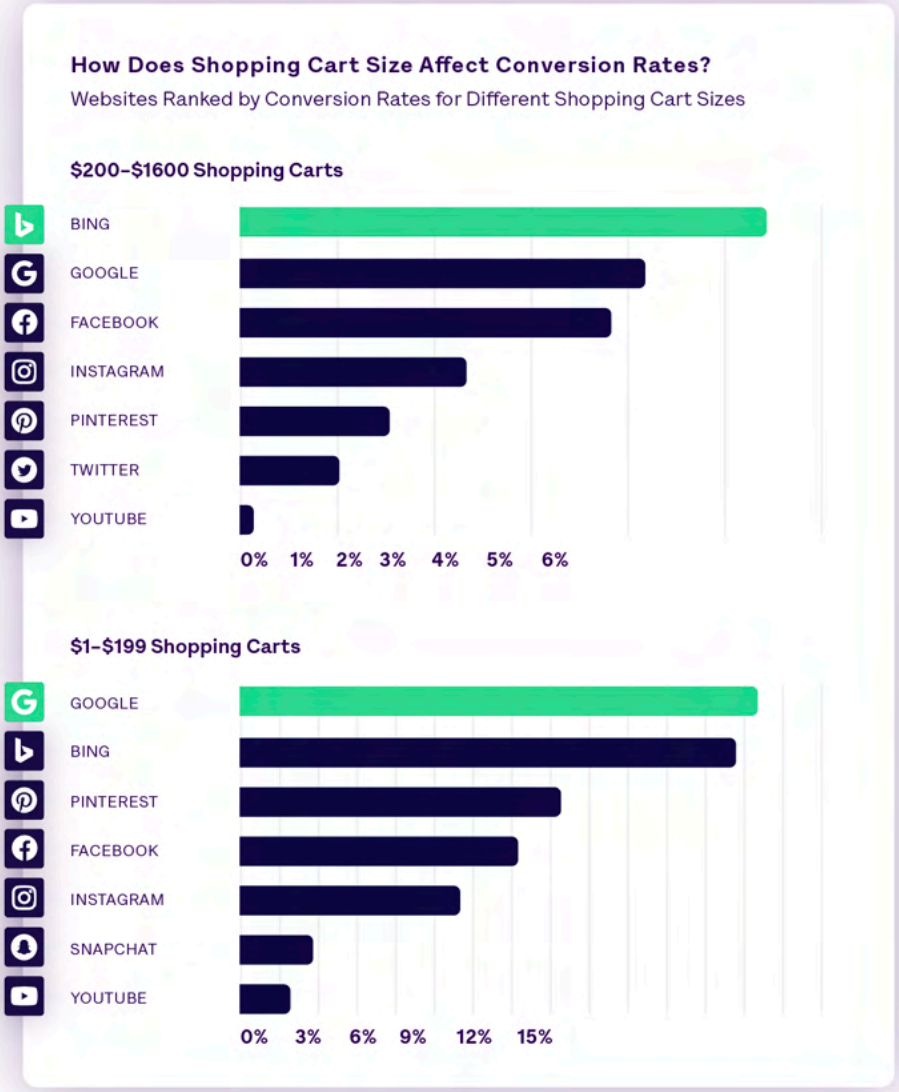
Conversion Rates by Channel

Traditional search providers have the highest overall conversion rate at an average of 7.9% while Twitter, Snapchat, and YouTube average 0.66%.

How Shopping Cart Size Affects Conversion

Not surprisingly, your shopping cart size has a tremendous impact on your conversion rate.

If your shopping cart size is $200 or over, conversion rates tend to drop significantly from what they are in the $1 - $199 range.



SaaS

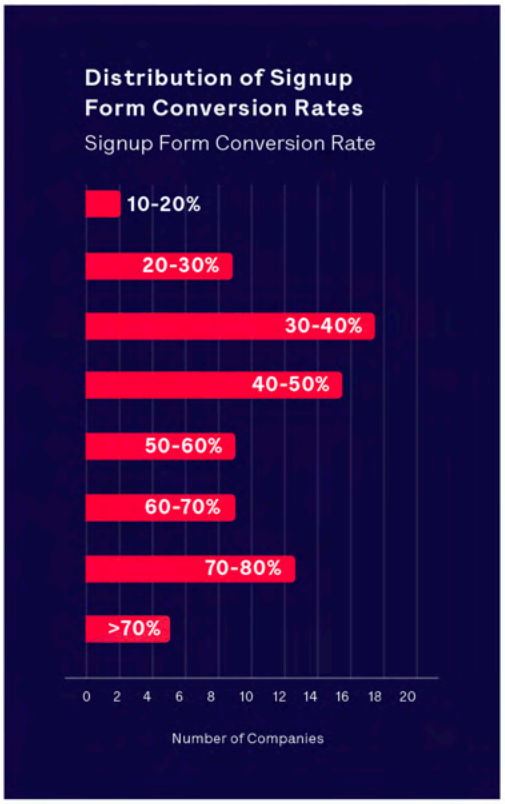
Conversion Rate

With SaaS (Software-as-a-Service) freemium providers, two inflection points matter for top of the funnel acquisition.

1. Signups 2. Trial to paid

Signups

Looking at anonymized data from 79 SaaS companies over a three month period, we're able to see that the average signup conversion rate is 36.2%.[1]



Trial to Paid

Generally the best SaaS companies with opt-in free trials see a free trial to paid conversion rate of more than 25%. If yours is less than 25%,[2] you probably should work on optimizing for conversions.

Financial Services

Conversion Rate for AdWords

In the consumer finance space, conversion rates tend to be around 5% when it comes to generating AdWords leads.[3]

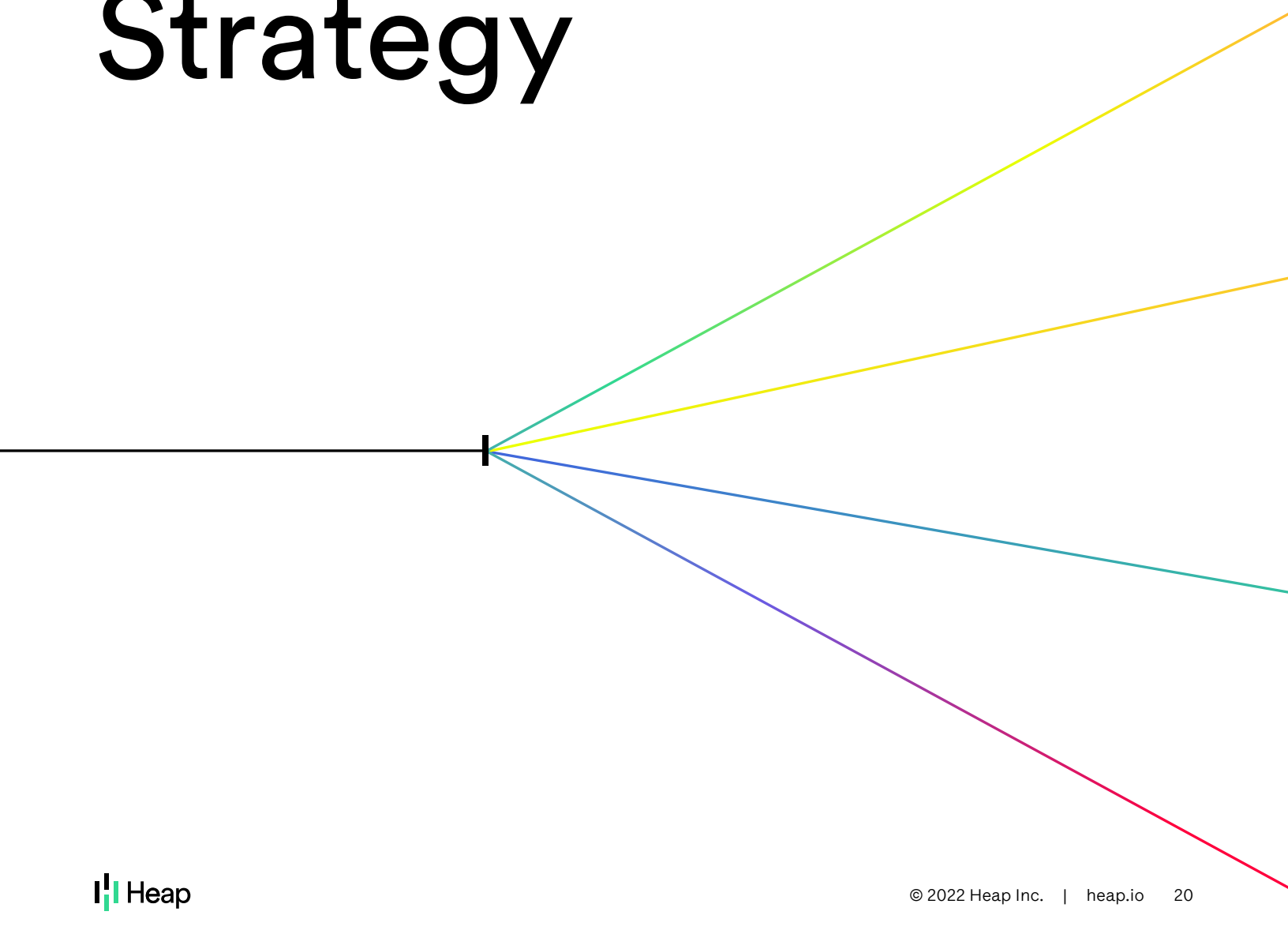
Conversion Rate for Applications

The most important metrics to consumer finance companies like online lenders are application submissions. For most, this hovers around 35%.

[1] https://heapanalytics.com/blog/data-stories/good-conversion-rate-signup-flow
[2] https://sixteenventures.com/saas-free-trial-benchmarks
[3] https://www.wordstream.com/blog/ws/2014/03/17/what-is-a-good-conversion-rate

CHAPTER 5

Developing Your Data-Driven Strategy



Asking the right questions

Putting yourself in your users' shoes can be difficult. But it's critical, because it gives you critical understandings about how customers experience your site.

To do this, you need to shift your mindset based on who your users are and the product or device they're interacting with.

Avoiding Vanity Metrics

Often teams want to present large metrics that aren't actionable: dashboards of page views, bounce rates, number of sessions, and other high-level summaries that purport to show the health of the business. While these dashboards may look good and they feel data-driven, they give little insight into the actual health of your product or website. Better are the metrics that give you granular information about user behavior, and how customers really interact with your site.

Instead, ask questions like "what user journey leads to increased revenue or increased lifetime value?"

For example, if your user registration conversion rate is 30%, dig deeper to see how your customers are moving through this part of the journey. They may be getting stuck in a particular area. This could be due to confusion, a technical bug, or another reason. If your users are getting confused, think about how changing the copy or adding visuals can alleviate this confusion. This is something that is particularly easy to test and improve.

"We're conditioned by incumbents to want these big metrics like page summary. But those big metrics, they're not actionable. Specific questions are the things that create value, which is why we want to spend as little time as possible on these high-level, feel-good numbers and more time tackling specific things that create value day-to-day."

Alan D'Souza

Director of Product Analytics at Lending Club

Build a Data-Driven Culture

Technical and team challenges make it hard for analytics to be genuinely self-serviced. To do that, you need a mindset shift in your company culture. Let data drive actions and back every hypothesis with credible research. The best examples of building a data driven company culture that we've seen with our partners stems from top-down initiatives.

"Individuals and managers use data differently. The operational people want a dashboard that has ten different filterable parameters that they can slice and dice to get what they want. You should be going to your CEO and recommending a certain decision, not giving her raw data to synthesize."

Harry Tannenbaum

Director of Ecommerce & Business Analytics at Nest

In fact, think about how you can get your team thinking in terms of user behavior—the numbers on the screen are people, and people have patterns.

To start, look at how the most successful technology companies are building out growth teams. Facebook and Uber use a framework called The Independent Model.[5] The Independent Model hierarchy enables organizations to build strong team DNA around speed and iteration.

With the Independent Model each team consists of a VP of Growth who reports directly to the CEO, while a group of product managers, engineers, designers, and data scientists work on optimizing every step of the user funnel.

We understand that you probably won't be able to reorganize your business overnight. It's still worthwhile understanding a successful model so that you can make minor changes to build a hybrid, structure next quarter's team goals in a different format, or otherwise keep the essence of a successful structure.

[5] https://medium.com/swlh/how-do-you-choose-the-best-growth-team-model-632ad5a85be9

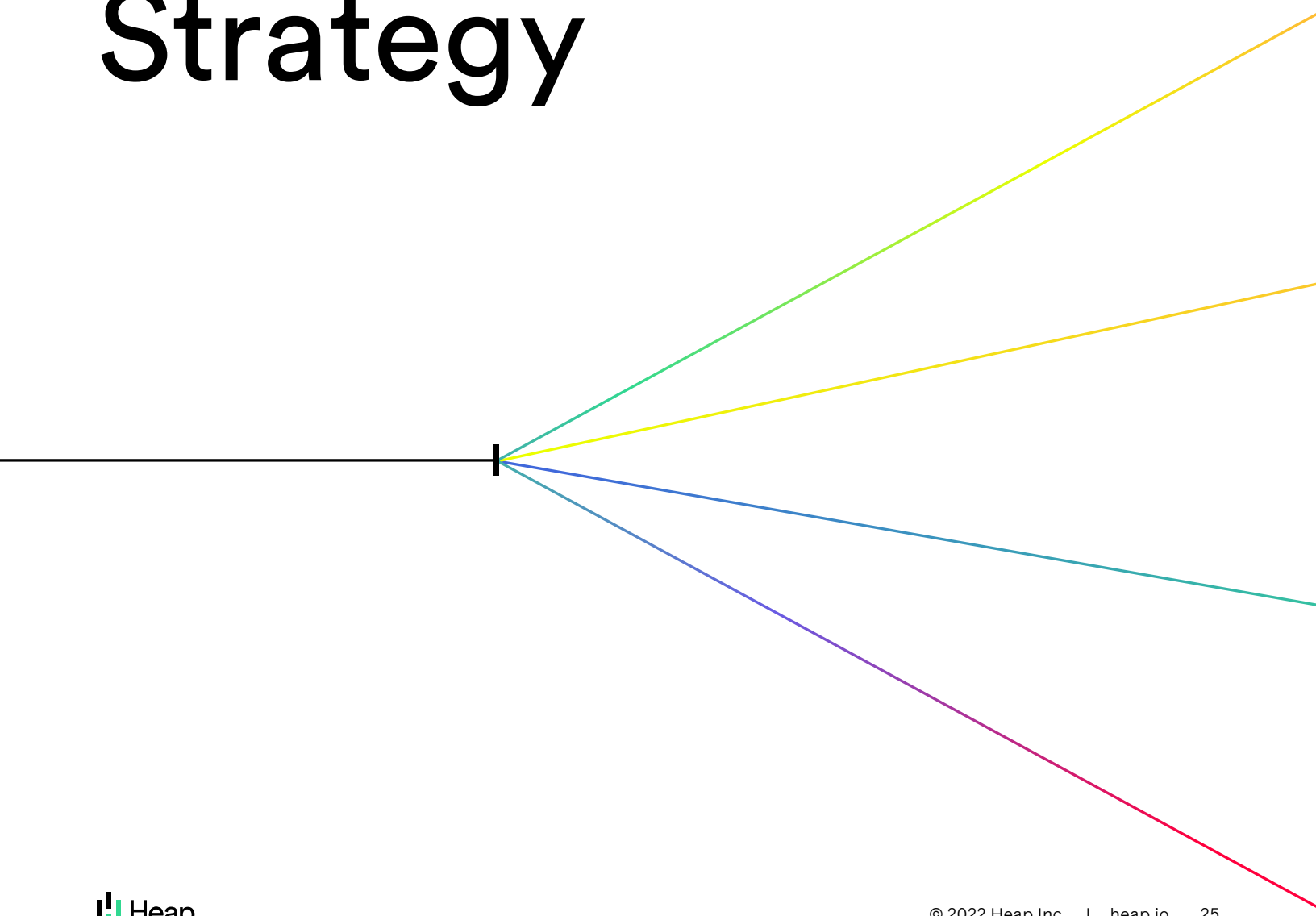
Remember That Data Usage is Relative

Look at the Spectrum of Data Needs

The higher the role, the less the person works directly with data. The further on the left you are, the more you're going to be engaged with the actual tools and datasets used to develop insights. As you move further to the right, the more strategic your decision making will be, given the data.

CHAPTER 6

How to Execute a Data-Driven Strategy



Plan Goals and Requirements Around User Behavior

Earlier in this ebook, we presented three examples of companies that have used user behavior to increase revenue. As you start to develop your own strategy to increase revenue, you'll need to plan your goals around user behavior.

The tools are available–modern data and web analytics tools give you insight into what your users are doing.

Develop Your User Personas

Personas are general descriptions for the segments of customers or users that will be purchasing or using your product. When developing these personas, think about the following questions:

1. What industry does your customer work in?
2. What is your customer's job title? Role? Responsibility?
3. What are their incentives? What makes them successful at work?
4. Why are they using your product? What are their goals?
5. Whom do they report to?
6. What do they care about? What do they not care about?
7. What is their biggest challenge? How does your product solve it?

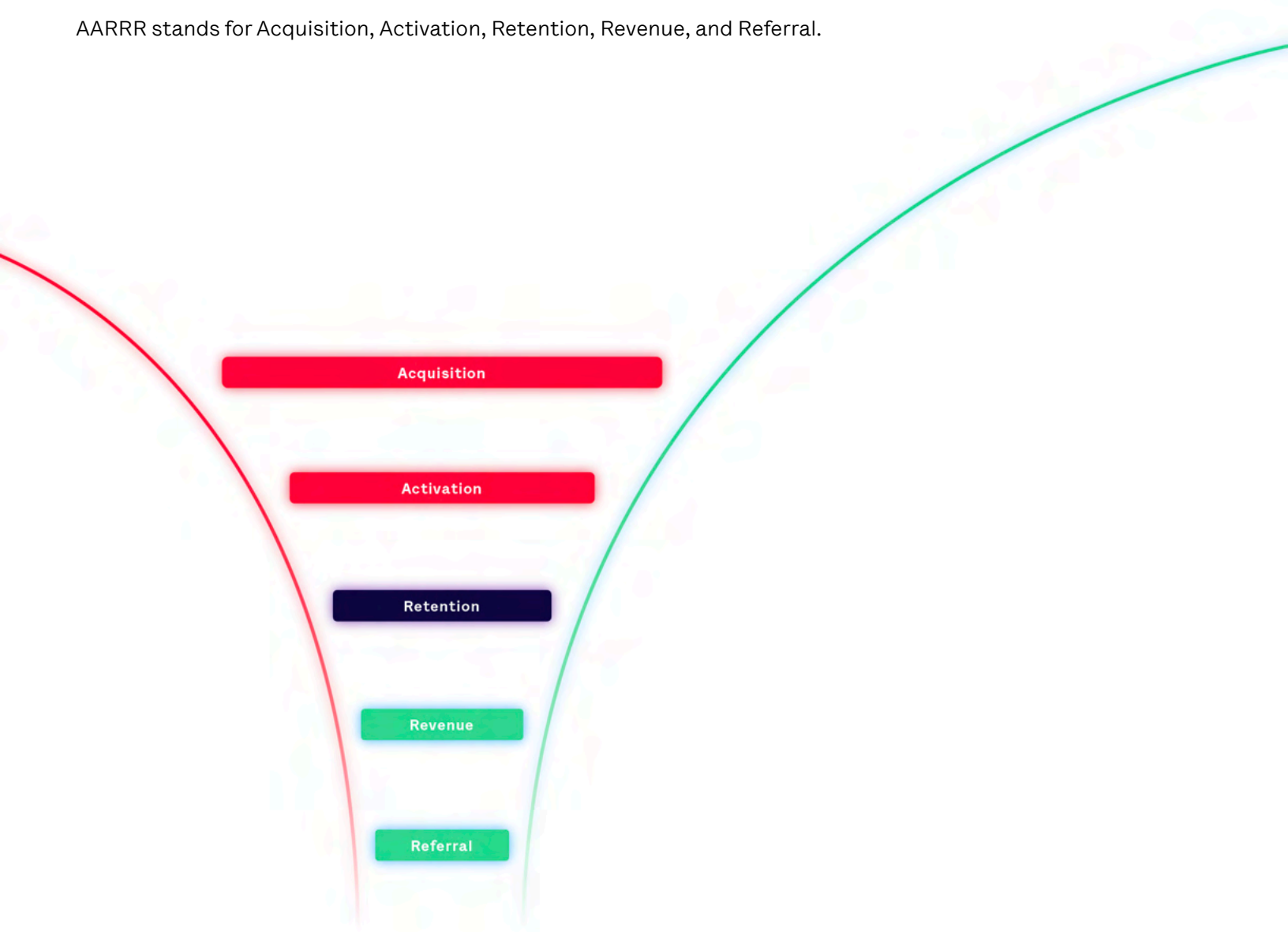
"Since implementing Heap, we no longer have to worry about tracking and feasibility, but instead can focus on which analysis we can complete next. The more sophisticated our data needs get, the more powerful Heap gets."

Amanda Rosenberg

Head of Analytics at Thirdlove

Understand Your AARRR Metrics

AARRR stands for Acquisition, Activation, Retention, Revenue, and Referral.



Measure and Map Your User Journey Into a Funnel

Once you have your personas, think about how each one will behave as they're moving through your product. Using analytics, strategize and create the funnels and cohorts that will let you measure your user funnel and look for areas where there is a significant drop-off. What industry does your customer work in?

Analyze Bottlenecks

Once you've found areas with significant drop-off, think about your users' behavior during this step of the funnel. Also think about what behaviors might be positively correlated with higher conversion. For example, if viewing a sizing chart is indicative of being more likely to buy that product, the sizing chart should be easy to find and use.

Then develop micro-funnels for each step of the user journey to analyze what your users are doing. Think about the following:

1. What steps are users interacting with your product that could be causing a drop-off?
2. What are the events you can create to measure these steps?
3. How would your micro user funnel look?

Create Hypotheses

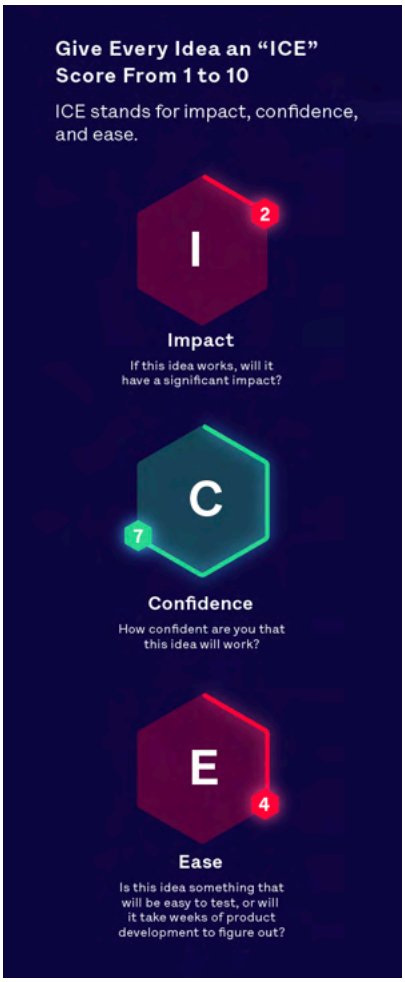
Based on your analysis of your customer behavior, develop a root cause hypothesis. Remember, you're not looking to improve vanity metrics—think more specific and actionable.

For example, you might notice that all products that are jackets have low conversion rates. Our hypothesis is that the sizing chart is broken for some users with a specific device. If we make it easier to find and use the sizing chart for those users, it will result in X% increase in conversion for all jackets.

At this point, you probably have a running list of hypotheses and possible experiments you want to try. Prioritize them using the ICE framework or a simple impact/effort scoring, and run the most straightforward experiments that will get you results.

For deciding which experiments to run first, use the ICE framework: Give every idea an "ICE" score from 1 to 10. ICE stands for impact, confidence, and ease.

At the end, remember to review every experiment, both successful and unsuccessful. Often marketers overlook unsuccessful experiments, but it's the failures that will help you uncover insights that could lead to revenue multipliers.

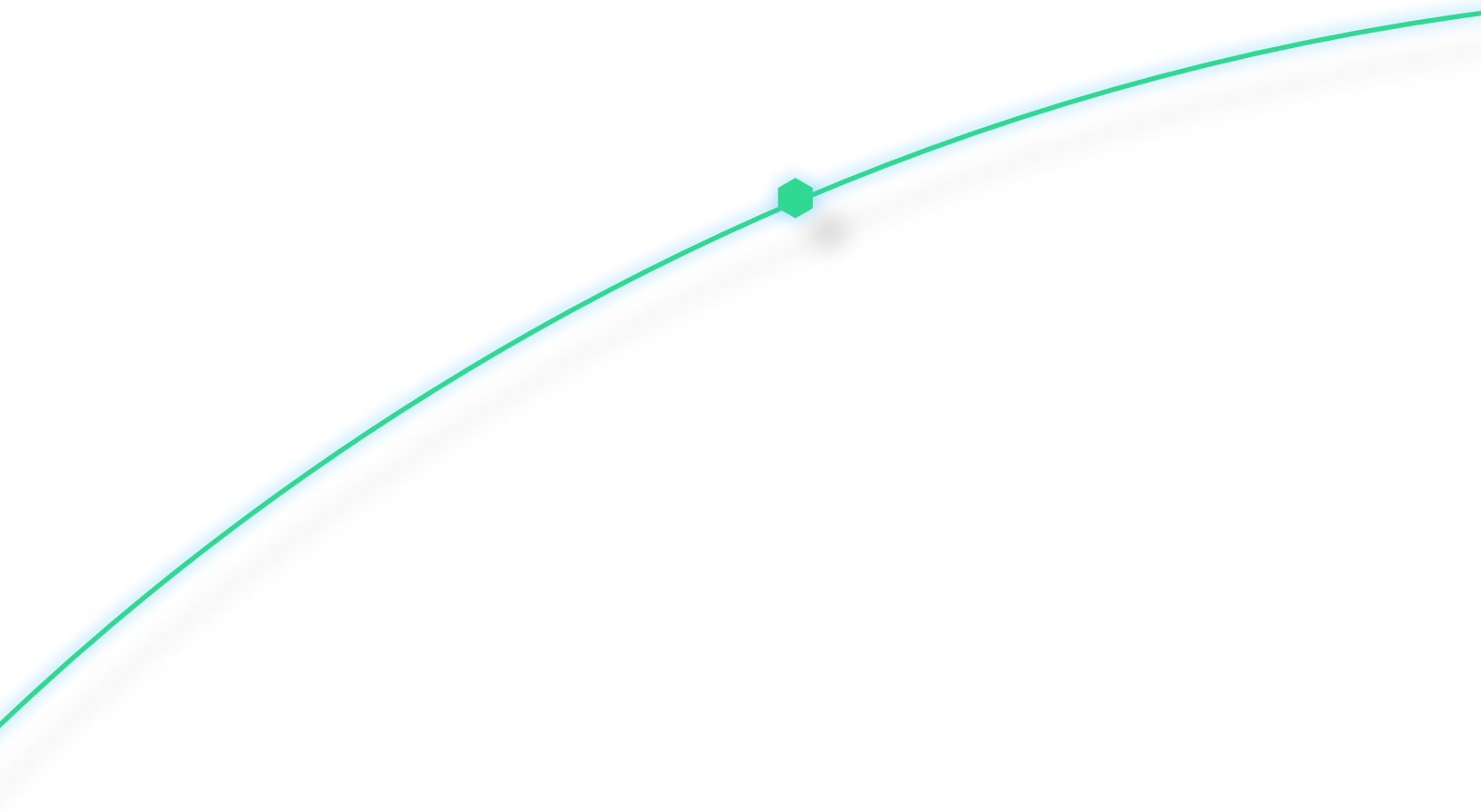


Experiments to Run

Deciding on the experiments to run and the order in which to run them is perhaps the most challenging part of a well thought out plan. After successfully completing your implementation and analysis, you're left with dozens of hypotheses to run experiments for. Any one of these could increase your revenue. But what are some common experiments that marketers run?

We've put together a list of some common experiments you should consider at each step of your user journey to improve revenue. Although you can run the experiments on this list, we recommend that you use this list as a way to develop ideas for experiments that are tailored to your users' journey and behaviors.

For more ideas about hypotheses you can ask and experiments you can run, feel free to browse through The Heap Book of Questions.



Top of the Funnel

Acquisition: Decrease Facebook acquisition costs.

If we create a Facebook custom audience using our most valuable customers, we can create a Lookalike audience that will convert at lower costs.

Acquisition: Increase signup for free trials (SaaS).

If we remove the need to enter credit card information to start a free trial, it will increase our conversion rate by X%.

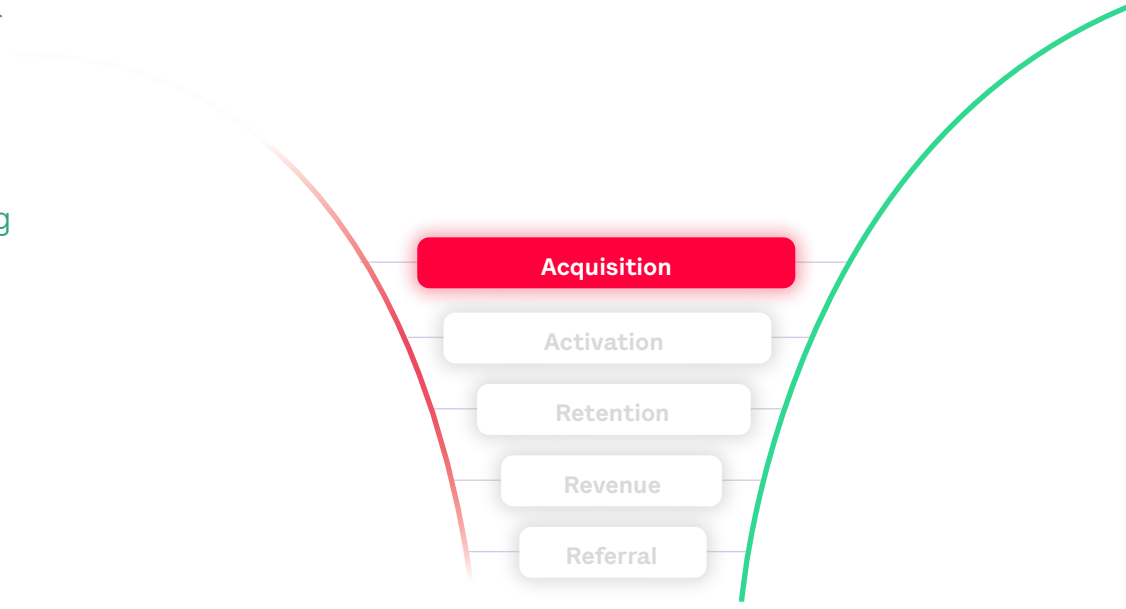
Acquisition: Decrease Adwords acquisition costs.

If we look at our top channel that brings in the most paying users, we can target similar users for acquisition by creating a Similar Audience in Google Adwords that will convert at a lower CPA.

"For the first time ever we had a complete picture of our entire user journey. Automatic data capture meant we no longer had gaps in our understanding of our users in terms of acquisition."

Arvind Ramesh

Data Scientist at Envoy



Middle of the Funnel

Increase add-to-cart rate.

If we add a side menu with items from product display pages that a user has previously viewed, the add-to-cart rate will increase by X%.

Activation: Increase activation rate for free trials (SaaS).

Because the majority of active users have done X at least Y times, if we encourage users to do X during onboarding, it will result in a Z% lift in activations.

Increase cart size.

If we recommend complimentary items that are on sale when users are viewing their cart, we will increase cart sizes by $X.

Activation: Increase activation rate for free trials (SaaS).

If we send an email to users on days 3, 7, 10, and 14 of the free trial, they will convert to paying users at X% higher rate.

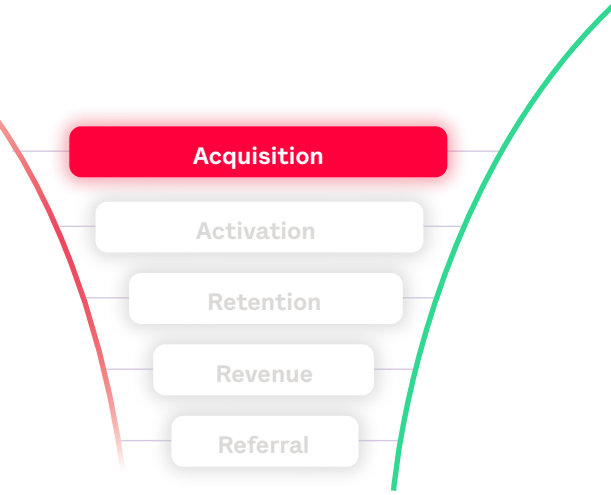
Increase click through rate to product display pages.

Customers that view five or more product display pages are twice as likely to make a purchase. If we highlight hot products on our listings page, this will increase our click through rate to product display pages by X%.

"By understanding the behavior of our users, we were able to put together a meaningful definition of what activation means for new users. From that, we increased our activation KPI from 30% to 74%."

Ikas Tiwari

Analytics Manager at Quantcast[6]



[6] Disclaimer: Quantcast is not a customer of Heap.

Lower Funnel

Revenue: Increase purchase rate.

80% of our traffic comes from mobile, but only 12% of our sales come from mobile. If we make the “Buy Now” button above the fold on a mobile phone, our purchase rate will increase by X%.

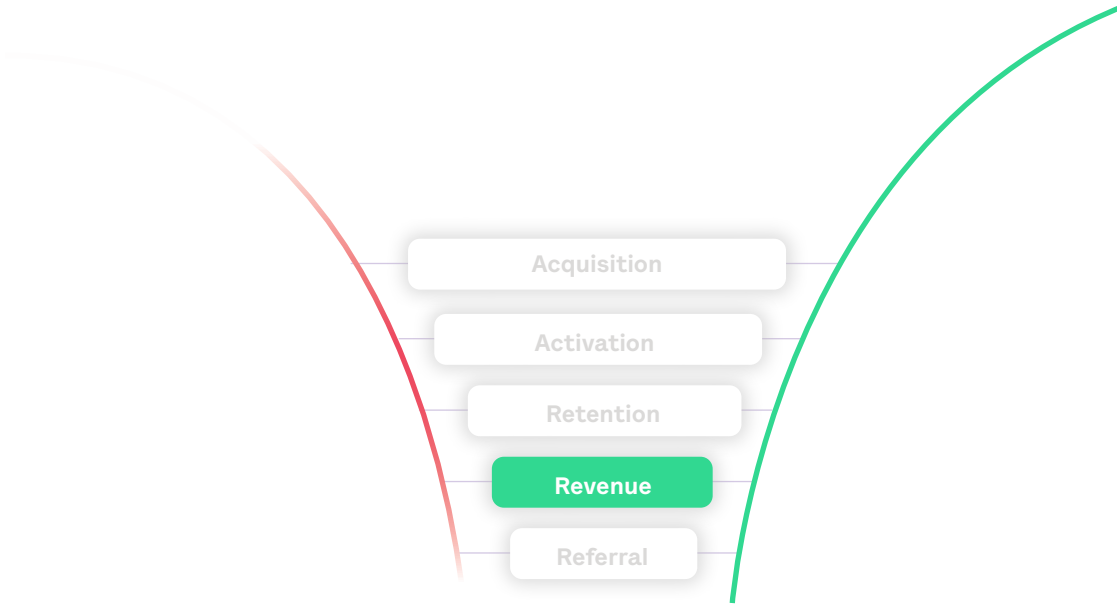
Revenue:
Decrease cart abandon rate.

If we switch to a single page checkout process, we will decrease cart abandon rate by X%.

“The team at Sur La Table found that driving people to category pages led to a 12% increase in total views of product pages as well as a 6% increase overall in conversion rate.”

Walter Euyang

E-Commerce Analytics at Sur La Table



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Post-Funnel

Revenue: Decrease item return rate.

If we make the size chart easier to find and use on our product display pages, it will decrease item return rates by X%.

Retention: Increase post-checkout add-on item purchase rate.

After a user makes a purchase, if we offer them a small discount in their receipt email for their next purchase, we will get X% more customers to make an additional purchase.

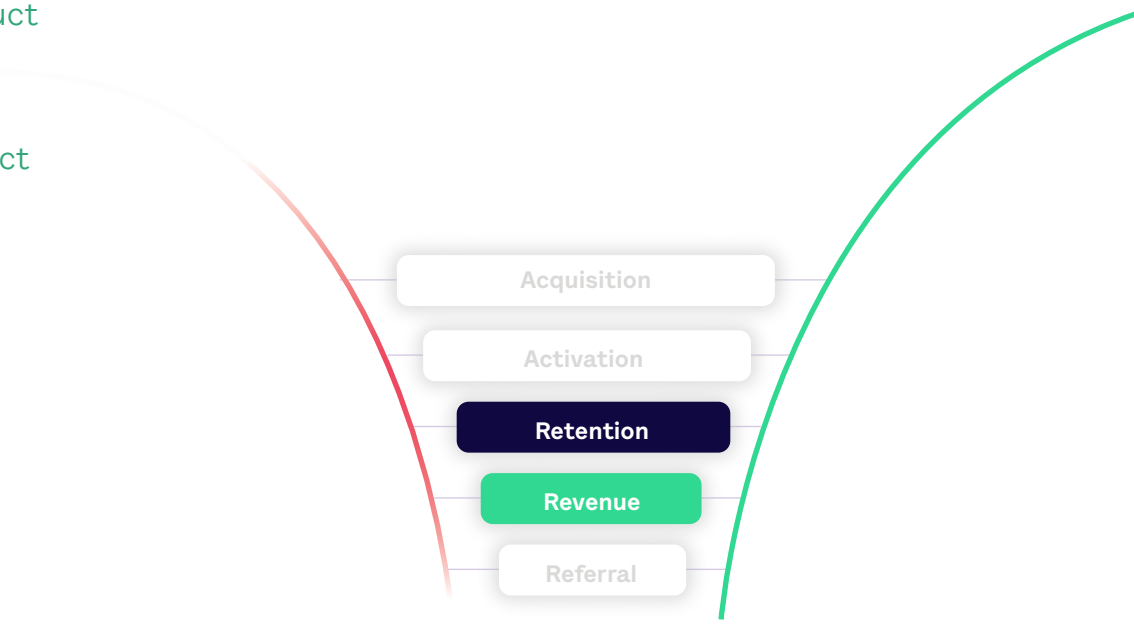
Retention: Increase returning customer rate.

If we build segments of users that are interested in different products based on their purchase history, and then build separate email campaigns about related or complementary products, we can increase the lifetime value of those cohorts by $X.

"We've started to match product behavioral product usage against Salesforce fields, which is really useful for both the product and the sales teams."

Brian Whalley

Director of Product Management at Klaviyo



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Heap

Heap automatically captures every customer touchpoint and automates away the pain of data. Other analytics tools require you to tag events upfront and manually instrument tracking code. Instead, Heap automatically captures everything: clicks, taps, swipes, form changes, and more. Get answers in seconds and make decisions faster.

To learn more about Heap, visit us at heap.io.

Behavioral Segmentation
Complete history on every user. Don't miss out on unknown unknowns. Automatically capture every event and easily build segments based on behavior.

Retroactive Funnels
Dynamically change your funnel events and go back in time with data that's available retroactively. Discover where users drop off, and compare how cohorts convert.

Unified Customer Identity
One person means one user in Heap. Unify a customer across mobile, desktop, email marketing, and more.

Clean Schema
Most data teams spend up to 80% of their time cleaning and organizing the data. Our structured user-event schema remains constant through naming convention changes and event combinations, which means less time organizing and more time gathering insights.