



ADOBE ANALYTICS CURRICULUM



Introduction & How to Use

Adobe Analytics is the industry-leading digital analytics platform today. The capabilities of this platform are quite complex and allow for more customization and flexibility than any other platform. This handbook is written to educate new users on these capabilities as well as take a pragmatic approach to this complex tool.

Each of the learning modules contained in this handbook is written to give novice users an introduction to Adobe Analytics and how to build web analytics reports for data analysis. In each module, readers will find a section written to educate the user on new concepts followed by a set of learning activities that should be completed using a sample data set provided by Adobe for students.

In order to practice the learning activities, students will need to register and sign-up for the sandbox environment here: <https://experienceleague.adobe.com/landing/analytics-university/>.

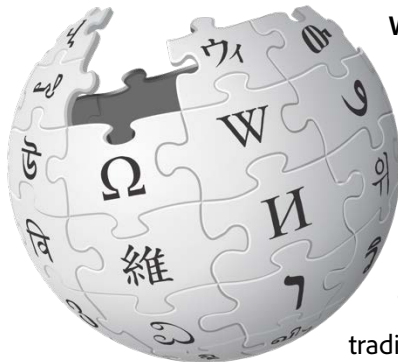


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Introduction to Web Analytics



Wikipedia Definition: "Web analytics is the measurement, collection, analysis and reporting of web data for purposes of understanding and optimizing web usage. However, Web analytics is not just a process for measuring web traffic but can be used as a tool for business and market research, and to assess and improve the effectiveness of a website. Web analytics applications can also help companies measure the results of

traditional print or broadcast advertising campaigns. It helps one to estimate how traffic to a website changes after the launch of a new advertising campaign. Web analytics provides information about the number of visitors to a website and the number of page views. It helps gauge traffic and popularity trends which is useful for market research." (source: [Wikipedia.org](https://en.wikipedia.org))

What does that definition really mean?

Web analytics as a **technology**, is a platform in which this user behavior can be tracked, aggregated and reported on. Adobe Analytics is one of such platforms which is unique in how the data is collected, stored and processed. Other platforms exist with the most popular alternative being Google Analytics. Both are platforms for data collection, aggregation and reporting. Adobe Analytics is the leader in the analytics industry both from customization as well as features available for use in additional marketing technologies.

Web Analytics as a **business discipline** is the study of user behavior on websites, mobile devices and other digital assets. In studying the user behavior, web analysts evaluate if the digital asset being analyzed is being used in the way that a business intends. Additionally, web analysts are used in companies to answer questions about advertising effectiveness, the impact of web design changes, user experience changes and more. **This handbook is geared towards educating and preparing business web analysts to enter their careers in web analytics with a specific focus on Adobe Analytics.**

Web Analytics as a **technological discipline** is the study and application of web development technologies to ensure that the data business users need to be collected is done consistently and accurately. Web analytics technologists should have working knowledge in multiple front-end development languages, understand the use and best practices of web data layers and tag management platforms.

Data Collection

It's critical that users of any tool understand how the tool works, from a feature standpoint as well as a technological comprehension of the tool itself. This section of the handbook will focus on technological comprehension to ensure that users aren't in the dark about how the data within a report is populated.

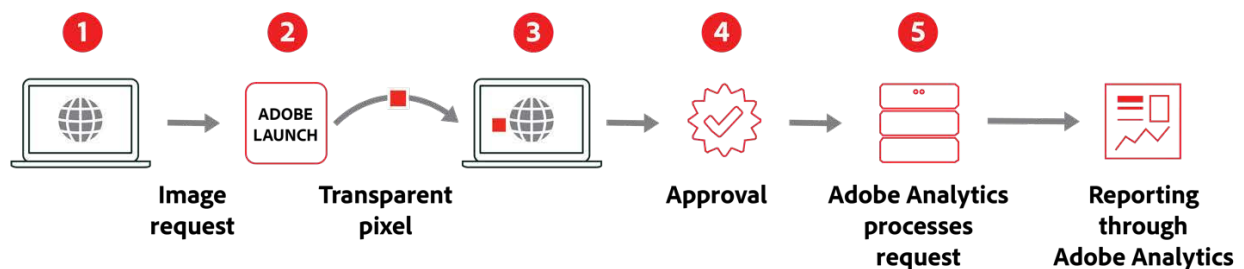
Adobe Analytics is utilized by companies primarily to track websites and mobile applications. However, additional applications exist in which companies are tracking: Advertising Campaigns, Mobile Devices, Connected Automobiles, Voice Assistant Devices, Client-Server Applications, Web-Based Kiosks, and other various Internet of Things (IOT) devices.

This framework is a general framework that describes the most common and widely used data collection methods by companies in 2020. Alternate methods can be used to transmit data to Adobe, which are critical for technologists in this field to understand however would be a distraction in the use of this handbook.

More technical reference material can be found here for more curious users into the technical aspects of data collection: <https://docs.adobe.com/content/help/en/analytics-learn/tutorials/overview.html>

Data Collection Framework

The most common data collection involves users visiting a digital experience like a website or mobile application and browsing through content. Think through as you browse websites, utilize mobile applications or view content on your mobile phone. Each page you view, video you watch or action you take in these experiences is tracked utilizing a framework like the one below. This process can be described through the following distinct steps.



1. User arrival

The end user arrives at the website, uses the digital application or interacts with the tracked device or application. The user engages with content, performs actions and they utilize the features of the website, application or device.

2. Data preparation

Information about the content that users interact with is coded within the content itself. As the content loads within the experience, it is packaged directly within the content or a **Tag Management System (TMS)** is used to package the data. Adobe's TMS is called **Launch**. The purpose of this step is to ensure that the data being sent will be done so in a format that Adobe can read and process.

3. Server request sent

Once the data is packaged, it is sent to Adobe in the form of an **image request** to Adobe's data collection servers. Instead of requesting an actual image for users to see, the data is piggybacking onto a 1x1 pixel transparent image which is essentially invisible to users. This image request is a programming mechanism that allows data to be transmitted without impacting the user's experience.

4. Data received and response sent

Adobe's servers immediately respond to the image request and fulfill the server request by sending back the 1x1 transparent pixel to load within the experience which indicates if the data was received or not. This step is where developers debug their data package to ensure (A) The correct data was sent and (B) A successful response as well from Adobe's servers.

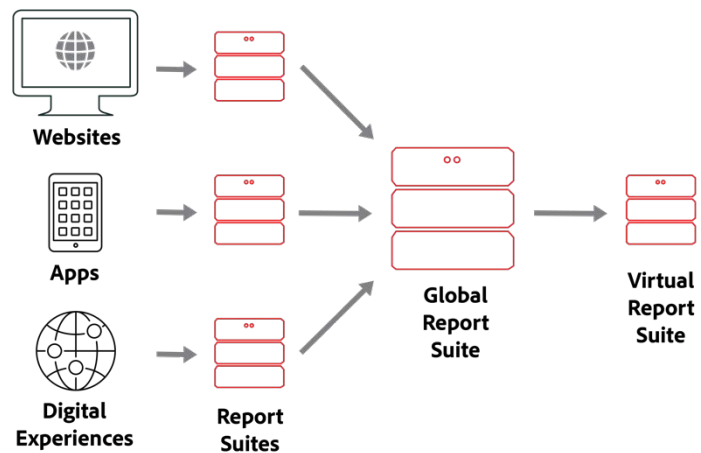
5. Data processed

Adobe's servers immediately process the data package it received within the image request. That data is housed within a company specific database known as a **Report Suite**. After the data is processed, it is made available to analysts and company employees for analysis and review.

Types of Report Suites

A **Standard Report Suite** is the term given for a database for analytics data storage. Each report suite refers to a different collection of data for a different experience (e.g. Web, Mobile, etc.).

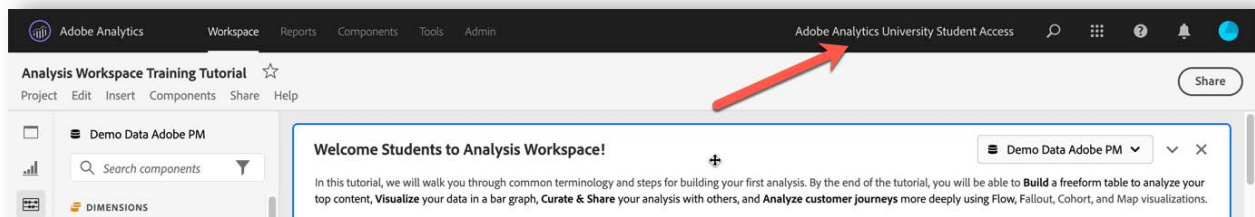
A **Global Report Suite** is a term used to describe when data is sent from multiple sites, apps or experiences into a single report suite. If a company intends on using segmentation features, or other ways to dissect their data, they might opt to have a single database that houses all user data for all experiences they own.



A **Virtual Report Suite** is a segmented set of data from one report suite. These are often used when a company has a single global report suite to allow them to analyze data for only a single website or application while ignoring the rest of the data housed in a global report suite. This can help in dramatically reducing licensing costs for Adobe Analytics as opposed to sending data to multiple report suites at a single time. Additionally, a virtual report suite can be used to segment out an entire population of users based on technology or other variables to analyze them independently of the rest of the site or experiential data.

A **Development Report Suite** is used by companies on non-public experiences in which they can test data collection and new features for the website without sending erroneous data to a public and official website or database.

Accessing Report Suites



When you first login to Adobe Analytics, you'll be directed to a page that allows you to start building Workspaces—which we will discuss in length in a dedicated unit of this handbook. The first thing to note when logging in is what report suite you are viewing data for. In the example below, the dataset we are currently accessing is the **Adobe Analytics Student Access** report suite. By clicking the name of the report suite, you can switch between different report suites if you have access to them with your user account.

Adobe offers customers the ability to add as many report suites as they need to fit their business needs. Often times companies will have many report suites to separate the data between a mobile app and a website, for example. Companies can also opt to have all of their data exist within a single report suite for all of their experiences and applications. The decision between having all data in one report suite vs. separating them out is a critical business decision that must be determined prior to implementing any analytics code and has long-lasting implications on the accessibility and availability of data for their employees.

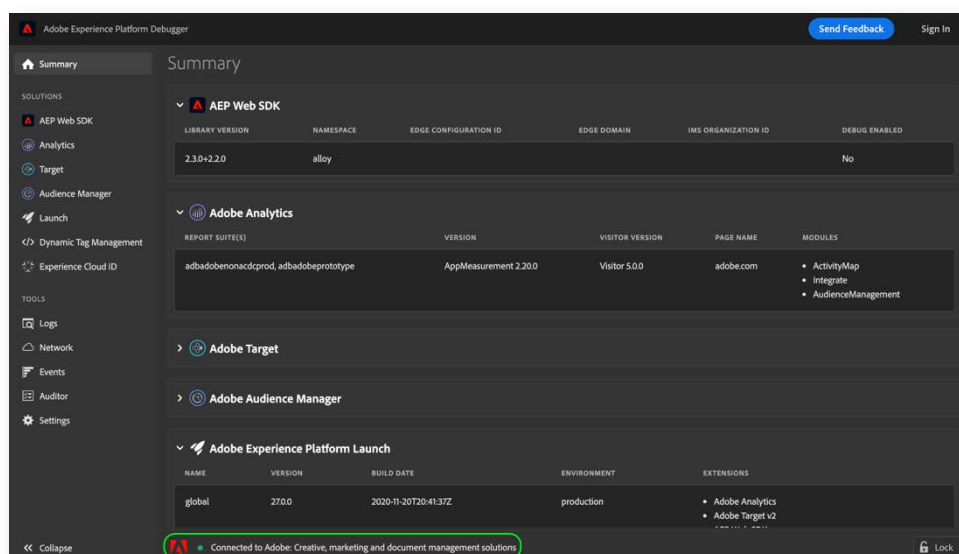
Administrators of the Adobe Analytics tool can give or revoke access to users at their company based on a number of criteria with Report Suites being the primary one. This allows companies to ensure privacy of data for things that should remain private and exceptional security for all data they collect. For example, if a user is part of a department that focuses on shoes and apparel and needs to review the shoe mobile app data, the administrator will allow them access to that data set. That same user likely wouldn't need access to this company's corporate website which has HR and Recruiting data available so the administrator would likely not grant access to that data set. In this way—Adobe administrators ensure that the people have access to the right data they need and restrict access to more sensitive data depending on the users' role, business function and departmental alignment.

Adobe Analytics University Student Access Login

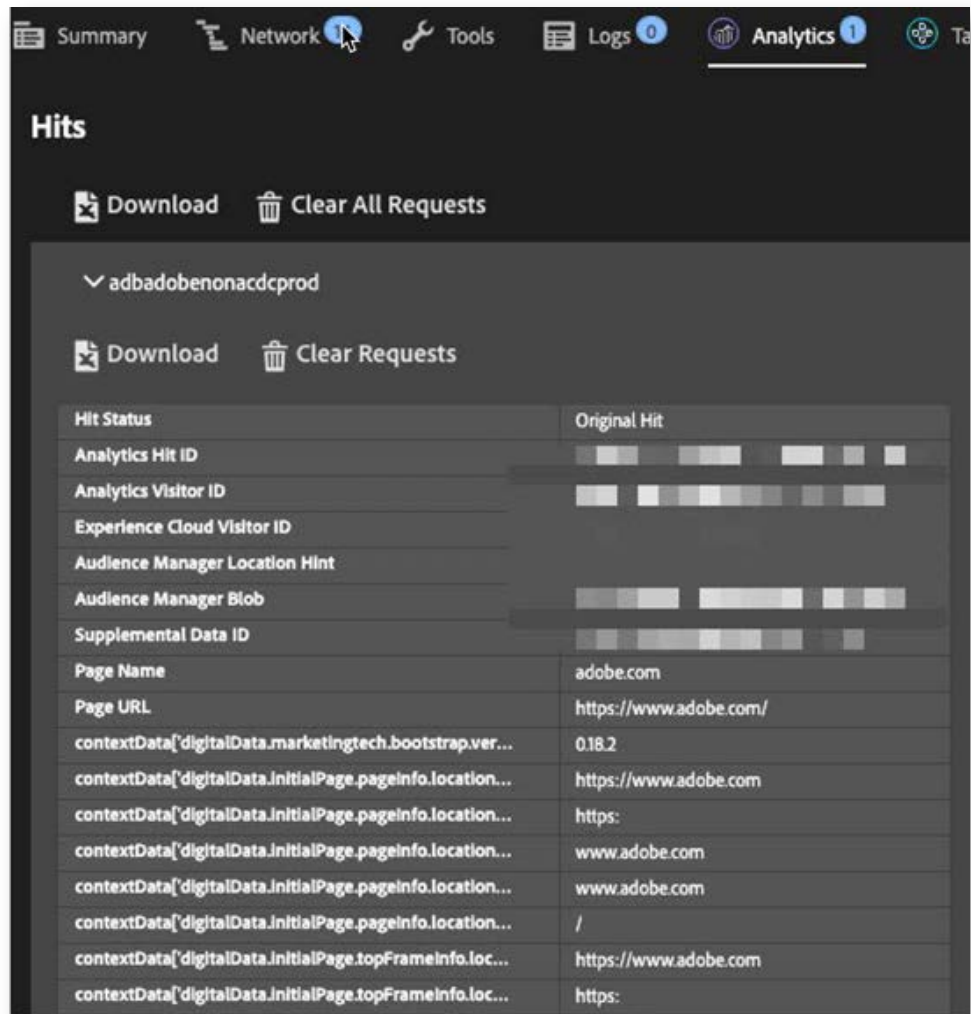
The Adobe Analytics Student Access Report Suite and associated data you will have access to is meant to simulate the Analytics data that brands from multiple industries would collect from their own websites and mobile apps, as well as their offline data sources, such as call center or point-of-sale data. The Report Suite also includes data that might be provided by third-party data partners and other Adobe Experience Cloud products. The data in the report suite is fake and not generated by any Adobe customer. It is generated by our own data generation tool to dictate "user" behavior and attributes for demonstration and educational purposes only.

Data Validation

During the deployment of analytics code, it's important to ensure that the data being collected is accurate. Adobe created a free tool for customers to validate that information in real-time. It's called the **Adobe Experience Platform Debugger**. Anyone with access to the internet and the Adobe Experience Platform Debugger can quickly and easily see what data is being sent from websites to Adobe's data collection centers. Simply download and install the extension into a Chrome Web Browser to be able to see what data is being collected and where it is being sent. This type of data collection allows analysts and developers to ensure that the right data is being collected from the appropriate pages. You can download and read more documentation here: <https://experienceleague.adobe.com/docs/debugger-learn/tutorials/experience-platform-debugger/introduction-to-the-experience-platform-debugger.html?lang=en#experience-platform-debugger>



The web address <https://www.adobe.com> is sending data to two report suites



ContextData sent in on the page with technical and contextual information for reporting

Glossary of Terms

Term	Definition
Tag Management System (TMS)	Technology used to implement marketing and analytics tags on digital experiences
Adobe Launch	Adobe's proprietary tag management system
Image Request	Type of http request from a website to request an image from a server. Used by analytics tools to package data and send to a server without end users experiences being impacted
Report Suite / Standard Report Suite	Company-specific database in which data is housed, stored and recalled upon for use in Adobe Analytics
Global Report Suite	Report suite that data is sent from multiple sources into a single report suite
Virtual Report Suite	Segmented set of data configured from a standard report suite
Development Report Suite	Test report suite typically used by companies to validate data collection on development or non-production user experiences
Account	The organization or top-level entity e.g., Adobe Analytics University Student Access
Adobe Experience Cloud Debugger	Adobe's technology to debug and validate data on websites as it is being viewed by a user



Recommended Learning Activities

Data Collection learning activities are focused on helping a student think about a corporation as a whole and helping them think through how data would be collected by the corporation as a whole, individual business unit and all digital experiences.

Activity 1: Data Validation

1. Visit <https://experienceleague.adobe.com/docs/launch/using/reference/publish/environments/embed-code-testing.html?lang=en#reference> and install the Adobe Experience Platform Debugger.
2. Visit www.adobe.com
3. Open the Adobe Experience Platform Debugger.
4. Navigate the site—go to various product category pages, watch videos, click on links and browse the site.
5. Review the data being captured in the debugger.
6. Summarize the type of data collected.
7. How might you think about using this data in analysis?

Activity 2: Netflix Business Case

1. Review the company summary of Netflix on <https://media.netflix.com/en/about-netflix> and <https://en.wikipedia.org/wiki/Netflix>
2. List all digital properties owned by Netflix.
3. Describe the type of data that would need to be collected by each digital property.
4. What type of architecture should exist for Netflix if you were to recommend a solution to Netflix—Global report suite with all data, individual report suites for each property, other? Why?

Activity 3: Login to Adobe Analytics

1. Visit experience.adobe.com/analytics
2. Login using your login credentials.
3. Open 'Reports' section of analytics and explore the interface.

Data Strategy and Architecture

More data is available today than ever before. Tomorrow will bring even more data availability to businesses and individuals. It's critical to strategize about what data should be collected for day to day use, long term archival, as well as special projects such as modeling or attribution. Far too often, companies will 'measure everything' in the hopes that because they have all the data, they'll be able to analyze it all effectively. In practice, this strategy ultimately leads to the demise of an analytics team's ability to function at a high level because instead of analyzing data and deriving recommendations, they're downtrodden with maintenance and bug fixes to ensure that the data being collected is accurate. There must be a balance between the business needs being met and the amount of data being tracked for companies to thrive.

The collection of data about user's behavior is highly customizable. While one company has determined it's critical for them to collect the amount of content consumed on a single page of a user experience—another might want to ensure that all website product categories are analyzed effectively. What is important to one company is trivial to another, and vice versa. It is this dichotomy in the industry that necessitates that companies invest highly in the strategic planning of when, how and what data should be collected. Additionally—the instrumentation of technology can be highly complex and requires specific skill sets for the data to be properly and accurately tracked.

Data Strategy

Data strategy is an all-encompassing discipline in which businesses assess and manage all data about their business and customers. Data Strategists must account for the storage space for housing their data, the security systems to keep their data from being breached and finally the rules about accessibility of the data. Data strategy has evolved to the point where Chief Data Officers (CDO) exist alongside other C-Level executives at a company.

The types of data that data strategists must account for could include personal customer data, financial record data, customer account data, telephone data, retail point of sale data, sales team data, supply chain and inventory data, website data, mobile application data, to name a few. You can see that while this handbook focuses on the use of Adobe Analytics data—the world of data management is much broader and web or mobile data is one input in a much larger ecosystem for companies around the world.

Data strategists are critical in determining what the data requirements are with respect to the types of questions that need to be answered. They will interview decision makers throughout the organization on what types of questions they need answers to regarding their business or department. Based on all of the inputs they receive and the challenges they're trying to address—the data strategist will formalize a Business Requirements Document or BRD. A **Business Requirements Document** is a document that thoroughly accounts for and organizes all business needs throughout their discovery and interview process. Each one of the requirements is documented to include the stakeholder's name, department and business questions they would like answers to. Examples of Adobe Analytics BRDs can be found here:

<https://helpx.adobe.com/ca/analytics/kb/analytics-standard-implementation-guide/brd-template.html>.

Once a strategist has all of the requirements from the business users—they're able to work with a data architect to put together a solution of technology that will collect and aggregate the data necessary to satisfy the needs of the BRD.

Data Architecture

Data Architects are technical counterparts to Data Strategists. Data Architects are experienced in various technology platforms and experts in understanding how to instrument technology to collect the right data in the right format at the right time to be able to ensure that all questions in the BRD are able to be answered. Data Architects also must ensure that each system being used to collect data is configured correctly with variables and metrics. Within Adobe Analytics specifically, architects will work with the strategist to document which variables should be used for each one of the business questions outlined in the BRD.

This process is called **Solution Design**. That solution is documented a **Solution Design Reference** or **SDR**. The Solution Design Reference is a reference guide of which variables and events are allocated for use in web analytics reporting. Each variable documented in the variable map is tied back to the Business Requirements Document (BRD). Essentially every variable that is used to collect data translates into a report that can answer the business question that stakeholders and decision makers stated they needed answering.

The process of coding analytics or data collection technology into websites, mobile apps and other connected experiences can now begin. The Data Architects next coordinate with both front-end and back-end developers to fully deploy this solution. The planning, strategizing and solutioning that goes into any data collection project should not be overlooked or underfunded in any project. The more planning that can be done prior to deployment will often reduce the time of deployment significantly as well as properly prioritize the highest impact data elements for use with the analytics team.

Variables

Metrics by themselves are simply numbers without context. Variables are used to describe the details and meaning behind metrics. It's nice to know how many orders a company has—but it's even more helpful to know what products made up those orders, what colors of products they were, what product family or category those products belonged to, and so forth. This is where variables come in.

The world is full of variables. Variables are made up of two components—the Name of the Variable and the Value that is stored in that variable. Here are a few examples of how you use variables in everyday life without even realizing it. The day of the week is a name of a variable. The values that would be potentially stored in that variable are Sunday through Saturday. The temperature outside is a variable. You could have two temperature variables—one that captures the actual temperature (in either Fahrenheit or Celsius) or the relative temperature (Cold, Warm, Hot). Additionally, the type of car you drive is a variable. The color of the car you drive is a variable.

If we were to store all of the above examples in a database, we would have the following variables with the potential sample values.

Variable Name	Potential Sample Values
Day of Week	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
Temperature	Cold, Warm, Hot
Fahrenheit Temperature	Numeric value from -25 to +130
Make of Vehicle	Ford, Chevy, Dodge
Color of Vehicle	Red, Blue Green, Grey, White, Black, Yellow

In programming, the variable name is referenced first, and then the value that is being assigned is also referenced. Simple code might look like the following:

```
dayofweek = "wednesday";  
temperature = "hot";  
fahrenheit = "99";  
make = "ford";  
color = "black";
```

In web analytics, variables are used as a storage container for contextual values that change based on user behaviors and conditions. Variables are used to hold related information about pages, campaigns, user profiles, technology, search behavior and more. What page a user is on is relevant to analyzing if that page is being seen enough for the users. What advertising campaign that user saw, or clicked on, before visiting the mobile site is important data to know to be able to understand if the advertising budget is being used effectively.

Metrics

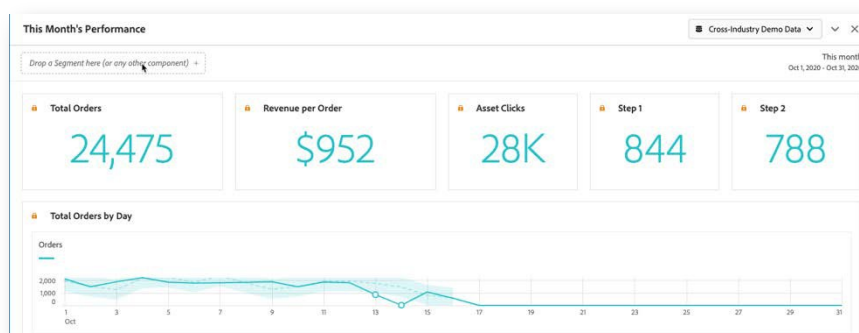
Metrics are a quantifiable measurement of the variables. More simply, metrics are data points or counts of things as they happen. Metrics are always represented by numbers. Re-read that. Metrics are always numbers. That's so critically important, you should read that one more time...

Metrics are ALWAYS represented by numbers

Any action, event, or behavior that is performed on a website or mobile app that is tracked is tracked as a metric. Simple metrics are logged every time an action takes place—counting in increments of 1. The objective of a good data strategy is to capture as many metrics that will be useful in aiding decision making about the business. Not all metrics should be viewed with the same level of interest or weight from decision makers at a company. Below are different types of metrics that companies collect using analytics.

Key Performance Indicators (KPIs)

When a patient is admitted to a hospital, nurses immediately run a set of diagnostics about the patient. They gather baseline metrics to assess critical health situations if they are present. Heart rate, blood pressure, blood oxygen level and pain index are all documented, measured and monitored in real-time. If any of these metrics drift out of healthy ranges—the doctors and nurses take action to ensure those baseline metrics are stable. In medicine—these are critical metrics are indicators of someone's health and functioning.



In business, the most critical metrics of an organization that monitor the health of a business are called **Key Performance Indicators (KPIs)**. These metrics are monitored, put into dashboards, and reviewed on a frequent and regular basis. Regardless of the business—these metrics should always be tied to revenue, sales, or critical business functions.

A company should limit the number of KPIs to ensure focus and attention on only critical business functions. Typically, companies define 3-5 metrics that their entire digital business can be measured against. They might even be referred to as ‘heartbeat’ metrics. Every strategic business decision, marketing campaign or optimization effort should ladder back up to a KPI. The success or failure of these decisions, campaigns or efforts can then be measured consistently with effectiveness.

Traffic Metrics

When users visit a site, mobile app or any digital experience—traffic metrics are captured to analyze audience size and general usage behavior. These metrics don't need to be configured, customized or defined in advance—they're part of the basic data collection for all web analytics vendors. Typical traffic metrics include Page Views, Unique Visitors, User Sessions and more. We'll explore, in detail, the definitions and application of these metrics in the upcoming modules.

Engagement Metrics

Actions or tasks that are monitoring the amount of user engagement with content, videos, audio files or other interactions are called engagement metrics. By capturing all of the interactions with pieces of content—companies can get a picture of how users behave beyond just viewing pages or visiting the site.

Conversion Metrics

Businesses create digital experiences for customers in an effort to perform a task or take action. **Conversion** is a term used to describe users completing the task or action a business owner wants them to perform. When that action or task is completed—it's viewed as a ‘success’ of the experience. Depending on the type of business or experience that is created, conversion can mean a number of things. For a retailer—a purchase would be an example of conversion. For a social media platform, conversion could mean new user registration. For a bank, conversion could be defined as a new account created.

The definition of conversion remains constant—users completed the task or performed the action that was intended. The actual task or action is variable and up to a business to define as well as create. What that action is called—is the conversion metric.

Micro-Conversions

Businesses might create many tasks or actions that are available for users to perform in their digital experiences. Often times, 'conversion' requires a series of steps or actions that lead up to the ultimate success. Those small steps or actions that lead up to that final completion event are called **Micro Conversions**. By measuring all of the actions of users, analysts can identify critical points of failure in processes or experiences that users are having a hard time completing.

Conversion Funnel

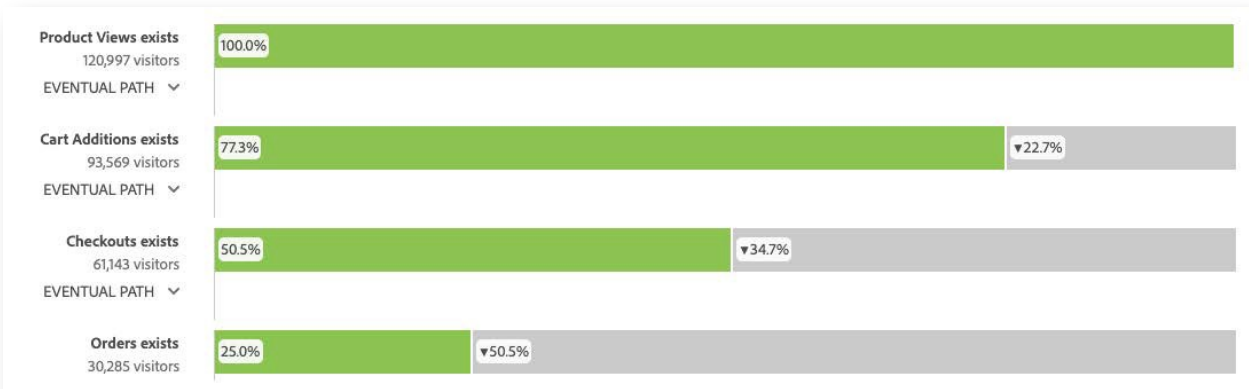
A **Conversion Funnel** isn't necessarily a metric—but a common data visualization to analyze conversion and micro-conversion metrics. Analysts build a defined set of steps for users to complete to ultimately convert on a website or digital experience. When the steps of a conversion are measured and put in sequence, a funnel visualization can be built that shows the number of users that start, stop and complete—along with the relative performance of each step in the process.

For example, online retailers knowing the number of people that ordered is great information, but if they can also analyze the visitor flow in sequence, they can identify problems in their user experience and improve.

A retailer might build a conversion funnel that includes the following metrics or micro-conversions:

Visitors > Product Views > Add to Cart > Shipping Information > Billing Information > Order Review > Order Complete





Numeric Metrics

Any time a value other than '1' needs to be captured as a metric, **numeric metrics** are used. When someone orders product from a store, an order metric is recorded as '1'—for the single order. If a user purchased 2 units of a single item—then a 2 needs to be recorded for the 'quantity' of that product being sold. A numeric metric allows for this.

If a company is gathering reviews or scores from their customers and want to store it, they can use a numeric metric to capture those data points. For example, if a product review scale goes from 0.0—5.0—every time a review is left, the decimal value can be collected and analyzed to see how many reviews are given for a particular product and what the average review score is.

Currency Metrics

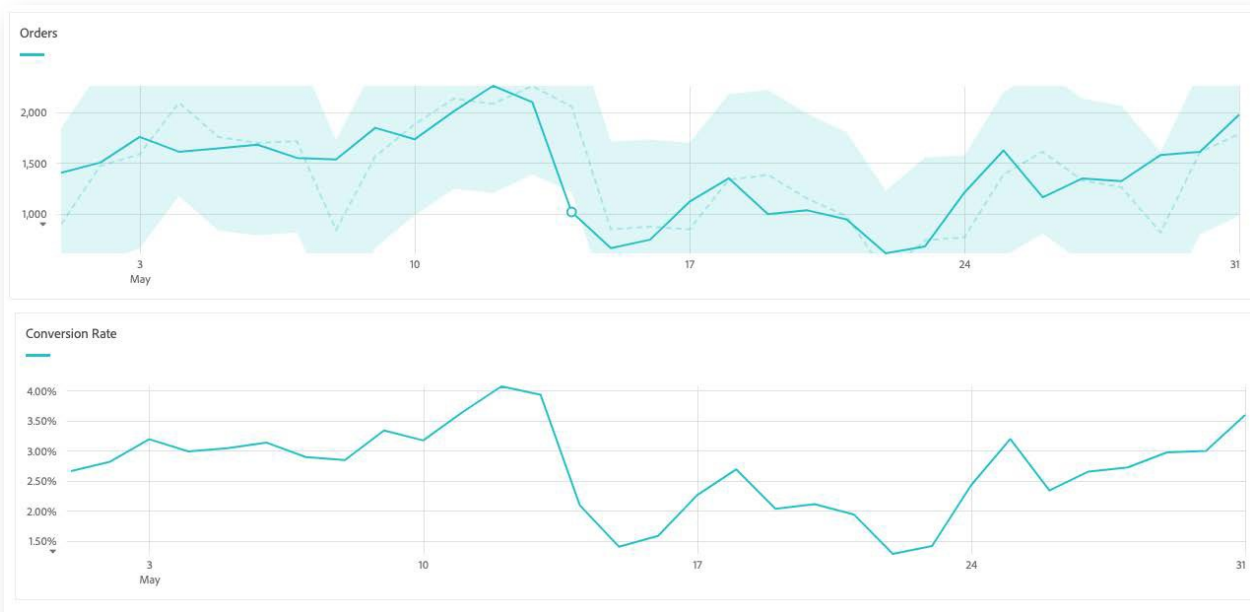
Currency metrics are numeric metrics with a currency denomination attached to them. When transactions being recorded have a currency associated with them, currency metrics are used. Adobe analytics record the value of the transaction and then records that value in a currency-based metric. Companies will often track multiple parts of a transaction in different currency metrics—capturing total revenue, shipping, tax and other components that make up the total of a purchase online.

Calculated Metrics

When metrics are manipulated mathematically—we call that a calculated metric. Typically, two or more metrics are manipulated in this way. The most common calculated metrics are related to conversion and rates of conversion. By building calculated metrics, analysts can evaluate performance of a metric using a common scale in the data. They eliminate the variability of volumes (most commonly traffic or engagement metrics) and measure a rate of change over time consistently. This is also known as normalizing data.

Orders / Visits = Order Conversion Rate

If you only look at orders—you'll see minor to dramatic swings in performance day by day, week by week and so forth. That should be expected as marketing campaigns come and go, promotions come and go and so forth. If you look at the Order Conversion Rate—you'll see less variability over time and be able to identify outliers in performance that are unrelated the volume of orders.



In the example above with conversion funnels—you could build a calculated metric of 'conversion rate' that is defined as Orders / Visitors that gives you a rate of users that order. You could also build a calculated metric of Cart Completion Rate defined as Orders / Add to Cart. Both of those would be critical metrics that measure the performance of those parts of the business.

Calculated Engagement Metrics

Calculated metrics are often defined by companies to analyze user engagement if no clear 'conversion' event can be defined. This is most commonly found with media or entertainment-based companies—where the goal of the website or app is to simply have users engage with the content. News websites, gaming, music streaming, and even social media generate revenue primarily through ad-revenue. As such, measuring the engagement of users with the content is going to be a better KPI than perhaps another conversion metric.

As an example—let's take a news website that publishes news articles about world events. They sell part of the space on each article page to various advertisers who pay them based on the number of views of the

advertisement—known as impressions. If one article gets seen 50,000 times and another 100,000 times—clearly the second article generated more revenue for the publication. But what if the second article had zero influence on a reader visiting other articles from the publisher? Perhaps the first articles had fewer overall views, but 3 other related articles were viewed on average an additional 25,000 times during this time period? Shouldn't the first article be credited with 125,000 article views instead of 50,000? You can see that developing a level of 'user engagement' would be helpful in understanding both individual article performance as well as user behavior throughout the site

These **calculated engagement metrics** are built by analysts and statisticians to help describe many actions or behaviors into a single metric. Page Views, Sessions, Ad Impressions and Unique Visitors are all metrics that would be used to calculate an 'engagement score' for a visitor to the site or for a particular article. This engagement score would then be a standard metric used to analyze the performance of campaigns, marketing channels, author performance, and more.

Variables and Metrics Together

Let's take an example of a car dealership who wants to know how many vehicles are sold. If "Make of Vehicle" is a variable we were analyzing, we would have a metric of "cars sold" which would indicate the number of cars that a particular make of the week was purchased by customers. If you were to run a 'Make of Vehicle' report—it might look something like this:

Make of Vehicle	# of Cars Sold
Ford	1,301
Chevy	899
Dodge	356
TOTAL	2,556

The variable (Make of Vehicle) captures the contextual information and the metric (Cars Sold) is a count of how many times something happens.

Metrics can also store a value as outlined in the types of metrics. In the example about car sales, it might be helpful to know the dollar amount or value of all the cars sold. So, in addition to a 'cars sold' metric, we might also have a metric to capture the dollar revenue of all of the sales. If the report above was run again, pulling in that additional metric, it might look something like this:

Make of Vehicle	# of Cars Sold	Revenue
Ford	1,301	\$37,436,275
Chevy	899	\$38,055,569
Dodge	356	\$17,844,144
TOTAL	2,556	\$93,335,988

Summary

The value stored within a variable (e.g. 'Ford') and the Metrics that are used to analyze them is the core of all data and analysis. This is **the** foundation that all databases, reports, and analytics systems are built from. Everything else is added complexity or features that allows you as a future power user of Adobe Analytics to be an effective analyst by reporting and segmenting information off of these core components.

With respect to Adobe Analytics, all data can be classified into two types of data: Variables and Metrics. Variables are storage containers of information. Data flows in the form of contextual information and databases store a record of all those contextual pieces as well as the number of times they are manifest. Metrics monitor the count and frequency of those variables as well as the values stored in each variable. Adobe Analytics gives companies the opportunity to create hundreds of variables to collect data about their users as well as hundreds of actions or behaviors they perform within digital experiences.

Final thought - Metrics report on frequency while variables illustrate the details.

Glossary of Terms

Term	Definition
Data Strategy	All-encompassing discipline which business assess and manage all data about their business and customers
Data Strategist	A technology professional who develops the strategy, collection and housing of data throughout an organization
Business Requirements Document (BRD)	Document that accounts for and organizes all business needs from business stakeholders during a discovery phase of data strategy
Data Architect	Technical counterparts to Data Strategists who define the underlying architecture of data types, variable types, metrics, and data sources that will be used throughout an organization when instrumenting data collection or technology
Solution Design Reference (SDR)	A document that outlines which variables, metrics and dimensions will be used with a technology solution
Variable	Container in which information is stored
Value	The information that is stored in a variable
Metric	Quantifiable measurement of variables. They are always represented by numbers.
Key Performance Indicators	The most critical metrics of an organization that monitor the health of a business are called Key Performance Indicators
Traffic Metrics	Used to capture audience size and general usage behavior
Engagement Metrics	Actions or tasks that are monitoring the amount of user engagement with content, videos, audio files or other interactions
Conversion Metrics	Metrics that represent the conversion activity users perform on a website.
Micro-Conversions	The small steps or actions that lead up to that final completion event
Conversion Funnel	A common data visualization to analyze conversion and micro-conversion metrics
Numeric Metrics	Metrics that can capture a decimal or other value than '1' in reporting
Currency Metric	A numeric metric that has a currency denomination attached to them
Calculated Metric	Any combination or manipulation of a metric for use in analysis
Calculated Engagement Metrics	A calculated metric built on traffic and/or conversion metrics to distill multiple actions, behaviors or tasks into a single score

Recommended Learning Activities

Activity 1: Variables in the World

Variables and metrics are pervasive throughout the entire world. To begin to think like a data analyst, you must be able to identify variables and metrics throughout everyday subjects, activities and topics. This activity will help you to identify and differentiate between these two foundational building blocks of data and analysis.

1. Choose 3 of the following topics to work with as part of this activity
 - a. Universities & Higher Education
 - b. Sports
 - c. Music
 - d. Movies
 - e. Clothing
 - f. Travel
2. List out at least 5 metrics for each topic
3. Come up with a minimum of 5 calculated metrics for each topic
4. Identify at least 5 variables for each topic—with the potential values that would present in those variables
5. Discuss with others

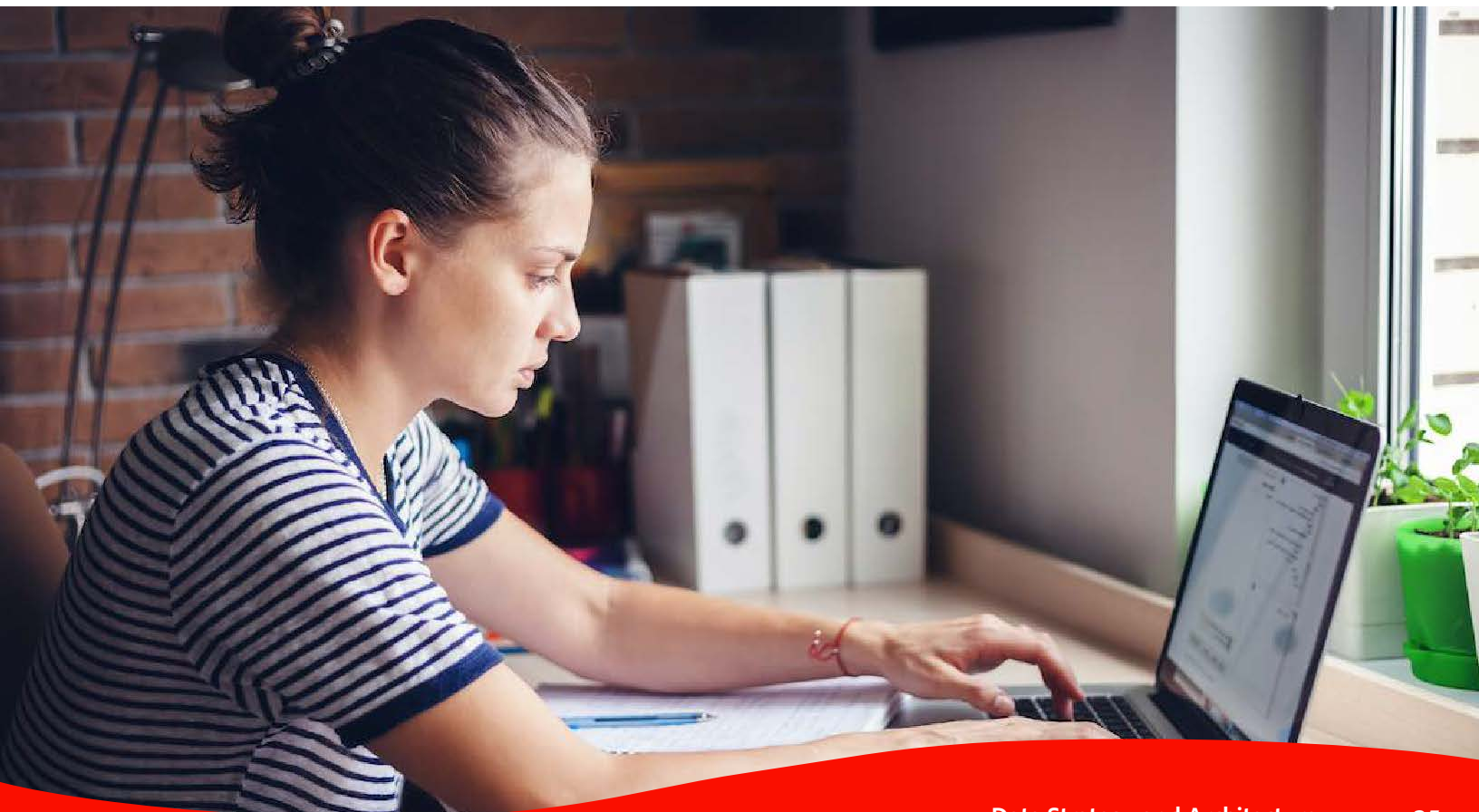
REMEMBER: Metrics are ALWAYS numbers. Variables ALWAYS contain contextual information to describe and segment the metrics into parts.

Activity 2: Adobe.com Data Strategy Case (Groups of 5)

Imagine you are all employees of Adobe. You will work together to think through what business questions the CEO of Adobe.com would want answered about the website. You will then apply the learning of variables and metrics to define different variables you would need along with the metrics to collect on the site to satisfy the business questions of the CEO.

1. Spend 10-15 minutes individually browsing Adobe.com
 - a. What types of content is available?
 - b. What do you think the purpose of the website is?
 - c. Are you able to find content easily?
 - d. How is the site structured?

2. Discuss with your group the following
 - a. What is the purpose of the website? Is there more than one?
 - b. What is the most important objective of the website?
 - c. What questions about the website's performance would you want to know if you were the CEO of Adobe?
3. Develop a basic measurement solution
 - a. Metrics
 - i. What are some of the engagement metrics you would define for the site?
 - ii. What does conversion look like on this site?
 - iii. What are some of the micro conversions?
 - iv. What would the steps of a conversion funnel look like?
 - v. What KPIs would you define for the business?
 - b. Variables
 - i. What variables would you define for the pages & content of the website?
 - ii. What variables would you create for the products in creative cloud?
 - iii. What other variables would you want to collect to help describe all of the metrics outlined above?



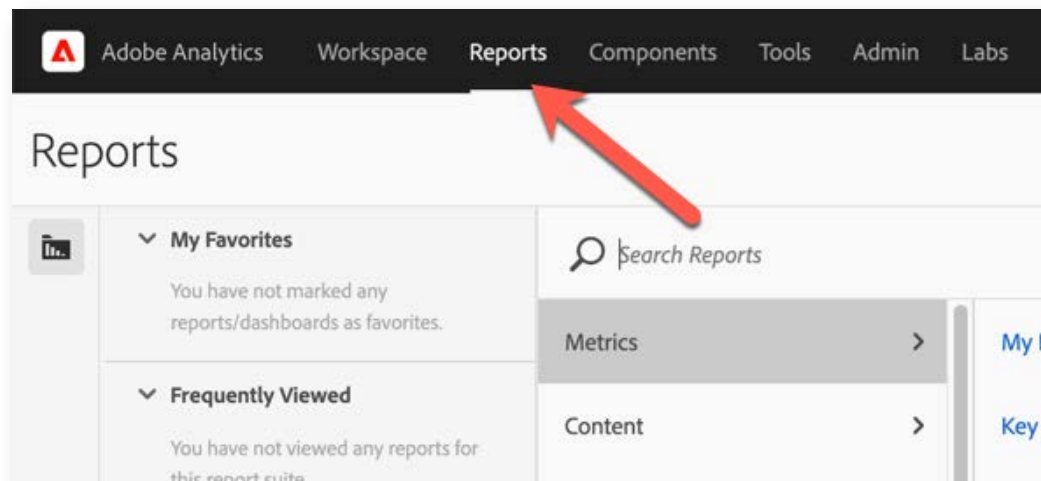
Standard Adobe Metrics & Functionality

Implementing standard Adobe Analytics tracking is straightforward and simple. The base data collection code required to start getting tracking takes very little effort to deploy and provides hundreds of reports, dimensions, metrics and segmentation capabilities. This data can be accessed through either the Adobe Reports toolset or from Analysis Workspace.

For novice users, it's recommended that you start using the 'Reports' tool within Adobe Analytics to understand all of the reports, dimensions and metrics available. This is the beginners tool for building basic reports and having consistent visualizations created as a beginner with the Adobe suite of analytics tools.

Accessing Reports

To access Reports—you'll click on the 'Reports' link across the top of the navigation bar of the Adobe Analytics Suite of Tools.



From here, you'll have access to the standard Reports & Reporting tools that Adobe offers. Within this interface, there are hundreds of reports available to you as an analyst. It's important to note that many reports are created by default without any custom deployment needed. These reports are what we consider '**standard**' or '**out of the box**' reports. These reports contain many variables that capture information about the users device, browser, operating system, location, and more. A complete list of standard dimensions can be found here: <https://docs.adobe.com/content/help/en/analytics/analyze/reports-analytics/reports.html> We will explore the most important ones for you to become familiar with throughout this module as well as describe analysis that can be performed in this tool.

Standard Metrics

In the previous module, you learned about variables and metrics. Variables are containers that store information that describe the metrics in more detail while the metrics themselves are always represented by a number, or a count, of how many times a value within a variable is recorded. The standard metrics that are critical for any web analyst to become familiar with are Traffic and Engagement Metrics.

Standard Traffic Metrics in Reports

The 3 standard traffic metrics that are used to describe digital experience traffic for websites, mobile applications or other digital experiences are: Page Views, Visits & Unique Visitors.

Page views is a count of how many pages are seen on a website or digital experience. If it's a mobile app or other form of experience, then it's most commonly triggered upon each new 'screen' experienced that's triggered through clicking on a button or a link. This is the base engagement metric that shows analysts the number of pages or screens that users are experiencing. For a website, it's typically each individual URL accessed whereas a mobile app it's each individual screen viewed.

Visits is a metric that indicates the number of times users are interacting or engaging on a website or mobile app. Often, web analysts will use the term Sessions synonymously when describing visits. Visits, or sessions, are made up of multiple page views.

Unique Visitors is the count of unique users that visit a website, open a mobile app or engage with a digital experience. Analysts today will also use the term Users synonymously when talking about unique visitors. Unique visitors are described by different time periods—Daily, Weekly, Monthly and more. When a report is run with Unique Visitors as a metric—you're looking at the unique number of users that came during that time period. A single unique visitor, or user, will have multiple visits and even more page views. Unique Visitors are estimated based on the IP Address or Browser ID that is set by Adobe that identifies that user as an individual. If a user clears their cache or cookies—often times that ID will be lost and upon revisiting the website or application, they are now a new unique visitor.

Note: Adobe is leading the industry with something called 'Customer Journey Analytics' where they can effectively identify unique visitors using different devices to access a website. Read more about it here:

<https://experienceleague.adobe.com/docs/analytics-platform/using/cja-landing.html?lang=en>

When looking at a report with any of these metrics, you can answer these types of questions about the website or mobile app:

1. How many Users visited the site? Answer: Unique Visitors
2. How many times did they experience our mobile application? Answer: Visits
3. How much content did they view? Answer: Page Views

Standard Engagement Metrics in Reports

The following standard engagement metrics allow you to further analyze how users traffic the website or experience: Average Time Spent, Average Page Depth, Entries, Entry Rate, Exits, Exit Rate, and Page Reloads.

Average Time Spent is a metric that calculates the amount of time in seconds that a user has been engaged within the experience. This can be looked at for time spent per visit, or per unique visitor. Depending on which metric is used, you'll receive a number that represents the number of seconds the user was engaged.

Average Page Depth is a metric that is pulled into a Pages report that shows you the average number of page views or screens that it took for someone to reach a particular page or screen. For example, if the number is 2.5—then on average the page you're analyzing takes 2 and a half clicks to get to.

Entries is a metric used to analyze pages that describes the number of times that particular page was the first page of the user's session. **Entry Rate** is the rate at which that page is the entry when compared to the total visits to the experiences. For example, if a page has 150 entries for a day, but there were 1000 visits in total that day, then the entry rate of that page would be 15% (entry rate = $150/1000$)—which means that 15% of the sessions that day started on that particular page.

Exits is a metric used to analyze pages that describes the number of times a particular page was the last page of the user's session. **Exit Rate** is the rate at which that happens compared to all exits. This is used to analyze which pages are the last pages of a visit and identify pages that potentially are leading to users exiting the site.

Page Reloads is a metric that shows you how often people are reloading a page or screen. It's used on a pages report.

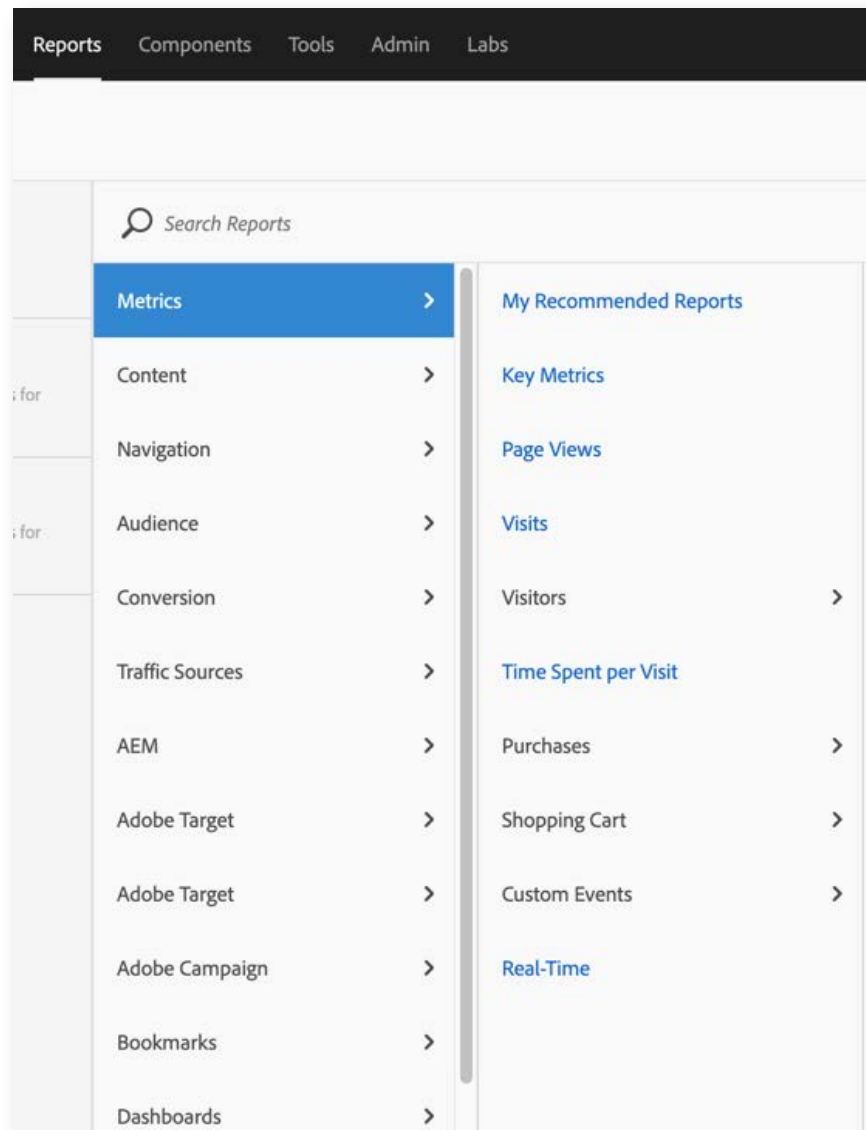
Metric Reports

Remember, metrics are always represented by a number. They're the numeric values that are used to describe variables. Metrics can also be viewed within Adobe Reports to see trends in total performance of these metrics.

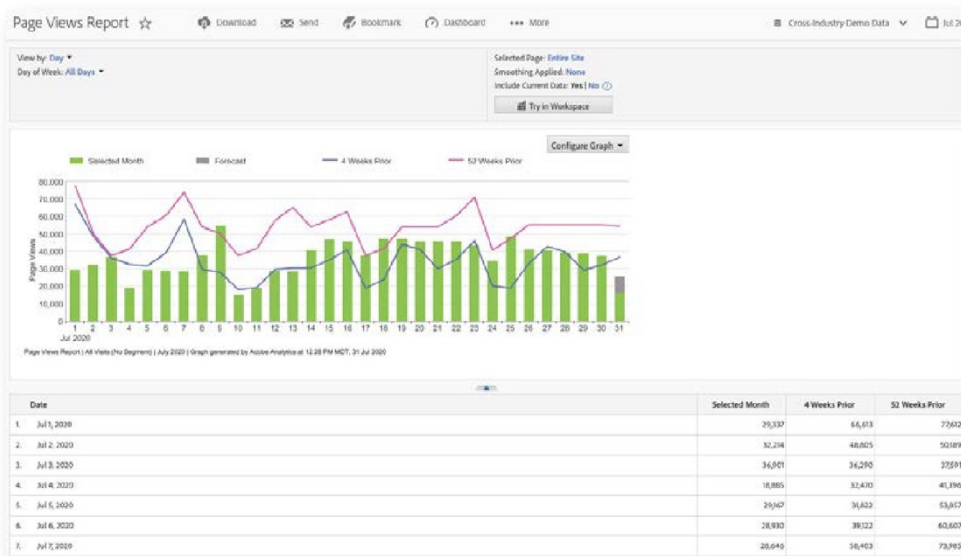
For example, if we were running analytics for a major retailer like Best Buy, we would likely want to see our total traffic volumes around Daily Visitor counts to know how many unique users are coming on a daily basis to the website or mobile app as well as the total order and revenue generated from our website.

Accessing Metric Reports

Metric reports are accessed from the 'Metrics' menu.

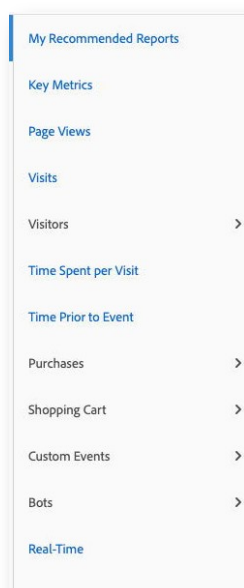


You'll immediately notice that some of the traffic variables we've talked about are immediately available here—Page Views, Visits, Visitors, Time Spent, etc. If you were to click on any of these reports, you'll get a table showing daily counts of that metric along with a trended graph showing you the data.



In the Page Views report above—you'll see total page views for the selected month, how it compares to the previous same time period as well as the previous year. This same report structure is followed when you click on any of the metric reports.

Exploring the Site Metrics Menu



'My Recommended Reports' is a basic dashboard that shows you a handful of metric reports and some basic variable reports intended to get new users into some of the reporting.

If you click on the **'Visitors'** sub-menu, you'll see the ability to get Visitor metrics based on different time periods. Remember that 'visitors' is a unique count of a certain time period and this allows you to see more micro or macro views of the unique visitor counts for the digital experience.

Time Spent per Visit gives you the amount of time users are spending per visit on the experience.

Time prior to Event is a report that allows you to see how much time passes before a metric took place (e.g. how much time before a user purchases on the site).

The **'Purchases'** sub-menu is built to give all of the e-commerce related reports including total orders, revenue, as well as a standard conversion funnel report to show you purchase flow.

The **'Shopping Cart'** sub-menu shows you all of the standard checkout steps of an e-commerce site.

The **'Custom Events'** sub-menu houses all of the custom metrics that have been deployed in this report suite. Adobe allows for 100s of custom metrics to be deployed for various measurement strategies.

The **'Bots'** sub-menu allows analysts to see what bots are crawling the site and potentially filter them out of the data.

Finally, the **'Real-Time'** report allows users to see activity that is happening in real-time on the website.

Variable Reports

All other menus and sub-menus you see in the Adobe Reports interface refer to variable reports. Many of these reports are standard reports that come with a base deployment of Adobe Analytics. These standard variables give analysts a myriad of ways to understand their user's technology, location and more. Also—every variable can be used for segmentation of data. For example, if we want to take users with a specific device type and analyze them individually and exclude all other data—segmentation allows us to do that. We will discuss segmentation in more detail in the next learning module with Analysis Workspace.

Accessing Variable Reports

All of the menus below take you to various variable reports. Below are the menus that contain **Standard Variables** which come as part of the basic deployment of Adobe Analytics.

 Search Reports		
Metrics	>	Pages
Content	>	Page Path
Navigation	>	Page Title
Audience	>	Page Type
Conversion	>	Site Sections
Traffic Sources	>	Site Subsection
AEM	>	Country Site
Adobe Target	>	Language Site
Adobe Target	>	Custom Traffic >
Adobe Campaign	>	Mobile App >
Bookmarks	>	Media >
Dashboards	>	
Calculated Metrics	>	
Targets	>	

1. Content > Pages
2. Navigation
3. Audience
4. Conversions
5. Traffic Sources

The following are custom variables that require developers to go through tagging custom code or development of a data layer to track.

1. **Campaigns**—Campaigns reference 'marketing campaigns' that companies run to acquire new customers or make customers aware of their products or services. 'Campaigns' is a standard variable. However, note that the campaigns variable will be empty until marketing campaigns are tagged with tracking codes.
2. **Products**—'Products' is a standard variable. However, note that the products report requires products to be tagged.
3. **Custom Conversion & Custom Traffic**—These are all of the custom variables that companies deploy to capture things unique to their business that they want to analyze.
4. **Adobe Target**—This is an integration between Adobe's analytics tool and their optimization tool called 'Target' which allows marketers to test and optimize user experiences.
5. **Marketing Channels**—This is a customized report built based on marketing channels for cross-channel analysis of marketing channels, campaigns and individual tracking codes.
6. **Media**—This requires all rich media (Videos, Ads, On-Demand, etc.) to be tagged with custom media code from Adobe.
7. **Mobile App**—This requires developers to utilize Adobe's Experience Cloud SDK to capture all related mobile app data.
8. **AEM**—These set of reports requires an integration between Adobe's Content Management System known as Adobe Experience Manager for these reports to be enabled.

The **Bookmarks**, **Dashboards** and **Targets** menus allow analysts to save reports or create dashboards for later use. The Targets menu allows analysts to put in company-wide targets to manage as well.

The Pages Variable

The pages variable is a granular variable that describes page URLs or Mobile Screens viewed by users. It's the most fundamental variable of any website, mobile app or digital experience as it describes the content being viewed. On a website, this variable is most commonly set for each individual URL that is accessed. On a mobile app, it's traditionally set for each screen that is viewed within the app.

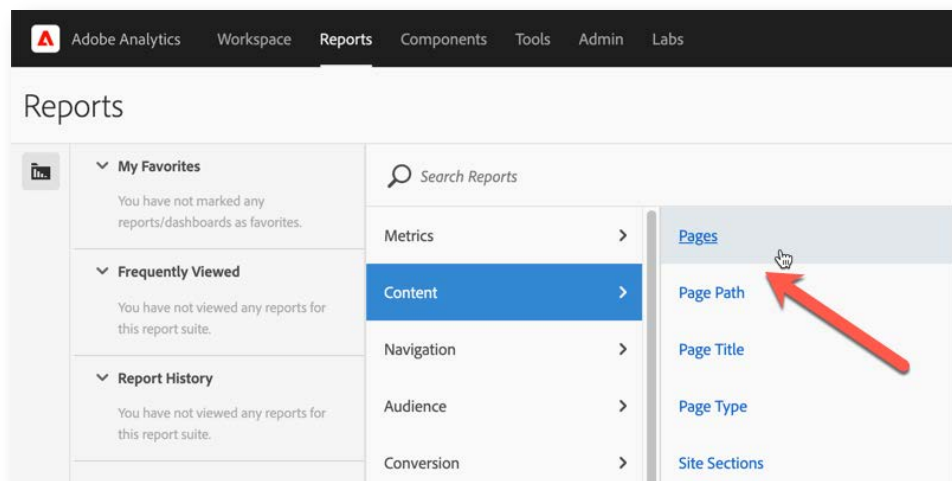
If a custom implementation is completed, this variable will contain names of pages that an analyst is using to describe that page in the overall site and content hierarchy. If no custom name is given, then the filename of

the content will be loaded into this variable. For websites—that's the URL of the page, for mobile apps or other experiences, it's the actual filename of the content that's stored on the server.

The pages report is the report that is generated by the Pages variable. This report displays the value stored in the page variable—which should represent every individual page or screen of an experience.

Accessing the Pages Report

The pages report is found under the 'content' sub-menu.



When you run the pages report in the Student Access Report Suite—you'll find custom page names have been implemented for you. Each one of these pages represents a page within a fictitious website that you can analyze. An incredible amount of analysis happens on the Pages report in everyday web analytics. It's the center of all reporting around content, engagement, and what users are experiencing—page by page or screen by screen.

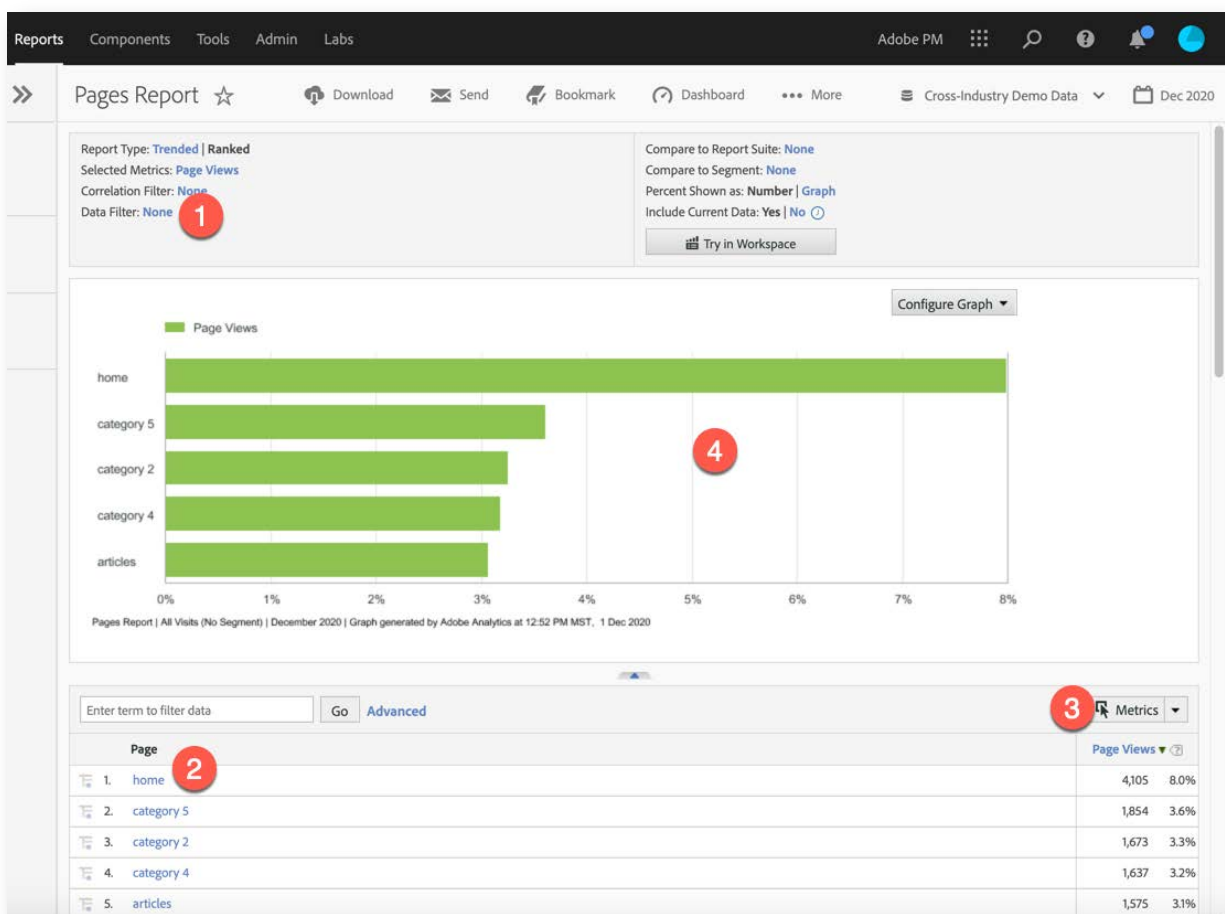
This report by default is going to show you the pages ranked by popularity—using the Page Views metric. You're also experiencing and running your first Variable Report with a Traffic Metric applied. The Variable you're seeing here is 'Pages' and the metric being viewed is the 'Page Views' metric.

Adobe Report Structure

Every report within Adobe Reports will have these components:

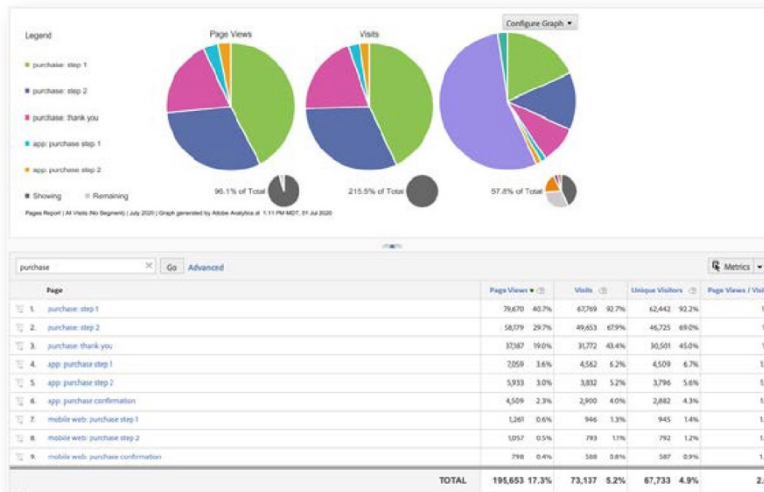
1. **Report Name:** This is the overall name of the report and it is commonly the name of the Variable. E.g. the Pages Report.

2. **Report Values:** These are the individual values that are stored within the variable. They most commonly make up the rows of the report with each unique value having its own row.
3. **Metrics:** No report can run without at least one metric. The Default metric on a Pages report is the Page Views metric. These make up the numeric columns on the report and represent the counts of the values in the report.
4. **Data Visualization:** Reports should always have a visualization of the data represented in the table below. These visuals can be made up of various types of charts or graphs. This can be customized within Adobe Reports but most often users will use more advanced tools to visualize their data, which we will explore further in the next Module of Analysis Workspace.



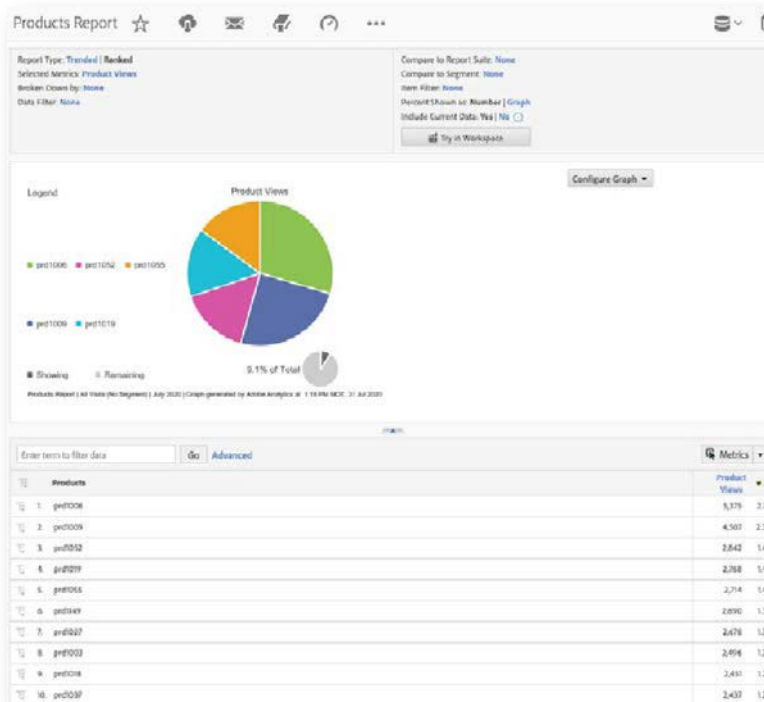
Modified Pages Report

The Pages Report can be modified to have metrics added or removed as well as the data visualization changed. You can also filter the report for specific values if you only want 'purchase' pages to be analyzed as well. Here's an example of what that report might look like.



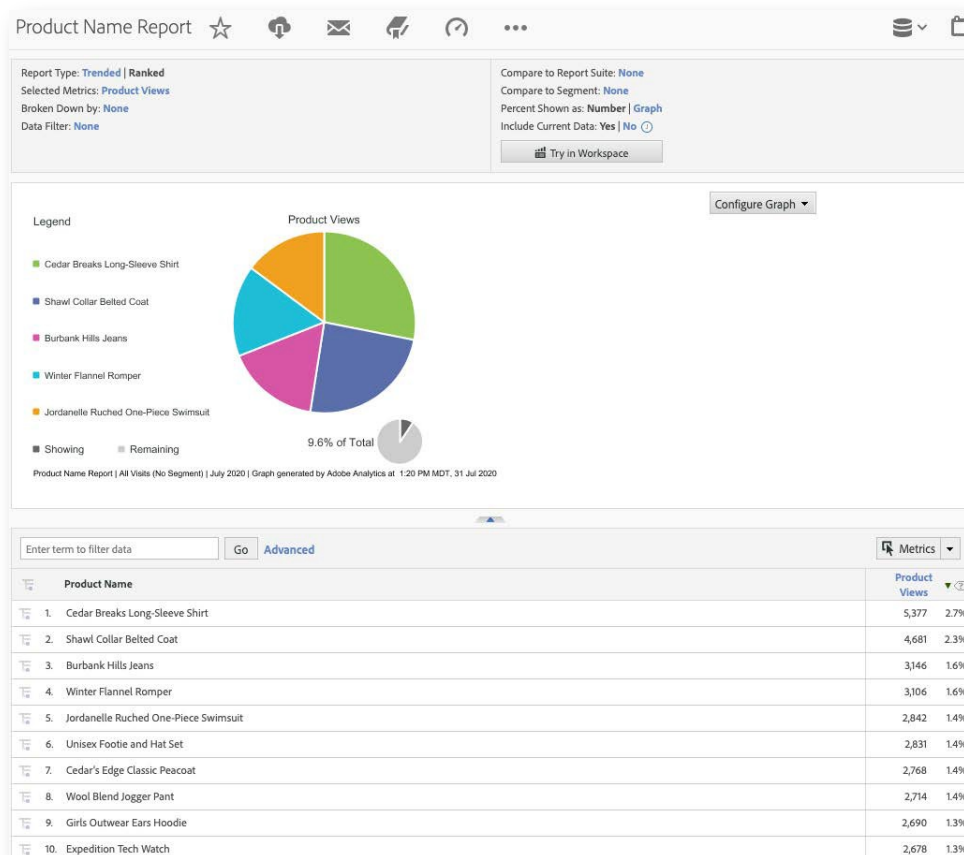
Product Reports

E-commerce based businesses will use the product reports as much, if not more, than their pages and content reports. The product reports are built off a standard variable known as the products variable. When you run product reports, you're going to get individual product SKUs or item numbers and see data about those products.



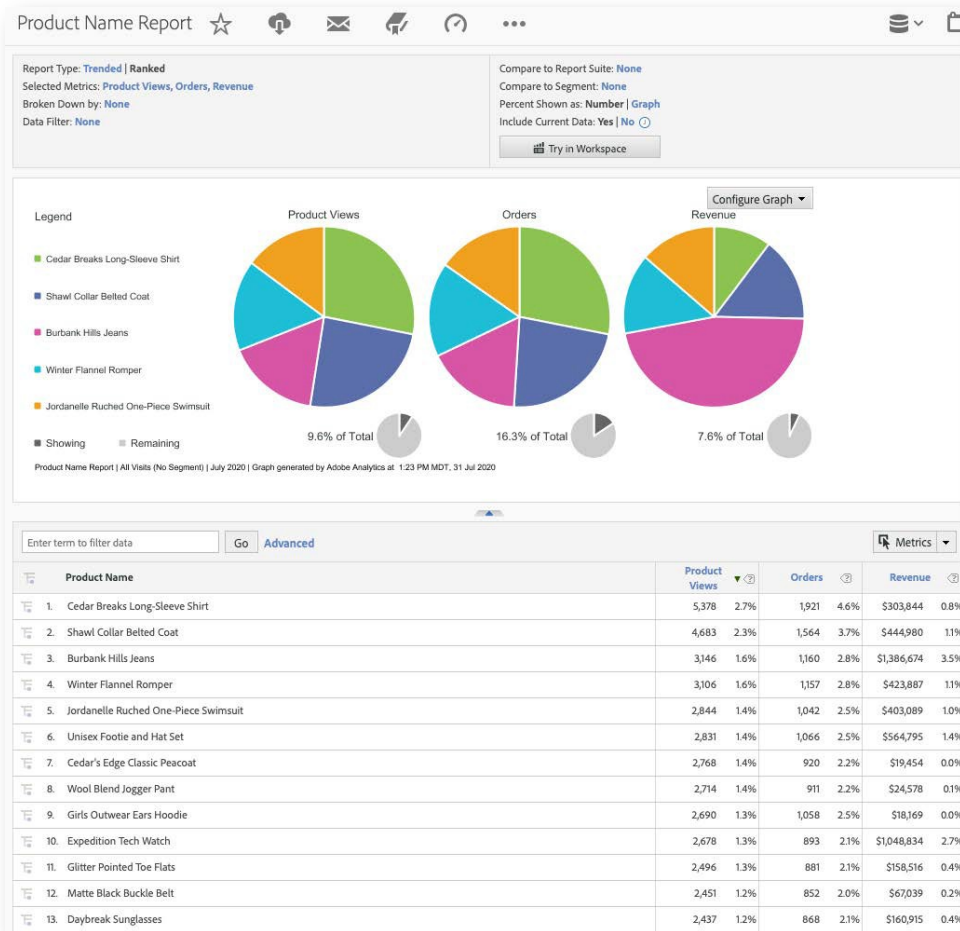
This report, by default, shows all of the product SKUs or item numbers without any context. If you are familiar with your company's SKUs, then this report will often make complete sense to you. However, Adobe allows analysts to upload data about every product so that analysts can see more readable reports on their products. This ensures that anyone reading the report will not have to decode item numbers or SKUs and have a more friendly name to read in this report.

Adobe also allow analysts to group products together and further classify this data into various aggregations for analysis. You'll see all of these classifications in the products sub-menu. By running any of those reports, you're looking at these same product item numbers classified in various ways—product name, category, sub-category and more. The demo data you have access to actually has various cross-industry information demonstrating how the products variable can be used by different industries that aren't explicitly retail as well.

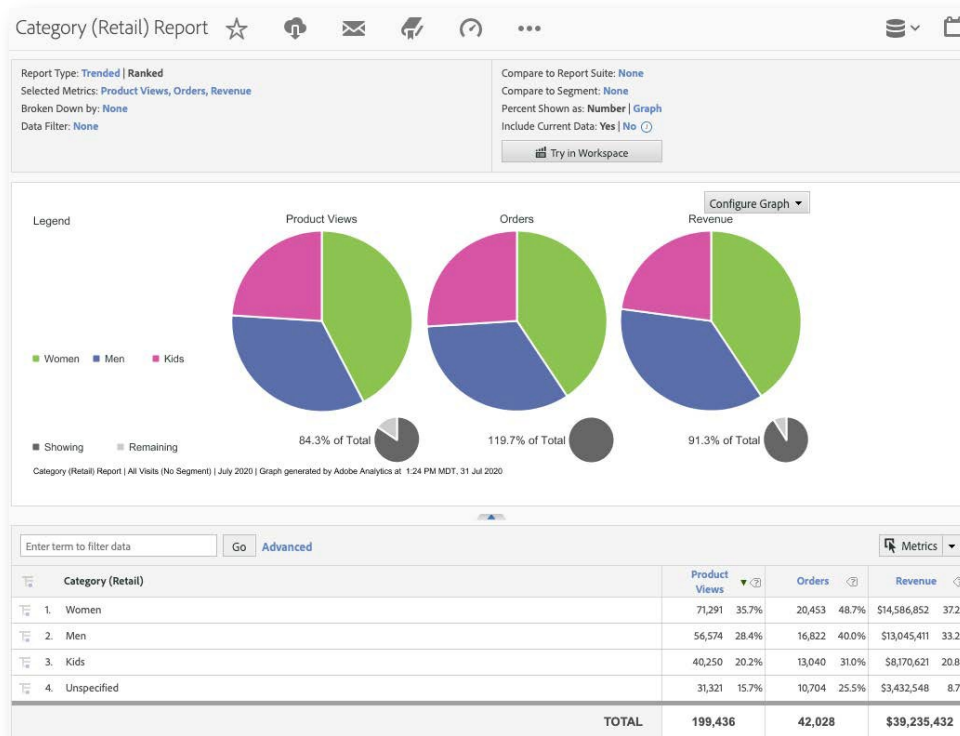


The view above shows you what a 'product name' report looks like. Simply put, this report represents all of those same product item numbers, but friendly names have been given to the products so you as an analyst can search by a name, instead of a number. Further, we can add additional metrics to see how our products are performing beyond just 'product views'. Below is an example of a products report showing Product Views,

Orders, Revenue for all products. This report is incredibly useful as a product merchandiser for a major retail company like Nike to see which products are selling and at what frequency related to others. In fact, companies like Nike, Target, Wal-Mart and other major retailers do use this exact report for that purpose in running their business operations!



If we run a 'Product Category Report' we can see which product categories are performing better than others.



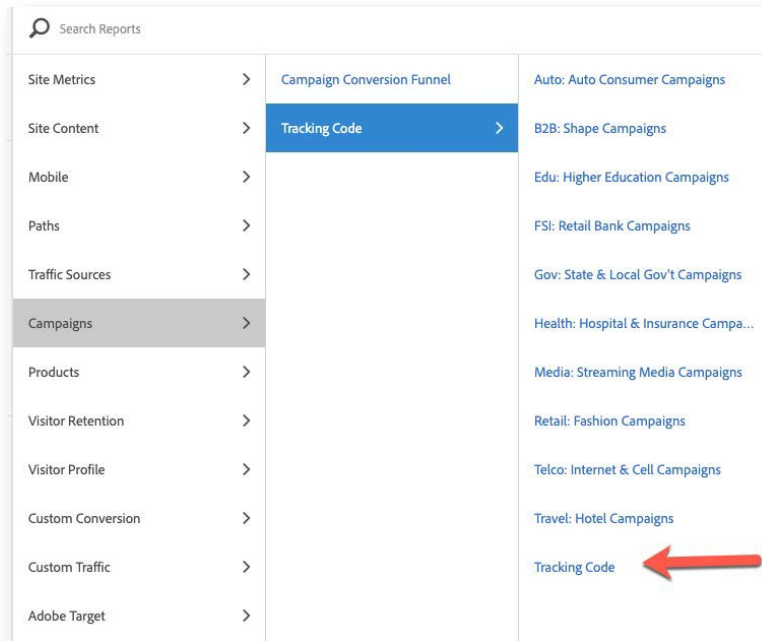
The 'Unspecified' Value

The example above is showing a value called 'Unspecified' in the report. As a user of Adobe Analytics, you'll find this value to appear in many reports at various times. This is a value in the report that tells us that when data was collected about that metric, no value was passed into the variable at that time. So, in this case shown above, 31k product views were attributed to a product that wasn't tagged. As an analyst, your job will sometimes involve tracking down these types of implementation errors and correcting them to keep these reports as accurate as possible.

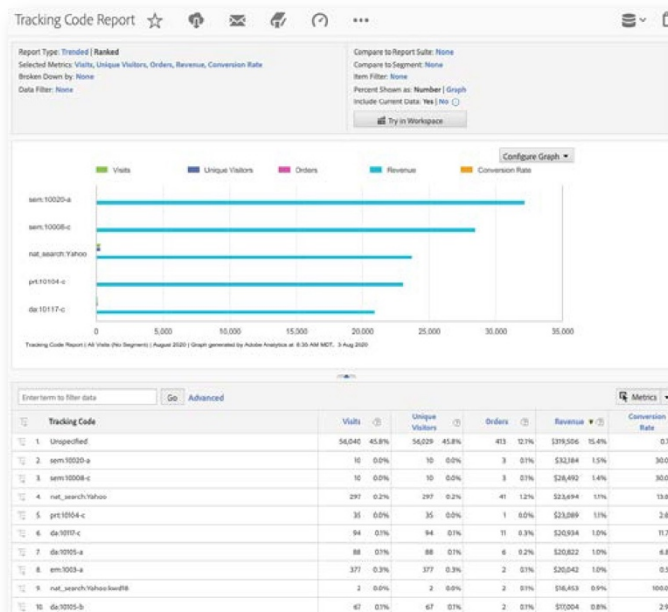
Campaign Reports

A fundamental capability of web analytics reports is to analyze and report on the performance of advertising campaigns from marketing teams. This is one of the primary use cases for the birth of the analytics industry—to calculate return on investment (ROI) of advertising dollars in the digital age. Other vendors of analytics force customers to use a set type of tracking code which limits the ways to break down and analyze the reporting. Adobe Analytics has an open collection methodology for tracking codes in which any value can be passed in as a 'Tracking Code' into the system—and then classified in any number of ways.

Accessing the Tracking Code Report



The sample data set you have access to has a basic tracking code report as well as multiple industry-focused styles of classification of these tracking codes. Let's start with the base Tracking Code report. The report below also has conversion metrics added with Orders, Revenue and Conversion Rate for analysis.



Reminder—the 'Unspecified' value here is indicative of no value in the tracking code variable at the time data was collected. Interpreting that value in this report tells you that's all of the data associated with traffic to this website where there was no tracking code—in other words—traffic unrelated to a campaign managed by the marketing team.

The other values in the report are unclassified tracking code values that tell you exactly how many visits, visitors, orders, revenue and the conversion rate of each tracking code. Row 9 is very interesting here—a tracking code that resulted in 100% of the visits purchasing and \$18k in revenue. Perhaps the marketing team should be aware of such a successful tracking code? If you as an analyst want to find all of the tracking codes with high conversion rates, you can click on the 'conversion rate' metric and it will sort from top to bottom.

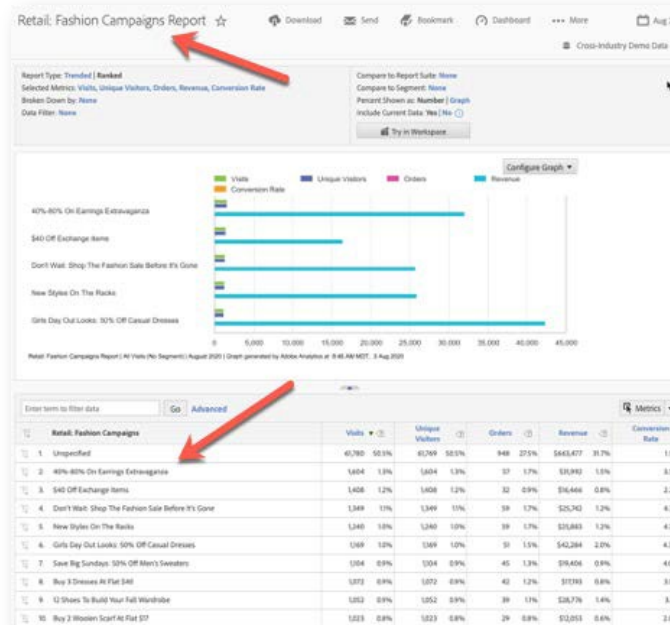
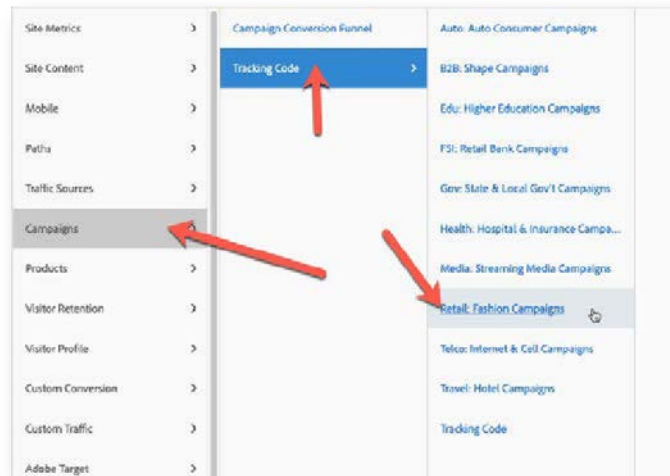


Tracking Code	Visits	Unique Visitors	Orders	Revenue	Conversion Rate
1. sem:10062-b	1 0.0%	1 0.0%	2 0.1%	\$1,626 0.1%	200.00%
2. cse:10111-c	1 0.0%	1 0.0%	2 0.1%	\$3,345 0.2%	200.00%
3. Yahoo: kwd4	1 0.0%	1 0.0%	2 0.1%	\$2,268 0.1%	200.00%
4. sem:10040-b	1 0.0%	1 0.0%	2 0.1%	\$26 0.0%	200.00%
5. Google: kwd90	1 0.0%	1 0.0%	2 0.1%	\$104 0.0%	200.00%
6. soc:10070-a	2 0.0%	1 0.0%	2 0.1%	\$707 0.0%	100.00%
7. nat_search:Yahoo:kwd18	2 0.0%	2 0.0%	2 0.1%	\$18,453 0.9%	100.00%
8. sem:10001-a	2 0.0%	2 0.0%	2 0.1%	\$185 0.0%	100.00%
9. sem:10013-a	8 0.0%	8 0.0%	6 0.2%	\$1,503 0.1%	75.00%
10. cse:10015-b	3 0.0%	3 0.0%	2 0.1%	\$1,202 0.1%	66.67%

In this modified tracking code report—you'll find tracking codes that have more than 1 order for a single visit! Those should definitely be sent to the marketing team if you were an analyst showing some incredible successes of their efforts.

Retail Fashion Campaigns

Next, let's run a report for the Retail Tracking Codes related to Fashion Campaigns.



This report represents the tracking codes from the previous report aggregated to campaigns. They have a friendly name here that represent each individual campaign and the metrics associated with them. This type of reporting becomes invaluable to the marketers that are spending advertising dollars to drive traffic to this website in the hopes of generating more visits, more sales, and ultimately new customers to the business.

Think about these reports as if you worked for this company and were responsible for web analytics across the entire organization. What does the report above tell you about the effectiveness of these campaigns? What could you do with this information? How would you act based on the data you were analyzing? Take some time now to explore the other classification reports in this sample data sets and look for interesting data points that would be worth mentioning as an analyst.

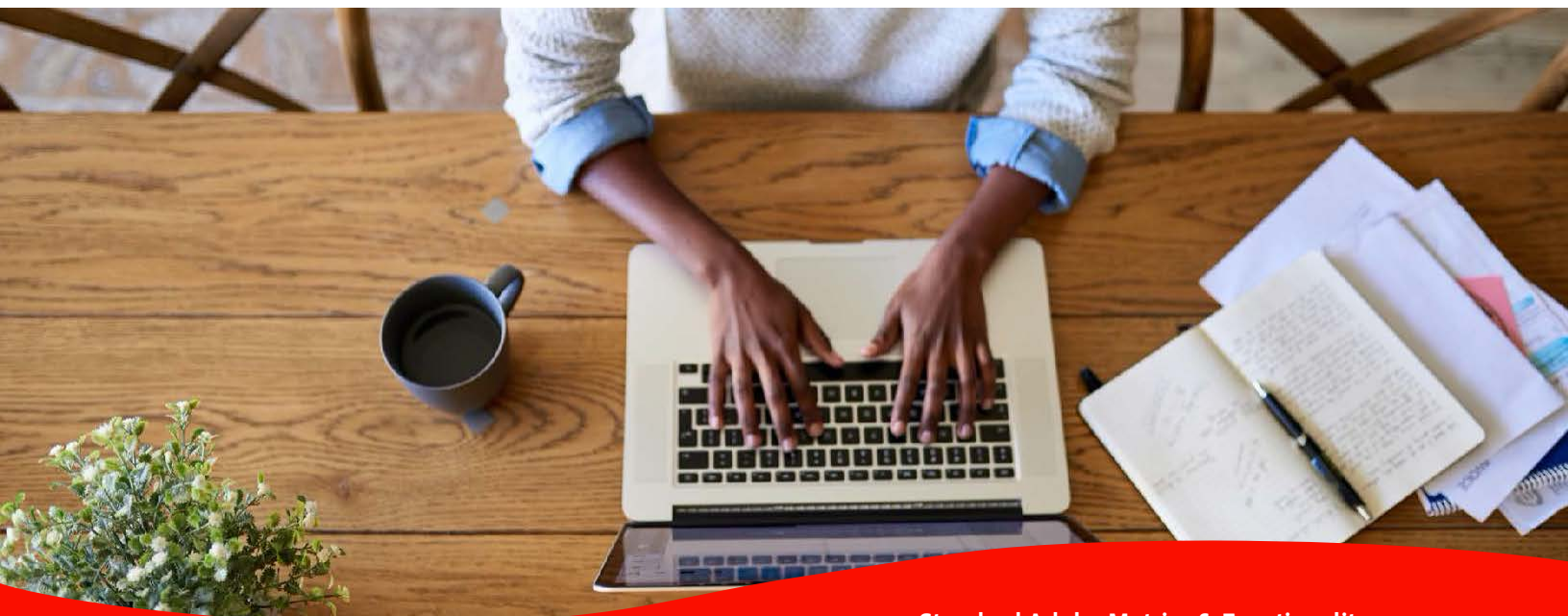
Visitor Profile Reports

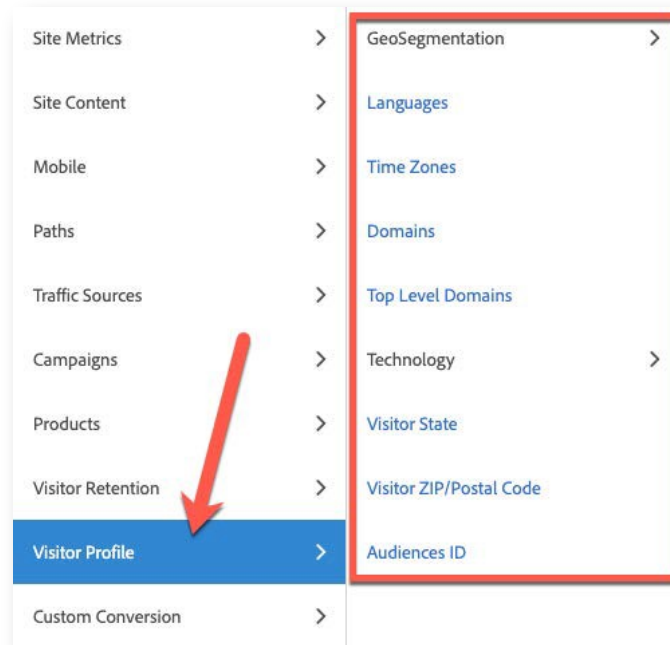
The final set of standard reports we'll analyze in this introductory handbook are the Visitor Profile Reports. Often times companies want to understand what the composition of users looks like to their business. The visitor profile reports are the source of information that companies rely on to understand things like where their users are located, what devices are they using to access the website or digital experience, what technology and platforms are being used, etc.

This type of information is invaluable to the development teams to know what technology needs to be supported on the site or experience. These reports help the marketing organization know if there are paradigm shifts in users advancing technology that will require new messaging to their customers as well as understanding if a coordinated online and offline campaign might be warranted given geo-location details available to them.

Accessing Visitor Profile Reports

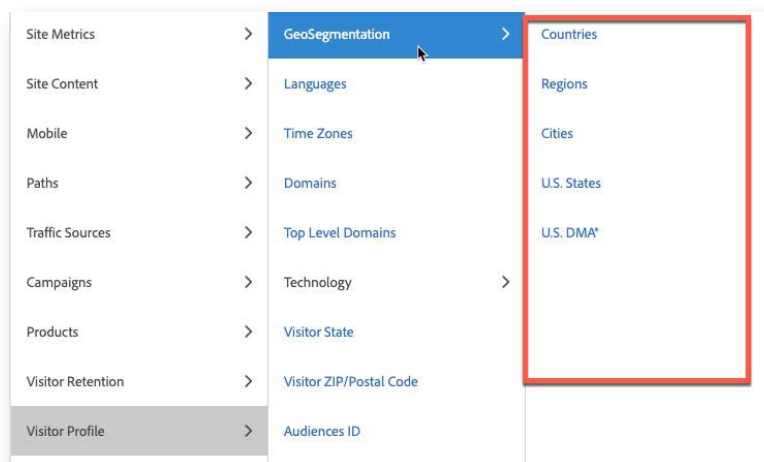
The Visitor Profile Reports have their own entire menu structure within Adobe Reports. GeoSegmentation and Technology are aggregated in sub-menus as so many reports exist within Visitor Profile as a whole.





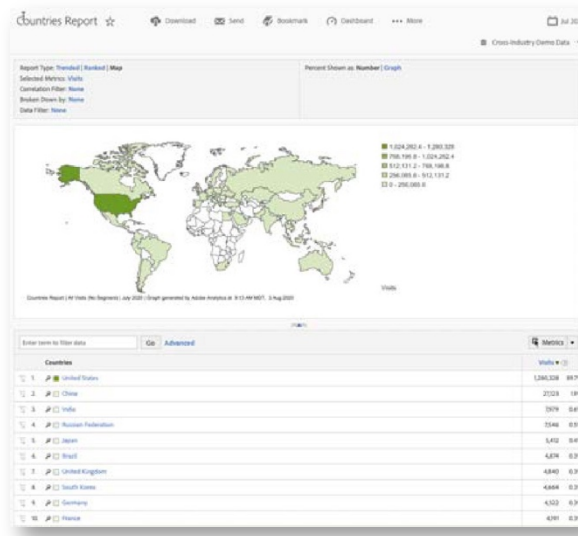
Every report within this menu structure is referencing a standard variable with Adobe Analytics. Each one of these variables can have data associated with them about the traffic and conversion events or actions that users take. Let's start with some GeoSegmentation reports.

GeoSegmentation Reports

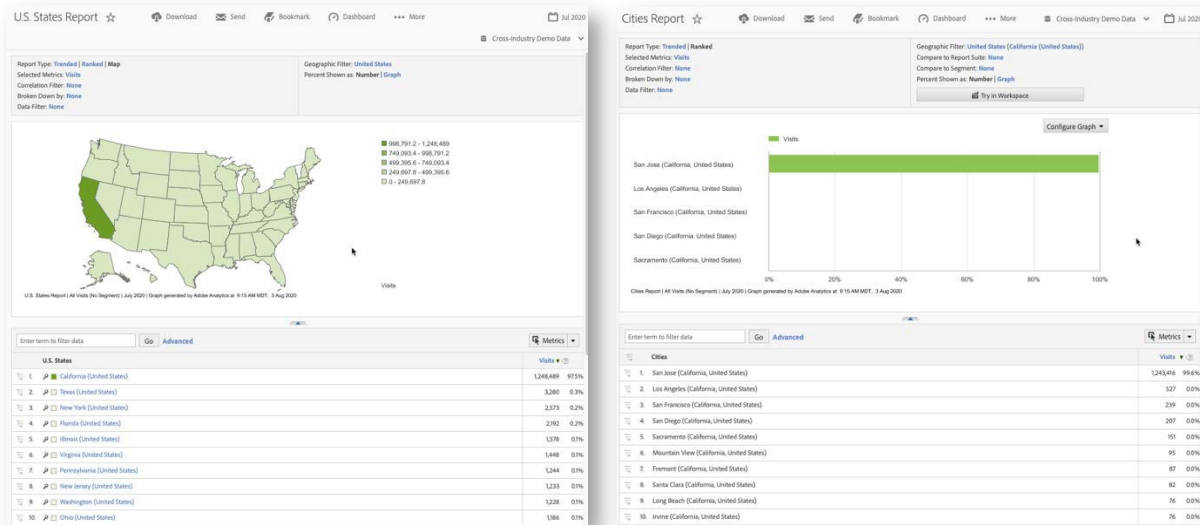


As you browse the internet and access digital content—your device is identified with an IP Address. That IP Address is assigned either by your internet provider directly or is assigned by the network you're using to access the internet. That information is available to web analytics tools and each of these reports are generated

from reverse IP lookup technology. Adobe takes that information and references lookup tables that allow them information about their users down to the city that the user is located in.



The default visualization for these reports is a map view that is interactive and can be clicked on to drill in further with segmentation. In the next module—we'll showcase additional map visualizations for reporting as well. Isn't it interesting that this dataset is comprised of nearly 90% of US Based traffic only? Let's dig in further and identify where users are located...



As we look at the US States report—it's obvious that Californians make up our key demographic. Further analysis shows that the vast majority of data is coming in from San Jose. Interesting...

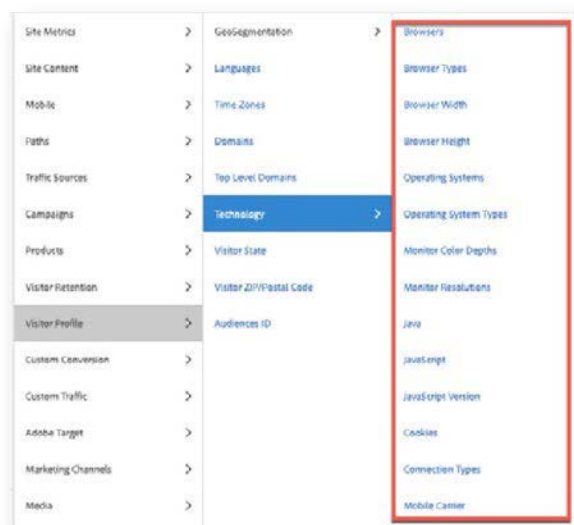
If 90% of all traffic is from the US and 97% of that traffic is essentially coming from San Jose, what does that mean? Well—given that this is sample data provided by Adobe and generated by Adobe...you're seeing how Adobe's own technology is working to tell you as an analyst of this data that the data itself is coming from Adobe's Headquarters—in San Jose, CA!

In real-world data sets, you'll see much more diversity in visitor locations because it's not generated from a company headquarter based in San Jose. That said—how interesting that Adobe's technology can identify their own source of generated content.

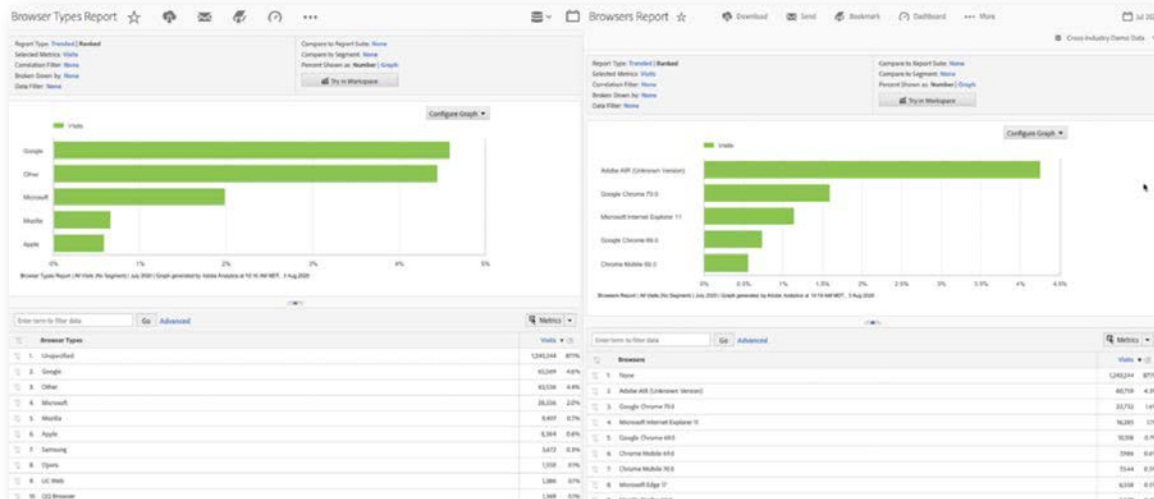
One final note on GeoSegmentation reports is the US DMA report. Offline advertising (TV, Print, Radio, etc.) is based on Designated Marketing Areas (DMA). These are the traditional Media Markets that traditional advertising is based on. For example—instead of having to target Los Angeles and ALL of surrounding cities like Huntington Beach, Santa Clara, Pasadena, Long Beach, and more...marketers can buy advertising in the Los Angeles Media Market—which is inclusive of all of those areas. When you run the US DMA report—Adobe has aggregated all of the city data into their respective DMAs. This is incredibly useful for analysts to be able to do analysis for a specific DMA that there is a known offline campaign running to see if there is online or digital traffic that is generated from these efforts.

Technology Reports

The Technology Reports within Adobe Analytics provide such valuable insight into the user's technology profile. Analysts can understand everything about the user's technology and browsing capabilities to ultimately recommend user experience enhancements for the website, app or digital experience.



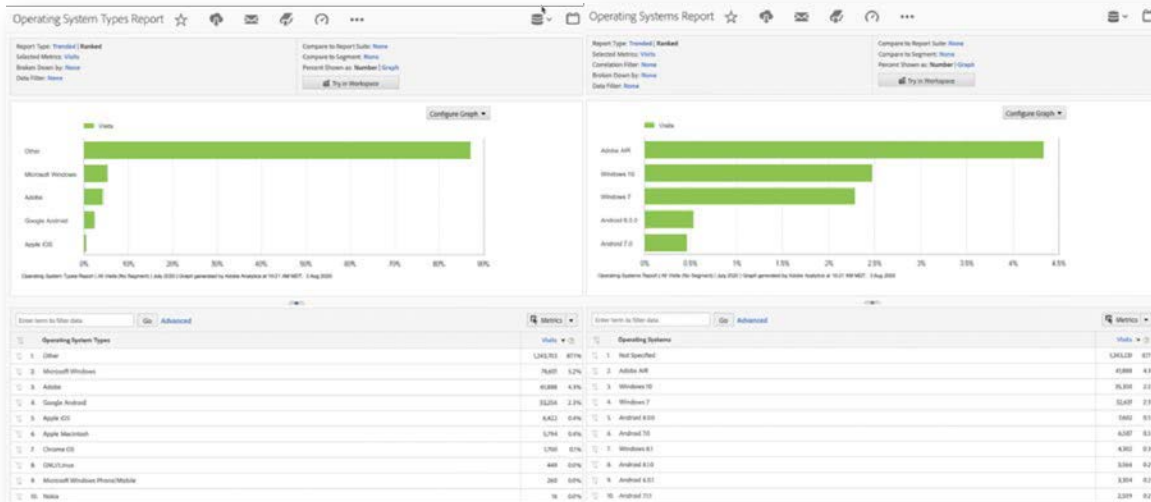
The Browsers and Browser Types report are directly related. Browser Type gives you aggregated information about the developer of the browser whereas the Browsers report will give you specific browser names and versions. Seeing both reports side by side yields interesting insights into what type of information could be given to developers and marketers.



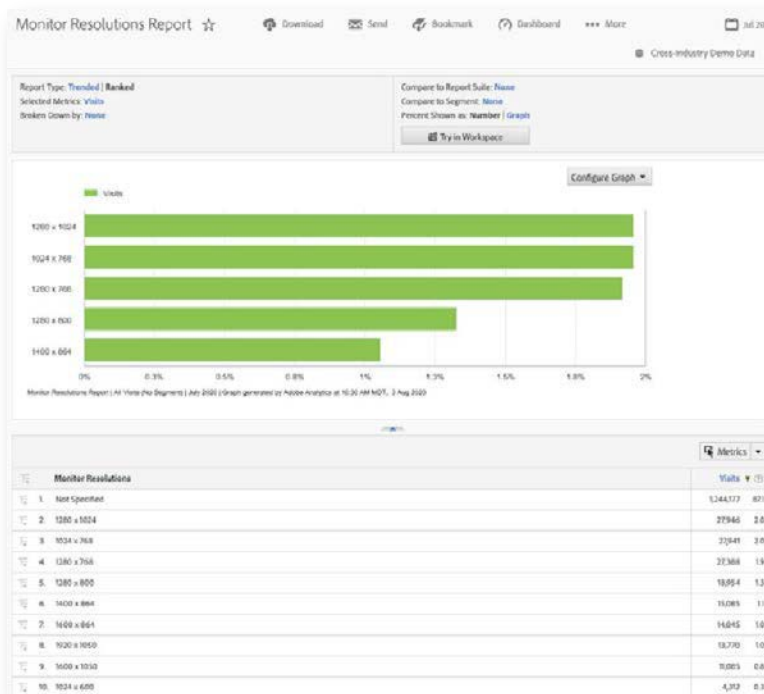
Similar to the Browsers reports—the Operating Systems and Operating System Types reports is generated. Operating Systems Types is the aggregation of developer vs. Operating Systems being the specific version of OS that the users are using.

This report becomes a critical report for IT departments, UX Teams and marketers to know exactly how to ensure that the website is configured for the right technology. For example, it wouldn't make much sense for developers to ensure the site works flawlessly for an operating system version that only 1% of users are using, would it?

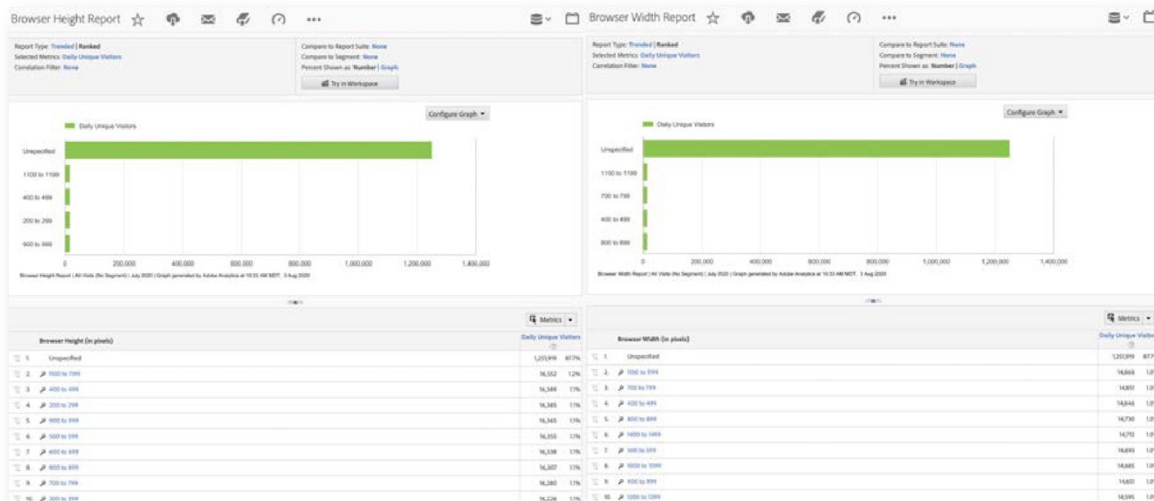




Monitor Resolutions report gives analysts a view into what screen resolution is being used to browse the content. If a website was designed for a large format display and only mobile screens were accessing it—it could lead to a poor user experience which could be analyzed with this report.



Browser height and width reports gives analysts specific pixel dimensions of the browser being used to access content. This is different than the Monitor Resolutions as often users don't have a screen fully maximized on desktop computers and you can analyze these differences here.



Additional technology reports can be pulled within the Visitor Profile section and analyzed similar to all of the ones demonstrated here.

Mobile Reports

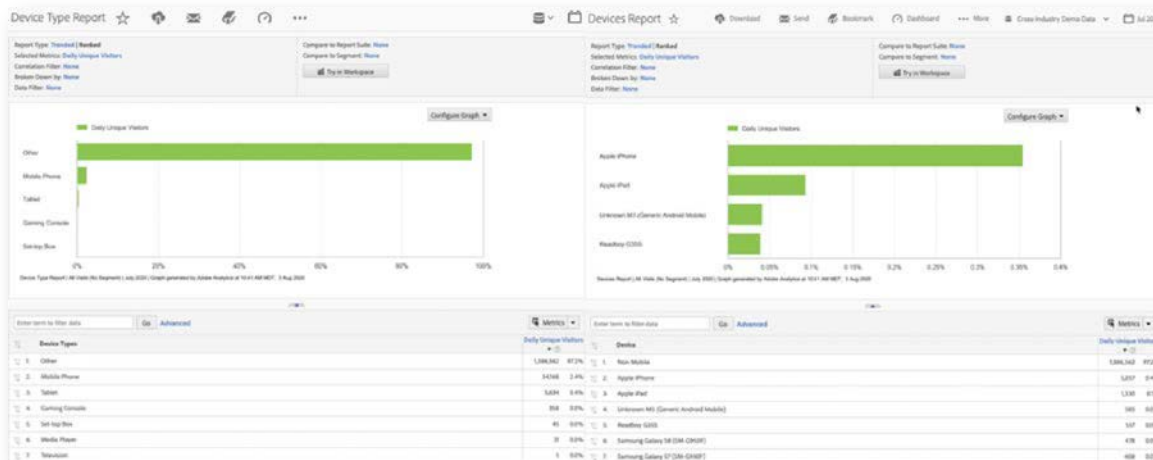
An additional set of Visitor Profile reports exists within the 'Mobile' Menu of reports. These reports for all intents and purposes are a subset of the Visitor Profile reports but focusing on Mobile Technology.

Site Metrics	>	Devices
Site Content	>	Device Type
Mobile	>	Manufacturer
Paths	>	Screen Size
Traffic Sources	>	Screen Height
Campaigns	>	Screen Width
Products	>	Cookie Support
Visitor Retention	>	Image Support
Visitor Profile	>	Color Depth
Custom Conversion	>	Audio Support
Custom Traffic	>	Video Support

Each of these reports when run appear and function identically to the Visitor Profile > Technology reports.

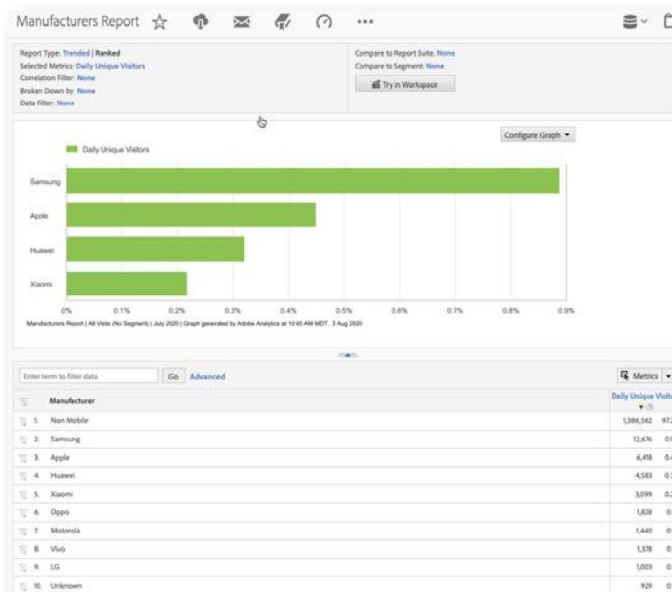
These reports allow analysts more in-depth technological dimensions specific to mobile devices, capabilities and more that must be considered separately to desktop computers.

Similar to the operating system and browser reports, Mobile has a set of Devices and Device Type reports that focus on the manufacturer of mobile devices as well as the type of device they are.



'Other' in the Device Type report indicates a Non-Mobile device—e.g. Desktop Computer.

The Manufacturers Report showcases the different mobile device brands you will come across in digital marketing and critical to evaluate how digital experiences perform between each brand.



Note that in this sample data set—you're seeing a very different composition of mobile and non-mobile users than is typically viewed for a business. Mobile devices make up a significant percentage of devices used in the majority digital experiences in real-world application.

Visitor Profile Reporting and Segmentation

When running these reports, keep in mind that most analysts use these reports as a way to report out on the status quo—or the current state of the business. They'll also often use these reports as a basis for segmenting users into different groups for deeper analysis. For example, if business questions exist in the company about how US visitors behave on the site vs. European visitors—these variables allow analysts to do that. Similarly, if the CMO is interested in knowing how Android users vs. iOS users navigate the mobile website—these variables allow for that differentiation. We'll discuss more about segmentation in the next module and how to perform those analyses within Adobe Analysis Workspace.

Standard Adobe Summary

Adobe Reports is an incredible tool for running basic reports, gathering insight and having a consistent look/feel of reporting between variables and metrics. This handbook focused on the most commonly used reports as well as how to identify your Standard vs. Custom reports. This is the beginning of your learning. There are many other features, capabilities and functions that we covered thus far.

For a detailed list of every report, dimension, and metric available in Adobe Reports—please reference the official Adobe Documentation provided here:

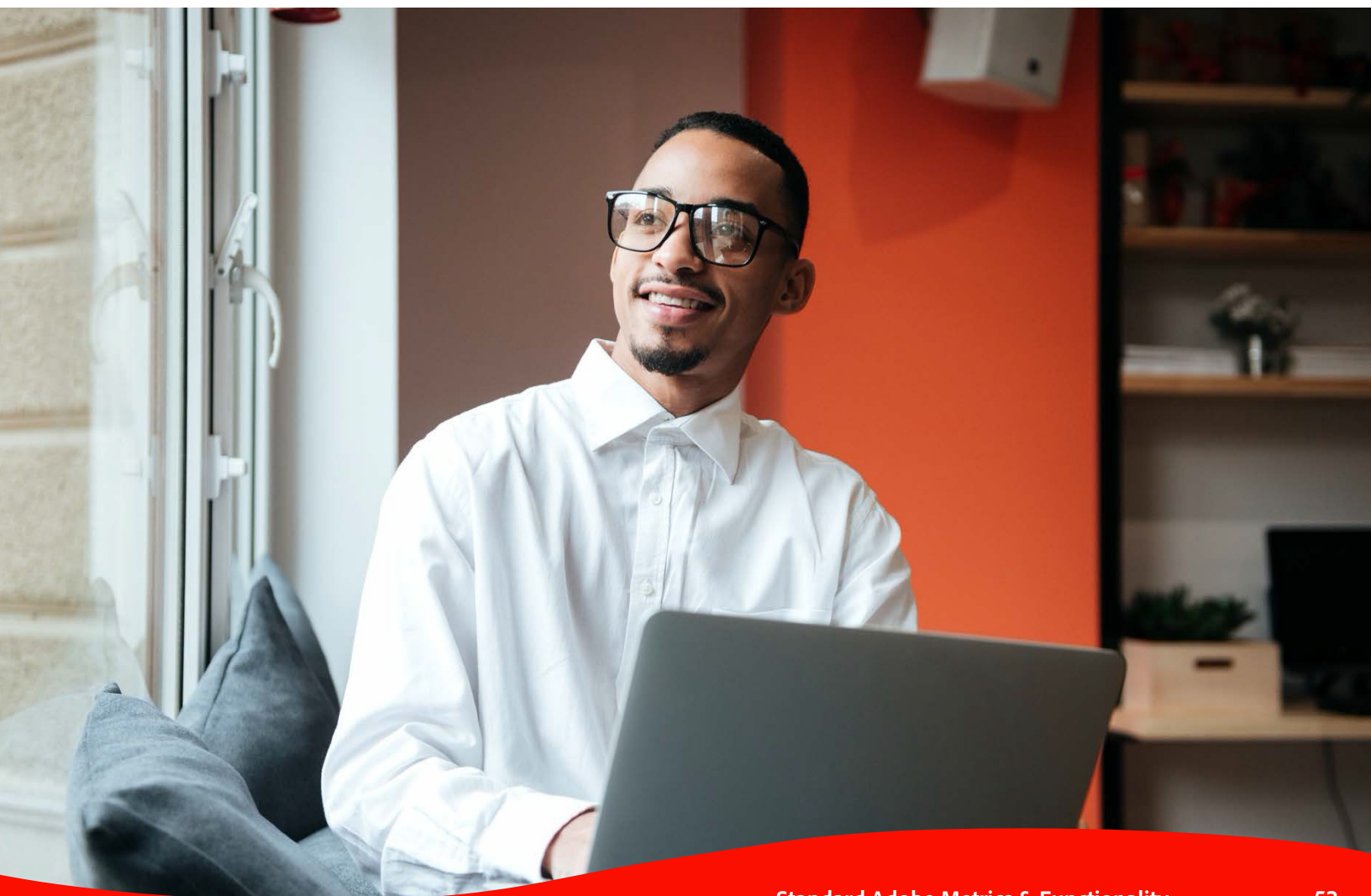
<https://docs.adobe.com/content/help/en/analytics/analyze/reports-analytics/reports.html>.

Next we're going to showcase the more advanced tools available with Adobe Analytics called Analysis Workspace.

Glossary of Terms

Term	Definition
Out-of-the-box Reports	Hundreds of reports, metrics and dimensions available for use with a base implementation of Adobe Analytics
Page Views	Count of how many pages are seen on a website or digital experience
Visits	The number of times users are interacting or engaging on a website or mobile app
Unique Visitors	Number of unique users that visit or engage with a website
Average Time Spent	The amount of time in seconds that a user has been engaged within the experience
Average Page Depth	A metric that is pulled into a Pages report that shows you the average number of page views or screens that it took for someone to reach a particular page or screen
Entries	A metric used to analyze pages that describes the number of times that particular page was the first page of the user's session
Entry Rate	the rate at which that page is the entry when compared to the total visits to the experiences
Exits	A metric used to analyze pages that describes the number of times a particular page was the last page of the user's session
Exit Rate	The rate at which that happens compared to all exits
Page Reloads	a metric that shows you how often people are reloading a page or screen
My Recommended Reports	A basic dashboard that shows you a handful of metric reports and some basic variable reports intended to get new users into some of the reporting
Time Spent per Visit	The amount of time users are spending per visit on the experience
Time Prior to Event	a report that allows you to see how much time passes before a metric took place (e.g. how much time before a user purchases on the site)
Custom Events	Custom metrics that companies deploy for tracking
Campaigns	Marketing campaigns that companies run to acquire new customers or make prospective customers aware of their products or services
Pages Variable	A granular variable that describes page URLs or Mobile Screens viewed by users

Report Name	This is the overall name of the report and it is commonly the name of the Variable. E.g. the Pages Report
Report Values	The individual values that are stored within the variable
Product Variable	Variable used to capture product SKUs or Item numbers
Unspecified Value	A value in the report that tells us that when data was collected about that metric, no value was passed into the variable at that time
Campaign Variable	Variable to capture tracking codes from various marketing campaigns
Classification	A way to re-label values in a report—e.g. product SKUs can be given a friendly product name or tracking codes can be classified into campaigns
Visitor Profile Reports	Set of reports to understand technology, geography and other details about the users accessing a website or digital experience
GeoSegmentation	Ability to identify a user's geographical location based on IP Address

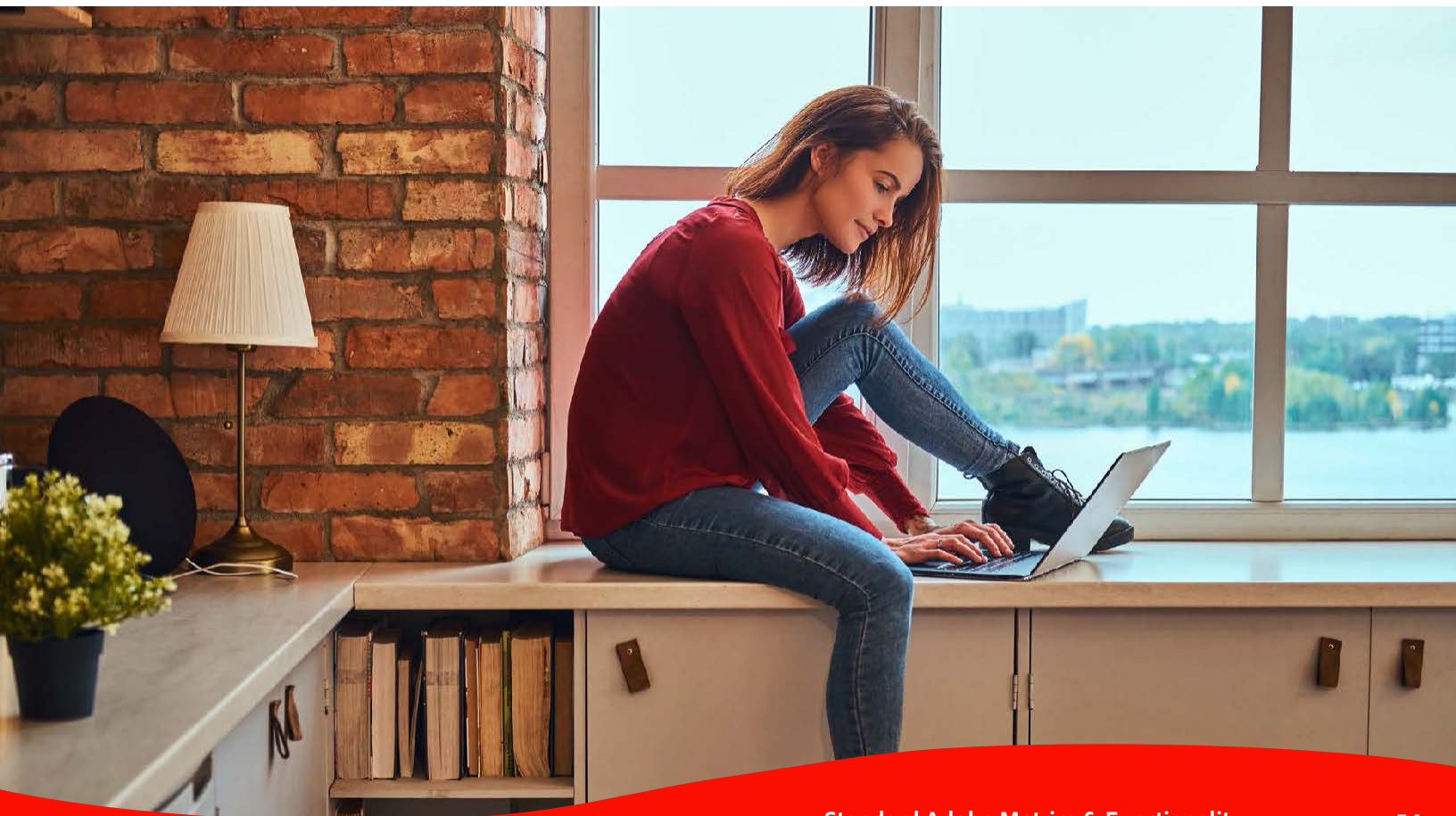


Recommended Learning Activities

Activity 1: Common Business Questions

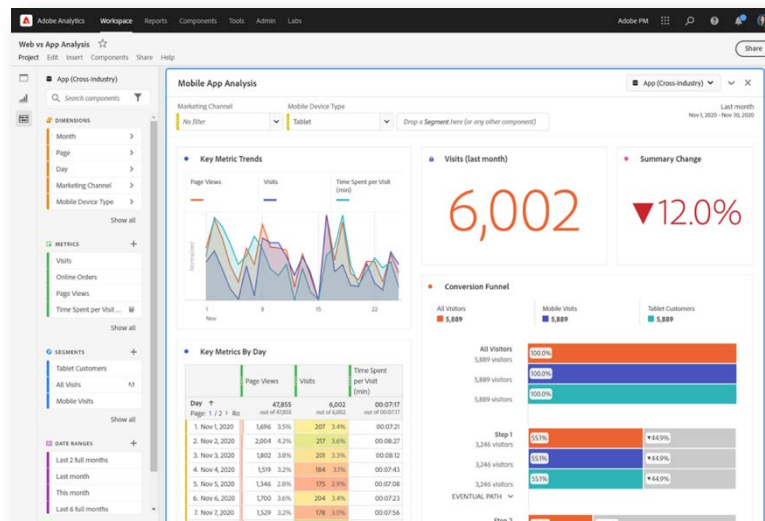
Login to Adobe Reports and answer the following questions.

1. How much traffic did the website get in July 2020?
2. How much revenue did the website generate in:
 - a. July 2020
 - b. Jan—July 2020
3. How many orders did the website get in February 2020?
4. What % of users are Windows-Based users vs. Any other type of user for April 2020?
5. What are the top selling products of May 2020?
6. What 5 pages had the most Unique Visitors in January 2020?
7. What % of users came from NYC, NY in April 2020?
8. What marketing campaign generated the most revenue in July 2020?
9. What tracking code generated the most orders in July 2020?
10. How many users came from mobile devices in Jan 2020?



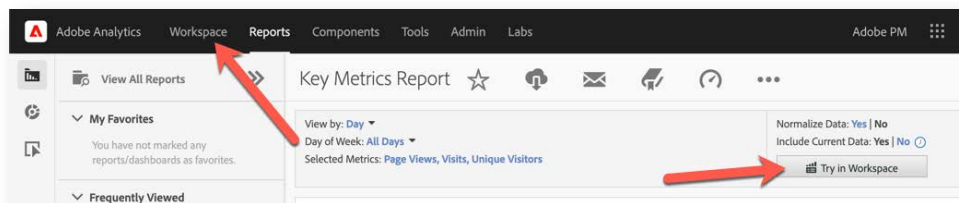
Analysis Workspace Fundamentals

Adobe Analysis Workspace is an advanced reporting platform that gives analysts multiple ways to analyze and distribute their Adobe Analytics data. Within this platform, analysts are able to create data tables, visualizations, and reports that are catered to answer the exact business question that is being asked of them. Analysts can quickly configure these reports up to be used as organization-wide or departmental dashboards. Additionally, the ability to create and apply segments to entire workspaces to further enrich the insights in day to day reporting. Expert users of this tool are indispensable members of marketing teams as they provide the precise answers to business questions posed throughout an organization.



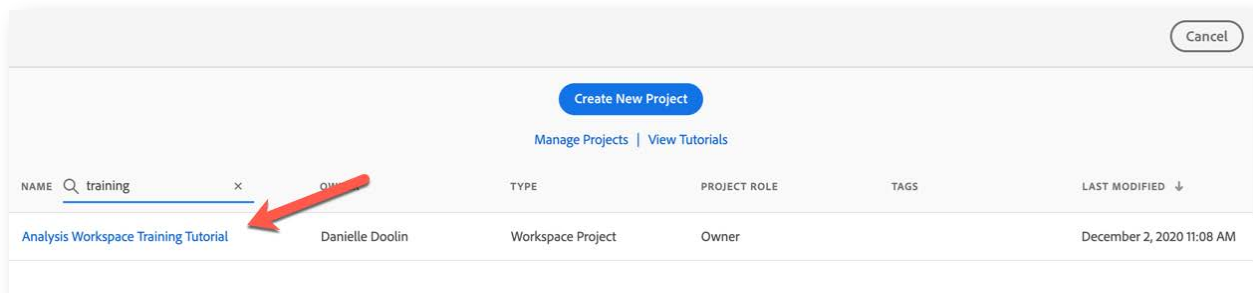
Accessing Analysis Workspace

Analysis Workspace is the default tool when accessing Adobe Analytics as it is the focal point for most analysts. You can always click on 'Workspace' from the top navigation menu to navigate back to it if you're in another area of the suite of tools from Adobe. Additionally, From within any report in Adobe Reports—you should be able to see a 'try in workspace' button that will navigate you to Analysis Workspace and recreate the report you were looking at within the Analysis Workspace projects.

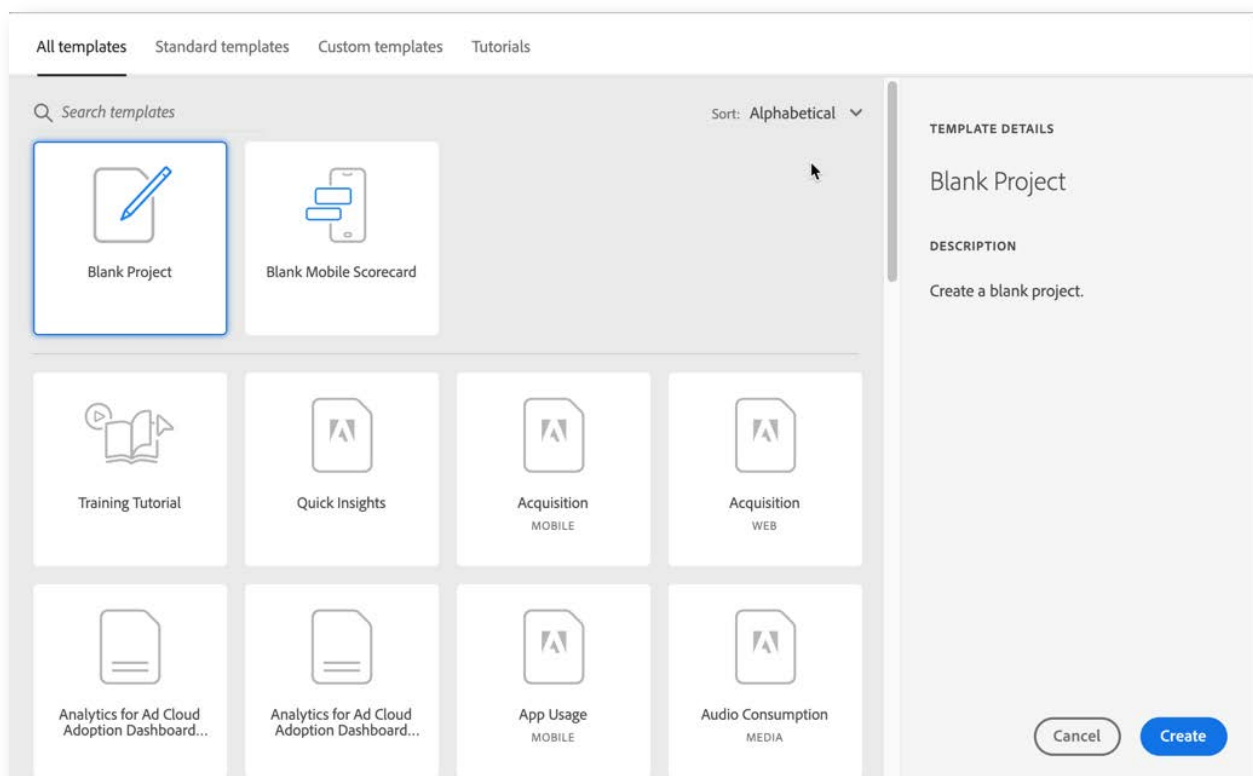


Orientation of Workspaces

Adobe has created a 'welcome to adobe analytics' tutorial workspace for you to interact with and familiarize yourself with Analysis Workspace. Throughout this Module we will explain how all of the components and features work together to create advanced reports for deep data analysis.



When you click on 'Create New Project,' you'll be directed to start from a blank or existing template that Adobe has created for users. Throughout this handbook, we will be leveraging blank projects to build reports from the ground up and explain how each component, dimension and segment will be built so you can have the foundation to create your own reports for analysis. These workspaces and projects can be built for both web-based applications as well as mobile applications.

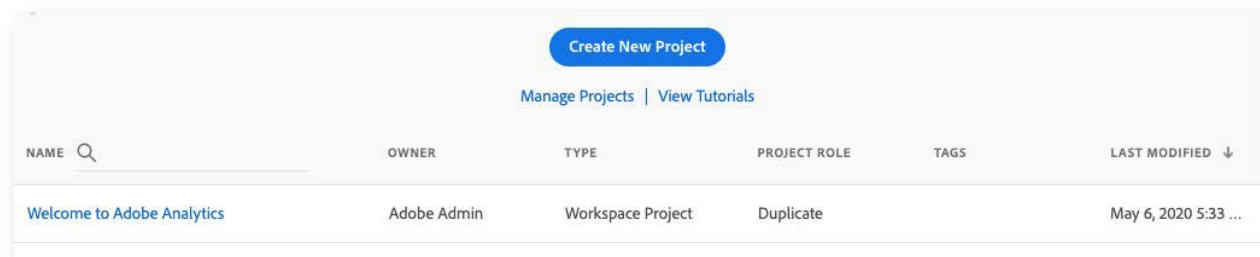


Projects, Panels & Components

It's critical to understand the individual pieces that make up the Analysis Workspace tool. Within Analysis Workspace, you will create Projects.

Analysis Workspace Projects

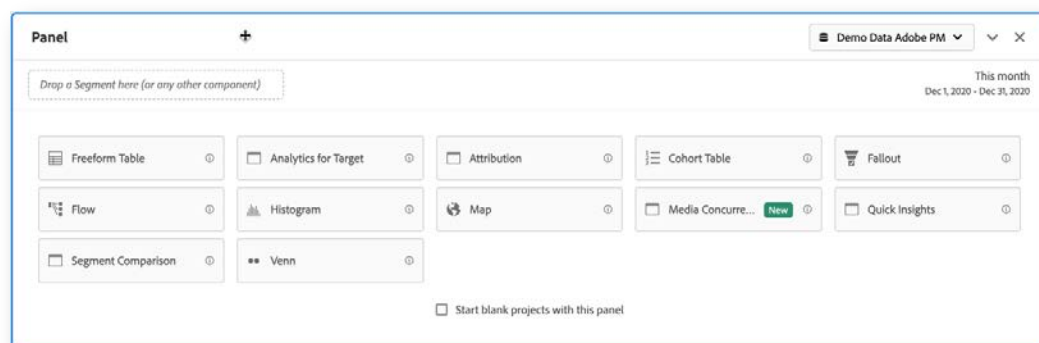
Similar to Microsoft Excel having 'workbooks' with multiple 'sheets'—Analysis Workspace has 'projects.' **Projects** are a collection of data elements, visualizations, panels and more. One single project can have multiple reports and visuals and saved collectively for use. As you create a project, you can save it for later editing within Adobe Analytics.



New projects will be listed here.

Analysis Workspace Panels

Within a project are separate workspace panels. **Panels** are most closely related to reports, however, there are much more features than available in a single report from Adobe Reports. Within a single panel, you can have individual tables, charts, and complex segments added. Below is a screenshot of the different types of panels that can be created in any single project. We will review in detail some of these panels throughout this module. Multiple panels can be used to create a **Dashboard** of reports for quick insights within an organization.

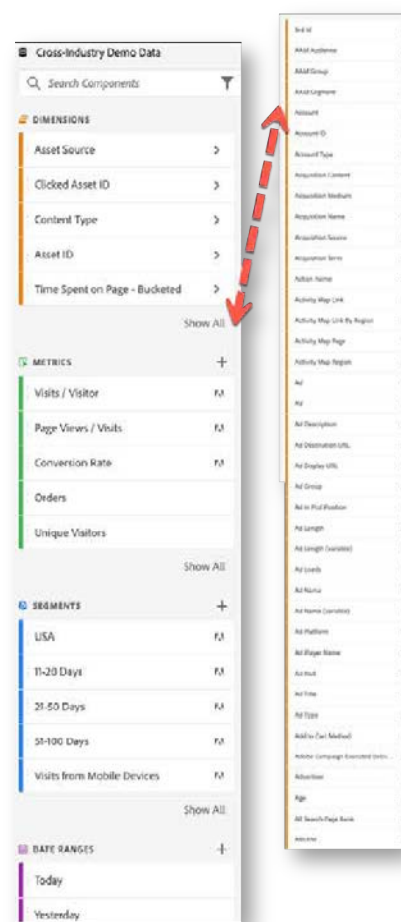


Different panels can have different dates for analysis and even different report suites selected. Everything within a single panel will be tied together through a single date selection and report suite selection. Within any single panel, segments can be applied to an entire panel—allowing analysts an efficient way to slice their data for analysis.

Analysis Workspace Components

Within any single panel—you'll need to select the components of the panel. Every standard and custom event (metric), standard or custom variable (dimension), segment, calculated metrics, date ranges and data visualization is considered a Component. These are the building blocks of a workspace. The number of components available to an analyst is only limited by the customization of the Analytics Implementation. As more data gets tracked by the business—more components will be available to analysts in Workspace.

Notice that Dimensions are always **ORANGE**, Metrics are always **GREEN**, Segments are **BLUE**, and Date Ranges are **PURPLE**.

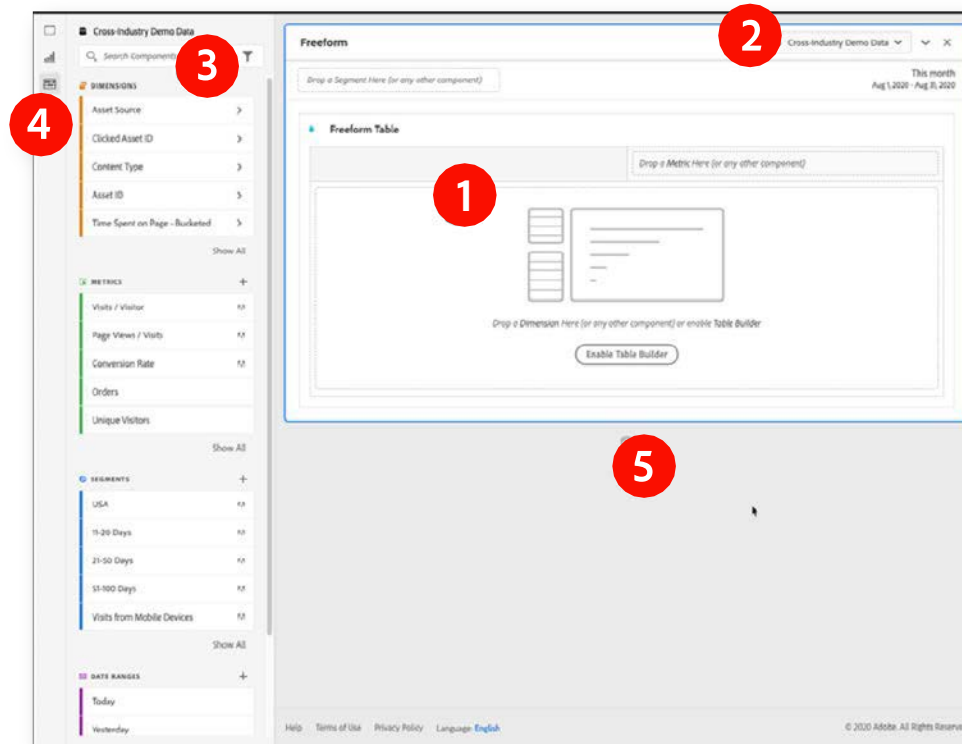


One complexity with Analysis Workspace is the availability of ALL variables (dimensions) and metrics listed in a single list. Within Adobe Reports—there is some grouping of variables based on type or use. Within Analysis Workspace, it's assumed you know what each dimension should be used for. This is where all of the knowledge from Adobe Reports will help you design and build your workspaces.

Note: Variables will now be referenced as Dimensions as that is what they are called in Analysis Workspace.

Date Ranges are also offered as a component for use within Analysis Workspace. To compare two single date ranges within a table, analysts can simply drag/drop those date ranges as different rows or columns on a table and easily compare them side by side.

Understanding the Workspace



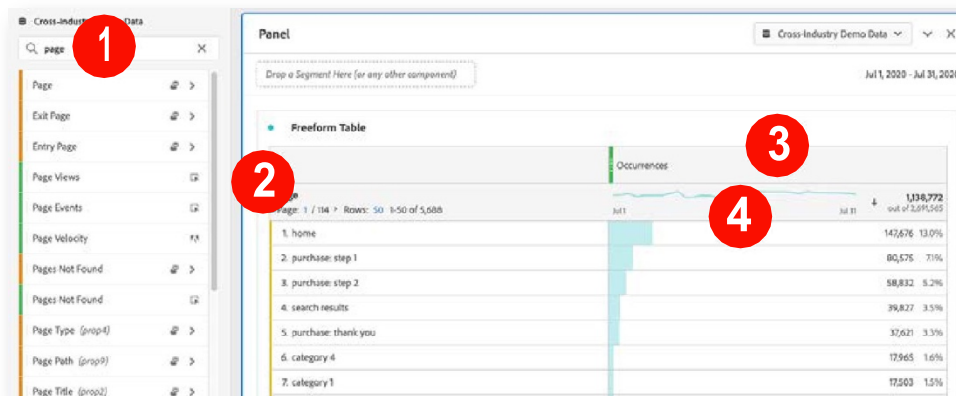
Above is a screenshot of a blank workspace with each of the primary areas highlighted. Each area is detailed below:

1. **Panel Canvas:** The 'Freeform Table' panel is the primary canvas to build a report. You will click and drag items from the left component rail into the Freeform Table section to create a report.

2. **Report Suite Selector:** If you're in an analytics environment that has multiple report suites, you can change report suites with this selection tool. Everything within a single panel must belong to the same report suite—however it's possible to have a different report suite on separate panels within the same project.
3. **Component Selector:** On the left side of the workspace is every single component that you can bring into your workspace.
4. **Workspace Features:** You can toggle between choosing visuals, panels or components with the three small icons in the top left to bring into your workspace.
5. **New Panel:** If you need a new panel, you can add them by clicking the "+" sign located here OR you can drag over a new panel element from the **Workspace Features** area.

Freeform Tables

Let's begin building our first workspace by creating a Freeform Table. Below are instructions on how to create this report.



1. Search the components for 'page.'
2. Click and drag page over into the freeform table canvas.
3. Notice you didn't select a specific metric to pull into this report but 'Occurrences' was added as a default for the data. This metric simply is the count of the values during this time period. 'home' was a value in this data set 147,676 times during July 2020.
4. A basic visualization of a data bar is included within the metric column to give a visual ratio between values in this report. Additionally, you'll see a small blue line that shows the total occurrences trended throughout the time period. This is called a spark line—which is intended to give a quick visual to you as an analyst.

Add Additional Metrics

Let's now add some additional metrics. We'll add 'page views, visits and average page depth' to this report. When you click and drag the metric into the table, you'll want to position your cursor between the columns and you'll see a blue line appear with a description of what will happen when you release the mouse button. This is your indicator to know if you're going to 'add' 'replace' or do additional functions depending on where you let go of your mouse button.



This is how the table will look after adding multiple metrics:

Panel Cross-Industry Demo Data Jul 1, 2020 - Jul 31, 2020

Drop a Segment Here (or any other component)

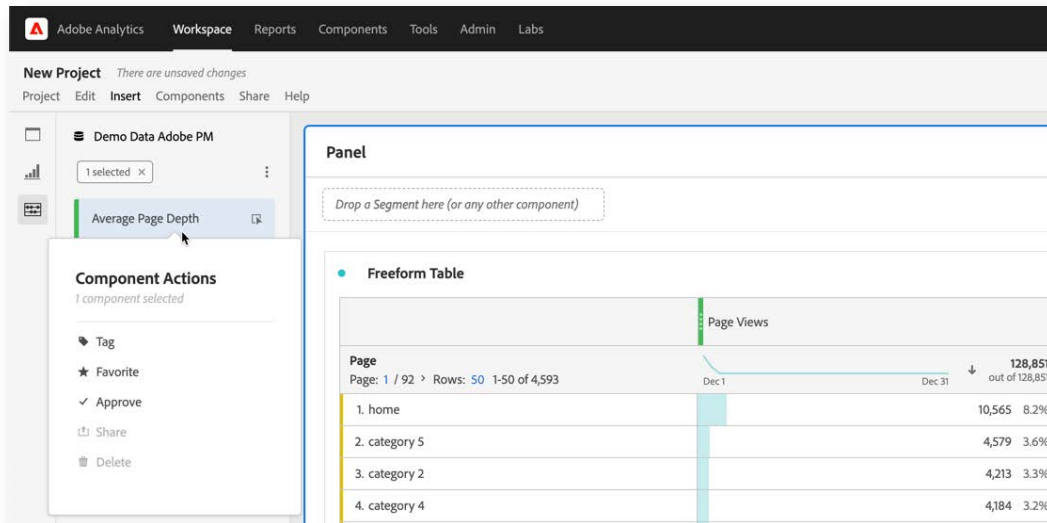
Freeform Table

	Page Views	Visits	Average Page Depth
Page	1,138,772 out of 1,138,772	206,614 out of 1,428,089	7 out of 7
Page: 1 / 114 Rows: 50 1-50 of 5,681	Jul 1 Jul 31	Jul 1 Jul 31	Jul 1 Jul 31
1. home	147,676 13.0%	110,832 53.6%	2 33.2%
2. purchase: step 1	80,575 7.1%	68,645 33.2%	5 64.9%
3. purchase: step 2	58,832 5.2%	50,289 24.3%	6 79.6%
4. search results	39,827 3.5%	33,840 16.4%	4 61.7%
5. purchase: thank you	37,621 3.3%	32,187 15.6%	7 93.5%
6. category 4	17,965 1.6%	15,081 7.3%	5 63.8%
7. category 1	17,503 1.5%	14,528 7.0%	5 65.9%
8. app: launch	17,037 1.5%	7,258 3.5%	14 194.1%
9. category 5	12,827 1.1%	11,203 5.4%	4 60.6%
10. voice: error	12,668 1.1%	12,668 6.1%	1 20.8%

Now this report is looking somewhat like a content report that would be useful for our marketing team. We can see how popular pages are, how often they are visited and how many clicks it takes to get to each piece of content.

Remove Metrics

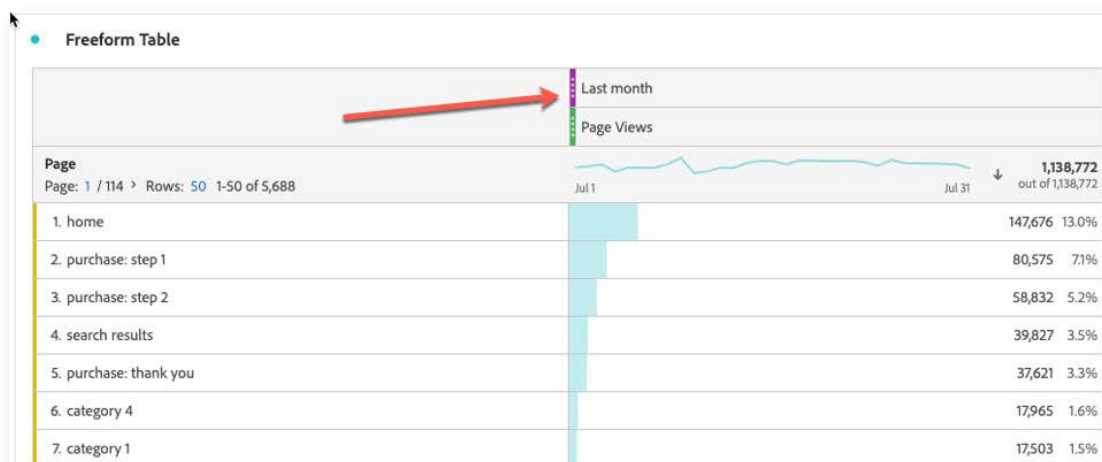
If we want to remove Average Page Depth (or any metric) from a report, we can right click it and delete.



By adding and removing metrics we are able to easily get the report looking similar to what we might have created with Adobe Reports. Let's add another metric—visits—and start to configure date ranges in ways that we were unable to do in the previous tool.

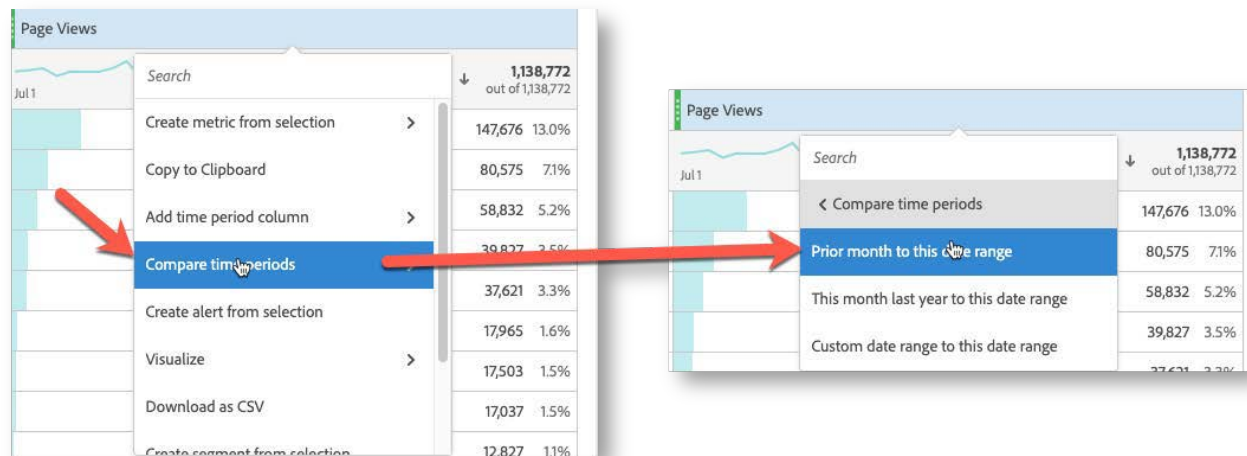
Add Date Ranges

We'll remove Visits from the report and then add in 'Last Month' as a filter above Page Views.



From there, we will right click on 'Page Views' and select 'Compare Time Periods' and select 'Prior Month to this date range.'

NOTE: Many features of Analysis Workspace require 'right click' to initiate. While using the tool—right click on various areas and see how the menu changes to allow you add/remove/manipulate the item or panel you're right clicking within.



This will trigger the freeform table to create 2 new columns—1 that shows the prior month data for the same values and a comparison column that shows the % change between the two time periods. Note that you could put in your own custom date range to compare OR you could look at the same time period from a year ago to see year over year trends on this data set.

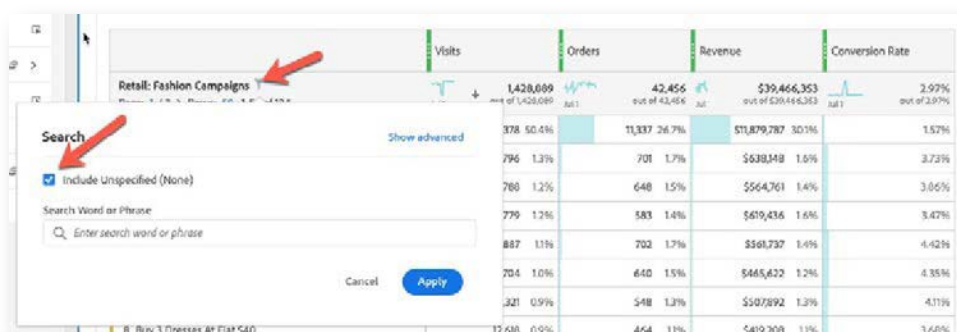
Freeform Table

<

Taking a look at any single date range is a way to report on the status quo. When you start to compare data, you're beginning to analyze performance and look for trends. Overall, page views went up by 5.03% in this case with the homepage getting almost 11% more page views than previously. More importantly, our purchase page views increased, with the 'purchase thank you page' increasing by 12.5%. That's great news for the business!

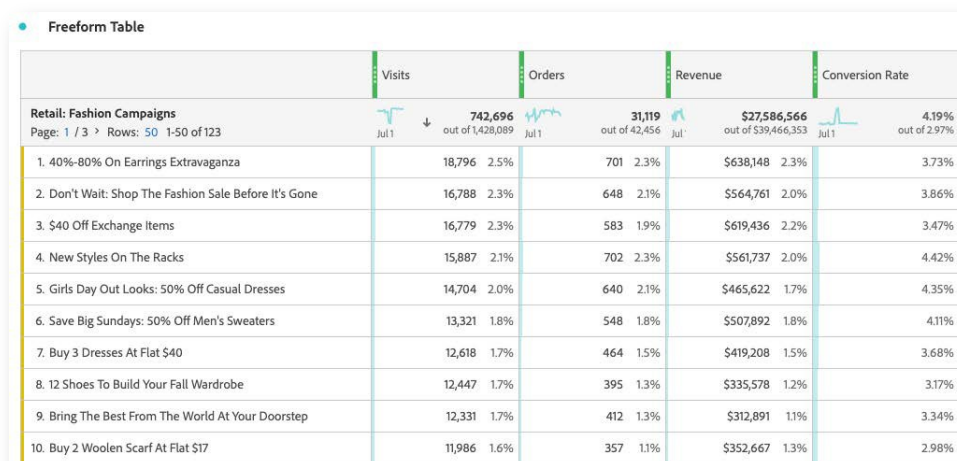
Dimension Breakdowns

Let's take a look at campaign performance now and start to analyze how our campaigns did. Let's create a new panel for our retail campaigns. First we search for 'tracking code' because the campaigns reports are built based on tracking codes. Then we'll pull in the 'Retail Fashion Campaigns' dimension. Next, bring in visits, orders, revenue and conversion rate. We'll also filter our 'unspecified' from this report because we want to analyze traffic from campaigns only and don't want that noise to cause confusion in this report.



	Visits	Orders	Revenue	Conversion Rate
Retail: Fashion Campaigns	1,428,089 out of 1,428,089	42,456 out of 42,456	\$39,466,353 out of \$39,466,353	2.97% out of 2.97%
378 50.4%	11,337 26.7%	\$11,879,787 30.1%	1.57%	
796 1.3%	701 1.7%	\$638,148 1.6%	3.73%	
760 1.2%	648 1.5%	\$564,761 1.4%	3.06%	
779 1.2%	583 1.4%	\$619,436 1.6%	3.47%	
887 1.1%	702 1.7%	\$561,737 1.4%	4.42%	
704 1.0%	640 1.5%	\$465,622 1.7%	4.35%	
321 0.9%	548 1.3%	\$507,892 1.3%	4.11%	
12,618 0.9%	464 1.1%	\$419,208 1.1%	3.68%	

The resulting table should look like the one below. We have our campaign names here with the appropriate metrics to analyze performance.



	Visits	Orders	Revenue	Conversion Rate
Retail: Fashion Campaigns	742,696 out of 1,428,089	31,119 out of 42,456	\$27,586,566 out of \$39,466,353	4.19% out of 2.97%
1. 40%-80% On Earrings Extravaganza	18,796 2.5%	701 2.3%	\$638,148 2.3%	3.73%
2. Don't Wait: Shop The Fashion Sale Before It's Gone	16,788 2.3%	648 2.1%	\$564,761 2.0%	3.86%
3. \$40 Off Exchange Items	16,779 2.3%	583 1.9%	\$619,436 2.2%	3.47%
4. New Styles On The Racks	15,887 2.1%	702 2.3%	\$561,737 2.0%	4.42%
5. Girls Day Out Looks: 50% Off Casual Dresses	14,704 2.0%	640 2.1%	\$465,622 1.7%	4.35%
6. Save Big Sundays: 50% Off Men's Sweaters	13,321 1.8%	548 1.8%	\$507,892 1.8%	4.11%
7. Buy 3 Dresses At Flat \$40	12,618 1.7%	464 1.5%	\$419,208 1.5%	3.68%
8. 12 Shoes To Build Your Fall Wardrobe	12,447 1.7%	395 1.3%	\$335,578 1.2%	3.17%
9. Bring The Best From The World At Your Doorstep	12,331 1.7%	412 1.3%	\$312,891 1.1%	3.34%
10. Buy 2 Woolen Scarf At Flat \$17	11,986 1.6%	357 1.1%	\$352,667 1.3%	2.98%

Our marketing team has just reached out to us as the analyst and asked us—What tracking codes related to \$40 Off Exchange Items are the highest performers? Well—this report is showing that campaign name, we simply need to break down the \$40 Off Exchange Items campaign with the tracking codes and we'll be able to provide them that answer.

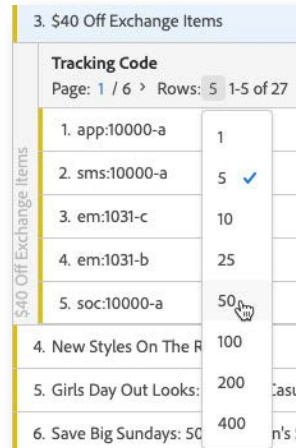
To do this, you'll need to click on 'Tracking Code' as a dimension on the left and drag the tracking code dimension to the row of data you want to break down—in this case '\$40 Off Exchange Items.'

You'll see a 'breakdown' indicator pop up that tells you you're going to break down the row in the report by the dimension you're dragging over. When you release the mouse click, the report will repopulate with the top tracking codes within that campaign.

Freeform Table

	Visits	Orders	Revenue	Conversion Rate
Retail: Fashion Campaigns Page: 1 / 3 > Rows: 50 1-50 of 123	Jul 1 742,696 out of 1,428,089	Jul 1 31,119 out of 42,456	Jul 1 \$27,586,566 out of \$39,466,353	Jul 1 4.19% out of 2.97%
1. 40%-80% On Earrings Extravaganza	18,796 2.5%	701 2.3%	\$638,148 2.3%	3.73%
2. Don't Wait: Shop The Fashion Sale Before It's Gone	16,788 2.3%	648 2.1%	\$564,761 2.0%	3.86%
3. \$40 Off Exchange Items	16,779 2.3%	583 1.9%	\$619,436 2.2%	3.47%
Tracking Code Page: 1 / 6 > Rows: 5 1-5 of 27	Jul 1 16,779 out of 16,779	Jul 1 583 out of 583	Jul 1 \$619,436 out of \$619,436	Jul 1 3.47% out of 3.47%
1. app:10000-a	3,116 18.6%	0 0.0%	\$0 0.0%	0.00%
2. sms:10000-a	2,546 15.2%	47 8.1%	\$43,923 7.1%	1.85%
3. em:1031-c	2,186 13.0%	48 8.2%	\$41,655 6.7%	2.20%
4. em:1031-b	1,803 10.7%	52 8.9%	\$37,465 6.0%	2.88%
5. soc:10000-a	1,507 9.0%	149 25.6%	\$194,118 31.3%	9.89%

The result is showing you invaluable information for the marketing team. You can expand to see more than the top 5 by clicking on the '5' next to 'rows' and select to show 50 rows. You can see there are 27 rows available, so 50 should be enough to show the entire campaign.



The resulting report now shows all the tracking codes within that campaign.

	Visits	Orders	Revenue	Conversion Rate
3. \$40 Off Exchange Items	16,779 2.3%	\$83 15%	\$69,436 2.2%	3.47%
Tracking Code	16,779 out of 16,779 Jul 1	\$83 out of \$83 Jul 1	\$69,436 out of \$69,436 Jul 1	3.47% out of 3.47%
Page: 1 / 1 Rows: 50 1-27 of 27				
1. app:10000-a	3,116 18.6%	0 0.0%	\$0 0.0%	0.00%
2. sms:10000-a	2,546 15.2%	67 8.7%	\$4,392.3 7.8%	1.86%
3. em:1031-c	2,186 13.0%	48 8.2%	\$41,655 6.7%	2.20%
4. em:1031-b	1,809 10.7%	52 8.9%	\$37,465 6.0%	2.89%
5. soc:10000-a	1,507 9.0%	169 25.6%	\$19,418 31.3%	9.89%
6. sms:10000-b	1,656 9.9%	19 3.3%	\$2,687.4 4.3%	1.80%
7. em:1031-a	1,008 6.0%	36 6.2%	\$25,777 4.3%	3.57%
8. prt:10000-b	990 5.9%	25 4.3%	\$35,766 5.8%	2.58%
9. pdcl:10000-a	735 4.4%	63 10.6%	\$63,107 13.4%	8.57%
10. pdcl:10000-b	584 3.4%	48 7.6%	\$37,676 6.7%	7.62%
11. prt:10000-a	480 2.9%	10 1.7%	\$7,645 1.2%	2.39%
12. app:10000-b	308 1.8%	0 0.0%	\$0 0.0%	0.00%
13. soc:10000-b	118 0.7%	21 3.6%	\$18,064 2.9%	14.59%
14. sem:10031-a	129 0.8%	17 2.9%	\$12,256 2.8%	13.18%
15. sem:10031-c	96 0.6%	16 2.6%	\$17,987 2.9%	16.63%
16. tv:10000-b	51 0.3%	9 1.5%	\$6,656 1.1%	17.65%
17. cse:10000-a	48 0.3%	10 1.7%	\$14,228 2.3%	20.83%
18. cse:10000-c	45 0.3%	10 1.7%	\$8,359 1.4%	29.34%
19. sem:10031-b	31 0.2%	2 0.2%	\$1,117 0.2%	6.45%
20. app:10000-c	24 0.1%	0 0.0%	\$0 0.0%	0.00%
21. tv:10000-c	12 0.1%	1 0.2%	\$320 0.1%	8.33%
22. soc:10000-c	7 0.0%	0 0.0%	\$0 0.0%	0.00%
23. cse:10000-b	6 0.0%	0 0.0%	\$0 0.0%	0.00%
24. tv:10000-a	4 0.0%	1 0.2%	\$92 0.0%	25.00%
25. ds:10031-c	4 0.0%	0 0.0%	\$0 0.0%	0.00%
26. ds:10031-b	3 0.0%	1 0.5%	\$539 0.5%	100.00%
27. ds:10031-a	3 0.0%	2 0.3%	\$650 0.7%	66.67%

If I was analyzing this information, I'd want to let my marketers know that row 5 is performing amazingly and we need to divert our advertising dollars from row 1—which has \$0 revenue and 0 orders to row 5 which has an incredible 9.89% conversion rate with nearly \$200k in revenue generated thus far in the campaign.

Double Breakdowns in Freeform Table

Let's see what products are being ordered from that social tracking code that is in row 5 above. We can do this in Workspace with breaking down that row with products. Search the component finder for 'products' and click / drag 'Product Name' over to row 5.

2. Don't Wait, Shop The Fashion Sale Before It's Gone		Visits	Orders	Revenue	Conversion Rate
3. 540 Off Exchange Items		15,779 - 2.3%	583 - 1.9%	\$69,436 - 2.2%	3.47%
Tracking Code Page: 1 / 1 Rows: 30 1-27 of 27		16,729 out of 16,779	583 out of 583	\$69,436 out of \$69,436	3.47% out of 3.47%
1. app10000-a		3,116 - 18.6%	0 - 0.0%	\$0 - 0.0%	0.00%
2. sms10000-a		2,546 - 15.2%	47 - 0.7%	\$43,923 - 21%	1.85%
3. em1031-e		2,186 - 13.0%	48 - 0.2%	\$41,655 - 6.2%	2.20%
4. em1031-b		1,803 - 10.7%	52 - 0.9%	\$32,465 - 6.0%	2.88%
5. soc10000	Product Name (Product)	1,501 - 8.9%	149 - 23.8%	\$194,110 - 31.3%	9.89%

What we are now requesting and building is a report that shows us: First, Campaign Names; Second, Tracking code performance of a specific campaign; Lastly we're pulling in specific products that are being ordered by this tracking code. That's a complex request and Analysis Workspace will pull that data within seconds for you.

Similar to above—we're going pull in the top 25 products in this case. The report should look like below for July 2020 data.

	Visits	Orders	Revenue	Conversion Rate
3. \$40 Off Exchange Items	16,779 2.3%	583 1.9%	\$619,436 2.2%	3.47%
Tracking Code Page: 1 / 1 Rows: 50 1-27 of 27				
1. app:10000-a	3,116 18.6%	0 0.0%	\$0 0.0%	0.00%
2. sms:10000-a	2,546 15.2%	47 8.1%	\$43,923 7.1%	1.85%
3. em:1031-c	2,186 13.0%	48 8.2%	\$41,655 6.7%	2.20%
4. em:1031-b	1,803 10.7%	52 8.9%	\$37,465 6.0%	2.88%
5. soc:10000-a	1,507 9.0%	149 25.6%	\$194,118 31.3%	9.89%
Product Name Page: 1 / 7 Rows: 25 1-25 of 164				
1. Unspecified	719 47.7%	0 0.0%	\$0 0.0%	0.00%
2. Cedar Breaks Long-Sleeve Shirt	88 5.8%	11 7.4%	\$1,191 0.6%	12.50%
3. Shawl Collar Belted Coat	29 1.9%	10 6.7%	\$2,733 1.4%	34.48%
4. Unisex Footie and Hat Set	28 1.9%	4 2.7%	\$11,267 5.8%	14.29%
5. Red Cut Out Knotted Tee	25 1.7%	4 2.7%	\$4,672 3.4%	16.00%
6. Left Prospector Beanie	24 1.6%	7 4.7%	\$258 0.7%	29.17%
7. Wool Blend Jogger Pant	24 1.6%	4 2.7%	\$70 0.0%	16.67%
8. Baby Organic Kimono Bodysuit	24 1.6%	3 2.0%	\$768 0.4%	13.50%
9. Diver Automatic Watch	22 1.5%	2 1.3%	\$858 0.4%	9.09%
10. Mesh Pleated Midi Skirt	21 1.4%	4 2.7%	\$3,740 0.9%	19.05%
11. Gold Chain Print T-Shirt	20 1.3%	3 1.9%	\$946 0.5%	10.00%
12. Boys Bubble Jacket	20 1.3%	2 1.3%	\$370 0.2%	10.00%
13. Jordanelle Ruched One Piece Swimsuit	19 1.3%	2 1.3%	\$898 0.4%	10.53%
14. Daybreak Sunglasses	17 1.1%	4 2.7%	\$430 0.3%	23.53%
15. Hooded Micro Fleece Jacket	17 1.1%	2 1.3%	\$992 0.5%	11.76%
16. Glitter Painted Toe Flats	17 1.1%	2 1.3%	\$280 0.1%	11.76%
17. Expedition Tech Watch	16 1.0%	5 3.4%	\$4,641 2.4%	31.25%
18. Baby Girl 5-Pack Long Sleeve Bodysuit	16 1.0%	5 3.4%	\$1,451 0.7%	31.25%
19. Goose Creek Polo Shirt	16 1.0%	4 2.7%	\$402 0.2%	25.00%
20. Slim Fit Casual Trousers	16 1.0%	3 2.0%	\$2,720 1.4%	18.75%

We're going to modify this report one more way by sorting the report values now by conversion rate. I'm curious to see which of these products are converting at the highest rate so we can perhaps send that information back to marketing to promote this particular hot seller.

	Visits	Orders	Revenue	Conversion Rate
3. \$40 Off Exchange Items	16,779 2.3%	583 1.9%	\$619,436 2.2%	3.47%
Tracking Code Page: 1 / 1 Rows: 50 1-27 of 27				
1. app:10000-a	3,116 18.6%	0 0.0%	\$0 0.0%	0.00%
2. sms:10000-a	2,546 15.2%	47 8.1%	\$43,923 7.1%	1.85%
3. em:1031-c	2,186 13.0%	48 8.2%	\$41,655 6.7%	2.20%
4. em:1031-b	1,803 10.7%	52 8.9%	\$37,465 6.0%	2.88%
5. soc:10000-a	1,507 9.0%	149 25.6%	\$194,118 31.3%	9.89%
Product Name Page: 1 / 7 Rows: 25 1-25 of 164				
1. Unspecified	719 47.7%	0 0.0%	\$0 0.0%	0.00%
2. Cedar Breaks Long-Sleeve Shirt	88 5.8%	11 7.4%	\$1,191 0.6%	12.50%
3. Shawl Collar Belted Coat	29 1.9%	10 6.7%	\$2,733 1.4%	34.48%
4. Unisex Footie and Hat Set	28 1.9%	4 2.7%	\$11,267 5.8%	14.29%

The data will re-sort, with Top Converting items listed first—along with the rest of the metrics we have. We can give this context back to the team and really help them refine that campaign to improve performance.

	Visits	Orders	Revenue	Conversion Rate
3. 540 Off Exchange Items	16,779 2.3%	583 1.9%	\$619,436 2.2%	3.47%
Tracking Code	16,779 out of 16,779	583 out of 583	\$619,436 out of \$619,436	3.47% out of 3.47%
Page: 1 / 1 Rows: 50 1-27 of 27				
1. app10000-a	3,195 18.6%	8 0.0%	50 0.0%	0.00%
2. sms10000-a	2,546 15.2%	47 0.1%	\$43,923 7.1%	1.85%
3. em10001-e	2,186 13.0%	48 0.2%	\$41,655 6.7%	2.20%
4. em10001-b	1,803 10.7%	52 0.3%	\$37,405 6.0%	2.88%
5. soc10000-a	1,507 9.0%	149 25.6%	\$194,118 31.3%	9.89%
Product Name	1,507 out of 1,507	149 out of 149	\$194,118 out of \$194,118	9.89% out of 9.89%
Page: 1 / 1 Rows: 20 1-20 of 164				
1. Frayed Trim Oblong Scarf	3 0.2%	2 1.3%	\$5,754 3.0%	66.67%
2. Interlocked Ring Set	3 0.2%	3 1.3%	\$436 0.3%	66.67%
3. Tailored Leg Denim Pant	3 0.2%	2 1.3%	\$422 0.2%	66.67%
4. Maroon Corinn Top	10 0.7%	5 3.4%	\$520 0.3%	50.00%
5. Unisex Baby 5 Pack Onesies	8 0.5%	4 2.7%	\$458 0.3%	50.00%
6. High-Waist Boot Cut Pant	4 0.3%	2 1.3%	\$683 0.4%	50.00%
7. Pink Chiffon Baby Skirt	4 0.3%	2 1.3%	\$8 0.0%	50.00%
8. Modern Slim Fit Textured Pant	2 0.1%	1 0.7%	\$632 0.3%	50.00%
9. Curvy Fit Bootleg Trousers	2 0.1%	1 0.7%	\$635 0.3%	50.00%
10. Men's Slim ID Bifold	2 0.1%	1 0.7%	\$727 0.3%	50.00%
11. Adjustable & Reversible Gancini Belt	2 0.1%	1 0.7%	\$9 0.0%	50.00%
12. Cotton Shorts and Diaper Cover Bloomer Set	7 0.5%	3 2.0%	\$36 0.0%	42.86%
13. Infant Glacier Full Zip Hoodie	7 0.5%	3 2.0%	\$34 0.0%	42.86%
14. Plunging Lace-Up Jumpsuit	10 0.7%	4 2.7%	\$1,558 0.8%	40.00%
15. Camo Overall Dress	5 0.3%	2 1.3%	\$4,947 2.5%	40.00%
16. Baby Organic Drawstring Waist Hooded Dress	5 0.3%	2 1.3%	\$330 0.1%	40.00%
17. Shawl Collar Belted Coat	29 1.9%	10 6.7%	\$2,733 1.4%	34.89%
18. Gold Metallic Clutch Bag	15 1.0%	5 3.4%	\$2,088 1.1%	33.33%
19. Crepe Woven Shorts	9 0.6%	3 2.0%	\$307 0.2%	33.33%
20. Silver Embossed Cuff Linia	6 0.4%	2 1.3%	\$20,236 10.9%	33.33%

Looking at this report—we can now see that row 20 is clearly helping the campaign with total revenue—making up about 10% of the revenue of that tracking code—and has a conversion rate of 33%—which is incredible performance.

Freeform Tables Summary

You can see that in this introduction to Freeform Tables you are able to create simple reports of individual values of dimensions and within a few additional clicks and modifications answer some extremely complex questions. This type of insight is only available within Analysis Workspace and the Freeform Table is the backbone of so much analysis. More training and information is available here:

<https://experienceleague.adobe.com/docs/analytics/analyze/analysis-workspace/visualizations/freeform-table/freeform-table.html?lang=en>

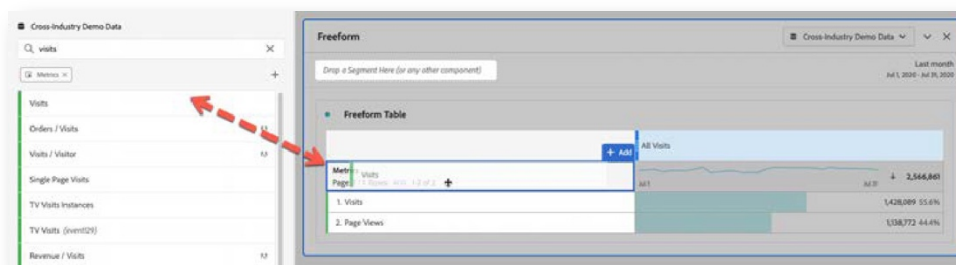
Introduction to Segmentation

Digital Analytics data sets contain vast quantities of data. This data is viewed in two ways: 1—Aggregate totals and 2—Segmented. We've discussed most everything at this point around the TOTAL performance of a variable or metric. What if the business needs information only specific to users that fall within a specific set of criteria? For example, if we wish to analyze product sales on our website for all users that are on a Mac vs. a PC, or iPhone vs. Android. To answer those questions—we must be able to build user segments and apply them to our reporting.

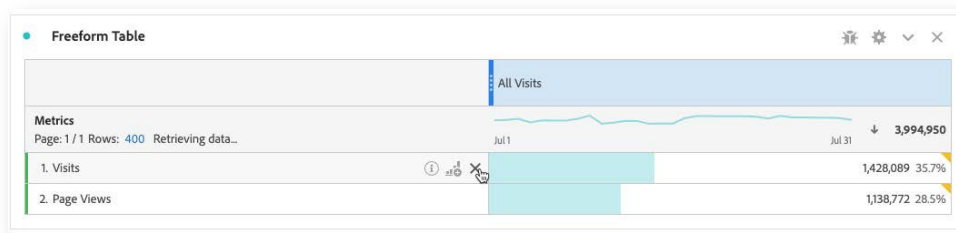
Every value stored within a is a dimension we can use to segment data. Every action that is tracked as a metric can be used to segment data. You can segment based on a value existing or not existing. Using the example in the intro—if we want to segment for Mac vs. PC—we can use the Visitor Profile dimensions and find the values we wish to segment from. The segmentation capabilities within Analysis Workspace allow you to take any value from any variable, a metric, or combination of values, metrics, and time to build segments to find specific answers to your questions.

Analyze Site Totals by Segments

We're going to use the Freeform Table panel to build a basic table that shows Visits and Page Views in total. To do this, simply search for the metrics you'd like to have in the report and drag them to the left side of the panel.

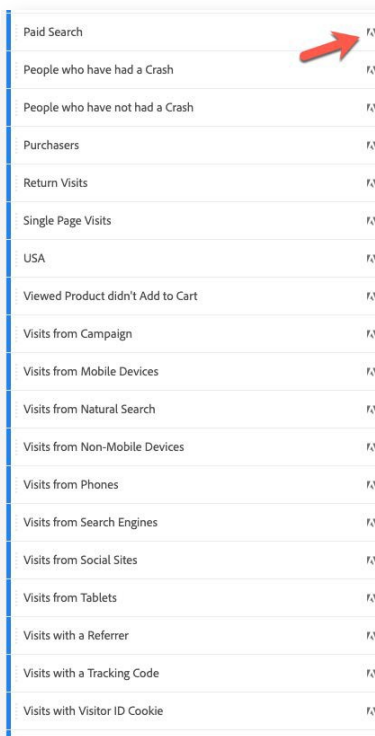


This will create a visual like you see below.



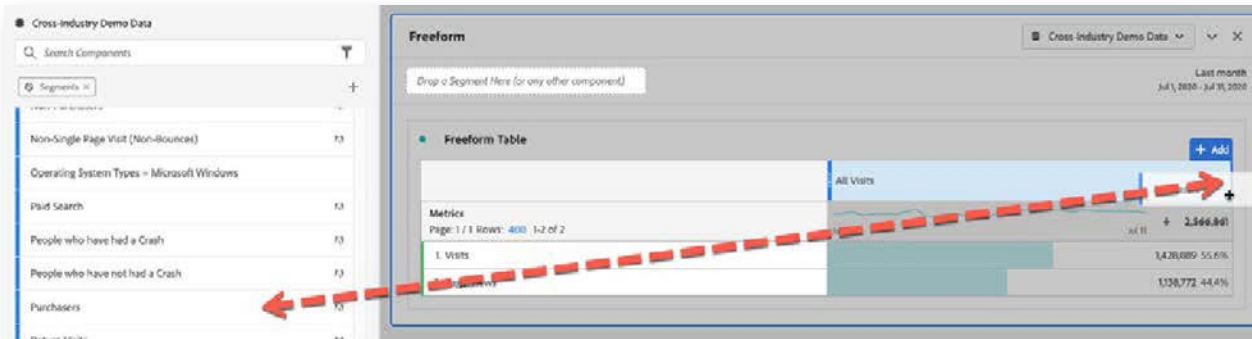
Notice that on this table, there is a column header of 'All Visits' highlighted with a BLUE tab. This is Analysis Workspace creating a column of Totals for the 'All Visits' segment for those metrics. This is a segmented report showing the segment of 'all visits.' Functionally—it's all data, but you're seeing the way that the system displays a segmented report vs. a normal report.

Adobe has created a number of standard segments for use that can be pulled in for analysis without any configuration or editing required. These segments have a mini Adobe logo in the dimension list that lets you know that Adobe has curated and published these segments.



Paid Search	All Visits
People who have had a Crash	All Visits
People who have not had a Crash	All Visits
Purchasers	All Visits
Return Visits	All Visits
Single Page Visits	All Visits
USA	All Visits
Viewed Product didn't Add to Cart	All Visits
Visits from Campaign	All Visits
Visits from Mobile Devices	All Visits
Visits from Natural Search	All Visits
Visits from Non-Mobile Devices	All Visits
Visits from Phones	All Visits
Visits from Search Engines	All Visits
Visits from Social Sites	All Visits
Visits from Tablets	All Visits
Visits with a Referrer	All Visits
Visits with a Tracking Code	All Visits
Visits with Visitor ID Cookie	All Visits

Let's pull in a few segments to compare here and see how the data looks. On the report with Visits and Page Views, let's pull in Purchasers to compare to All Visits. You must click and drag the segment to the right-most area of the table to get an 'add' notification in order to add the segment vs. overwriting the existing segment.



After releasing the mouse button—your report should look like this:

Freeform Table

	All Visits		Purchasers	
Metrics	↓ 2,566,861		582,977	
Page: 1 / 1 Rows: 400 1-2 of 2	Jul 1	Jul 31	Jul 1	Jul 31
1. Visits	1,428,089 55.6%		46,385 8.0%	
2. Page Views	1,138,772 44.4%		536,592 92.0%	

In this report—you have 1.4M visits total and 46.3K of them were purchasers. Let's add in some additional metrics now to see what behaviors our purchasers exhibit vs. all visits. Let's add in Time Spent / User and Page Views per Visit.

Freeform

Drop a Segment Here (or any other component)

Freeform Table

	All Visits		Purchasers	
Metrics	↓		↓	
Page: 1 / 1 Rows: 400 1-4 of 4				
1. Visits	1,428,089		46,385	
2. Page Views	1,138,772		536,592	
3. Time Spent/User (State)	00:05:43		00:24:39	
4. Average Page Views per Visit	0.80		11.37	

By searching for those metrics, you'll be able to click/drag these metrics in and create new rows for the table. Because the segments were already added in—you will now see reporting on these metrics by segment.

Freeform Table

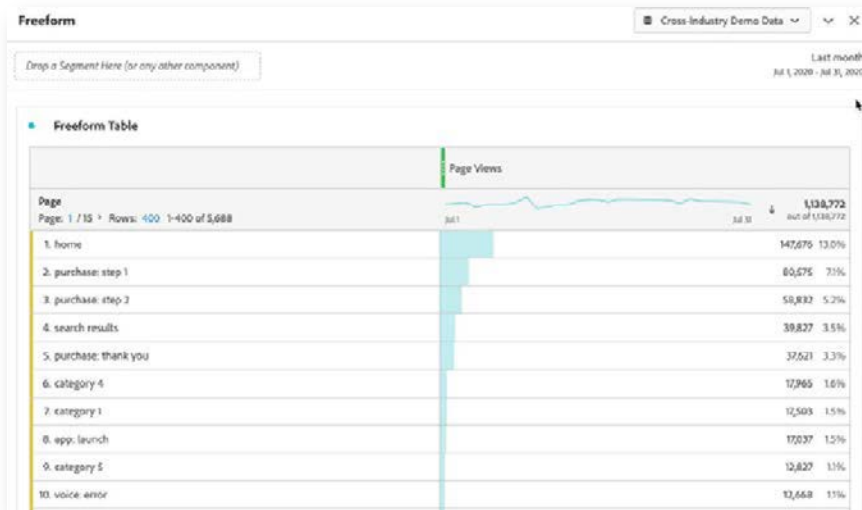
	All Visits	Purchasers
Metrics	↓	
Page: 1 / 1 Rows: 400 1-4 of 4		
1. Visits	1,428,089	46,385
2. Page Views	1,138,772	536,592
3. Time Spent/User (State)	00:05:45	00:29:39
4. Average Page Views per Visit	0.80	11.57

It's fascinating to see that on average, all users in the time period spent 5 mins and 45 seconds while purchasers spent nearly 30 minutes within the experience. Additionally, purchasers saw 11.5 pages per visit—which is a dramatically larger number than the All visits segment. What would you do as a marketer with this information? How would this influence recommendations you might have to get more visits to become purchasers?

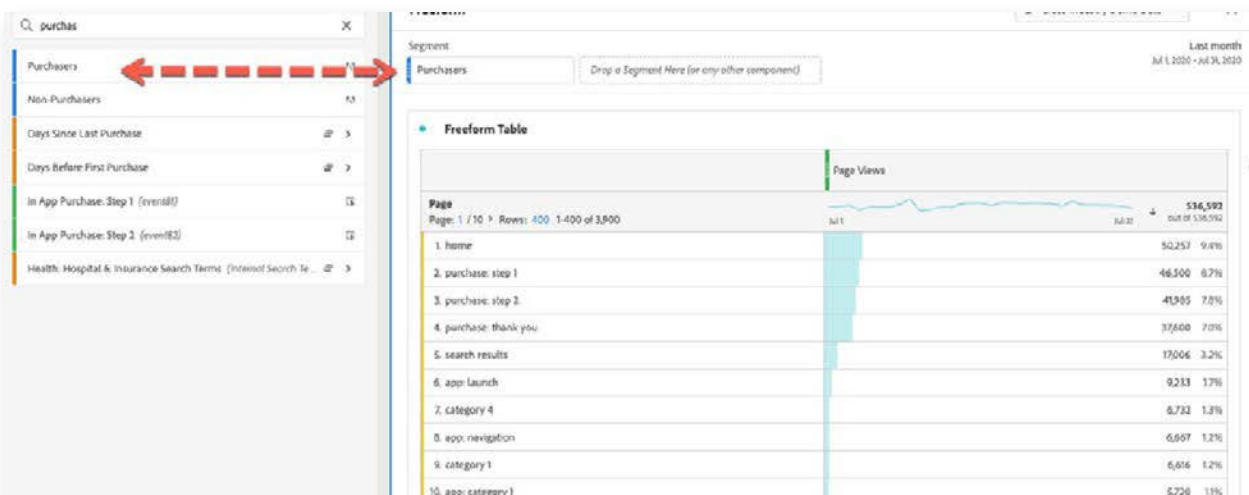
Using segmentation—we can do some high-level comparisons here that should yield interesting results in any analysis.

Analyze Content Reports by Segment

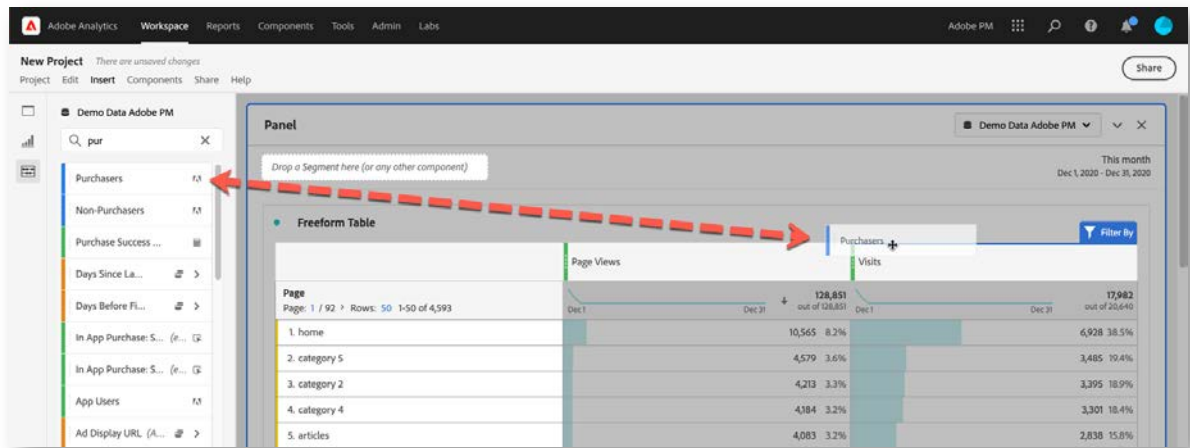
Now that you know how segments slice the data and have basic reports available, let's look at how different user segments view content on the website. First, let's build a basic Pages report with Page Views pulled in.



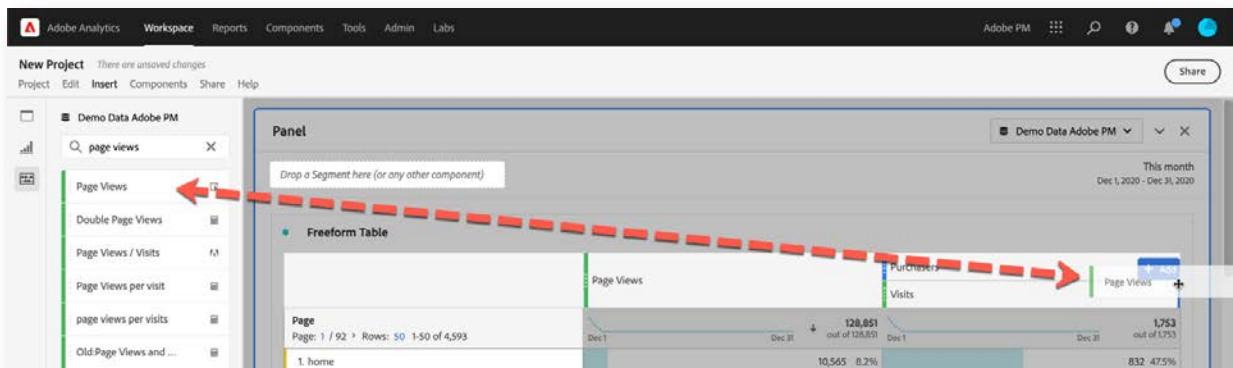
Let's go ahead and now pull in our segment of 'Purchasers' and see how page views change for this segment. To do this, you'll find the segment you want to apply to the report and click/drag it to the top of the freeform panel.

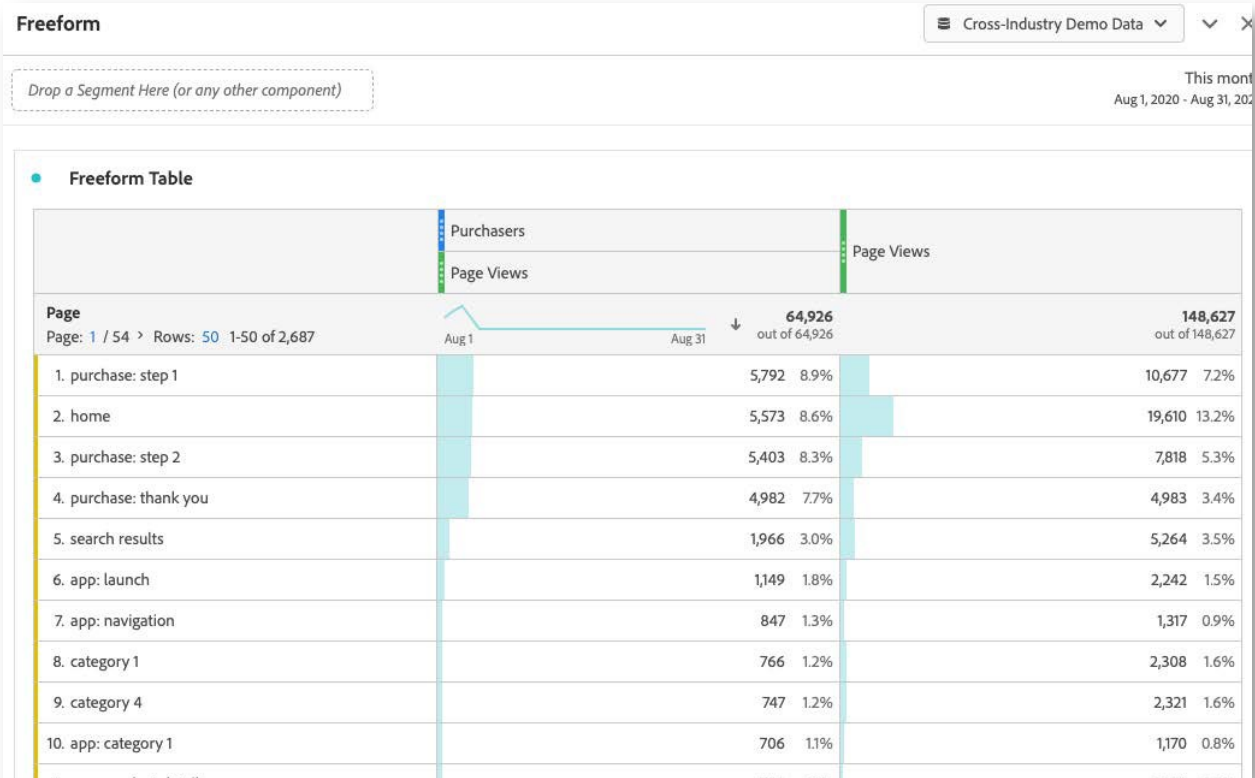


The entire panel is now updated with that segment applied for all data located within the panel. Another way we can add that segment is to click and drag the segment name ABOVE the metric you want to segment.



Releasing the segment in this spot—you'll see the same numbers, but visually we're seeing the segment applies ONLY to that column. So, we can add in another column of 'Page Views' that isn't segmented and see a quick comparison between the two.





Now it's easy to see, side by side, how each page compares to one another. Let's segment our second column here now by a 'non-purchasers' segment and see what insights we might be able to glean from the users that do not purchase us and if we might have information that could help our content authors out.

Search for 'Non-Purchasers' in your component list. Click and drag that segment above the page views in the second column.



Release the mouse and you'll see this report now showing content viewed by purchasers vs content viewed by non-purchasers. Ideally, we're looking for insight on what the non-purchasers are viewing that we could influence into purchasers.

Freeform Table

	Purchasers	Non-Purchasers
Page Views	Page Views	
Page: 1 / 54 > Rows: 50 1-50 of 2,687	Aug 1 Aug 31 64,926 out of 64,926	Aug 1 Aug 31 83,701 out of 83,701
1. purchase: step 1	5,792 8.9%	4,885 5.8%
2. home	5,573 8.6%	14,037 16.8%
3. purchase: step 2	5,403 8.3%	2,415 2.9%
4. purchase: thank you	4,982 7.7%	1 0.0%
5. search results	1,966 3.0%	3,298 3.9%
6. app: launch	1,149 1.8%	1,093 1.3%
7. app: navigation	847 1.3%	470 0.6%
8. category 1	766 1.2%	1,542 1.8%
9. category 4	747 1.2%	1,574 1.9%
10. app: category 1	706 1.1%	464 0.6%

Right away—we can see that the Home Page and the Search Results Page both have much more activity for non-purchasers vs. purchasers. Perhaps we can give some messaging back to the content team about the search results needing to be reviewed to ensure people find products they're interested.

How to Create a Basic Segment

In this example, we'll run an Operating System Type report and right click on 'windows' to segment based on those users.

Freeform Cross-Industry Demo Data

Drop a Segment Here (or any other component)

Last month
Jul 1, 2020 - Jul 31, 2020

Freeform Table

	Visits
Operating System Types	Jul 1 Jul 31 1,428,089 out of 1,428,089
Page: 1 / 1 Rows: 50 1-10 of 10	
1. Other	1,243,703 87.1%
2. Microsoft Windows	74,601 5.2%
3. Adobe	61,888 4.3%
4. Google Android	33,256 2.3%
5. Apple iOS	6,422 0.4%
6. Apple Macintosh	5,794 0.4%
7. Chrome OS	1,700 0.1%
8. GNU/Linux	449 0.0%
9. Microsoft Windows	260 0.0%
10. Nokia	16 0.0%

Search
Copy to Clipboard
Create alert from selection
Breakdown
Visualize
Download as CSV
Trend selection
Create segment from selection

After clicking on the 'create segment from selection' item—you'll be brought to the segment builder with rules already established for you based on the report you ran. Remember how it was suggested that 'right click' opens up many features? Here's one example that is extremely valuable!

Segment Builder Interface:

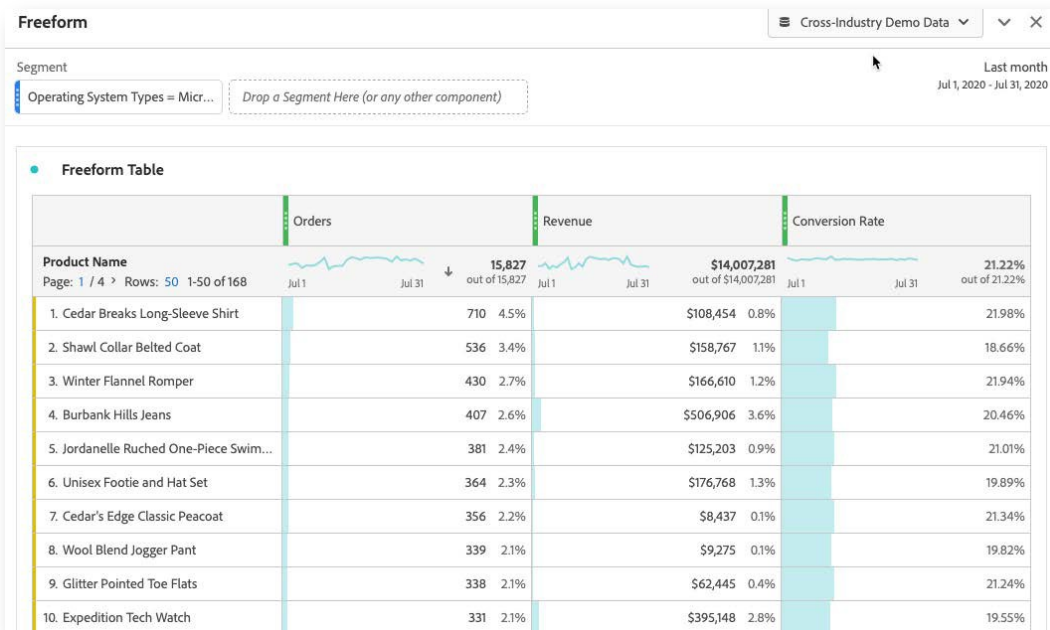
- Title:** Operating System Types = Microsoft Windows
- Description:** Enter a description for this segment.
- Tags:** Search tags
- Definition:**
 - Include: Hit
 - Rule: Operating System Types equals Microsoft Windows
- Statistics (Last 90 days):**
 - Unique Visitors: 142,160 of 4,167,377 (3%)
 - Visits: 208,715 of 4,352,028 (5%)
 - Page Views: 1,051,505 of 3,334,330 (32%)
- Product Compatibility:** Analysis Workspace, Reports & Analytics, Ad Hoc Analysis, Data Warehouse
- Experience Cloud publishing:** Segment Publishing: 0 of 75
- Options:** Create in audience library

You can see that this segment is based on Operating System equals 'Microsoft Windows' and it represents about 12% of all page views, 5% of visits and 3% of unique visitors. That gives you a level of confidence in knowing if this segment is really impactful or not—and for this purpose it is.

After saving this segment—we can now use this segment in any other report. Let's go ahead and run a new report—a products report—with Orders, Revenue and Conversion Rate added in. After searching for our segment, we will see that the segment is available, and we can drop the segment into the panel and the data will update to show products purchased from users that were on a Windows-based machine.

Freeform Report Table:

Product Name	Orders	Revenue	Conversion Rate
1. Cedar Breaks Long-Sleeve Shirt	1,936 4.6%	\$305,768 0.8%	10.20%
2. Shawl Collar Belled Coat	1,534 3.7%	\$447,372 1.7%	9.13%
3. Burbank Hills Jeans	1,172 2.8%	\$1,480,023 3.5%	9.61%
4. Winter Flannel Romper	1,143 2.7%	\$425,290 1.1%	10.04%
5. Unisex Fleece and Hat Set	1,074 2.5%	\$367,848 1.4%	10.10%
6. Girls Outdoor Ears Hoodie	1,063 2.5%	\$18,239 0.0%	10.81%
7. Jordanelle Ruched One-Piece Swim...	1,050 2.5%	\$405,475 1.0%	9.77%
8. Cedar's Edge Classic Peacoat	927 2.2%	\$19,668 0.0%	9.20%
9. Yellow Twist Tee	924 2.2%	\$40,503 0.2%	10.58%
10. Wool Blend Jogger Pant	913 2.2%	\$24,406 0.1%	8.99%



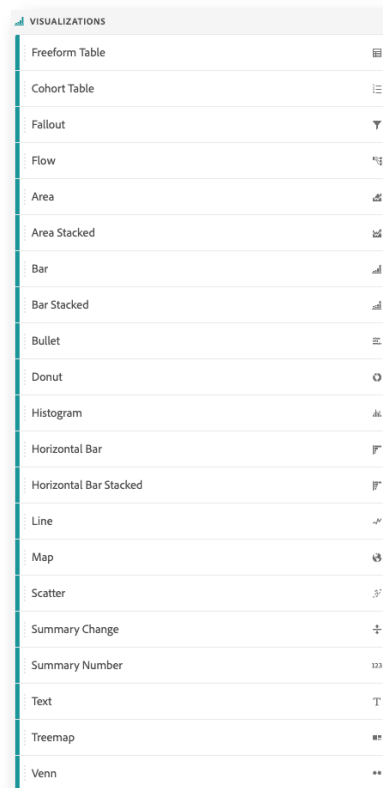
The report above now shifts and shows you the subset of data within Analytics that is related ONLY to users that were on PCs.

Introduction to Segmentation Summary

The basics of segmentation should feel straightforward. You're able to take the sum of all data, slice it into a component based on a dimension, and then apply that segment to a report. This fundamental use of segmentation will allow you to now analyze your data sets in a whole new way.

Data Visualizations

Up until this point—we've strictly viewed data in a data table with the freeform panel. While it's incredibly informative, it lacks any type of visual that helps us analyze trends, totals or charts for comparisons. This is where Data Visualizations come into play within Analysis Workspace. Data Visualizations take the data within tables and allow you to express that data visually through a graph, chart, or other treatment to find insight in the data. The following data visualizations are available for use in Analysis Workspace:



Summary Number

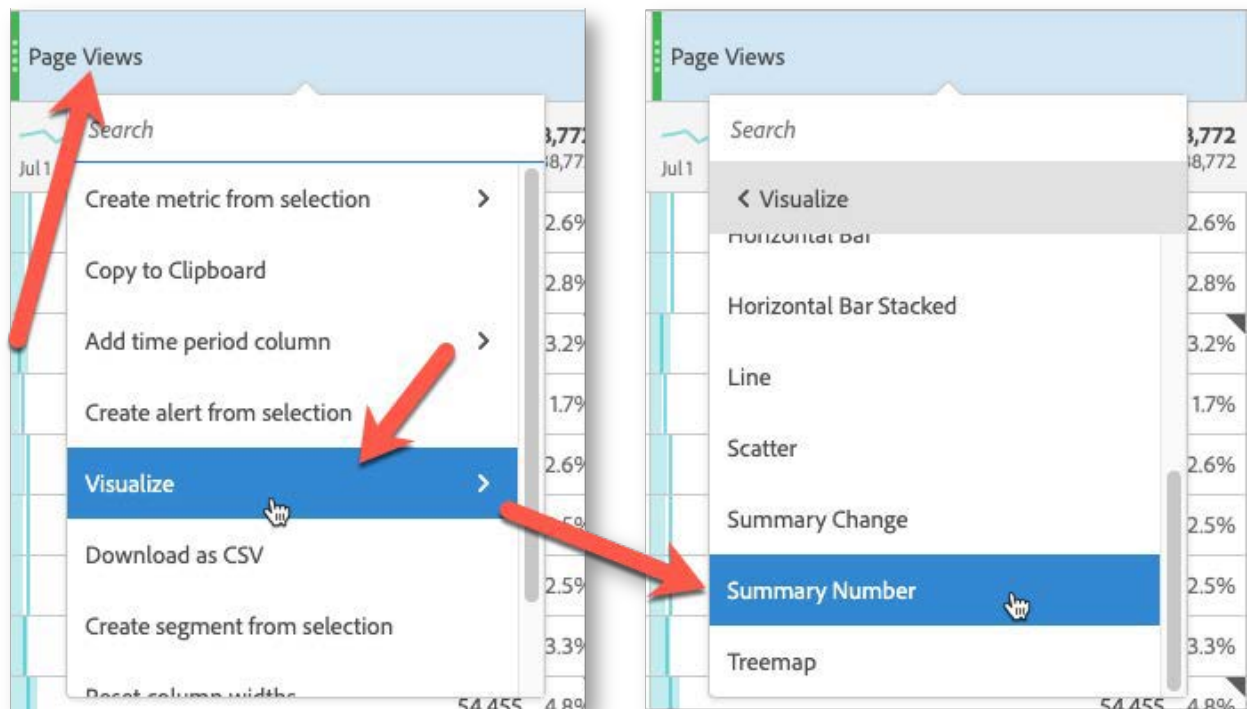
Summary Number visualizations are large format visuals that indicate a total for a particular metric or value. Most often, summary numbers are used to highlight Key Performance Indicators (KPI) totals at the top of a workspace for distribution to other members of the organization.

Let's start by creating a data table that has Page Views and Page Views per Visit listed by day for the month of July 2020.

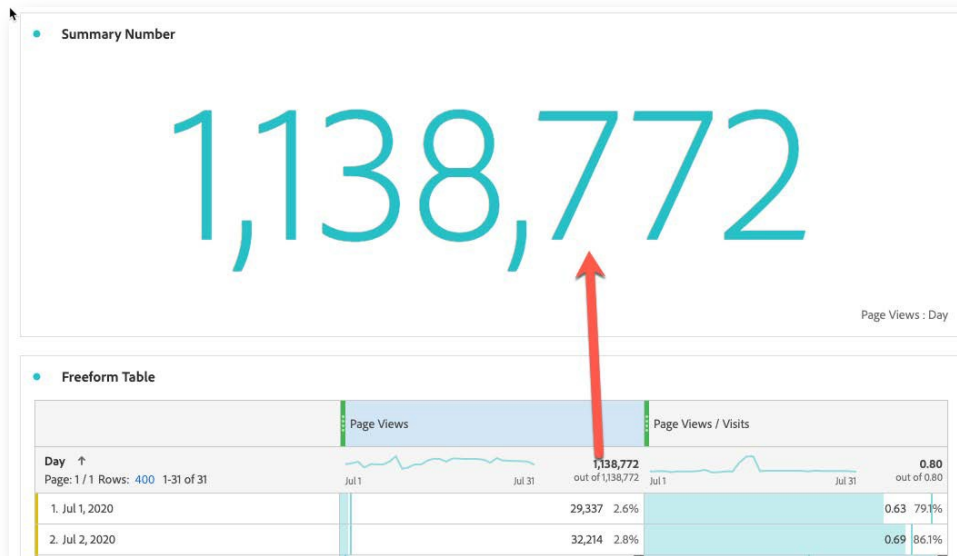
Freeform Table

	Page Views	Page Views / Visits
Day ↑		
Page: 1 / 1 Rows: 400 1-31 of 31	1,138,772 out of 1,138,772	0.80 out of 0.80
1. Jul 1, 2020	29,337 2.6%	0.63 79.1%
2. Jul 2, 2020	32,214 2.8%	0.69 86.1%
3. Jul 3, 2020	36,901 3.2%	0.77 96.4%
4. Jul 4, 2020	18,885 1.7%	0.42 52.2%
5. Jul 5, 2020	29,167 2.6%	0.63 78.5%
6. Jul 6, 2020	28,930 2.5%	0.62 78.0%
7. Jul 7, 2020	28,646 2.5%	0.62 77.7%
8. Jul 8, 2020	37,559 3.3%	0.79 99.0%
9. Jul 9, 2020	54,455 4.8%	1.10 137.5%

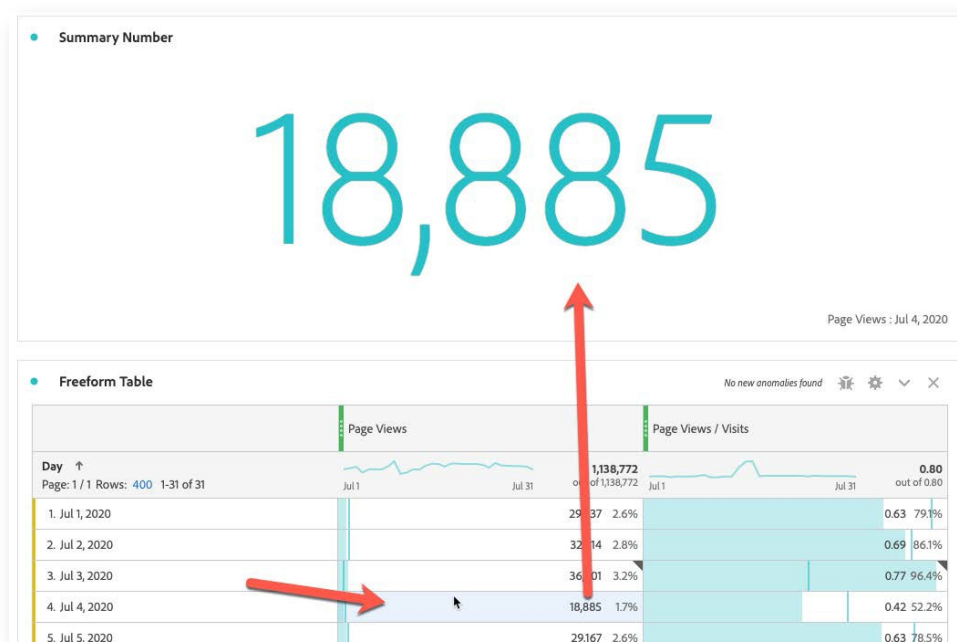
To create a summary number visual of Page Views—you'll right click on 'page views' and choose 'visualize' and then select 'summary number.'



This will trigger a visual to be created above the data table that shows the total number in a large format display.

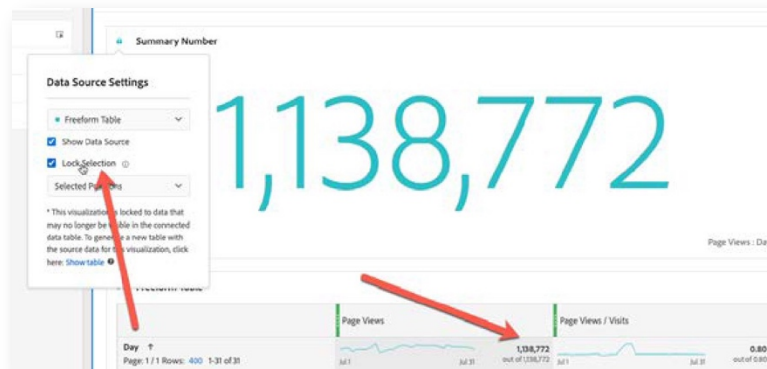


This summary number has now been created and will reference whatever cell is actively highlighted in the data table. If you click to various areas of the table, you'll see the summary number change along with the items you're selecting.



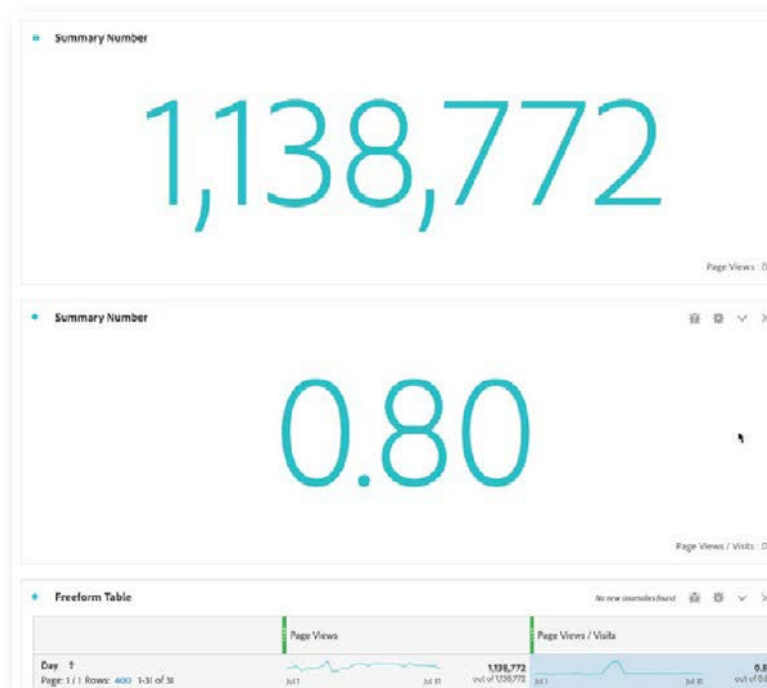
This is a great feature for real-time analysis, but sometimes comes in the way of you being able to add in multiple visuals on the same report. To lock the value to the total—you'll first have to select the value you

want to be locked. Next, you'll click on the color dot next to 'Summary Number' in the title of the data visualization and choose 'lock selection.'

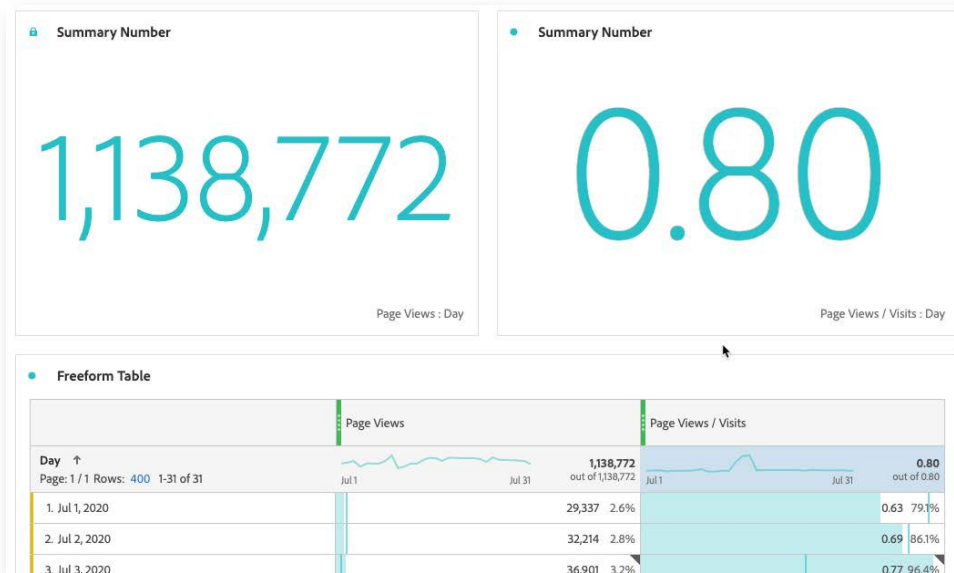


This will lock the location that this data visual is referencing. This will allow you to create more visuals and not have this visual dynamically updating throughout. Now we can add in a second summary number which references the 'Page Views / Visits' metric.

Right click on the Page Views / Visits column and choose visualize > summary number. You'll now have 2 summary number visualizations—one on top of the other—that showcase the total value in the metrics in this report.



The final step in making this report a little easier to consume would be to reduce the width of these visuals to only take up 50% of the width. Simply take your cursor and move to the edge of either visual and you'll be able to modify the width to match 50%.



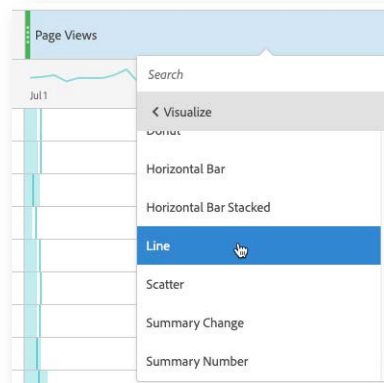
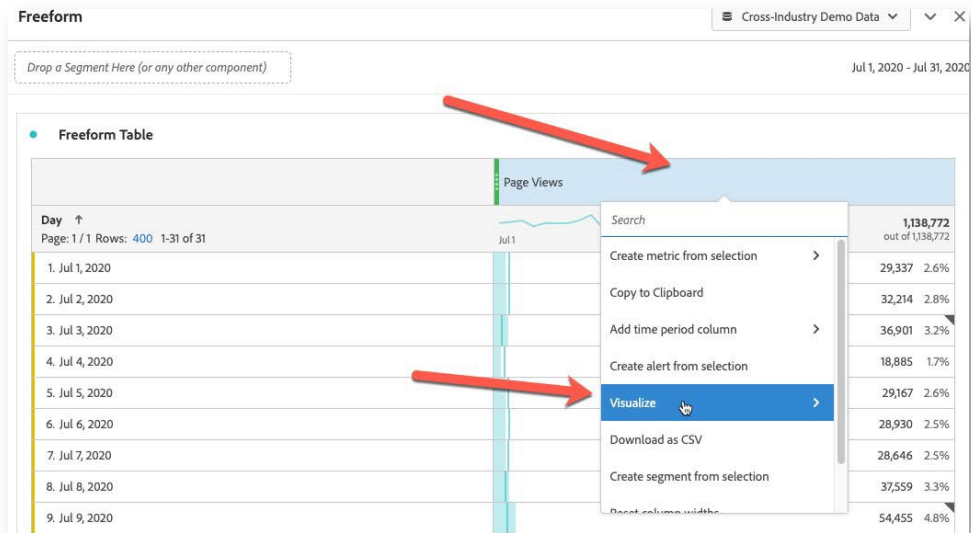
With that—some data visuals are added that make it much easier to consume and identify the top line metrics for this report.

Trend Line

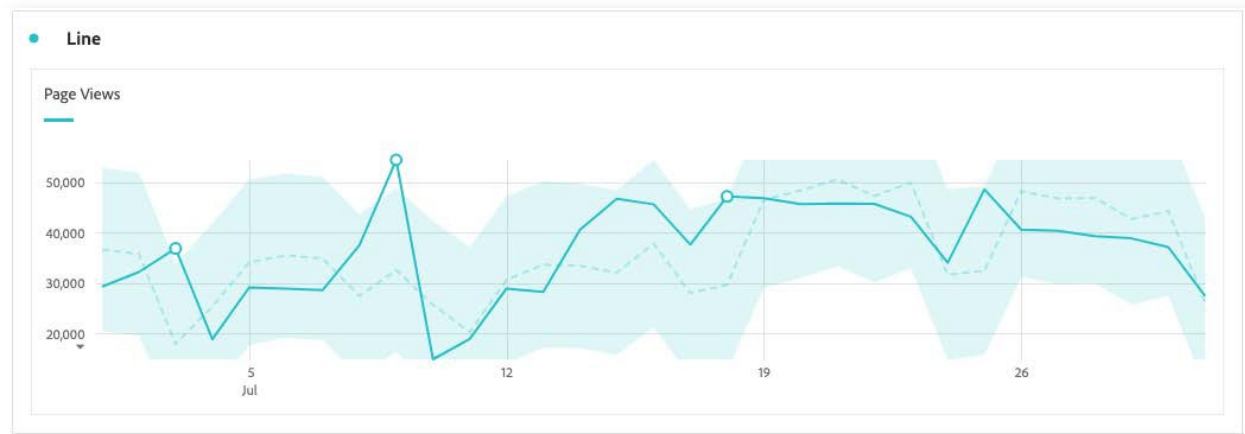
Trend lines are visuals that break apart a total value by a time period and graphically display those values with a line. For example, you can trend page views by days, weeks, months or quarters. The metric is 'page views' and the trend line will show you totals based on day, week, month or quarters.

Trend lines are so useful as they allow analysts detect spikes and valleys in data and to understand anomalies.

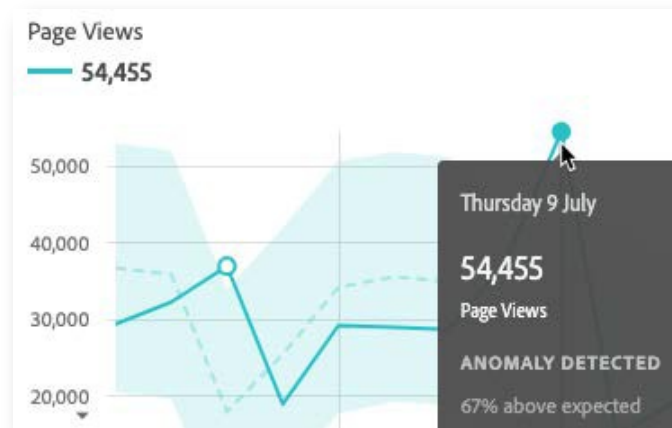
Let's create a data table for all Page Views for the month of July, 2020. Once you have that created, you'll right click on the metric 'page views' and then click on 'visualize' and select 'line' to create a trend line of the data.



After 'Line' is selected, a Trend Line visualization will be added above the data table that is linked to the page views column in the data table.



Now instead of having to look at each row individually, you can easily spot spikes and valleys in the data that might be of interest. The Trend Line also has built in Anomaly Detection that highlights with an open circle data points that are outside of an expected norm and statistically significant as an outlier. Hovering your cursor over those data points will indicate the data for that day and how much different it is than expected. This is often the starting point for a deeper dive analysis into WHY there was an anomaly.

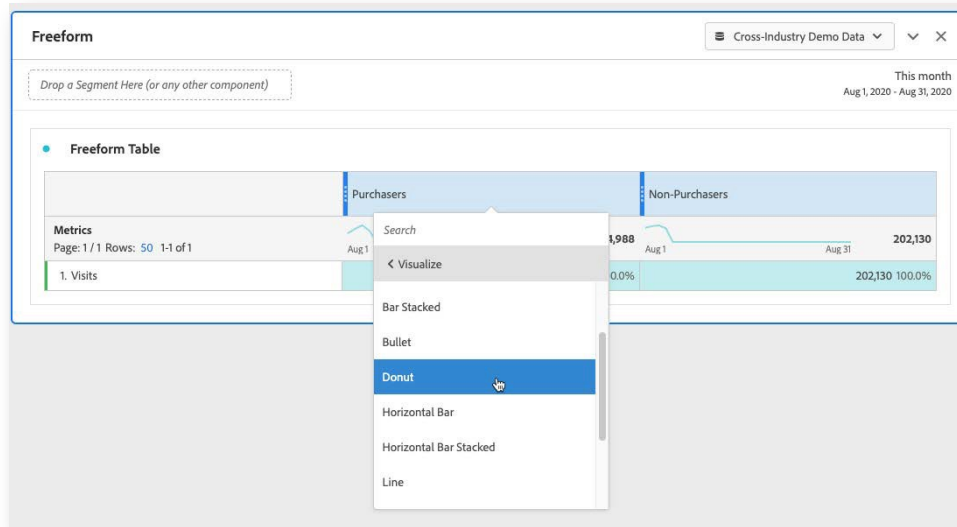


Within seconds, analysts can spot check key performance indicators for statistically significant anomalies using trend lines and begin to investigate or understand why that might happen. Without a line chart, this becomes very difficult to do.

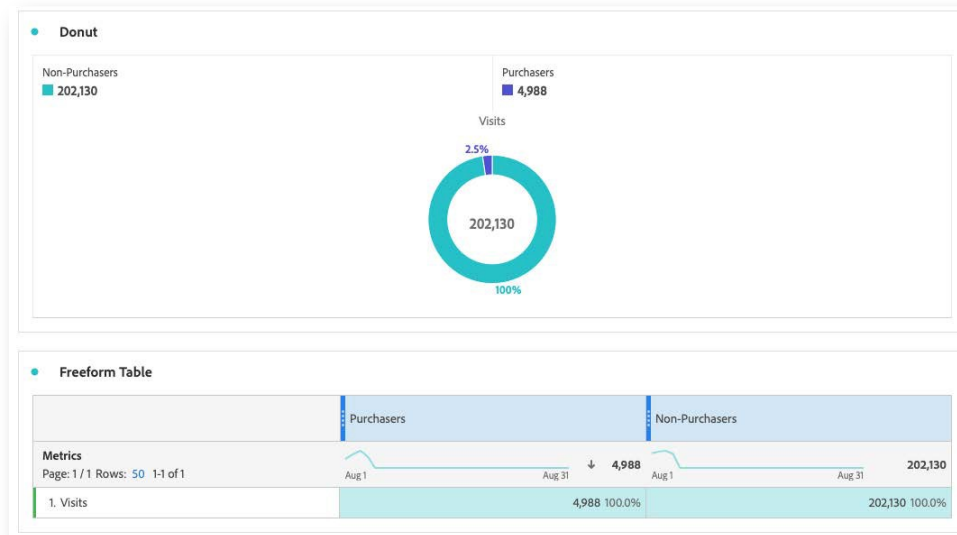
Donut Chart

Donut charts are a great way to visualize the composition of a total number. Similar to a pie chart—a donut chart allows for a visual comparison as parts or segments of a whole value. Often Donut charts are used to showcase how a total audience is segmented for a website. For example, if you wanted to see how total visits compare when looking at purchasers vs non-purchasers.

Pulling in 'visits' into a report and the Purchaser and Non-Purchaser segments will give you a table like below. Highlight both segments and right click. Select Visualize > Donut.



The resulting visual takes the numbers from the report and shows an impactful chart showing how small the purchaser segment is when compared to Non-Purchasing users.

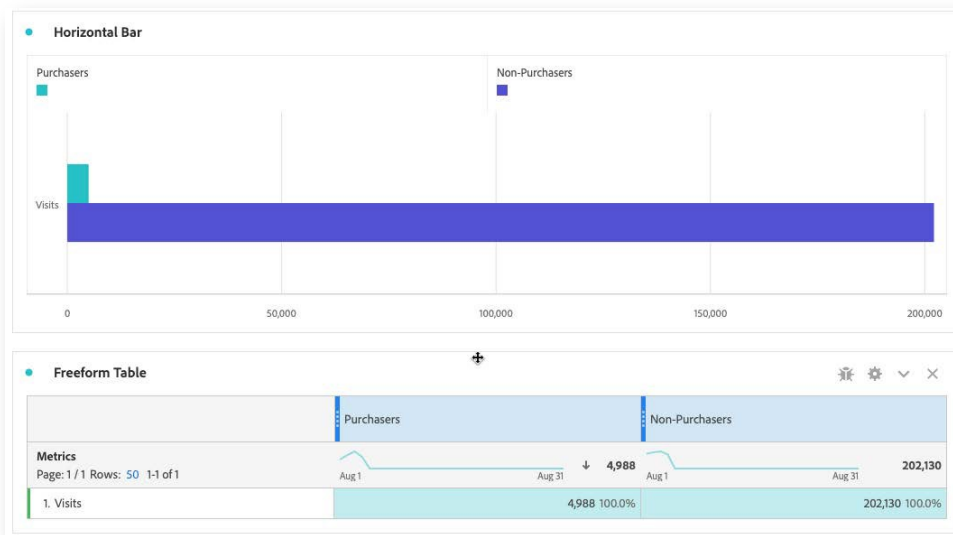


If your composition is greater than 4-5 parts, it's recommended to use a Horizontal Bar Chart.

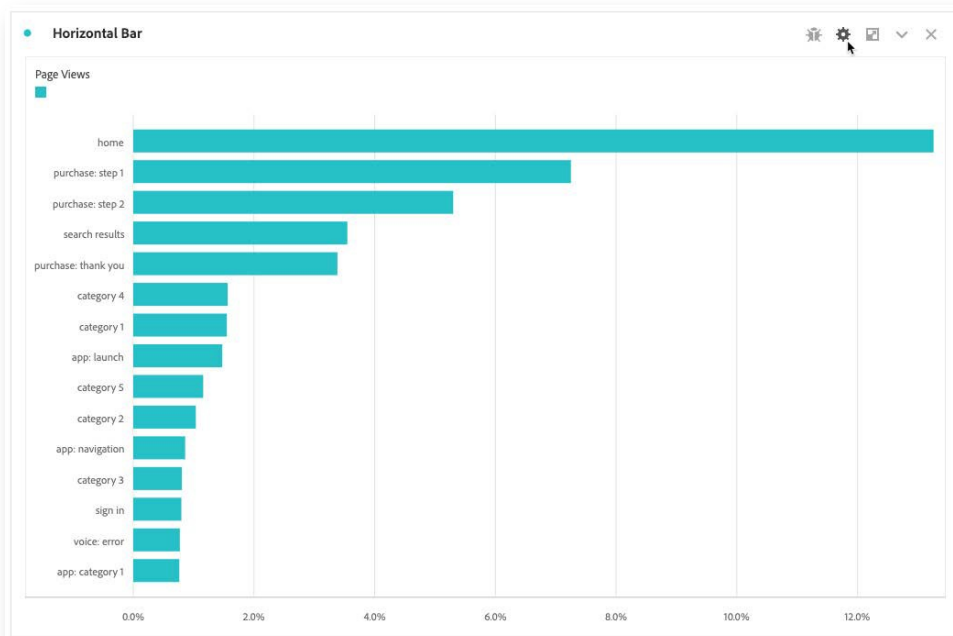
Horizontal Bar Chart

Another great chart for showing the composition of a total value is the Horizontal Bar Chart. Donut and Pie charts have a limit of 4-5 items before the chart becomes hard to read and see proportions. Horizontal Bar Charts can easily compare 10-20 values and have impactful meaning for composition type analysis.

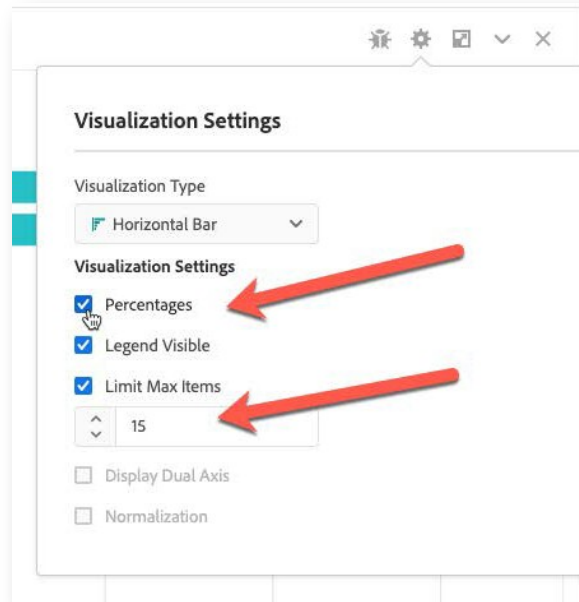
Using the same report as the Donut Chart—we can create a Horizontal Bar chart.



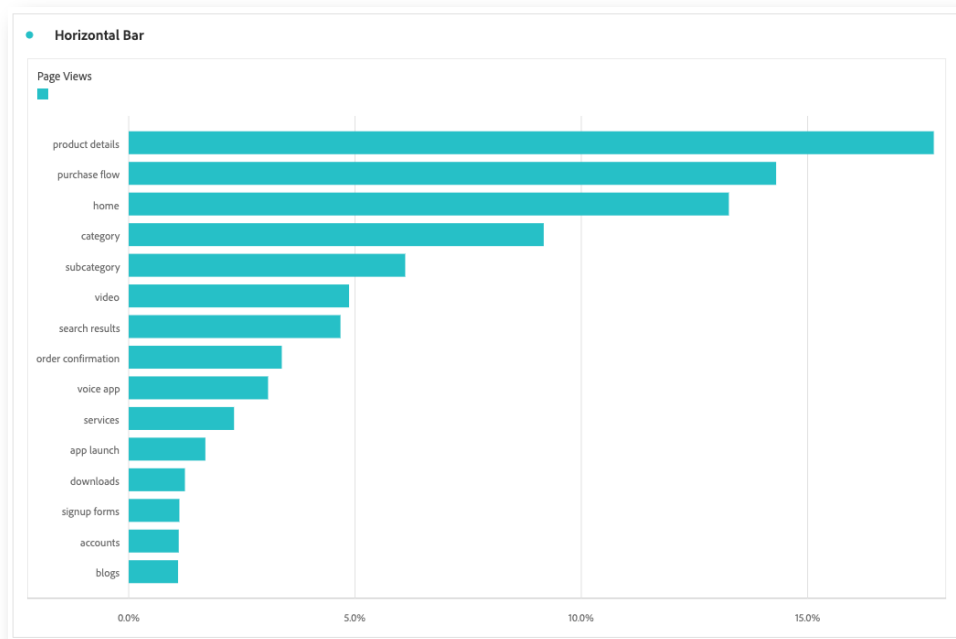
That shows the same proportion as the donut chart—but in a different visual. More commonly the Horizontal Bar Chart is used for many values. Let's look at the Page Report and showcase the composition of the top 25 values utilizing a Bar Chart.



In the case above—the chart has a modified set of criteria showing 'percentages' instead of values and we increased to the top 15 values. Quickly—you can diagnose the composition of total page views by pages viewed.



Changing the report from 'pages' to 'page type' yields even more interesting information as we aggregate the pages into logical groupings with this report.

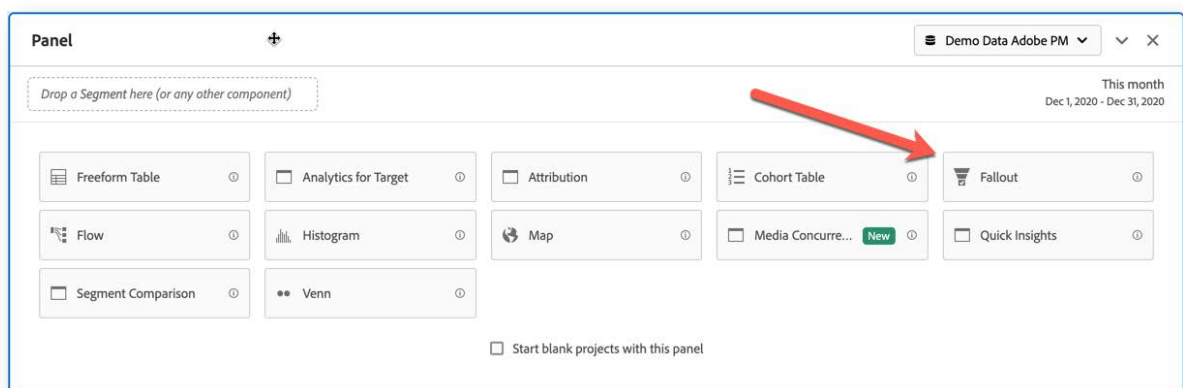


In the first report—you might conclude that product pages aren't even being viewed because they're not listed in the top. However, when you look at the aggregation of page types—you see that product pages actually make up a larger % of total page views than any other group of pages—followed closely with our purchase funnel pages.

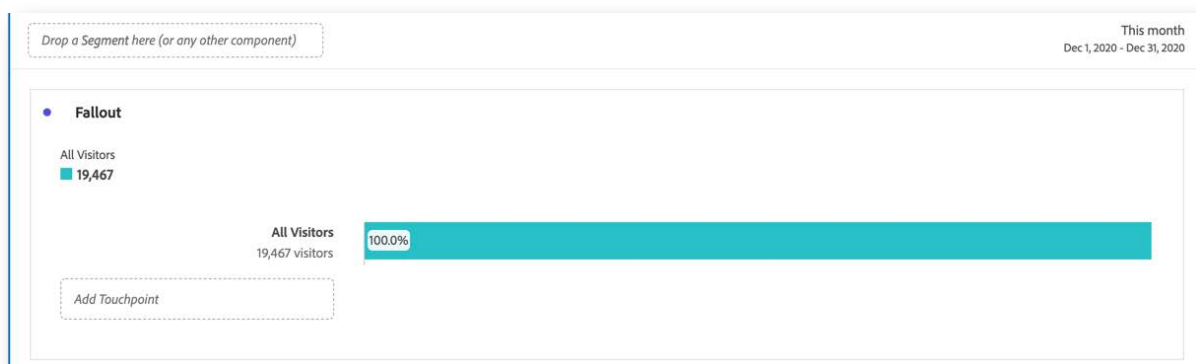
Fallout / Conversion Funnel

Every digital experience should be created with a goal in mind of what the user is supposed to complete in the experience. For a retail website—that is a purchase. For a sales company—perhaps it's a lead form completed. For a social media website, it's a new account creation or a user post. Whatever the business model, there is a single action that is tied to business performance, revenue or success. This metric is likely a KPI in the business and it's likely preceded by one or more steps that lead to the ultimate conversion. Each of these steps can be represented in a funnel visualization that allows analysts to identify which steps are great at leading users to the next step in a process vs. the steps that are hindering users' ability to complete the intended goal.

Let's analyze the shopping cart funnel here to see how this plays out. The funnel visualization is located by adding a new panel and choosing 'fallout' as the panel type.



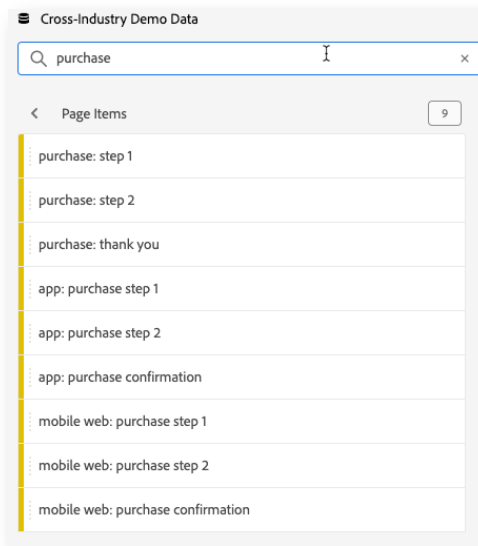
The Fallout canvas is now available for configuration.



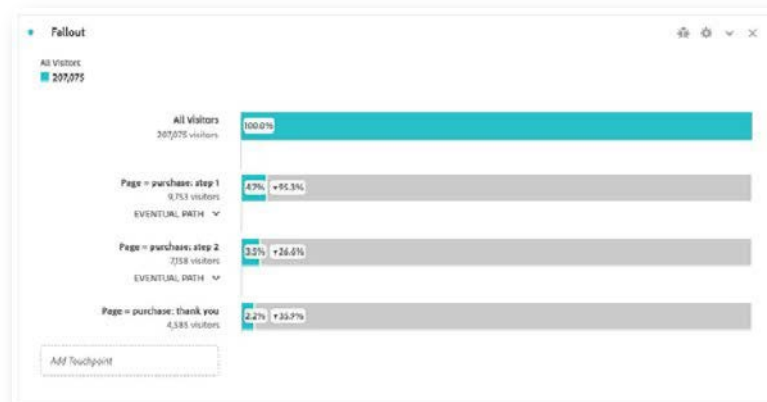
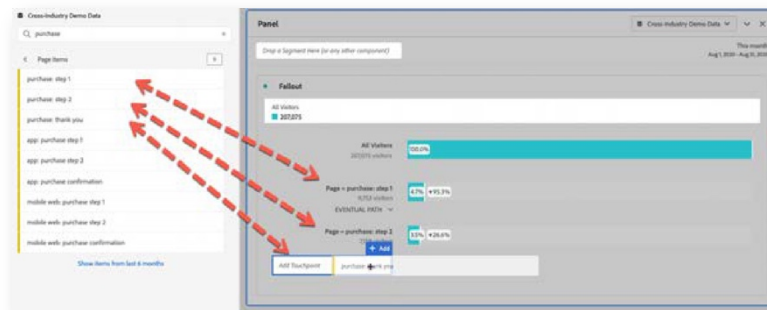
Go ahead and add in the purchase pages by searching your components for 'page' and then clicking the small arrow on the component.



This allows you to see the values in that dimension and search within those for the 'purchase' pages.



Next, we will pull over the purchase step 1, step 2 and thank you pages—as those are the 3 steps in the purchase conversion funnel for the desktop website.



The resulting visualization gives you insight into knowing out of All Visitors (users) to the site, how many start the purchase process and end up ultimately getting to the thank you page for orders.

If you remove 'all visitors'—you'll get a better visualization of JUST the shopping cart performance itself.

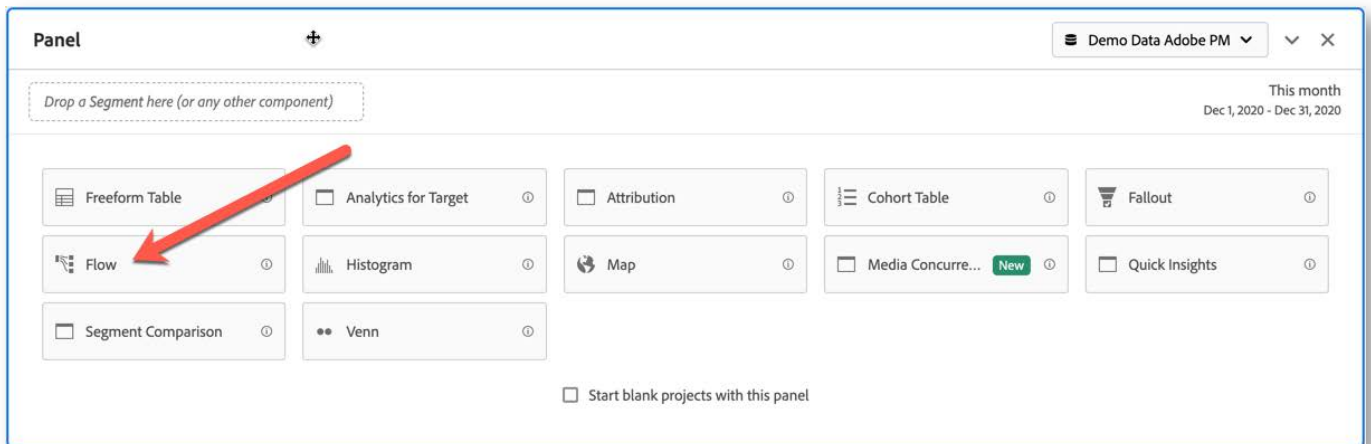


You can build any number of paths based on pages or any other variable you wanted to explore how many users are going from steps 1-3 or A-Z. The Fallout or Funnel Visualization gives you all of the options to customize for your business needs.

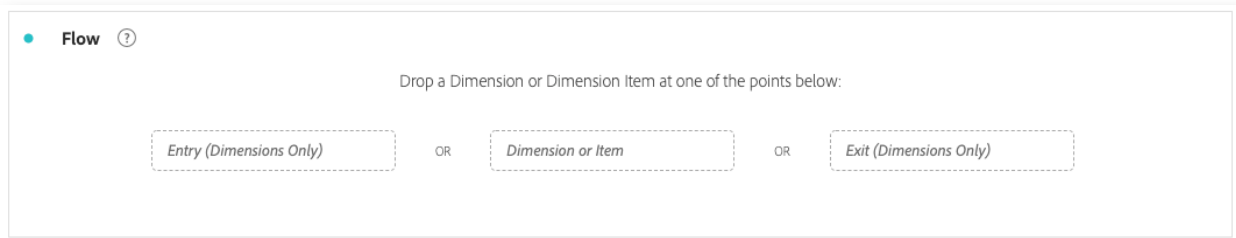
Flow

Understanding how users move from one page or element to another, without any preconceived basis, is the purpose of Flow visuals. Typically, the Flow Visual is used for page flow analysis to explore how users get to a page and move to additional pages.

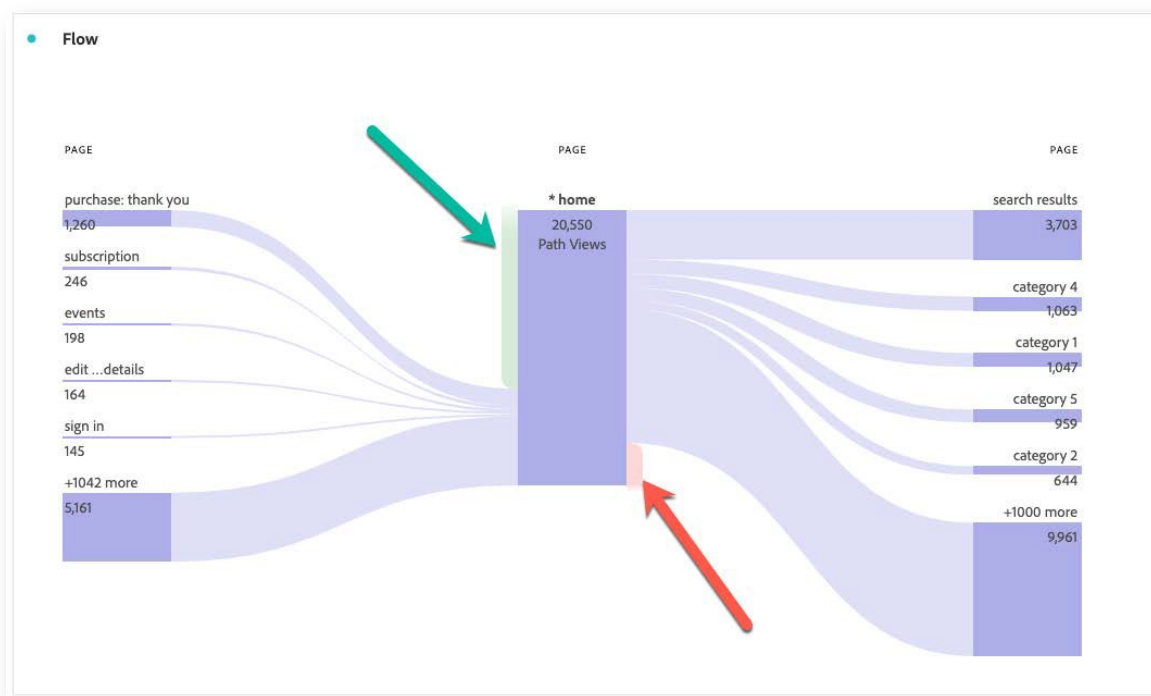
To create a Flow Visualization—you'll create a new panel and choose the 'flow' visualization option.



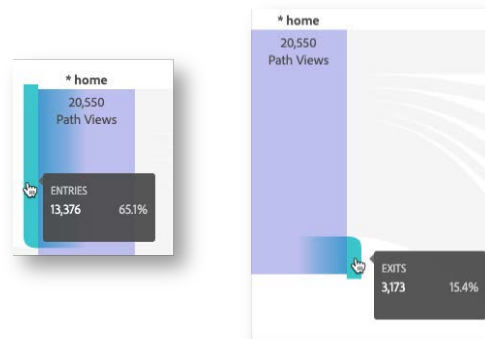
From there, you'll open up the Flow Canvas.



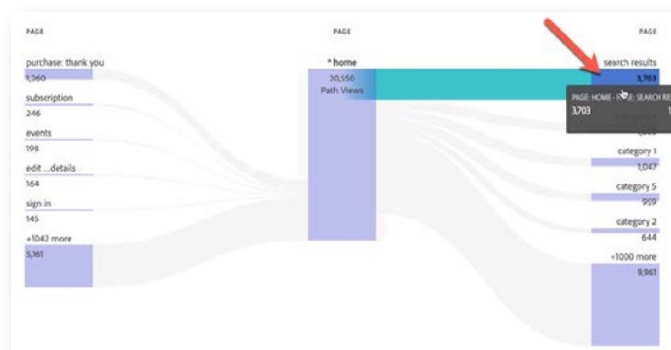
The perfect place to start is to drop in the home page into the 'Dimension or Item' area and the visualization will build from there.



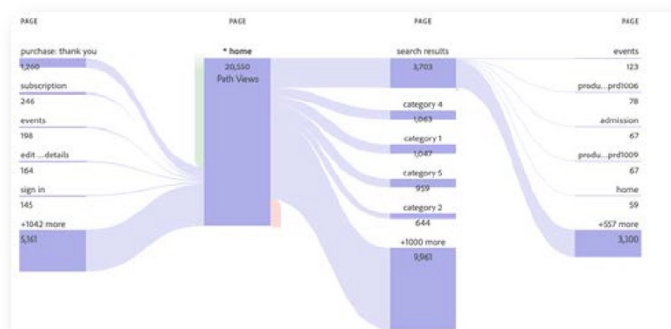
The Home page is included in the center of the visualization showing you total page path views in this time period. The Green path before Home indicates ENTRIES to the site and the Red Path indicate EXITS from the site. Hovering over either path will give you the value for that path.



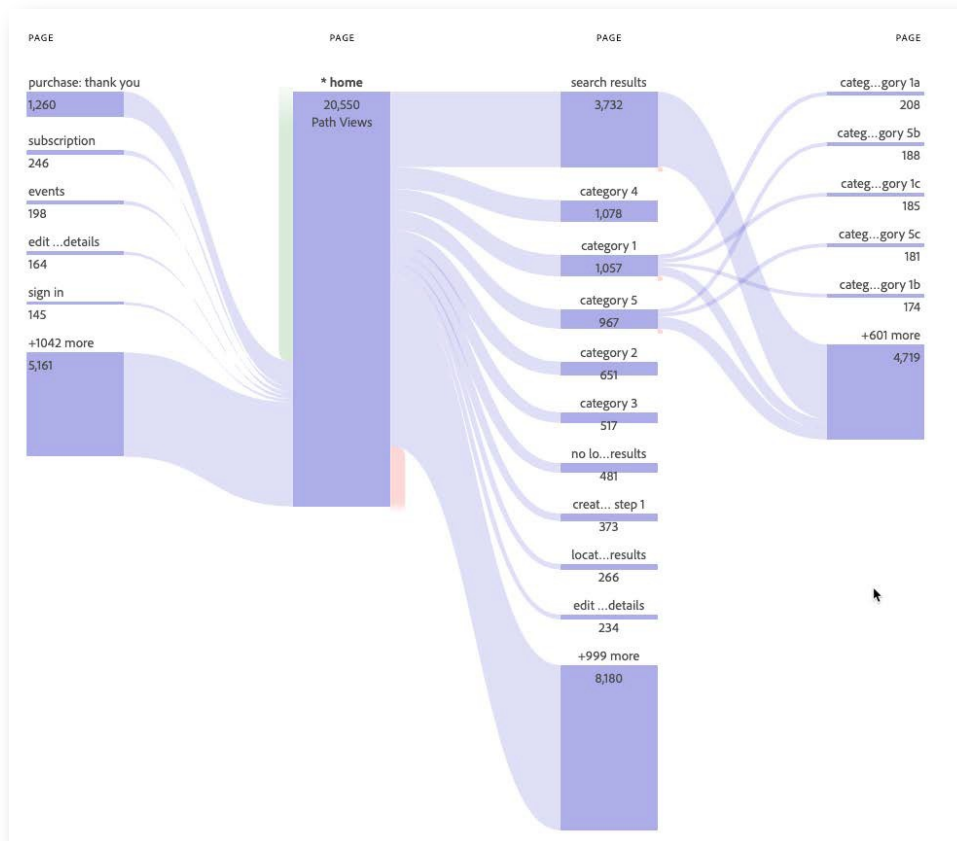
The Flow visualization is completely interactive. If you want to explore any path—you simply click on that node and the visualization will expand.



Clicking on the 'Search Results' Node expands the paths to the right and shows you which search results are being seen.



Clicking on additional nodes will allow this visualization to expand and showing you the way users navigate the site and which are the most common paths they follow.



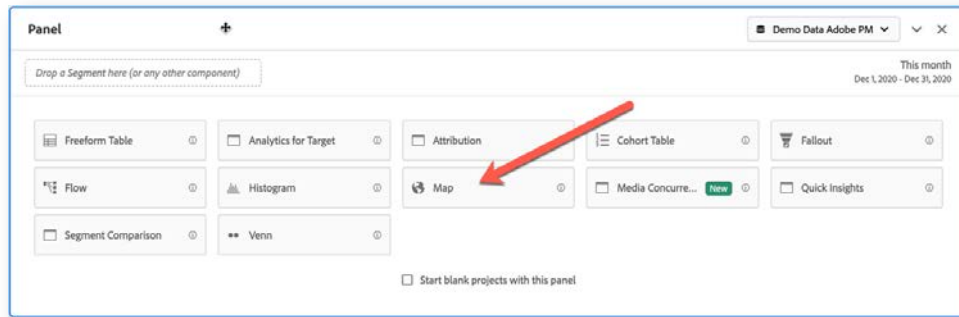
The Flow Visualization is used by analysts and user experience architects in the industry for exploratory analysis and finding out how users actually behave on the site vs. what they intended when they designed the site.

If you're an analyst for CNN and need to see how users move from one article to another within the mobile app—the Flow visualization gives you a perfect solution to be able to perform that analysis.

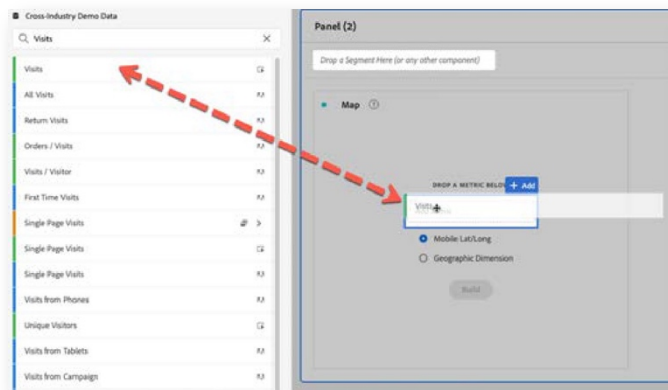
Map

The Map visual is the last visual we'll discuss in this introductory section of Analysis Workspace. Similar to the Visitor Profile GeoSegmentation reports viewed in Adobe Reports, the Maps panel visualize geographically where users are trafficking the website from.

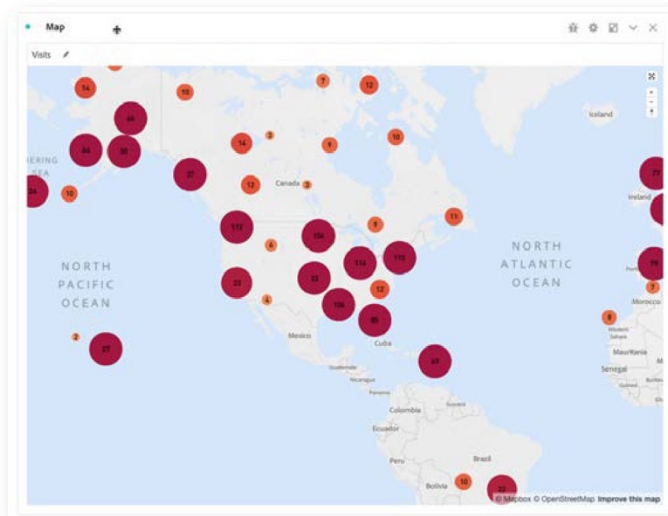
You'll start by creating another new panel and choosing the 'map' panel option. This will open up the Map Configuration Canvas.



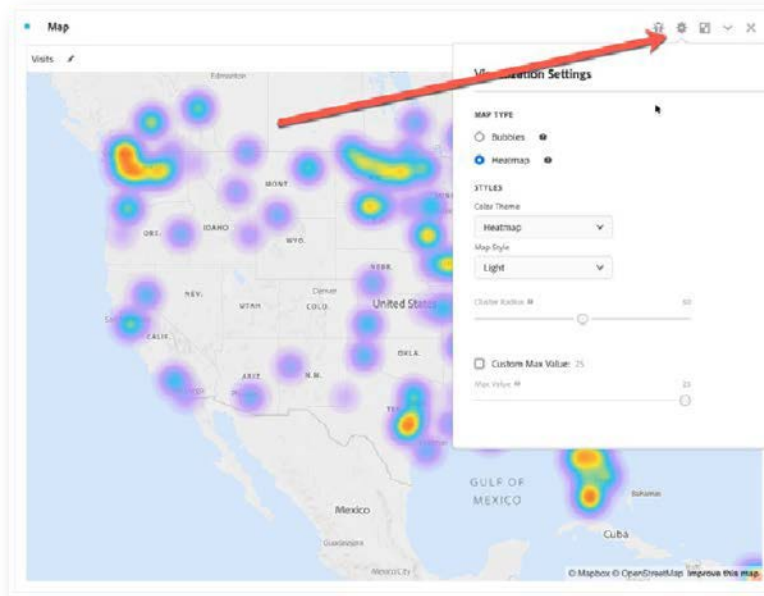
Pull 'visits' over as the metric to build the map. Use the 'Lat/Long' option.



The resulting visualization is created—allowing you as a user to click into each node for further exploration.



You can also configure the map to have different types of visualizations overlaid. Heatmaps, bubbles or map styles can be modified to get the exact look/feel you need for your analysis.



These different types of Map Visuals give companies critical insight into knowing where users exist in the real world. They can use this information to coincide with their traditional media advertising, understand if there are unique trends of regions for additional advertising or simply answer the question “Where do my users exist?”

Data Visualizations Summary

The only way to become an expert in use of these data visualizations is through answering business questions and using them in analysis. The examples provided above are common questions and scenarios that analysts face every day in digital analytics. For a complete description of ALL visualizations directly from Adobe—please visit <https://docs.adobe.com/help/en/analytics/analyze/analysis-workspace/visualizations/freeform-analysis-visualizations.html>.

Analysis Workspace Summary

Analysis Workspace is such a powerful analysis tool. This Module has covered the basics of how to use the primary featuresets that Adobe has built for use. For additional reading, training and material, please visit the Analysis Workspace set of documentation from Adobe here:

<https://docs.adobe.com/content/help/en/analytics/analyze/analysis-workspace/home.html>.

Glossary of Terms

Term	Definition
Analysis Workspace Project	A collection of reports, visualizations and data tables for use in Analysis Workspace.
Analysis Workspace Panel	A section of reports within a project that all share the same dates, segments and configuration.
Dashboard	A designed set of reports or visualizations intended to give users quick insights into their data
Analysis Workspace Components	The various pieces that make up panels within a project. It consists of metrics, dimensions, segments, date ranges, and more.
Dimension	The term used for any standard or custom variable in Analysis Workspace
Panel Canvas	Area within a Panel you edit and modify to build your report or set of reports.
Report Suite Selector	The tool that allows you to change report suites for your panel. Note—you can have different report suites for each panel.
Component Selector	The area on the left of analysis workspace that allows you to drag and drop various components into the panel canvas.
Freeform Table	A table panel that you can build and configure to create a data table
Breakdowns	The ability to drill deeper into one dimension by breaking it down by another dimension.
Double Breakdown	The breakdown of a breakdown in a report.
Segmentation	The ability to define a subset of analytics data for analysis
Right Click Features	Many features within Analysis Workspace can only be accessed by right clicking on various areas of a panel, visualization, metric or table.
Data Visualization	The representation of information in the form of a chart, diagram, or visual
Summary Number	Large format number data visualization used in dashboarding applications
Trend Line	Data visualization that shows a trended view of the data point over a period of time
Anomaly	Statistically significant data point that is outside of the expected range.
Anomaly Detection	Built in feature of Analysis Workspace to find and highlight anomalies in trended data.

Donut Chart	A data visualization that is a visual comparison as parts or segments of a whole value. Usually used to show up to 4-5 values
Horizontal Bar Chart	Data visualization to show composition of a total. Usually used for 10-20 values.
Fallout or Conversion Funnel	A visual that shows the performance of a sequence of steps or milestones along with the attrition of users from one step to the next
Flow Report	A data visualization that shows the common paths that users take or experience between pages or elements of a digital experience



Recommended Learning Activities

Activity 1: Create a Basic Table for Product Merchandising Team

Imagine you work for a major clothing retailer and are asked to answer the following questions. This set of questions will assume the date range of May 2020.

1. How much revenue did we generate?
2. What day of the month had the most revenue? The least revenue?
3. What products contributed to that total revenue?
4. What product category sold the most products?

Steps to answer:

1. Create a freeform table with May 2020 as the date range and revenue as the metric—You should be able to answer question #1 now.
2. Right Click on the revenue metric and add a trendline data visualization for revenue.
3. Create a new table with products as the dimension and revenue as the metric.
4. Create a 3rd table with product category as the dimension and revenue as the metric.

Activity 2: Create a marketing campaign dashboard

You're working for the same retailer and now asked to create a marketing dashboard for the marketing team. They want to see data about how their campaigns are performing, individual tracking codes, and have visuals that help them run this report monthly for evaluation. The date range to build this is May 2020.

PANEL 1

1. Create a new project.
2. Add a Freeform table with Marketing Channels as the dimension and the following metrics: Orders, Revenue, Conversion Rate.
3. Add 3 summary number data visualizations to show the Orders, Revenue and Conversion Rate across the top of the panel.
4. Add 3 Trendline data visuals for each of those metrics as well to highlight the daily performance of each metric.

5. Add a data visualization for this table to show a horizontal bar chart of the marketing channels to see the relative performance of each channel next to each other.

PANEL 2

6. Right click in the title bar of your first panel and click 'duplicate panel.'
7. You should have a replica panel now with all the visualizations and tables. Change the freeform table from 'marketing channel' to 'marketing campaign.'
8. This should be able to answer most questions about the campaigns.

PANEL 3

9. Add in a third panel for tracking codes.
10. Build a freeform table with Tracking codes as the dimension and visits, order and revenue as the metrics.
11. Choose 3 data visualizations to represent the data table and add them to the top of this third panel.



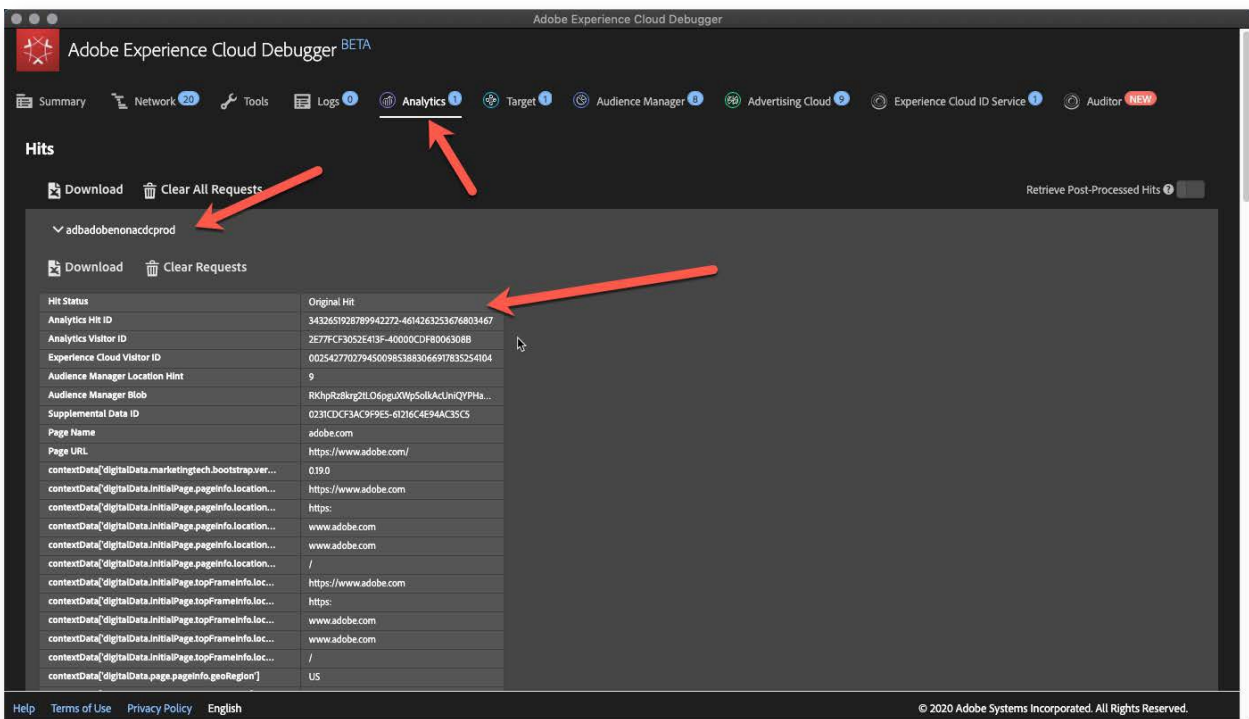
APPENDIX

The appendix of information below is intended to give you a sample of how to complete the recommended learning activities.

Chapter 2—Data Collection

Activity 1—Data Validation

1. Visit <https://docs.adobe.com/content/help/en/debugger/using/experience-cloud-debugger.html> and install the Adobe Experience Cloud Debugger
2. Visit www.adobe.com
3. Open the Adobe Experience Cloud Debugger
4. Navigate the site—go to various product category pages, watch videos, click on links and browse the site
5. Review the data being captured in the debugger
6. Summarize the type of data collected
7. How might you think about using this data in analysis?



Summary of data collected. The data collected appears to have names for different pages, sections and sub-sections. Additionally, I see information about location, language, and version information. There is a lot of data that appears to be Adobe nomenclature about creative cloud, active, true, free, etc. that I'm guessing has to do with the user on the page.

How I might use this in analysis. I would use the page information to know what pages are being visited and viewed. If the information about products is accurate then I can see what products are being viewed as well. I would want to know more about the type of data being collected to be able to analyze it further.

Activity 2—Netflix Business Case

1. Review the company summary of Netflix on <https://media.netflix.com/en/about-netflix> and <https://en.wikipedia.org/wiki/Netflix>
2. List all digital properties owned by Netflix
3. Describe the type of data that would need to be collected by each digital property
4. What type of architecture should exist for Netflix if you were to recommend a solution to Netflix—
Global report suite with all data, individual report suites for each property, other? Why?

All Digital Properties owned by Netflix.

1. Netflix.com
2. Netflix Mobile App
3. Netflix Game Console App (XBOX, PlayStation)
4. Netflix TV System App

Type of data collected from each digital property.

1. Device information (Tv, Phone, Gaming System)
2. Content viewed
3. Time users are on site
4. User signups
5. Time of day
6. Time of Week
7. Netflix Search behavior
8. Unsubscribers
9. Account management details

10. Advertising analytics about campaigns, tracking codes, and more
11. Number of users actively streaming per account

Type of data architecture for Netflix

They should have a global report suite that has all data available in it and virtual report suites that contain information about each individual digital property or application. This would give an enterprise-level view of all data collected but also allow each Netflix property to be analyzed independently.

Activity 3—Login to Adobe

1. Visit <https://my.omniture.com/login/>
2. Login using your login credentials
3. Open 'Reports' section of analytics and explore the interface



Chapter 3—Data Strategy and Architecture

Activity 1—Variables in the World

Variables and metrics are pervasive throughout the entire world. To begin to think like a data analyst, you must be able to identify variables and metrics throughout everyday subjects, activities and topics. This activity will help you to identify and differentiate between these two foundational building blocks of data and analysis.

Topics	Metrics	Calculated Metrics	Variables
Universities & Higher Education	# of Students # of Professors # of Courses # of Students enrolled in a single course # of Majors # of buildings on campus # of Graduations # of Dropouts # of passed courses # of failed courses Tuition Revenue # of declared majors # of general education students	Avg GPA Graduation Rate Course pass rate Avg Tuition per student Avg course size	Course Name (History, Science, etc.) Campus Location (NYC, remote, online, etc.) Student Age (17, 18, 19, 20, etc.) Major (Engineer, English, etc.) Minor (Sociology, economics, etc.) Instructor
Sports	Total Points Quarter Wins Losses Games Played Touchdowns Yards Passing Yards Rushing Total Yards	Yards per pass Yards per rush Points per game Average Score Points per Quarter Winning %	Team Name (USC Trojans, etc.) Player Name (Joe N. , etc.) Weather (rainy, clear, etc.) Outside temp (80, 75, etc.) Stadium (Coliseum, etc.)

Activity 2—Adobe.com Data

Imagine you are all employees of Adobe. You will work together to think through what business questions the CEO of Adobe.com would want answered about the website. You will then apply the learning of variables and metrics to define different variables you would need along with the metrics to collect on the site to satisfy the business questions of the CEO.

1. Spend 10-15 minutes individually browsing Adobe.com
 - a. What types of content is available? **Pages, products, trials, newsletter, login**
 - b. What do you think the purpose of the website is? **Inform users about adobe products and services as a company**
 - c. Are you able to find content easily? **yes**
 - d. How is the site structured? **Structured by product type and what sub-products exist within each of the various business units**
2. Discuss with your group the following
 - a. What is the purpose of the website? Is there more than one? **Inform users about Adobe as a company and products. It also is a way for users to contact Adobe for support or sales. It's also a way to login to products.**
 - b. What is the most important objective of the website? **Awareness, Acquisition and Retention of customers**
 - c. What questions about the website's performance would you want to know if you were the CEO of Adobe? **What interest we have in a particular product line that we are developing? What pages / content lead to new customer acquisition? What are my top selling products? How much revenue does the website generate for the company?**
3. Develop a basic measurement solution
 - a. Metrics
 - i. What are some of the engagement metrics you would define for the site? **Visitors, Visits, Page Views, Average Time Spent, Page views per visit, Visits per Week, Visitors per Month, Videos viewed, etc.**
 - ii. What does conversion look like on this site? **Signup, Login, Request Information (Lead), Trial Signup**
 - iii. What are some of the micro conversions? **Videos Viewed, Articles Viewed, Product Features Download,**
 - iv. What would the steps of a conversion funnel look like?
 1. **Visit > Product Viewed > Trial Signup Start > Trial Signup Complete > Login**
 2. **Visit > Product Viewed > Request Information > Form Start > Form Complete / Submitted**
 - v. What KPIs would you define for the business? **Trial Signup Rate, Request Information Rate, Total Leads, Total Trial Signups**

b. Variables

- i. What variables would you define for the pages & content of the website?

Page Name, Site Section, Site Sub Section, Video Name, Product Details

- ii. What variables would you create for the products in creative cloud?

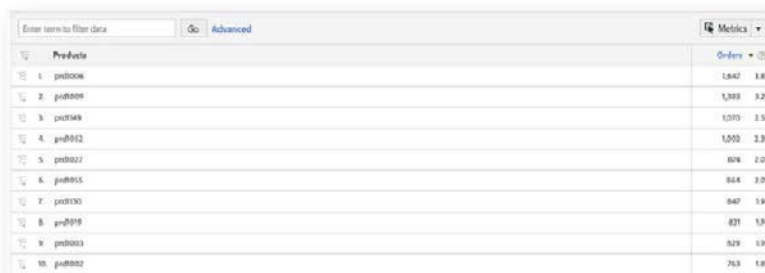
Product Name, Product Type

- iii. What other variables would you want to collect to help describe all of the metrics outlined above? **User type (paying customer, trial customer, unknown), Marketing Channel Source (Search, Social, Media, etc.)**

Chapter 4—Standard Adobe Metrics & Variables

Activity 1: Common Business Questions

- How much traffic did the website get in July 2020? **Page Views = 1,138,772, Visits = 1,428,089, Unique Visitors = 1,395,106**
- How much revenue did the website generate in:
 - July 2020 = **\$39,466,353**
 - Jan—July 2020 = **\$279,391,280**
- How many orders did the website get in February 2020? **18,280**
- What % of users are Windows-Based users vs. Any other type of user for April 2020? **Windows = 42.5%, All other = 57.5%**
- What are the top selling products of May 2020?



Product	Revenue	Percentage
1. prod006	1,847	3.8%
2. prod008	1,388	3.2%
3. prod049	1,070	2.5%
4. prod052	1,002	2.3%
5. prod022	806	2.0%
6. prod055	644	2.0%
7. prod030	647	1.9%
8. prod019	431	1.5%
9. prod003	329	1.3%
10. prod002	263	1.0%

- What 5 pages had the most Unique Visitors in January 2020?



Page	Unique Visitors
1. Home	59,672
2. purchase step 1	18,141
3. voice app launch	16,521
4. purchase step 2	14,874
5. purchase thank you	10,101

7. What % of users came from NYC, NY in April 2020?
694 Visitors out of 1,432,091 = .04%
8. What marketing campaign generated the most revenue in July 2020?
40%-80% On Earnings Extravaganza for \$11,879,787
9. What tracking code generated the most orders in July 2020?

Tracking Code	Orders	%
1. Unspecified	5,044	11.0%
2. natl_search/Values	525	1.2%
3. da 10001-b	263	0.6%
4. da 10002-b	189	0.4%
5. da 10003-b	136	0.3%
6. em 1001-s	112	0.4%
7. pdsat 1001a-b	105	0.4%
8. pdsat 1001a-b	154	0.4%
9. da 10005-b	154	0.4%
10. pdsat 1001a-b	161	0.4%

10. How many users came from mobile devices in Jan 2020? **29,777**

Device Types	Unique Visitors	%
1. Other	1,345,426	97.1%
2. Mobile Phone	29,777	2.1%
3. Tablet	4,001	0.4%
4. Gaming Console	295	0.0%
5. Set-top Box	39	0.0%
6. Media Player	31	0.0%
7. Television	4	0.0%
TOTAL	1,395,106	

Chapter 5—Analysis Workspace

Activity 1: Create a Basic Table for Product Merchandising Team

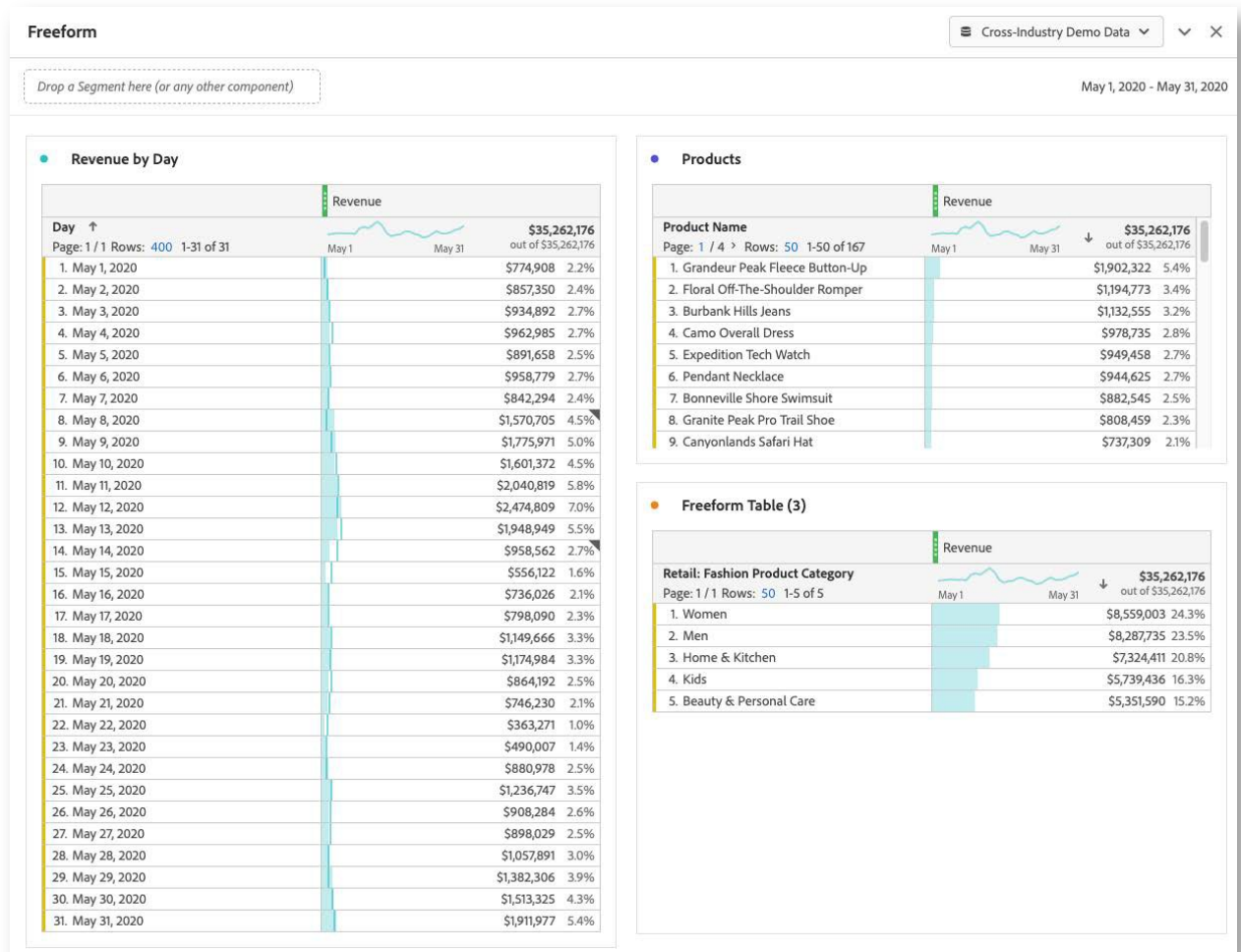
Imagine you work for a major clothing retailer and are asked to answer the following questions. This set of questions will assume the date range of May 2020.

1. How much revenue did we generate?
2. What day of the month had the most revenue? The least revenue?
3. What products contributed to that total revenue?
4. What product category sold the most products?

Steps to answer:

5. Create a freeform table with May 2020 as the date range and revenue as the metric—You should be able to answer question #1 now.

- Right Click on the revenue metric and add a trendline data visualization for revenue.
- Create a new table with products as the dimension and revenue as the metric.
- Create a 3rd table with product category as the dimension and revenue as the metric.



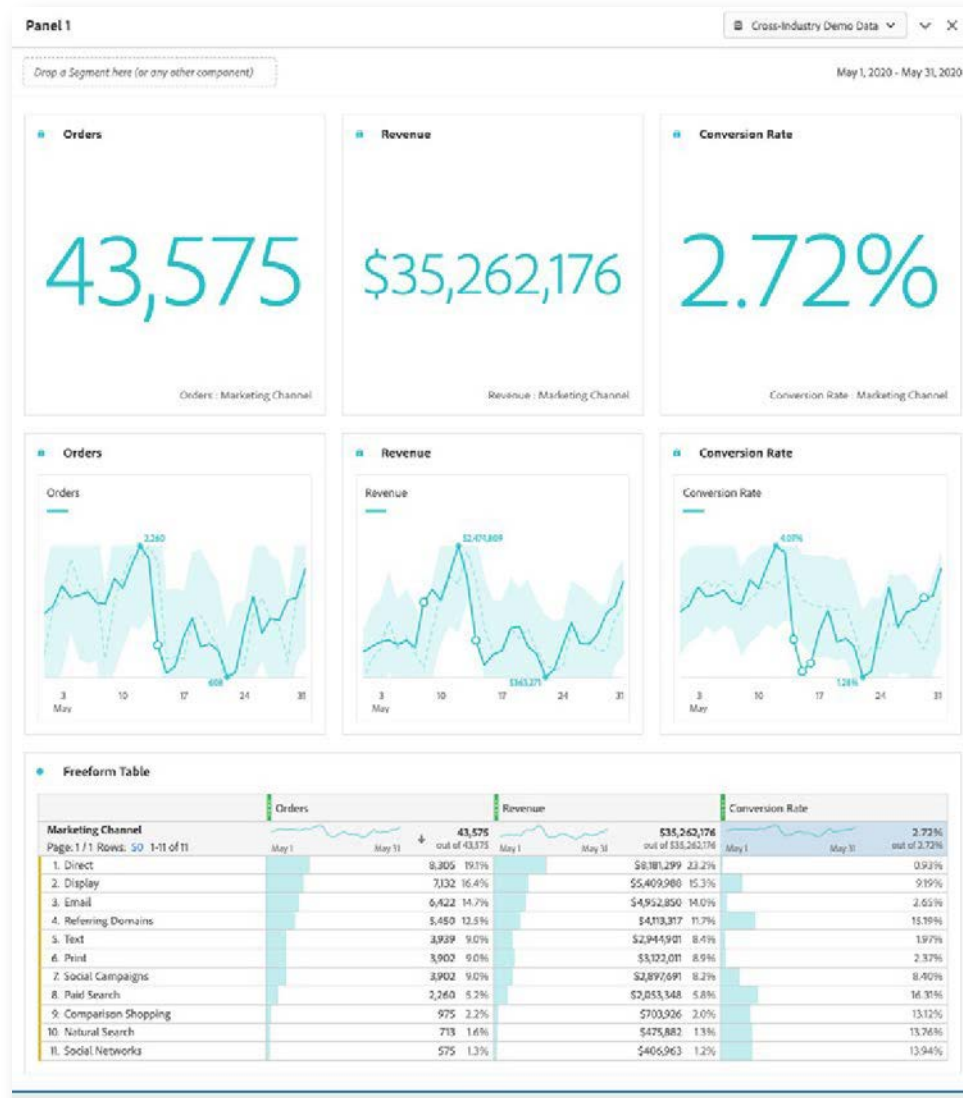
Activity 2: Create a marketing campaign dashboard

You're working for the same retailer and now asked to create a marketing dashboard for the marketing team. They want to see data about how their campaigns are performing, individual tracking codes, and have visuals that help them run this report monthly for evaluation. The date range to build this is May 2020.

PANEL 1

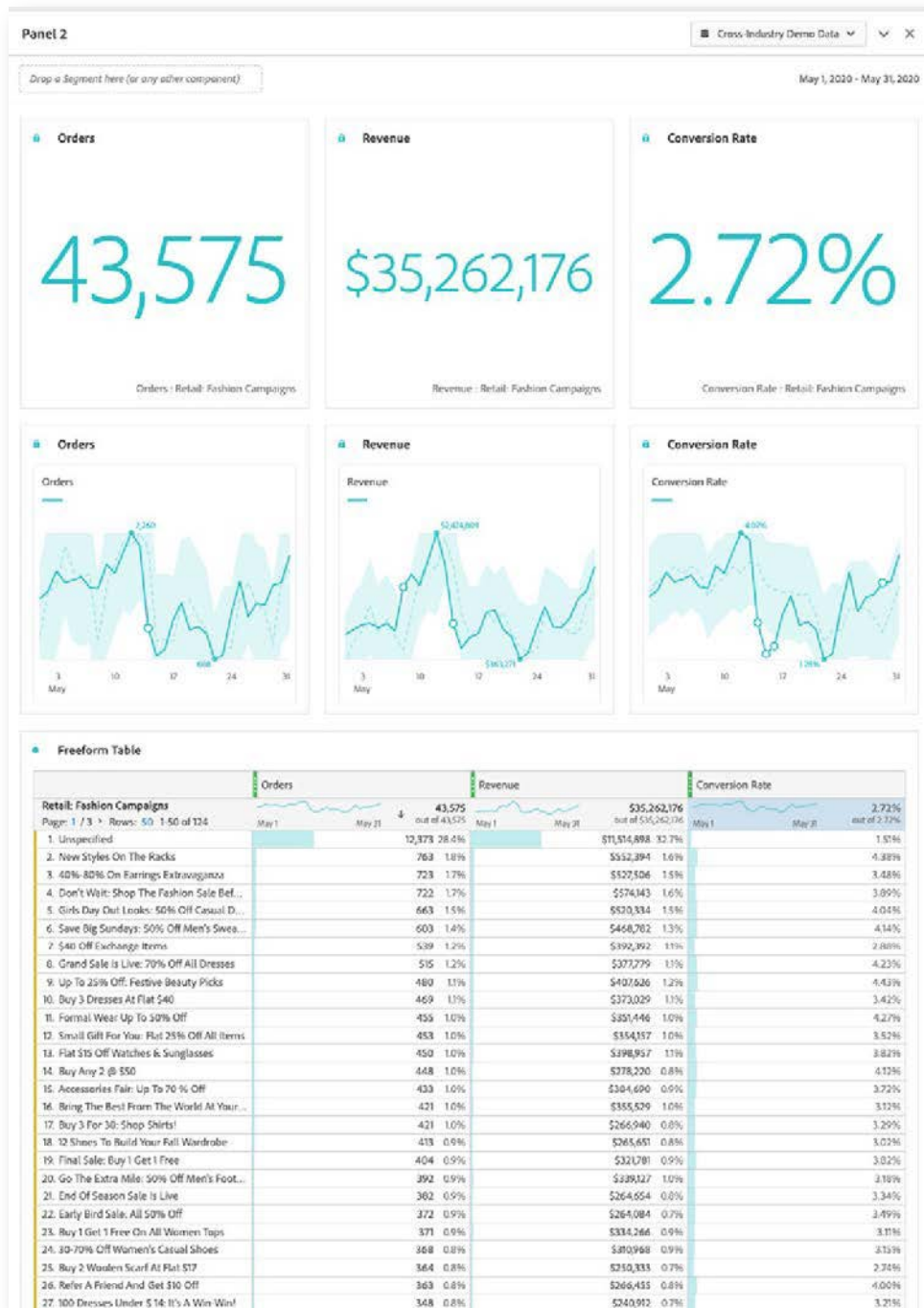
- Create a new project.
- Add a Freeform table with Marketing Channels as the dimension and the following metrics: Orders, Revenue, Conversion Rate.

3. Add 3 summary number data visualizations to show the Orders, Revenue and Conversion Rate across the top of the panels.
4. Add 3 Trendline data visuals for each of those metrics as well to highlight the daily performance of each metric.
5. Add a data visualization for this table to show a horizontal bar chart of the marketing channels to see the relative performance of each channel next to each other.



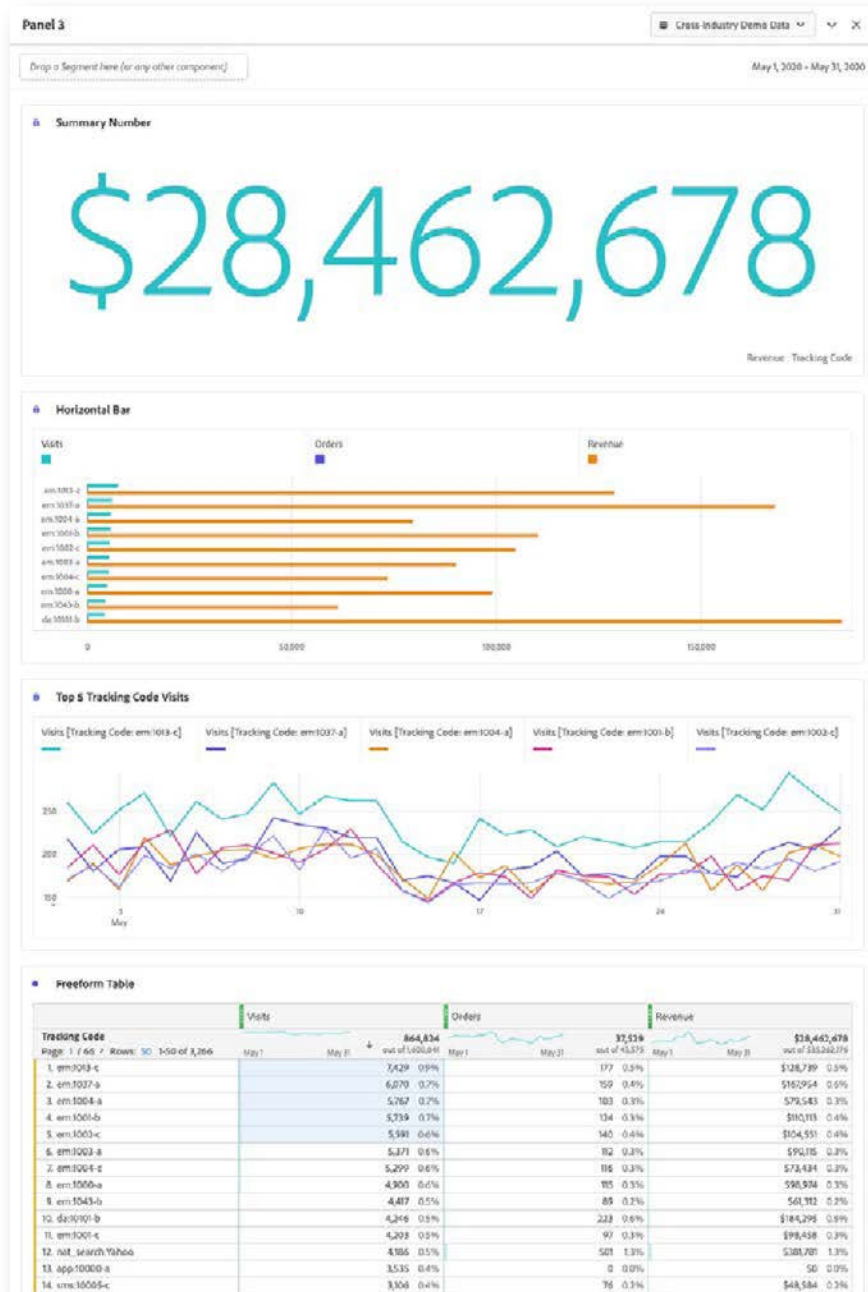
PANEL 2

1. Right click in the title bar of your first panel and click 'duplicate panel.'
2. You should have a replica panel now with all the visualizations and tables. Change the freeform table from 'marketing channel' to 'marketing campaign.'
3. This should be able to answer most questions about the campaigns.



PANEL 3

1. Add in a third panel for tracking codes.
2. Build a freeform table with Tracking codes as the dimension and visits, order and revenue as the metrics.
3. Choose 3 data visualizations to represent the data table and add them to the top of this third panel.





adobe.com/analytics/adobe-analytics.html