

# An Introductory Primer to the Google Analytics 4 Analytics Web Interface

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v 1.0.0

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## Account Setup

The URL below can be used to log into Google Analytics. Either a previously existing Google account can be used or a new one can be created through the interface.

[analytics.google.com](https://analytics.google.com)

## Google Analytics Data Structure

Google Analytics structures its data sources in a hierarchy between Properties and Streams

### **Property**

A label that represents a single conceptual data source (e.g. a promo website, an e-commerce website, or a mobile app)

### **Stream**

specific data sources (e.g. the Android version and Apple App store version of an app, or the web browser version and app version of an e-commerce store)

## Other Data Properties

### **Event**

The data recorded is referred to as an "event". An event is any user interaction on the site, for example, clicking a link, loading a page, submitting a form.

### **Attribute**

Attributes of an event can be recorded as well. These attributes are called "parameters" and include examples like below:

- the page location of a viewed page
- the title of a viewed page
- the screen resolution of someone's browser
- how long a user spent on a page

### **Metrics**

Google Analytics counts the number of similar events to create metrics, an aggregate count or calculation (sum, percentage, average, etc.) of a specific event.

### **Segment**

A label for users sharing a similar activity or characteristic.

E.g. 1: A group of users who used a promotional link on Facebook to get to the site.

E.g. 2: The group of users reported being from the United States

### **Conversion**

A conversion is the act of a user performing a particular action or set of actions. Conversions are used to represent business goals and are a measure of how successful marketing and sales efforts are (e.g. "out of users who arrived on the page through campaign link 'xyz.com', how many purchased product A?") Website user behavior analysis refers to "conversion rates", the ratio of which users perform the task in interest out of all the users that arrived on the same page or are under the same conditions (e.g. have item x in their shopping cart). Simple, predefined conversions are available for immediate use within Google Analytics, however custom conversions can be created as well.

### **Session**

A session is defined as a period of activity that begins with the user opening any page on the website property. An "engaged session" is a session that has some activity to it (as opposed to a user opening the page and doing nothing on it). Google Analytics engaged sessions as session that "lasted 10 seconds or longer, or had 1 or more conversion events or 2 or more page or screen views".

## The Google Analytics Demo Data

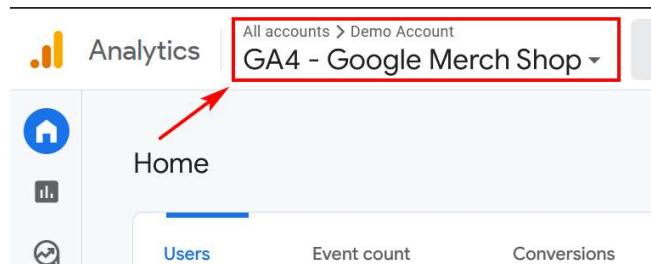
A set of demo data is available to see examples of analyses from Google Analytics. Two properties (website groups) are available to view: "Google Merch Shop" and "Flood-it!"

- "Google Merch Shop" is a demonstration of tracking customer behavior on an e-commerce website.
- "Flood-it!" is a game app. This property tracks user activity on the app.

Instructions to access the demo account are available through the URL below:

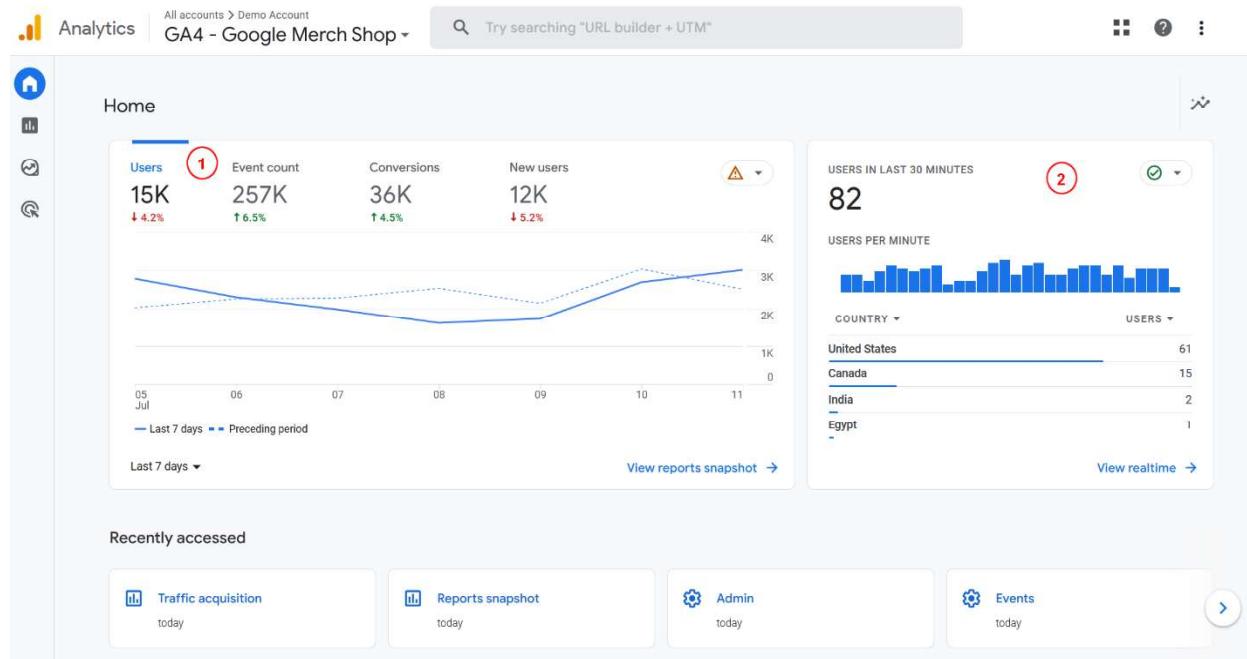
<https://support.google.com/analytics/answer/6367342>

After logging in, in order to change between the Google Merch Shop and the Flood-it! app, click on the account selector in the upper left of the interface.



# Google Analytics GUI Basics

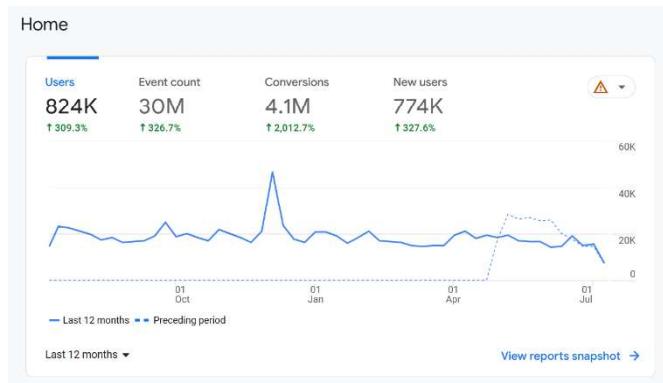
This is the homepage to the Google Analytics page:



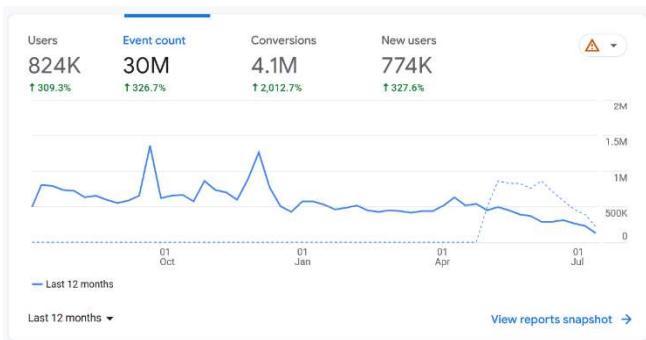
The homepage has a simple dashboard that shows high-level metrics collected across the chosen property. The example above shows the Google Merch Shop.

Chart 1 ("1" in the red circle) shows a trendline of high-level metrics. In the case above, it shows the number of users visiting the property across time.

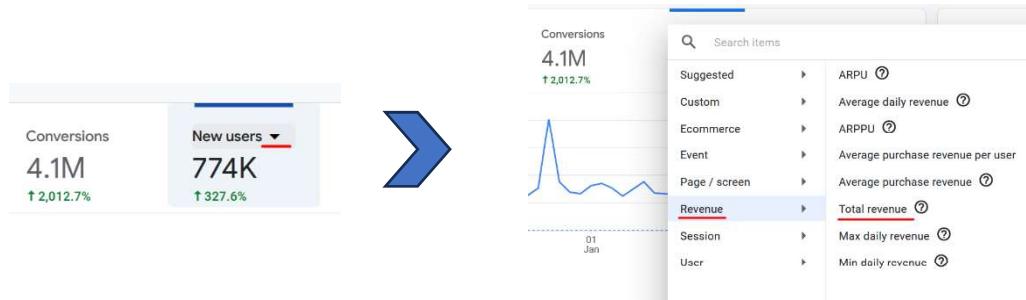
Almost all charts on the website are interactive. This chart can quickly be changed to view different time frames by clicking the current time frame (by default "Last 7 days") on the bottom left of the chart. Below shows a 1-year period to date:



The displayed metric can also be quickly changed. Clicking on "Event count" will show a trendline of all events that took place in the property over the selected period of time:



If the customer register/checkout areas of the website are configured with the GA(Google Analytics) tags, metrics on purchases and revenue are also provided. Other metrics than the four shown on the chart can be viewed by clicking on the arrow to next to a metric label, clicking on a category and then clicking on a metric. The example below changes "New users" to "Total revenue":



The resulting trendline:



Further down the page are more high-level example metrics. The ones below show internet sources and countries of origins of users, as well as the most viewed pages:



The traffic acquisitions chart (far left) shows different sources the user came from to come to a page on this property. Below are some definitions of the named sources:

- Direct: Traffic from users entering the URL directly into their browser
- Organic Search: Traffic from search engines
- Cross-network: Traffic that comes from specific Google Ads campaign:, Performance Max and Smart Shopping
- Paid Search: Traffic from paid search engine campaigns (e.g. Google Ads)
- Organic Social: Traffic that comes from a social media website
- Email: Traffic that comes from emails sent from your domain

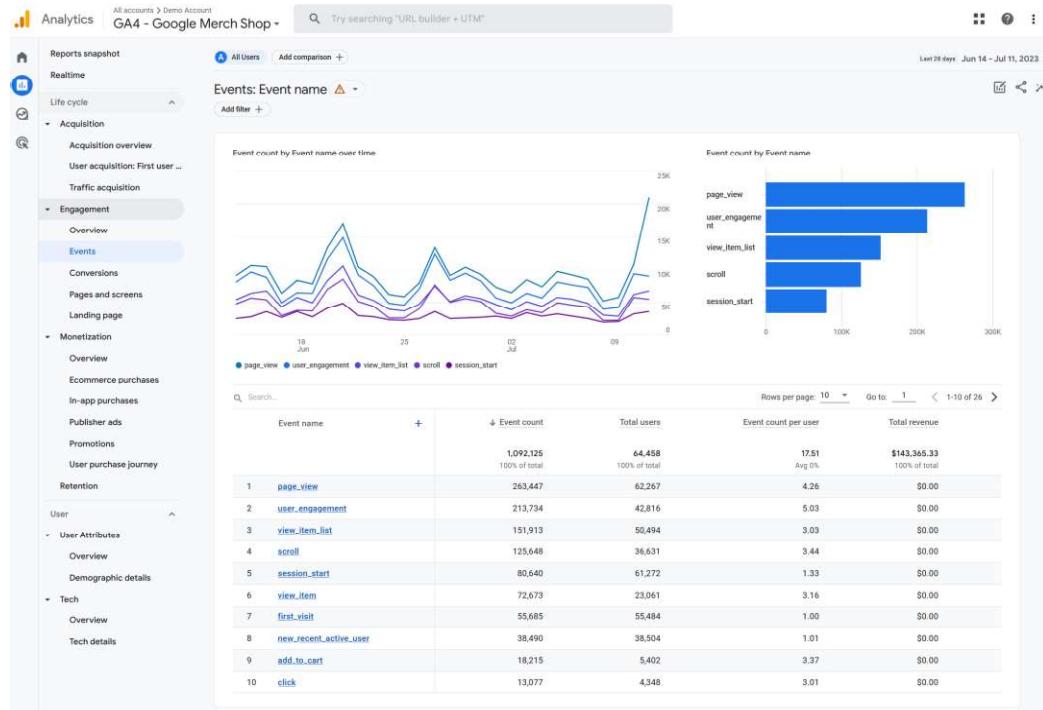
## Reports

Groups of more detailed reports that focus on specific metrics are found in the "Reports" section within the left navbar:

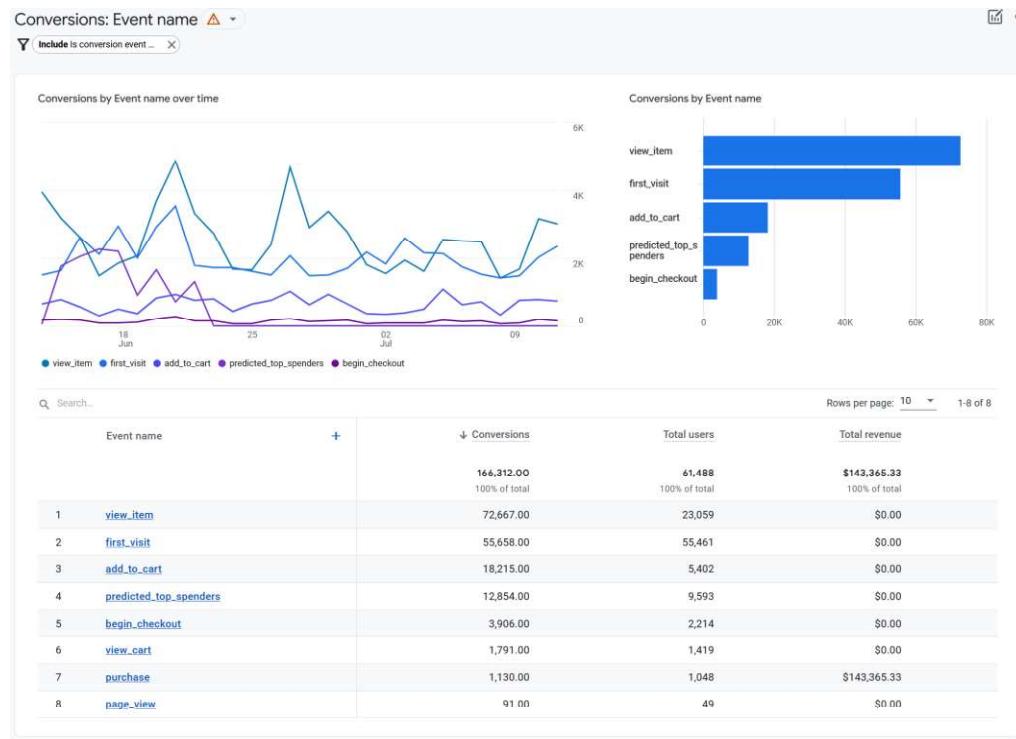
The image shows a screenshot of the Google Analytics interface. On the left, there is a navigation bar with icons for Home, Reports (which is selected and highlighted in blue), Explore, and Advertising. The main content area displays a summary card with the text "Event count 30M ↑ 326.7%". A large blue arrow points from the Reports section of the nav bar to the Reports section of the main content area. The main content area has a header "Analytics All accounts > Demo Account GA4 - Google Merch S". Below the header, there are several sections: "Reports snapshot" (with a "All" button), "Realtime", "Life cycle", "Acquisition" (with "Acquisition overview", "User acquisition: First user ...", and "Traffic acquisition"), "Engagement" (with "Overview", "Events", "Conversions", "Pages and screens", and "Landing page"), "Monetization" (with "Overview", "Ecommerce purchases", "In-app purchases", "Publisher ads", "Promotions", "User purchase journey", and "Retention"), "User" (with "User Attributes" and "Tech"), and a sidebar on the right showing "User (31) From" and "Org (you) From".

The Reports section is a quick way to view high-level metrics of common interest in web traffic analysis. Various metrics can be viewed here, including:

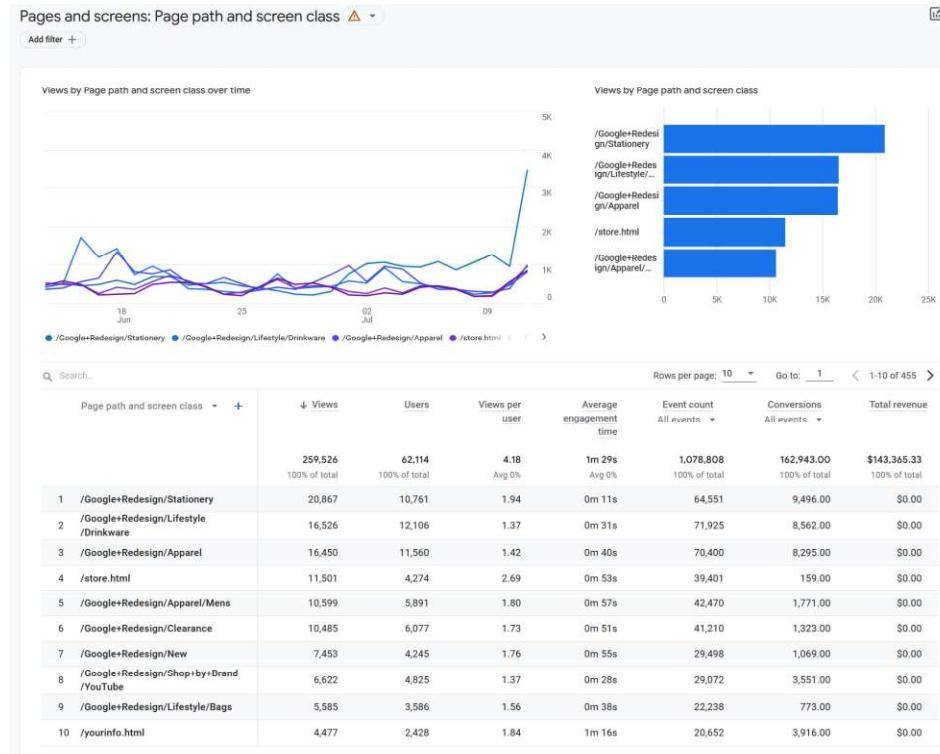
## Events:



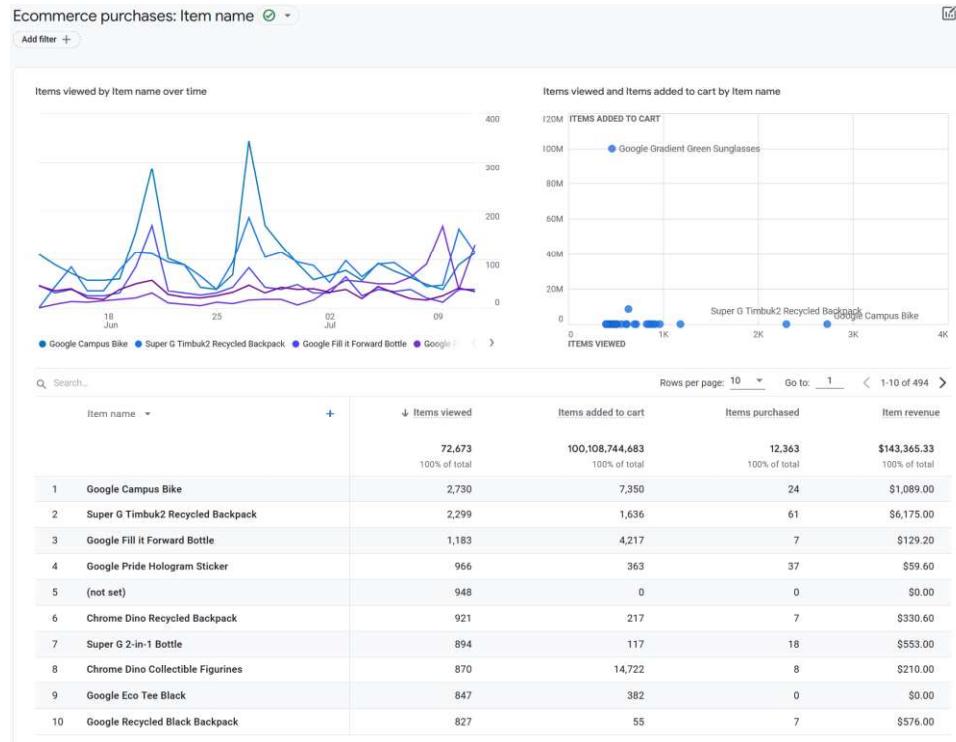
## Conversions:



## Pages viewed:



## Ecommerce purchases:

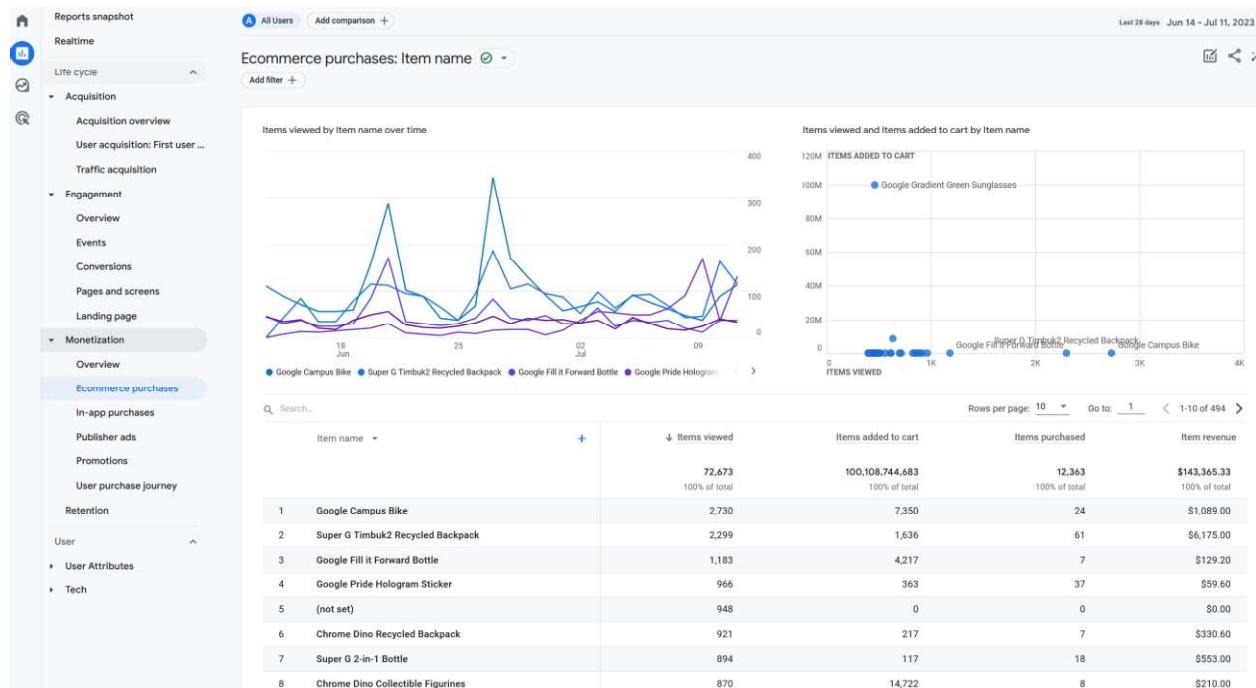


## Segmenting

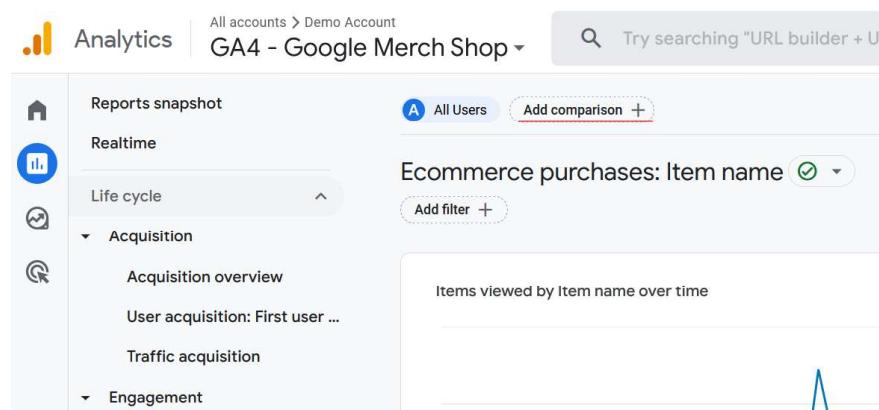
Trends between demographics can be viewed by adding "comparisons" in a report. An example might be viewing which countries account for which ecommerce purchases. Comparisons can be added with the "Add comparison" button at the top of a report page. Suppose the business question is asked, "Out of all purchases made, how many does the United States account for?"

The example below can be navigated to through the following steps:

From the left navbar > "Reports" > "Monetization" > "Ecommerce purchases"



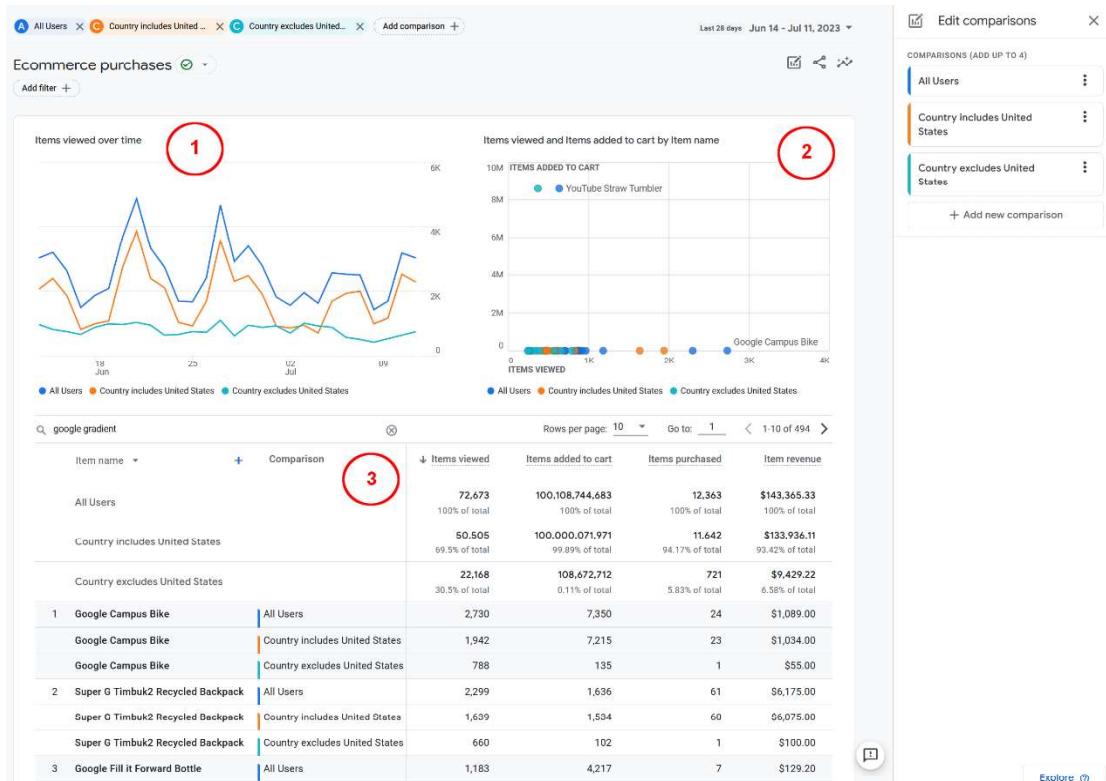
Click on "Add comparison +" at the top of the report:



A pane to the right of the report opens, where a dimension and a specific value can be chosen to filter on.

The screenshot illustrates the 'Build comparison' feature. On the left, a chart is shown with a dropdown menu open under 'Dimensions'. The menu lists 'Geography' and 'Country'. A large blue arrow points from this menu to the right pane, which displays a detailed configuration for filtering by 'Country'. The right pane is titled 'Build comparison' and shows a section for 'CONDITIONS (BUILD UP TO 5)'. It includes an 'Include' dropdown set to 'Dimension', a 'Country' dropdown, and a list of dimension values: United States (checked), Canada, India, Japan, and South Korea.

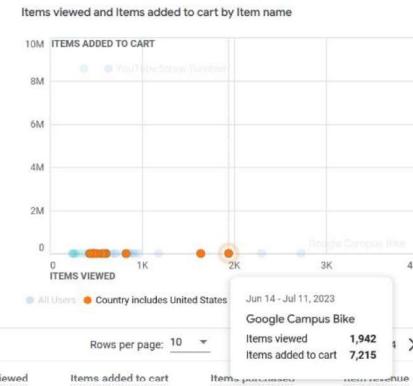
After adding 2 groups; a group that includes only purchases from the United States and a group that excludes any purchase from the United States, the charts below are produced:



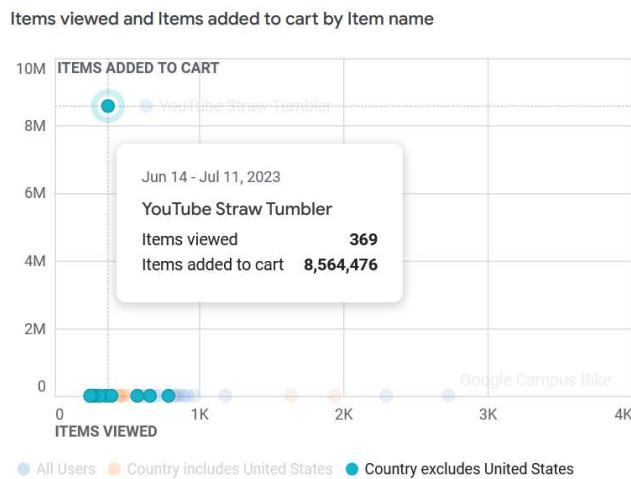
The trendline (chart 1) shows that roughly over the past month, users from the U.S. account for most of the purchases made.

The scatterplot (chart 2) shows various products with the number of times they have been viewed (the x-axis) and the number of times the item has been added into a user's cart (the y-axis). Data points that represent users from the United States are colored orange and any other countries are colored in teal. Two outliers exist on the chart:

To the right, "Google Campus Bike" has had a remarkably large number of views within one of the two groups. A mouseover of a nearby point, shows that around 2,000 of the 3,800 views are attributed to users from the United States.



The outlier at the top is the YouTube Straw Tumbler, with about 350 views, but has been added to a cart over 8 million times, remarkably more than any other item. By mousing over this data point, the chart shows that this point is attributed to a country outside of the Untied States.



A question that might come to mind after reviewing these outliers may be, "From which country are users adding the tumbler to their carts so many times?". This will be answered in the following section.

## Secondary Dimensions

It is possible to view the data in smaller groupings with the addition of comparisons. This process divides a primary dimension (e.g. an item name from the ecommerce store) into a secondary dimension (e.g. various countries). This is one approach to answering the question posited above, "From which country are users adding the tumbler to their carts so many times?"

A primary dimension can be changed in a report by clicking on the name of the primary dimension or the arrow next to it on the summary chart at the bottom of the report.

| Item name                           | Items viewed            | Items |
|-------------------------------------|-------------------------|-------|
|                                     | 72,673<br>100% of total | 100   |
| 1 Google Campus Bike                | 2,730                   |       |
| 2 Super G Timbuk2 Recycled Backpack | 2,299                   |       |
| 3 Google Fill it Forward Bottle     | 1,183                   |       |
| 4 Google Pride Hologram Sticker     | 966                     |       |
| 5 (not set)                         | 948                     |       |

Search...

- Item name
- Item ID
- Item category
- Item category 2
- Item category 3
- Item category 4
- Item category 5
- Item brand

This example will use "Item name" as the primary dimension.

To subdivide the items on the chart into separate countries for each item add a secondary dimension "Country" to the chart. This can be done by clicking on the "+" mark to the right of the primary dimension name.

| Item name                           | Items viewed            |
|-------------------------------------|-------------------------|
|                                     | 72,673<br>100% of total |
| 1 Google Campus Bike                | 2,730                   |
| 2 Super G Timbuk2 Recycled Backpack | 2,299                   |
| 3 Google Fill it Forward Bottle     | 1,183                   |
| 4 Google Pride Hologram Sticker     | 966                     |

Search...

- Item name
- Custom
- Demographics
- General
- Geography
- Page / screen
- Platform / device
- Time

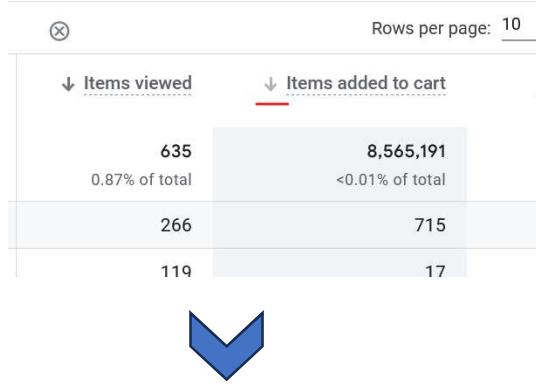
After the "Country" secondary dimension has been added, the chart will show a second column to the right of the primary dimension, representing a country for the given item.

| Item name                            | Country       | Rows per page: | 10                      | Go to:              | 1                                | <               | 1-10 of 6228            | >            |                               |
|--------------------------------------|---------------|----------------|-------------------------|---------------------|----------------------------------|-----------------|-------------------------|--------------|-------------------------------|
|                                      |               | ↓ Items viewed | 72,673<br>100% of total | Items added to cart | 100,108,744,683<br>100% of total | Items purchased | 12,363<br>100% of total | Item revenue | \$143,365.33<br>100% of total |
| 1 Google Campus Bike                 | United States |                | 1,942                   | 7,215               | 23                               | \$1,034.00      |                         |              |                               |
| 2 Super G Timbuk2 Recycled Backpack  | United States |                | 1,639                   | 1,534               | 60                               | \$6,075.00      |                         |              |                               |
| 3 Google Pride Hologram Sticker      | United States |                | 828                     | 281                 | 37                               | \$59.60         |                         |              |                               |
| 4 (not set)                          | United States |                | 716                     | 0                   | 0                                | \$0.00          |                         |              |                               |
| 5 Google Fill it Forward Bottle      | United States |                | 611                     | 4,117               | 1                                | \$15.20         |                         |              |                               |
| 6 Super G 2-in-1 Bottle              | United States |                | 611                     | 82                  | 16                               | \$483.00        |                         |              |                               |
| 7 Google Eco Tee Black               | United States |                | 582                     | 309                 | 0                                | \$0.00          |                         |              |                               |
| 8 Chrome Dino Recycled Backpack      | United States |                | 567                     | 38                  | 7                                | \$330.60        |                         |              |                               |
| 9 Google Recycled Black Backpack     | United States |                | 517                     | 28                  | 3                                | \$216.00        |                         |              |                               |
| 10 Chrome Dino Collectible Figurines | United States |                | 477                     | 14,696              | 7                                | \$186.00        |                         |              |                               |

To narrow down the items to only a specific item, enter the item name in the search bar:

| Item name |                       | Country       | Items viewed          | Items added to cart          | Rows per page: |
|-----------|-----------------------|---------------|-----------------------|------------------------------|----------------|
|           |                       |               | 635<br>0.87% of total | 8,565,191<br><0.01% of total |                |
| 1         | YouTube Straw Tumbler | United States | 266                   | 715                          |                |
| 2         | YouTube Straw Tumbler | Canada        | 119                   | 17                           |                |
| 3         | YouTube Straw Tumbler | India         | 109                   | 195                          |                |
| 4         | YouTube Straw Tumbler | South Korea   | 22                    | 5                            |                |
| 5         | YouTube Straw Tumbler | Indonesia     | 16                    | 11                           |                |

By reordering the chart to show the top values for "Items added to cart", the country with the highest values (i.e. the countries contributing most to the large count of adding the tumbler to a cart) will be displayed. This can be done by clicking on the arrow that appears when hovering over the metric label.



| Item name |                       | Country       | Items viewed          | Items added to cart          | Items purchased       | Item revenue                 | Rows per page: | Go to: | 1 | < | 1-10 of 38 > |
|-----------|-----------------------|---------------|-----------------------|------------------------------|-----------------------|------------------------------|----------------|--------|---|---|--------------|
|           |                       |               | 635<br>0.87% of total | 8,565,191<br><0.01% of total | 252<br>2.04% of total | \$2,426.40<br>1.69% of total |                |        |   |   |              |
| 1         | YouTube Straw Tumbler | Brazil        | 5                     | 8,564,201                    | 0                     | \$0.00                       |                |        |   |   |              |
| 2         | YouTube Straw Tumbler | United States | 266                   | 715                          | 252                   | \$2,426.40                   |                |        |   |   |              |
| 3         | YouTube Straw Tumbler | India         | 109                   | 195                          | 0                     | \$0.00                       |                |        |   |   |              |
| 4         | YouTube Straw Tumbler | Canada        | 119                   | 17                           | 0                     | \$0.00                       |                |        |   |   |              |
| 5         | YouTube Straw Tumbler | Indonesia     | 16                    | 11                           | 0                     | \$0.00                       |                |        |   |   |              |
| 6         | YouTube Straw Tumbler | Japan         | 8                     | 11                           | 0                     | \$0.00                       |                |        |   |   |              |
| 7         | YouTube Straw Tumbler | Mexico        | 6                     | 8                            | 0                     | \$0.00                       |                |        |   |   |              |
| 8         | YouTube Straw Tumbler | Pakistan      | 10                    | 6                            | 0                     | \$0.00                       |                |        |   |   |              |

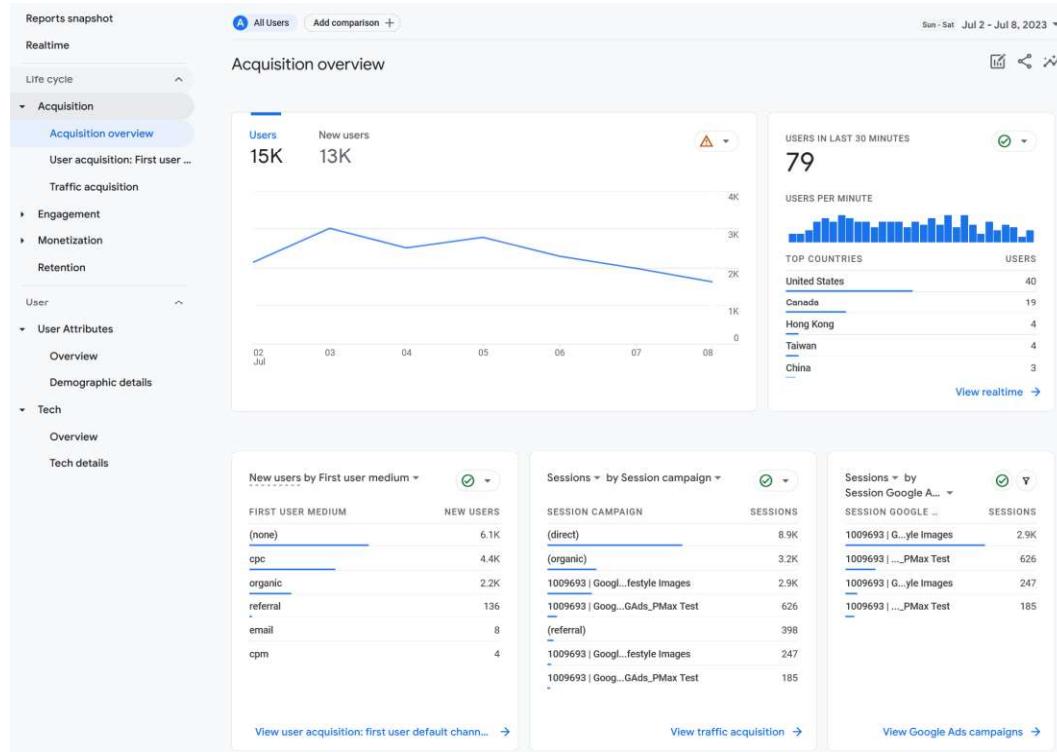
We now see in the chart that users reported as accessing from Brazil contributed to almost all the additions for the tumbler.

## User Acquisition

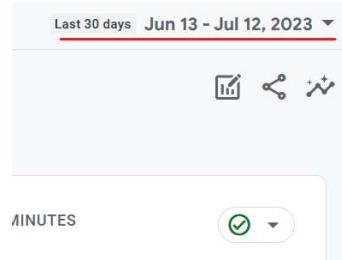
Google Analytics can help answer questions about user traffic including examples like:

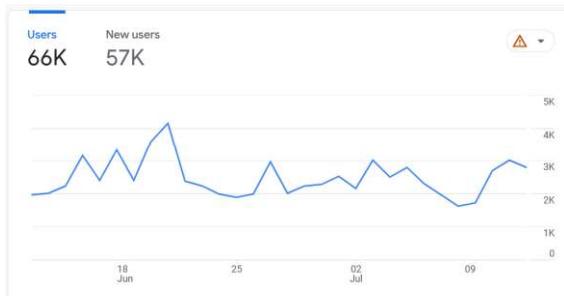
- How many users visited the site within the past month?
- How did they arrive at our website?
- How much value does each new user bring in?

Information on user acquisition can be accessed through the Acquisition subsection of the Reports section from the left navigation pane.



Change the date range on the top right of the report to see the number of users that came to the property in the past month.





A visual assessment shows users coming to the site at a steady rate of around 3,000 throughout the past 30 days.

The type of medium accessed by a user to travel to the site can be viewed under the "New users by First user medium" chart within the report:

New users by First user medium ▾

| FIRST USER MEDIUM | NEW USERS |
|-------------------|-----------|
| (none)            | 28K       |
| cpc               | 18K       |
| organic           | 10K       |
| referral          | 627       |
| email             | 253       |
| cpm               | 12        |

- cpc: "cost per click" i.e. through a paid search
- organic: clicked on a search result through a search engine
- referral: clicked on a hyperlink from another website domain

The Lifetime Value report at the bottom shows the amount of value a new user brings on average, over time.

At about 100 days, on average, a new user to the property brings in \$1.50 in value.



## Engagement reports

Core questions about users might include how they engaged with the property content or if they converted in a way that generates value. The Engagement reports provide information on user activity within the property, including the number of conversions made such as adding an item to a cart or executing a purchase. This report can be accessed through the Engagement subsection in the Reports section.

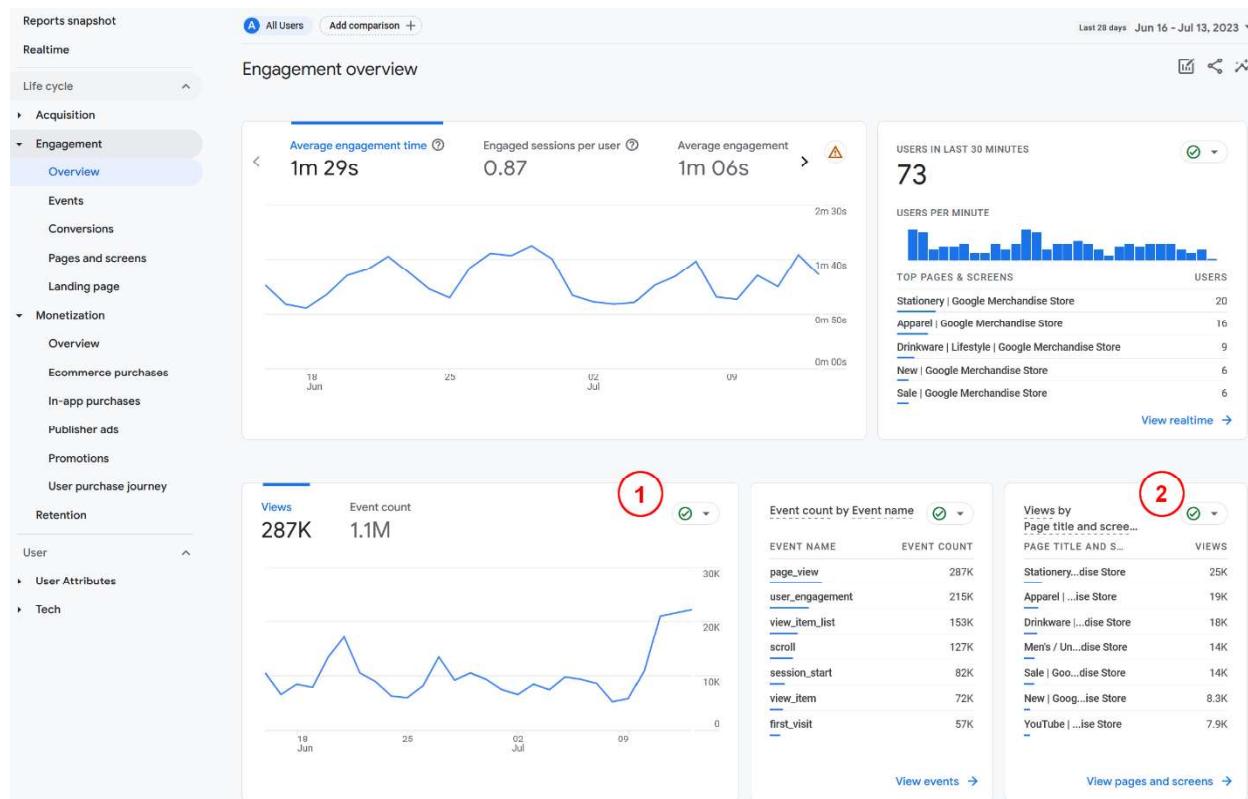
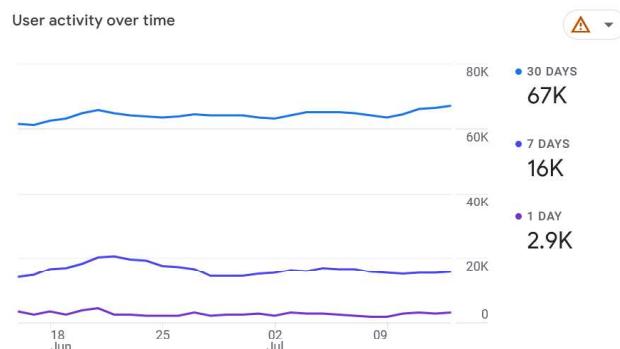


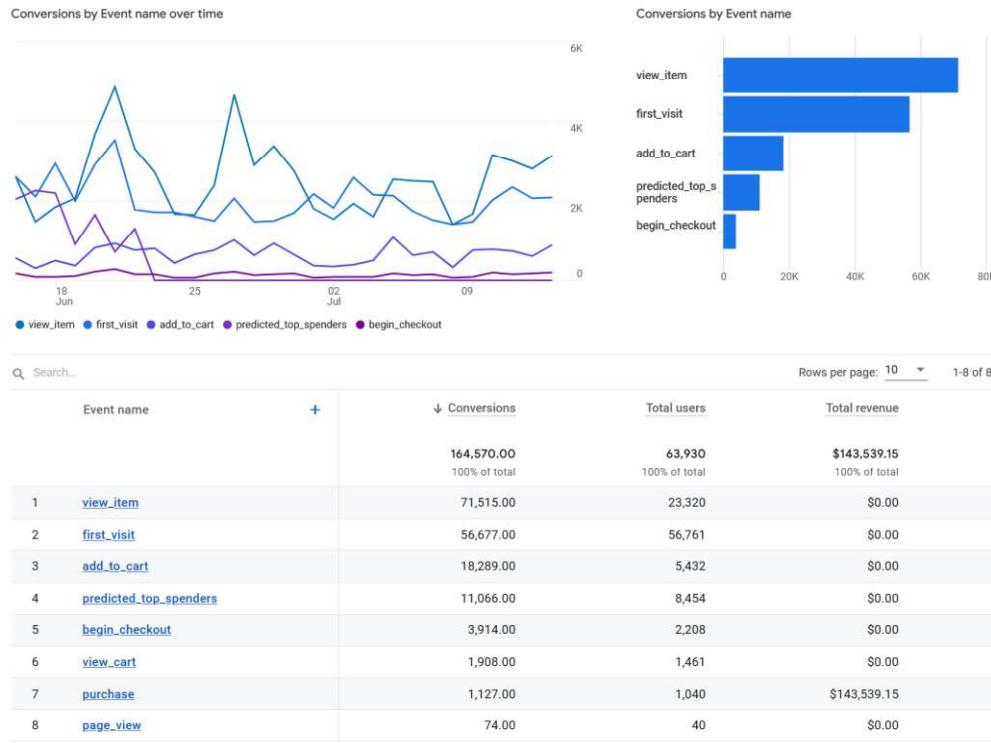
Chart 1 above shows the number of page views on the property over time, which can be used to review if any news or marketing events have had an impact in user traffic.

Chart 2 shows which pages have had the most views.

Similarly to the page views trendline (Chart 1 above), activity over time can be viewed in order to review if any spikes in user activity exist at a certain point in time.



Conversions can be reviewed in the Conversions subsection of the report, which shows a trendline of the events with the highest conversion rates. This can be analyzed similarly to the user activity trendline to see if specific events in time are affecting conversion rates of a particular action (e.g. purchases).



Selecting a single event name from the table below the trendline offers more granular information on that event, including where users came from, making it possible to identify if they followed social media or a campaign link.

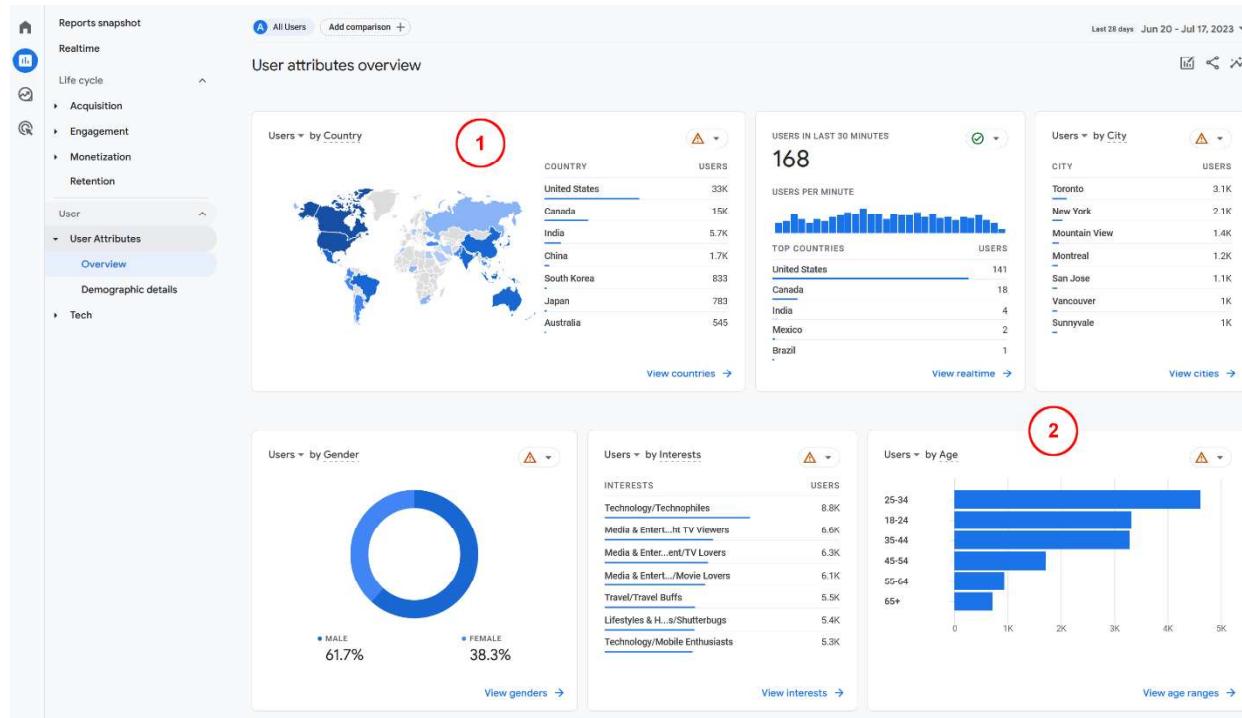
## Demographics

Demographics information about users can be viewed through the Demographics report. This report includes insight on what geographical locations of the world users are from, gender, spoken language and personal interest Google has attributed to these users. Most of this information is collected with pre-existing data associated with Google accounts and activities on Google services.

Some question to ask might be:

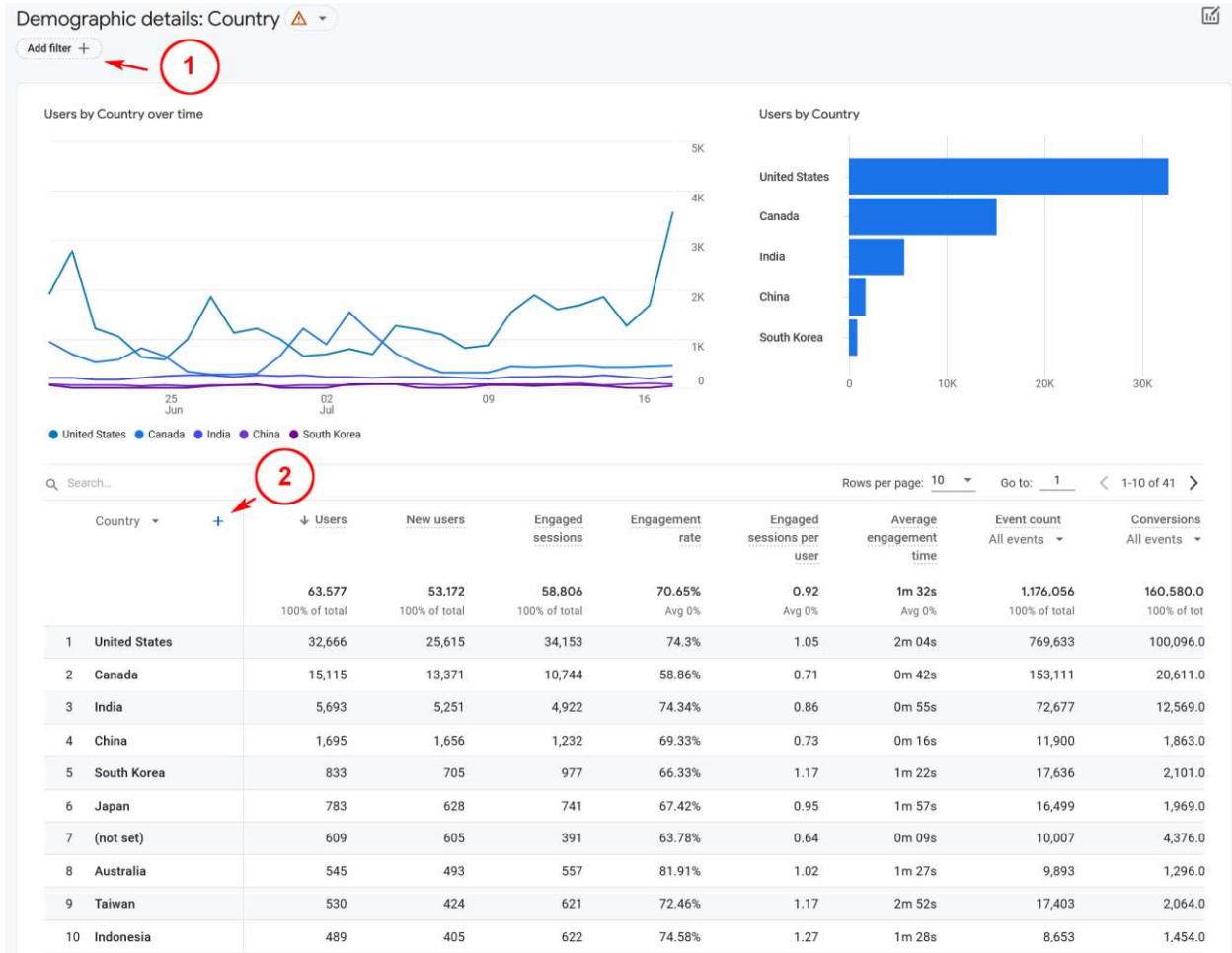
- What time of day are users from a particular region most active?
- What age group is most engaged on our website?

Below is the "User attributes overview" page and provides summary reports on some primary user attributes, such as geographic location, gender, age and interests.



A map that shows relative numbers of users between countries is provided in chart 1 above. Clicking the "View countries" link on the bottom right of the chart connects to a breakdown of countries that show several metrics.

Suppose we want to know what time of day are users from Australia most active on the website in order to synchronize real-time social media marketing events in that specific region.



First, a filter should be added to filter out other countries. This is done through the "Add filter +" button at marker 1 in the image above. Fill out "Country" and "Australia" under "Dimension" and "Dimension values" respectively in the frame that appears to the right, then click "Apply" below.

CONDITIONS (BUILD UP TO 5)

Include Dimension

Country

Dimension values

Australia

+ Add new condition

SUMMARY

Include Country = Australia

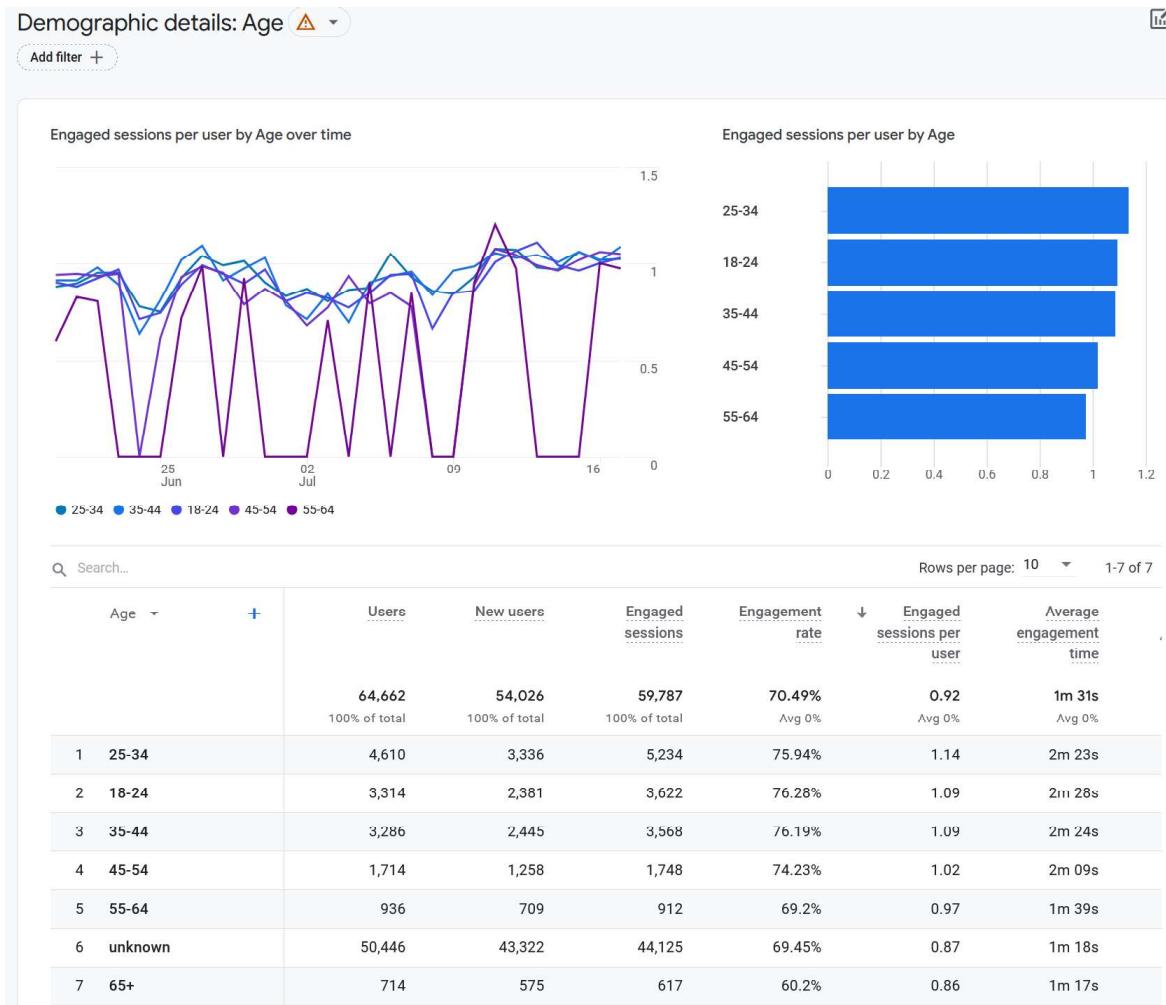
Next, segment the table at the bottom of the page to hours by adding a secondary dimension using the "+" to the right of the primary dimension name "Country" at marker 2 above.

Select "Time" then "Hour" in the menus that appear.

The chart then breaks down to show different metrics for different hours in the day. In the example below, users reported as being from Australia are most active between 10PM to 11PM in United States Pacific Daylight Time (3PM to 4PM in Australia Time).

| Country     | Hour | Users                | New users            | Engaged sessions     | Engagement rate |
|-------------|------|----------------------|----------------------|----------------------|-----------------|
|             |      | 327<br>100% of total | 274<br>100% of total | 307<br>100% of total | 80.5%<br>Avg    |
| 1 Australia | 22   | 62                   | 45                   | 51                   | 78.4            |
| 2 Australia | 23   | 52                   | 31                   | 38                   | 67.8            |
| 3 Australia | 21   | 47                   | 37                   | 35                   | 72.9            |
| 4 Australia | 0    | 45                   | 31                   | 39                   | 82.9            |
| 5 Australia | 18   | 45                   | 35                   | 37                   | 78.7            |
| 6 Australia | 3    | 44                   | 34                   | 38                   | 82.6            |
| 7 Australia | 20   | 43                   | 30                   | 33                   | 77.4            |
| 8 Australia | 17   | 41                   | 31                   | 36                   | 8               |

To answer the question "What age group is most engaged on our website?" we can review the detailed view of the "Age ranges" bar chart from the User attributes overview:



The chart at the bottom of the report can be ordered by how many engaged sessions a user in a particular age group has on average, by clicking the arrow that appears when the mouse cursor hovers over "Engaged users per session". In the example above, age groups 25-34 have the highest engaged sessions per user.

## Explorations

The reports seen in the Reports section of Google Analytics are all pre-made charts that provide a broad, high-level overview of user activity on the property. Through the Explorations section of Google Analytics, analysts can create custom charts based on the data provided by Google. This is where most analysis work will be executed on the platform.



The Explorations section can be found in the left navbar.

### Creating a simple Exploration

Below is the landing page of the Explorations section:

A screenshot of the Google Analytics Explorations landing page. At the top, it shows "Analytics", "All accounts > Demo Account", "GA4 - Google Merch Shop", and a search bar with "Try searching 'add web stream'". On the left, there's a vertical sidebar with icons for Home, Reports, Explore (selected), and Advertising. The main area has a title "Explorations" and a sub-section "Start a new exploration". It features four template cards: "Blank" (Create a new exploration), "Free form" (What insights can you uncover with custom charts and tables?), "Funnel exploration" (What user journeys can you analyze, segment, and breakdown with multi-step funnels?), and "Path exploration" (What user journeys can you uncover with tree graphs?). Below the templates is a table listing previous explorations:

| Type  | Name                     | Owner | Last modified | Property                | More |
|-------|--------------------------|-------|---------------|-------------------------|------|
| Blank | Behavior Flow Path       | Demo  | Jan 29, 2021  | GA4 - Google Merch Shop | ⋮    |
| Blank | Checkout Behavior Funnel | Demo  | Jan 29, 2021  | GA4 - Google Merch Shop | ⋮    |

An option to create a new chart, an "Exploration", is offered in the upper left of through the "Blank" label (and the thumbnail above it). To the right are a pre-made chart templates where analysts can change out metrics and dimensions as necessary. Below the templates is a list of Explorations previously made by accounts connected to this property.

Click on "Blank" to begin creation of a new exploration. The Exploration creation page below appears:

The screenshot shows the 'Variables' sidebar on the left and the 'Free form 1' tab content on the right.

**Variables Sidebar:**

- Exploration Name:** Untitled exploration
- Custom:** Jun 20 - Jul 17, 2023
- SEGMENTS:** None
- DIMENSIONS:** None
- METRICS:** None

**Tab Settings:**

- TECHNIQUE:** Free form
- VISUALIZATION:** Icons for Table, Bar chart, Line chart, Pie chart, Scatterplot, and Map.
- SEGMENT COMPARISONS:** Drop or select segment.
- ROWS:** Start row 1, Show rows 10, Nested rows No.
- COLUMNS:** Start column group 1, Show column groups 5.
- VALUES:** Drop or select metric.
- FILTERS:** Drop or select dimension or metric.

**Free form 1 Tab Content:**

No data available.

Here are some definitions of the various parts of the interface

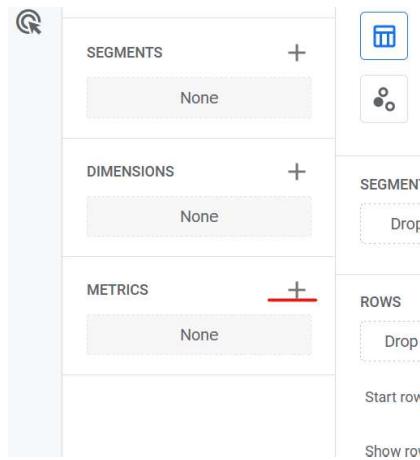
- **Exploration Name:** Enter a customized title for this Exploration here
- **"Custom":** The time period to include for the analysis
- **Segments:** Settings to filter in/out certain data
- **Dimensions:** What attributes to include in the chart
- **Metrics:** The measure to include in the chart (e.g. total number of users, total revenue amount).
- **Technique:** Enable a specific analysis technique to be used (such as Path or Funnel explorations, to be explained later)
- **Visualization:** Select from various visualizations such as table/bar chart, pie chart, line chart, scatterplot, etc.

If a table visualization is chosen, the following parameters for the table will become available in the interface to customize under the "Tab Settings" dropdown:

- Rows: Decide which dimensions will be the rows of the table
- Columns: Decide which dimensions will be the columns of the table
- Values: Decide what metrics to show on the table
- Filters: Any dimension or metric to filter

Suppose we wish to know how many active users there are in each age group, divided by which country they come from and we want to show this in a simple table.

Prepare the metric for active users by clicking the "+" to the right of "METRICS"



On the pop-up that appears, select the "User" dropdown and click "Active users", then click "Import" on the upper right.

The screenshot shows a 'Select metrics' dialog box. At the top, there are tabs for 'All' (164), 'Predefined' (163), and 'Custom' (1). Below these are dropdown menus for 'Revenue', 'Session', and 'User'. The 'User' menu is expanded, showing several options: '1-day repeat purchasers', '2-7-day repeat purchasers', '30-day paid active users', '31-90-day repeat purchasers', '7-day paid active users', '8-30-day repeat purchasers', '90-day paid active users', and 'Active users'. The 'Active users' option has a checked checkbox and is highlighted with a red border. At the bottom of the list are 'Average daily purchasers', 'Average engagement time per session', and 'DAU / MAU'. In the top right corner of the dialog box is a blue 'Import' button.

Next, prepare the dimensions. Similar to preparing the metric, click the "+" to the right of "DIMENSIONS", and select "Demographics" > "Age" and then "Geography" > "Country" in the following pop-up window and click "Import" in the upper right of the pane.

The screenshot shows the 'Select dimensions' pane with the following details:

- Header: 'Select dimensions 2 of 182 selected' and 'Search dimensions' with a magnifying glass icon.
- Buttons: 'Import' (blue), 'Collapse all', and 'Expand all compatibles'.
- Filter tabs: 'All 182' (selected), 'Predefined 167', and 'Custom 15'.
- Section: 'Custom'
  - 'Demographics':
    - Age
    - Gender
    - Interests
  - 'Ecommerce'
  - 'Event'
  - 'Gaming'
  - 'General'
- 'Geography':
  - City
  - City ID
  - Continent
  - Continent ID
  - Country
  - Country ID
  - Region
  - Region ID

Most user sessions are unable to provide an age and country of the user, possibly because they have not logged into their Google account, have disabled cookies or other various reasons. These will usually appear as "(not set)" as a metric. In order to show only users who are defined into these demographics, a Segment must be created. Segments filter in or out data from specified attributes.

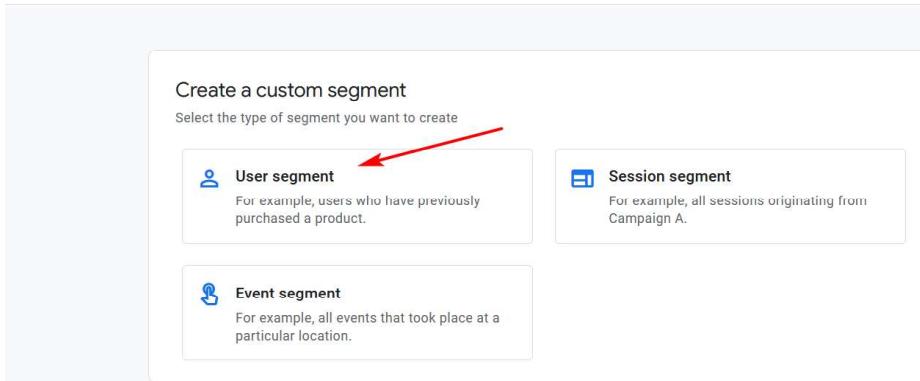
Click the "+" to the right of SEGMENTS.

The screenshot shows the 'Variables' pane with the following configuration:

- Variables**: Exploration Name: Untitled exploration.
- Segments**: A dropdown menu showing 'Custom Jun 20 - Jul 17, 2023'.
- Segments**: A section labeled 'None' with a '+' button.
- Dimensions**: A section labeled 'Age' with a '+' button.

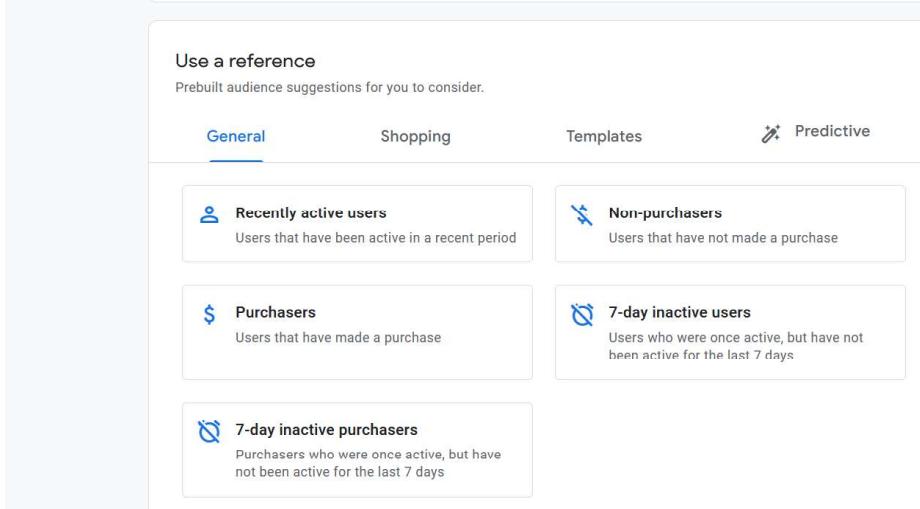
A new pop up will appear for building a Segment. To create a segment that filters users by a demographic, choose "User segment" under "Create a custom segment".

X Build new segment



Create a custom segment  
Select the type of segment you want to create

- User segment**  
For example, users who have previously purchased a product.
- Session segment**  
For example, all sessions originating from Campaign A.
- Event segment**  
For example, all events that took place at a particular location.

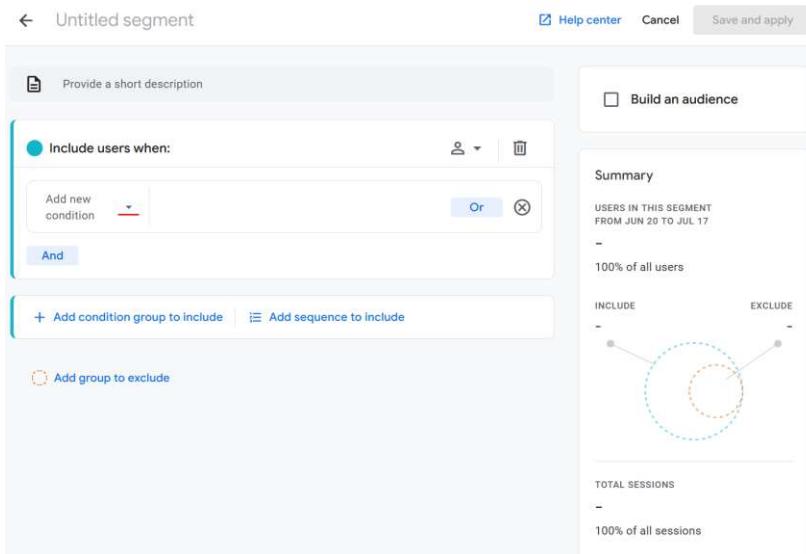
  


Use a reference  
Prebuilt audience suggestions for you to consider.

General      Shopping      Templates      Predictive

- Recently active users**  
Users that have been active in a recent period
- Non-purchasers**  
Users that have not made a purchase
- Purchasers**  
Users that have made a purchase
- 7-day inactive users**  
Users who were once active, but have not been active for the last 7 days
- 7-day inactive purchasers**  
Purchasers who were once active, but have not been active for the last 7 days

A new window appears, where analysts can customize how to filter in/out users or other data points. Add a condition to filter on by clicking on the arrow to the right of "Add a new condition"



Untitled segment      Help center      Cancel      Save and apply

Provide a short description

Include users when:

- Add new condition
- Or
- And

+ Add condition group to include    i Add sequence to include

Build an audience

Summary

USERS IN THIS SEGMENT FROM JUN 20 TO JUL 17

100% of all users

INCLUDE      EXCLUDE

TOTAL SESSIONS

100% of all sessions

To add a filter on user age, click on "Demographics" dimension and then "Age".

The screenshot shows the 'Dimensions' sidebar on the left with various categories like Attribution, Custom, Demographics, Ecommerce, Event, and Gaming. The 'Demographics' category is expanded, and the 'Age' option under it is highlighted with a blue selection bar. At the top right, there's a search bar with 'Search items' placeholder and a dropdown showing 'User-scoped' with 'Age' listed.

To ensure "(not set)" does not appear in the chart, select "+ Add filter" next to the new dimension for the Segment that appears.

The screenshot shows the 'Include users when:' section with an 'Age' filter applied. Below it, a modal window titled 'Condition\*' is open, showing 'is one of' selected. A list of age ranges is shown with checkboxes, and all boxes are checked: 18-24, 25-34, 35-44, 45-54, 55-64, and 65+.

Under "Condition" in the new window, ensure "is one of" is chosen and enter check marks into all age ranges for the possible values, then click "Apply".

The screenshot shows the 'Include users when:' section with an 'Age' filter applied. The condition dropdown shows 'is one of' with multiple age ranges selected: 18-24, 25-34, 35-44, 45-54, 55-64, and 65+.

Add another condition to remove "(not set)" for countries, by clicking "And" below the age filter:

The screenshot shows the 'Include users when:' section with an 'Age' filter applied. Below it, a new condition is being added. The 'Country' dropdown is selected, and the condition dropdown shows 'does not contain'. The value '(not set)' is selected. There is also a checkbox for 'At any point in time' which is unchecked.

Add the condition "does not contain" and "(not set)" as the value to filter out:

Name the segment in the upper left of the segment creation window and click "Save and apply" in the upper right.

The metric and dimensions just prepared can now be added to the chart. Drag the "Active users" box from "METRICS" to the box under "Values" that reads "Drop or select metric".

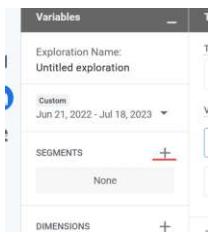
Do the same for both Dimensions and drag their boxes into "Drop or select dimension" under "ROWS".

|        | Segment             | Defined Users             | Totals                    |
|--------|---------------------|---------------------------|---------------------------|
| Age    | Country             | Active users              | Active users              |
| Totals |                     | 12,309<br>100.0% of total | 12,309<br>100.0% of total |
| 1      | 25-34 United States | 2,746                     | 2,746                     |
| 2      | 35-44 United States | 1,993                     | 1,993                     |
| 3      | 18-24 United States | 1,898                     | 1,898                     |
| 4      | 45-54 United States | 999                       | 999                       |
| 5      | 55-64 United States | 570                       | 570                       |
| 6      | 35-44 Canada        | 563                       | 563                       |
| 7      | 25-34 Canada        | 537                       | 537                       |
| 8      | 65+ United States   | 453                       | 453                       |
| 9      | 18-24 India         | 449                       | 449                       |
| 10     | 45-54 Canada        | 380                       | 380                       |

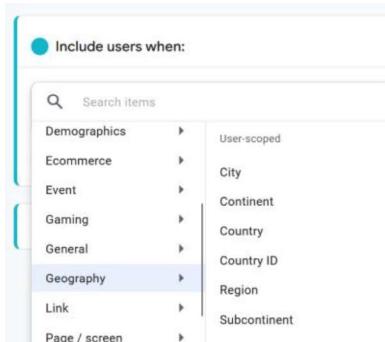
A custom created chart of the most user segments, broken down between both ages and countries, now displays in the output to the right:

Another question to answer might be "what products on our website are users from country x viewing?" The application of the value "Event count", the dimension "Page title and screen name" and the following segments create a table that shows trends for products viewed in Indonesia. Begin by selecting a blank template from the Explorations page

1. Begin from a blank exploration
2. Define the time frame (e.g. 1 year to date)
3. Create a segment to filter in only users reported as being from Indonesia:



On the "Build new segment" window, select "User segment" > "Geography" > "Country"



Name this segment "Indonesia".

4. Create a new segment to exclude most non-product pages

Create an "Event segment".

Create a custom segment  
Select the type of segment you want to create

**User segment**  
For example, users who have previously purchased a product.

**Session segment**  
For example, all sessions originating from Campaign A.

**Event segment**  
For example, all events that took place at a particular location.

Name this segment "Exclusions"

Create a condition to exclude the "Title page and screen name" with the value "(not set)".

The screenshot shows the Google Analytics Segment builder interface. On the left, a sidebar lists categories like Gaming, General, Geography, Link, Page / screen, Platform / device, Publisher, Session, Time, and Traffic source. Under 'Page / screen', 'Page title and screen name' is selected. A large blue arrow points to the right, where a detailed view of the condition configuration is shown. The condition is named 'Page title and screen name' and uses the operator 'does not contain' with the value '(not set)'. Below this, there is an 'And' button and a '+ Add condition group' link.

Use the "And" button at the bottom left of the condition to add another condition.

This screenshot shows the same Segment builder interface after adding a second condition. The first condition is 'Page title and screen name does not contain (not set)'. A blue arrow points to the 'And' button, which has been clicked, creating a new row for a second condition. The second condition is also 'Page title and screen name does not contain (not set)'. It includes an 'AND' button, an 'Add new condition' dropdown, and a '+ Add condition group to include' link.

Add conditions similarly to the first condition to match the following example:

This screenshot displays a highly complex segment configuration. It starts with a single condition 'Page title and screen name does not contain (not set)'. This is followed by three nested 'AND' groups, each containing a condition 'Page title and screen name does not contain' followed by specific values: 'Google Merchandise Store', 'Shopping Cart', and 'Home'. Each of these three conditions has its own 'Or' button and 'X' close icon. A final 'And' button is located at the bottom of the segment definition.

\* Note that the conditional on "Home" is "does not exactly match".

5. Add the "Page title and screen name" dimension under the "DIMENSIONS" variable
6. Add the "Event count" metric under the "METRICS" variable
7. Drag/drop all variable blocks to their appropriate tab settings

| Variables                                 | Tab Settings   |
|---|--|
| Exploration Name:<br>Product by Country   | <b>SEGMENT COMPARISONS</b><br>Indonesia<br>Exclusions<br>Drop or select segment  |
| Custom<br>Jun 21, 2022 - Jul 18, 2023     | Pivot<br>First column  |
| SEGMENTS<br>+<br>Indonesia<br>Exclusions  | <b>ROWS</b><br>Page title and scre...<br>Drop or select dimension<br>Start row 1<br>Show rows 50<br>Nested rows No                       |
| DIMENSIONS<br>+<br>Page title and scre... | <b>COLUMNS</b><br>Drop or select dimension<br>Start column group 1<br>Show column groups 5   |
| METRICS<br>+<br>Event count               | <b>VALUES</b><br>Event count<br>Drop or select metric<br>Cell type Bar ch...<br><br><b>FILTERS</b><br>Drop or select dimension or metric |

## 8. Change "Show rows" to 50 to display more results

Following these settings results in the table below:

| Segment                              | Exclusions                          | Indonesia                        | Totals                            |
|--------------------------------------|-------------------------------------|----------------------------------|-----------------------------------|
| Page title and screen name           | Event count                         | Event count                      | ↓ Event count                     |
| <b>Totals</b>                        | <b>7,130,442</b><br>98.53% of total | <b>106,675</b><br>1.47% of total | <b>7,237,117</b><br>100% of total |
| 1 Google Online Store                | 513,696                             | 1,624                            | 515,320                           |
| 2 Store search results               | 487,263                             | 3,524                            | 490,787                           |
| 3 Checkout Your Information          | 417,394                             | 477                              | 417,871                           |
| 4 Lifestyle                          | 317,648                             | 1,002                            | 318,650                           |
| 5 Payment Method                     | 219,963                             | 6                                | 219,969                           |
| 6 Page Unavailable                   | 146,863                             | 593                              | 147,456                           |
| 7 Pixel Superfans                    | 116,162                             | 164                              | 116,326                           |
| 8 Checkout Confirmation              | 97,636                              | 0                                | 97,636                            |
| 9 家                                  | 82,135                              | 10                               | 82,145                            |
| 10 Google Campus Bike                | 77,300                              | 245                              | 77,545                            |
| 11 Chrome Dino Collectible Figurines | 73,300                              | 1,002                            | 74,302                            |
| 12 Google Unisex Eco Tee Black       | 62,151                              | 947                              | 63,098                            |
| 13 Google RIPL Ocean Blue Bottle     | 49,562                              | 190                              | 49,752                            |
| 14 Chrome Dino Dark Mode Collectible | 46,109                              | 258                              | 46,367                            |
| 15 Google Adventure Backpack Black   | 44,547                              | 187                              | 44,734                            |
| 16 Frequently Asked Questions        | 42,888                              | 184                              | 43,072                            |
| 17 Home                              | 0                                   | 43,029                           | 43,029                            |
| 18 Google Cloud Journal              | 42,540                              | 29                               | 42,569                            |

first product appears at result 10, the Google Campus Bike.

There are several pages that are not products within results 1-9, and can be quickly filtered out by right-clicking on the page name and selecting "Exclude selection". These will be added as entries in the "FILTERS" section under the "Tab Settings".

| Segment                     | Exclusions             | Indonesia | Totals |
|-----------------------------|------------------------|-----------|--------|
| 1 Google Online Store       | 7,130,4<br>98.53% of t |           |        |
| 2 Store search results      |                        |           |        |
| 3 Checkout Your Information |                        |           |        |
| 4 Lifestyle                 |                        |           |        |
| 5 Payment Method            |                        |           |        |
| 6 Page Unavailable          |                        |           |        |

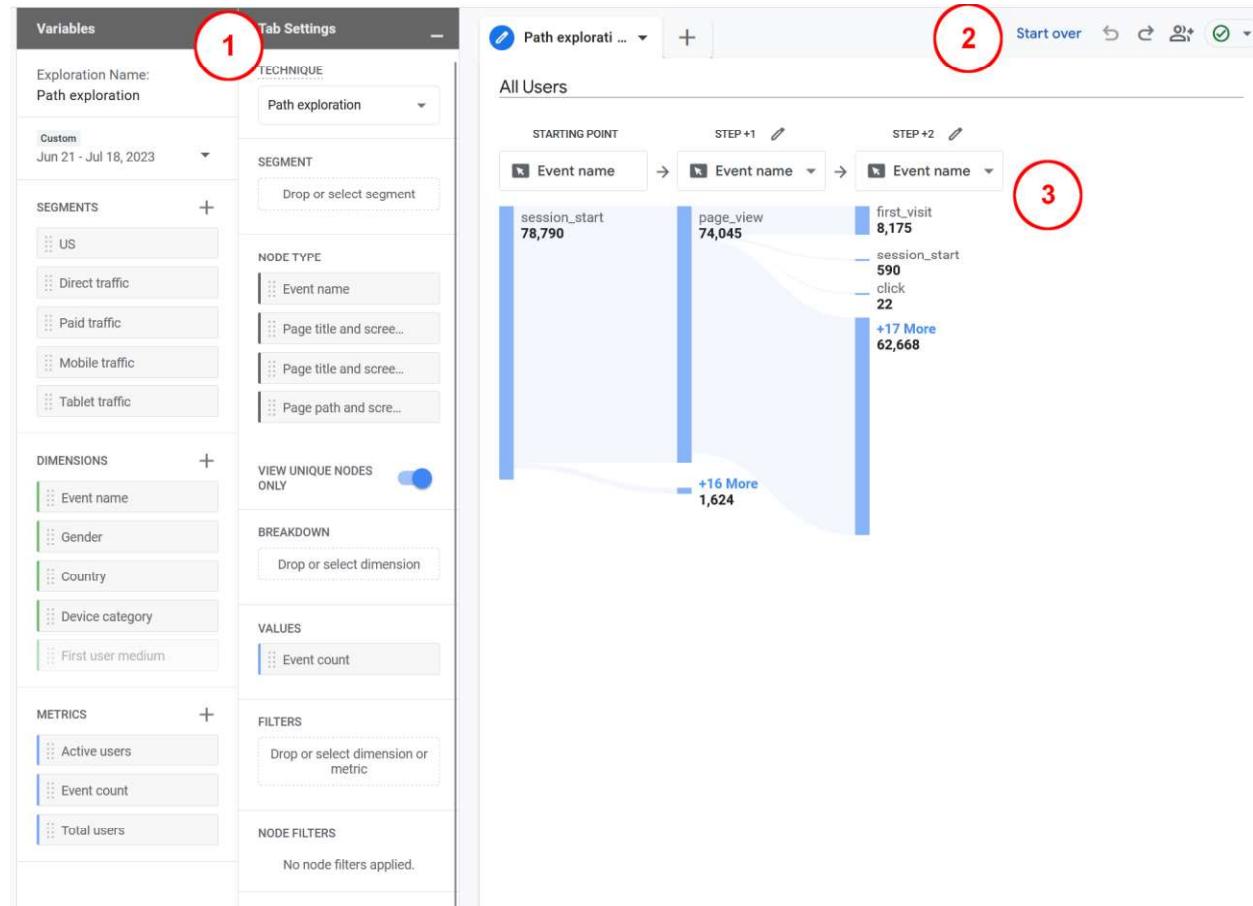
## Path Explorations

A path analysis visualizes how population sizes break down between actions users have taken on the website. This type of analysis is primarily exploratory, designed to explore currently unknown user behavior: "Considering start point A, where do users go?"

An example exists on the Explorations landing page. Click the thumbnail above "Path Exploration" to view the example.

The screenshot shows the 'Explorations' interface. At the top, there's a search bar and filters for 'Type', 'Name', 'Owner', 'Last modified', and 'Property'. Below the search bar, there are four thumbnails: 'Blank', 'Free form', 'Formal exploration', and 'Path exploration'. The 'Path exploration' thumbnail is highlighted with a red box. The main area displays a table with columns for 'Type', 'Name', 'Owner', 'Last modified', and 'Property'.

The example Path exploration opens:

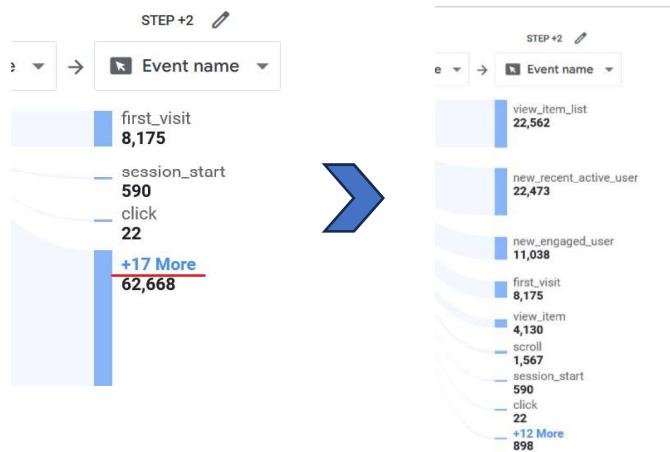


Options to customize dimensions and metrics are available in the columns to the left of the interface ("1" in the image above) under the "Variables" and "Tab Settings" drop downs.

Navigation options related to customizing the chart are available in the upper right of the canvas ("2" in the image above):

- Start over: Removes all steps, dimensions and metrics in order to build a new chart from scratch
- Left/Right curved arrows: Undo/Redo customization step or expansion of groups

The chart itself is to the right of the interface ("3" in the image above). The graphic is arranged into columns, called "nodes", representing different events the user takes. The nodes start with the session\_start event, a label for the start of any user session, and continue on to the next two steps users may have taken, labeled "STEP +1" and "STEP +2". The graphics below these labels represent groups of the population from the previous step, separated by which event took place for that user. Some group labels may be hidden to save space on the canvas and can be expanded by clicking "+## More".



Suppose we wish to explore what pages users start a session on and where they go in the first few page views.

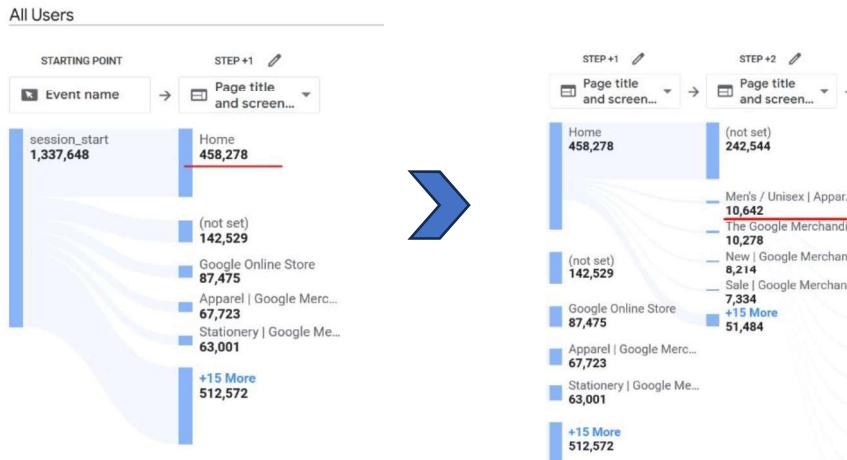
First, set the time frame to capture more data points (a timespan of a year is used in this example). This can be done by clicking on the time frame within the Variables drop down.

| Variables                             | Tab        |
|---------------------------------------|------------|
| Exploration Name:<br>Path exploration | TECI<br>Pa |
| Custom<br>Jun 21, 2022 - Jul 18, 2023 | SEGI       |
| SEGMENTS<br>+<br>US                   | NOD        |

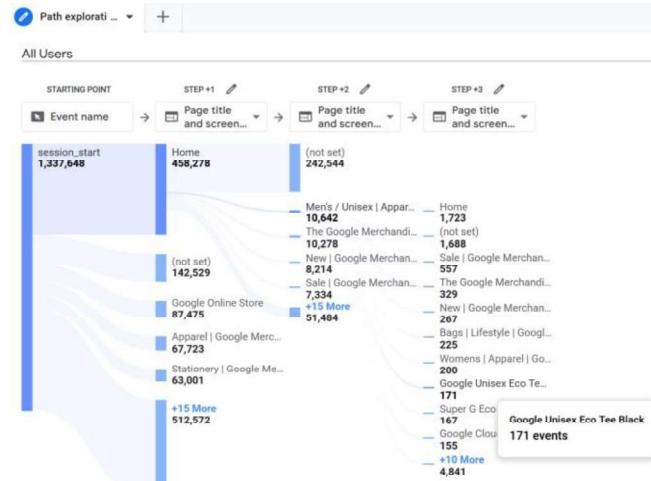
Next, change the node type under STEP +1 from "Event name" to "Page title and screen class" by clicking on "Event name" under "Step +1".



The Path exploration chart then changes to show the pages that users start their session on. Many users are starting on the Home page of the store. Clicking on this node will break down all these users to the next pages they navigate to.



We see the first defined page is the "Men's / Unisex" category page of the store, implying many users might be interested in purchasing men's shirts. We might be curious if anyone viewed a particular item page at this point. After clicking "+## More" to expand the list, we see that the product page viewers viewed most after coming to the home screen is the "Google Unisex Eco Tee Black" product.



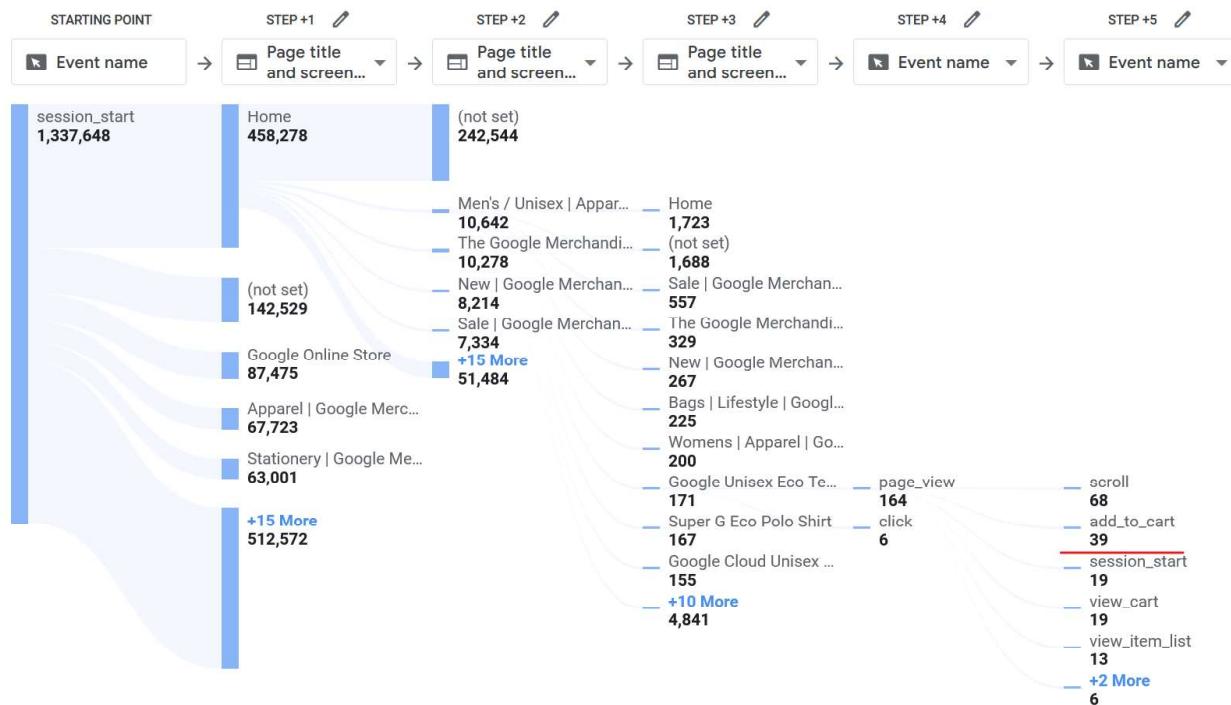
At this point we might be curious how many users added this product to their cart. Clicking on the page will expand the chart to the next node, "STEP +4". Change the node type from "Page title and screen class" to "Event name". Then click on the "page\_view" event to see what actions users make after the page has been loaded.



|                             | Home  | 1,723     |
|-----------------------------|-------|-----------|
| (not set)                   | 1,688 |           |
| Sale   Google Merchand...   | 557   |           |
| The Google Merchandi...     | 329   |           |
| New   Google Merchan...     | 267   |           |
| Bags   Lifestyle   Googl... | 225   |           |
| Womens   Apparel   Go...    | 200   |           |
| Google Unisex Eco Te...     | 171   | page_view |
| Super G Eco Polo Shirt      | 167   | click     |
| Google Cloud Unisex ...     | 155   | 6         |



#### All Users

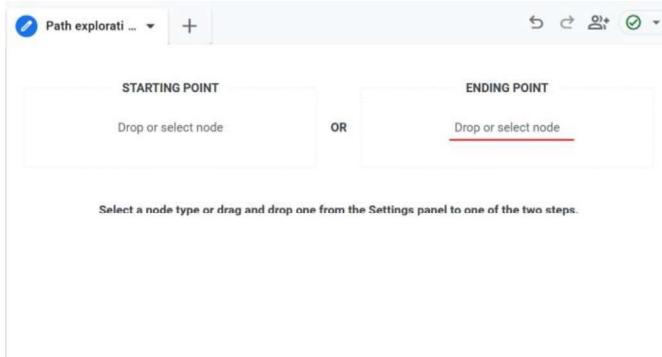


The analysis shows that 39 users have added the product to their cart. We have now explored one possible path users take on the website, from moving from the home page, seeing which product is viewed most from there and how many people end up adding it to their cart.

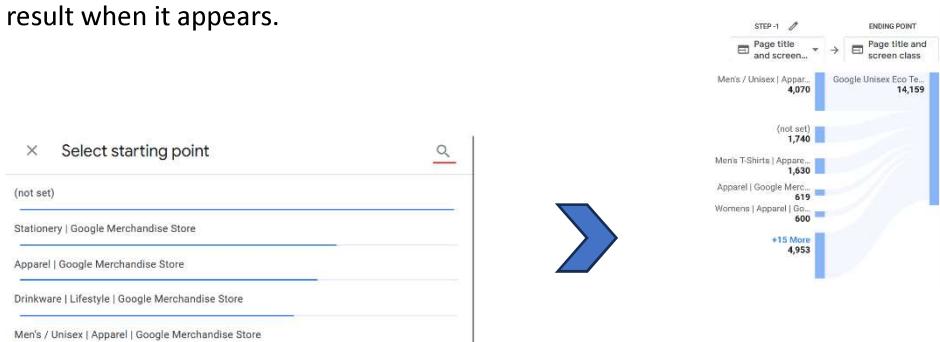
## Reverse pathing

Reverse path analysis is another useful technique to see user behavior. As opposed to the previous pathing analysis example, reverse path analysis begins from the end of a path of user events and from there origin points of possible paths are explored.

Click "Start over" on the path exploration interface to clear the canvas.

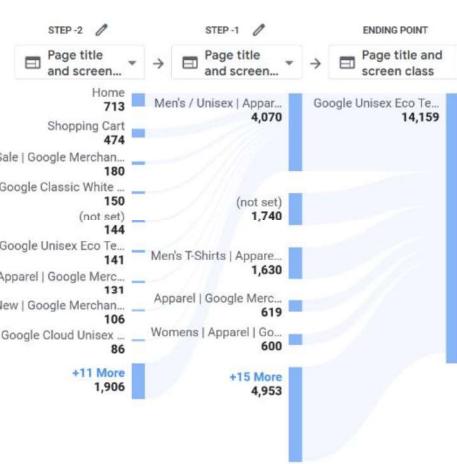


The canvas will clear, giving options to begin the exploration from the beginning of a path or the end of a path. Click on "Drop or select node" under "ENDING POINT" and select "Page and screen class". A window pane appears to select the page to serve as an ending point of a user path. Suppose we are curious where users come from who view the product "Google Unisex Eco Tee Black". Click on the search icon in the upper right of the pane, enter the product name into the prompt and click on the search result when it appears.



We now see 4k of those users have arrived from the "Men's / Unisex" apparel page. Clicking on this node will expand the path to their page previous to the "Men's / Unisex" apparel page.

The resulting chart shows that most users reach the product page, moving directly from the home screen to the Men's / Unisex category page. Many others continue browsing into the Men's / Unisex category page after viewing their cart.



## Funnel Explorations

A funnel analysis is used in understanding how well business goals are reached. They are visualizations of how many users successfully convert after a series of events.

While path analysis is an exploratory analysis that asks "If users start at point A, where do they go?", funnel analysis focuses on reviewing the efficacy of a path, asking "how successful are we in getting users to get from point A to point B?"

An example funnel analysis is provided in the Explorations homepage through the thumbnail above "Funnel exploration".

The example template shows the percentages of users between steps taken from first visiting the web property to making a purchase.



Out of 17k who visit the site, about 70% begin a session. Out of those who begin a session, 97.5% successfully load a page. From those who loaded a page, 1.5% make a purchase.

Suppose we wish to know "out of all users who view the sale page, how many make a purchase?"

Begin with the example template and edit the steps to the funnel, clicking on the pen next to "STEPS" under the "Tab Settings" section.

The screenshot shows the "Tab Settings" panel with the following configuration:

- Exploration Name:** Funnel
- Custom Date Range:** Jun 22 - Jul 19, 2023
- SEGMENTS:** US, Direct traffic, Paid traffic, Mobile traffic, Tablet traffic
- MADE OPEN FUNNEL:** Off
- SEGMENT COMPARISONS:** Drop or select segment
- STEPS:** First open/visit, Session start

The "Edit funnel steps" panel opens, showing all the steps to the funnel and options to edit them. Remove all the current steps by clicking on the menu icon to the upper right of each step and selecting "Remove step".

The screenshot shows the 'Edit funnel steps' interface. It displays two funnel steps: Step 1 (First open/visit) and Step 2 (Session start). Step 1 has conditions: 'first\_open' and 'first\_visit'. Step 2 has a condition: 'session\_start'. A context menu is open over Step 1, with the 'Remove step' option highlighted. The summary on the right indicates 'THIS FUNNEL 21 TO JUL 18' for 'all users', with 'TOTAL EVENTS 553' (0.05% of all events).

The interface will have a single new, undefined step:

The screenshot shows the 'Edit funnel steps' interface with a single step titled 'New Step'. A context menu is open over this step, with the 'Remove step' option highlighted. The interface also includes an 'Add step' button.

Change the title of the step to "Sale page".

In order to define the start of the funnel as the sale page, add a condition by clicking on "Add new condition". Click on "Events" and then "Page title and screen class" on the following window.

1 Step 1 New Step

Search items

|                   |   |
|-------------------|---|
| Gaming            | Page path + query string and screen class |
| General           | Page path and screen class                |
| Geography         | Page referrer                             |
| Link              | Page title                                |
| Page / screen     | Page title and screen class               |
| Platform / device | Page title and screen name                |
| Publisher         | Session-scoped                            |
| Session           | Landing page + query string               |
| Time              | Other                                     |
| Traffic source    | Content group                             |

Add a filter to filter in only users who land on the sale page.

1 Step 1 New Step

Page title and screen class

+ Add filter

And

Ensure the condition is "contains" and search for "sale" in the box below. Select "Sale | Google Merchandise Store" from the search results.

1 Step 1 New Step

Page title and screen class

Condition\*

contains

sale

Sale | Google Merchandise Store

Sale | Sale-Accessories

And

Add step

Add a second step for displaying an item page, with the condition "item\_views" under the "Events" category. Add a third step for adding items to a user's cart with the condition "add\_to\_cart" under the "Events" category. Below is what the resulting settings will end up as:

**Edit funnel steps**

Help center **Apply**

**Step 1** Sale page

Page title and screen class contains Sale | Google Merchandise Store

**And**

is indirectly followed by

**Step 2** Item view

view\_item

**And**

is indirectly followed by

**Step 3** Add to cart

add\_to\_cart

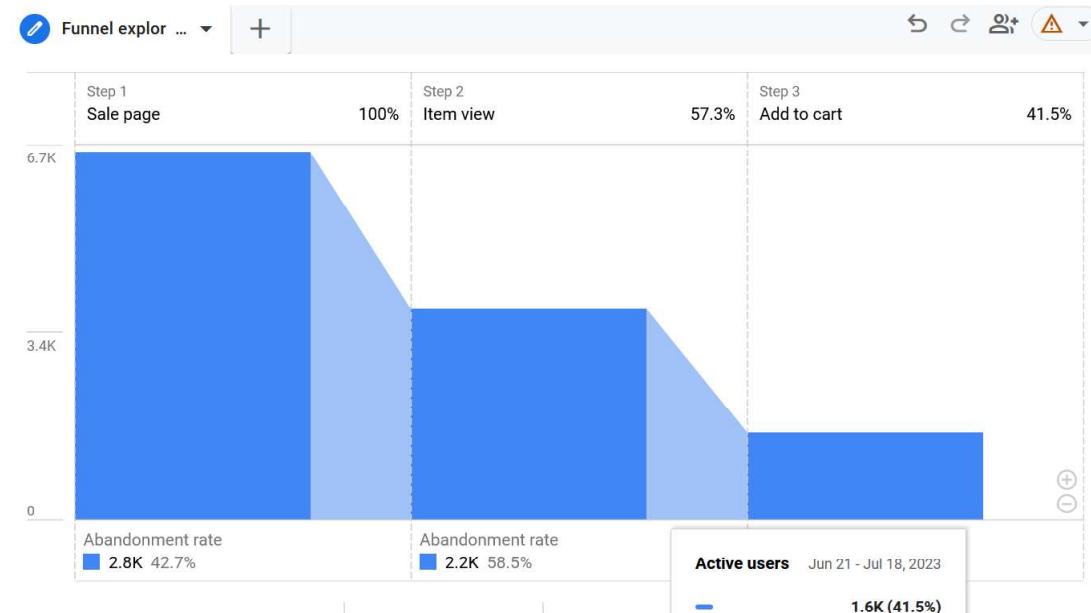
**Add step**

**Summary**

USERS IN THIS FUNNEL FROM JUN 21 TO JUL 18  
1.6K  
2.36% of all users

TOTAL EVENTS  
1.6K  
0.13% of all events

Applying the new steps creates the chart below:



Out of all users who landed on the Sale page, 57% viewed an item. Out of all users who viewed an item after coming from the sale page, 41% added an item to their cart.

## Contact

If you have any questions, please kindly reach out to me with any questions at the following methods below:

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