# Waterfall charts in Power BI

APPLIES TO: ✔ Power BI Desktop ✔ Power BI service

Waterfall charts show a running total as Power BI adds and subtracts values. These charts are useful for understanding how an initial value (like net income) is affected by a series of positive and negative changes.

The columns are color coded so you can quickly notice increases and decreases. The initial and the final value columns often [start on the horizontal axis](#), while the intermediate values are floating columns. Because of this style, waterfall charts are also called bridge charts.
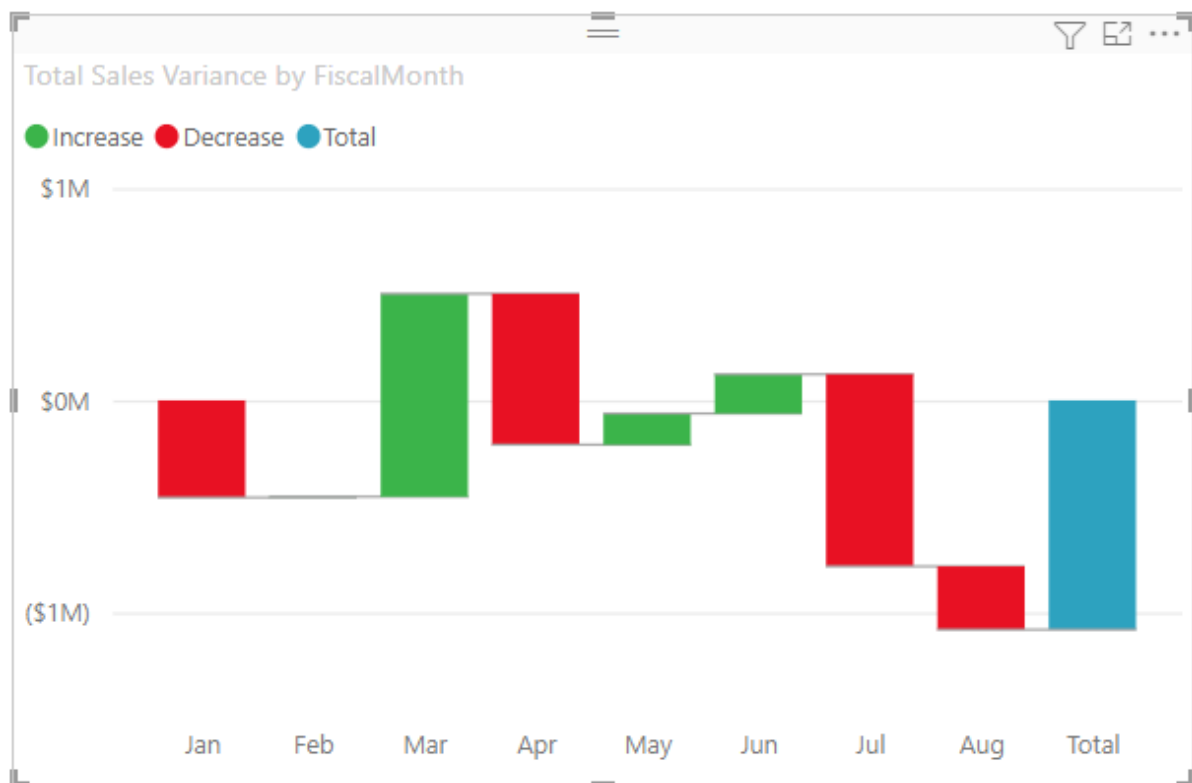
When to use a waterfall chart

Waterfall charts are a great choice:

- When you have changes for the measure across time, a series, or different categories.
- To audit the major changes contributing to the total value.
- To plot your company's annual profit by showing various sources of revenue and arrive at the total profit (or loss).

- To illustrate the beginning and the ending headcount for your company in a year.
- To visualize how much money you make and spend each month, and the running balance for your account.

Prerequisites

- [Power BI Desktop](#)
- [Power BI service](#)

This tutorial uses the Retail Analysis Sample.

1. Download the [sample PBIX file](#) to your desktop.
2. Open Power BI Desktop, and from the menu bar, select **File** > **Open report**.
3. Browse to the **Retail Analysis Sample PBIX.pbix** file, then select **Open**.
4. On the left pane, select the **Report** icon to open the file in report view.
5. Select to add a new page.

 Note

Sharing your report with a Power BI colleague requires that you both have individual Power BI Pro licenses or that the report is saved in Premium capacity.
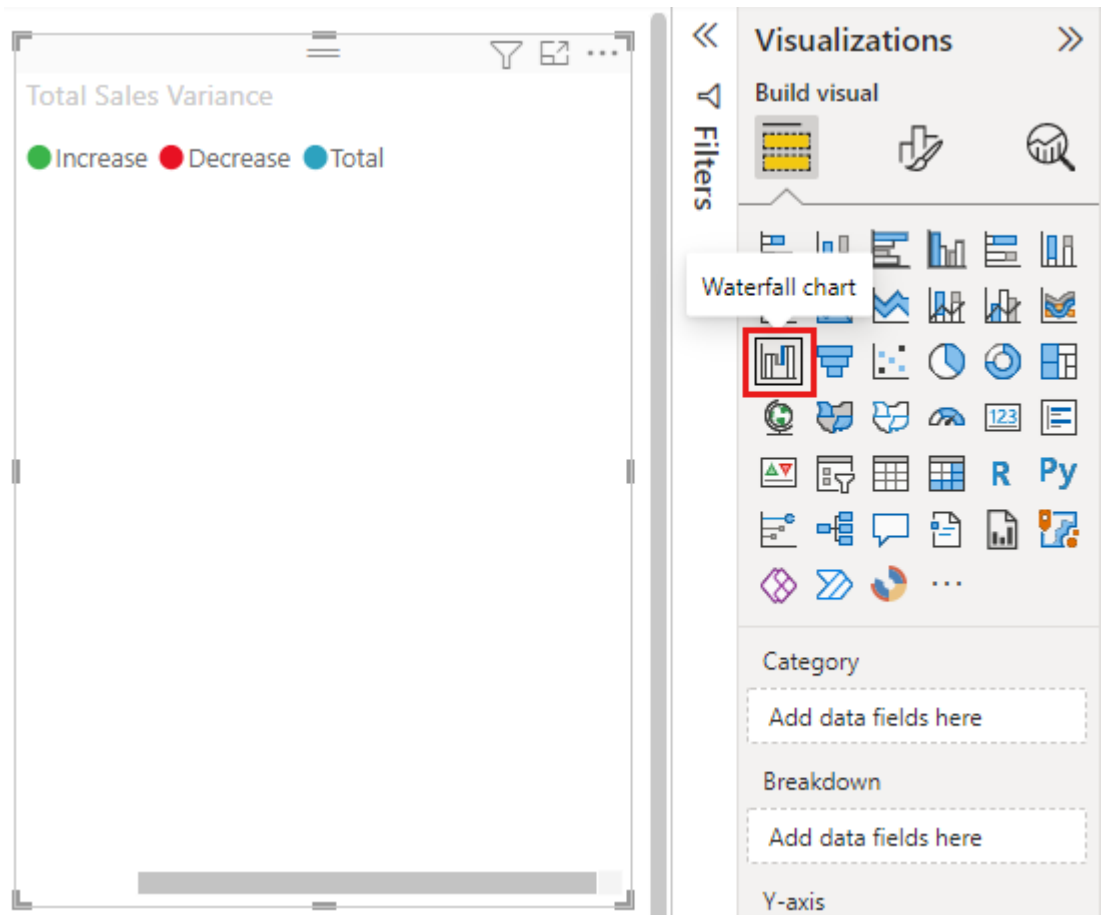
Create a waterfall chart

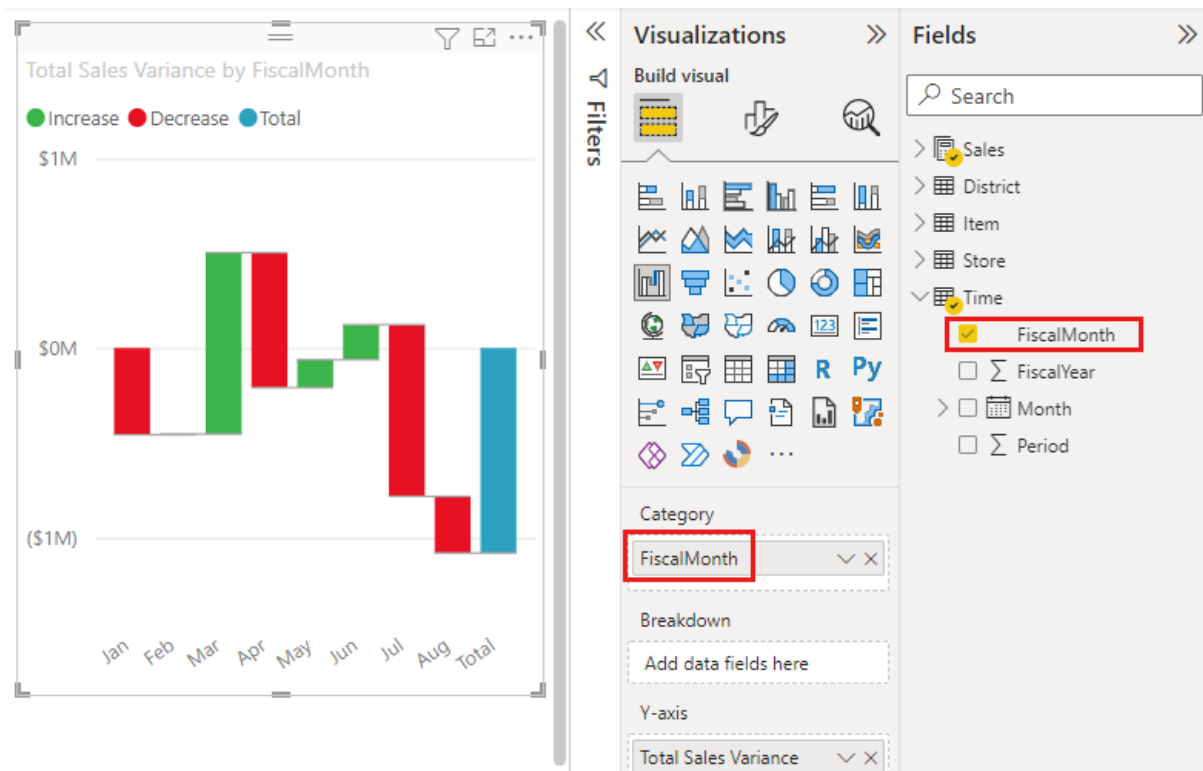You'll create a waterfall chart that displays sales variance (estimated sales versus actual sales) by month.

1. From the **Fields** pane, select **Sales** > **Total Sales Variance**.
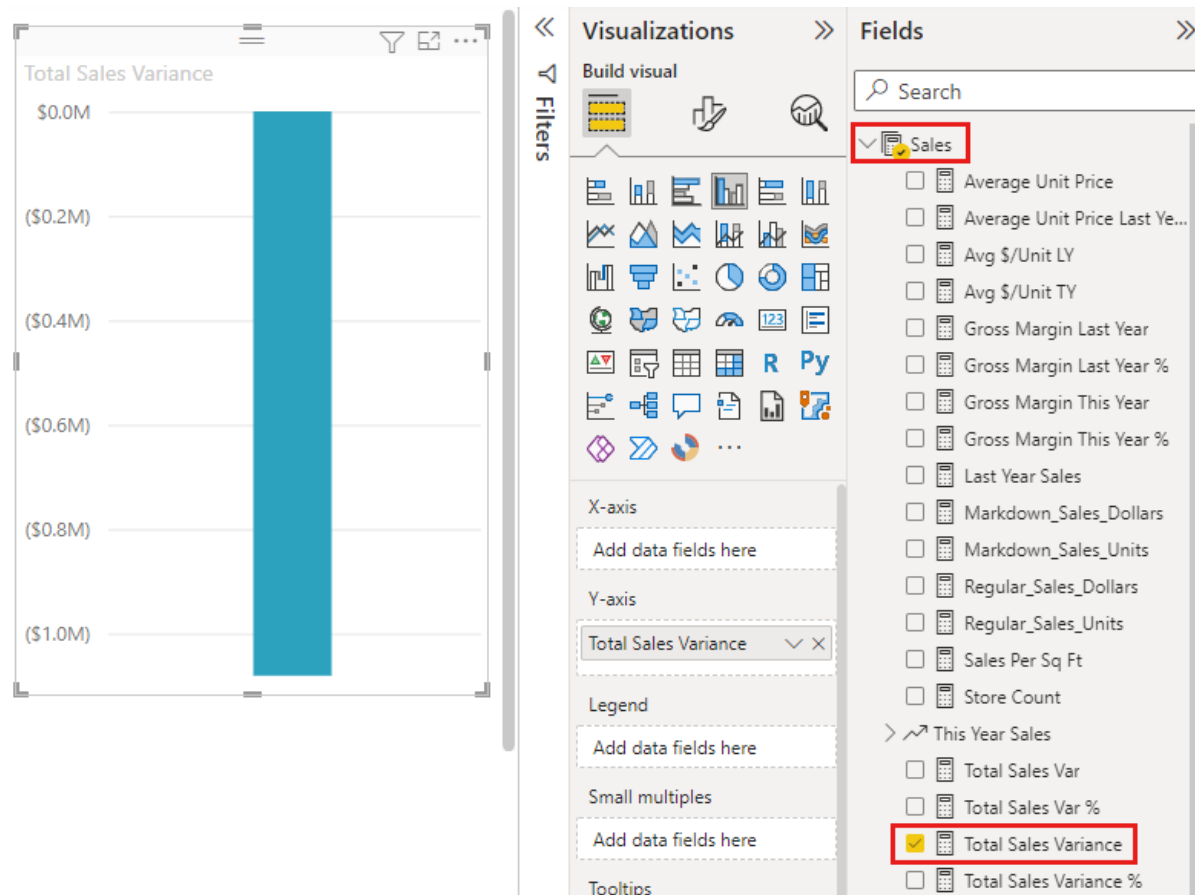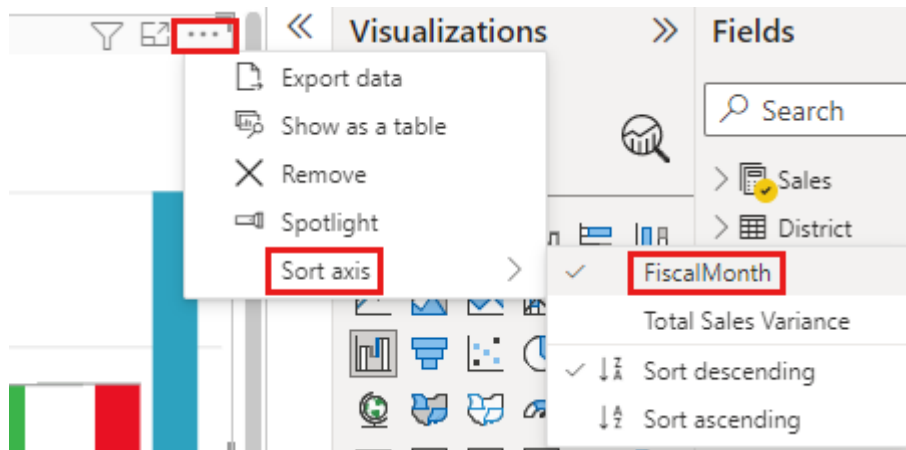
2. Select the Waterfall chart icon.

3. Select **Time** > **FiscalMonth** to add it to the **Category** well.

Sort the waterfall chart

1. Make sure Power BI sorts the waterfall chart chronologically by month. From the top-right corner of the chart, select **More options** (...).

   For this example, select **Sort by** and choose **FiscalMonth**. A check mark next to your selection indicates when your selection option has been applied.

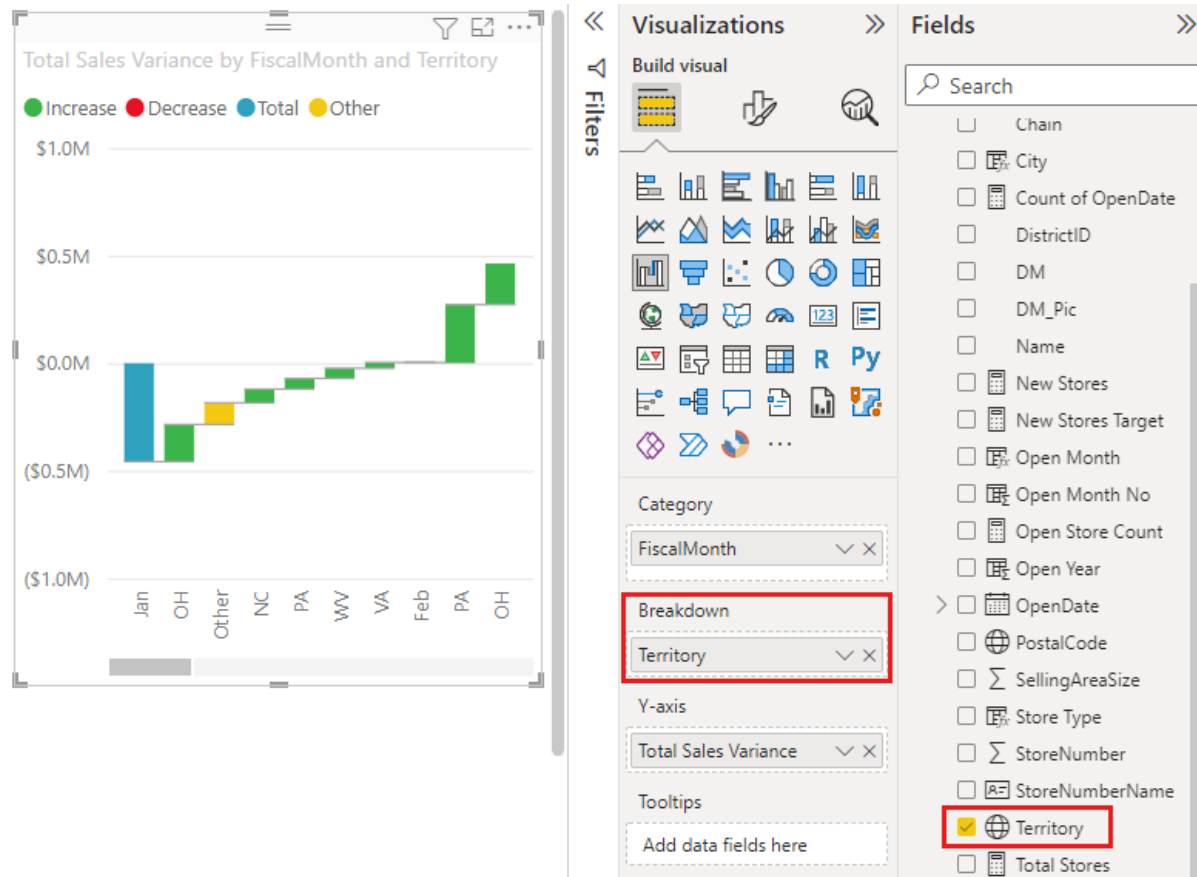To display the months in chronological order, select **Sort ascending**.
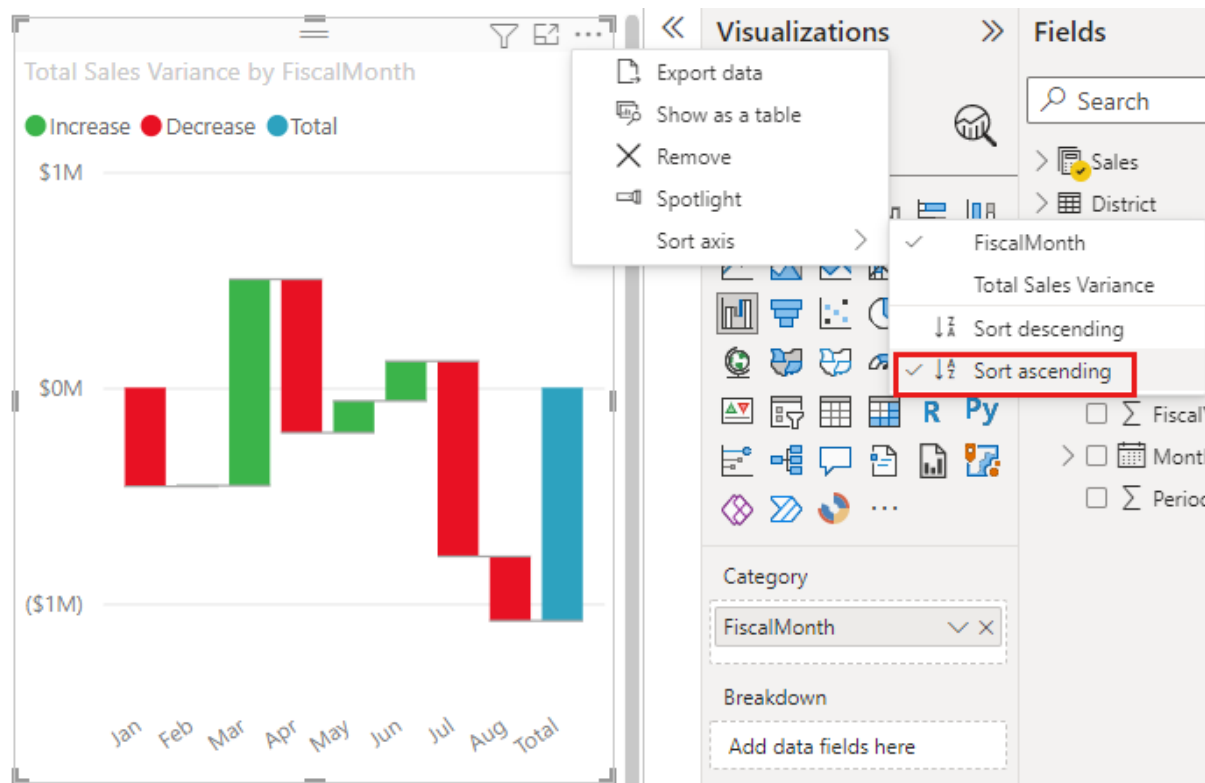
Notice that your chart is sorted from January to August for FiscalMonth.

Explore the waterfall chart

Dig in a little more to see what's contributing most to the changes month to month.

1. Select **Store** > **Territory**, which will add **Territory** to the **Breakdown** bucket.

Power BI uses the value in **Breakdown** to add more data to the visualization. It adds the top five contributors to increases or decreases for each fiscal month. February, for example, now has six data points instead of just one.
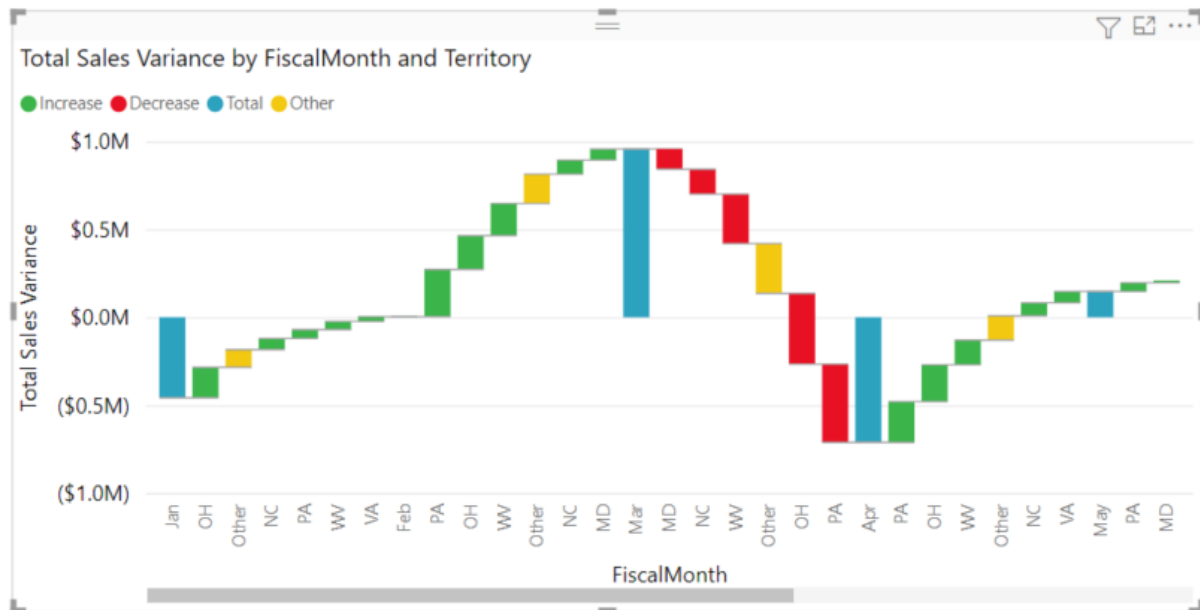
Let's say that you're only interested in the top two contributors.

2. In the **Format** pane, select **Breakdown** and set **Max breakdowns** to **2**.
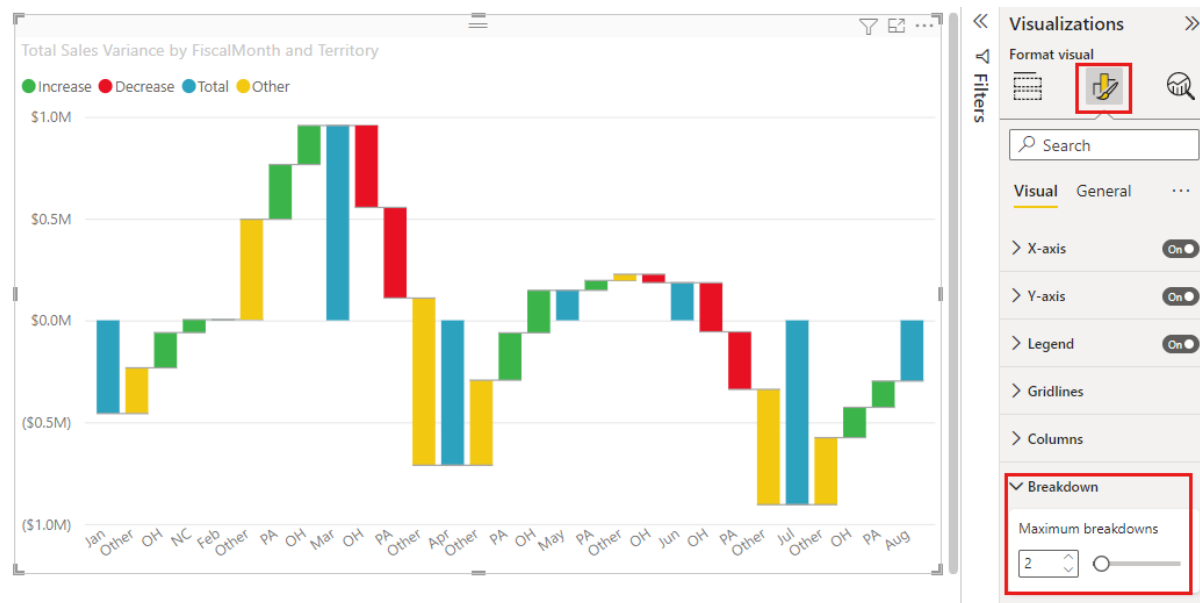
A quick review reveals that the territories of Ohio and Pennsylvania are the biggest contributors to movement, both negative and positive, in your waterfall chart.

Total Sales Variance by FiscalMonth and Territory

Power BI waterfall chart – Detailed Guide
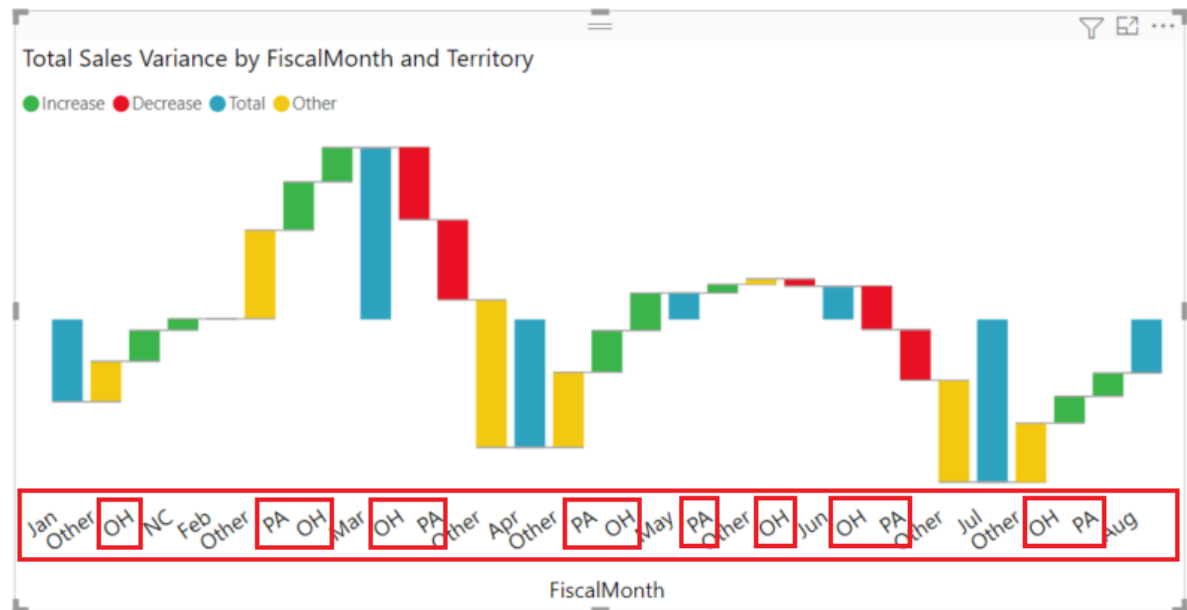
This POWER BI explains everything on the **Power bi waterfall chart** and how to create a chart using Waterfall Visualization in Power BI. Also, we will discuss:

- What is the Power BI Waterfall chart?
- When to use the Power BI Waterfall chart?
- Required data to create a Power BI Waterfall chart?
- How to create a Power BI Waterfall chart using Excel?
- How to create a Power BI Waterfall chart using SharePoint?
- Power BI Waterfall chart sorting
- Formatting of waterfall chart
- Explore data on a Waterfall chart
- Power BI Waterfall chart Slice data
- Power BI Waterfall chart variance
- Power BI Waterfall chart show/hide Total?
- How to show percentage on Power BI Waterfall chart?
- Advantages of the Power BI Waterfall chart
- Disadvantages of the Power BI Waterfall chart

Power BI Waterfall chart

Power BI Waterfall chart is used to plot distributions of numeric data against categorical data. It is powerful custom visuals, that display the positive and negative values contributing to the final total over time.

The **Power BI waterfall chart** is also known as the **Bridge chart**. Because we can quickly notice the increase and decrease value as the columns are color-coded. Also, the initial value and the final value columns start on the horizontal axis where the intermediate values are floating columns.

What is the use of Power BI Waterfall chart?

Here we will see what is the use of the **Power BI Waterfall chart** or why we use this chart.

- It is used to visualize how much money you make and spend, and the running balance for your account.
- Waterfall charts are used to visually represent that how a starting value becomes a final value through a series of intermediate additions and subtractions.
- The additions and subtractions can either be time-based or category-based.
- The waterfall chart most often used in business applications to illustrate the beginning and heading headcount of a year.
- The waterfall chart used to show the changes or variance over the courses of a set of categories.

Required data to create a Power BI Waterfall chart

To add data to the **Power BI Waterfall chart**, we have to add these require fields:

- **Category**: It represents on Horizontal axis. It specifies the columns that divide the chart.

- **Breakdown**: It uses to specifies the column that subdivided the details data.
- **Values**: It used to specify the metric columns that represent the vertical axis.
-

How to create a Power BI Waterfall chart?

Let us see, how to **create a Power BI waterfall chart** using excel as well as SharePoint data using power bi desktop

Example 1: Create a Power BI Waterfall chart using Excel data

For **creating a Power BI Waterfall chart** using Excel data we have follow these steps:

Step-1:

Here we will use a sample excel data that we downloaded from the browser, or you can prepare according to your requirement.

Step-2:

Go to **Power BI Desktop > Get data > Excel** > select **Excel data** > **Open**.

Step-3:

- After clicking on Open, It will redirect to a navigator page. On which we have to navigate the data from excel to Power BI.
- Select the data, it will reflect on the **navigator page**.

Navigator

Segment	Country	Product	Discount Band
Government	Canada	Carretera	None
Government	Germany	Carretera	None
Midmarket	France	Carretera	None
Midmarket	Germany	Carretera	None
Midmarket	Mexico	Carretera	None
Government	Germany	Carretera	None
Midmarket	Germany	Montana	None
Channel Partners	Canada	Montana	None
Government	France	Montana	None
Channel Partners	Germany	Montana	None
Midmarket	Mexico	Montana	None
Enterprise	Canada	Montana	None
Small Business	Mexico	Montana	None

How to navigate excel data from navigator to Power BI

Step- 4:
Click on **Load**. The data will be loaded on the **Power BI Desktop**. We can check it by selecting the **Data** page section(in the left corner).

Segment	Country	Product	Discount Band	Units Sold	Manufacturing Price	Sale Price
Government	Germany	Carretera	None	1513	3	350
Government	Germany	Paseo	None	1006	10	350
Government	Canada	Paseo	None	1725	10	350
Government	Germany	Paseo	None	1513	10	350
Government	Germany	Velo	None	1006	120	350
Government	France	VTT	None	1527	250	350
Government	France	Amarilla	None	2750	260	350
Government	Mexico	Carretera	Low	1210	3	350

How to check loaded data on Power BI

Now the data are ready to create the visualization. Go to the **Report page section**(Upper icon of data section)

Step-5:
Let's create a waterfall visual from visualizations, which represents the data **profit by Product and Year**. For this visualization we will take:

- **Category:** Product
- **Breakdown**: Year
- **Values**: Profit

Then the visual will be look like this:
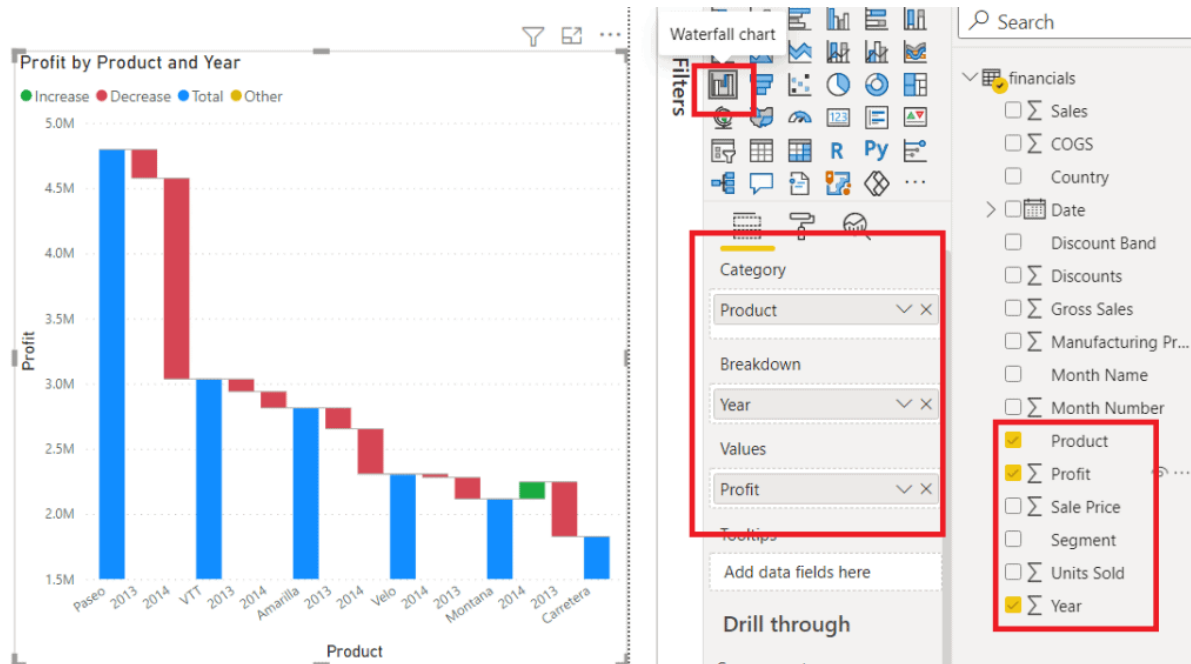
How to create a waterfall chart using Excel

The above visual, it will show the data that basis on product's profit which breakdowns by the year.

This is **how to create a waterfall chart using Excel.**

Example 2: Create a Power BI Waterfall chart using SharePoint list

Let us see, how to **create a Power BI Waterfall chart using SharePoint Online**, follow these steps one by one:
Step-1:
First, we have to Prepare a SharePoint list on which we will **create a Power BI Waterfall chart**. For example, we created a SharePoint list on **Products** like this:

Products

Title ∨	Vendors ∨	Customer name ∨	Quantity ∨	Price ∨	Sells Date ∨	Delivery Charges ∨	City ∨
SmartPhone	Apple	John	10	17,000	3/3/2021	500	NewYork
Desktop	Dell	Robert	15	25,000	2/18/2021	270	California
Laptop	Lenovo	Paul	12	35,000	1/22/2021	300	Chicago
Mouse	HP	Donald	8	1,500	5/5/2021	100	Texas
Keyboard	Lenovo	Mark	18	2,700	2/3/2021	50	Washington
TV	Microsoft	Jeff	10	40,000	1/6/2021	400	Columbus
SmartPhone	Microsoft	Jason	18	25,000	1/13/2021	120	NewYork

Example of SharePoint list to create waterfall chart on Power BI

Step-2:
Open **Power BI Desktop > Get data > More… > Online Services > SharePoint Online List > Connect**.

Get Data

Search	**Online Services**
All	**S** SharePoint Online List
File	~~Microsoft Exchange Online~~
Database	Import data from a SharePoint Online site.
Power Platform	Dynamics 365 (online)
Azure	Dynamics NAV
Online Services	Dynamics 365 Business Central
Other	Dynamics 365 Business Central (on-premises)
	Microsoft Azure Consumption Insights (Beta)
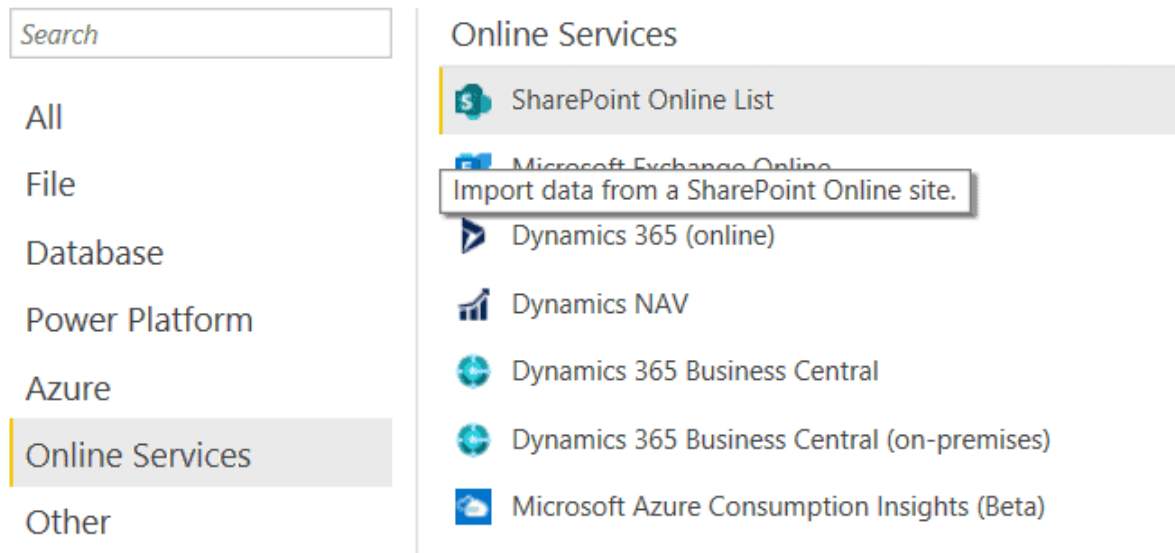
power bi create waterfall chart from sharepoint

Step-3:
After clicking on **Connect** it will redirect to a dialogue page, on which we have to enter our **SharePoint site URL > OK**.

SharePoint Online Lists

Site URL ⓘ

https://tsinfotechnologies.sharepoint.com/sites/Sonam

Implementation
○ 2.0 (Beta)
◉ 1.0

› Advanced options

OK   Cancel

power bi create waterfall chart

Step-4:
Now a **Navigator page** will be open. To **navigate** the SharePoint list on Power BI, **select the list**> **Transform data**.

power bi create waterfall chart from sharepoint

Step-5: By selecting on Transform Data, it will open a **Power query editor**. Where we can **remove unnecessary columns and Format data type**.

Here we change Data type of **Date column** to **Date**, **Title, Customer name, City, Vendor** to **Text**, **Quantity, Price, Delivery charges** to **Whole number**. After formatting click on **Close & Apply**.

power bi create waterfall chart from sharepoint online

Step-6:

It will redirect to the **Report** page. Now, here we will create a waterfall visual, which represents the data **Price by Product and quantity.** The fields, we have taken:

- **Category:** Product
- **Breakdown:** Quantity
- **Values:** Price
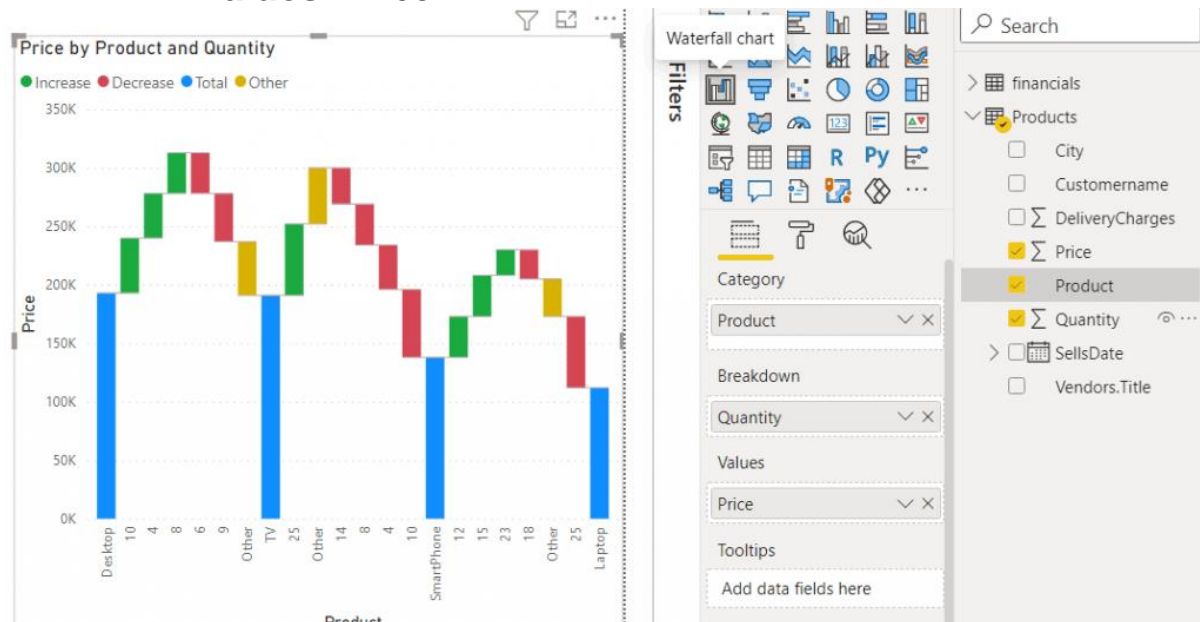
How to create waterfall chart Using SharePoint list on Power BI

On this above chart, it showing the product's price which broken down by Quantity. This is **how to create a Waterfall chart using the SharePoint list on Power BI**.
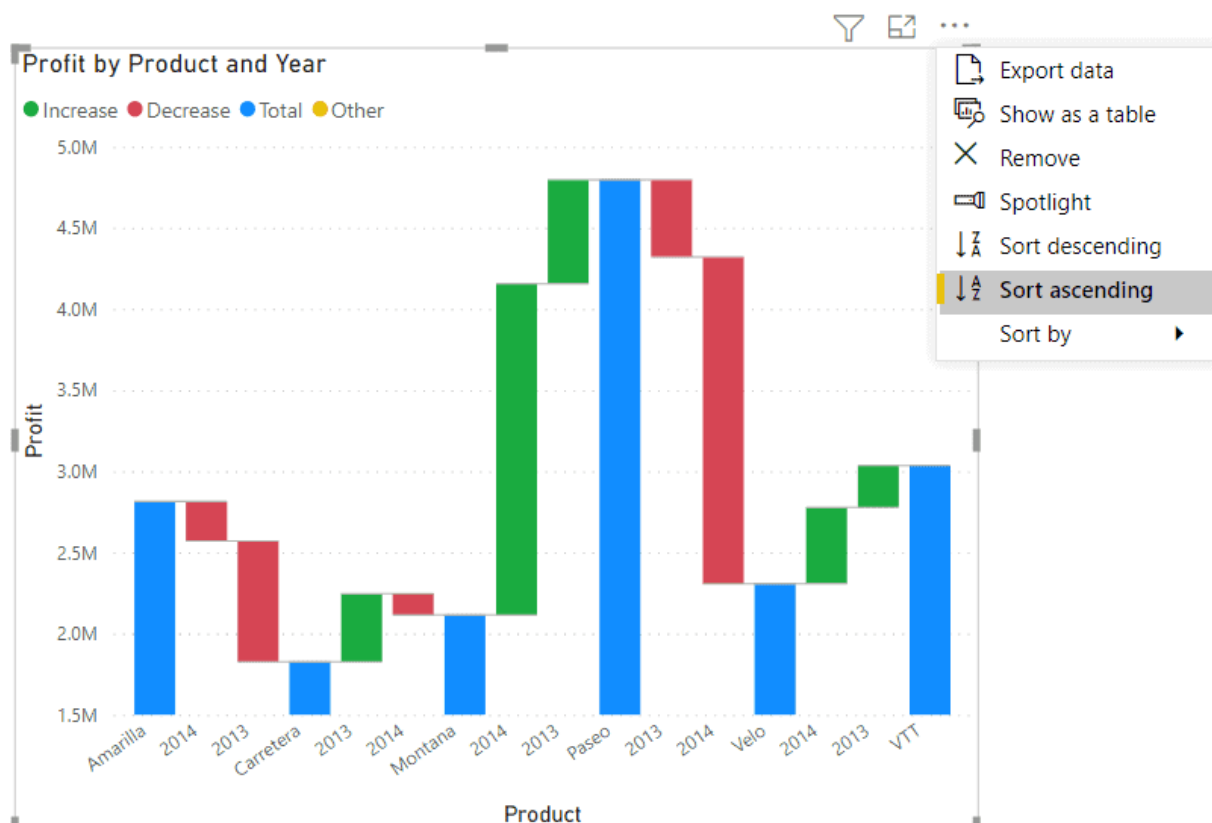
Power BI Waterfall chart sorting or Power bi waterfall chart change order

Now we will see how the Power Bi sorts the Waterfall by **Products**. For shorting, on the top-right corner, select **…(More Option)**. For this example, select **Sort by** > choose **Product**. We can see a **yellow indicator,** that indicates our selection option is being chosen.

How to do sorting on Power BI Waterfall chart.

To display **Product** in ascending order, select **Sort ascending**. We can see, there is a yellow indicator next to the left of **Sort ascending**. This indicates that our selected option is applied. Also, we can see the sorting differences between **descending and ascending orders**.
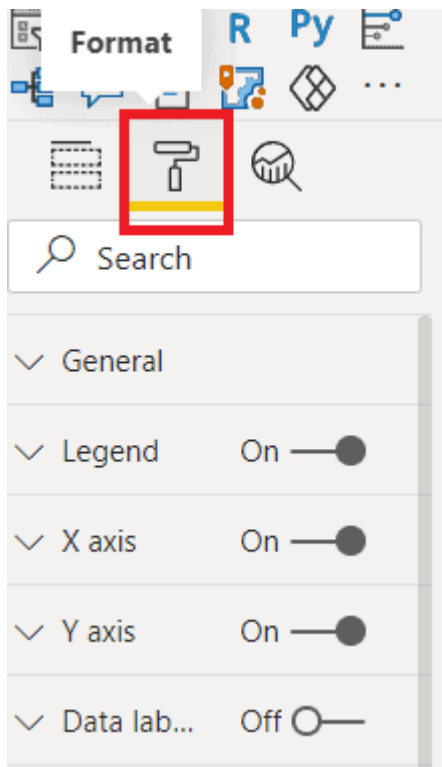
How to do various sorting on Power BI Waterfall chart

We can see that, the chart is sorted from Amarilla to VTT for **Product**.

Formatting of waterfall chart

We can make our chart more attractive by formatting it. For formatting follow these steps:

- Select the chart, click on the **Format** option.

How to do format on Power BI waterfall chart

- **General**: Here we can set the visual position according to co-ordinate of x, y position and set the height and width of the visual.
- **Legend**: Here we can set the legend title, its position and colors on the visual.
- **X-axis**: Here we can format the default color, text size of X-axis, font family, padding etc.
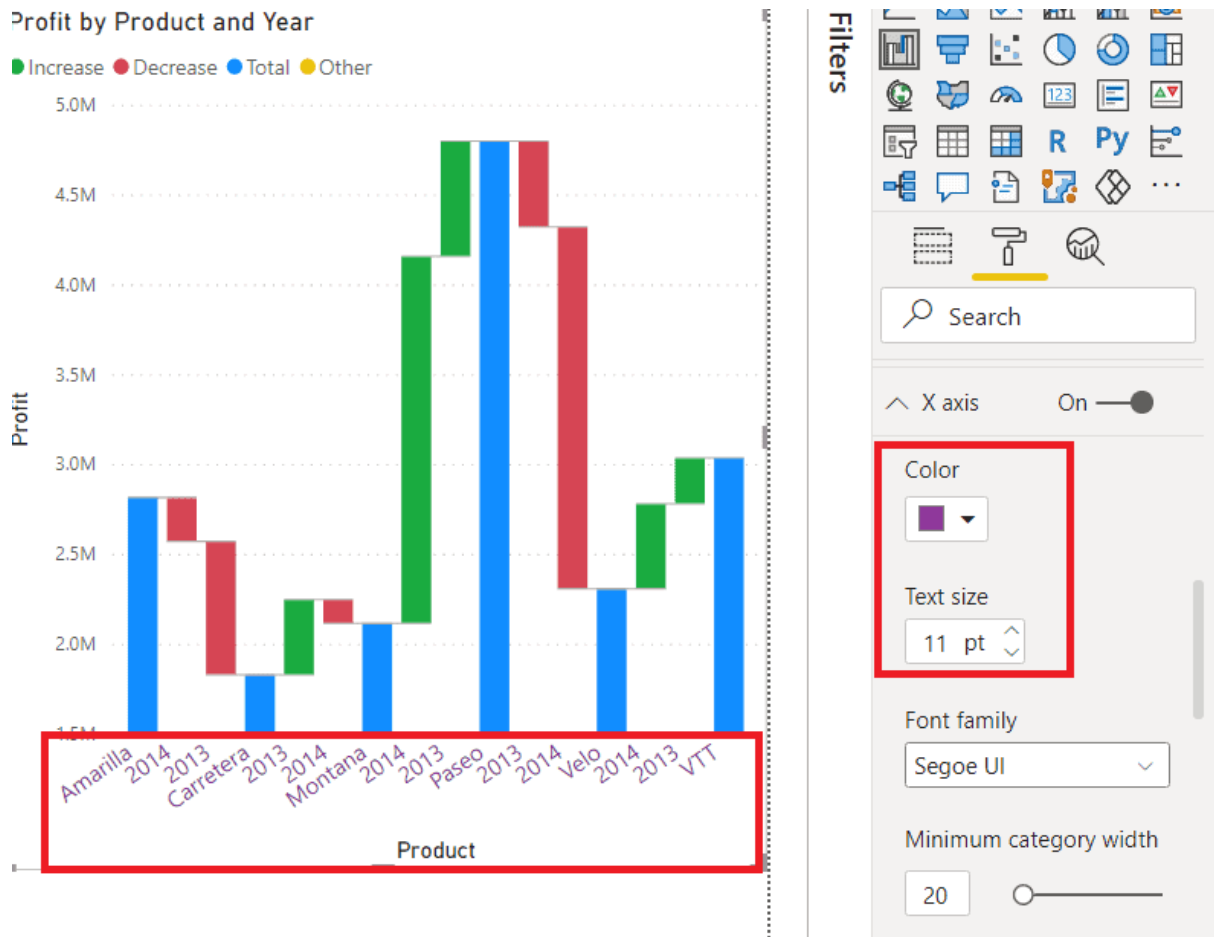
How to do x-axis format on Power BI Waterfall chart

- **Y-axis**: It has the same functionalities as X-axis.
- Data-label: By turning on the data label, we can format the color, Display units to "Auto" or "Thousand", Orientation to "Vertical" or "Horizontal", Position to "inside end", etc. For example, we will format it like this:
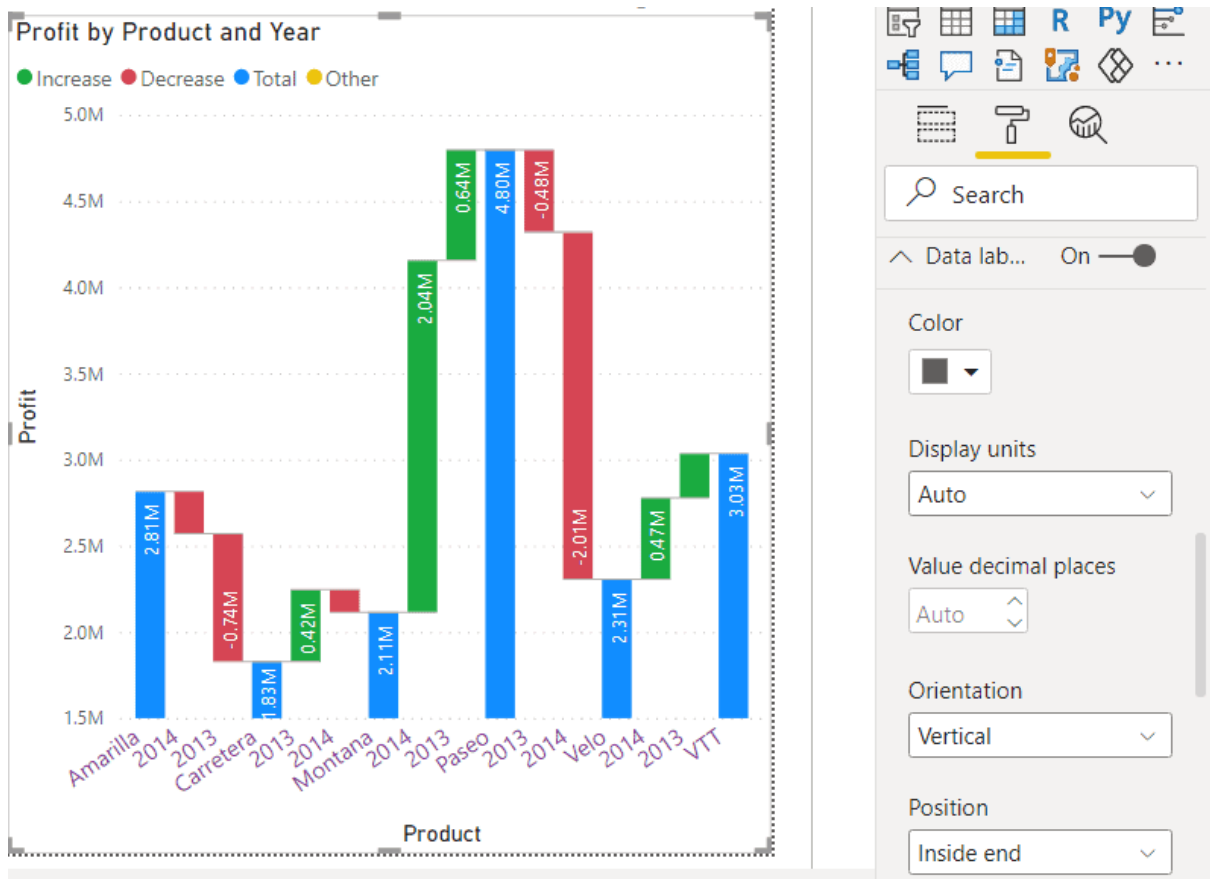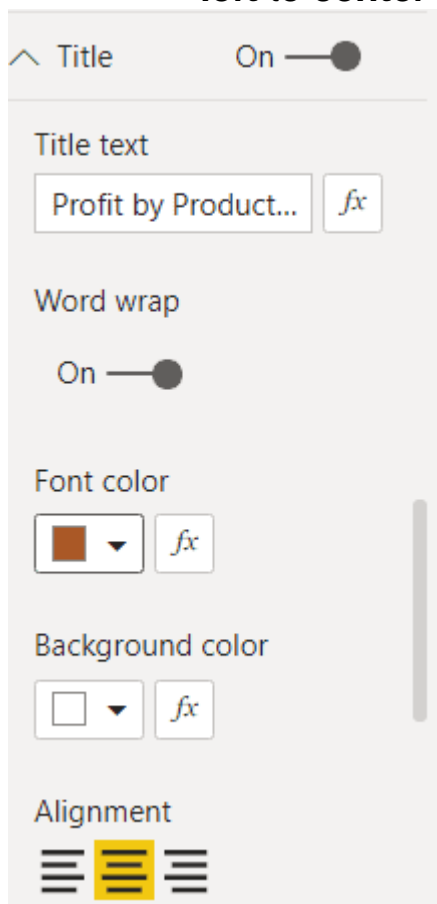
How to do label format on Power BI Waterfall chart

- **Sentiment colors:** Under this, we can change the bar colors of 'Increase', 'decrease', 'other', 'total'.
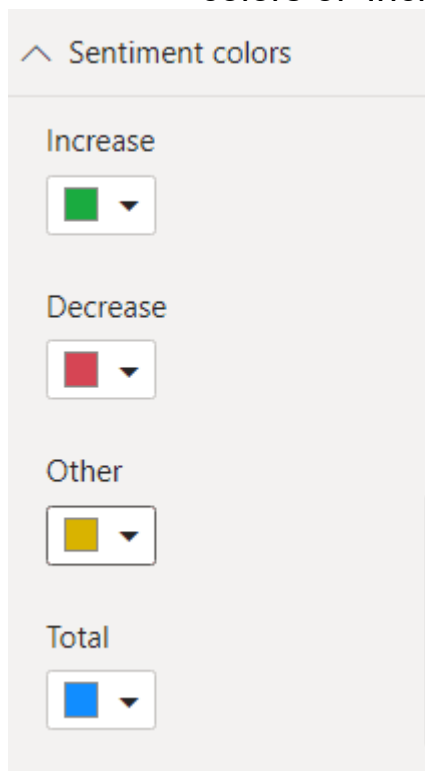
How to d sentiment colors format on Power BI Waterfall chart

- **Background**: Here, we can format the background color of the visual and can set the transparency. For example, we change the **background color white to pink** and set its **transparency to 52%.**
- **Title:** In this, we can format the title of the visual, font color, size, family and its alignment. For example, we customize the **font color Black to Brown**, **alignment left** to **center** and **font size to 17pt.**

How to do title format on Power BI waterfall chart

After applying all the format, the chart will be look like this:

Profit by Product and Year
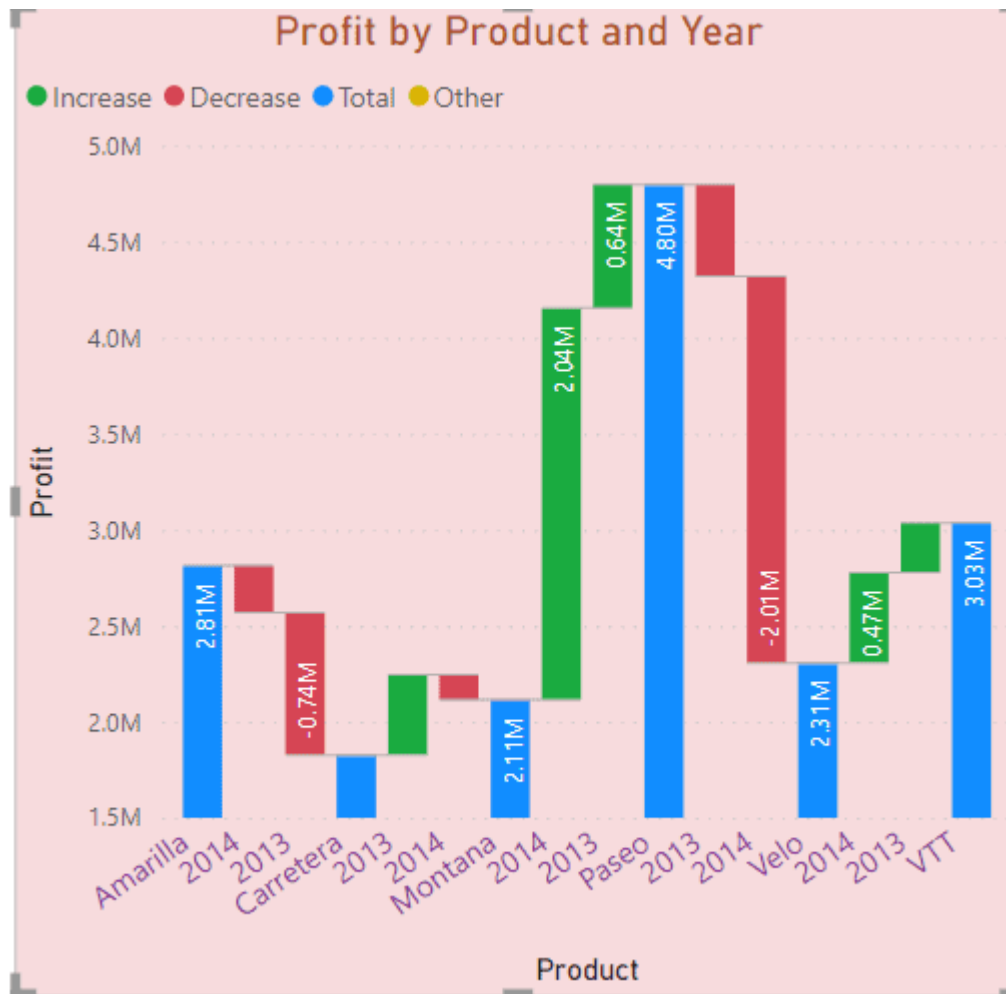
How to do format on Power BI Waterfall chart
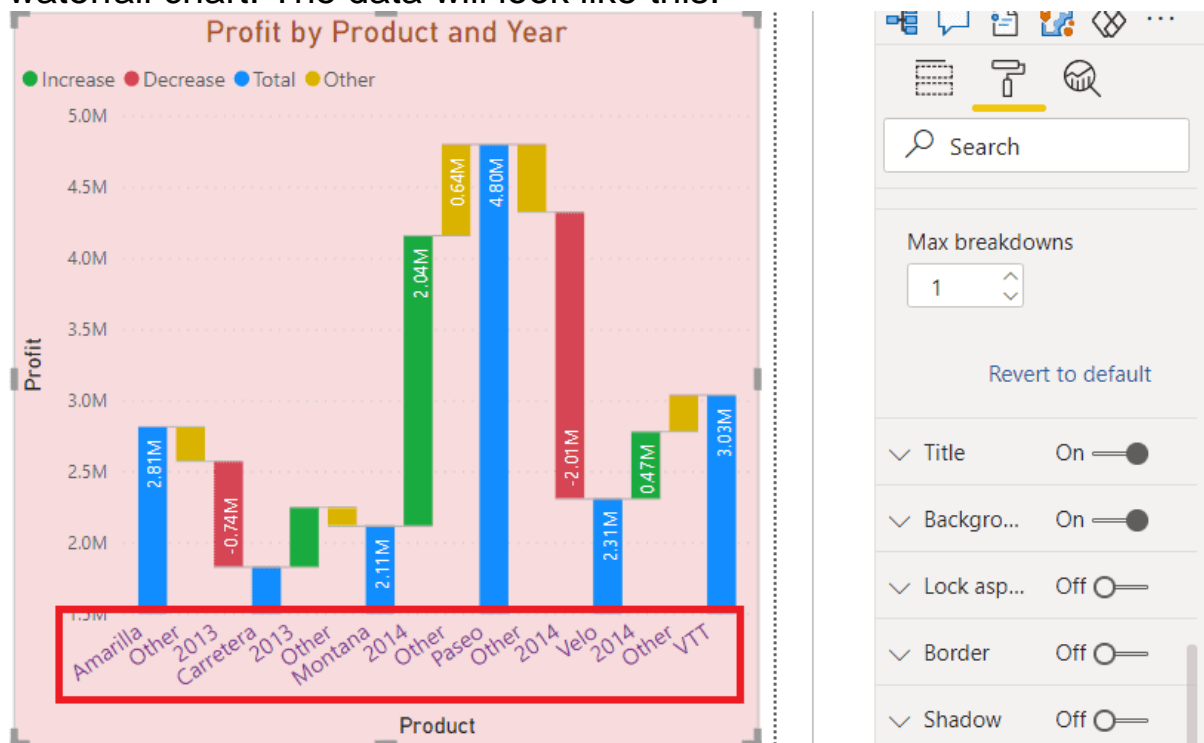
Power bi waterfall chart breakdown

Power BI uses the value in Breakdown, to expose the additional data to the visualization. To expose the data:

Go to **Format** pane > select **Breakdown** > set **Max Breakdowns** to **2**. (It will break down the data into 2 segments of the year i.e. **2013 &2014** as we use **Year in Breakdown**)
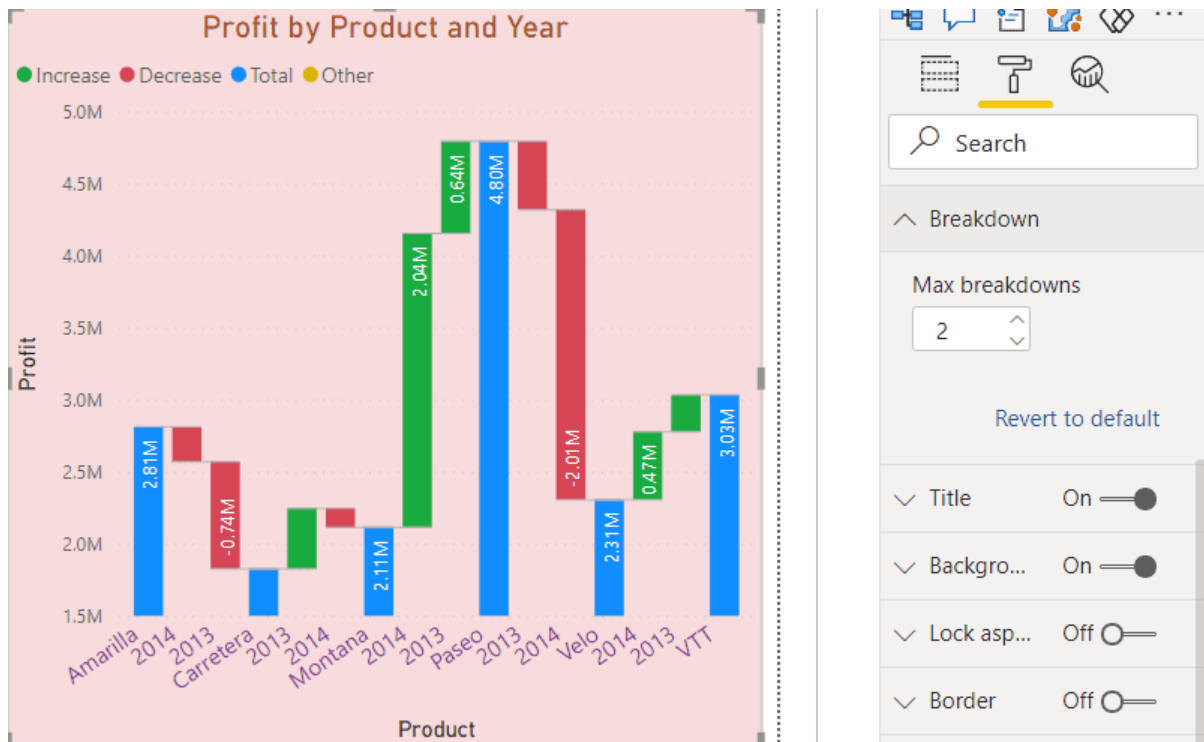
How to expose data on Power BI Waterfall chart

If we **set Max Breakdown to 1**, then a Quick review reveals the profit of the product and year having both negative and positive in the waterfall chart. The data will look like this:

How to explore data using breakdown on Power BI Waterfall chart

How to slice data on a Power BI Waterfall chart?

In Power BI, slicer are used to filter a particular dataset from a large data set. Let's see how to slice data on the Power BI Waterfall chart:
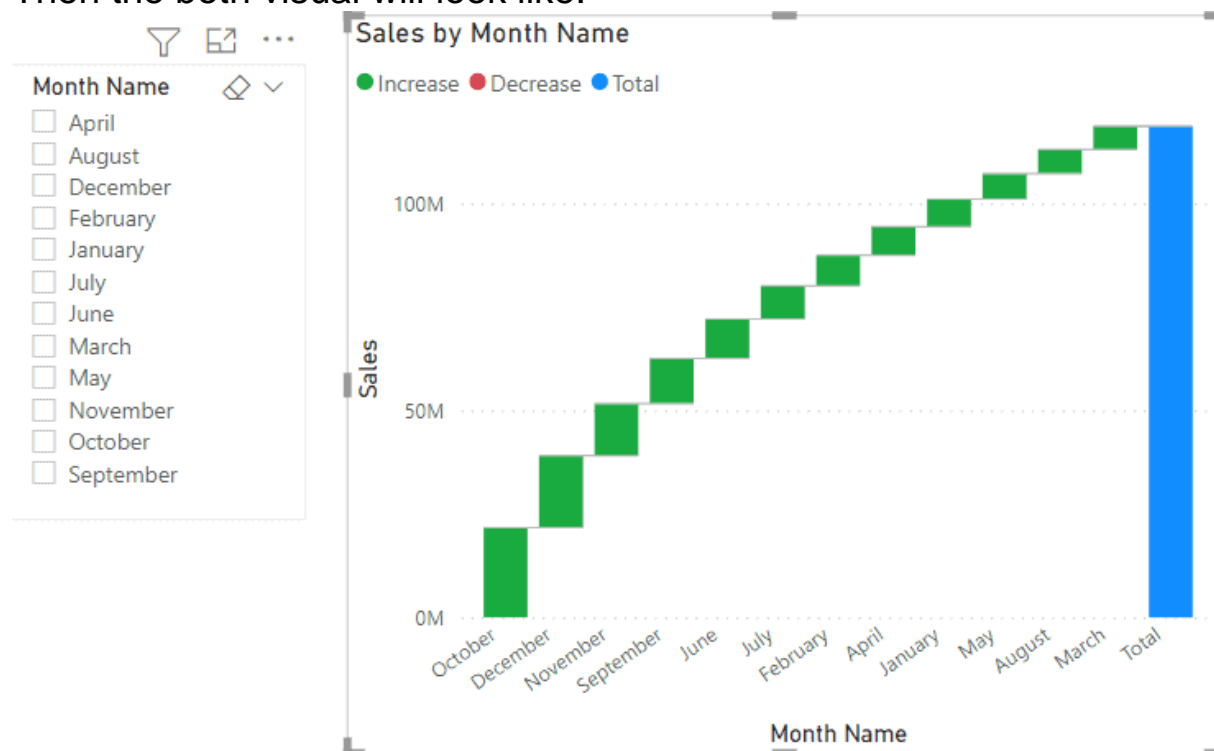
Step-1:
Create a waterfall chart that visualize **Sales by Month name**. We have taken fields:
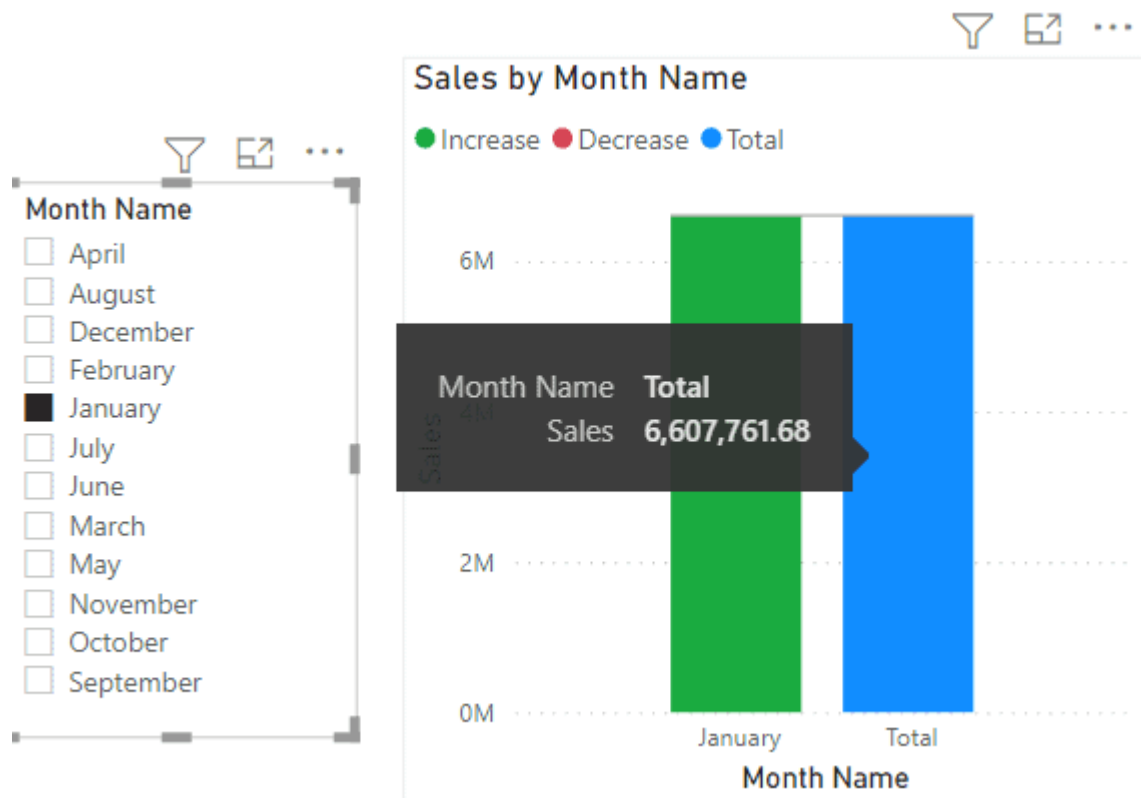- **Category:** Month Name
- **Values:** Sales

Step-2:
Select a **slicer** from visualization. Here we use **Month name** as **Field**. Then the both visual will look like:

How to do slicing on Power BI Waterfall

For example, if we slice the data by a particular month(**January**), it will show the the details of that selected month data when we do mouse over on that. then the visual will look like this:
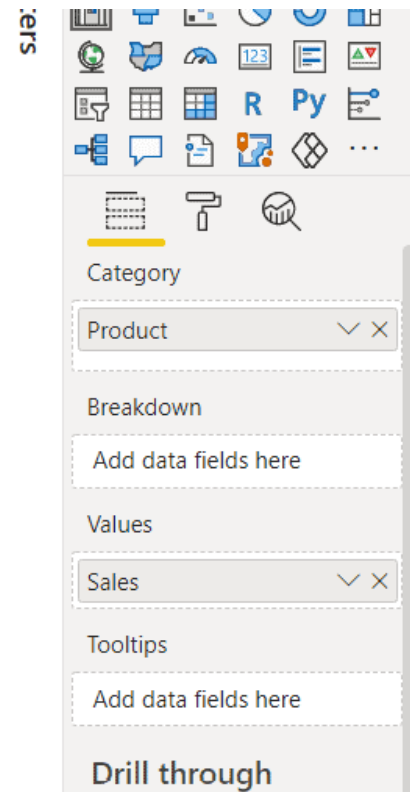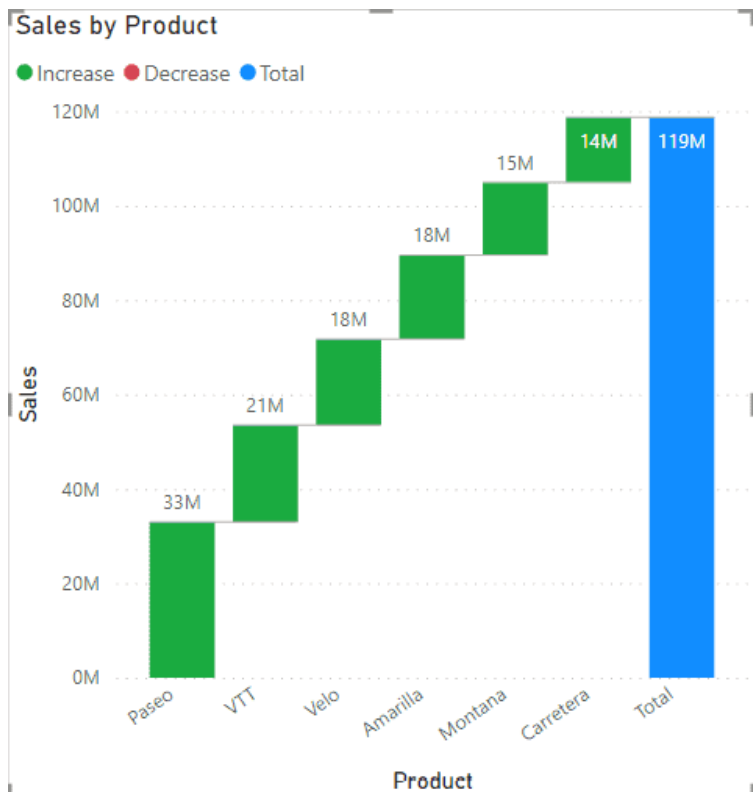
How to do slice on Power BI Waterfall chart

Power bi waterfall chart variance

Variance is used to implements a statistical measurement of the spread between numbers in a data set. In Power BI we can evaluate variance by following these easy steps:

Step-1:

Create a Waterfall chart on Power BI. In this example, we create a waterfall chart, which shows the data as **Sales by Product** and the fields we have taken:
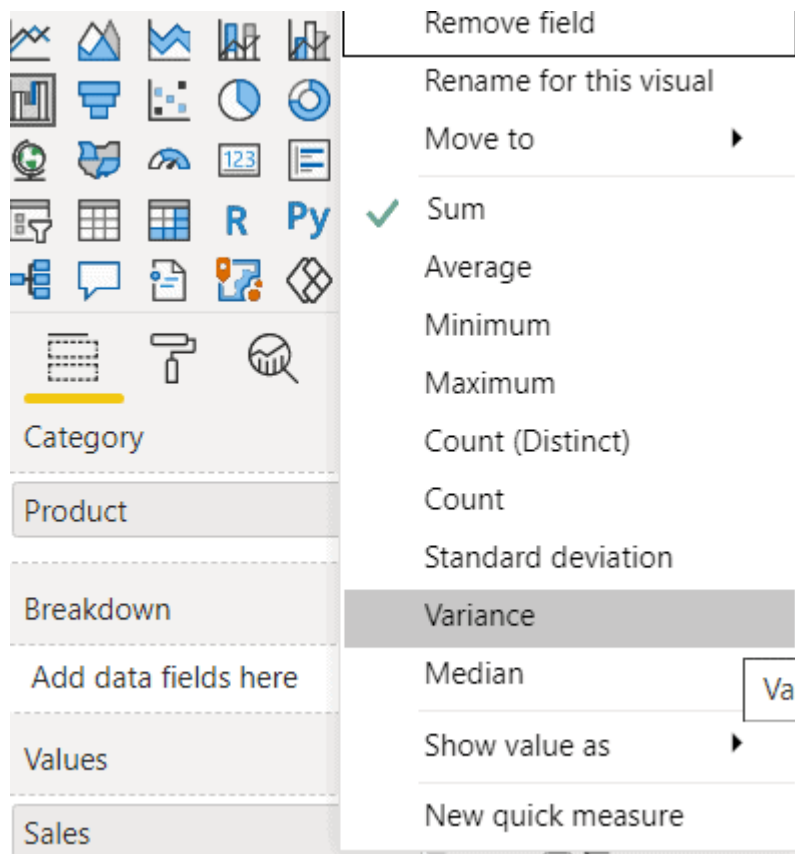
- **Category:** Product
- **Values:** Sales
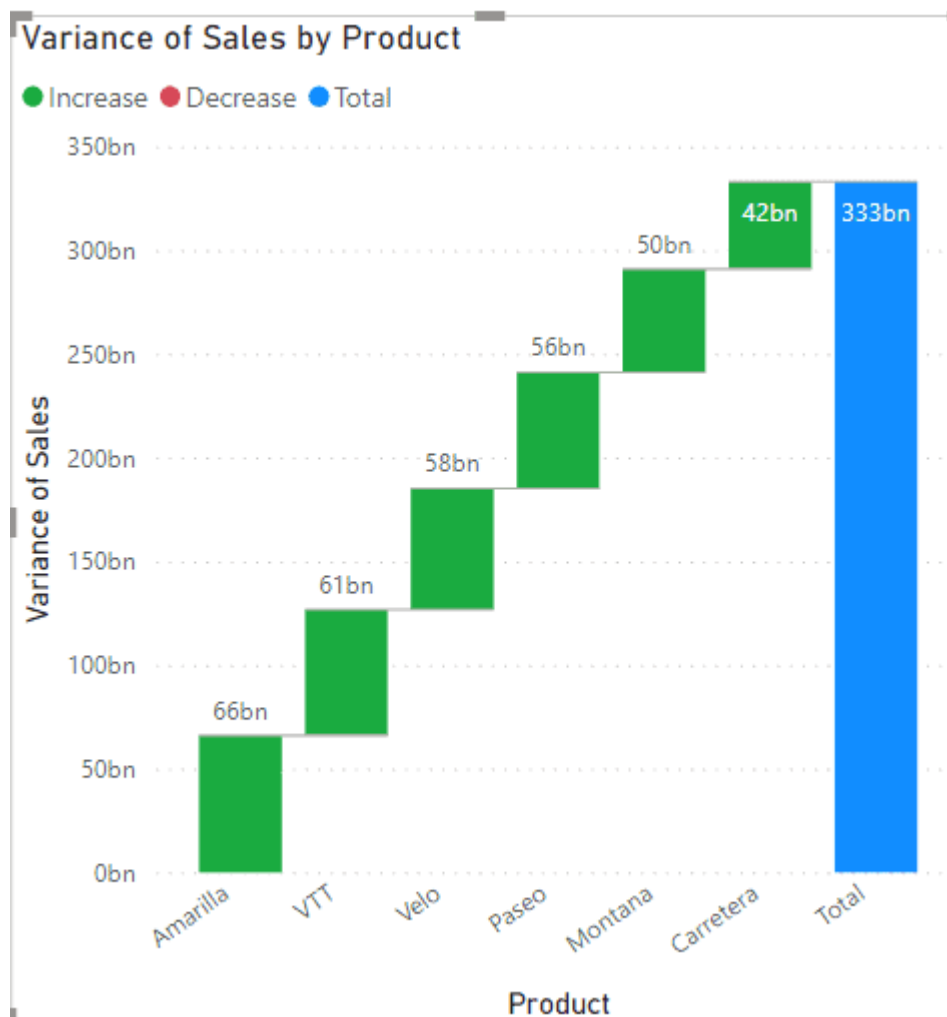
example of Power BI Waterfall chart

Step-2:
Select the **drop-down** of the Sales(On value field). Then **click on** the **Variance**.

 How to get variance on Power BI

We can see the difference after applying variance on Waterfall chart. The chart will look like below:

How to apply variance on Power BI Waterfall

We can see various type of statistical measurements are there, like: **average, minimum, maximum, median, standard deviation, count**… etc.

How to show or hide total on a Power BI Waterfall chart?

This feature is not available on the built-in waterfall chart. So we can download a waterfall visual and perform this show or hide total on Power BI.

- Download **Simple Waterfall chart** from **Get more visuals**.

power bi waterfall chart remove total

- On that visual, go to **Format** pane **> Define Pillars > Turn off/on Show cumulative Total.** This will be apply on the visual.

On this way We can **show or hide the Total** on Power BI Waterfall chart

How to show percentage on Power BI Waterfall chart?

There are simple steps by which we can show percentage on our chart :

Step-1:
Create a waterfall chart on Power BI Desktop. For example, here we create a **waterfall visual** that shows the data as a **Profit by-product.** We have taken the fields as:

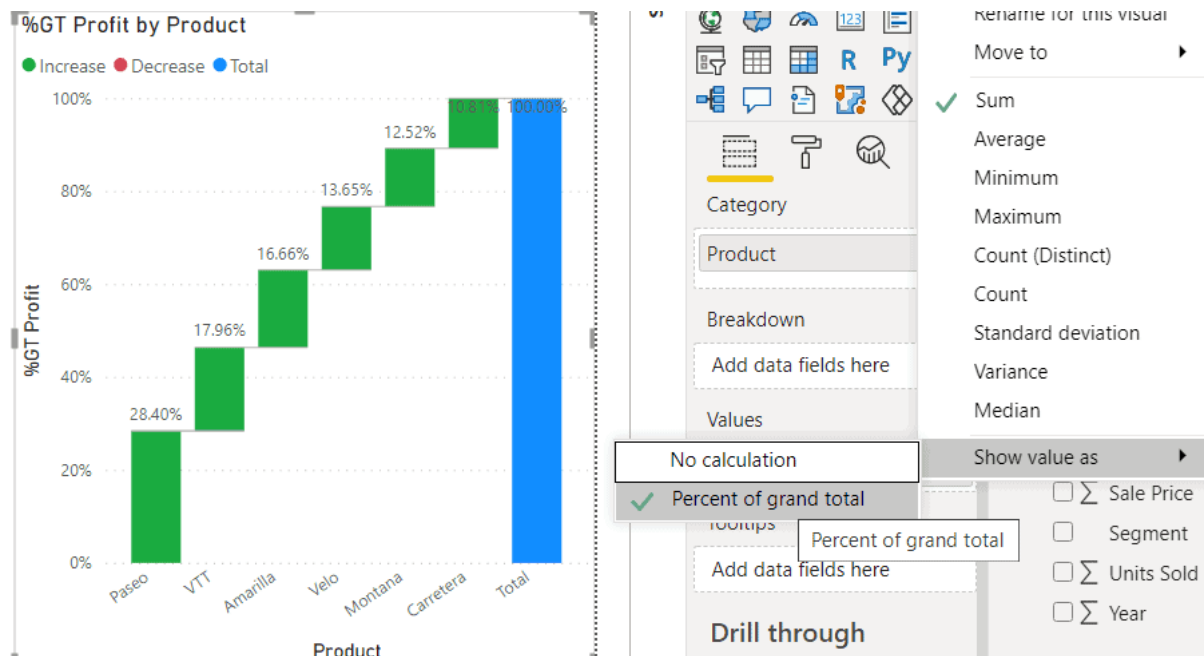- **Category**: Product
- **Values**: Profit
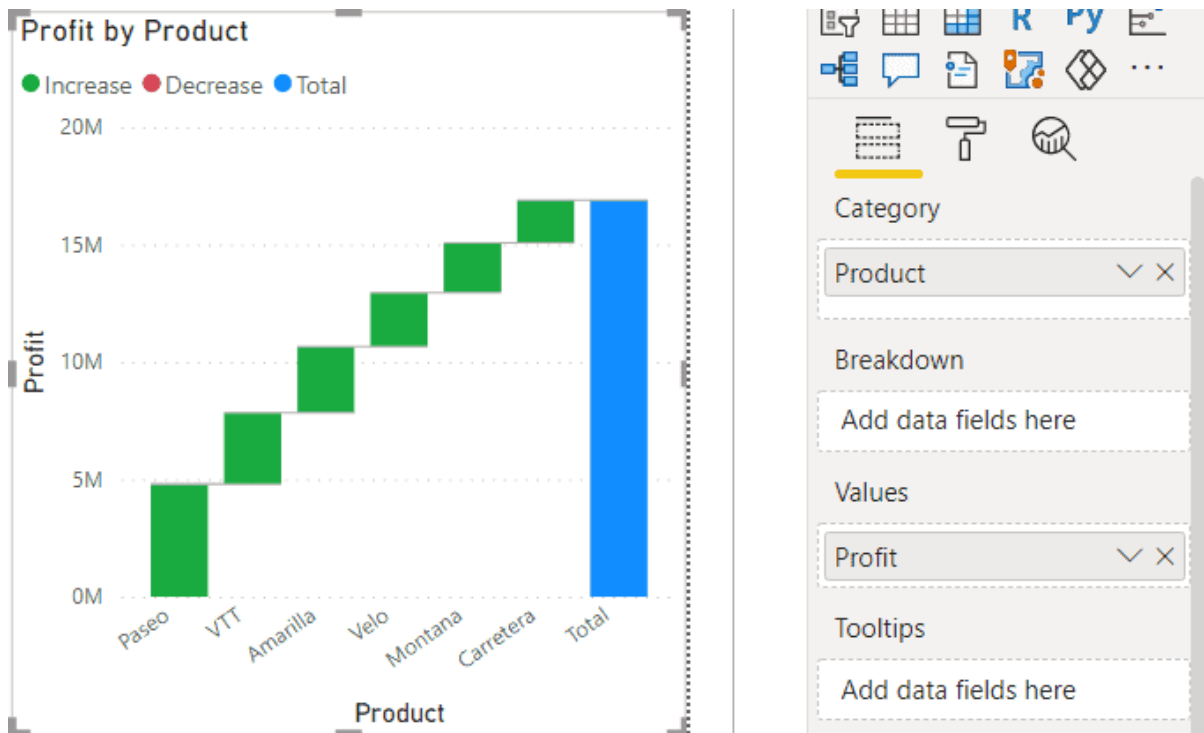
Power BI Waterfall Chart Example

Step-2:
On **values** field, select the drop-down of **Profit** > **show value as >
Percent of grand total.**
Then the value will be reflect on the Waterfall chart like below:

How to show percentage on Power BI Waterfall chart

This is **how to show percentage on Power BI Waterfall chart**.

Power bi waterfall chart starting value/Power bi waterfall chart with start and end

Here we will see how to display the starting value and ending value in the Stacked column. For this, we will create a simple data table in Excel like this:

| Column1	Values	Column2
Finance Budget	15.111	StartValue
Department1	2.756	Variance
Department2	-308	Variance
Department3	-665	Variance
Department4	-2.576	Variance
Finance Actual	18.508	Endvalue

Then import this excel data to Power BI. As the Power BI waterfall visualization currently not providing this function, so we add an index column on that data table. Now the data will look like this:

For this, on **Power Query Editor > Add column > Index Column**
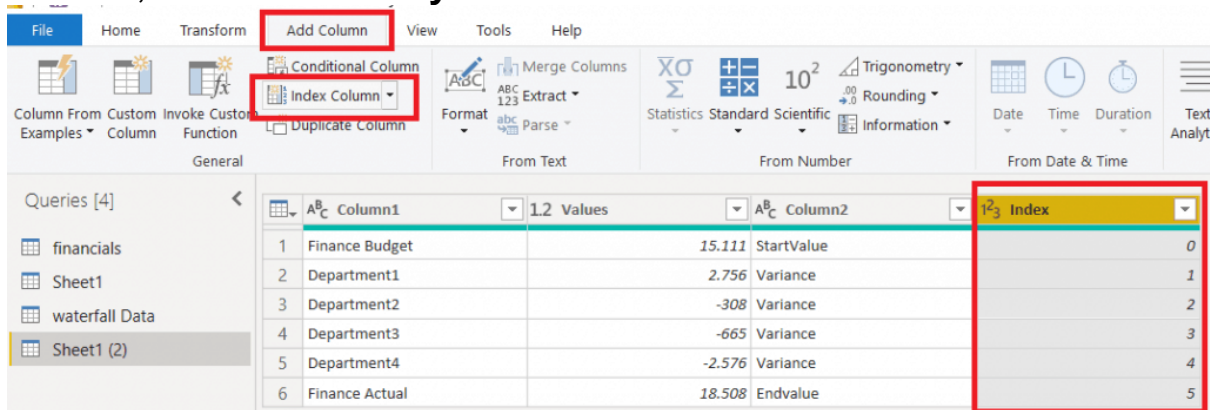
Power BI Waterfall chart starting value and ending value

Now short the column, which we want to put on the category according to index. For example, **Column1 sort by column as index.**
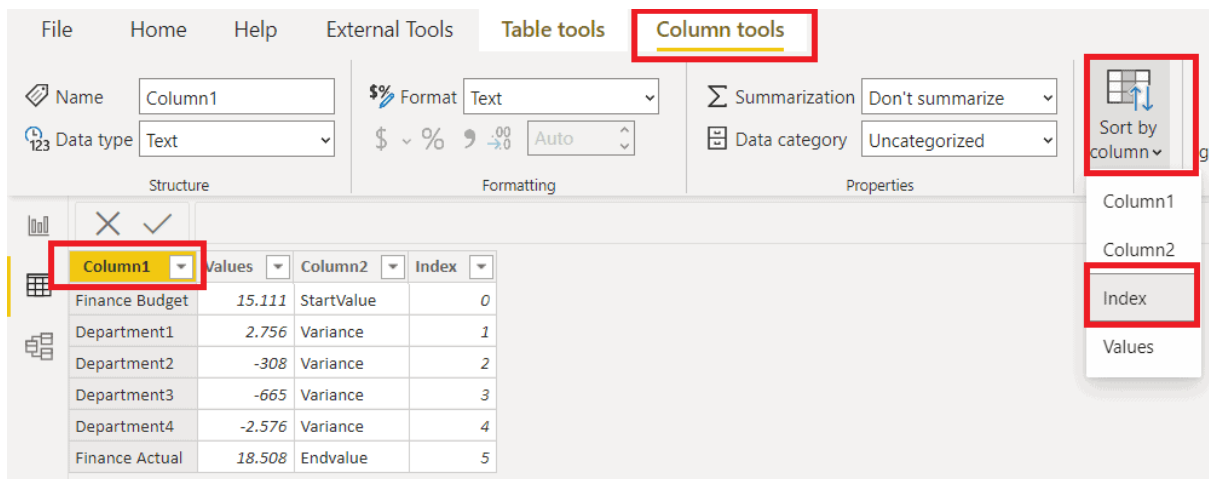
Power BI Waterfall chart starting value and ending value

Now we will use this data on waterfall chart. Then the visual will be look like this:
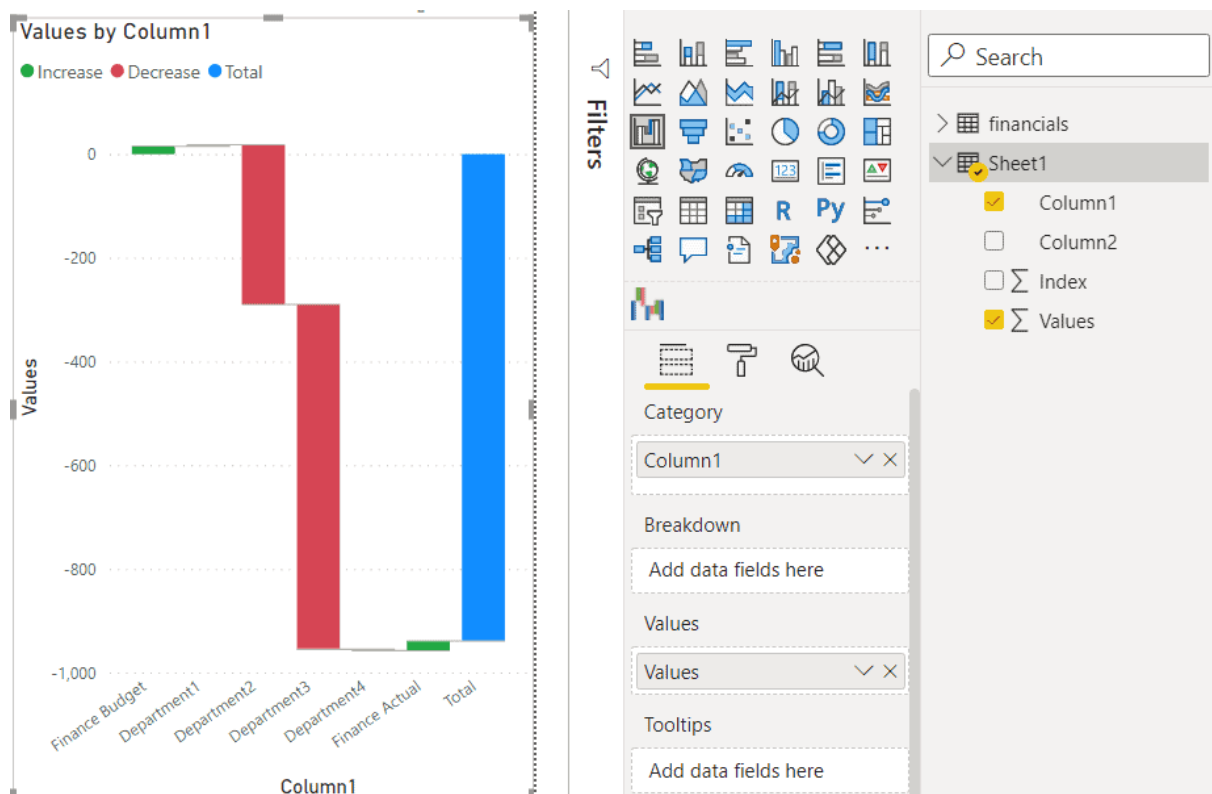
Power BI Waterfall chart starting value and ending value

This is how we can show the starting value and ending value on Power BI water fall chart.

Advantages of Power BI Waterfall chart

Let's have a look on following advantages of the Power BI Waterfall chart:

- It is very easy to create.
- It does not require any special data preparations.
- It uses a clear structure.
- It is effective to display the gradual changes over time.
- It used to track the performance of a company or business over a given time period.

Disadvantages of Power BI Waterfall chart

Some disadvantages of the Power BI Waterfall chart:

- It has limited options.
- It is not relevant for detailed analysis of the data as you can not expand the data or make the selection in the chart.