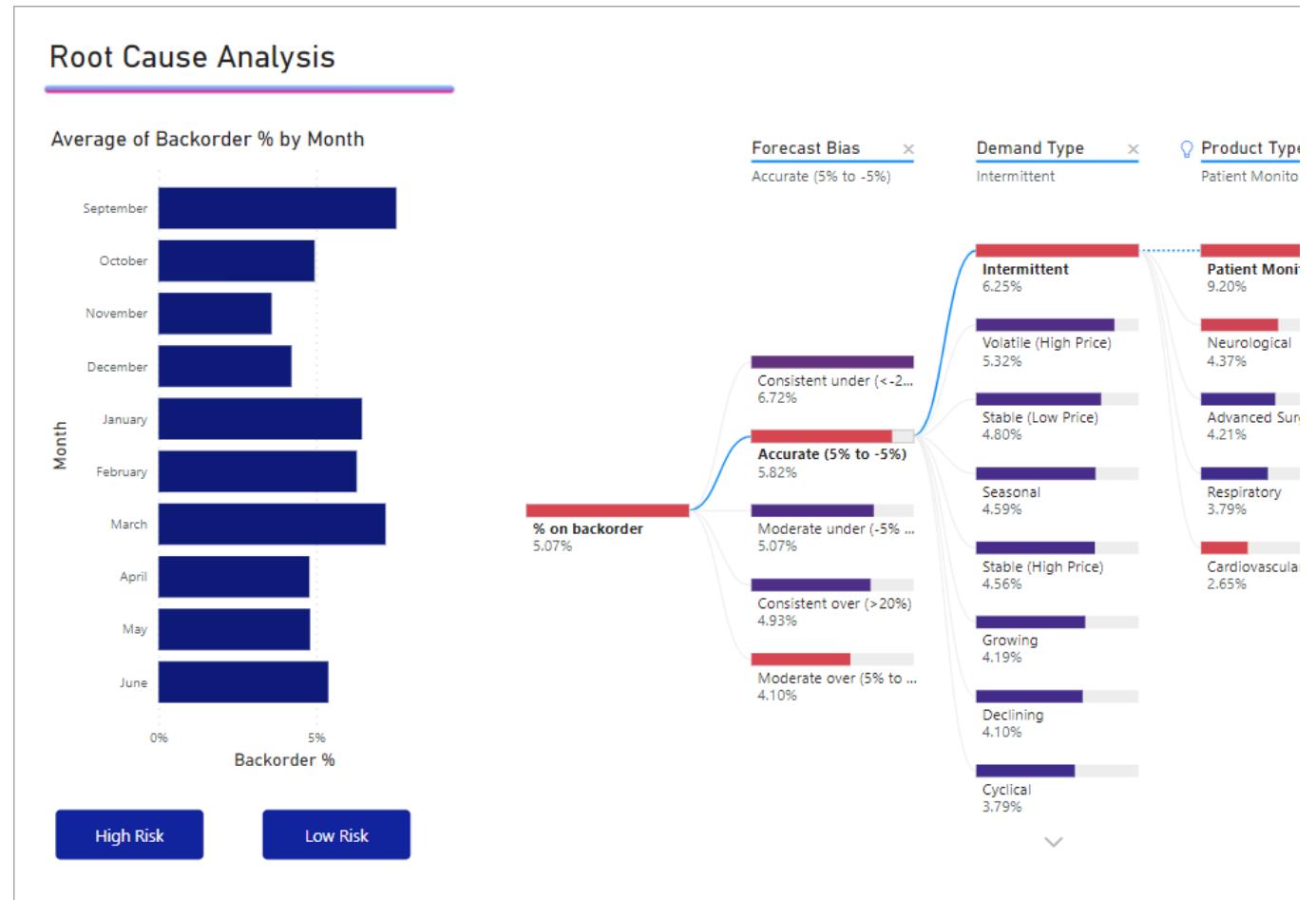


# PowerBI Part II

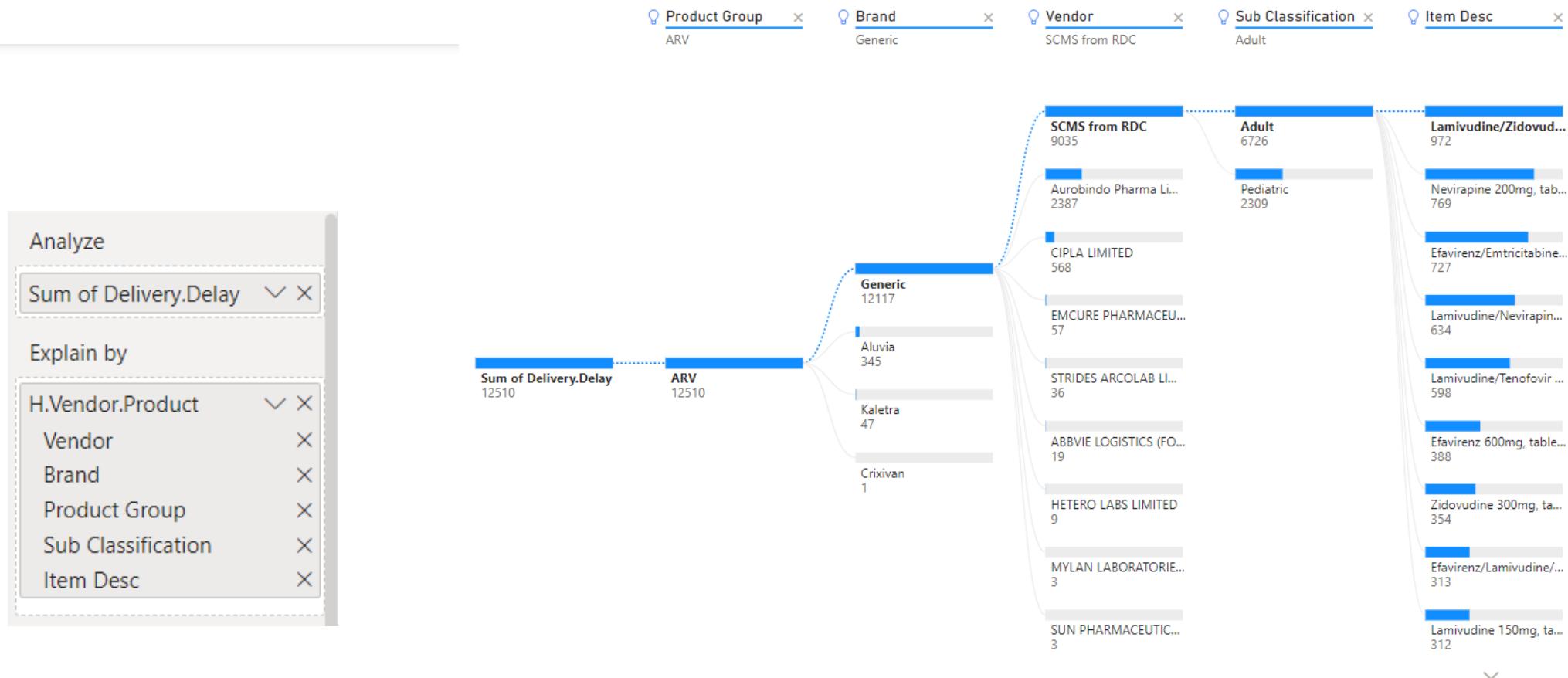
CS 459 Business Intelligence

# Decomposition tree

- The decomposition tree visual lets you visualize data across multiple dimensions.
- It automatically aggregates data and enables **drilling down** into your dimensions in any order.
- An artificial intelligence (AI) visualization, so you can ask it to find the next dimension to drill down into based on **certain criteria**.
- Valuable tool for ad hoc exploration and conducting root cause analysis.

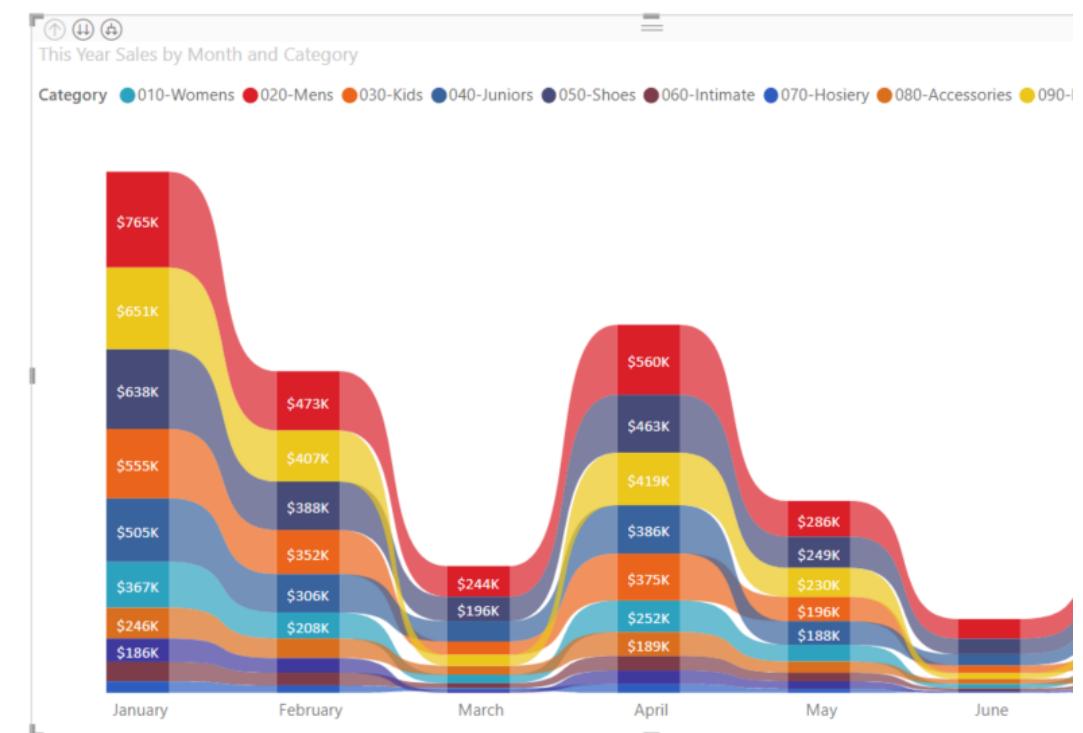
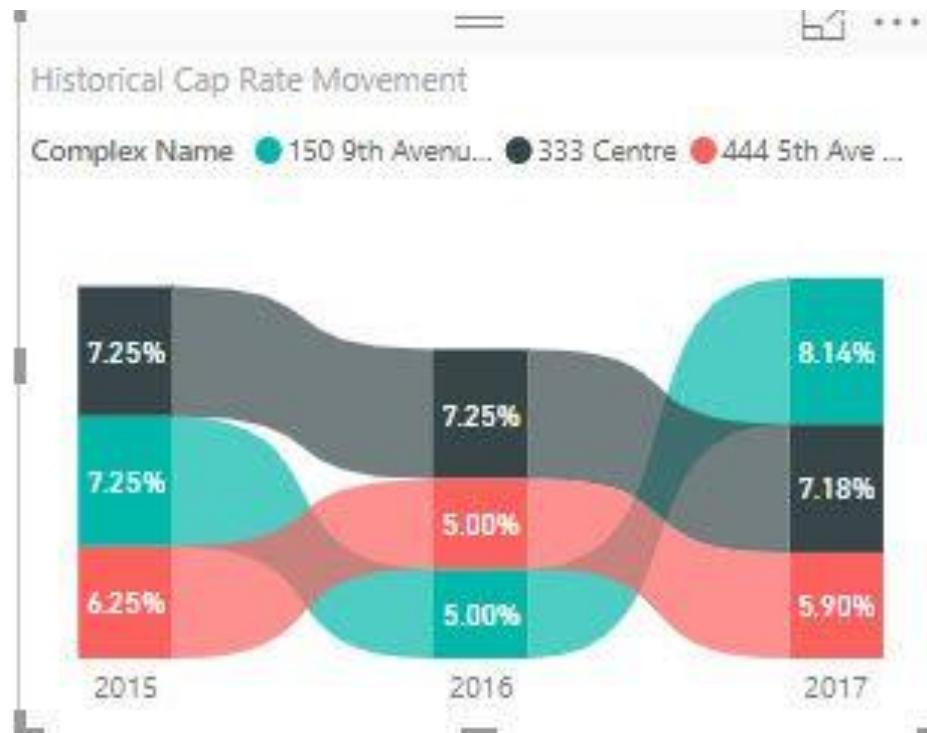


# Decomposition Tree - Example



# Ribbon Chart

- Power BI Ribbon Chart is useful to quickly identify which categorical data has the highest rank (large values).



# Ribbon - Example

## Delay with respect to time and Vendor

Y-axis: Average Delivery Delay  
X-axis: Delivery Date

Legend:  
H.Vendor.Product

Select Top 4 vendors as identified earlier  
Filter delay > 0

Filters    Visualizations

Search

**Vendor**  
is Aurobindo Pharma ...  
Filter type ⓘ Basic filtering

Select all  
 ABBVIE LOGISTICS (F... 4  
 Aurobindo Pharma ... 75  
 CIPLA LIMITED 18  
 EMCURE PHARMACE... 2  
 HETERO LABS LIMIT... 2  
 MYLAN LABORATOR... 1  
 Require single selection

Add data fields here

X-axis

Delivery Date    Year    Quarter    Month    Day

Y-axis

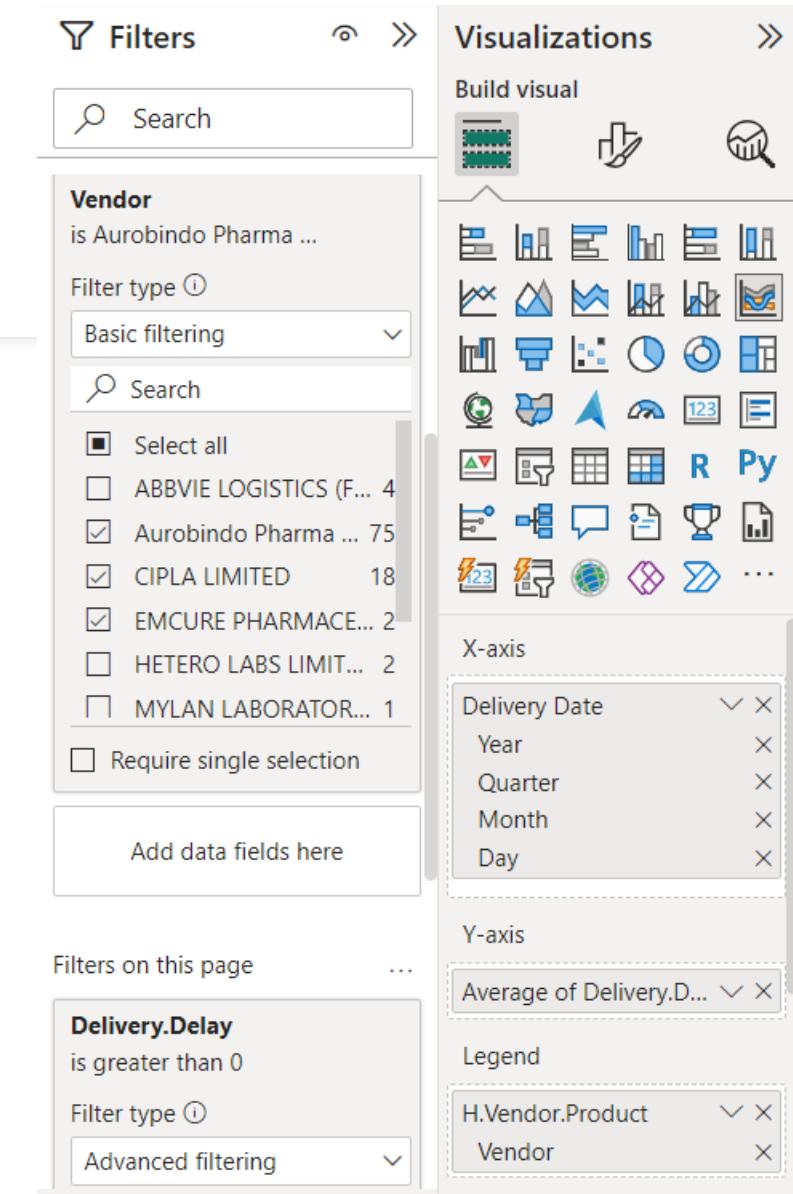
Average of Delivery.D...

Legend

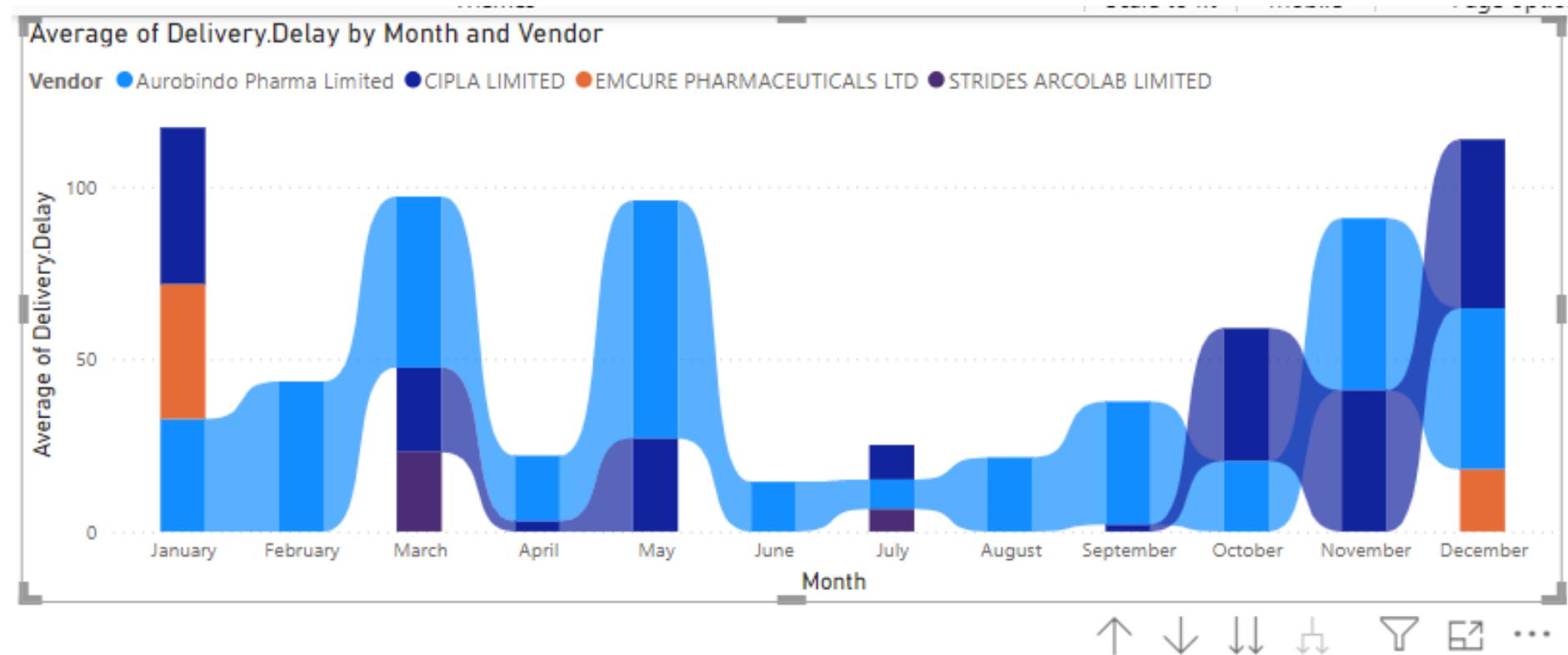
H.Vendor.Product    Vendor

Filters on this page

**Delivery.Delay**  
is greater than 0  
Filter type ⓘ Advanced filtering

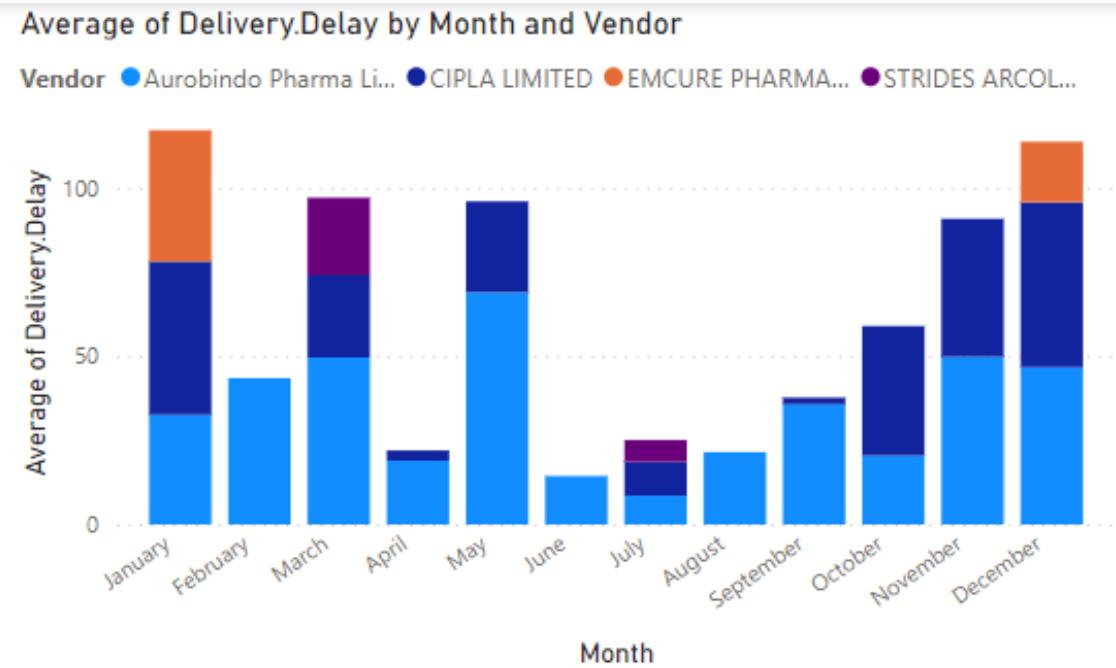
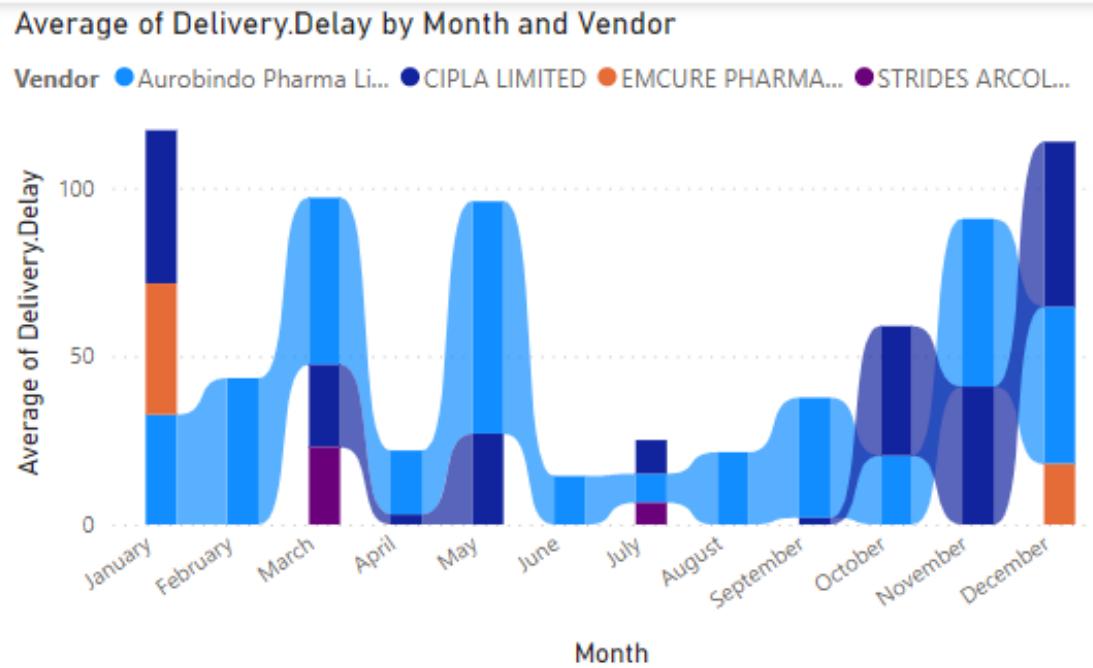


# Ribbon - Example



# Ribbon Vs Stacked

- Create a copy and change to stacked column chart

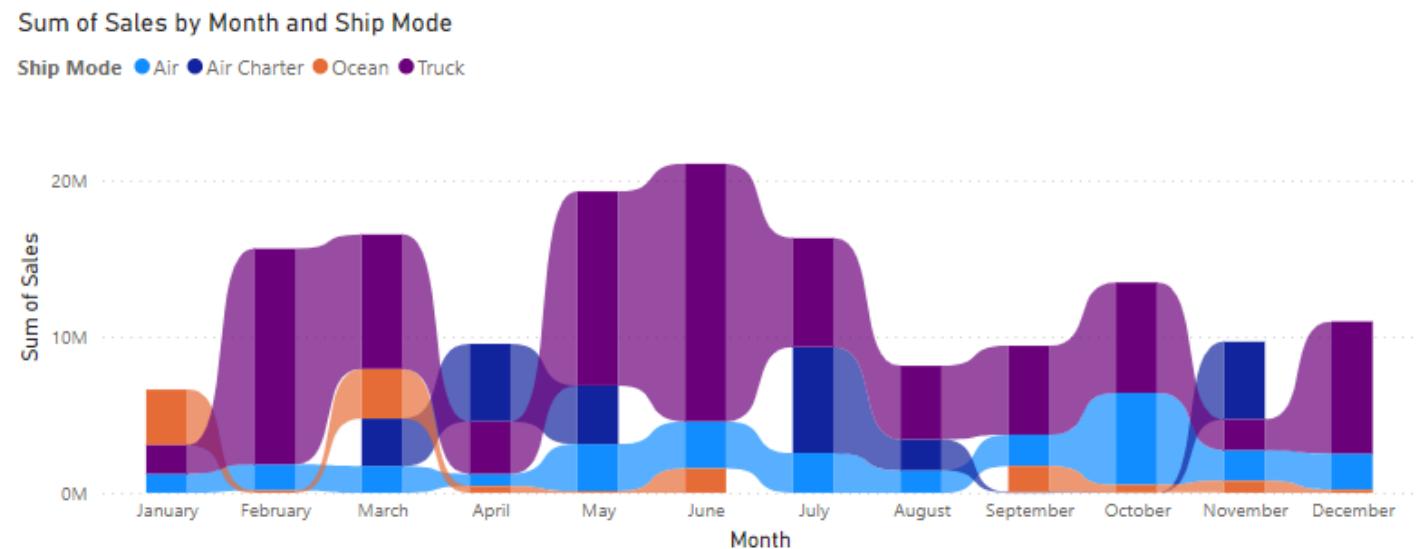


# Ribbon - Example

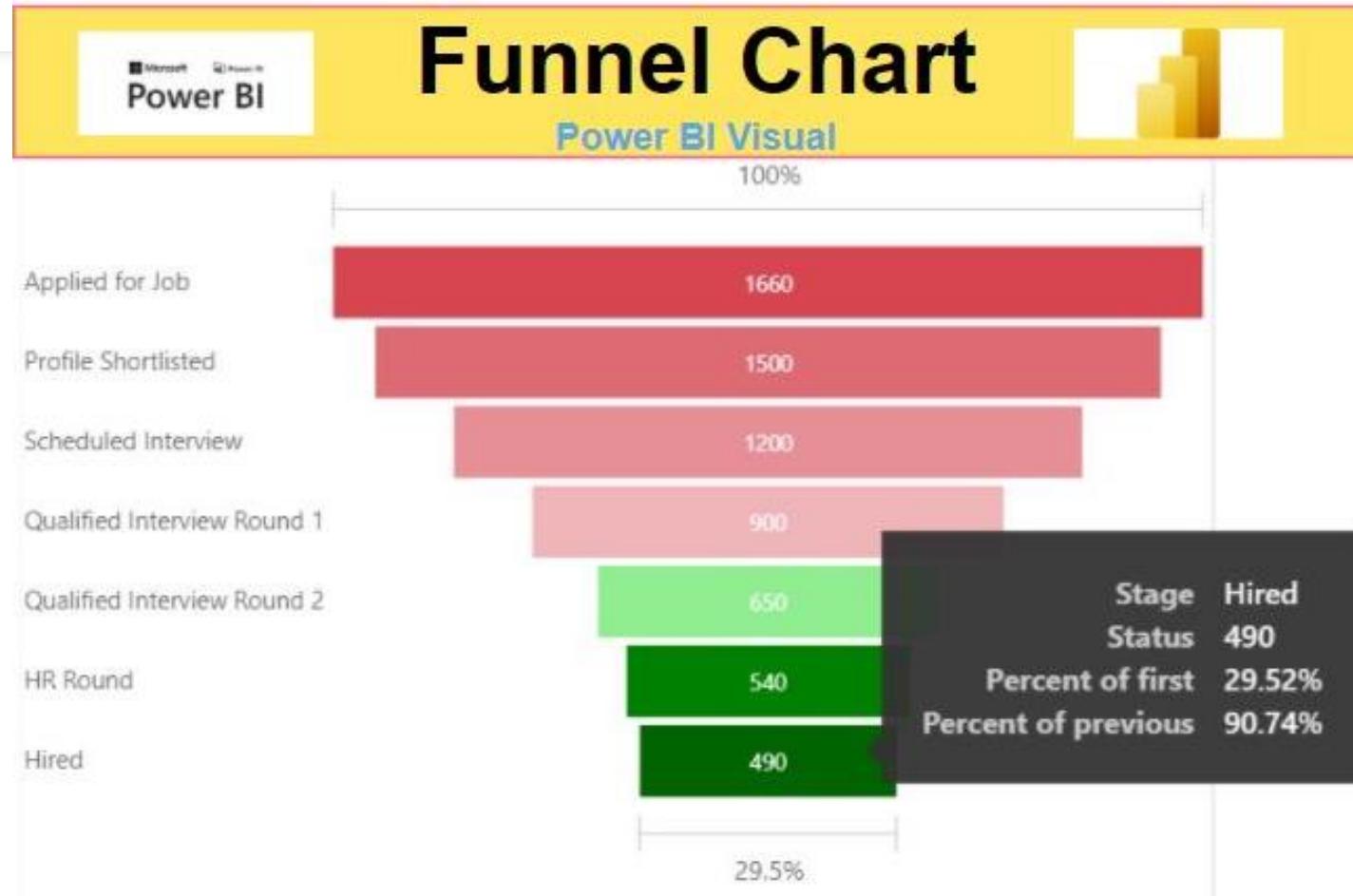
**Sales with respect to time and Ship Mode**

Y-axis: Sum of Sales  
X-axis: Delivery Date

Legend:  
Ship Mode



# Funnel chart

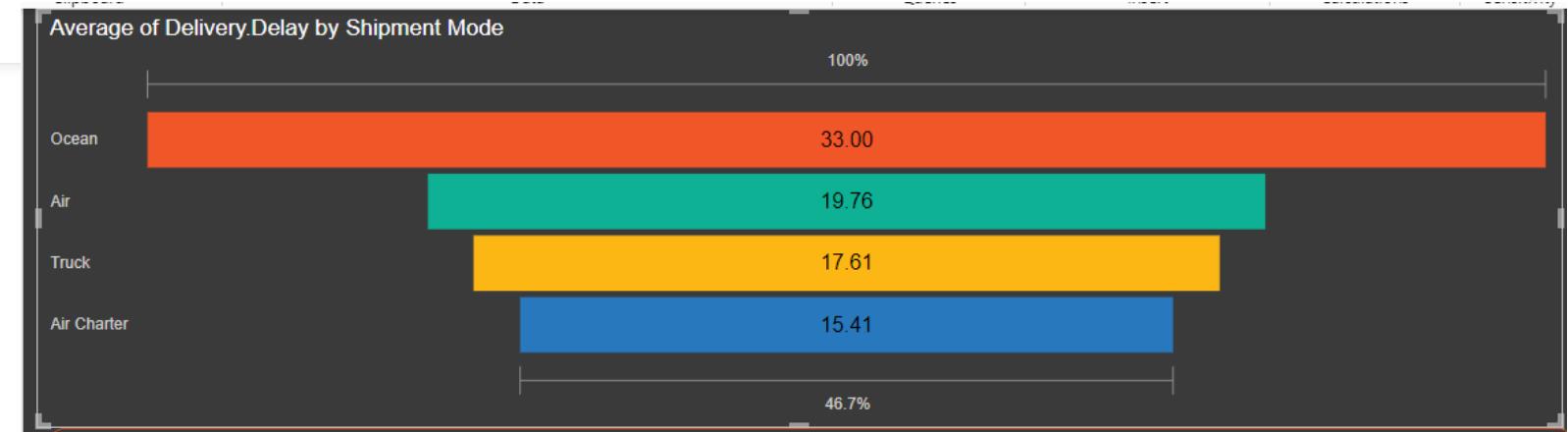


- Funnel charts show values across multiple stages in a process.
- For example, you could use a funnel chart to show the number of sales prospects at each stage in a sales pipeline.
- Typically, the values decrease gradually, allowing the bars to resemble a funnel.

# Funnel - Example

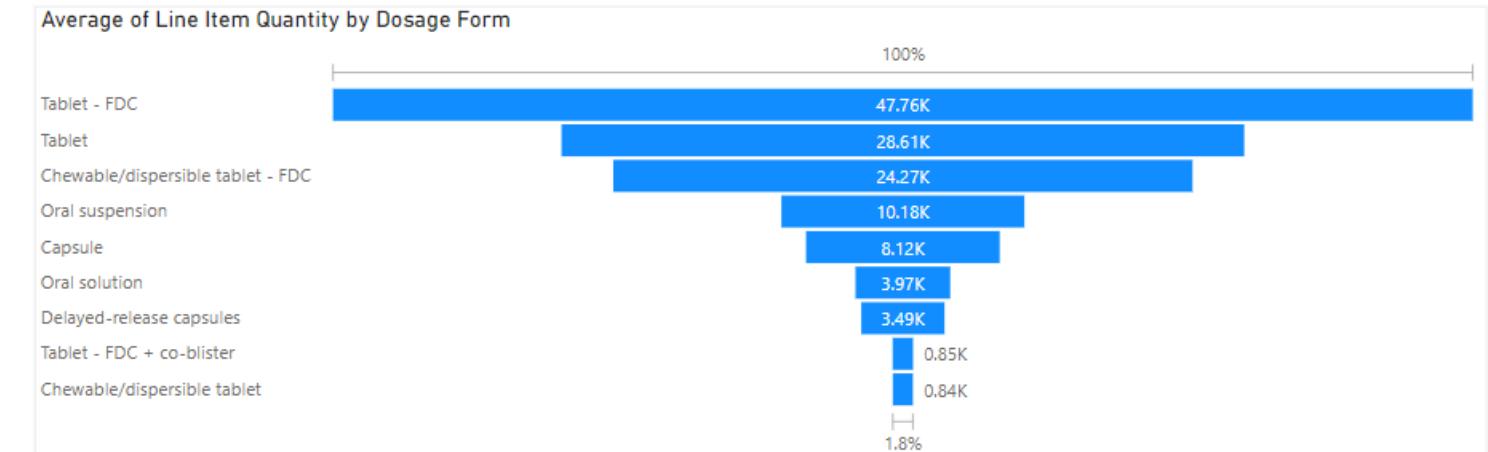
## Avg Delay by Ship Mode

Category: Ship Mode  
Values: Average of Delivery Delay



## Avg Line Item Quantity by Dosage Form

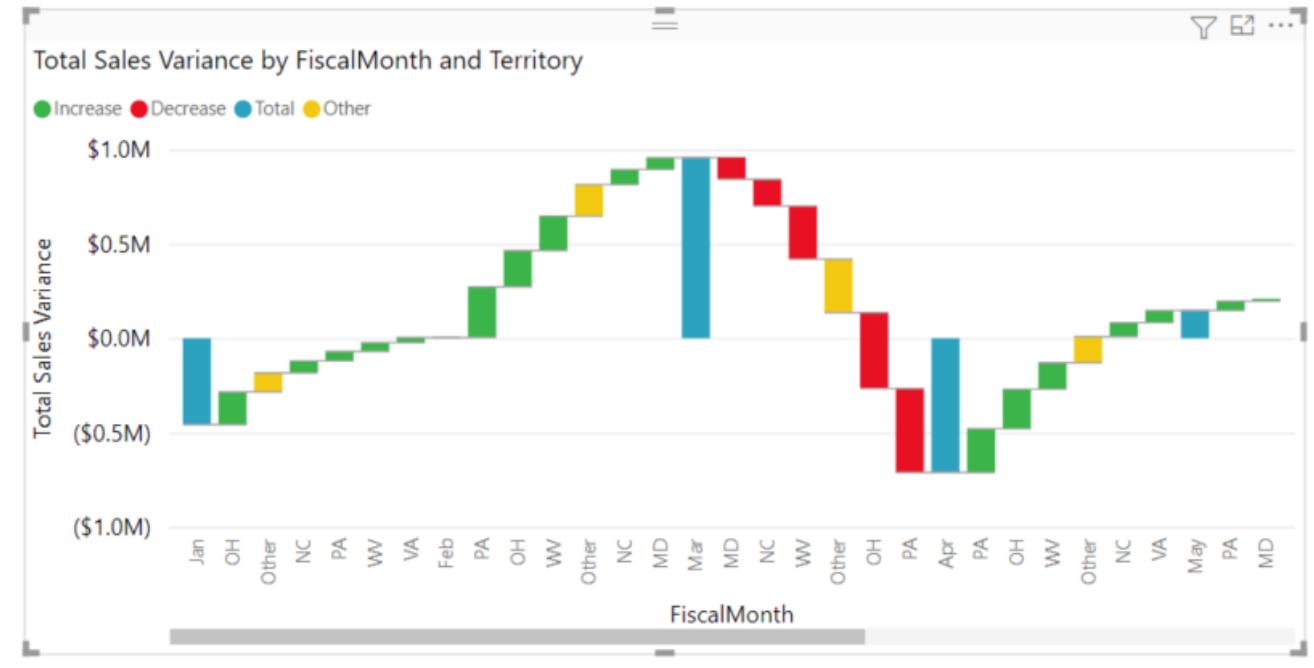
Category: Dosage Form  
Values: Average of Line Item Quantity



- By this time, you have understood that we need to have a filter for Delay>0 for every page for our analysis.

# Waterfall chart

- 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.



# Waterfall - Example

Category

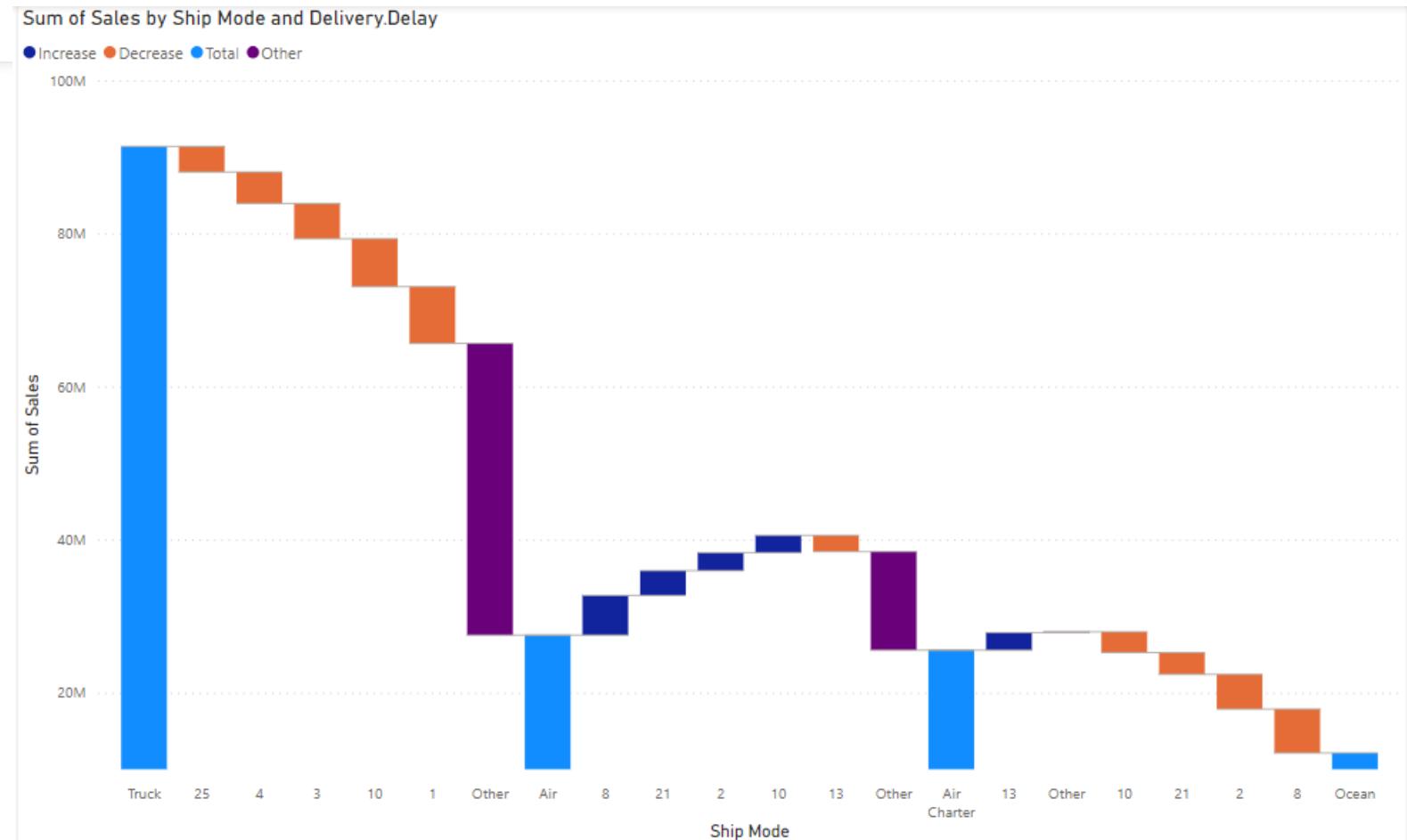
Ship Mode

Breakdown

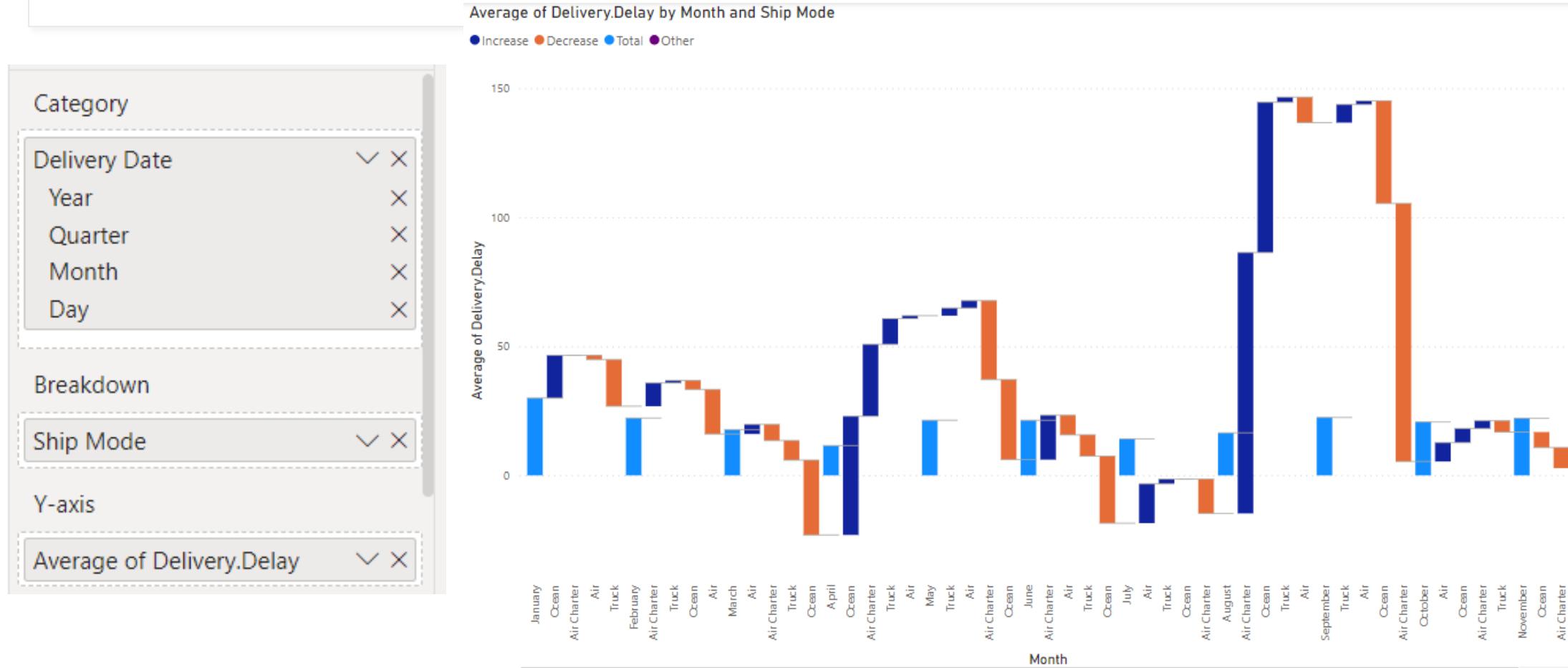
Delivery.Delay

Y-axis

Sum of Sales



# Waterfall with Time - Example



# Get more visuals...

- Sankey
- Radar
- Timeline Slicer
- Tornado
- Sunburst
- Bullet



**Sankey Chart** 

Microsoft Corporation

 (126)

Flow diagram where the width of the series is proportional to the quantity of the flow



**Radar Chart** 

Microsoft Corporation

 (130)

Multiple measures plotted over a categorical axis. Useful to compare attributes



**Timeline Slicer** 

Microsoft Corporation

 (242)

Graphical date range selector to use for filtering dates



**Tornado chart** 

Microsoft Corporation

 (54)

Comparing the relative importance of variables between two groups



**Sunburst** 

Microsoft Corporation

 (98)

Multilevel donut chart for effectively visualizing hierarchical data



**Bullet Chart** 

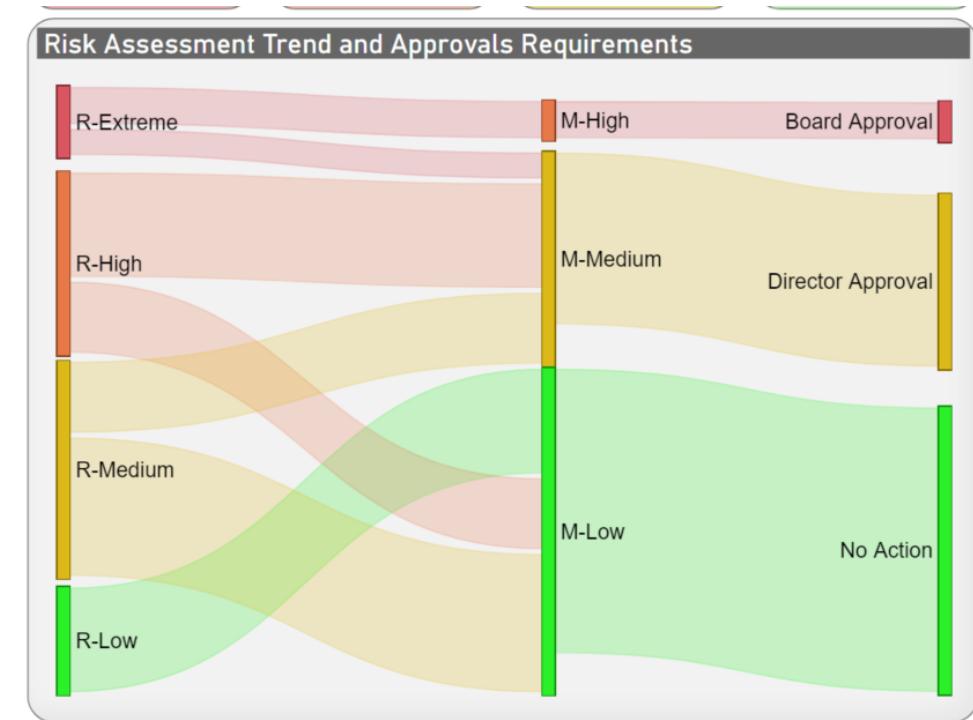
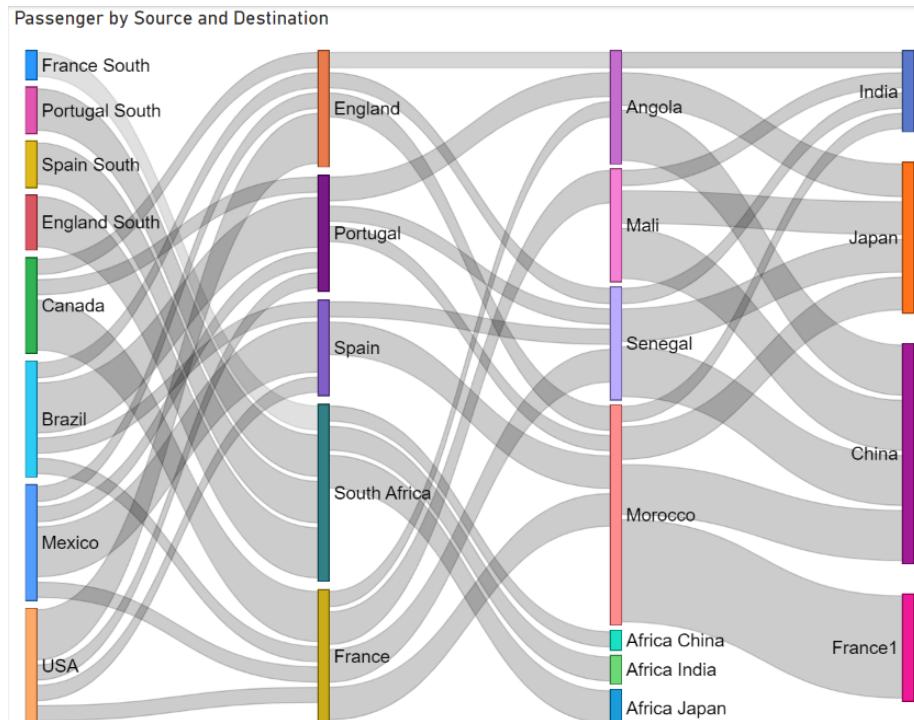
Microsoft Corporation

 (39)

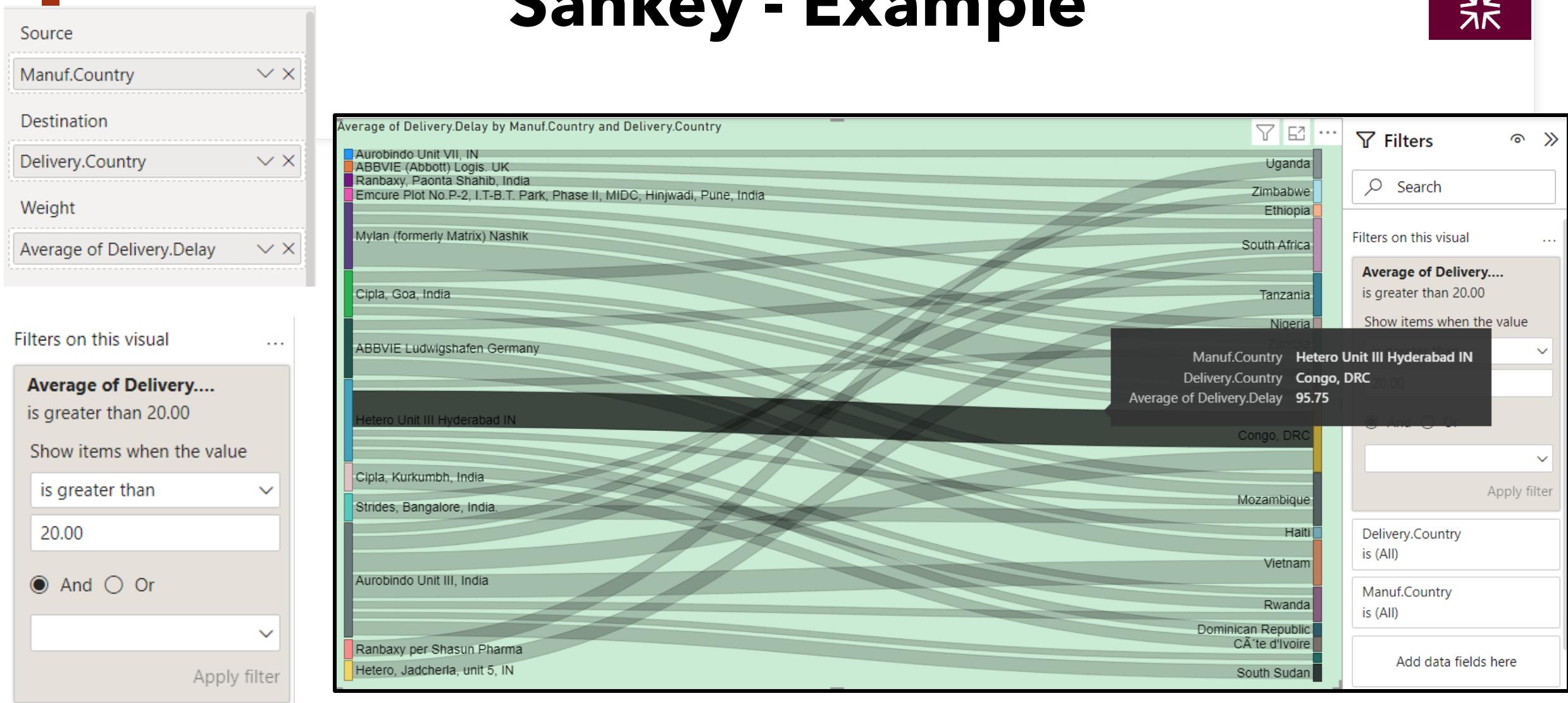
A bar chart with extra visual elements to provide additional context. Useful for tracking goals

# Sankey chart

- The Sankey chart is a beautiful visualization used to illustrate a flow of data (source -destination) from multiple levels and to multiple destinations. The things being connected are called nodes and the connections are called links.

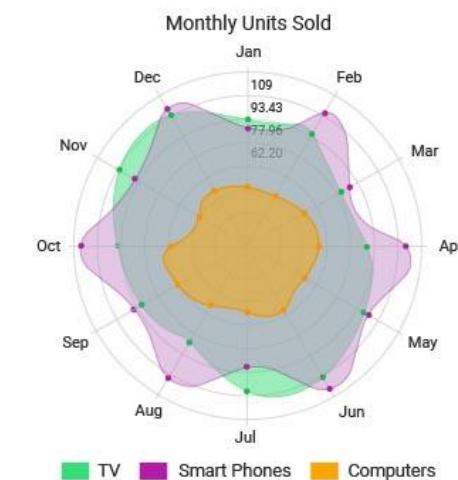
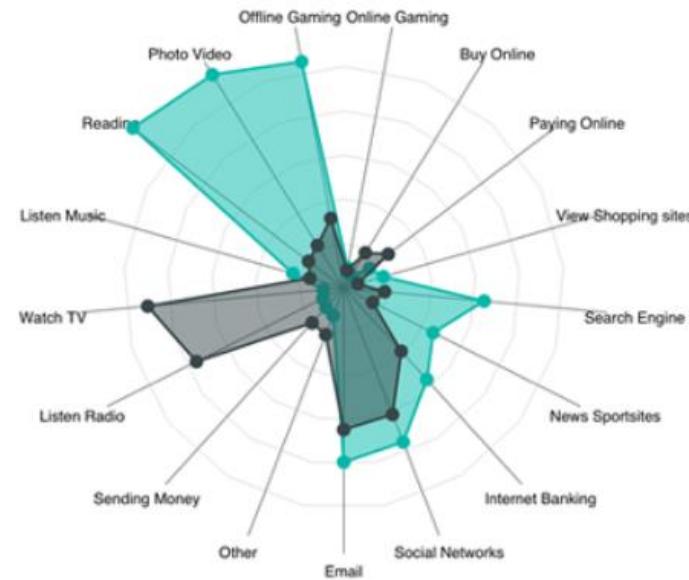


# Sankey - Example



# Radar chart

- A radar chart is used to display multiple categories of data on the chart. It is also known as a web chart, spider chart.



Category

**Ship Mode** ▼ X

Y Axis

**Sum of Sales** ▼ X

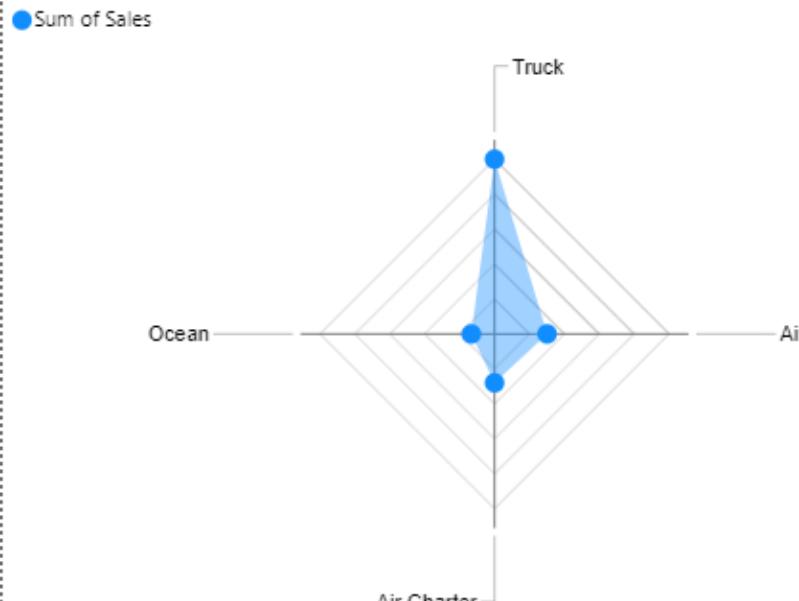
Category

**Ship Mode** ▼ X

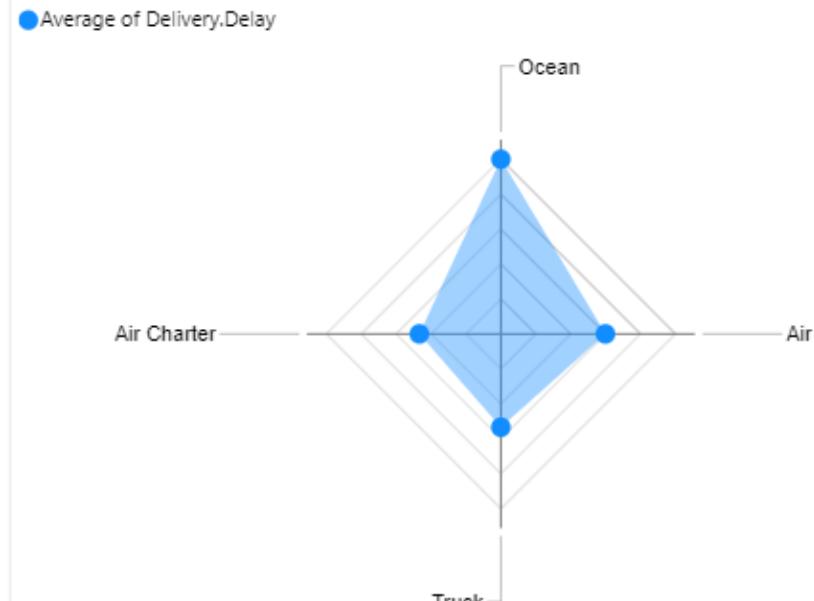
Y Axis

**Average of Delivery.Delay** ▼ X

**Sum of Sales by Ship Mode**



**Average of Delivery.Delay by Ship Mode**



Category

Molecule/Test Type

Y Axis

Average of Delivery.Delay

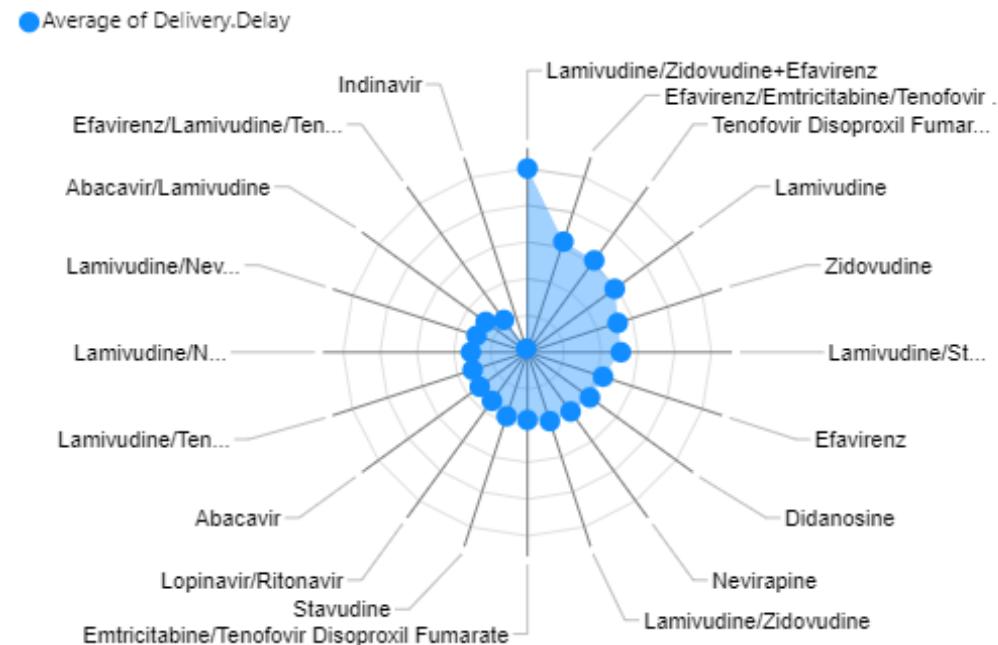
Category

Vendor

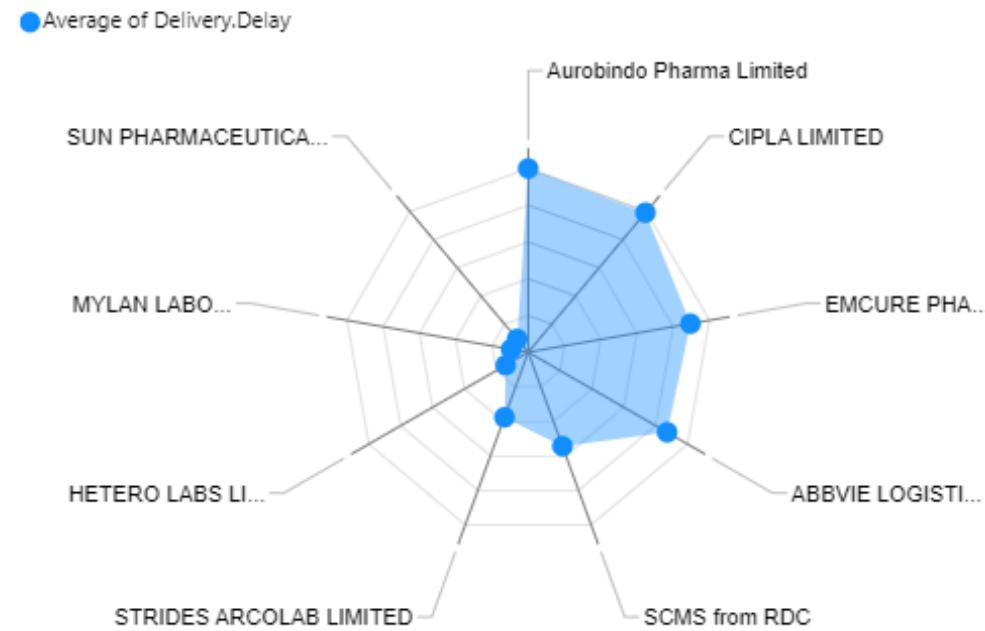
Y Axis

Average of Delivery.Delay

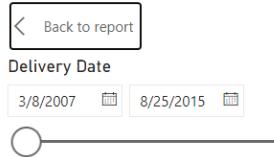
### Average of Delivery.Delay by Molecule/Test Type



### Average of Delivery.Delay by Vendor



# Slicer Types



- Default - Time Slicer due to Date format
- Switch to Vertical List
- Adjust the Date hierarchy to show years only
- You may try other slicer settings to explore.

The screenshot shows the Power BI 'Visualizations' pane on the right side of the interface. In the center, there is a 'Slicer settings' dialog box. At the top of this dialog, under the 'Visual' tab, is a 'Style' dropdown menu. The menu is currently open, displaying several options: 'Between' (which is highlighted with a gray background), 'Vertical list', 'Tile', 'Before', 'After', 'Dropdown', 'Relative Date', and 'Relative Time'. To the left of the style dropdown, there is a section titled 'Options' with a 'Style' sub-section containing the same list of options. Above the style dropdown, there is a search bar labeled 'Search' and tabs for 'Visual' and 'General' settings.

# Timeline Slicer

- Graphical date range selector to use for filtering dates

## Try it Yourself

Delivery country with Average of Delivery Delay.

Explore the timeline slicer.

