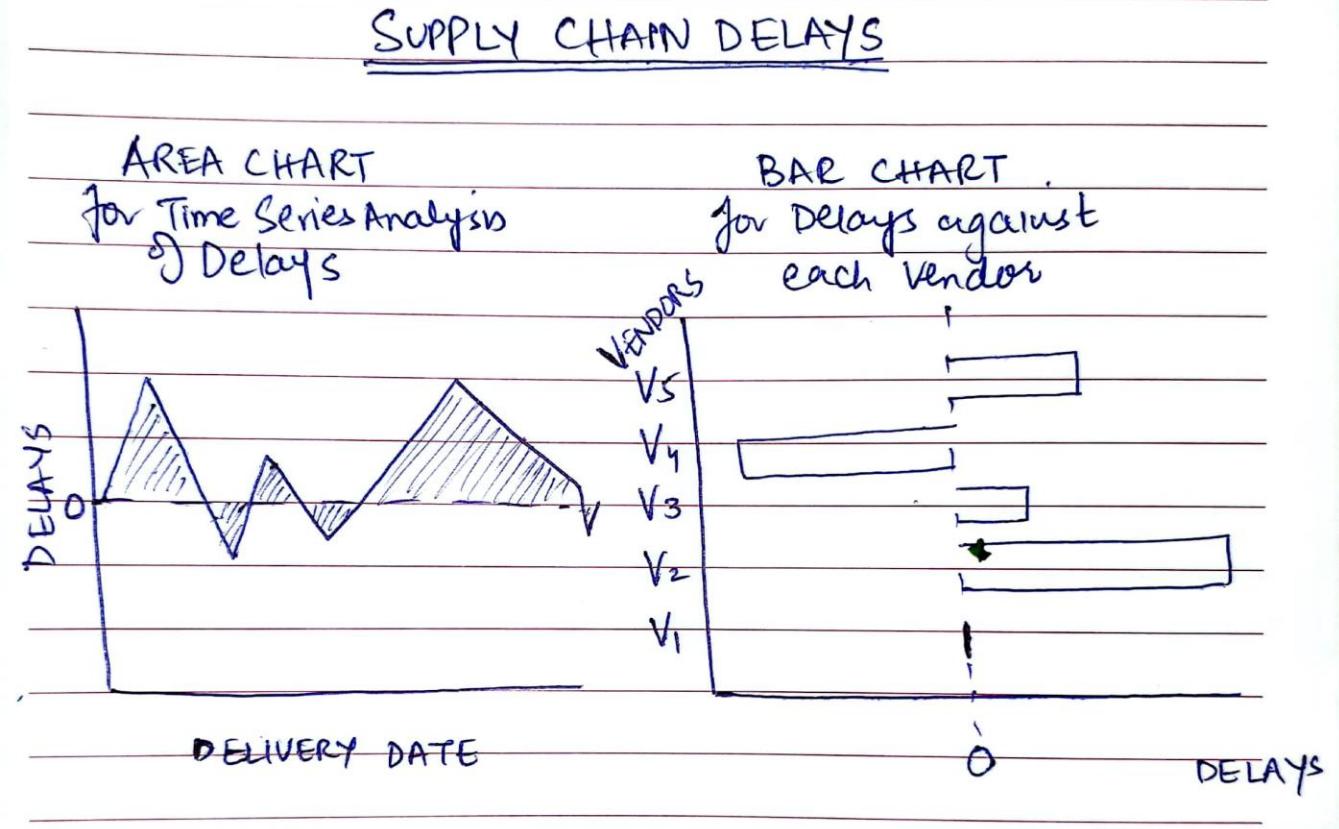


Intro to PowerBI

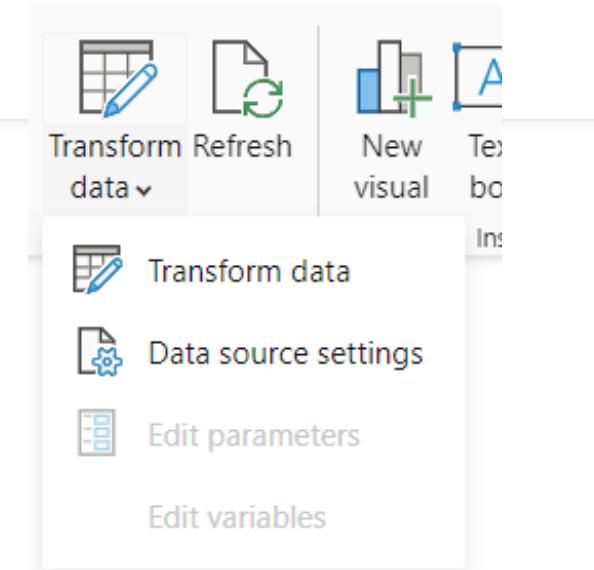
CS 459 Business Intelligence

Storytelling on Paper



Transformations made

- Deleted useless columns 1,2,3
- Rename columns:
 - Delivered to Client Date → Delivery Date
 - Item Description → Item Desc
 - Others as required
- Full Via Replace “From RDC” to “RDC”
- Trimmed the text in Manuf. Country column



Create Hierarchies

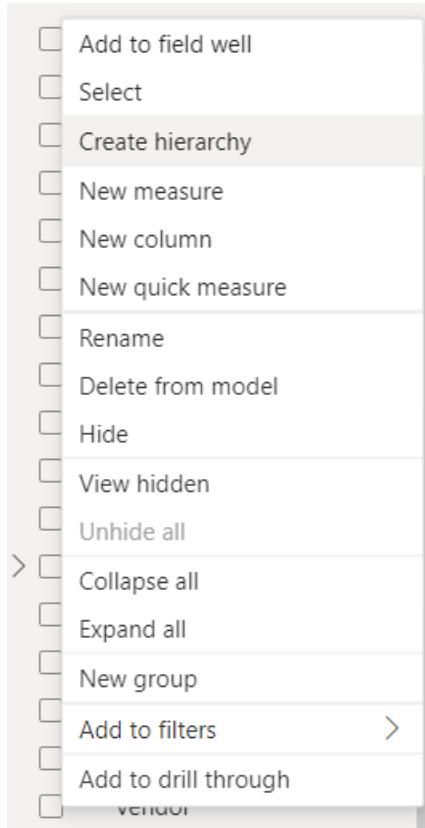
- Right click on the starting point of the hierarchy → Create Hierarchy
- Continue to add the required variables in the hierarchy.

Identified Hierarchies

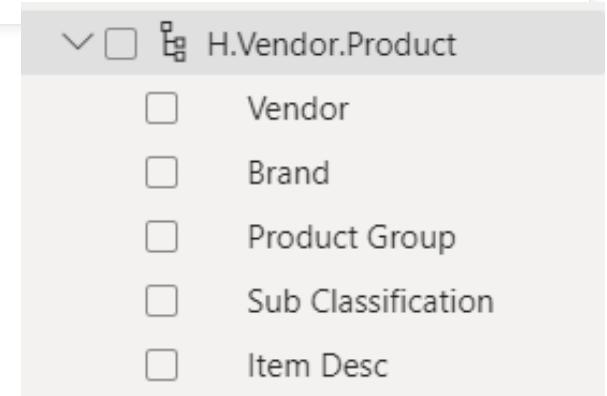
Create hierarchies in Power BI for easier accessibility in analysis.

H1	H2	H3	H4
H.Project	H.Vendor.Country	H.Vendor.Product	H.Dosage
Project code PQ# PO/SO#	Vendor Delivery Country Manuf. Country	Vendor Brand Product Group Sub classification Item Description	Dosage Form Dosage Molecule Test Type

Creating H.Vendor.Product



- Right click on Vendor
- Create Hierarchy
- Name it as "H.Vendor.Product"
- Go to the next level, add it to this hierarchy.



Note: You can name it as you like, this naming convention allows for better readability and ease of access.

Create Hierarchies

Proceed to create the other 3 hierarchies

H1	H2	H3	H4
H.Project	H.Vendor.Country	H.Vendor.Product	H.Dosage
Project code PQ# PO/SO#	Vendor Delivery Country Manuf. Country	Vendor Brand Product Group Sub classification Item Description	Dosage Form Dosage Molecule Test Type

Line charts

This Year Sales and Last Year Sales by FiscalMonth



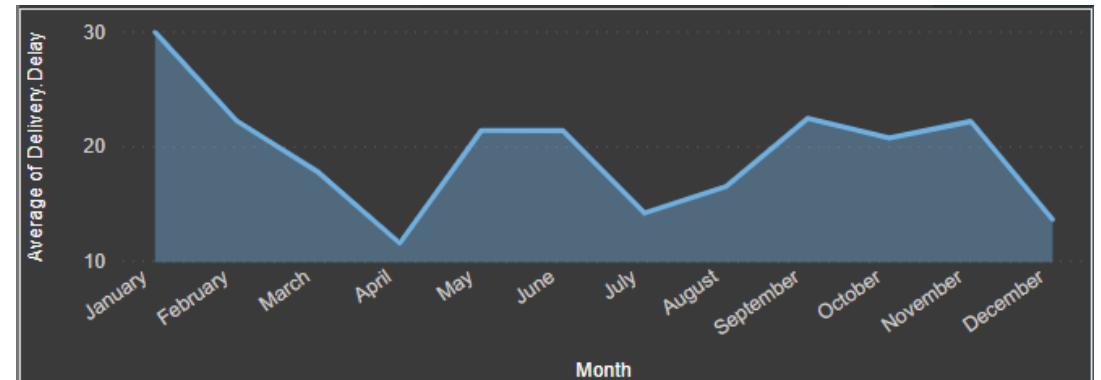
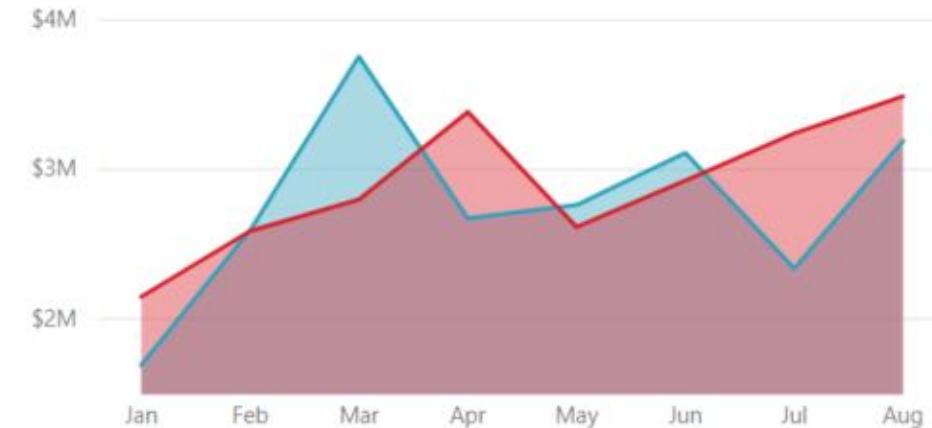
- Line charts emphasize the overall shape of an entire series of values, usually over time.

Area charts: Basic (Layered) and Stacked

- The basic area chart is based on the line chart with the area between the axis and line filled in.
- Area charts emphasize the magnitude of change over time, and can be used to draw attention to the total value across a trend.
- For example, data that represents profit over time can be plotted in an area chart to emphasize the total profit.

This Year Sales and Last Year Sales by FiscalMonth

● This Year Sales ● Last Year Sales

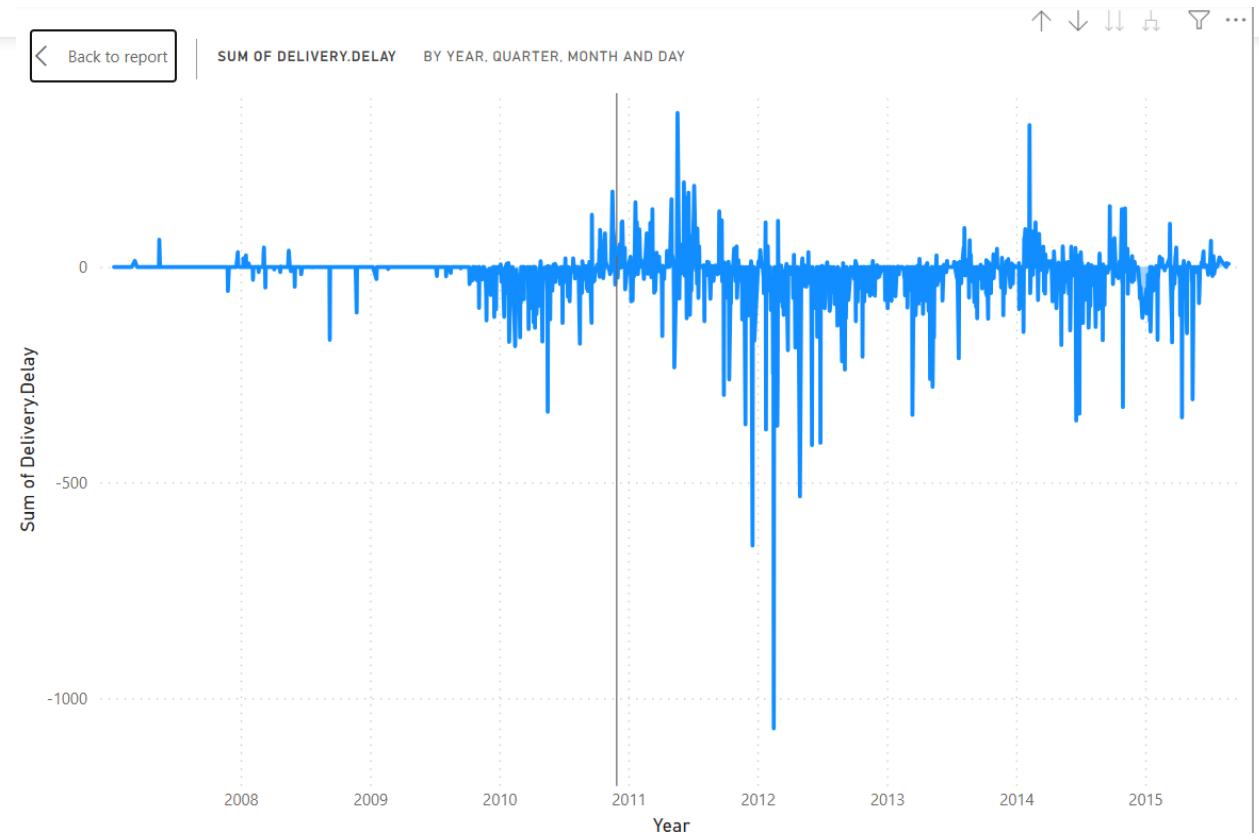


Area / Line - Example

Time Series Trends of Delivery Delay

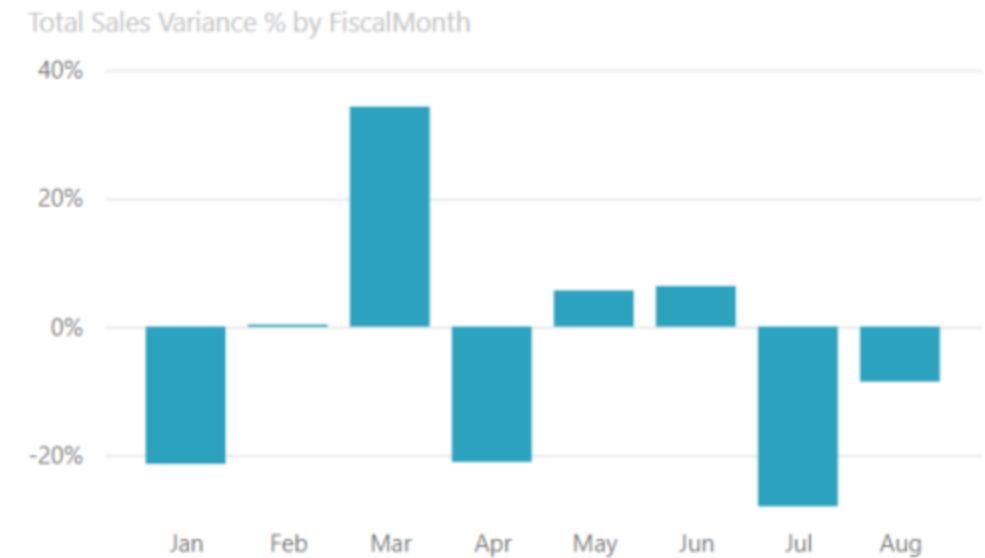
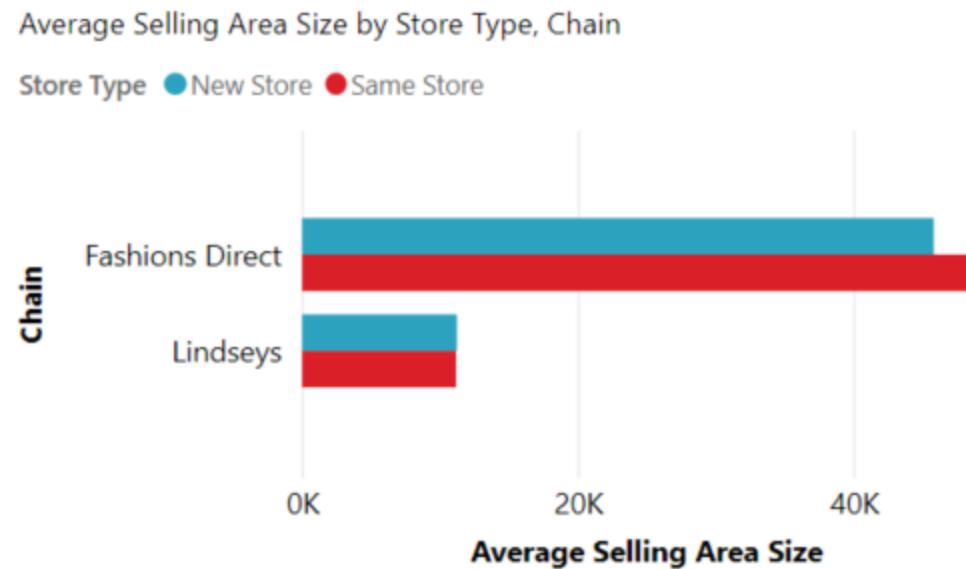
Y-axis: Sum of Delivery Delay
X-axis: Delivery Date

Sum or Average or Count?



Bar and column charts

- Bar charts are the standard for looking at a specific value across different categories.



Bar / Column - Example

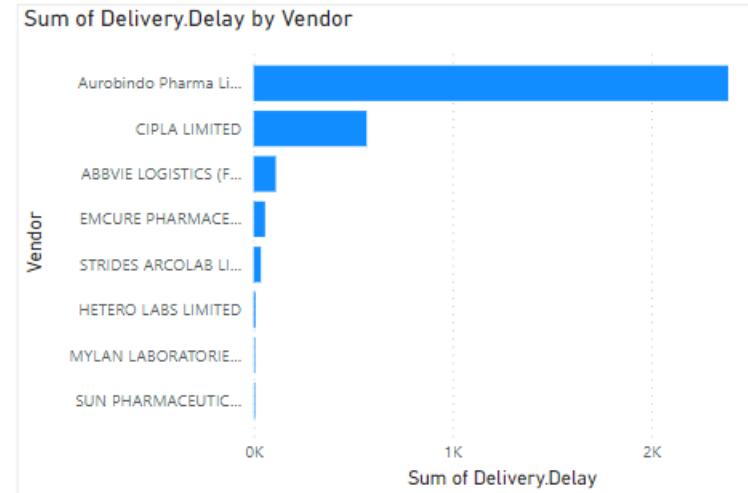
Delays against Vendor

Y-axis: H.Vendor.Product

X-axis: Sum of Delivery Delay



Page level filter for Delivery Delay



Filters

Search:

Filters on this page

Delivery.Delay
is greater than 0

Filter type ⓘ Advanced filtering

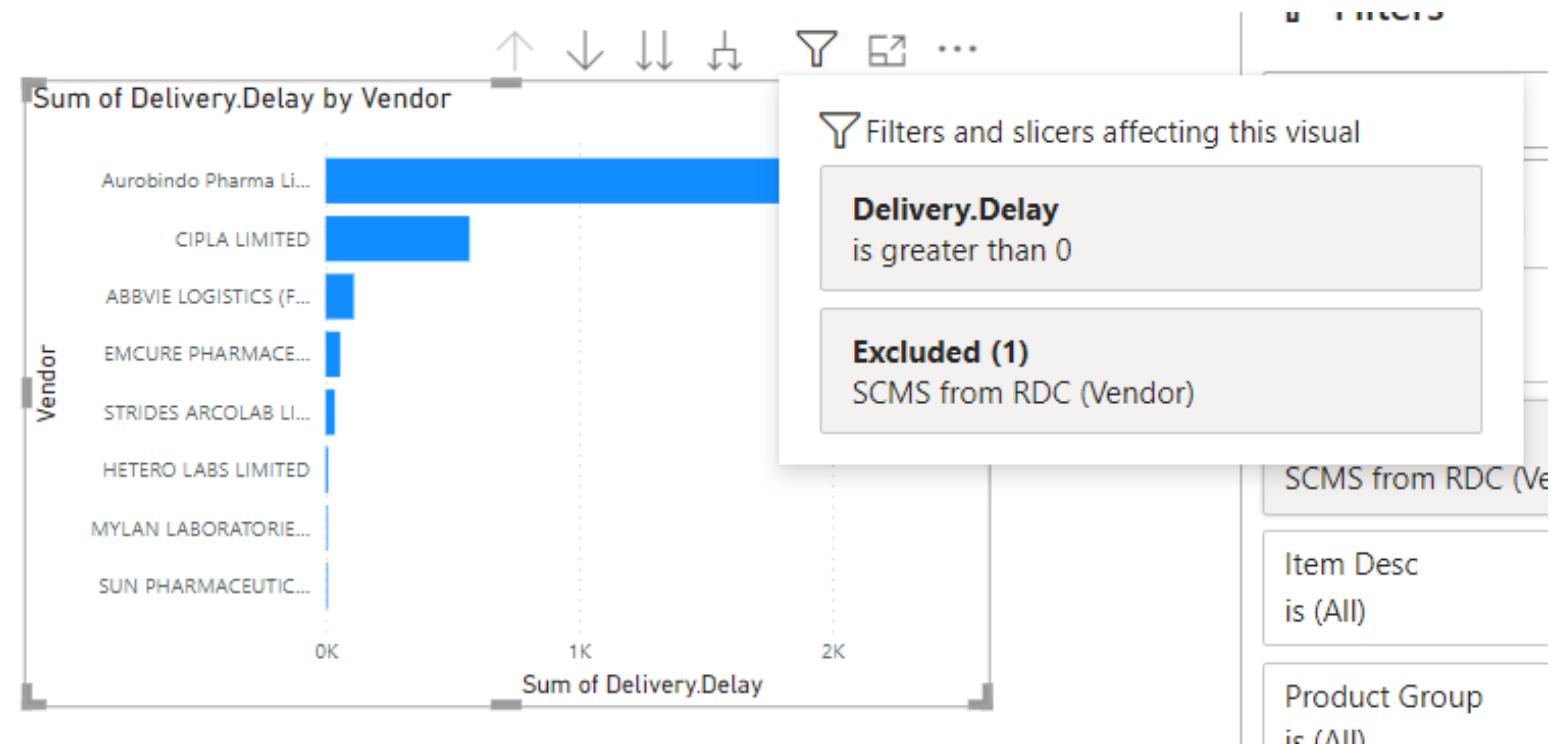
Show items when the value
is greater than

0

And Or

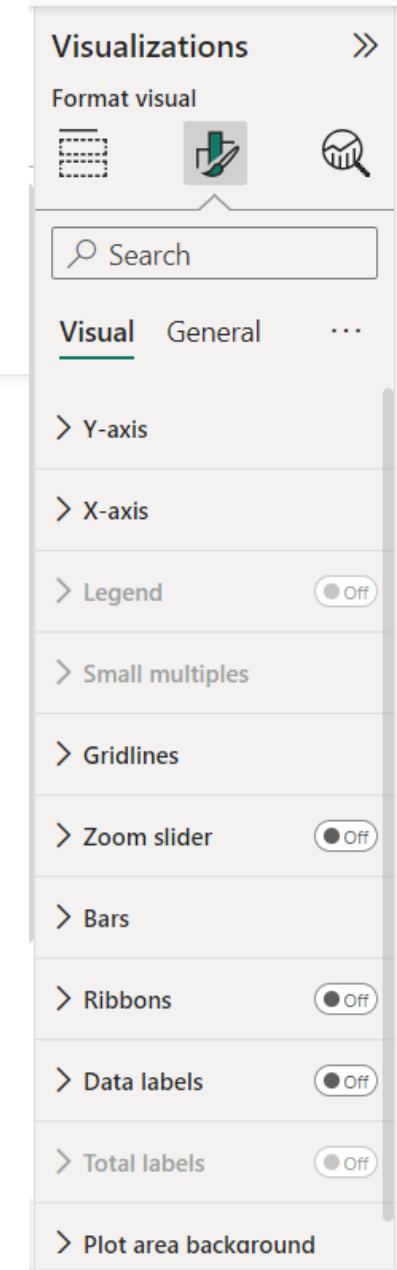
Add data fields here

View filters on a specific chart



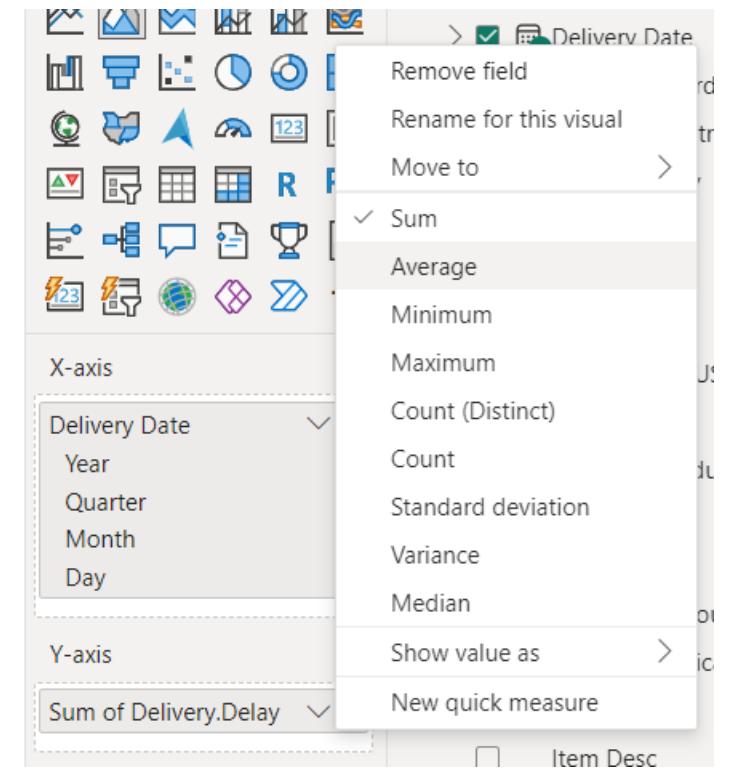
Format Tools Overview

- Explore different options to change the design and color of your chosen visual.



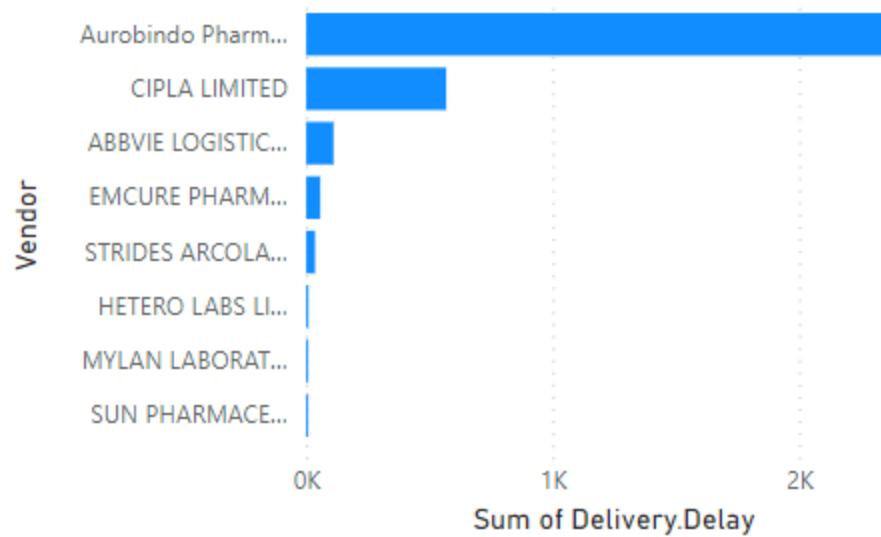
Other Aggregates

- View Average delays and Count of delays

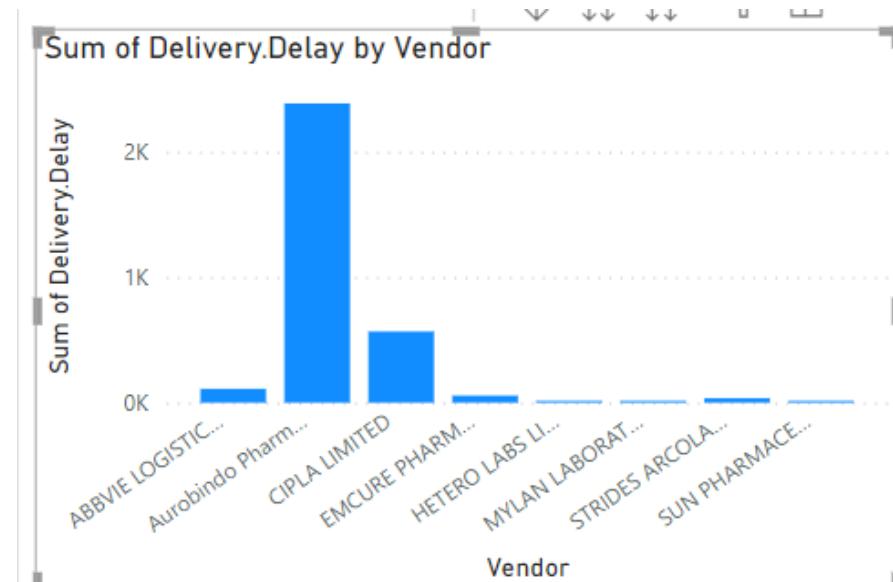


Bar Vs Column

Sum of Delivery.Delay by Vendor

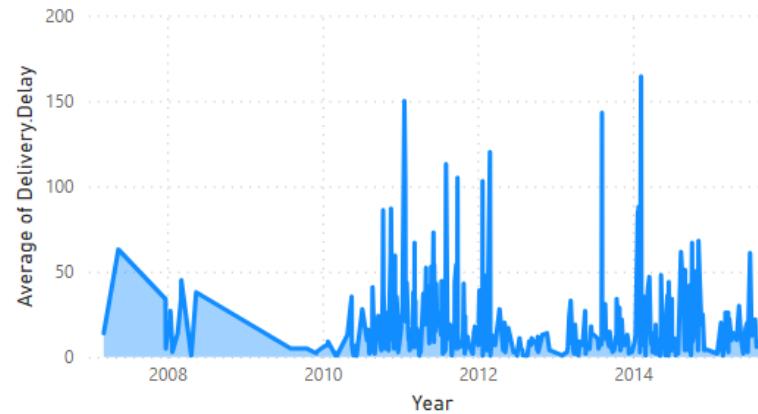


Sum of Delivery.Delay by Vendor

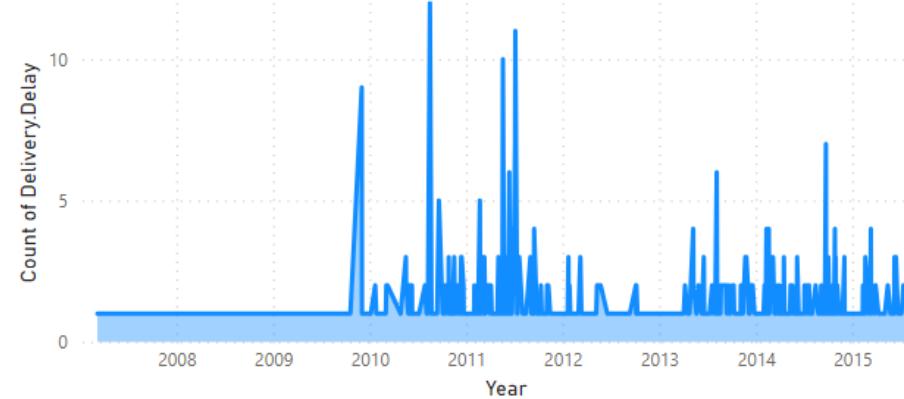


Average and Counts

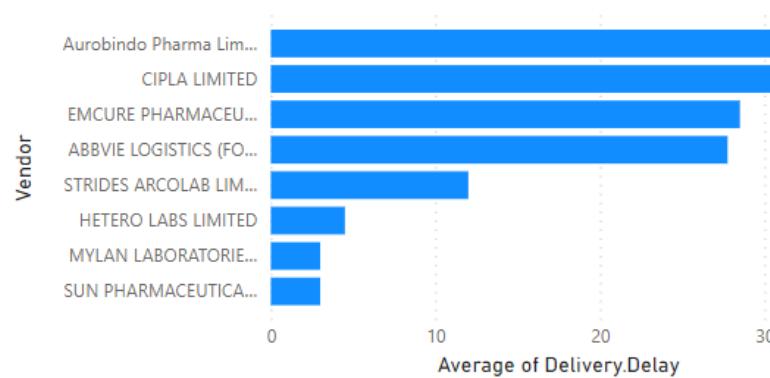
Average of Delivery.Delay by Year, Quarter, Month and Day



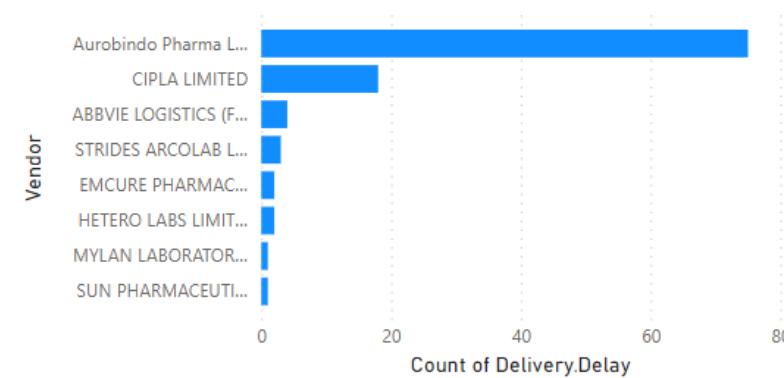
Count of Delivery.Delay by Year, Quarter, Month and Day



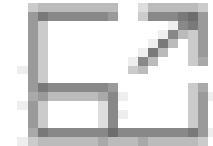
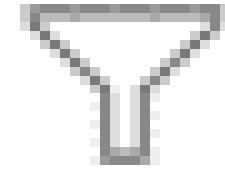
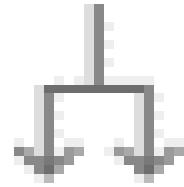
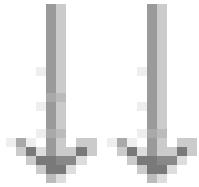
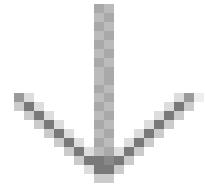
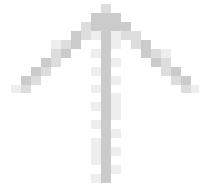
Average of Delivery.Delay by Vendor



Count of Delivery.Delay by Vendor



Drill down features



Drill Up	Click to Turn On Drill Down	Next Level in Hierarchy	Expand all down one level in hierarchy	Filters and slicers	Focus Mode

Drill on **Rows** ...

Region	Central		East		West		Total		
	Sales Stage	Opportunity Count	Revenue						
Lead		102	\$507,574,417	114	\$473,887,837	52	\$256,159,114	268	\$1,237,621,368
Qualify		29	\$111,715,461	50	\$195,692,154	15	\$52,442,363	94	\$359,849,978
Solution		29	\$100,743,789	30	\$134,347,170	15	\$53,441,501	74	\$288,532,460
Proposal		14	\$46,722,869	13	\$59,970,924	10	\$43,032,669	37	\$149,726,462
Finalize		5	\$23,302,246	5	\$30,696,428	4	\$21,176,185	14	\$75,174,859
Total		179	\$790,058,782	212	\$894,594,513	96	\$426,251,832	487	\$2,110,905,127

Matrix and Tables

- The matrix visual is a type of table visual that supports a stepped layout. A table supports two dimensions, but a matrix makes it easier to display data meaningfully across multiple dimensions. Often, report designers include matrixes in reports and dashboards to allow users to select one or more element (rows, columns, cells) in the matrix to cross-highlight other visuals on a report page.

Cards

030-Kids

\$5.30

Average Unit Price

- Multi row cards display one or more data points, one per row.

104

Total Stores

- Single number cards display a single fact, a single data point.

Create some cards

645

Count of Delivery Delay

7.66M

Sum of Freight Cost (USD)

156.60M

Sum of Sales

21M

Sum of Line Item Quantity

5.08K

Average of Weight (Kilograms)

View some KPIs

Count of Delivery Delay

Sum of Freight Cost

Sum of Sales

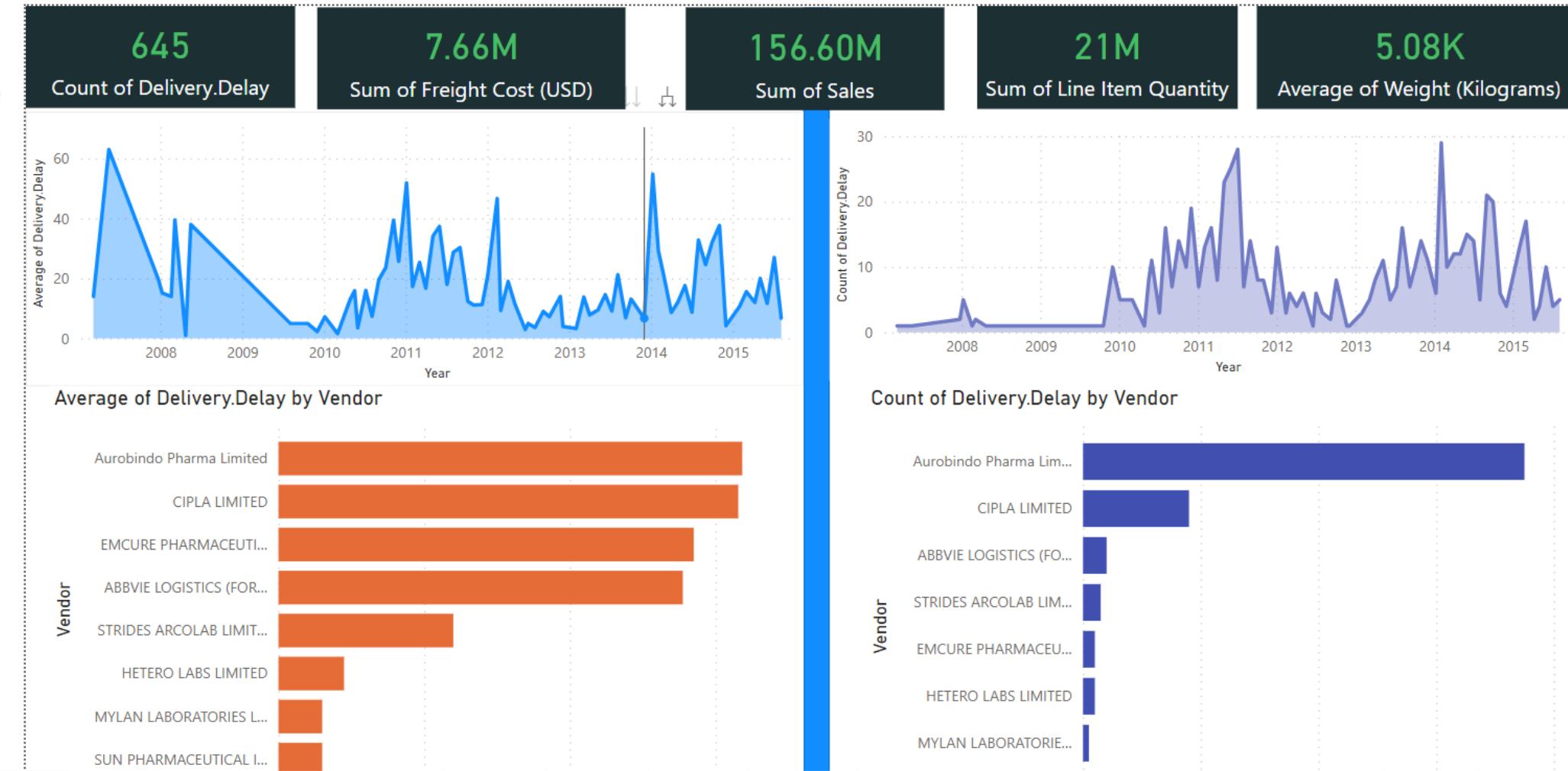
Sum of Line Item Quantity

Average Weight

Setup a Dashboard

Give a single perspective into the problem

Dashboard



Add another page...

Multiple pages
turns this into a
report.

Create a story!



Scatter plot

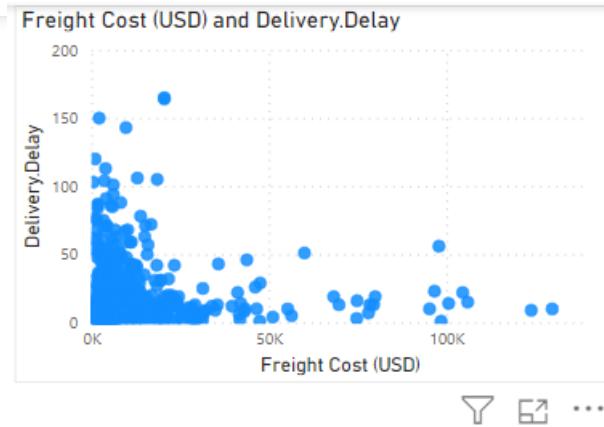
- A scatter chart shows the relationship between two numerical values.
- A bubble chart replaces data points with bubbles, with the bubble size representing a third data dimension.

Scatter - Example

- Ensure filter on page.
- Our analysis is looking at delays which are values greater than 0.

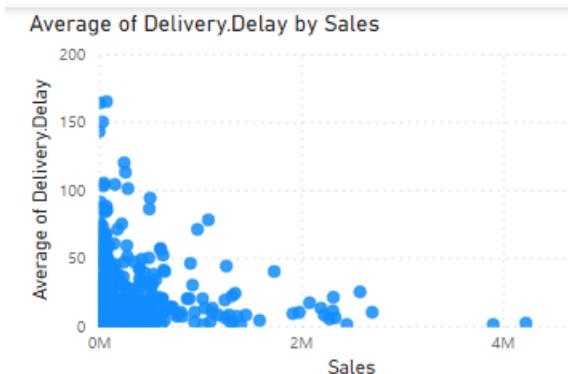
Freight Cost Vs Delay

Y-axis: Delivery Delay
 X-axis: Freight Cost
 Right click – Don't summarize



Sales Vs Average Delay

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

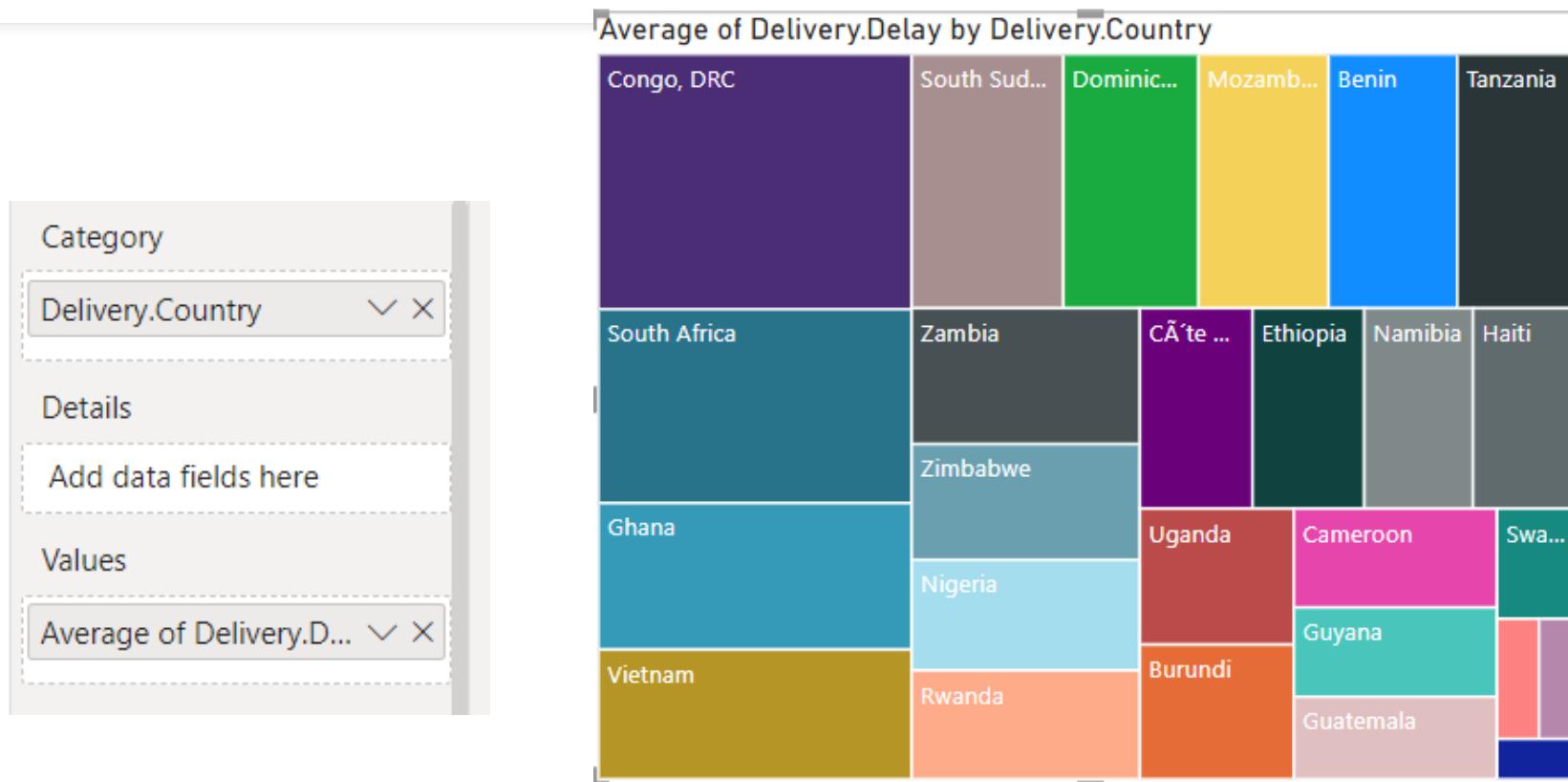


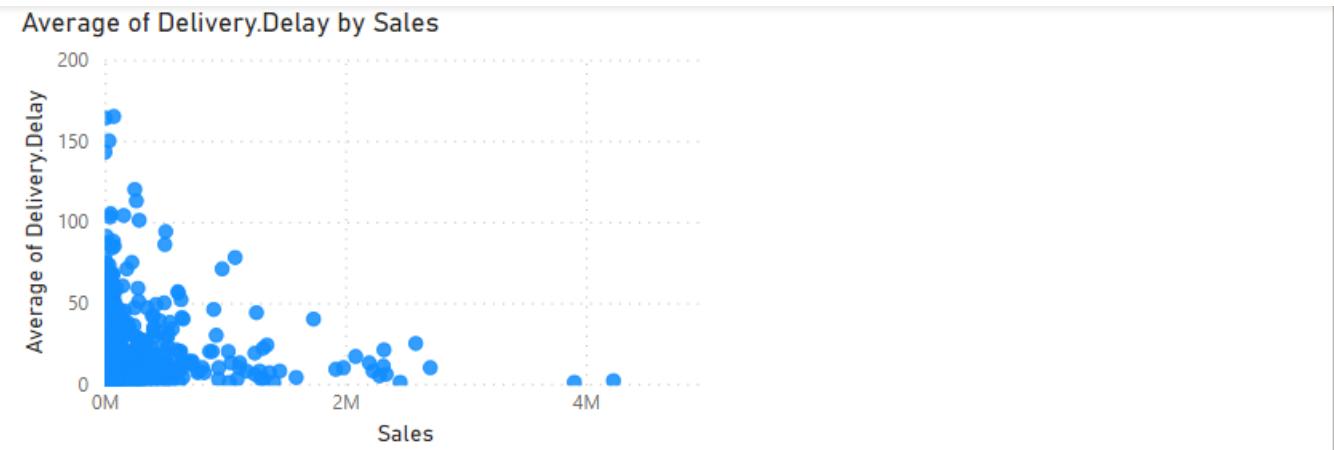
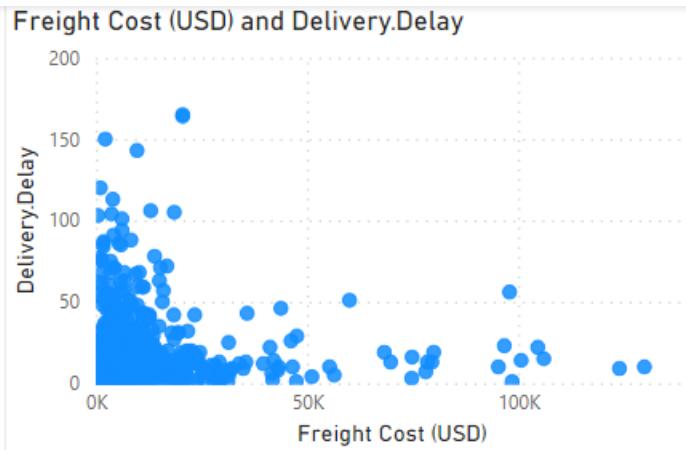
Treemap

- Treemaps display hierarchical data as a set of nested rectangles. Each level of the hierarchy is represented by a colored rectangle called a branch node. Each branch contains smaller rectangles called leaf nodes.
- Power BI uses the measure value to determine the rectangle size for branches and leaves.
- The rectangles are arranged by size with the largest branch node at the top left and the smallest branch at the bottom right. The arrangement of the leaf nodes within each branch follows the same order.

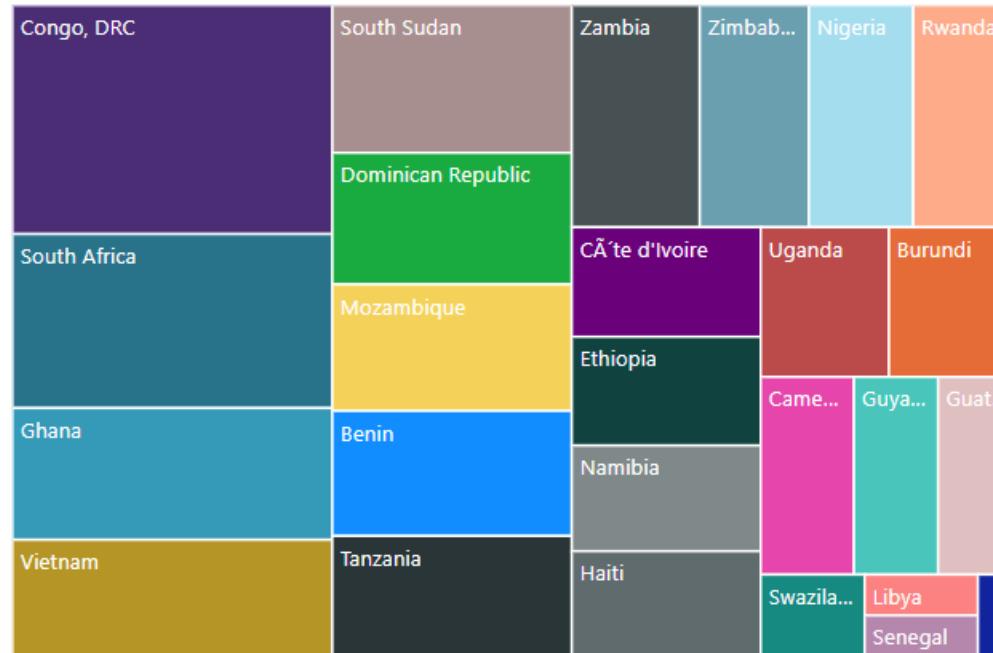


Test out on Country Data

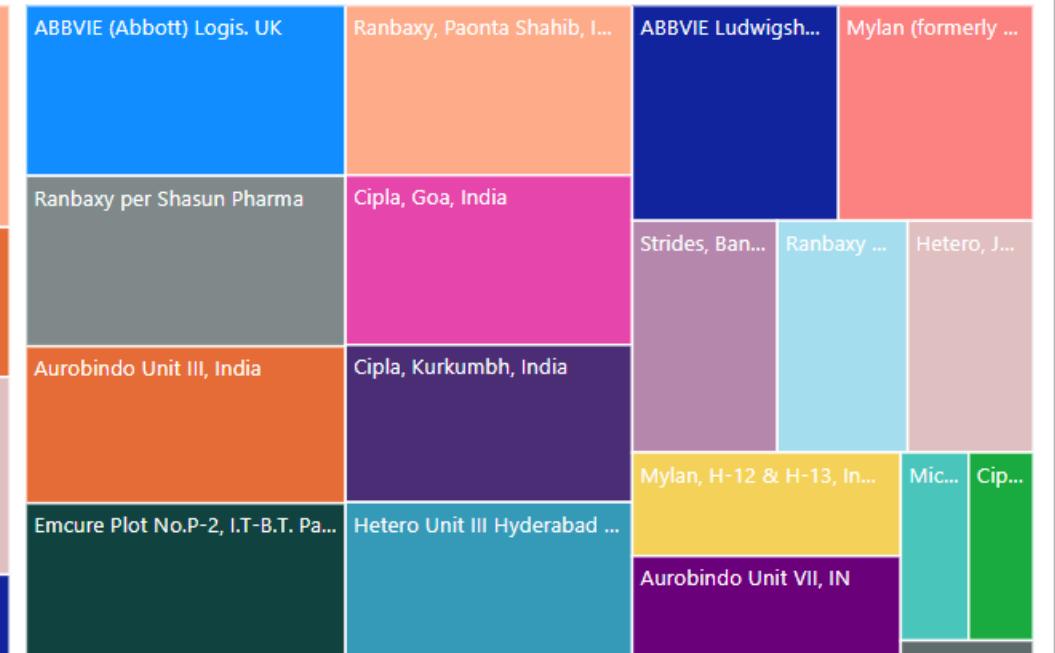




Average of Delivery.Delay by Delivery.Country



Average of Delivery.Delay by Manuf.Country



Slicers

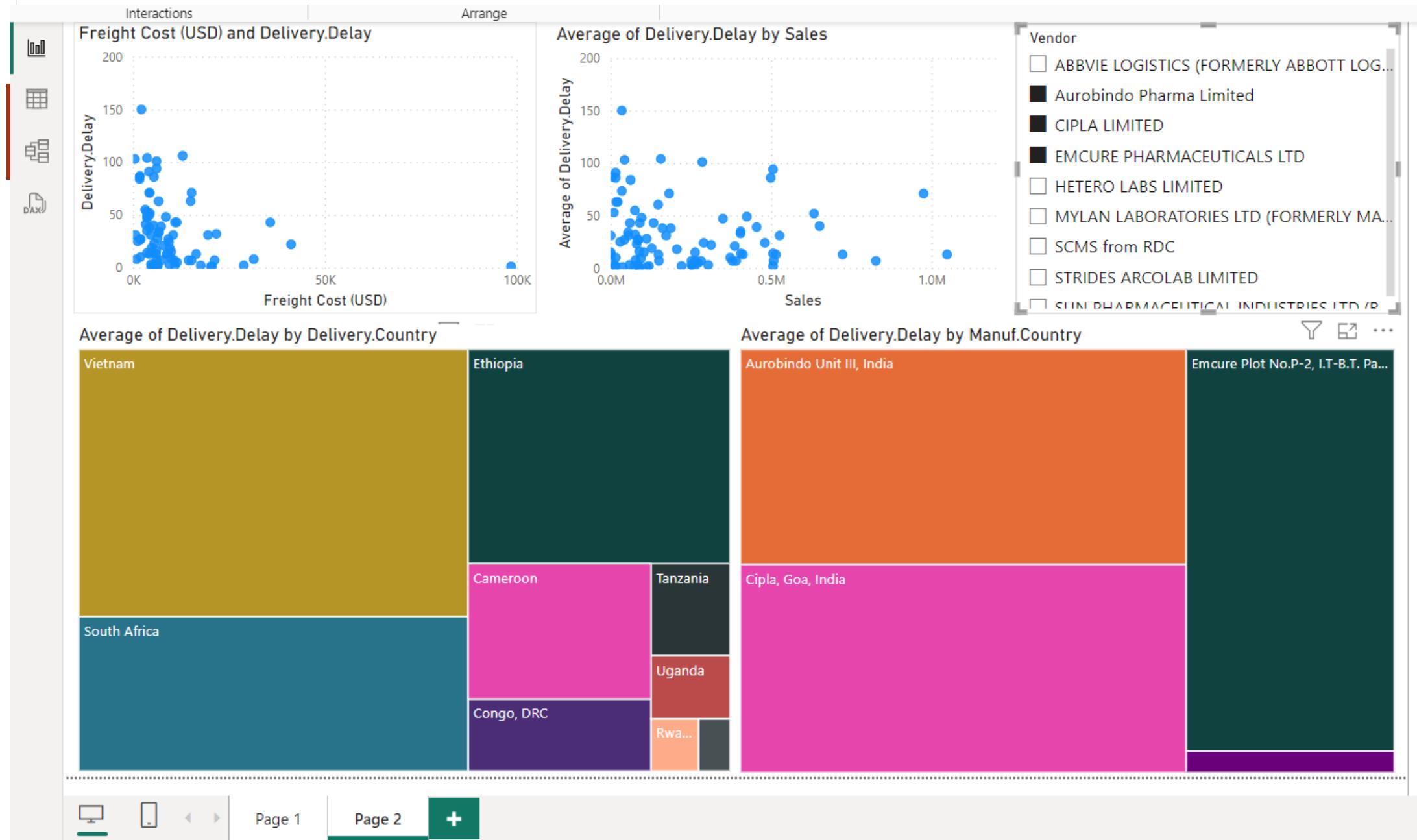
Slicer

Vendor

We have established some vendors of interest from the previous page. We can select those to gain a better picture.

Press Ctrl Key and click to select multiple options.





Create a Title Page

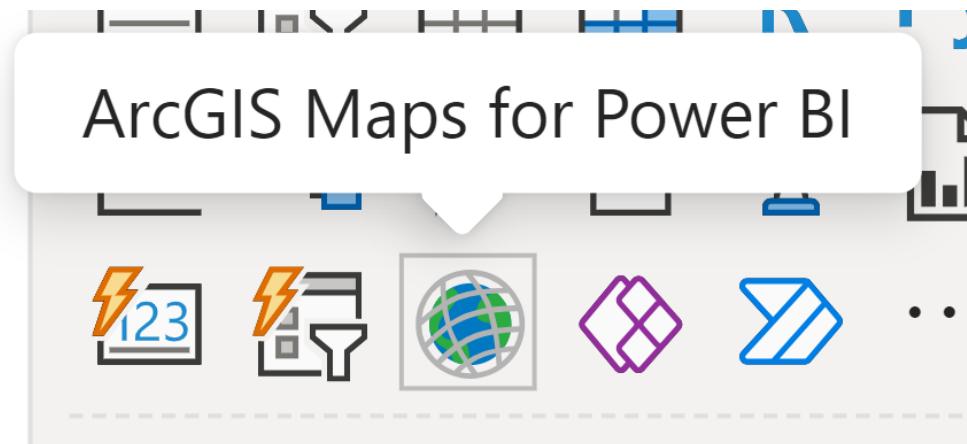
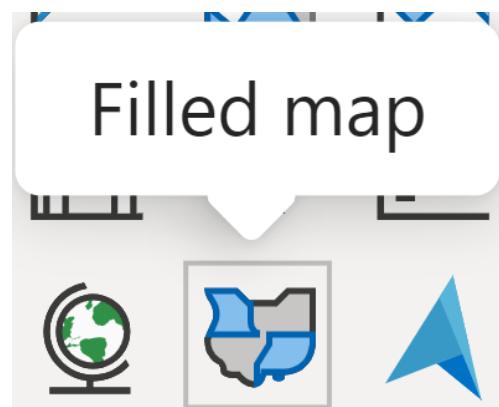
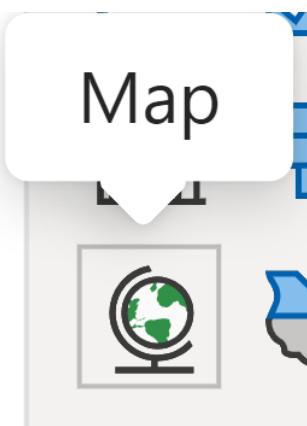
- Add buttons, text boxes, shapes and images.
- Add actions to form an interactive report

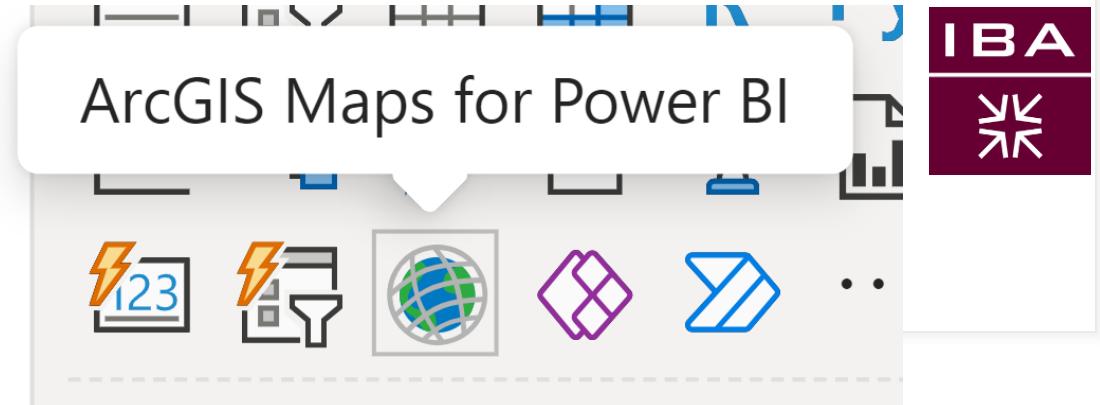
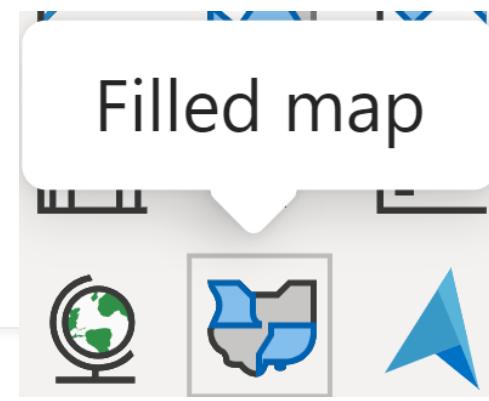
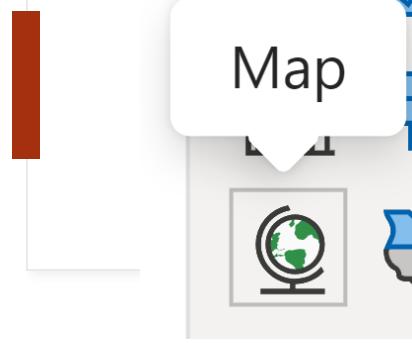
The screenshot shows a Microsoft Power BI report interface. The main visual is a hand holding a white capsule over a glowing green network globe against a dark background. Overlaid on the left is a white rectangular box containing the text "Supply Chain Case Study". Below this, a smaller box contains the "Problem Statement": "Analysis of the Efficiency of Supply chain of a Pharmaceutical Company". The Power BI ribbon is visible at the top, and the bottom navigation bar shows "Page 3" is selected. A context menu titled "Format button" is open on the right side of the screen, showing options for "Action" (set to "On"), "Type" (set to "Page navigation"), "Destination" (set to "Page 1"), and "Reset to default".

Try it Yourself



A geographical perspective - Maps





Map

Location:
Delivery
Country

Bubbles:
Delay

Filled Map

Location:
Delivery Country

Legend:
Delay

ArcGIS

Location:
Delivery Country

Color or Size: (Try both)
Delay

Enable ArcGIS from:
Options and Settings → Options →
Global → Security → Check the 2 maps
related boxes

