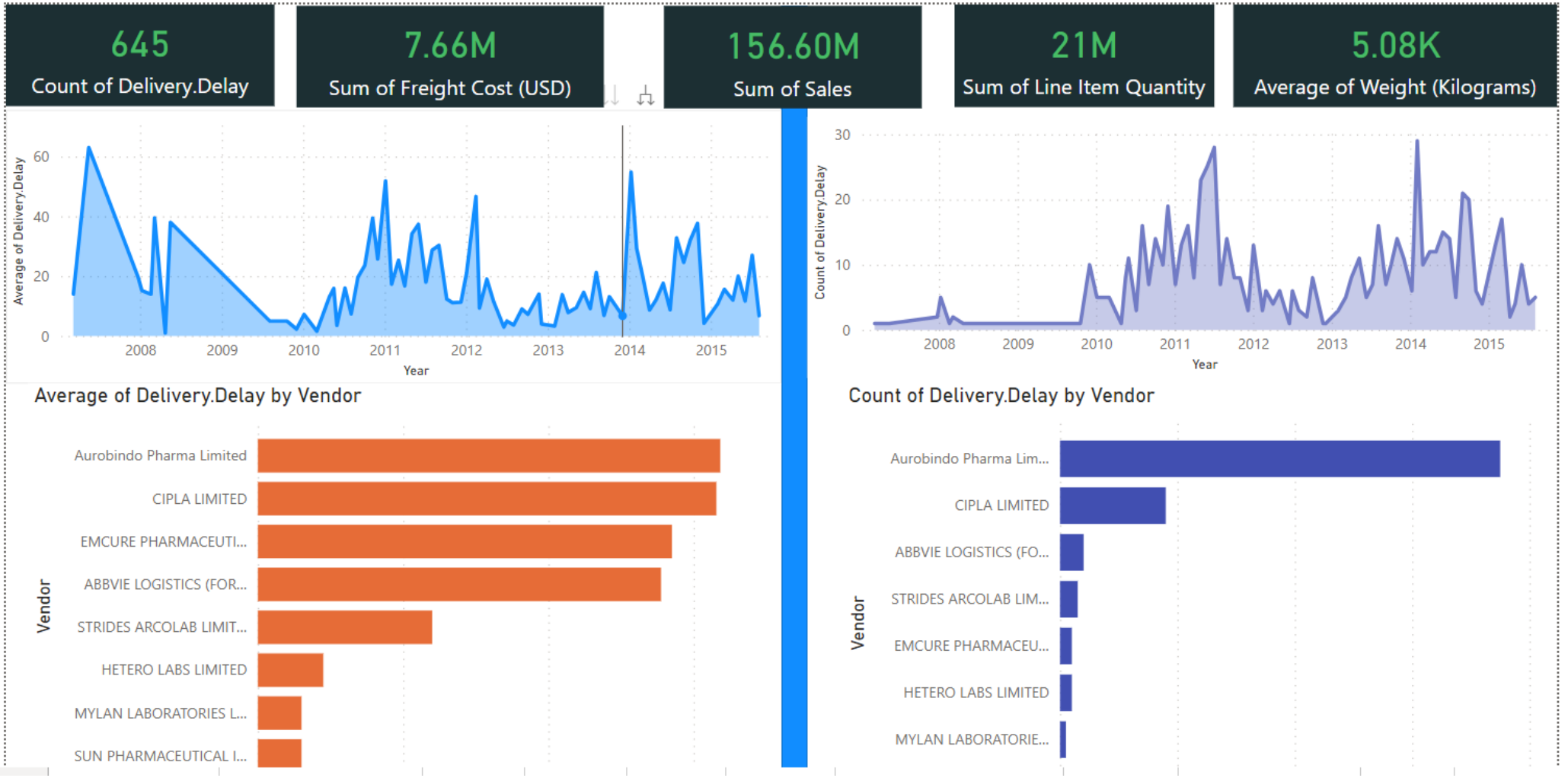
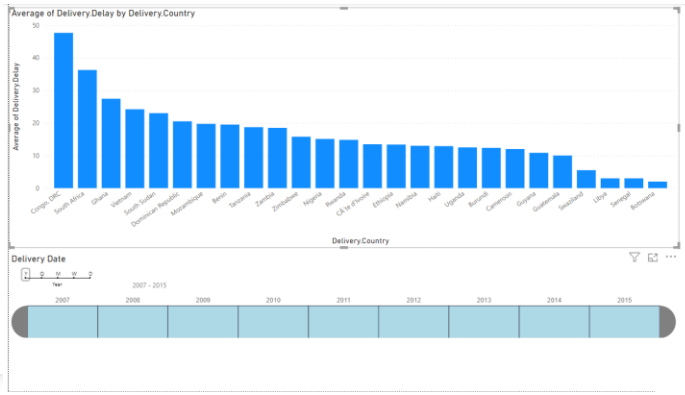
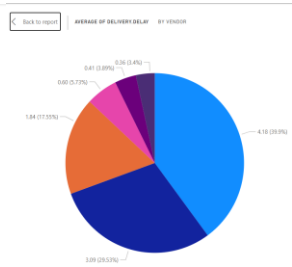
PowerBI

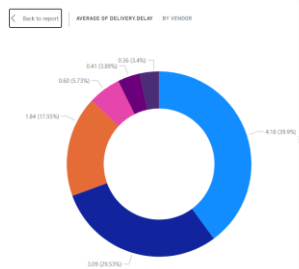
CS 459 Business Intelligence

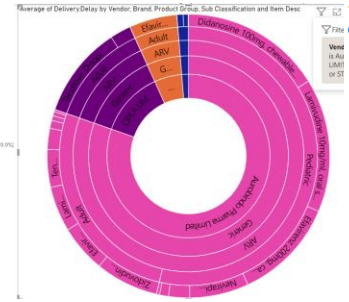
Simple charts

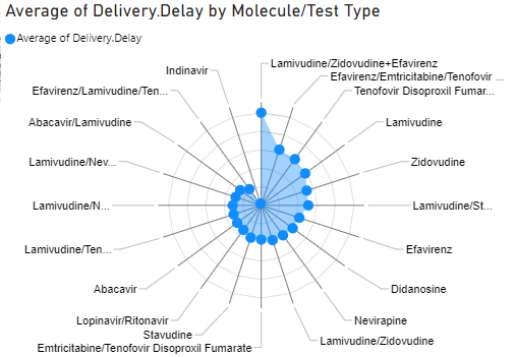


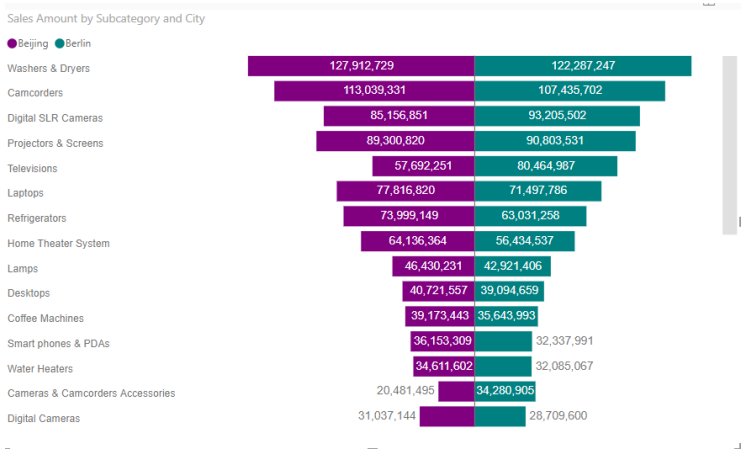

Average of Delivery.Delay by Delivery.Country
Delivery Date

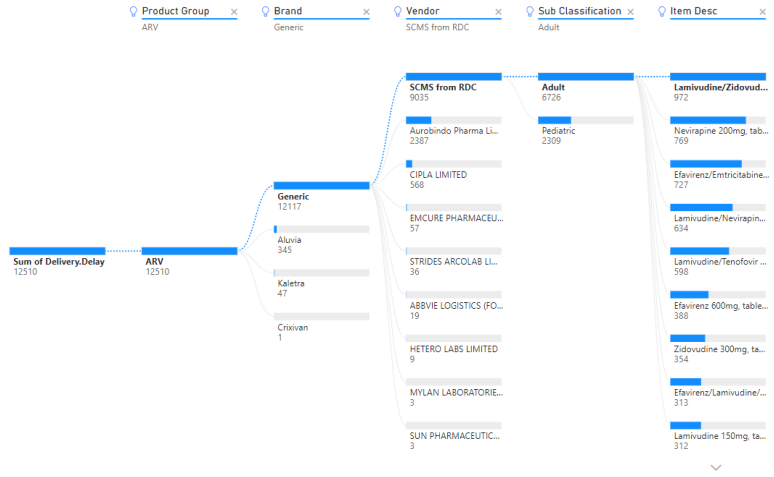


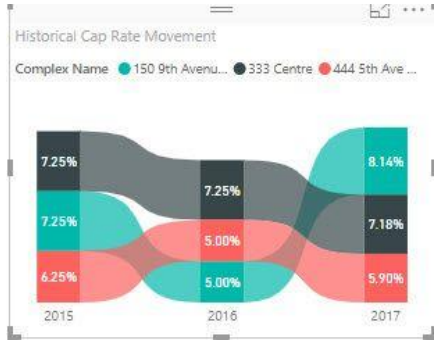




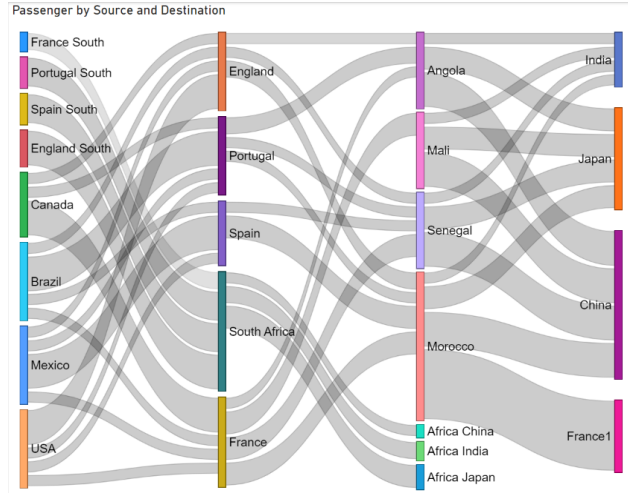

Average of Delivery.Delay by Molecule/Test Type
Average of Delivery.Delay
Indinavir
Lamivudine/Zidovudine+Efavirenz
Efavirenz/Emtricitabine/Tenofovir ...
Tenofovir Disoproxil Fumar...
Efavirenz/Lamivudine/Ten...
Abacavir/Lamivudine
Lamivudine
Lamivudine/Nev...
Zidovudine
Lamivudine/N...
Lamivudine/St...
Lamivudine/Ten...
Efavirenz
Abacavir
Didanosine
Lopinavir/Ritonavir
Nevirapine
Stavudine
Lamivudine/Zidovudine
Emtricitabine/Tenofovir Disoproxil Fumarate

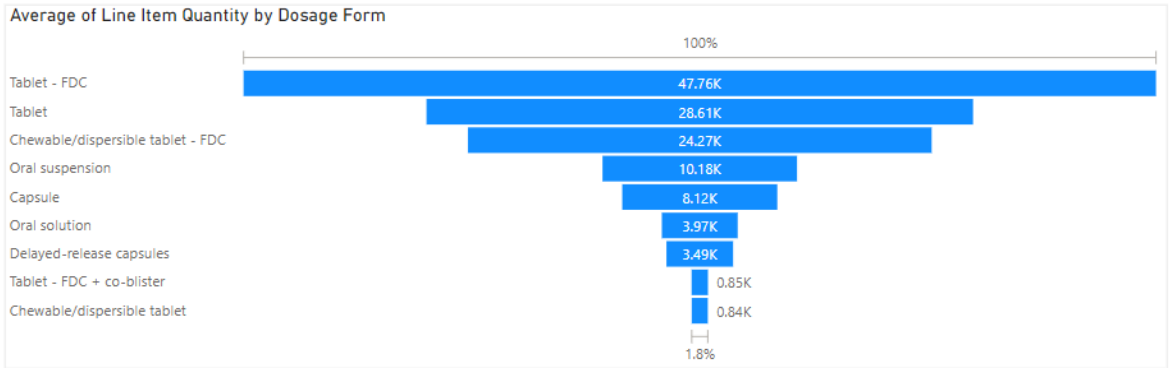

Sales Amount by Subcategory and City
Beijing
Berlin
Washers & Dryers 127,912,729 122,287,247
Camcorders 113,039,331 107,435,702
Digital SLR Cameras 85,156,851 93,205,502
Projectors & Screens 89,300,820 90,803,531
Televisions 57,692,251 80,464,987
Laptops 77,816,820 71,497,786
Refrigerators 73,999,149 63,031,258
Home Theater System 64,136,364 56,434,537
Lamps 46,430,231 42,921,406
Desktops 40,721,557 39,094,659
Coffee Machines 39,173,443 35,643,993
Smart phones & PDAs 36,153,309 32,337,991
Water Heaters 34,611,602 32,085,067
Cameras & Camcorders Accessories 20,481,495 34,280,905
Digital Cameras 31,037,144 28,709,600


Product Group ARV
Brand Generic
Vendor SCMS from RDC
Sub Classification Adult
Item Desc
Sum of Delivery.Delay 12510
ARV 12510
Generic 12117
Aluvia 345
Kaletra 47
Crixivan 1
SCMS from RDC 9035
Aurobindo Pharma Li... 2387
CIPLA LIMITED 568
EMCURE PHARMACEU... 57
STRIDES ARCOLAB LI... 36
ABBVIE LOGISTICS (FO... 19
HETERO LABS LIMITED 9
MYLAN LABORATORIE... 3
SUN PHARMACEUTIC... 3
Adult 6726
Pediatric 2309
Lamivudine/Zidovud... 972
Nevirapine 200mg, tab... 769
Efavirenz/Emtricitabine... 727
Lamivudine/Nevirapin... 634
Lamivudine/Tenofovir ... 598
Efavirenz 600mg, table... 388
Zidovudine 300mg, ta... 354
Efavirenz/Lamivudine/... 313
Lamivudine 150mg, ta... 312


Historical Cap Rate Movement
Complex Name 150 9th Avenu... 333 Centre 444 5th Ave ...
7.25%
7.25%
6.25%
7.25%
5.00%
5.00%
8.14%
7.18%
5.90%
2015
2016
2017

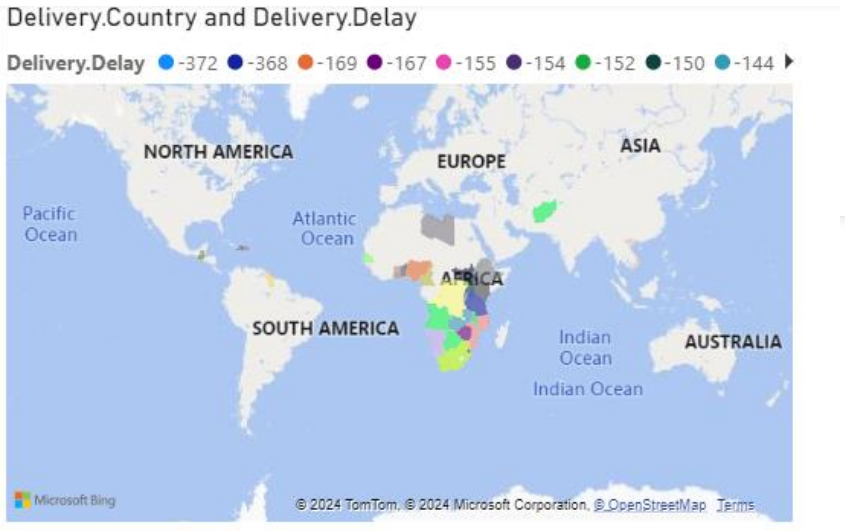

The treemap represents the product sales hierarchy by clothing type and then by manufacturer.
Count of Product by Category and Manufacturer
Urban
Rural
Mix
Youth
VanArsdel
Natura
Fama
Aliqui
Pirum
Quibus
Currus
Abbas
Victoria
Pomum
Leo
Palma
Bar...
Salvus

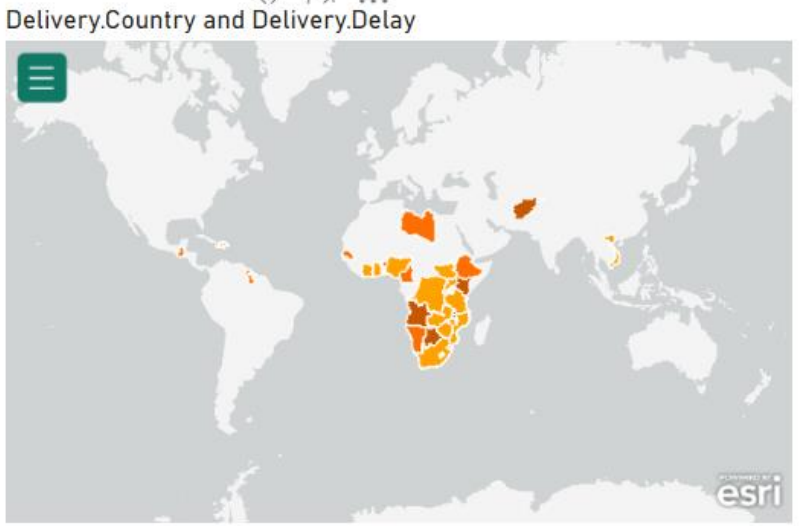

Passenger by Source and Destination
France South
Portugal South
Spain South
England South
Canada
Brazil
Mexico
USA
England
Portugal
Spain
South Africa
France
Angola
Mali
Senegal
Morocco
Africa China
Africa India
Africa Japan
India
Japan
China
France1


Average of Line Item Quantity by Dosage Form
100%
Tablet - FDC 47.76K
Tablet 28.61K
Chewable/dispersible tablet - FDC 24.27K
Oral suspension 10.18K
Capsule 8.12K
Oral solution 3.97K
Delayed-release capsules 3.49K
Tablet - FDC + co-blister 0.85K
Chewable/dispersible tablet 0.84K
1.8%


Total Sales Variance by FiscalMonth
Increase
Decrease
Total
$1M
$0M
($1M)
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Total


Sum of Delivery.Delay by Delivery.Country
NORTH AMERICA
EUROPE
ASIA
Pacific Ocean
Atlantic Ocean
SOUTH AMERICA
Indian Ocean
AUSTRALIA
Indian Ocean
Microsoft Bing
© 2024 TomTom, © 2024 Microsoft Corporation, © OpenStreetMap Terms


Delivery.Country and Delivery.Delay
Delivery.Delay -372 -368 -169 -167 -155 -154 -152 -150 -144
NORTH AMERICA
EUROPE
ASIA
Pacific Ocean
Atlantic Ocean
AFRICA
SOUTH AMERICA
Indian Ocean
AUSTRALIA
Indian Ocean
Microsoft Bing
© 2024 TomTom, © 2024 Microsoft Corporation, © OpenStreetMap Terms


Delivery.Country and Delivery.Delay
esri

The Art of Story Telling

- Tell the data narrative page by page → takes shape of a report
- Text helps to show interpretation – keep in mind your client.

Dashboard Vs Report

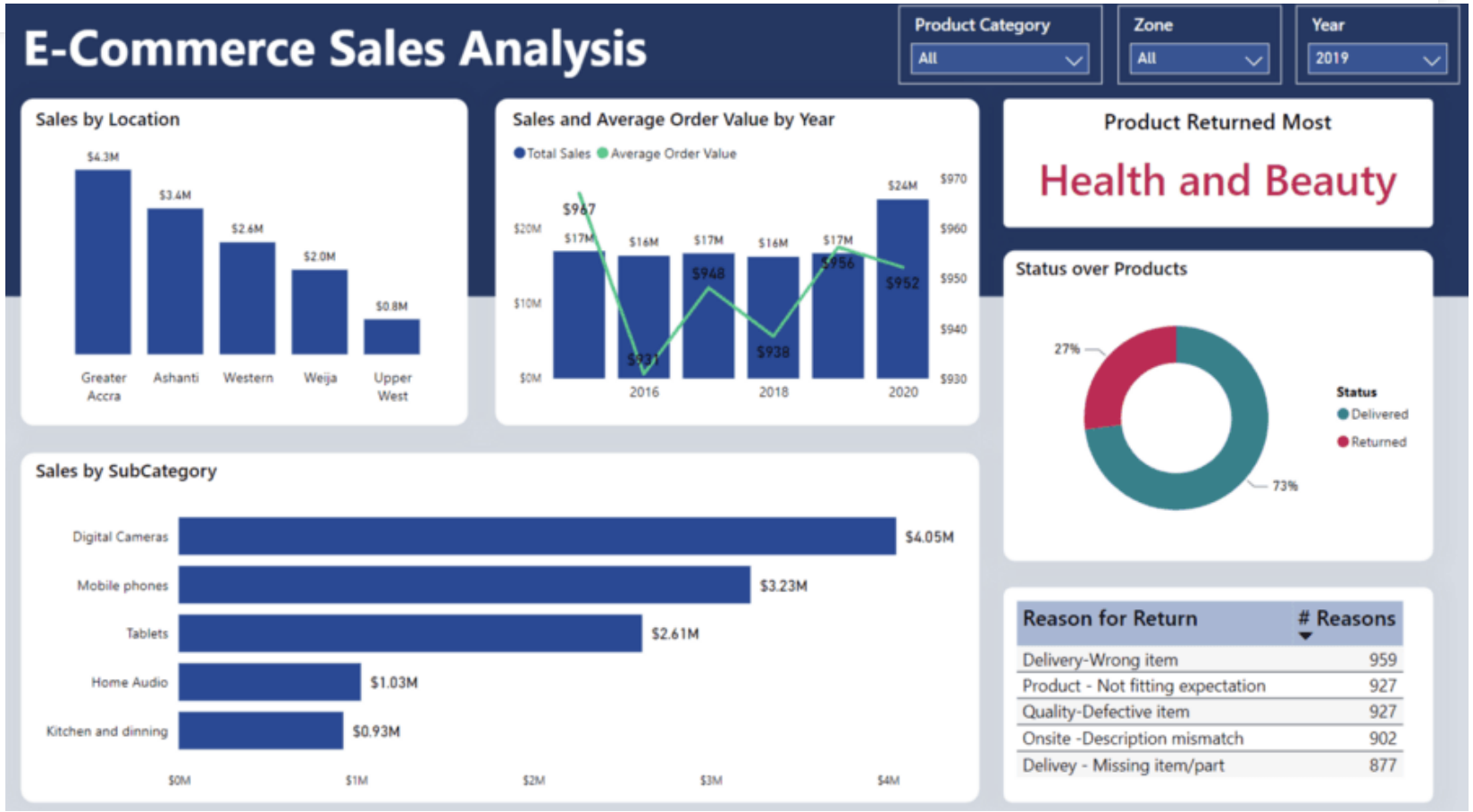
	Dashboard	Report
Purpose	Used for high-level monitoring, often in real-time or near-real-time, providing a consolidated view of business performance	Used for in-depth analysis and exploration of data to answer complex business questions.
Interactivity and Structure	Limited interactivity – single page view at a glance.	Greater interactivity – detailed multi-page analysis.
Updates	Designed for real-time or near real-time updates making monitoring of live data easy.	Focused on historical data and may require periodic updates enabled through PowerBI scheduled refresh capabilities.
Use case	Quick sharing of insights across organization	More suited for detailed analysis allowing for specific aspects of the data.

Dashboard

Monitoring e-Commerce Sales

A quick review of all KPIs.

A well-designed dashboard enable spotting problems quickly.

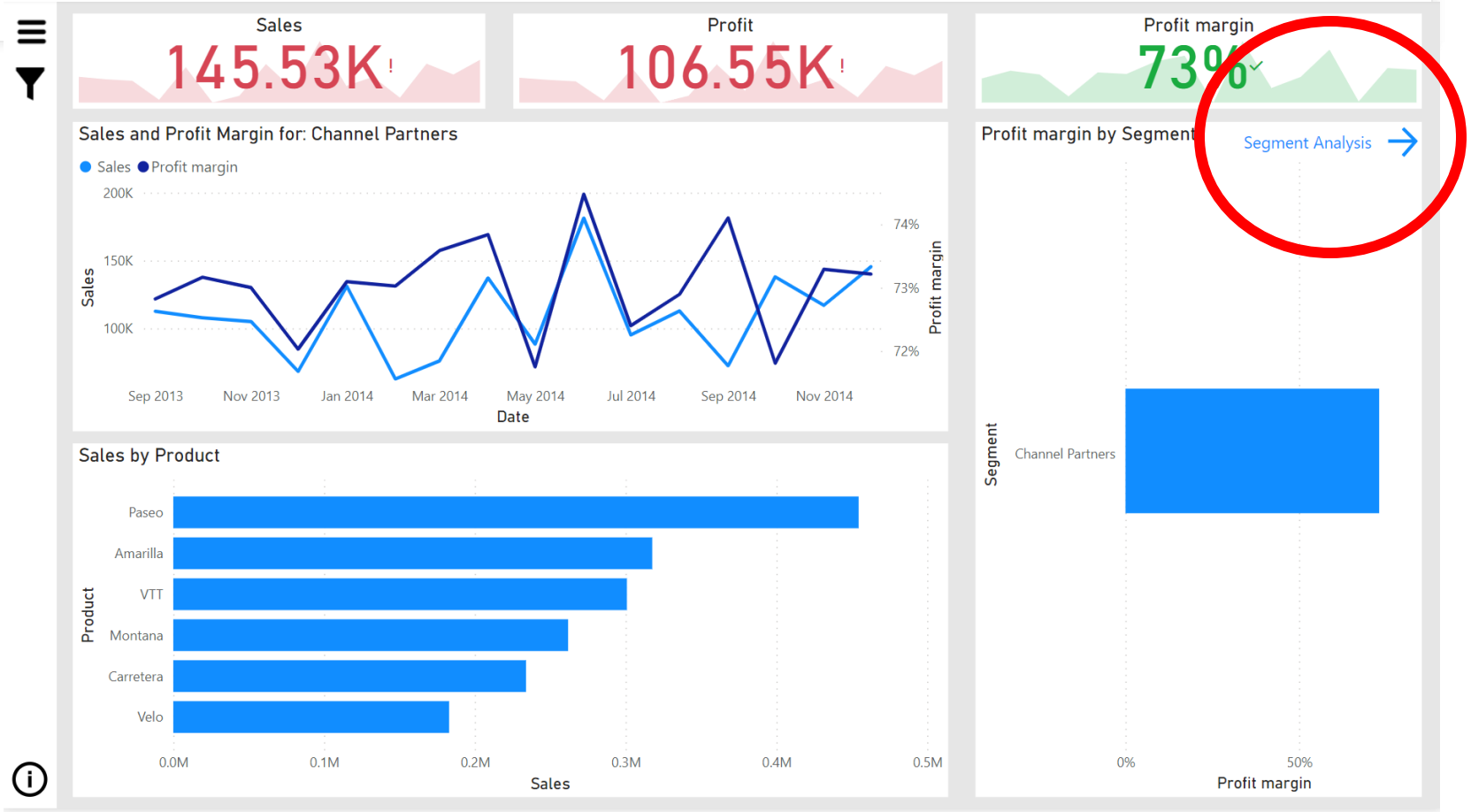


Source: DataCamp

Report

Analyze impact of a recent promotional campaign on sales.

Review the sales by different dimensions.



Source: DataCamp

Data Story Telling

- Data storytelling is the concept of building a compelling narrative based on complex data and analytics that help tell your story and influence and inform a particular audience.

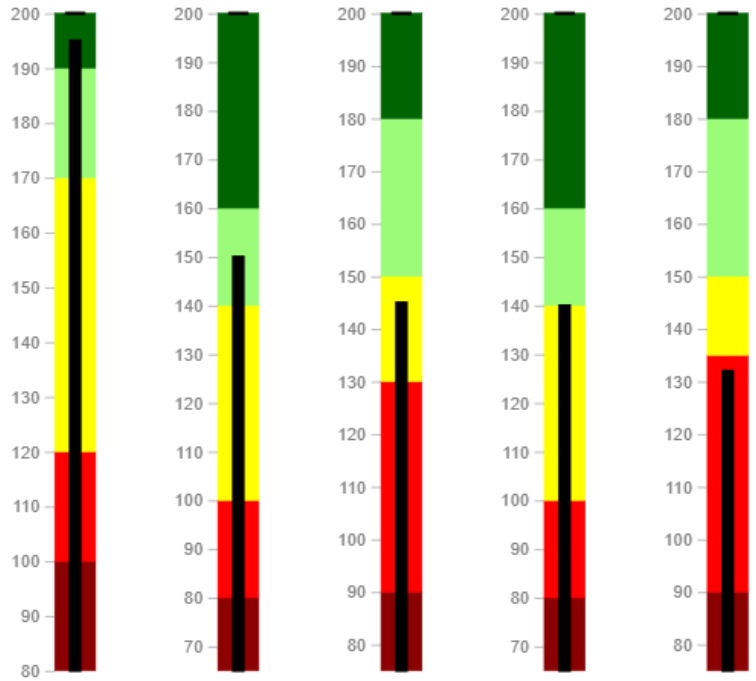
A good story is...

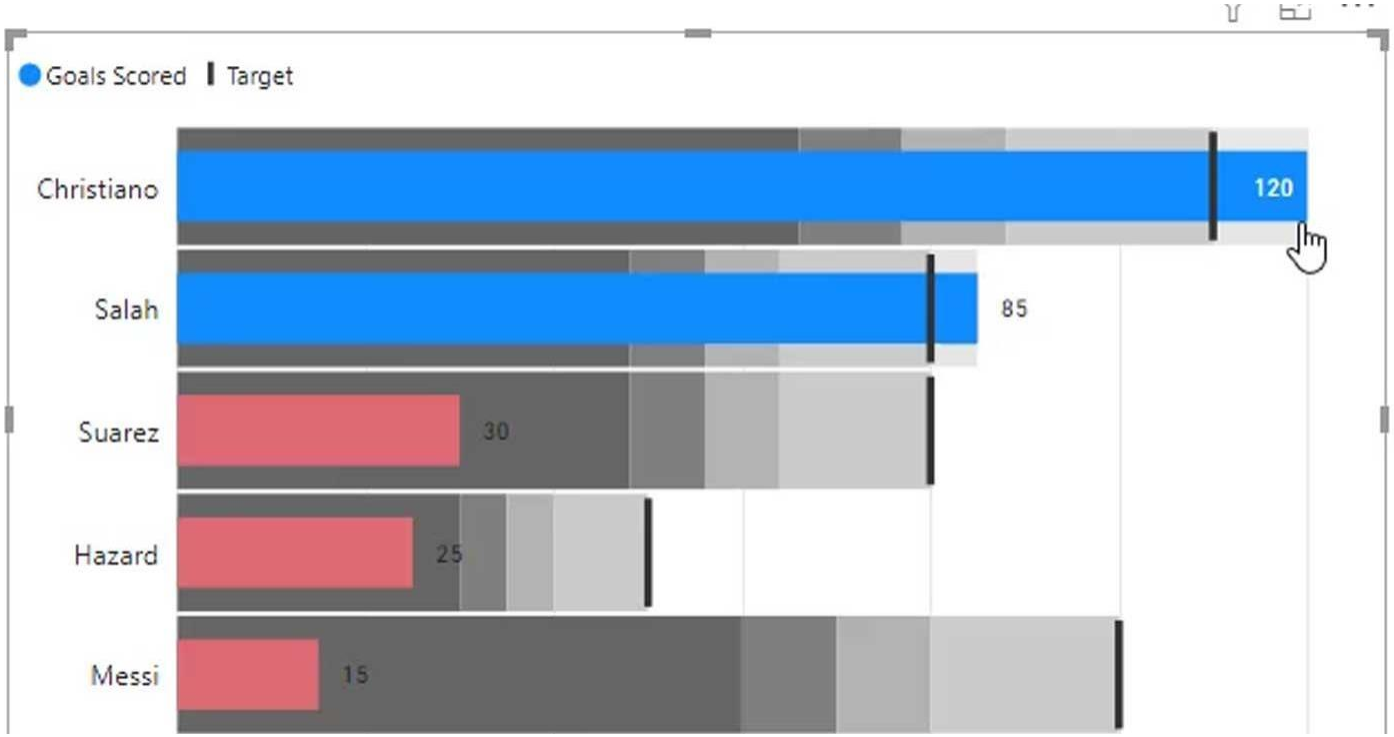
- **Relevant** to the audience , the business domain and specific problem being solved.
- Uses **good data** – collected form reputable sources that convey the true story.
- Forms a **clear narrative** – introduce the topic before diving in.
- Uses **Smart visuals** (charts/images/etc)– convey the intended purpose. Well labelled, legible, not misleading

Bullet Chart

Bullet chart

- A Power BI bullet chart is a more advanced type of bar chart and great for plotting data comparisons. Each bar is shown against multiple qualitative ranges and a target, making it easy to monitor progress. For example, you could use the chart to show how exam results are graded.





Adding some targets

- Let's first understand what DAX is…

DAX
Data Analysis Expression

What is DAX in Power BI?

- Data Analysis Expressions (DAX) is a programming language that is used throughout Microsoft Power BI for creating calculated columns, measures, and custom tables.
- It is a collection of functions, operators, and constants that can be used in a formula, or expression, to calculate and return one or more values.
- You can use DAX to solve a number of calculations and data analysis problems, which can help you create new information from data that is already in your model.

Calculated Columns vs Measures

Calculated Column

- Similar to other regular columns, calculated columns are the ones that come out as a result of **computations within two columns** of different data sets. They are ideal for row-wise calculations;
- In the calculated column type, the calculation takes place at the **row level** within a given table.

Calculated Measure

- Calculated measure are ideal for dynamic calculations as they do not acquire any physical space. **These are used when data in rows are grouped together for computations.**
- In the calculated measure type, the calculation is done at the **cell level in the entire report or the query.**

> Math & statistical functions

- **SUM(<column>)** Adds all the numbers in a column.
- **SUMX(<table>, <expression>)** Returns the sum of an expression evaluated for each row in a table.
- **AVERAGE(<column>)** Returns the average (arithmetic mean) of all the numbers in a column.
- **AVERAGEX(<table>, <expression>)** Calculates the average (arithmetic mean) of a set of expressions evaluated over a table.
- **MEDIAN(<column>)** Returns the median of a column.
- **MEDIANX(<table>, <expression>)** Calculates the median of a set of expressions evaluated over a table.
- **GEOMEAN(<column>)** Calculates the geometric mean of a column.
- **GEOMEANX(<table>, <expression>)** Calculates the geometric mean of a set of expressions evaluated over a table.
- **COUNT(<column>)** Returns the number of cells in a column that contain non-blank values.
- **COUNTX(<table>, <expression>)** Counts the number of rows from an expression that evaluates to a non-blank value.
- **DIVIDE(<numerator>, <denominator> [,<alternateresult>])** Performs division and returns alternate result or BLANK() on division by 0.
- **MIN(<column>)** Returns a minimum value of a column.
- **MAX(<column>)** Returns a maximum value of a column.
- **COUNTROWS([<table>])** Counts the number of rows in a table.
- **DISTINCTCOUNT(<column>)** Counts the number of distinct values in a column.
- **RANKX(<table>, <expression>[, <value>[, <order>[, <ties>]]])** Returns the ranking of a number in a list of numbers for each row in the table argument.

Filter functions

- **FILTER(<table>, <filter>)** Returns a table that is a subset of another table or expression.
- **CALCULATE(<expression>[, <filter1> [, <filter2> [, …]]])** Evaluates an expression in a filter context.
- **HASONEVALUE(<columnName>)** Returns TRUE when the context for columnName has been filtered down to one distinct value only. Otherwise it is FALSE.
- **ALLNOBLANKROW(<table> | <column>[, <column>[, <column>[,…]]])** Returns a table that is a subset of another table or expression.
- **ALL([<table> | <column>[, <column>[, <column>[,…]]]])** Returns all the rows in a table, or all the values in a column, ignoring any filters that might have been applied.
- **ALLEXCEPT(<table>, <column>[, <column>[,..]])** Returns all the rows in a table except for those rows that are affected by the specified column filters.
- **REMOVEFILTERS([<table> | <column>][, <column>[, <column>[,…]]])** Clear all filters from designated tables or columns.

Logical functions

- **IF(<logical_test>, <value_if_true>[, <value_if_false>])** Checks a condition, and returns a certain value depending on whether it is true or false.
- **AND(<logical 1>, <logical 2>)** Checks whether both arguments are TRUE, and returns TRUE if both arguments are TRUE. Otherwise, it returns FALSE.
- **OR(<logical 1>, <logical 2>)** Checks whether one of the arguments is TRUE to return TRUE. The function returns FALSE if both arguments are FALSE.
- **NOT(<logical>)** Changes TRUE to FALSE and vice versa.
- **SWITCH(<expression>, <value>, <result>[, <value>, <result>]…[, <else>])** Evaluates an expression against a list of values and returns one of possible results
- **IFERROR(<value>, <value_if_error>)** Returns value_if_error if the first expression is an error and the value of the expression itself otherwise.

> Date & time functions

- **CALENDAR(<start_date>, <end_date>)** Returns a table with a single column named "Date" that contains a contiguous set of dates.
- **DATE(<year>, <month>, <day>)** Returns the specified date in datetime format.
- **DATEDIFF(<date_1>, <date_2>, <interval>)** Returns the number of units between two dates as defined in **<interval>**.
- **DATEVALUE(<date_text>)** Converts a date in text to a date in datetime format.
- **DAY(<date>)** Returns a number from 1 to 31 representing the day of the month.
- **WEEKNUM(<date>)** Returns weeknumber in the year.
- **MONTH(<date>)** Returns a number from 1 to 12 representing a month.
- **QUARTER(<date>)** Returns a number from 1 to 4 representing a quarter.

> Time intelligence functions

- **DATEADD(<dates>, <number_of_intervals>, <interval>)** Moves a date by a specific interval.
- **DATESBETWEEN(<dates>, <date_1>, <date_2>)** Returns the dates between specified dates.
- **TOTALYTD(<expression>, <dates>[, <filter>][, <year_end_date>])** Evaluates the year-to-date value of the expression in the current context.
- **SAMEPERIODLASTYEAR(<dates>)** Returns a table that contains a column of dates shifted one year back in time.
- **STARTOFMONTH(<dates>) // ENDOFMONTH(<dates>)** Returns the start // end of the month.
- **STARTOFQUARTER(<dates>) // ENDOFQUARTER(<dates>)** Returns the start // end of the quarter.
- **STARTOFYEAR(<dates>) // ENDOFYEAR(<dates>)** Returns the start // end of the quarter.

> Relationship functions

- **CROSSFILTER(<left_column>, <right_column>, <crossfiltertype>)** Specifies the cross-filtering direction to be used in a calculation.
- **RELATED(<column>)** Returns a related value from another table.

> Table manipulation functions

- **SUMMARIZE(<table>, <groupBy_columnName>[, <groupBy_columnName>]…[, <name>, <expression>]…)** Returns a summary table for the requested totals over a set of groups.
- **DISTINCT(<table>)** Returns a table by removing duplicate rows from another table or expression.
- **ADDCOLUMNS(<table>, <name>, <expression>[, <name>, <expression>]…)** Adds calculated columns to the given table or table expression.
- **SELECTCOLUMNS(<table>, <name>, <expression>[, <name>, <expression>]…)** Selects calculated columns from the given table or table expression.
- **GROUPBY(<table> [, <groupBy_columnName>[, [<column_name>] [<expression>]]…)** Create a summary of the input table grouped by specific columns.
- **INTERSECT(<left_table>, <right_table>)** Returns the rows of the left-side table that appear in the right-side table.
- **NATURALINNERJOIN(<left_table>, <right_table>)** Joins two tables using an inner join.
- **NATURALLEFTOUTERJOIN(<left_table>, <right_table>)** Joins two tables using a left outer join.
- **UNION(<table>, <table>[, <table> [,…]])** Returns the union of tables with matching columns.

Text functions

- **EXACT(<text_1>, <text_2>)** Checks if two strings are identical (**EXACT()** is case sensitive).
- **FIND(<text_tofind>, <in_text>)** Returns the starting position a text within another text (**FIND()** is case sensitive).
- **FORMAT(<value>, <format>)** Converts a value to a text in the specified number format.
- **LEFT(<text>, <num_chars>)** Returns the number of characters from the start of a string.
- **RIGHT(<text>, <num_chars>)** Returns the number of characters from the end of a string.
- **LEN(<text>)** Returns the number of characters in a string of text.
- **LOWER(<text>)** Converts all letters in a string to lowercase.
- **UPPER(<text>)** Converts all letters in a string to uppercase.
- **TRIM(<text>)** Remove all spaces from a text string.
- **CONCATENATE(<text_1>, <text_2>)** Joins two strings together into one string.
- **SUBSTITUTE(<text>, <old_text>, <new_text>, <instance_num>)** Replaces existing text with new text in a string.
- **REPLACE(<old_text>, <start_posotion>, <num_chars>, <new_text>)** Replaces part of a string with a new string.

> Information functions

- **COLUMNSTATISTICS()** Returns statistics regarding every column in every table. This function has no arguments.
- **NAMEOF(<value>)** Returns the column or measure name of a value.
- **ISBLANK(<value>) // ISERROR(<value>)** Returns whether the value is blank // an error.
- **ISLOGICAL(<value>)** Checks whether a value is logical or not.
- **ISNUMBER(<value>)** Checks whether a value is a number or not.
- **ISFILTERED(<table> | <column>)** Returns true when there are direct filters on a column.
- **ISCROSSFILTERED(<table> | <column>)** Returns true when there are crossfilters on a column.
- **USERPRINCIPALNAME()** Returns the user principal name or email address. This function has no arguments.

Advanced DAX

> DAX statements

- **VAR(<name> = <expression>)** Stores the result of an expression as a named variable. To return the variable, use RETURN after the variable is defined.
- **COLUMN(<table>[<column>] = <expression>)** Stores the result of an expression as a column in a table.
- **ORDER BY(<table>[<column>])** Defines the sort order of a column. Every column can be sorted in ascending (**ASC**) or descending (**DESC**) way.

> DAX Operators

Comparison operators	Meaning
=	Equal to
= =	Strict equal to
>	Greater than
<	Smaller than
> =	Greater than or equal to
= <	Smaller than or equal to
< >	Not equal to

Text operator	Meaning	Example
&	Concatenates text values	`Concatenates text values | [City]&", "&[State]`

Logical operator	Meaning	Example
&&	AND condition	`([City] = "Bru") && ([Return] = "Yes"))`
||	OR condition	`([City] = "Bru") || ([Return] = "Yes"))`
IN {}	OR condition for each row	`Product[Color] IN {"Red", "Blue", "Gold"}`

Applying DAX

Insert New Columns by Calculations

- Compute Delay in Power BI using DAX
- DATEDIFF: returns the difference between 2 dates (both as column references in date formats) in days, months, quarters, years, etc.
- Delay = Delivery Date - Scheduled Date in DAYS

- `Delay.DAX =`
  `DATEDIFF('Table 1 (SC dataset - Power BI)'[Scheduled Delivery Date], 'Table 1 (SC dataset - Power BI)'[Delivery Date],DAY)`

Insert New Columns by IF

- Compute Delay Category using DAX
- Use the IF Function to output 3 categories → On-time, Delayed, Early

-
```
Delay.Cat = IF('Table 1 (SC dataset - Power BI)'[Delay.DAX]=0,"On-time",IF('Table 1 (SC dataset - Power BI)'[Delay.DAX]>0,"Delayed","Early"))
```

MAX Delay

Column

- Max.Delay.DAX = MAX('Table 1 (SC dataset - Power BI)'[Delivery.Delay])

Measure

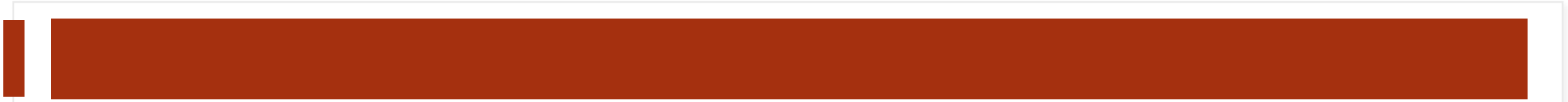
Max.Measure.Delay.DAX = MAX('Table 1 (SC dataset - Power BI)'[Delivery.Delay])

Create Tables for each with Manufacturing Country

Delivery.Country	Max.Delay.DAX
Benin	165
Botswana	165
Burundi	165
CÃ´te d'Ivoire	165
Cameroon	165
Congo, DRC	165
Dominican Republic	165
Ethiopia	165
Ghana	165
Guatemala	165
Guyana	165
Haiti	165
Libya	165
Mozambique	165
Namibia	165
Nigeria	165
Rwanda	165
Senegal	165
South Africa	165
South Sudan	165
Swaziland	165
Tanzania	165
Uganda	165
Vietnam	165
Zambia	165
Zimbabwe	165

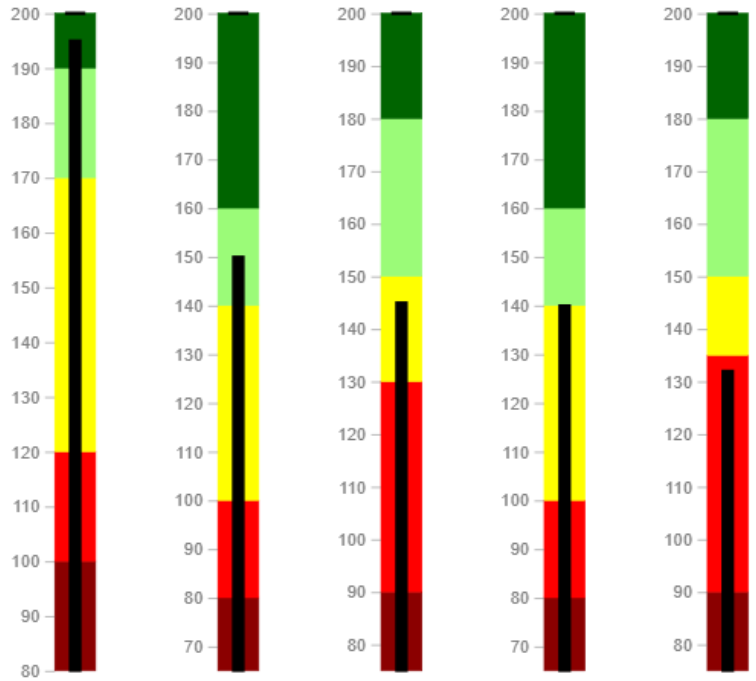
Max.Measure.Delay.DAX	Delivery.Country
22	Benin
2	Botswana
48	Burundi
76	CÃ´te d'Ivoire
22	Cameroon
165	Congo, DRC
27	Dominican Republic
34	Ethiopia
120	Ghana
10	Guatemala
35	Guyana
37	Haiti
3	Libya
68	Mozambique
13	Namibia
105	Nigeria
68	Rwanda
3	Senegal
150	South Africa
59	South Sudan
6	Swaziland
78	Tanzania
53	Uganda
63	Vietnam
113	Zambia
75	Zimbabwe
165	

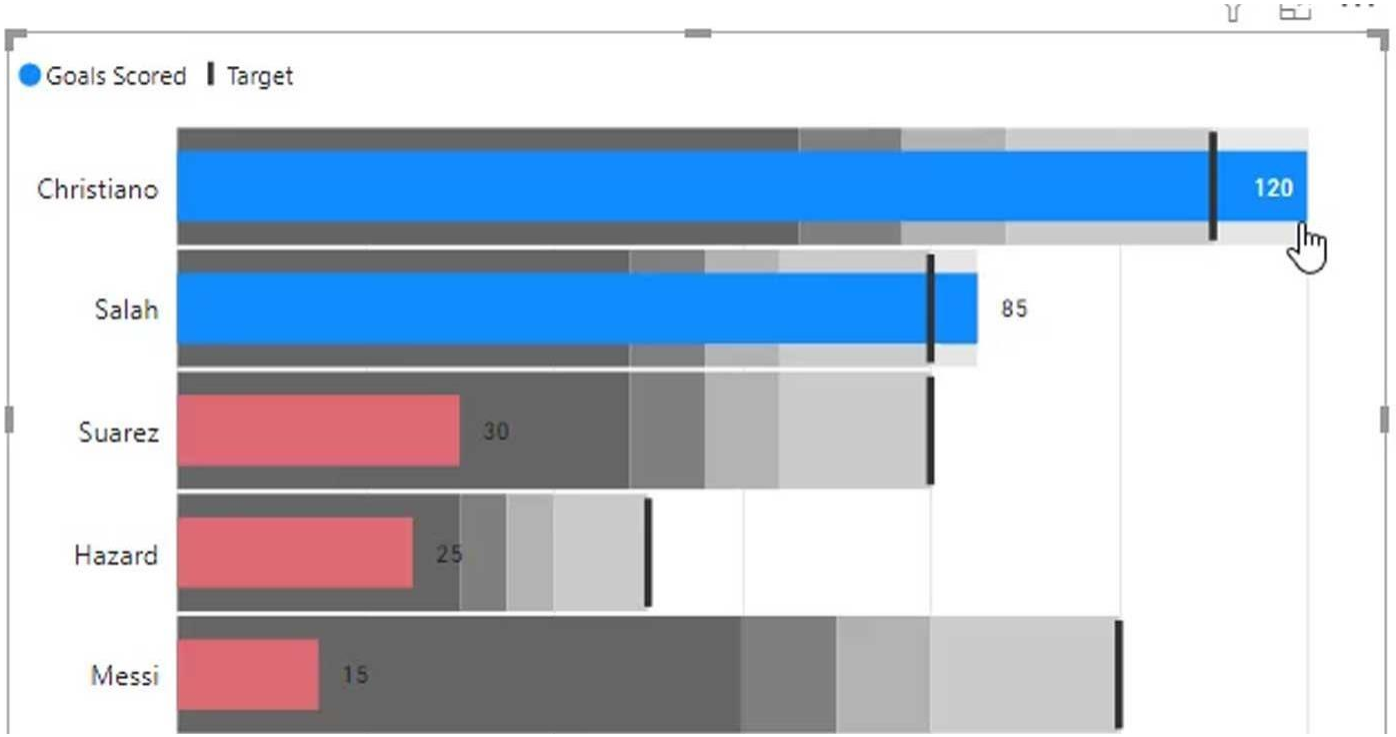
Let’s get back to creating a Bullet Chart



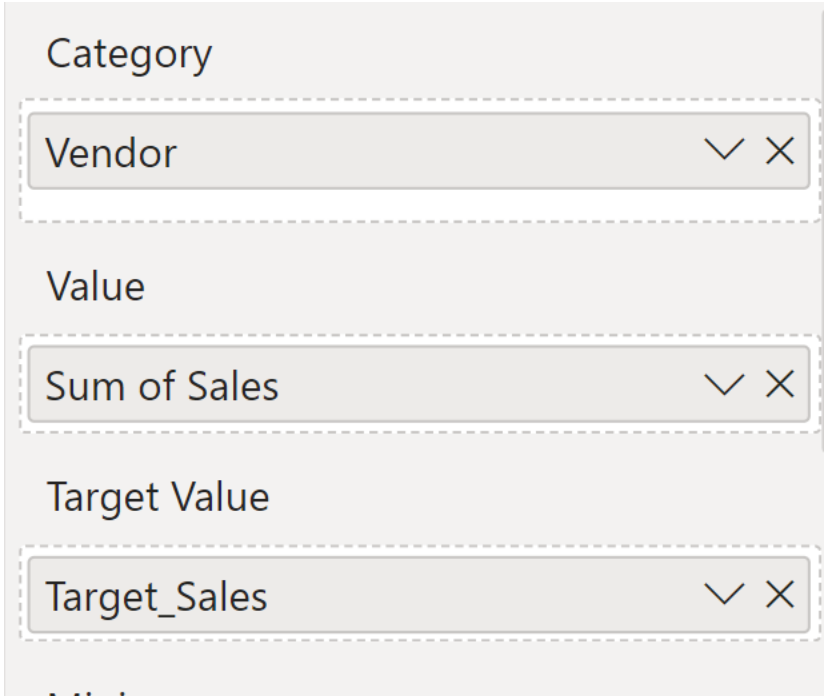
Bullet chart

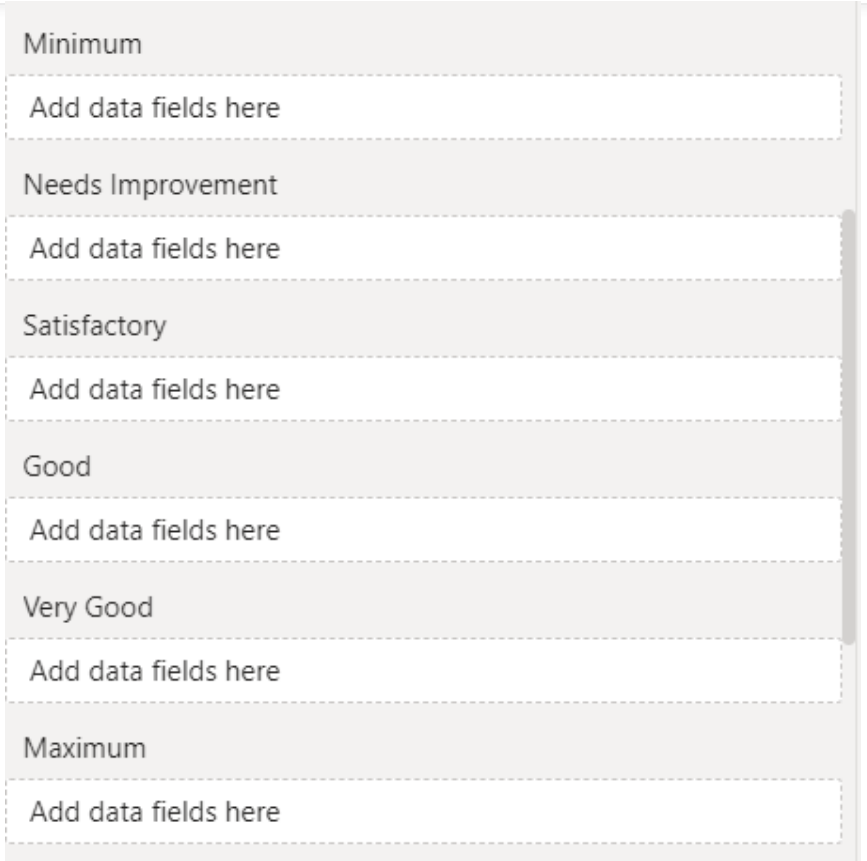
- A Power BI bullet chart is a more advanced type of bar chart and great for plotting data comparisons. Each bar is shown against multiple qualitative ranges and a target, making it easy to monitor progress. For example, you could use the chart to show how exam results are graded.





Bullet Chart - Example





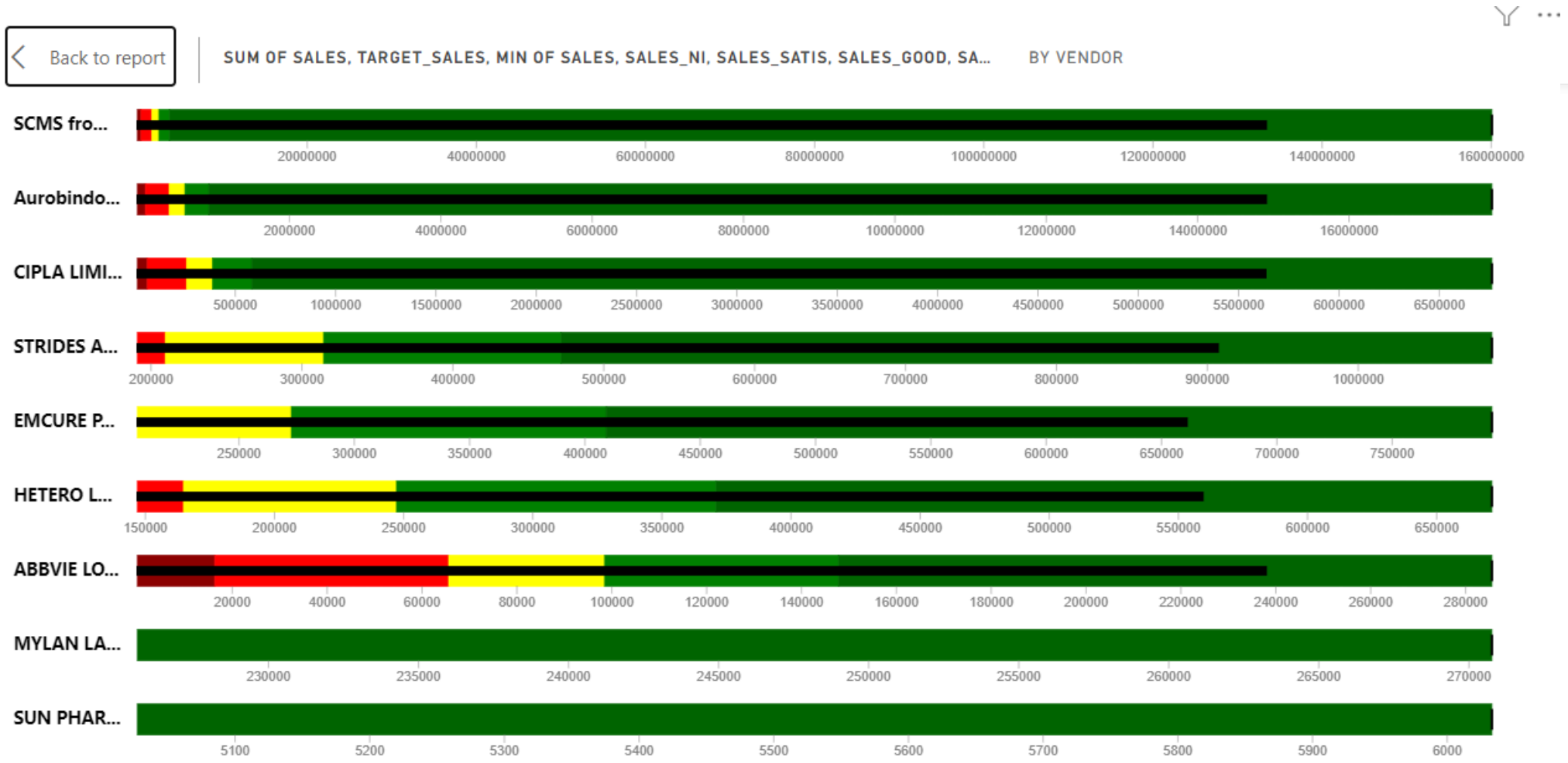
Target_Sales is a measure computed by 1.2* Sum (Sales)

Create Measures

Visualization	Measure Name	Value
Minimum		Min of Sales
Needs Improvement	Sales.NI	10% of Max Sales
Satisfactory	Sales.Satis	40% of Max Sales
Good	Sales.Good	60% of Max Sales
Very Good	Sales.VGood	90% of Max Sales
Maximum		Max of Sales

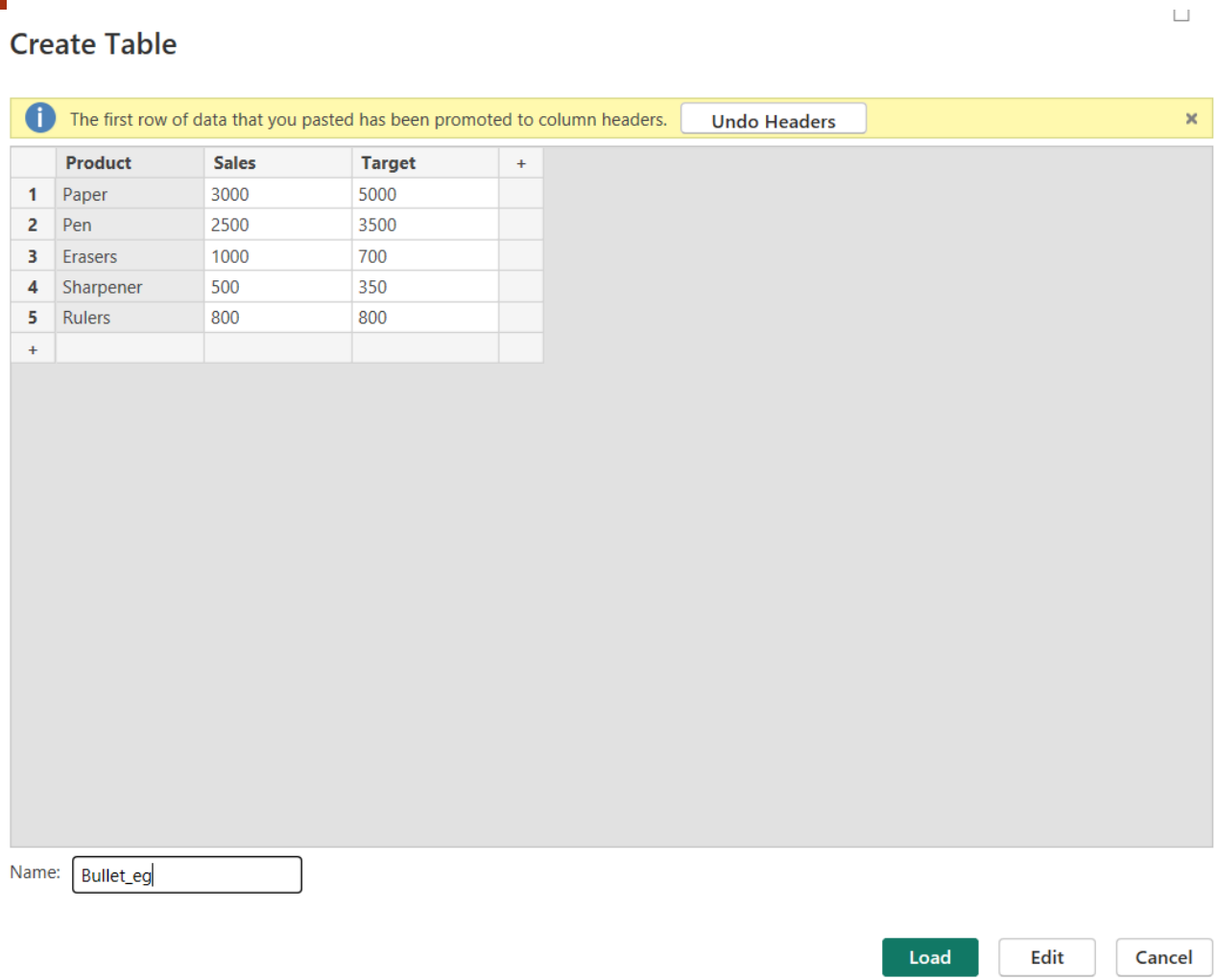
Note: We have set this as our own thresholds for comparison.
Instead of a percentage of Sales, if we have values for thresholds, we may directly use that.

Create Bullet Chart



Another example for your practice

Create a new table with new data

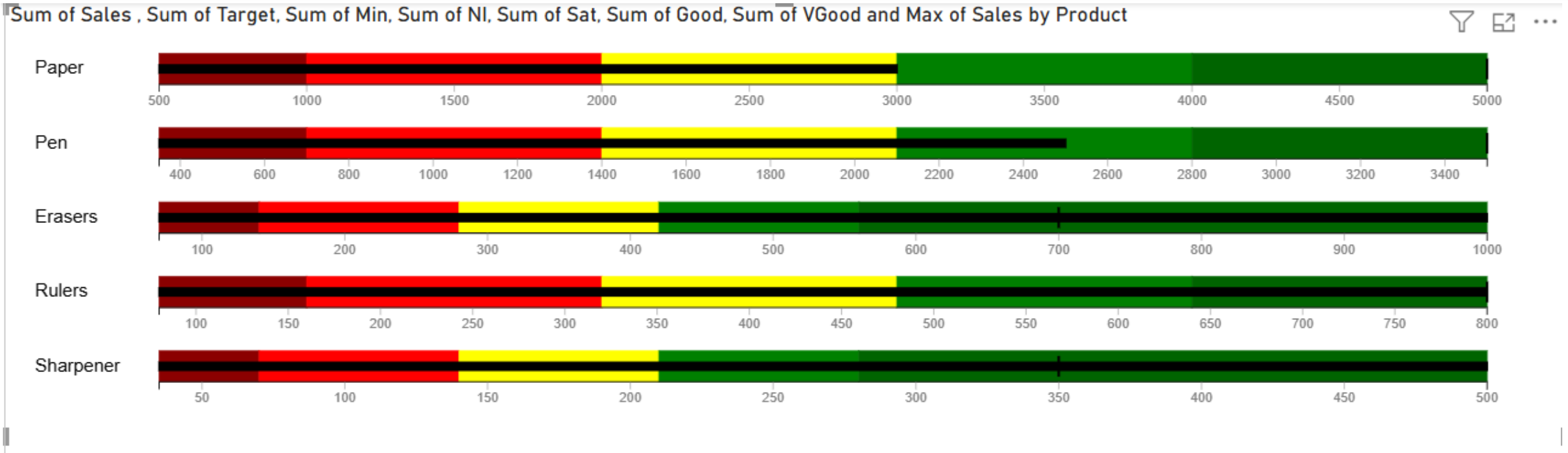


Product	Sales	Target
Paper	3000	5000
Pen	2500	3500
Erasers	1000	700
Sharpener	500	350
Rulers	800	800

Create Columns

Visualization	Column Name	Value
Minimum		10% of Target
Needs Improvement	B.NI	20% of Target
Satisfactory	B.Satis	40% of Target
Good	B.Good	60% of Target
Very Good	B.VGood	80% of Target
Maximum		Max of Sales

- Try as practice. Set your own thresholds.
- You may also try out random values for new columns.


Sum of Sales , Sum of Target, Sum of Min, Sum of NI, Sum of Sat, Sum of Good, Sum of VGood and Max of Sales by Product
Paper
500 1000 1500 2000 2500 3000 3500 4000 4500 5000
Pen
400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400
Erasers
100 200 300 400 500 600 700 800 900 1000
Rulers
100 150 200 250 300 350 400 450 500 550 600 650 700 750 800
Sharpener
50 100 150 200 250 300 350 400 450 500

Tips for BI

Visualizations

- Don’t over-complicate – Keep it simple for the business users
- If 2 charts are showing the same insights – think again, do they both need to be on the dashboard?
- Not everything has to be part of a hierarchy – need to be a logical one.
- Overly colorful VS Too **Bland** → Strike a balance. *Be Aesthetic*.

Tips for BI

Visualizations

- Relevant chart title → Communicate better information to the user.
- Smart choice of charts.
- A large chart may be broken into 2 simpler charts. Don't overload information.
- Practice the tool – explore different charts.

Tips for BI

Interactivity:

- Charts acting as slicers
- Give control to the user → Slicers (Categorical, Timeline, Numerical) as needed.
- Assume that your user doesn't know anything about Power BI → Give easy access and make it user friendly.

Problem solving:

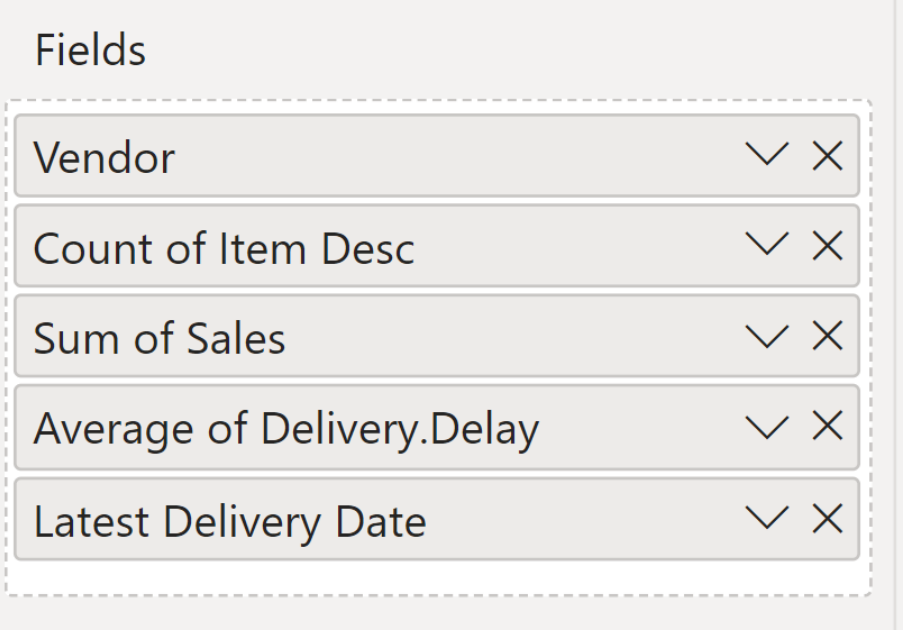
- Don't lose track of the problem you are solving.

Drilling through reports

Navigate between different pages of a report

Create a details page

- Multi-row card at top



- Add a filled map for Delivery Country
- Add a table for item description with sum of sales and sum of delivery delays.

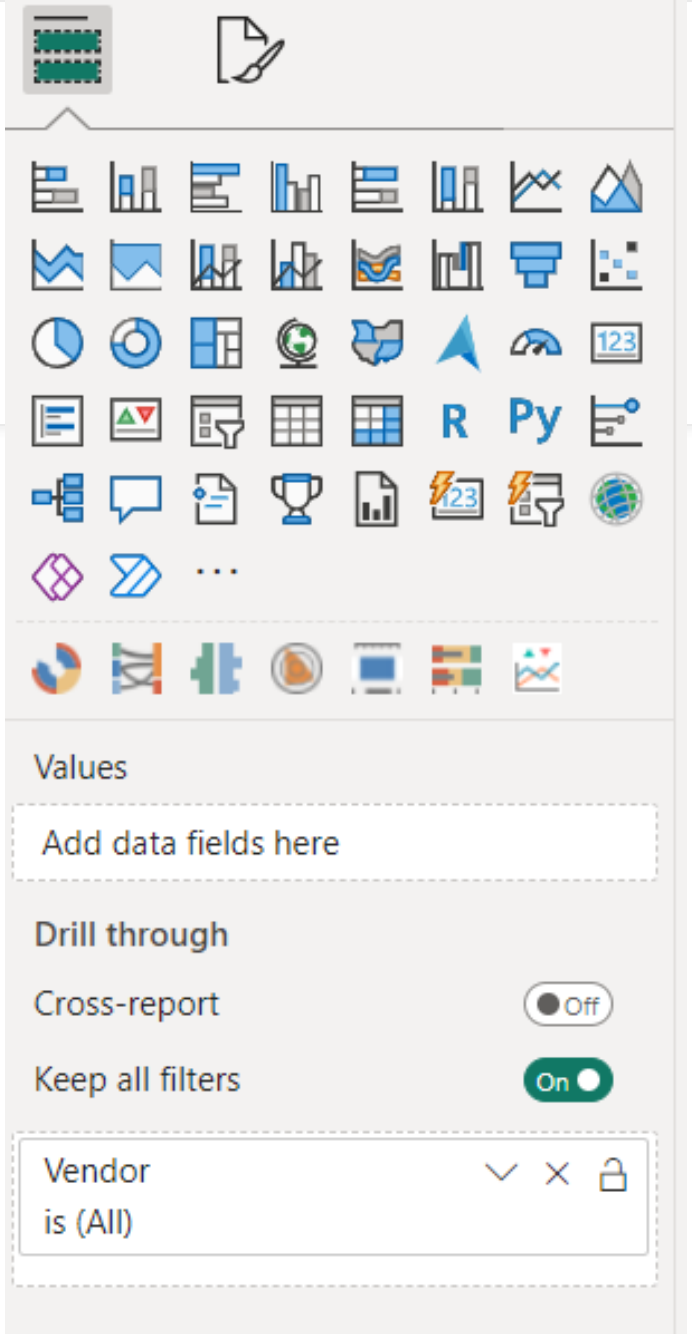
Aurobindo Pharma Limited	11	4,806,275.97	34.36	Friday, October 14, 2011
Vendor	Count of Item Desc	Sum of Sales	Average of Delivery.Delay	Latest Delivery Date
CIPLA LIMITED	15	5,174,963.65	32.67	Thursday, May 05, 2011

Delivery.Country

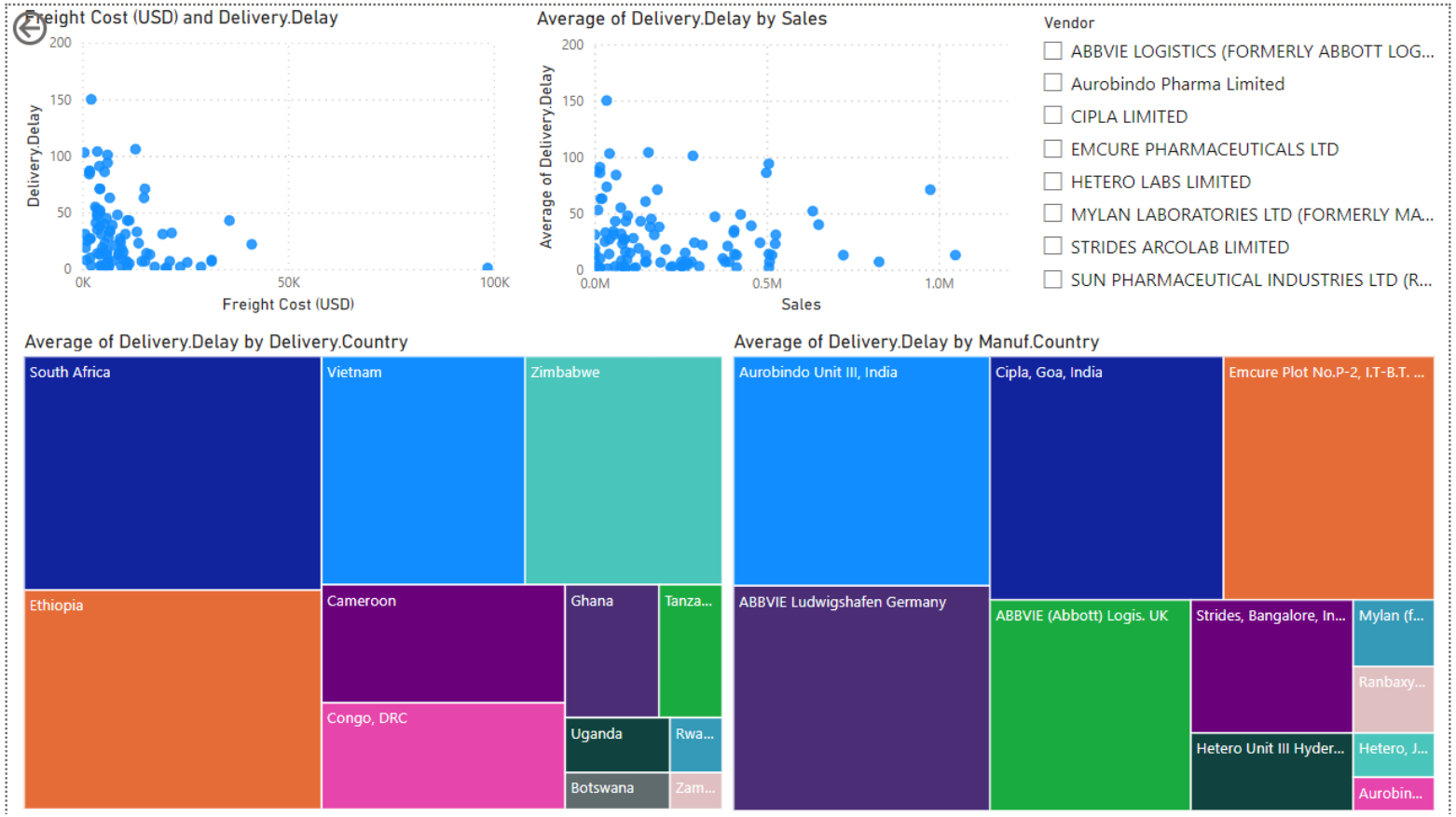
Item Desc	Sum of Delivery.Delay	Sum of Sales
Abacavir 20mg/ml, oral solution w/syringe, Bottle, 240 ml	59	82,063.
Abacavir 20mg/ml, oral solution, Bottle, 240 ml	24	28,254.
Abacavir 300mg, tablets, 60 Tabs	286	1,834,414.
Abacavir/Lamivudine 60/30mg, dispersible tablets, 60 Tabs	4	697.
Abacavir/Lamivudine 60/30mg, tablets, 60 Tabs	158	711,718.
Abacavir/Lamivudine 600/300mg, scored tablets, 30 Tabs	32	101,529.
Abacavir/Lamivudine 600/300mg, tablets, 30 Tabs	35	152,451.
Didanosine 100mg, chewable/dispersible tablets, 60 Tabs	63	17,850.
Didanosine 125mg, delayed-release capsules, 30 Caps	46	892.
Didanosine 200mg, chewable/dispersible tablets, 60 Tabs	24	44,131.
Didanosine 250mg, delayed-release capsules, 30 Caps	8	89,336.
Efavirenz 200mg, capsule, 90 Caps	422	270,241.
Efavirenz 200mg, scored tablets, 90 Tabs	135	524,723.
Efavirenz 50mg, capsule, 30 Caps	76	218,019.
Efavirenz 600mg, tablets, 30 Tabs	964	10,877,026.
Efavirenz/Emtricitabine/Tenofovir Disoproxil Fumarate 600/200/300mg, tablets, 30 Tabs	729	16,339,616.
Efavirenz/Lamivudine/Tenofovir Disoproxil Fumarate 600/300/300mg, tablets, 30 Tabs	323	30,837,878.
Emtricitabine/Tenofovir Disoproxil Fumarate 200/300mg, tablets, 30 Tabs	301	5,013,013.
Indinavir 400mg [Crixivan], capsules, 180 Caps	1	22,500.
Lamivudine 10mg/ml, oral solution w/syringe, Bottle, 240 ml	461	114,993.
Lamivudine 10mg/ml, oral solution, Bottle, 240 ml	8	10,136.
Lamivudine 150mg, tablets, 60 Tabs	573	1,596,936.
Lamivudine/Nevirapine/Stavudine 150/200/30mg, tablets, 60 Tabs	195	2,729,857.
Lamivudine/Nevirapine/Stavudine 30/50/6mg, dispersible tablets, 60 Tabs	39	35,440.
Total	**12510**	**156,602,629.**

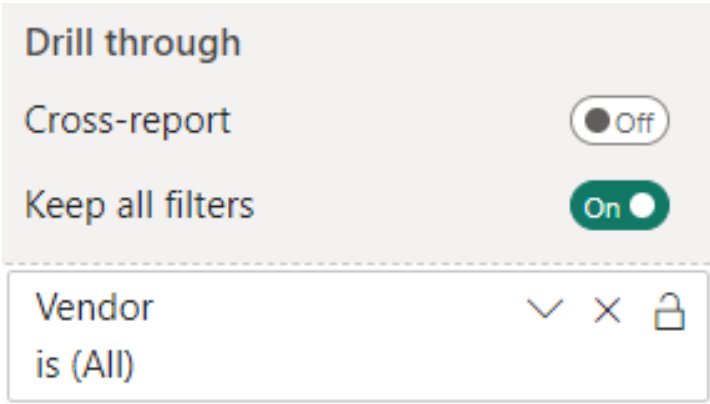
Drill through

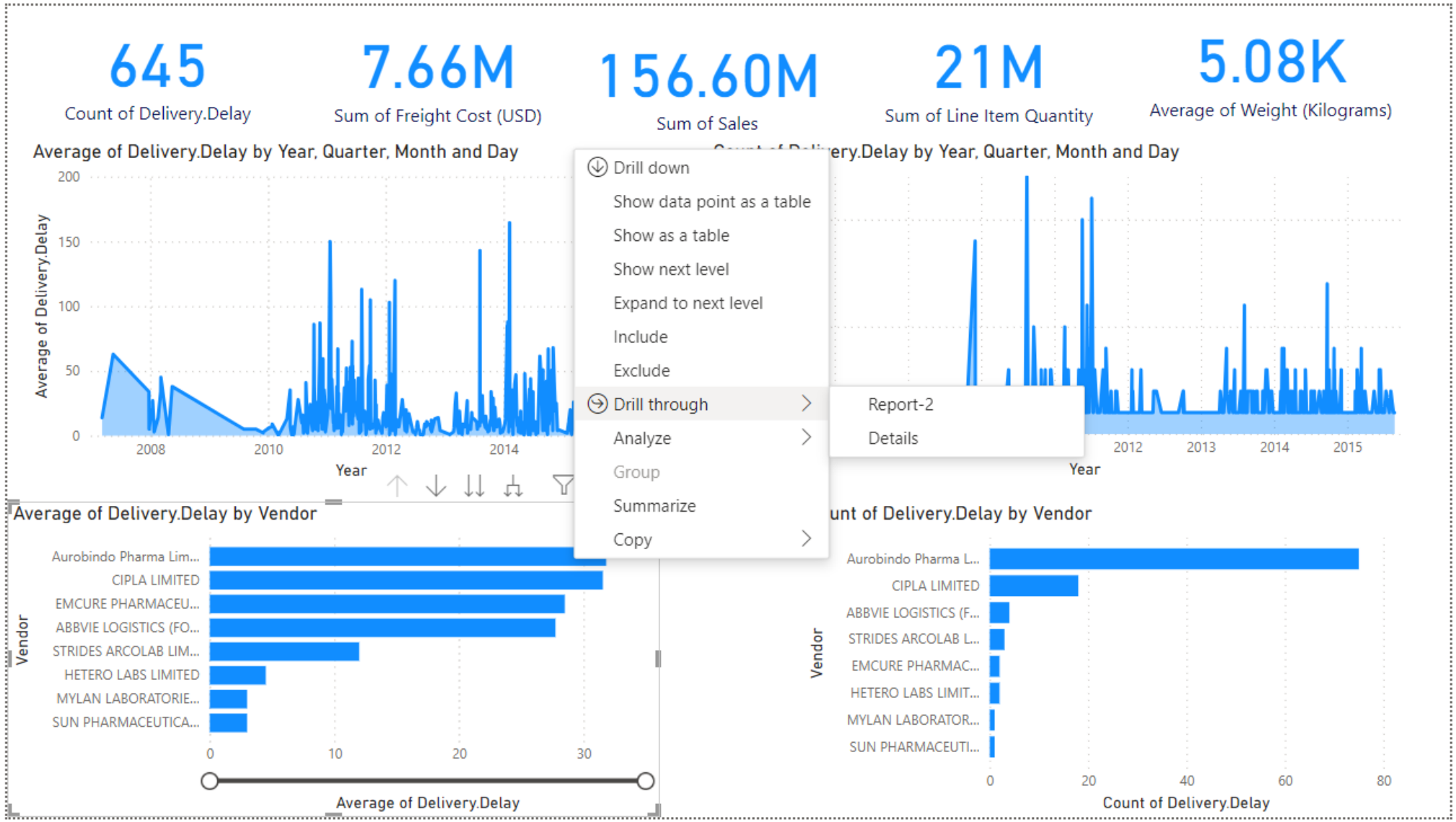
- Add VENDOR to Drill through section on the details page



Add the same to report page 2






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)
Average of Delivery.Delay by Year, Quarter, Month and Day
Average of Delivery.Delay
Year
Drill down
Show data point as a table
Show as a table
Show next level
Expand to next level
Include
Exclude
Drill through
Analyze
Group
Summarize
Copy
Report-2
Details
Average of Delivery.Delay by Vendor
Vendor
Aurobindo Pharma Lim...
CIPLA LIMITED
EMCURE PHARMACEU...
ABBVIE LOGISTICS (FO...
STRIDES ARCOLAB LIM...
HETERO LABS LIMITED
MYLAN LABORATORIE...
SUN PHARMACEUTICA...
Average of Delivery.Delay
Count of Delivery.Delay by Vendor
Count of Delivery.Delay

Click on drill through to take you to the details page filtered as per the selected Vendor

e.g Aurobindo

Vendor	Count of Item Desc	Sum of Sales	Average of Delivery.Delay	Latest Delivery Date
Aurobindo Pharma Limited	75	14,913,224.50	31.83	Monday, July 21, 2014

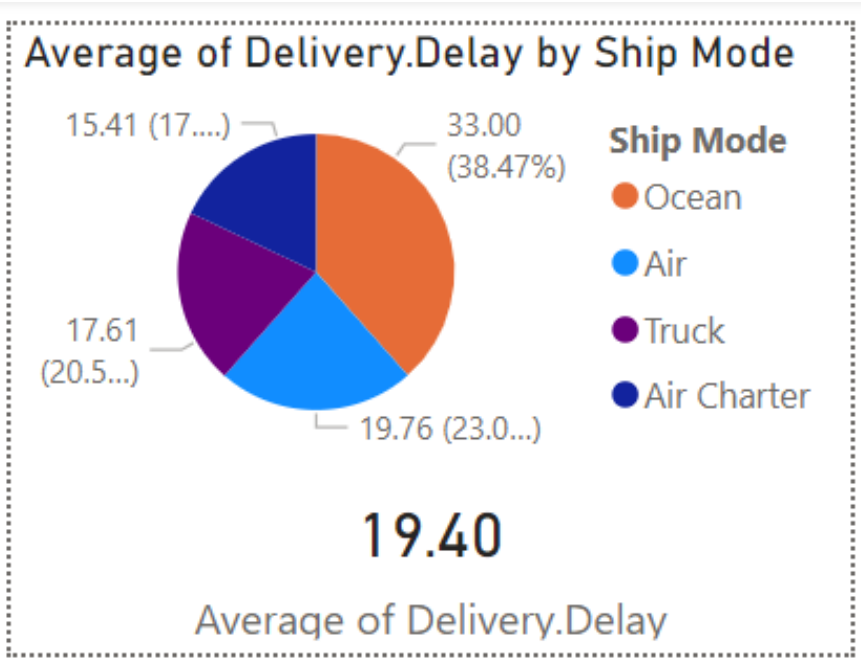
Delivery.Country

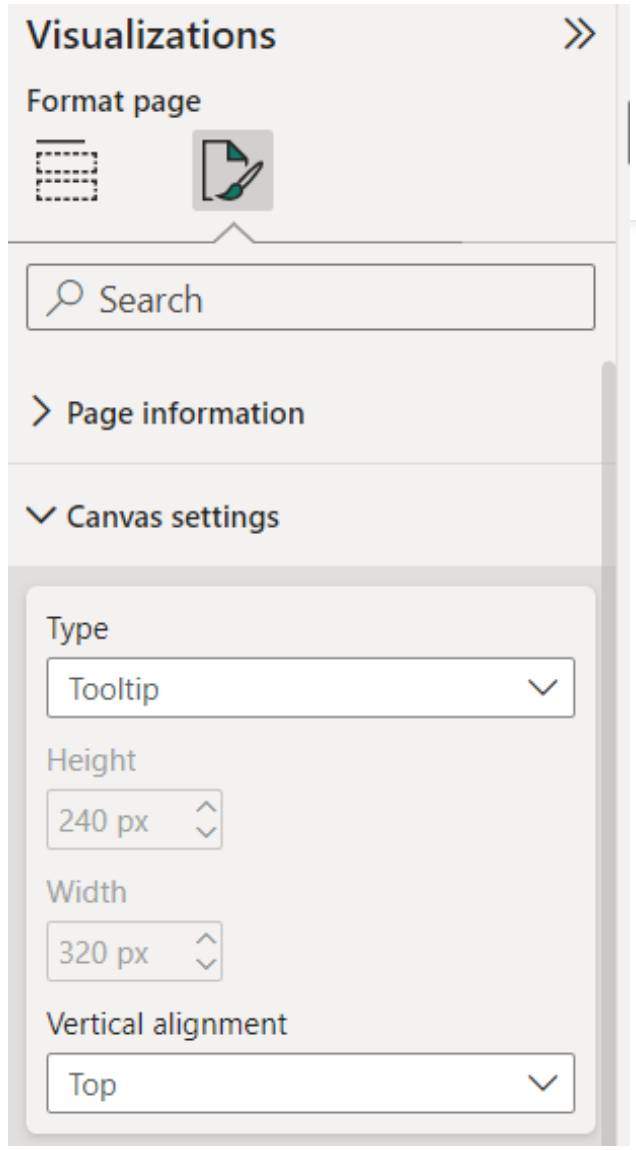
Item Desc	Sum of Delivery.Delay	Sum of Sales
Didanosine 100mg, chewable/dispersible tablets, 60 Tabs	63	17,850.00
Efavirenz 200mg, capsule, 90 Caps	122	188,342.56
Efavirenz 50mg, capsule, 30 Caps	75	210,305.12
Efavirenz 600mg, tablets, 30 Tabs	506	5,567,593.49
Lamivudine 10mg/ml, oral solution w/syringe, Bottle, 240 ml	297	104,724.00
Lamivudine 150mg, tablets, 60 Tabs	238	363,961.61
Lamivudine/Nevirapine/Zidovudine 150/200/300mg, tablets, 60 Tabs	25	372,110.10
Lamivudine/Tenofovir Disoproxil Fumarate 300/300mg, tablets, 30 Tabs	3	481,104.10
Lamivudine/Zidovudine 150/300mg, tablets, 60 Tabs	14	660,738.65
Lopinavir/Ritonavir 200/50mg, tablets, 120 Tabs	5	272,314.50
Nevirapine 10mg/ml, oral suspension w/syringe, Bottle, 100 ml	4	29,049.80
Nevirapine 10mg/ml, oral suspension w/syringe, Bottle, 240 ml	245	142,011.72
Nevirapine 200mg, tablets, 60 Tabs	43	671,254.19
Nevirapine 50mg, dispersible tablets (tablets for oral suspension), 30 Tabs	8	615.00
Stavudine 30mg, capsules, 60 Caps	34	54,350.75
Tenofovir Disoproxil Fumarate 300mg, tablets, 30 Tabs	378	4,806,275.97
Zidovudine 300mg, tablets, 60 Tabs	327	970,622.94
Total	**2387**	**14,913,224.50**

Format Visuals

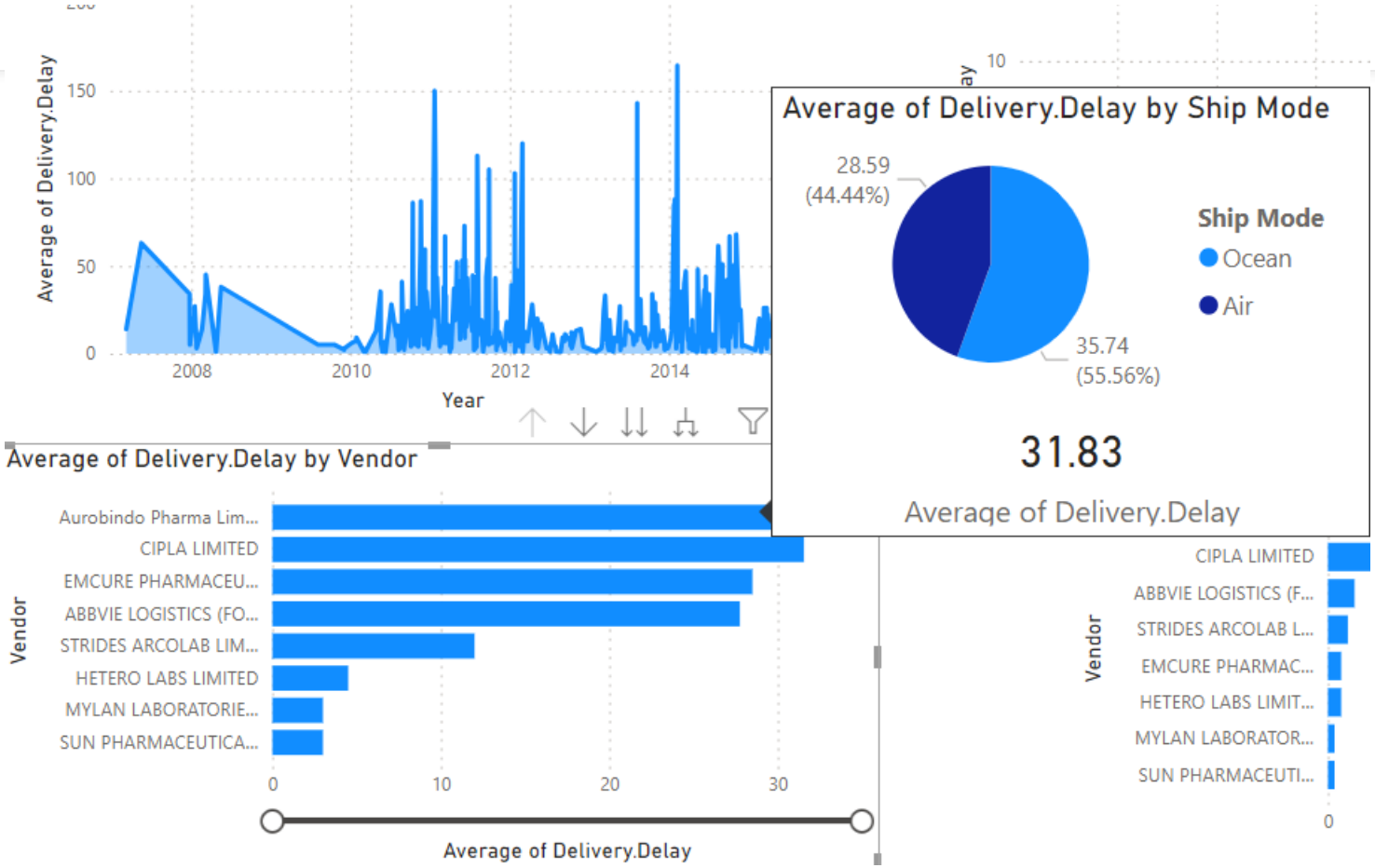
Tool Tips

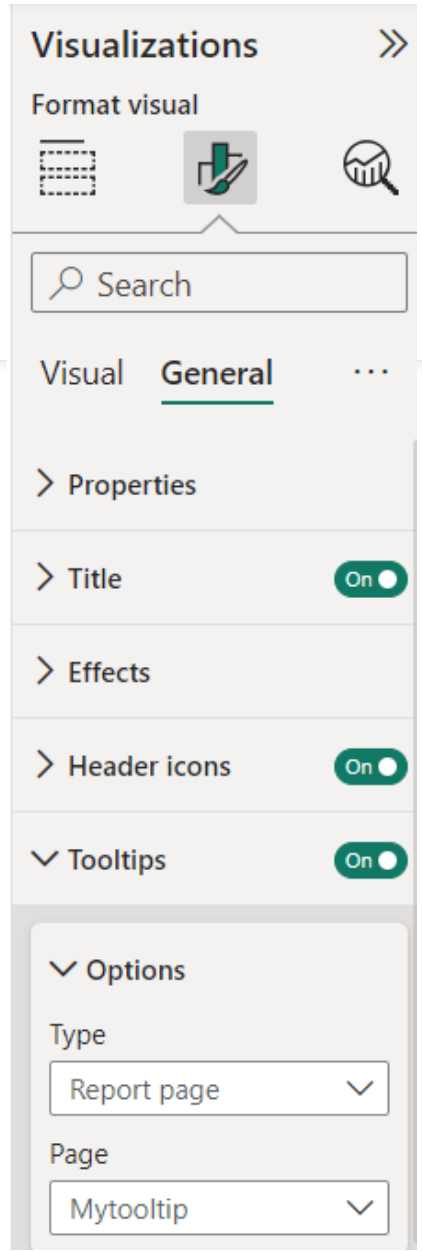
- Create a new page, set the canvas settings as shown and design what you wish to see on the tooltip in the small canvas.
- An example is below:



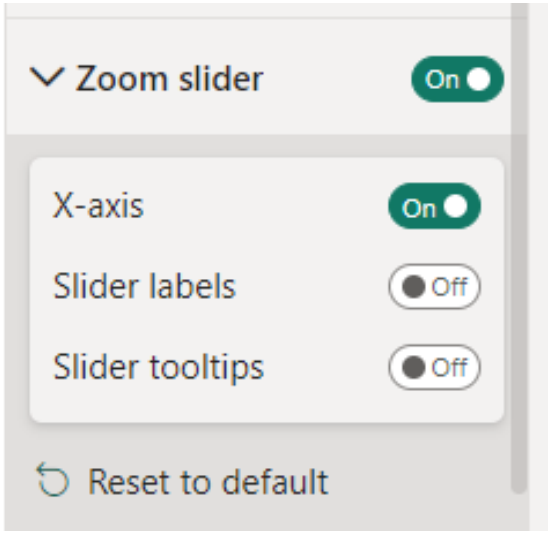


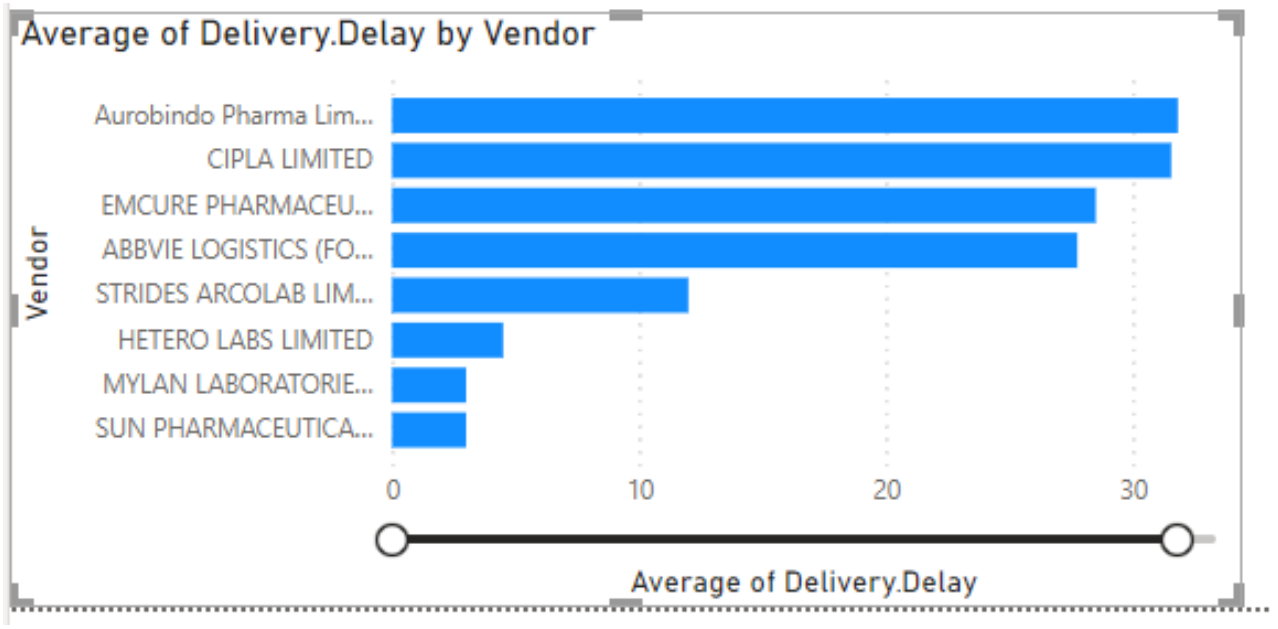
Link the Tooltip to the desired chart. Hover on a bar to see the tooltip





Zoom Slider


Zoom slider
On
X-axis
On
Slider labels
Off
Slider tooltips
Off
Reset to default


Average of Delivery.Delay by Vendor
Aurobindo Pharma Lim...
CIPLA LIMITED
EMCURE PHARMACEU...
ABBVIE LOGISTICS (FO...
STRIDES ARCOLAB LIM...
HETERO LABS LIMITED
MYLAN LABORATORIE...
SUN PHARMACEUTICA...
Vendor
0
10
20
30
Average of Delivery.Delay

Next week

- Monday: Setup Tableau and be ready for a in-class graded activity <=2 members
- Team Up! Maximum 4 students on a team for project. Details to be shared.
- Power BI Report Assignment Due.