

# Power BI – Visualizations

April 2018

Insights & Data





# AGENDA

## Creating Reports

- Analytics (Chart) Overview

## Working with Various Charts

- Bar Chart
- Line Chart
- Combo Chart
- Gauges and Single Number Chart
- Tabular Charts
- Pie Chart
- Waterfall and Funnel Chart
- Scatter Object
- Filtering
- Sorting
- Grouping
- Customize Visualizations

## Working with Power BI

- Shapes Text Boxes and Images
- Show Categories with No data
- Page Layout and Formatting
- Complex interactions between visualizations
- Visual Hierarchies
- Category Options
- Dates and Times
- Bookmarks
- Report Themes

## Creating Dashboard

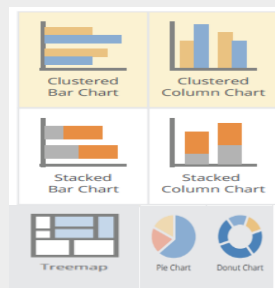
- Create Dashboard



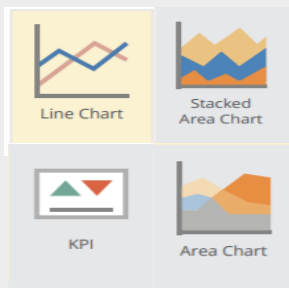
# Creating report - Analytics (Chart) Overview

- Before you even start working on report, get answer to a key question: “what **decisions** does the reader want **to be able to make** based on this report?”
- Visual can provide lots of Analytical information if you use correct visual

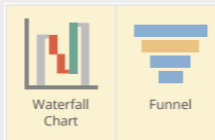
## COMPARISON



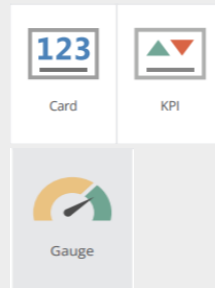
## Change Over Time



## Flow



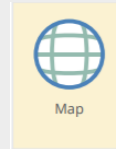
## Single



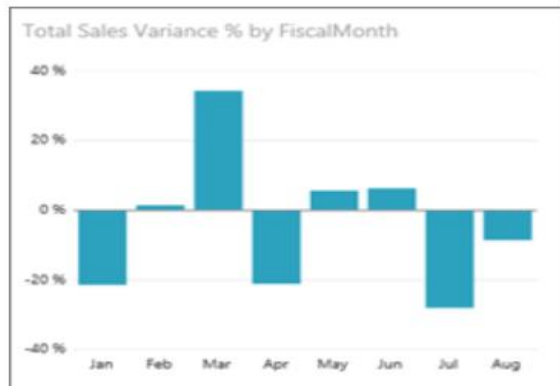
## CORRELATION



## Maps



# Working with Charts - Bar Chart



- Bar charts are the standard for looking at a specific value across different categories
- Key Features:
  - ✓ Drill through categories
  - ✓ TopN
  - ✓ Sort
  - ✓ Grouping
  - ✓ Include/Exclude

# LINE Chart



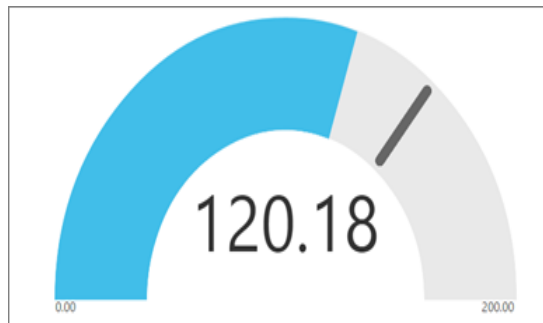
- Line Chart visualization are used for showing one or two measure's value across on axis (usually over time).
- Key Features:
  - ✓ Drill through categories
  - ✓ TopN
  - ✓ Sort
  - ✓ Include/Exclude

# COMBO Chart



- Combo chart is a single visualization that combines a line chart and a column chart. Combo charts can have one or two Y axes.
- Key Features:
  - ✓ To compare multiple measures with different value ranges.
  - ✓ To illustrate the correlation between two measures in one visualization.
  - ✓ To check whether one measure meet the target which is defined by another measure

# Gauge chart & single number card



- Gauge chart has a circular arc and displays a single value that measures **progress toward a goal/KPI**. The goal, or target value, is represented by the line (needle). Progress toward that goal is represented by the shading.
- Key Features:
  - ✓ Display information that can be quickly scanned and understood
  - ✓ Manually set Minimum, Maximum, and Target values
- Display a single value on report/dashboard. This visualization is called “Card”.

# Tabular Chart

Category	This Year S...	Average Unit Price	Last Year Sales	This Year Sales	This Year Sales Goal
010-Womens	●	\$7.30	\$2,680,662	\$1,787,958	\$2,680,662
020-Mens	●	\$7.12	\$4,453,133	\$4,452,421	\$4,453,133
030-Kids	●	\$5.30	\$2,726,892	\$2,705,490	\$2,726,892
040-Juniors	●	\$7.00	\$3,105,550	\$2,930,385	\$3,105,550
050-Shoes	●	\$13.84	\$3,640,471	\$3,574,900	\$3,640,471
060-Intimate	●	\$4.28	\$955,370	\$852,329	\$955,370
070-Hosiery	●	\$3.69	\$573,604	\$486,106	\$573,604
080-Accessories	●	\$4.84	\$1,273,096	\$1,379,259	\$1,273,096
090-Home	●	\$3.93	\$2,913,647	\$3,053,326	\$2,913,647
100-Groceries	●	\$1.47	\$810,176	\$829,776	\$810,176
Total	●	\$5.49	\$23,132,601	\$22,051,952	\$23,132,601

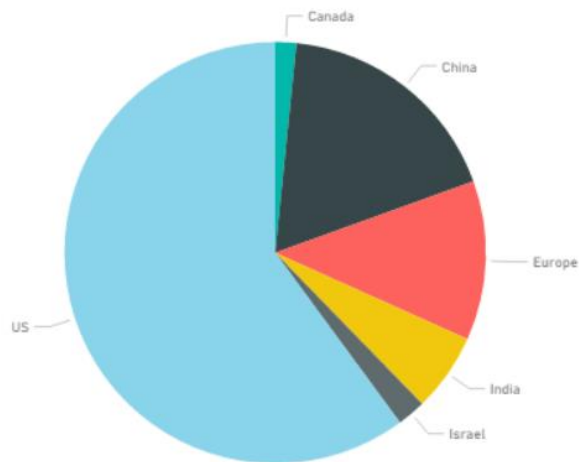
- A table is a grid that contains **related data** in a **logical series** of rows and columns. It may also contain headers and a row for totals. Tables work well with quantitative comparisons where you are looking at many values for a single category.
- Key Features:
  - ✓ Display data in a tabular format
  - ✓ Display numerical data by categories



# PIE chart

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Value by Country



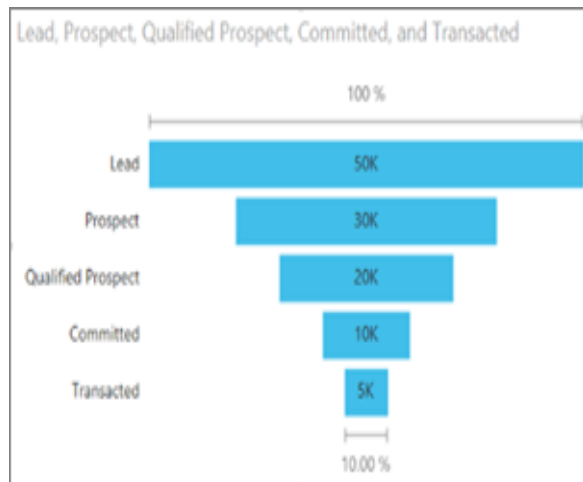
- Pie Chart is a circular chart divided into sectors which displays data, information, and statistics in an easy to read 'pie-slice' format with varying slice sizes.

# Waterfall chart



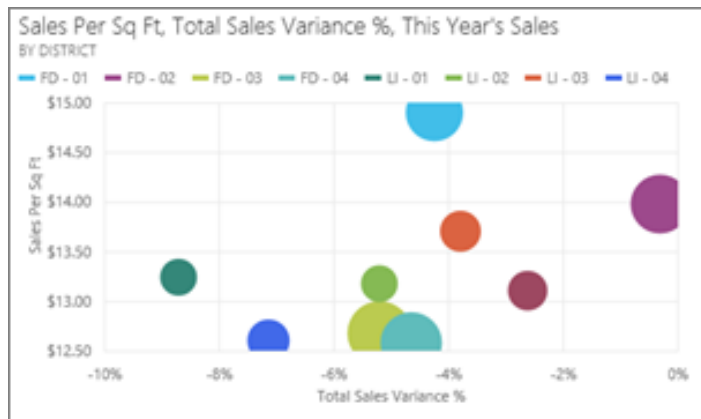
- A waterfall chart shows a running total as values are added or subtracted. It's useful for understanding how an initial value (for example, net income) is affected by a series of positive and negative changes.
- Waterfall charts are also called Bridge Charts.
- Key Features:
  - ✓ Columns are color coded to quickly analyze increases and decreases.
  - ✓ Can be highlighted and cross-filtered

# Funnel chart



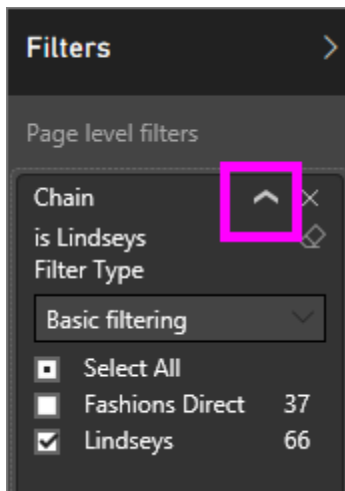
- Funnels help visualize a process that has stages and items flow sequentially from one stage to the next.
- Key Features:
  - ✓ To visualize a linear process that has sequential connected stages.
  - ✓ Can be sorted
  - ✓ Support multiples
  - ✓ Can be highlighted and cross-filtered by other visualizations on the same report page.

# Scatter & Bubble chart



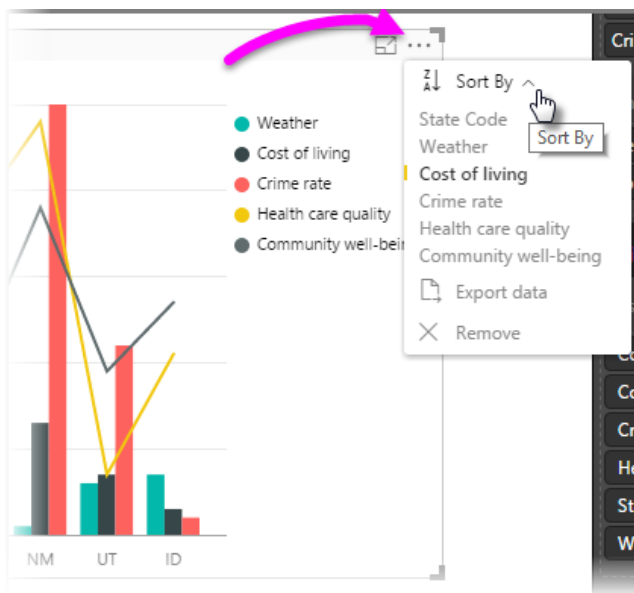
- A scatter chart always has two value axes to show one set of numerical data along a horizontal axis and another set of numerical values along a vertical axis.
- A bubble chart replaces the data points with bubbles, with the bubble *size* representing an additional dimension of the data.

# Filtering



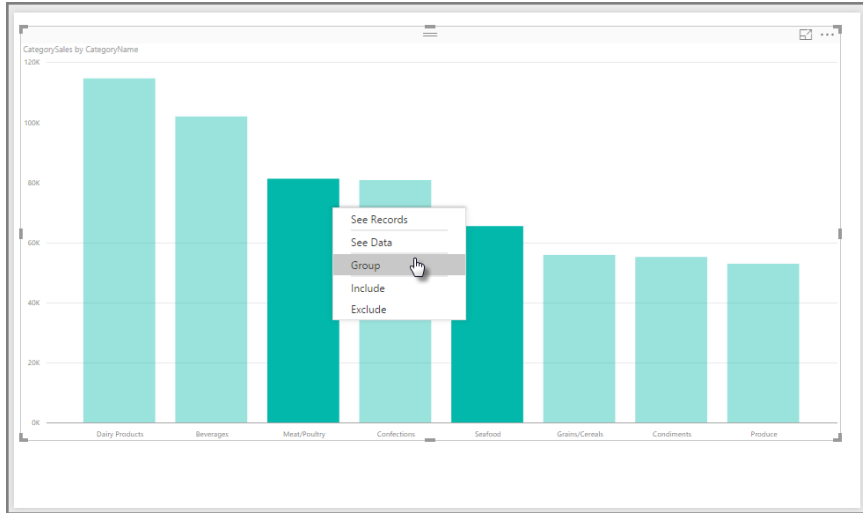
- Filters allow users to look at there point of interest or to present your story.
- Different way filter could be applied:
  - Slicers
  - Visual level filters
  - Page level filters
  - Drill Through Filters
  - Report level filters
  - Visual Interactions
  - Filter in reading view
- Filter cannot be pinned on the Dashboard, those are only available on Report.
- With drillthrough filter option, you can create a destination report page that focuses on a specific entity - such as a supplier, or customer, or manufacturer

# Sorting



- By changing how you sort a visual, you can highlight the information you want to convey

# Grouping

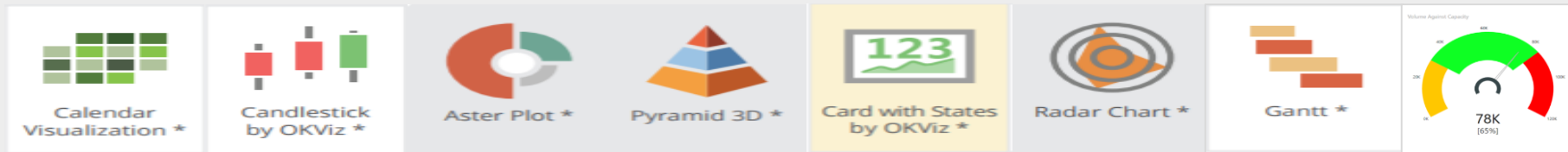


- You can group data points to help you more clearly view, analyze, and explore data and trends in your visuals.
- You can also define the **bin size**, often called **binning**, to put values into equally sized groups that better enable you to visualize data in ways that are meaningful



# Customize Visualizations

- [Extend Power BI with custom visuals](#) or [Create and submit a custom visual](#).
- There is an active developer community creating a wide range of custom visuals.
- Power BI has a [visuals gallery](#) which contains many useful visualizations created by the community and [created by Microsoft](#) that you can download, and use in your Power BI reports.
- Go to <http://visuals.powerbi.com>.







# AGENDA (A Look again)

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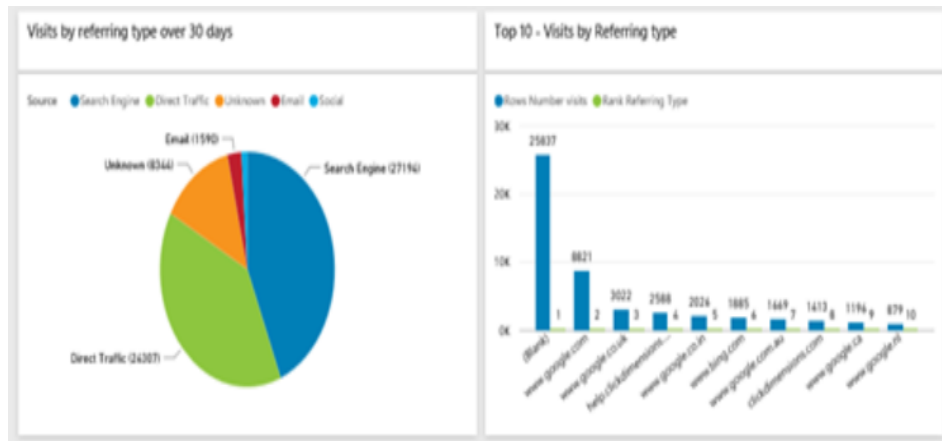
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## Creating Dashboard

- Create Dashboard

# Text Boxes, Shapes and Images

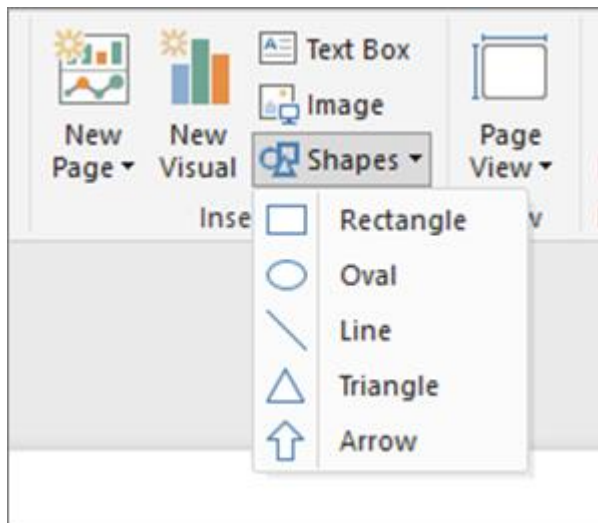


- Text boxes:

- Can be used for Page Titles
- Helps to communicate with the people reading report
- Can also be helpful to provide commentary.







# Text Boxes, Shapes and Images

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- Shapes:
  - Can aid navigation and comprehension.
  - Group related information together or highlight important data.

# Text Boxes, Shapes and Images

Comp Yoyo Products	\$19.95 Suggested Retail Price	 Picture Web URL
Devil Sticks Products	\$17.95 Suggested Retail Price	 Picture Web URL
Ginny Yoyo Products	\$8.95 Suggested Retail Price	 Picture Web URL
Glowing Yoyo Products	\$6.95 Suggested Retail Price	 Picture Web URL
Juggling Bags Products	\$8.95 Suggested Retail Price	 Picture Web URL
Juggling Sticks Products	\$19.95 Suggested Retail Price	 Picture Web URL

Account ID	Sales	Up&Down
10008	€ 63,689	▲
10047	€ 48,497	▼
10068	€ 27,030	▼
10085	€ 60,900	▲
10093	€ 74,462	▲
101110	€ 24,440	▼
10118	€ 27,310	▼
10204	€ 23,540	▼
10290	€ 120,699	▲
10328	€ 29,864	▼
1035	€ 37,726	▼
10370	€ 154,597	▲
10378	€ 25,549	▼
10399	€ 24,108	▼
104	€ 80,541	▲
10419	€ 33,590	▼
10427	€ 119,524	▲
10510	€ 51,439	▼
10543	€ 87,913	▲

## ■ Images:

- Can be used to show company logo.
- Background image to the report
- Dimension images (eg. Product Images)

## ■ Character:

- Could be useful to show up/down trend

Up&Down = IF (SUM('Sample Data'[Sales])>60000,UNICHAR(11165), UNICHAR(11167))

# Show Categories with No data

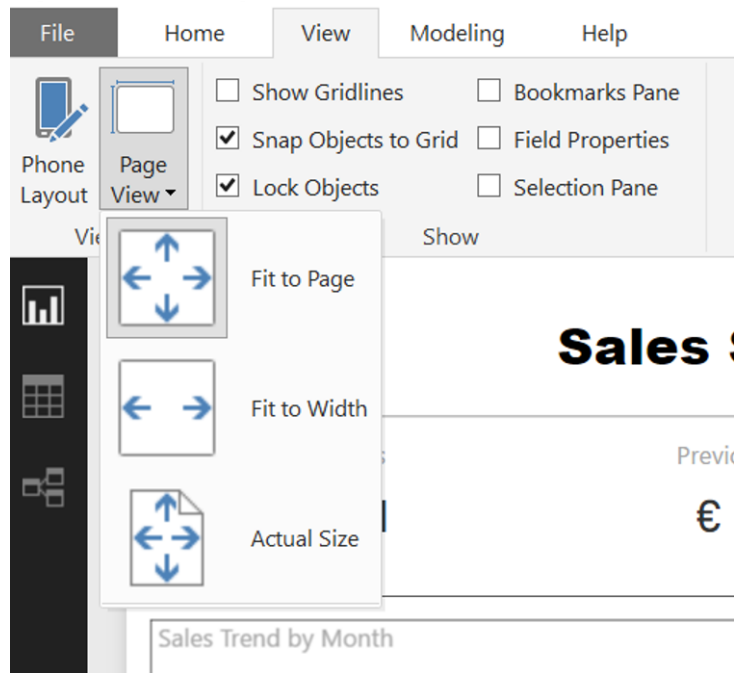


A screenshot of a Power BI table. The table has two columns: 'Country' and 'Revenue'. The rows are: USA (4,391,646,117.70), France (135,537,514.59), Mexico (95,303,940.56), Canada (30,996,645.38), Germany, and Total (4,653,484,218.24). A pink arrow points to the 'Country' column header.

Country	Revenue
USA	4,391,646,117.70
France	135,537,514.59
Mexico	95,303,940.56
Canada	30,996,645.38
Germany	
<b>Total</b>	<b>4,653,484,218.24</b>

- By default, column headings are only displayed in your reports if they contain data
- To display empty categories, click on the down-arrow in the field you want to change in the Visualizations pane, and select Show items with no data.
- It applies to all fields displayed in the Visualizations pane

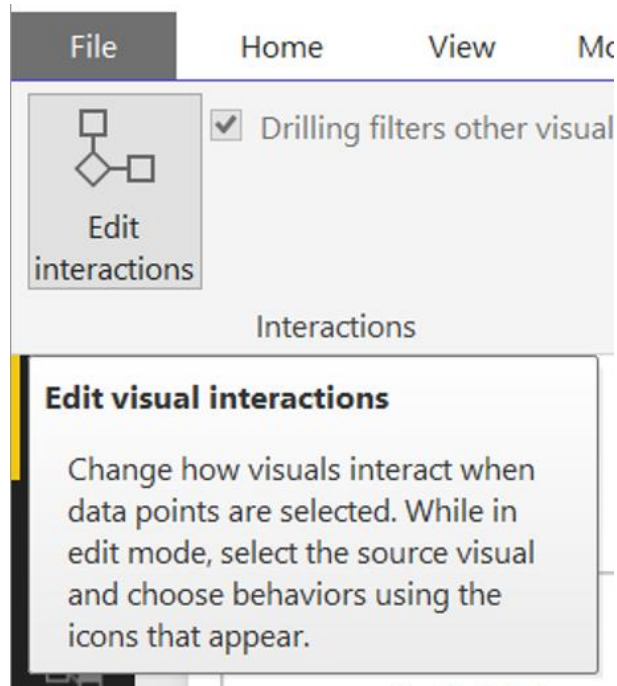
# Page Layout and Formatting



## ■ Page Views:

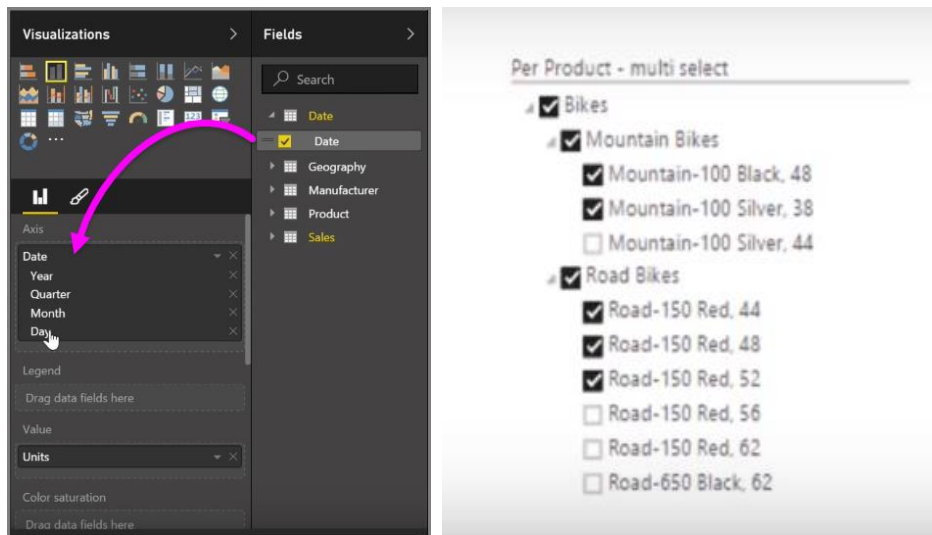
- Fit to Page
  - Fit to Width
  - Actual Size
- ✓ You can also set custom Page Size or Background to the page.

# Complex interactions between visualizations



- ✓ You can control the way interaction flow between different visuals
- ✓ You can select any one of the below options for interactions:
  - Filter
  - Highlight
  - None

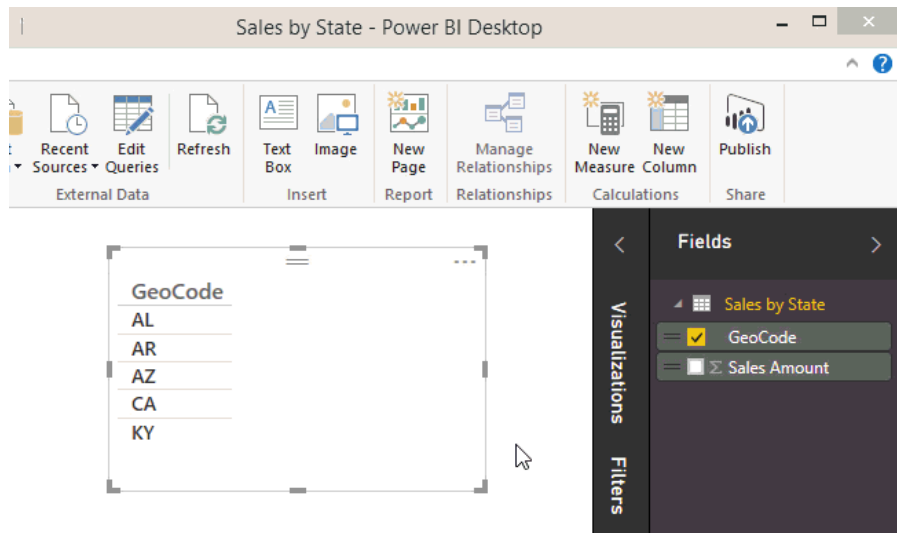
# Visual Hierarchies & dates



- ✓ When you add a date dimension to canvas it automatically adds a time hierarchy that includes year, quarter, month and Date.
- ✓ You can enable such hierarchies to other dimension too, by simple drag and drop method.
- ✓ With a hierarchy in place, you can begin drilling down through the defined hierarchy.
- ✓ You can manage to level of drill for the automatic created hierarchy.
- ✓ Using custom visual like "HierarchySlicer" give more control to the user for slicing report.

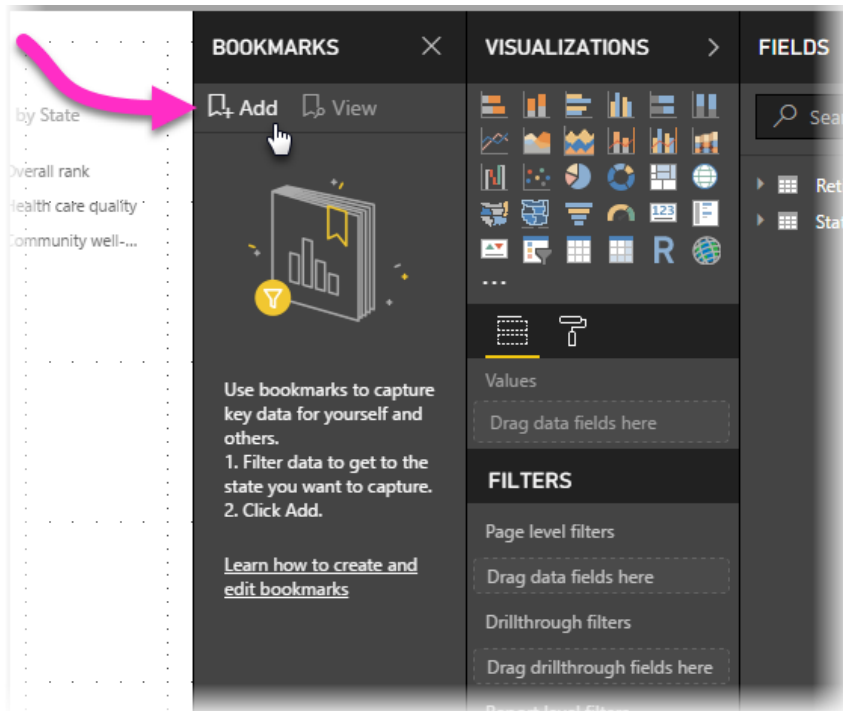


# Data Categorization Option



- ✓ In Power BI Desktop, you can specify the Data Category for a column so Power BI Desktop knows how it should treat its values when in a visualization.
- ✓ Data categorization is also very useful if you have image URL (for example Product Image URLs, Country Flags)

# Bookmarks



- ✓ One click view of configured settings of a report page, including filtering and the state of visuals.
- ✓ Can create a collection of bookmarks
- ✓ Arrange them in the order you want
- ✓ Build a PowerPoint-like presentation that steps through bookmarks in order, thereby telling a story with your report.
- ✓ When you create a bookmark, the following elements are saved with the bookmark:
  - The current page
  - Filters
  - Slicers
  - Sort order
  - Drill location
  - Visibility (of an object, using the Selection pane)
  - The focus or Spotlight modes of any visible object
- ✓ Handy tool to toggle between 2 views.

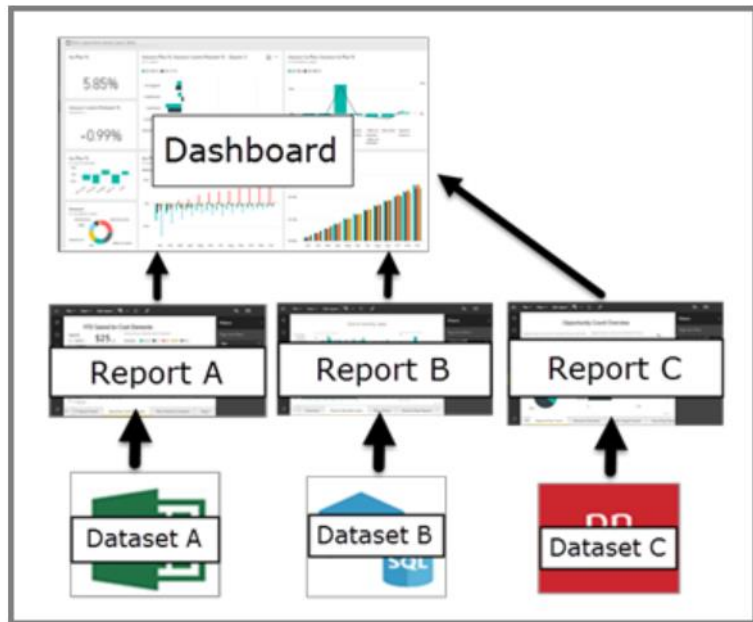
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Response	Percentage
Yes, it is a crisis	85%
No, it is not a crisis	15%

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# Creating Dashboards



- ✓ Dashboard is a single page that uses Visualizations from a Report
- ✓ The visualizations you see on the dashboard are called tiles and are pinned to the dashboard from reports.
- ✓ Dashboards are created using Power BI Service, and not Power BI Desktop.
- ✓ Natural Language Queries.
- ✓ What all can you pin on Dashboard?
  - ✓ Visual from a Report
  - ✓ Entire Report
  - ✓ Power BI Q&A
  - ✓ Content from Excel Workbook on OneDrive
  - ✓ Power BI Publisher for Excel
  - ✓ SSRS

# Questions, Notes, Open Forum, Etc...



Thank You!

