

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

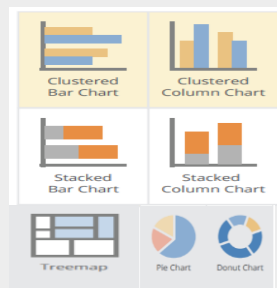
- Create Dashboard



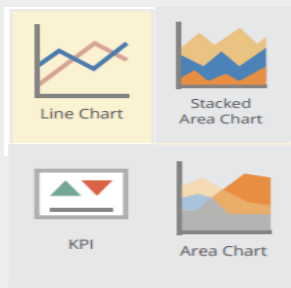
Creating report - Analytics (Chart) Overview

- 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

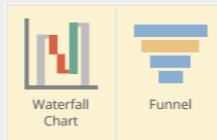
COMPARISON



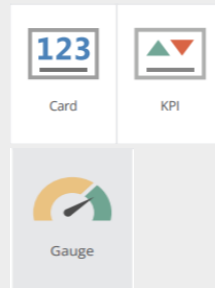
Change Over Time



Flow



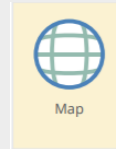
Single



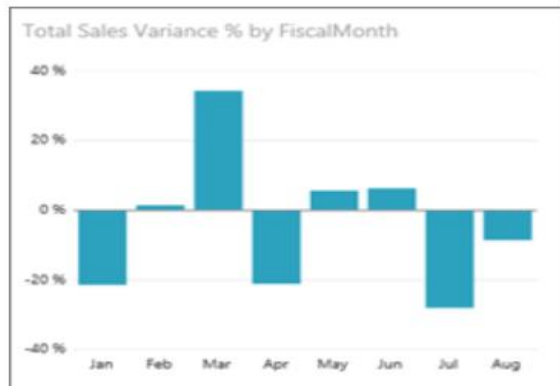
CORRELATION



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



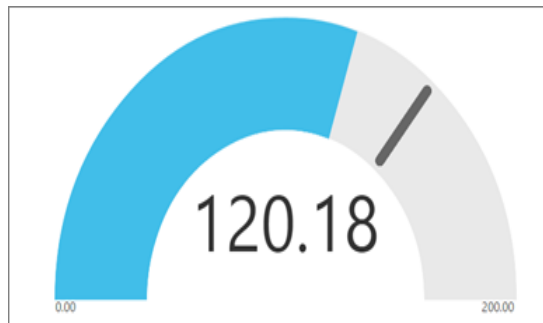
- Line Chart visualization are used for showing one or two measure's value across on axis (usually over time).
- Key Features:
 - ✓ Drill through categories
 - ✓ TopN
 - ✓ Sort
 - ✓ Include/Exclude

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”.

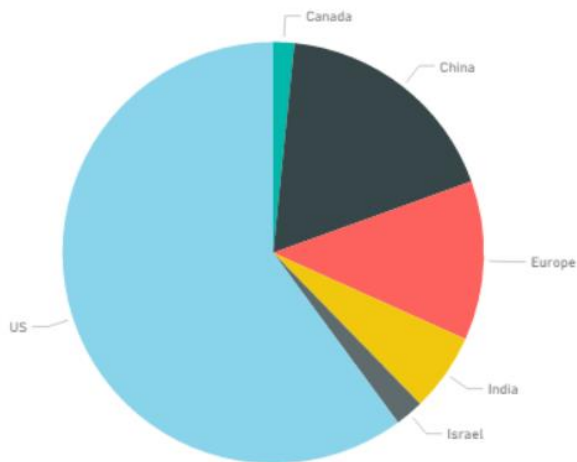
Tabular Chart

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

Value by Country



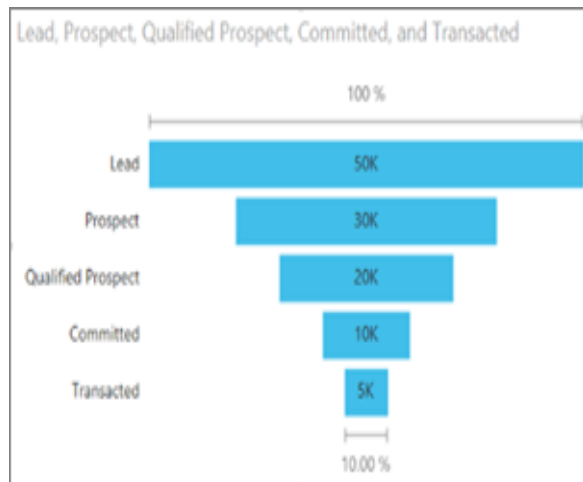
- Pie Chart is a circular chart divided into sectors which displays data, information, and statistics in an easy to read 'pie-slice' format with varying slice sizes.

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



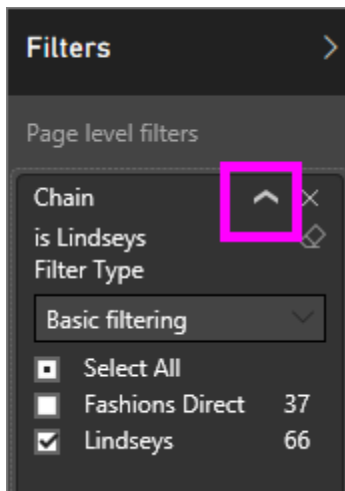
- Funnels help visualize a process that has stages and items flow sequentially from one stage to the next.
- Key Features:
 - ✓ To visualize a linear process that has sequential connected stages.
 - ✓ Can be sorted
 - ✓ Support multiples
 - ✓ Can be highlighted and cross-filtered by other visualizations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

Scatter & Bubble chart



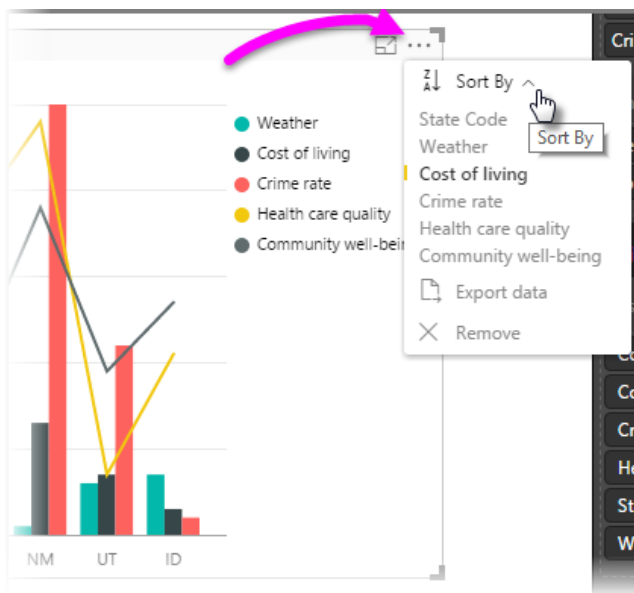
- A scatter chart always has two value axes to show one set of numerical data along a horizontal axis and another set of numerical values along a vertical axis.
- A bubble chart replaces the data points with bubbles, with the bubble *size* representing an additional dimension of the data.

Filtering



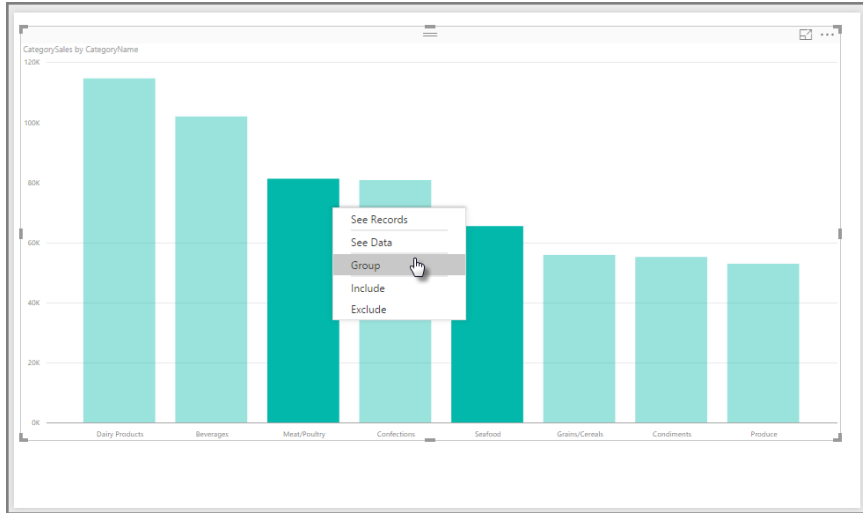
- Filters allow users to look at there point of interest or to present your story.
- Different way filter could be applied:
 - Slicers
 - Visual level filters
 - Page level filters
 - Drill Through Filters
 - Report level filters
 - Visual Interactions
 - Filter in reading view
- Filter cannot be pinned 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

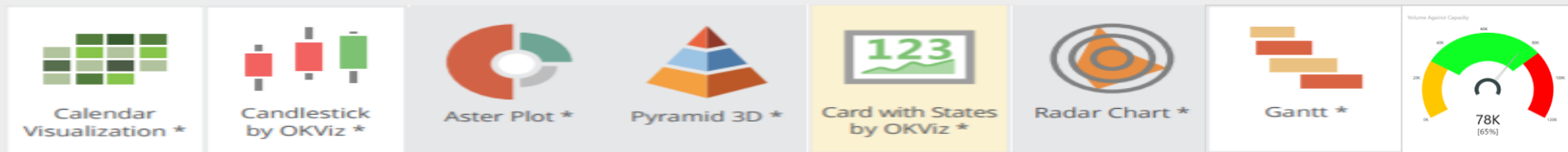


- You can group data points to help you more clearly view, analyze, and explore data and trends in your visuals.
- You can also define the **bin size**, often called **binning**, to put values into equally sized groups that better enable you to visualize data in ways that are meaningful



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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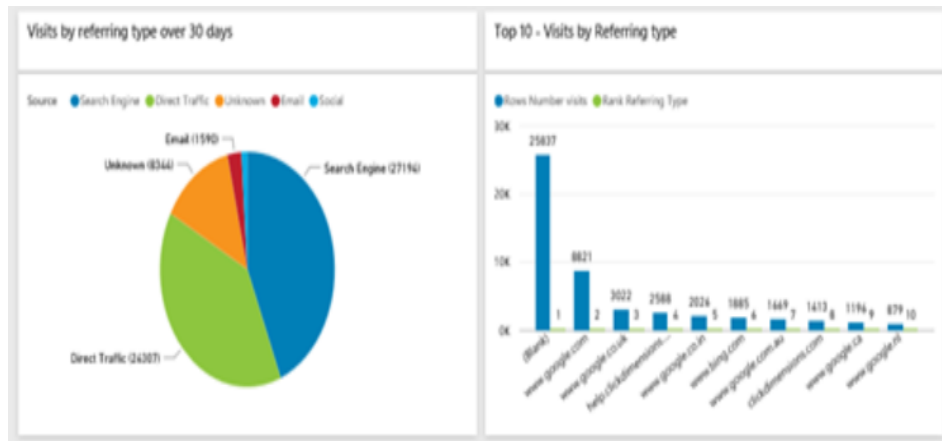
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- Complex interactions between visualizations
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Creating Dashboard

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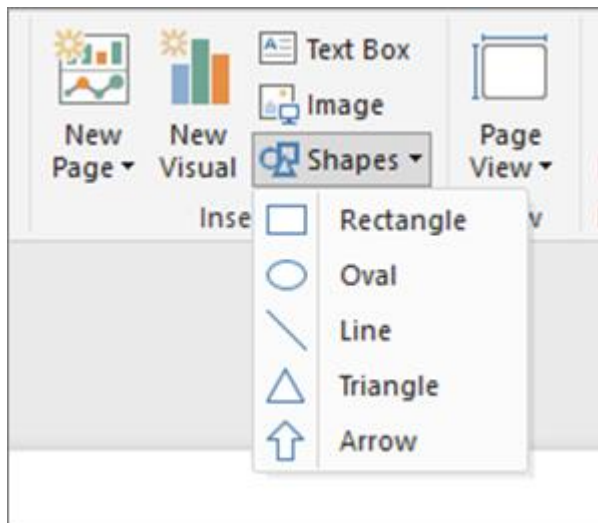
Text Boxes, Shapes and Images



- 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



- 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

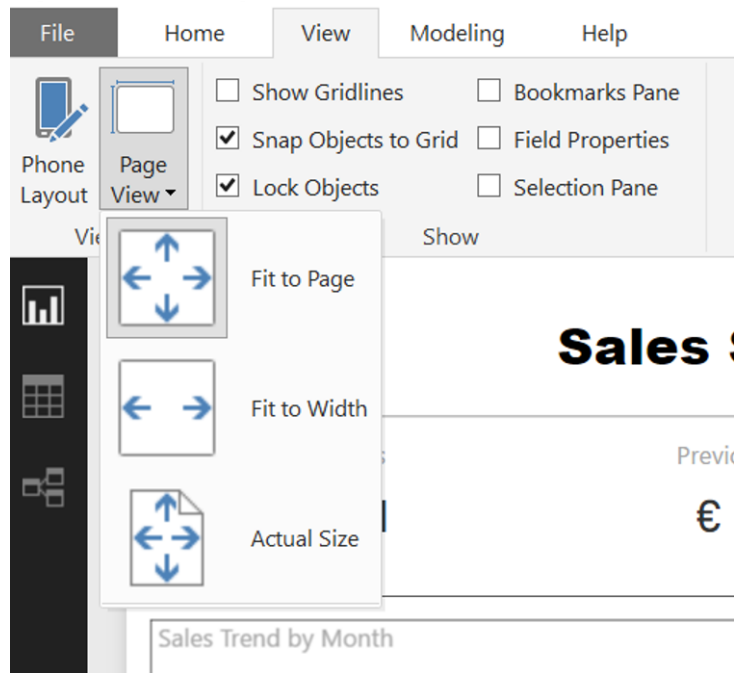


A screenshot of a table in a report. The table has two columns: 'Country' and 'Revenue'. The rows are: USA (4,391,646,117.70), France (135,537,514.59), Mexico (95,303,940.56), Canada (30,996,645.38), Germany, and Total (4,653,484,218.24). A pink arrow points to the down-arrow icon next to the 'Country' field header, indicating the action to take to show categories with no data.

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

- 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

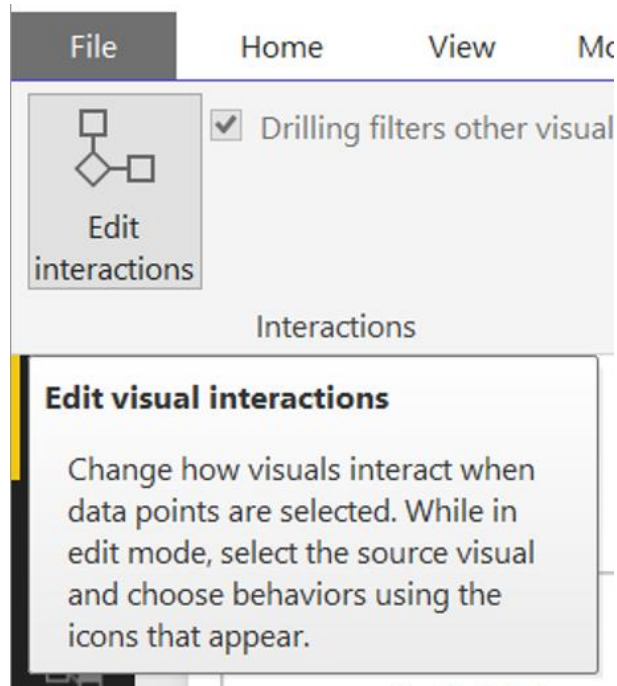
Page Layout and Formatting



■ Page Views:

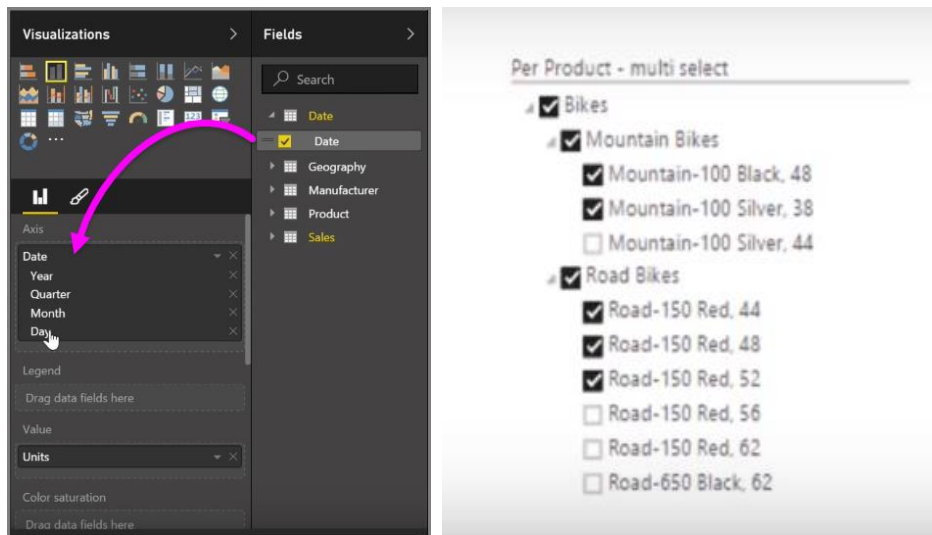
- Fit to Page
 - Fit to Width
 - Actual Size
- ✓ You can also set custom Page Size or Background to the page.

Complex interactions between visualizations



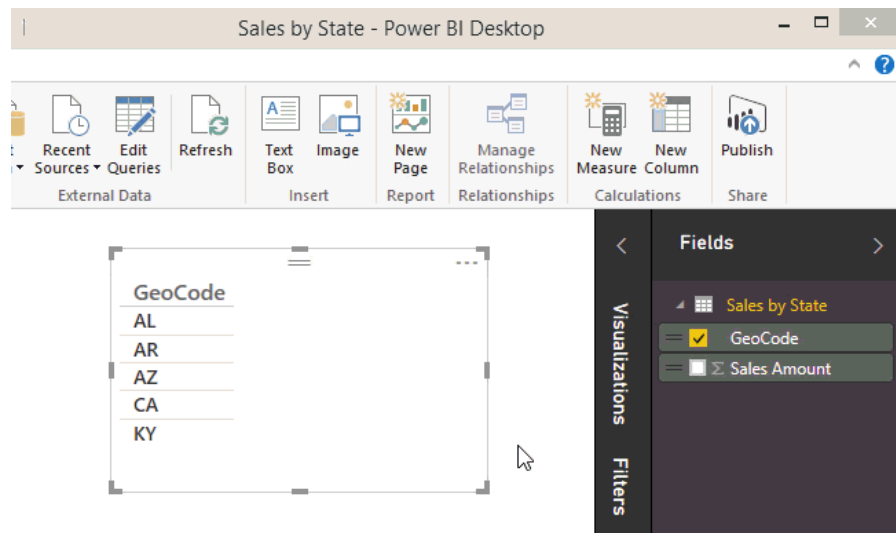
- ✓ You can control the way interaction flow between different visuals
- ✓ You can select any one of the below options for interactions:
 - Filter
 - Highlight
 - None

Visual Hierarchies & dates



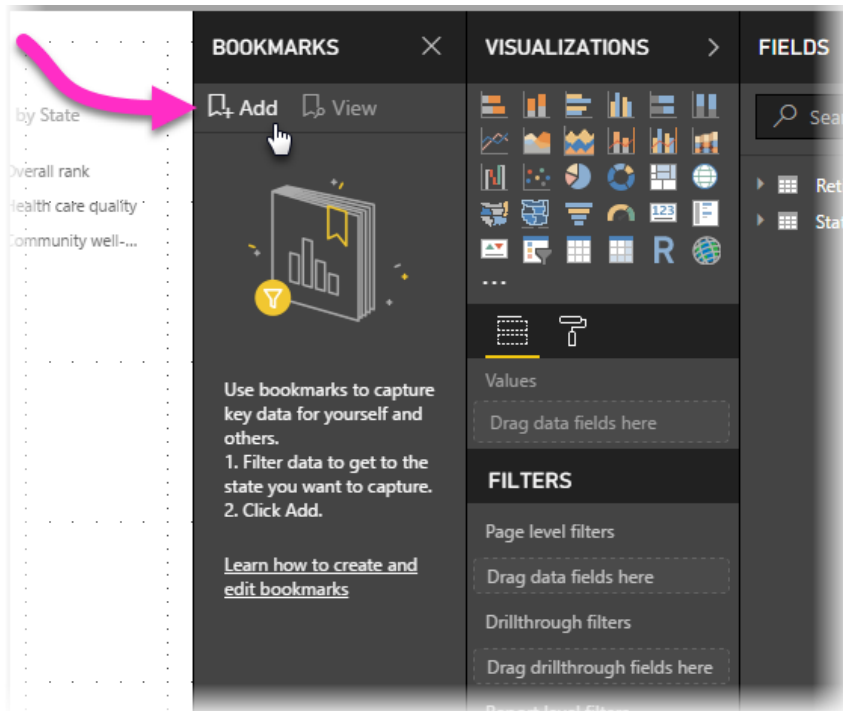
- ✓ When you add a date dimension to canvas it automatically adds a time hierarchy that includes year, quarter, month and Date.
- ✓ You can enable such hierarchies to other dimension too, by simple drag and drop method.
- ✓ With a hierarchy in place, you can begin drilling down through the defined hierarchy.
- ✓ 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



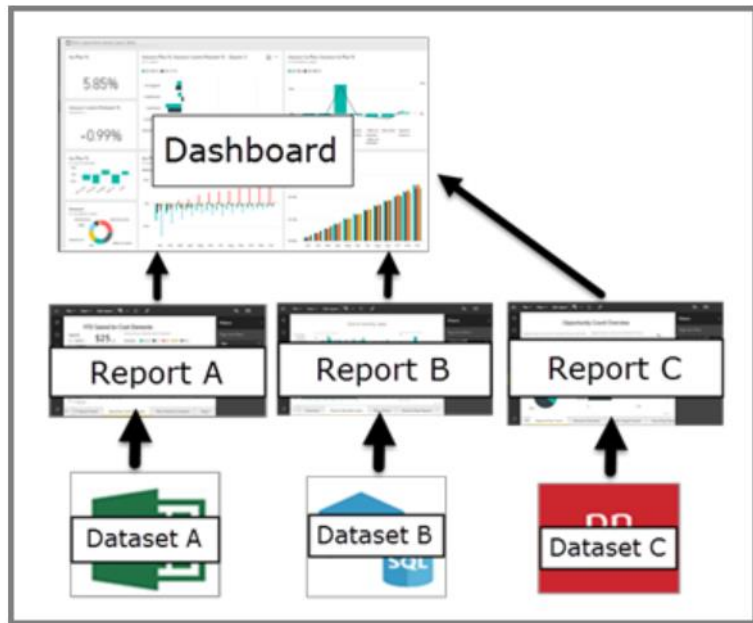
- ✓ One click view of configured settings of a report page, including filtering and the state of visuals.
- ✓ Can create a collection of bookmarks
- ✓ Arrange them in the order you want
- ✓ Build a PowerPoint-like presentation that steps through bookmarks in order, thereby telling a story with your report.
- ✓ 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.



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!

