Reports

Agenda

➢Interactive Reports

❑Bookmarks, Drilldown & Drillthrough

❑Themes

❑Custom visuals

❑Mobile Devices Reports

❑Publishing Reports

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Reports

- Power BI Desktop contains one report
  - Report can contain multiple pages
  - Report pages contain visuals
  - Report can contain data from multiple sources (Except for SSAS Model)
  - Power BI allows only 1 SQL Server Analysis Services (SSAS) connection

📎 Your data has to tell a story and visuals have to be attractive

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Building Reports

International Trade as a Share of State GDP (2017)
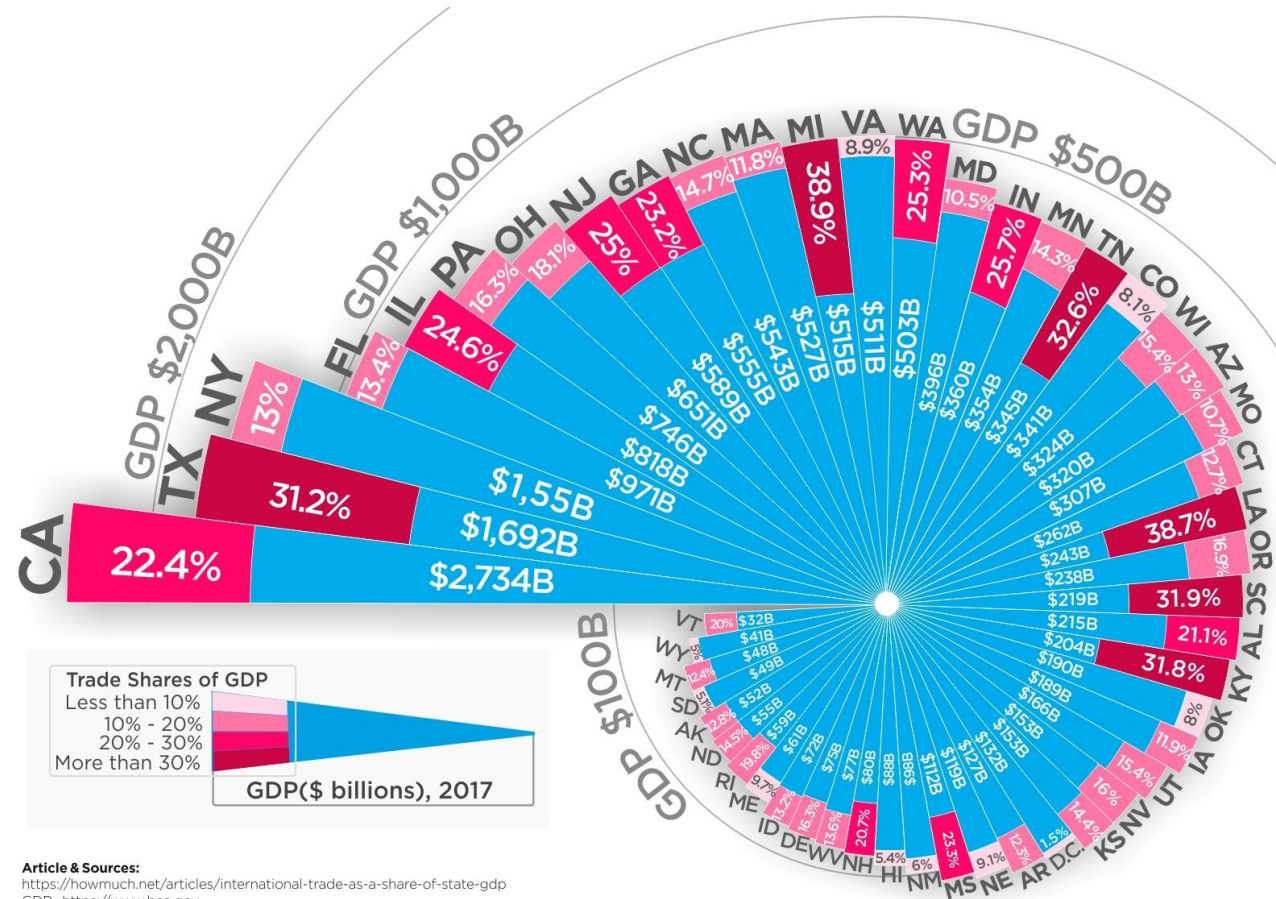
- Title doesn't correspond with data
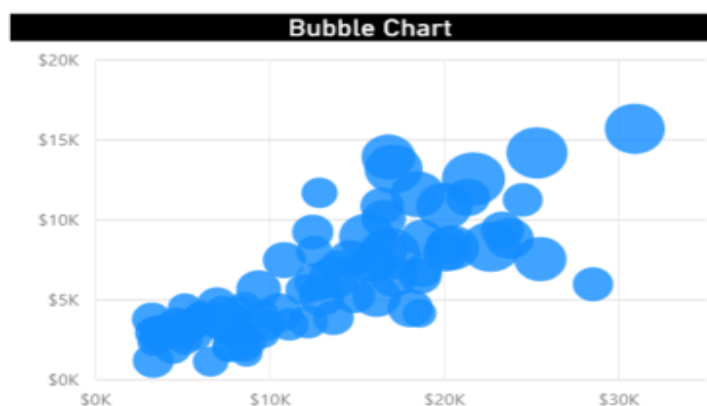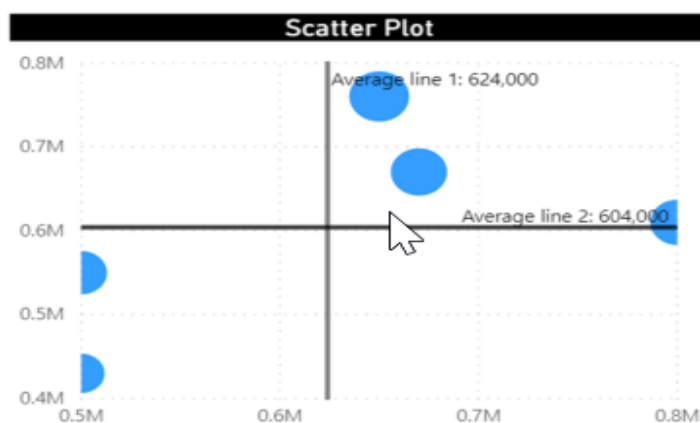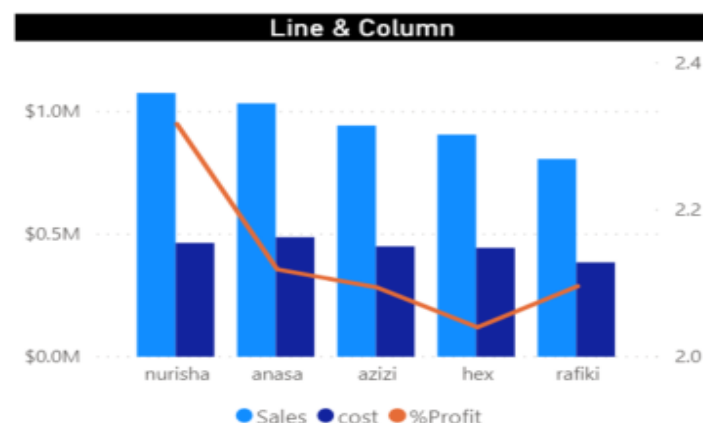- Legend doesn't match the data
- Different color shades

Common Visuals

Ranking – use where an item's position in an ordered list is important

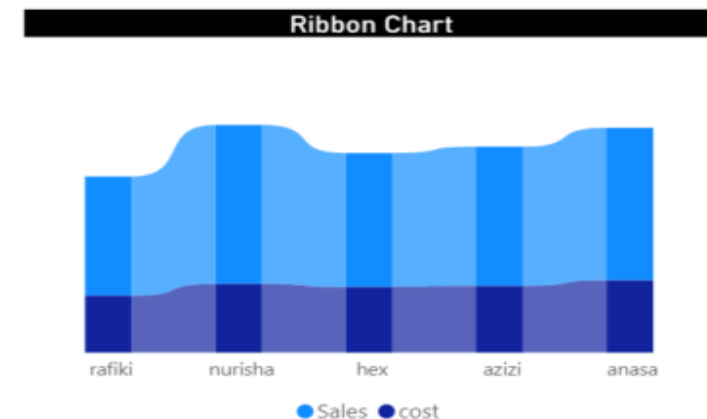# Common Visuals

Correlation – relationship between to or more variables
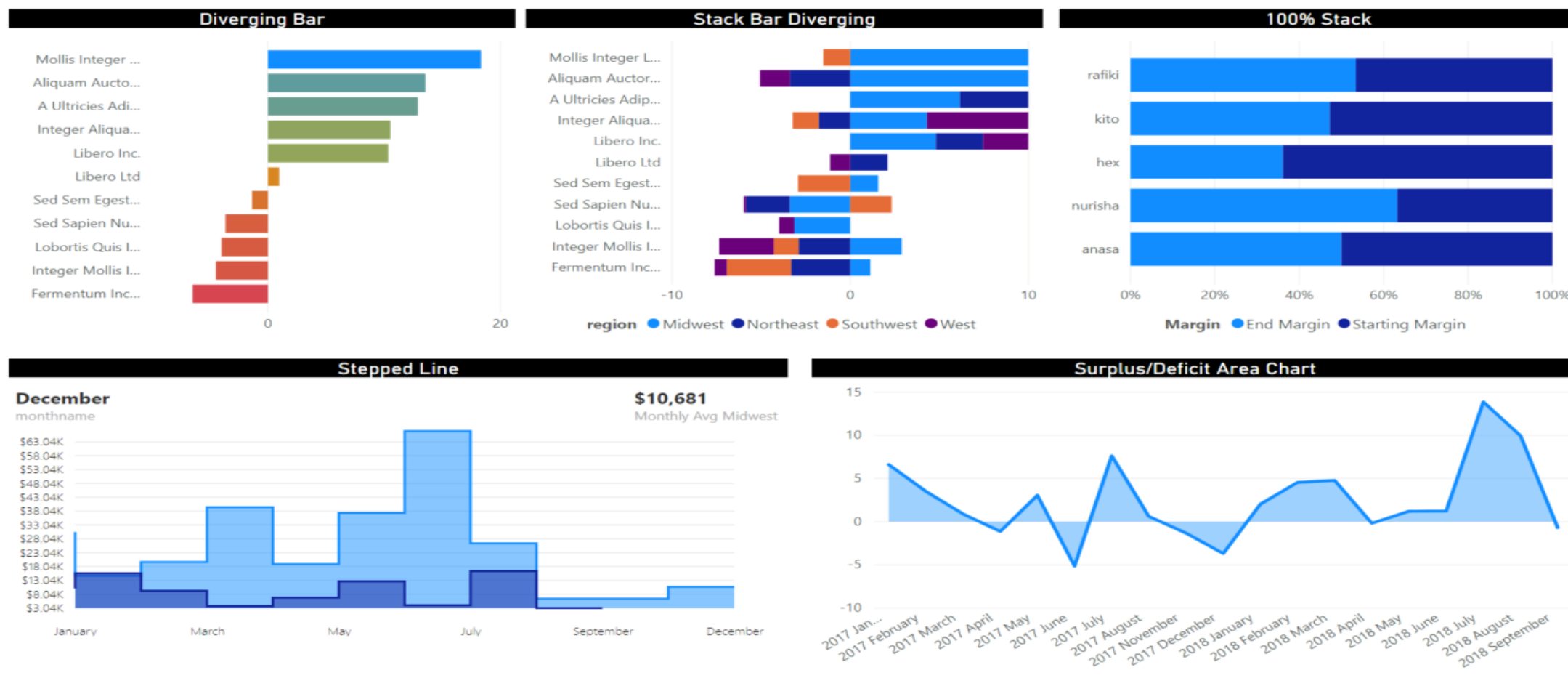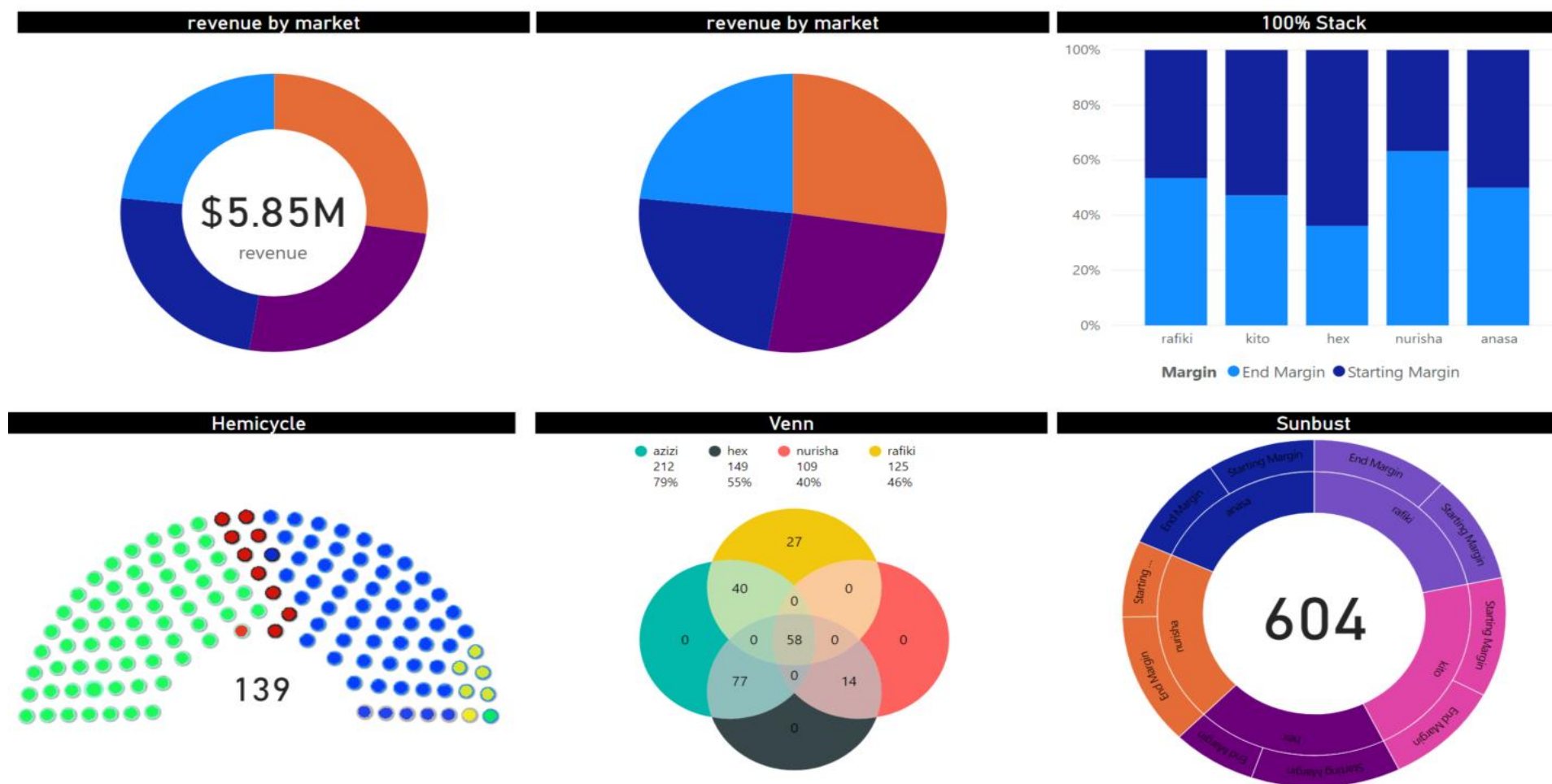
Common Visuals

Deviation – Has emphasis on variation (+/-) from a fixed point

Common Visuals

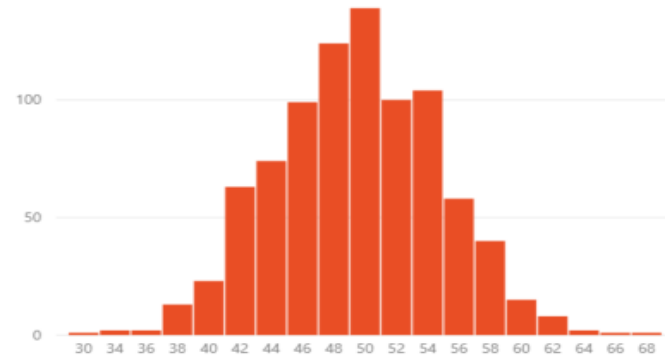**Part of Whole** – Single entry that can be broken into elements

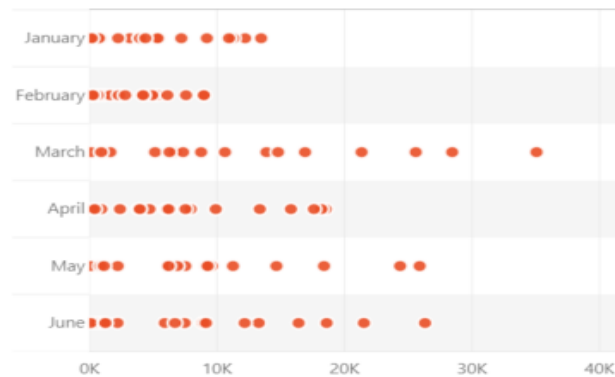# Common Visuals

Distribution – Distribution of Uniform data

Histogram
The standard way to show a statistical distribution - keep the gaps between columns small to highlight the 'shape' of the data.

Boxplot
Summarise multiple distributions by showing the median (centre) and range of the data.

Violin Plot
Similar to a box plot but more effective with complex distributions (data that cannot be summarised with simple average).

Dot Strip Plot
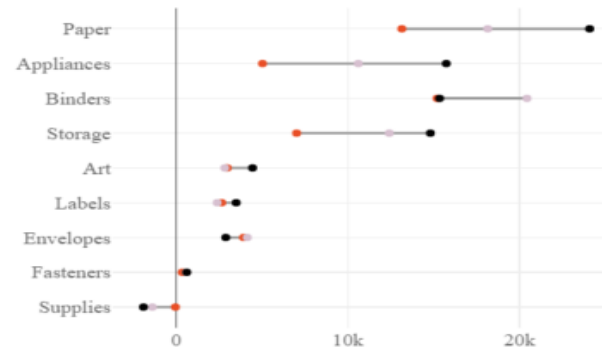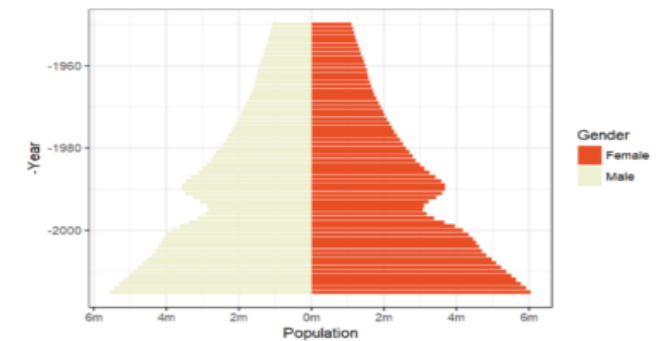Good for showing individual values in a distribution, can be a problem when too many dots have the same value.

Dot Plot
A simple way of showing the change or range (min/max) of data across multiple categories.
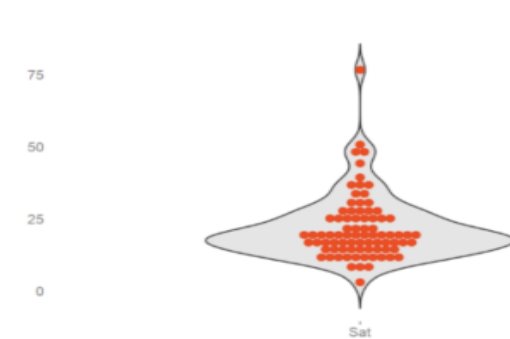
Population Pyramid
A standard way for showing the age and sex breakdown of a population distribution; effectively, back to back histograms.
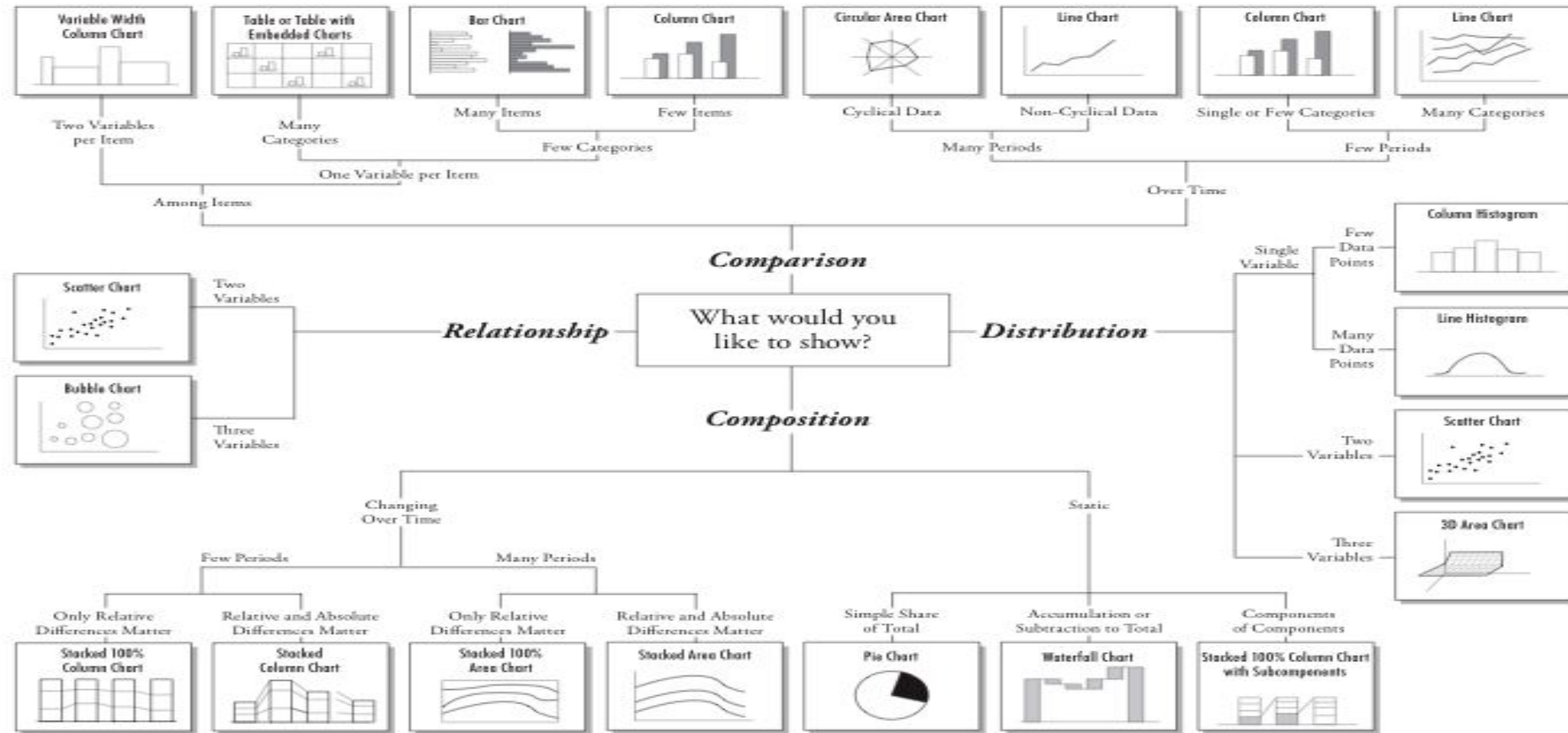

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Common Visuals

Spatial – Usable for geographical patterns, precise location makes it user friendly. (ArcGIS, Mapbox)

Change over time – relationship between two or more variables and how they relate to each other over time (Candlesticks, Line+Column, Column Chart)

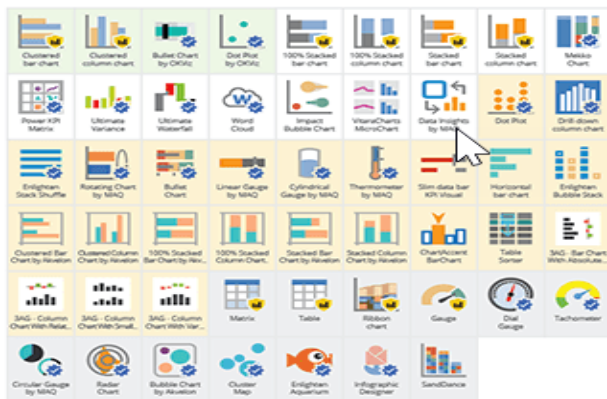**Flow** – movement between two or more variables and or conditions (Chord, Network Map, Sankey)

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Chart Suggestion

Chart Suggestions—A Thought-Starter

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https://appsource.microsoft.com/en-us/marketplace/apps?product=power-bi-visuals

Panes

- **Show Gridlines** – adds visual guides to report

- **Snap Objects to grid** – object placement on canvas

- **Lock objects** - prevents accidental move

- **Bookmarks Pane** – create and manage bookmarks

- **Selection Pane** – used to select, order, hide and show visuals

- **Sync Slicer** – used for advanced slicer control

- **Field Properties** - used to add descriptions to visuals

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Panes DEMO

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Filters & Highlighting

- Filters and Highlighting are two ways to bring focus on data
    - Filters – removes all data but the data you want to focus on
    - Highlighting – does not remove data but highlights a subset of visible data. Unhighlighted data remains visible.
- Filters can further be split into
    - Interactive filters – allowing consumers to change what they see
        - Slicers
        - Drilldowns
        - Drillthroughs
   - Filters – preset during report design but can be changed.

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Filters

- Reports filters allows the reports designer to filter data displayed on canvas

- Once the report is published users have to be in EDIT mode to change values for these filters

- They filter data based on columns in dataset

- The are applicable to
  - Visuals – current selected visuals
  - Page level – all data in current page
  - Report – all data in the report
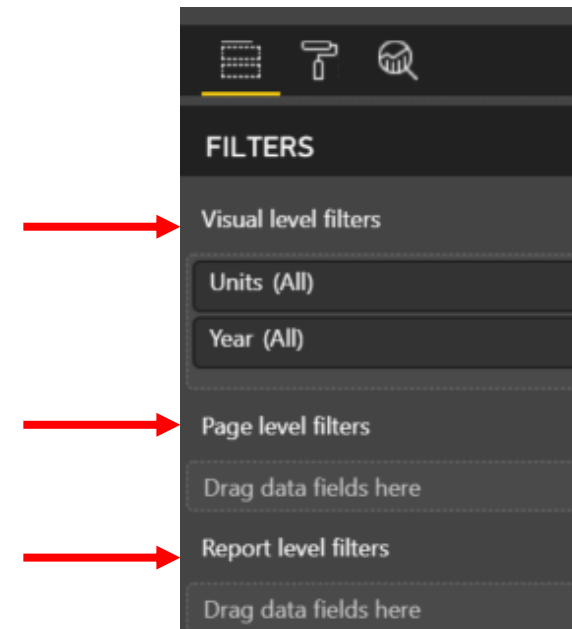
Filters Cont.

- List data allows 3 levels of filtering
    - Basic filtering – basic list selection
    - Advanced filtering – value with certain characteristics
    - Top N filtering – top 5, 10 etc

- Numeric data allows
    - Within range
   - Available or not
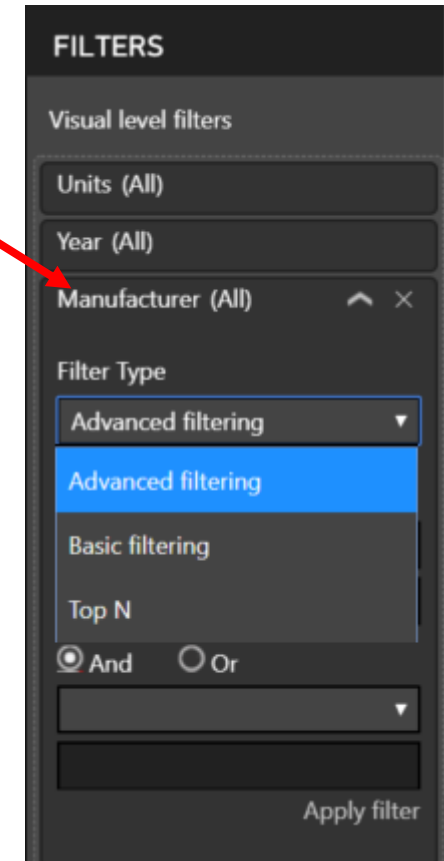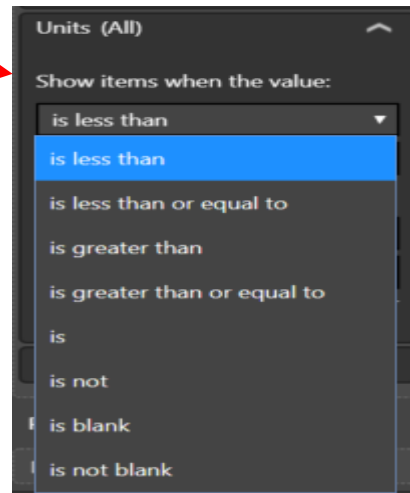
Slicers

On canvas visual filter allowing consumers to segment the data by a particular value

- Use slicers when

    - Displaying commonly used or important filter on the report for easier access

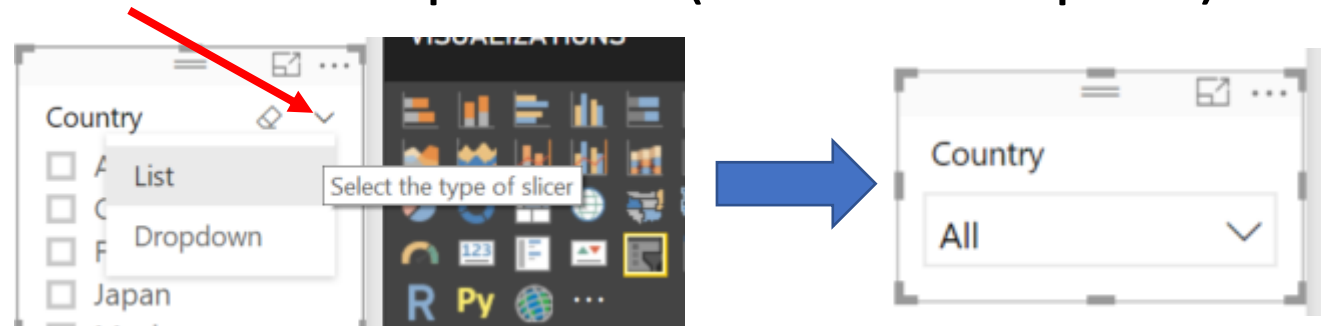   - Filter by columns that are unneeded and hidden in the data table

Slicers limitations

- Do not allow data input
- Cannot be pinned to dashboards
- Do not support visual level filters

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Adding Slicers
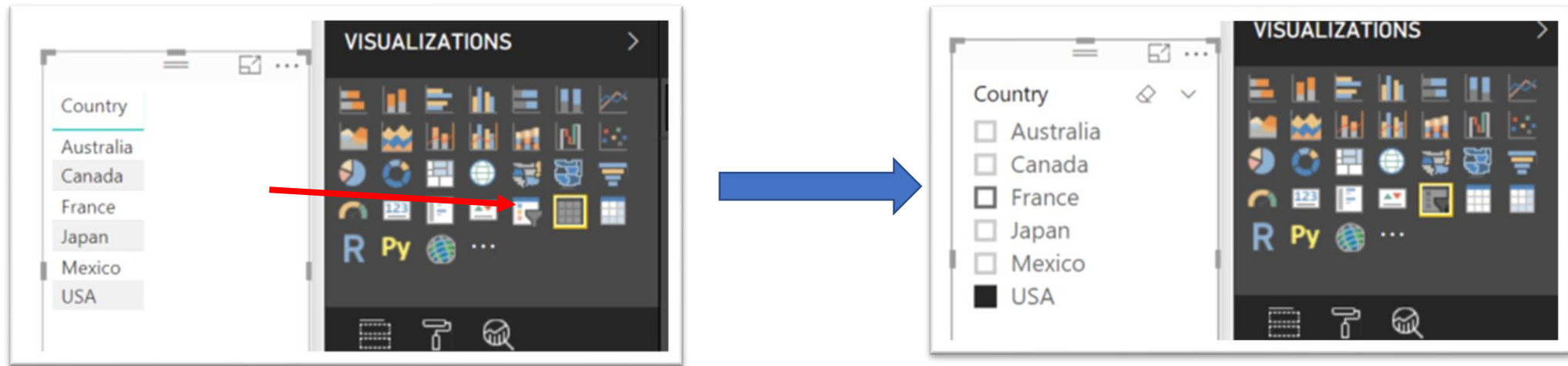
- Slicers can be switch between lists and dropdowns (conserves space)
- Has erase to clear selection

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Slicers Formatting

- Selection control allows the report designer to define how the users interact with the slicers

- Accessed from format
  - Can turn on "Select All"
  - Can turn off "Single Select" to allow

    Multiple picks.
  - In list mode, can change orientation
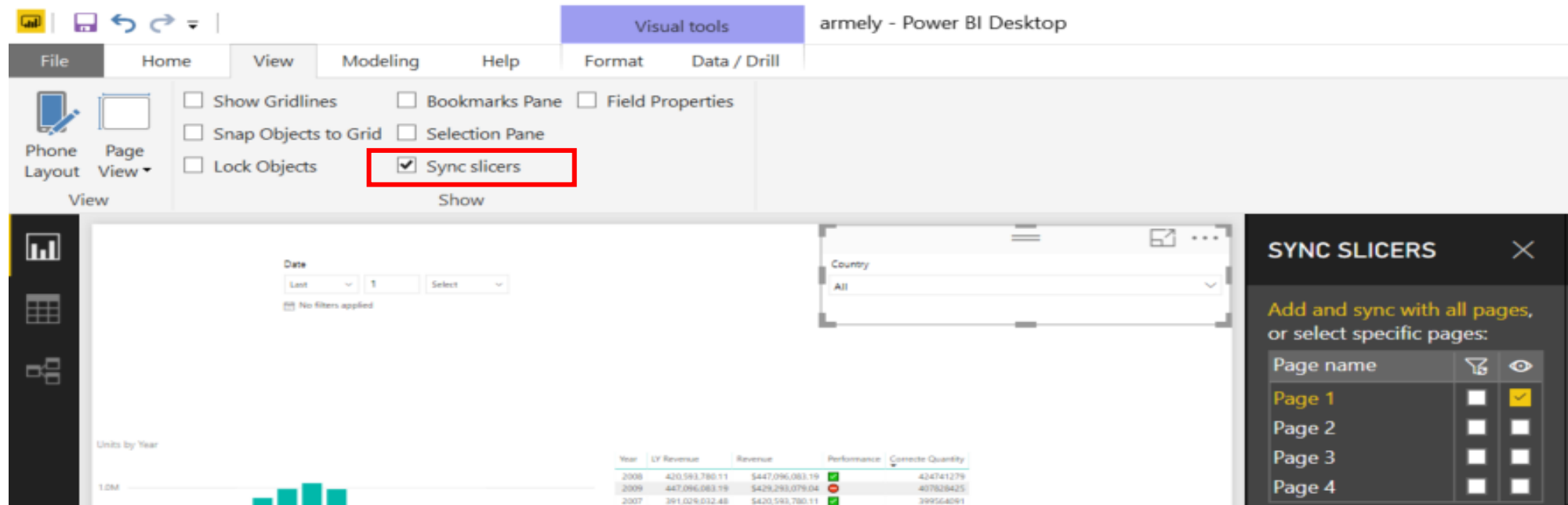
    to vertical or horizontal with **Responsive**
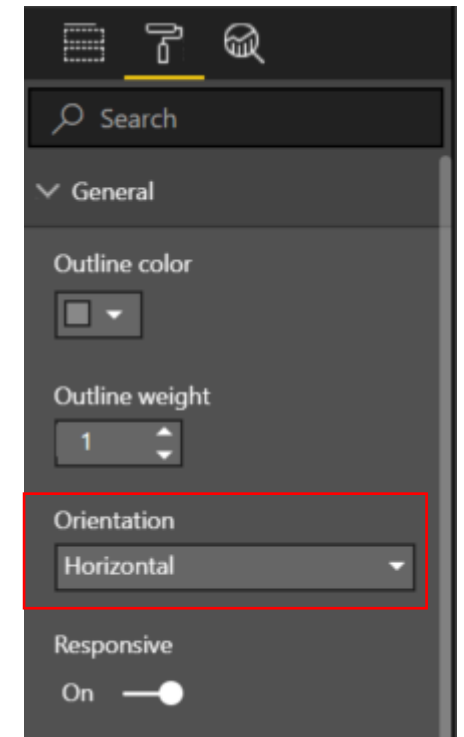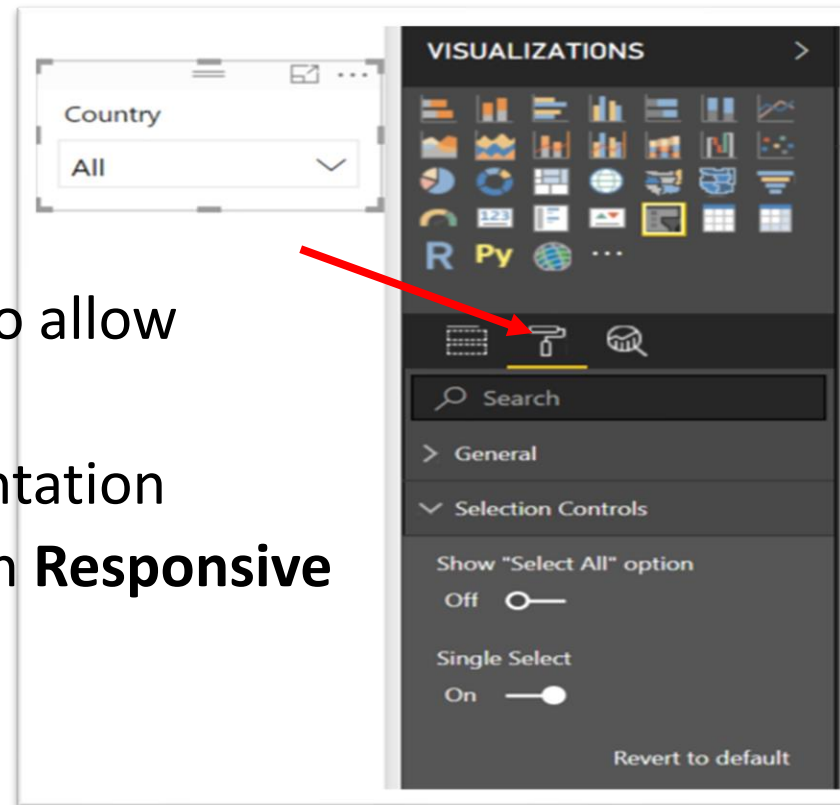
Date Slicer

- Date fields turned to slicers behave different from list fields
- Date fields offers 7 different modes
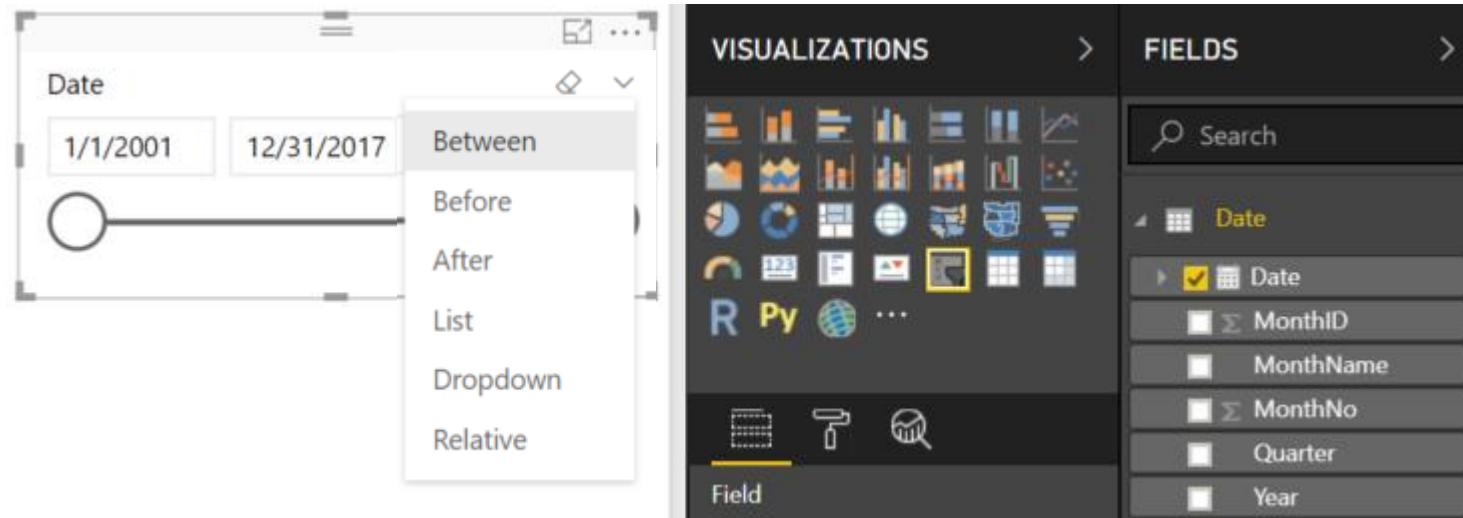
Slicer Sync

- Slicer Sync allow the current selection to be replicated across pages in order to give consumer the oneness report experience.

- Option to make the filters visible or hidden in subsequent pages.

Interaction with filter

- Filter not to act on visualization – Edit the interaction piece of the visual
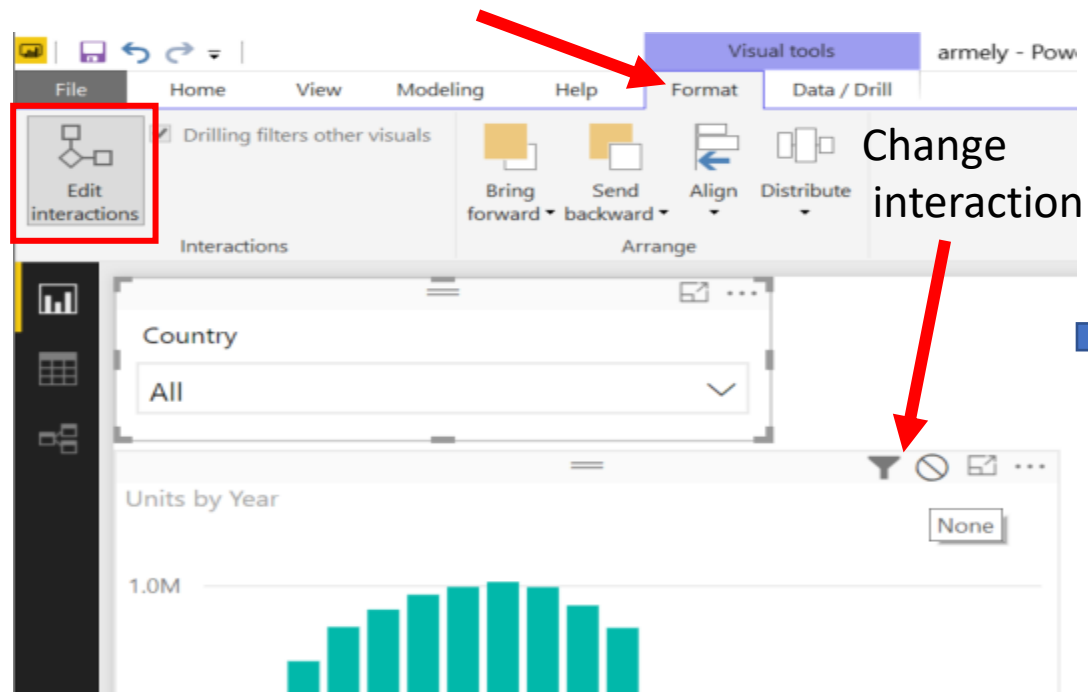
Selected filter has no effect to visual

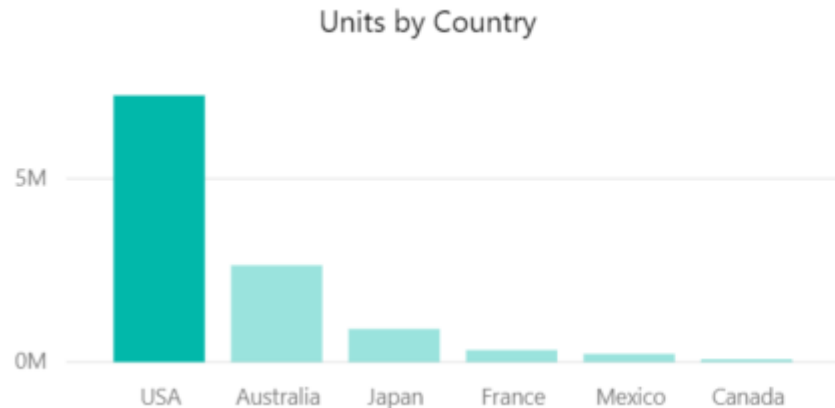Change interaction
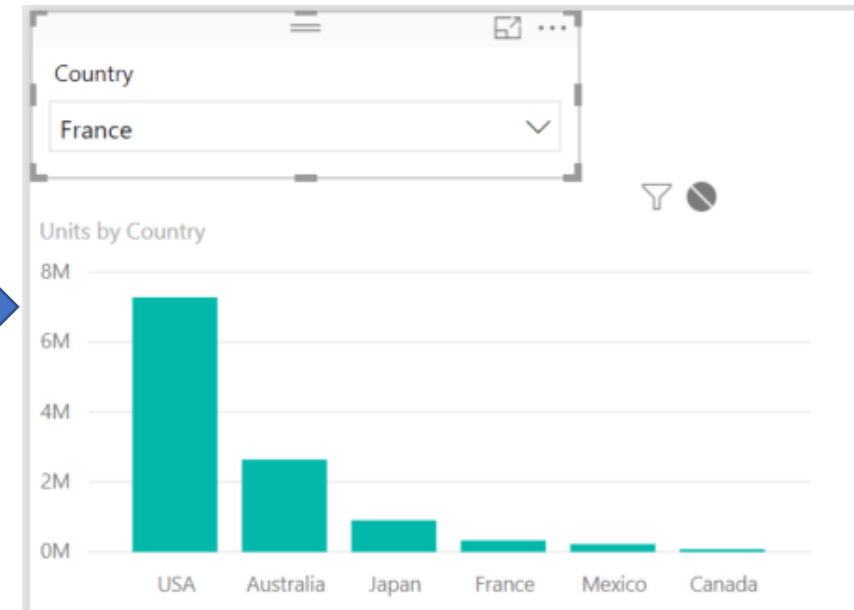
Highlighting

- Highlighting a visual section in reports, brings focus to specific data

- Highlighting is achieved by clicking part of the visual
  - Clicking on USA below filters Units by year
  - Highlighting is extended to all visuals on a page unless disable interaction (shown previously) is enabled.

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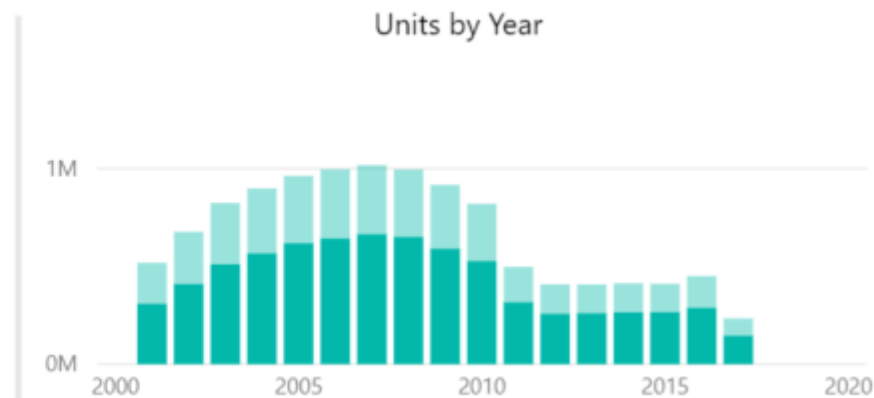
Interaction Cont.

- Levels of highlight interaction
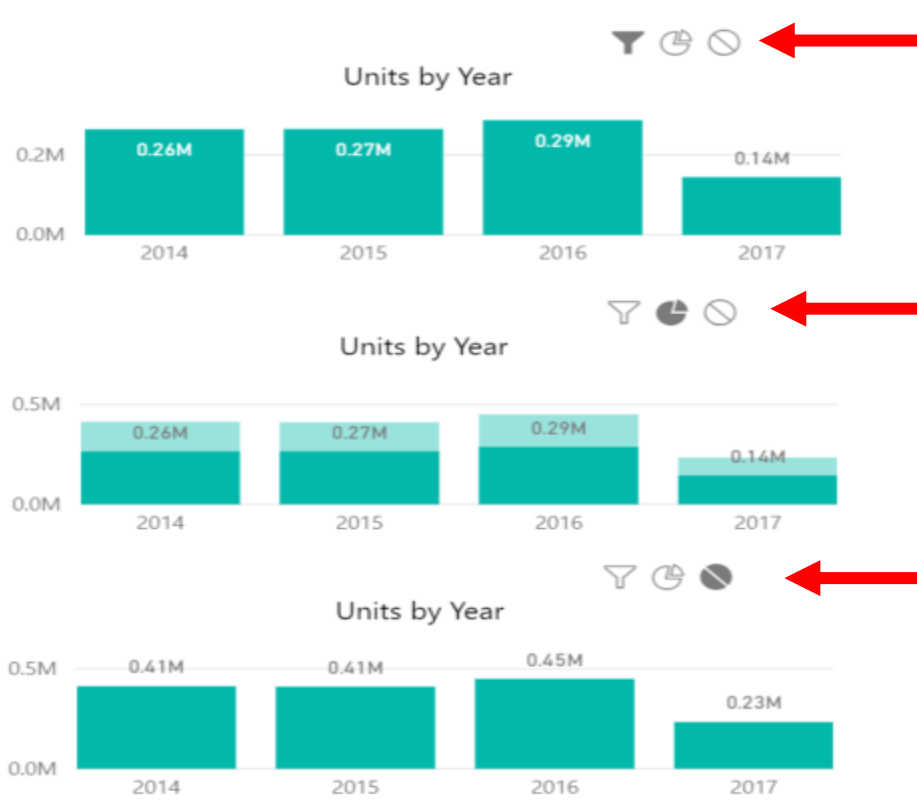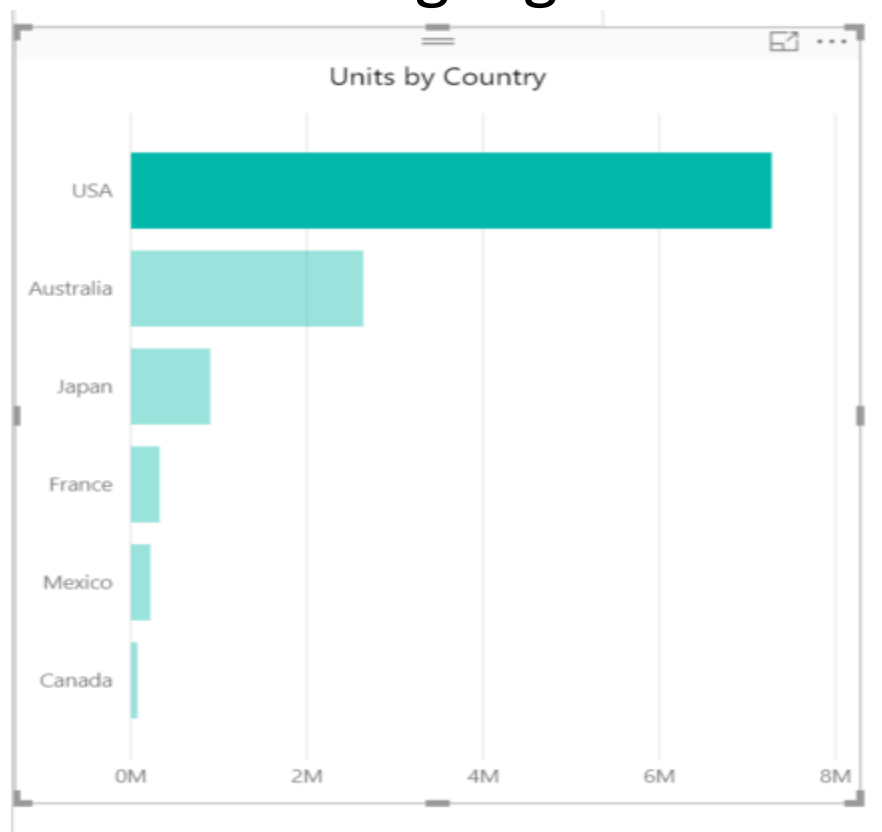
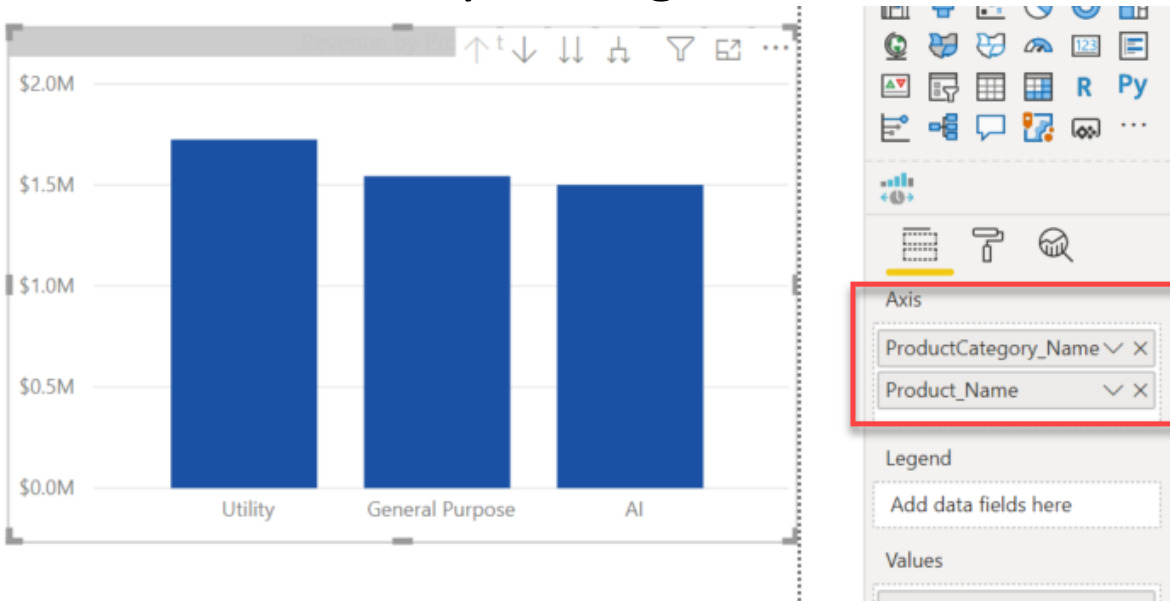Filter data based on selection

Filter data based on selection

Do nothing when highlight happens

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Agenda

✓ Interactive Reports

➢ Bookmarks, Drilldown & Drillthrough

❑ Themes

❑ Custom visuals

❑ Mobile Devices Reports
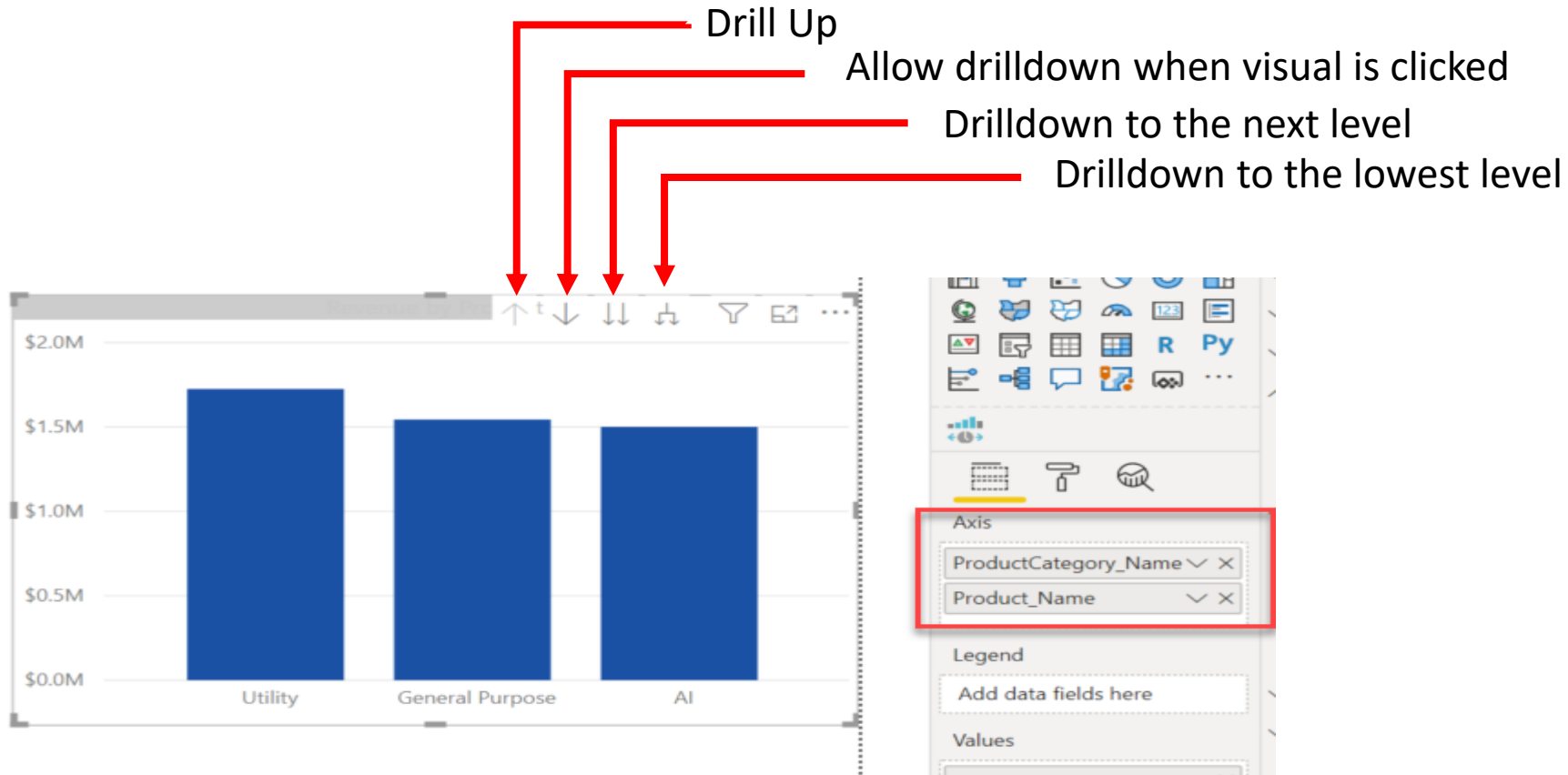
❑ Publishing Reports

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Drill Action

- Drilldown and Drill throughs are supported where hierarchy exists.
- Drill Action hierarchy doesn't have to follow the rules of parent-child norm.
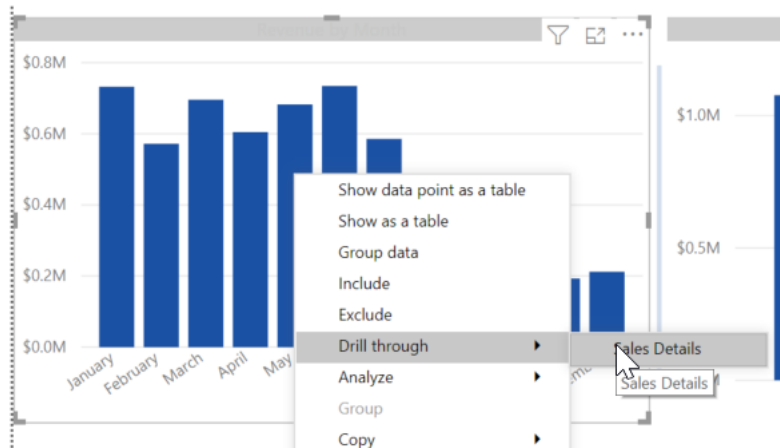 - Can be created by adding values to Axis

Drill Mode

Visible when you mouse over a visual that has hierarchy

Drill Up

Allow drilldown when visual is clicked

Drilldown to the next level

Drilldown to the lowest level

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Drillthrough

- Create a focus page on a specific entity within a report.
  - Example a specific Country data details
- Drillthrough allows users to navigate to the focus page to get details based on their selection
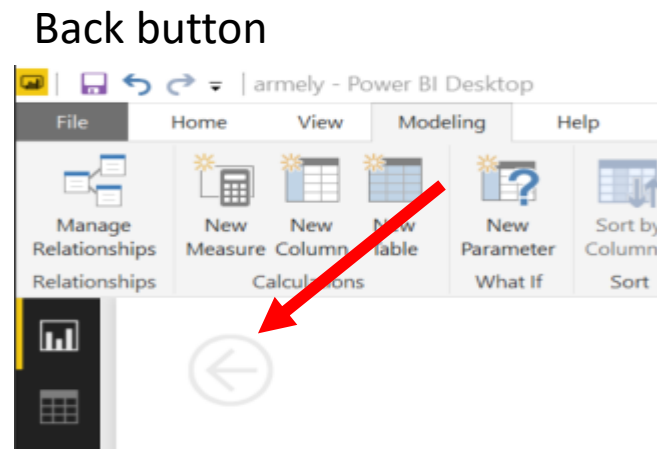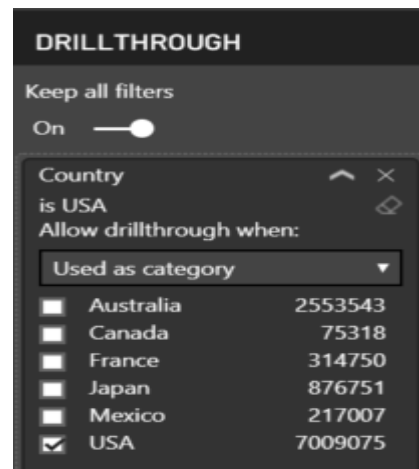
Drillthrough Cont.

- Added to destination page on

- Has to have common column with Origin
  - Country was common for mine

- A back button is added to the destination page
  - In design mode use "CTRL+Click" to navigate back

Back button

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Bookmarks

- Bookmarks provide story telling foundation
  - Shows data progression on a timeline

- Supported in reports Only

- NOT Supported in Dashboards

- Can include
  - Current Page
  - Filters
  - Slicers
  - Sort Order
  - Drill Location
  - Spotlight
  - Visibility
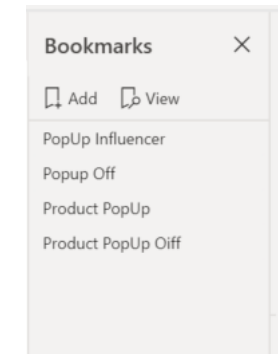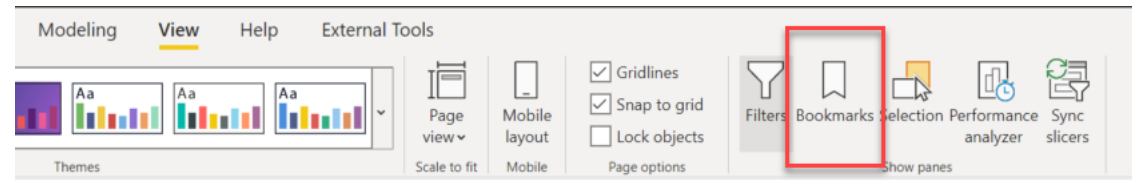
Create Bookmarks

- Using Add create bookmark for the current page
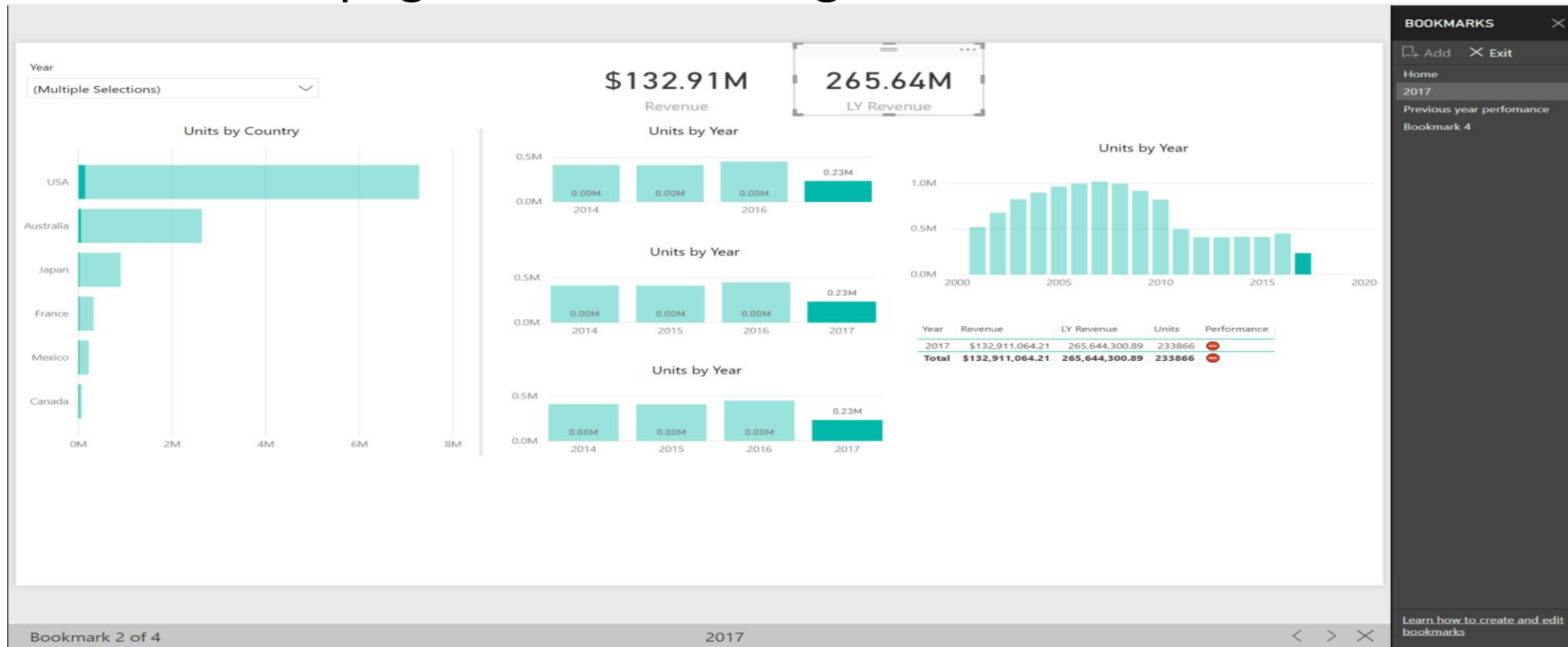
- Create a second bookmark with story that you want to highlight

- Update/Rename/Group as necessary
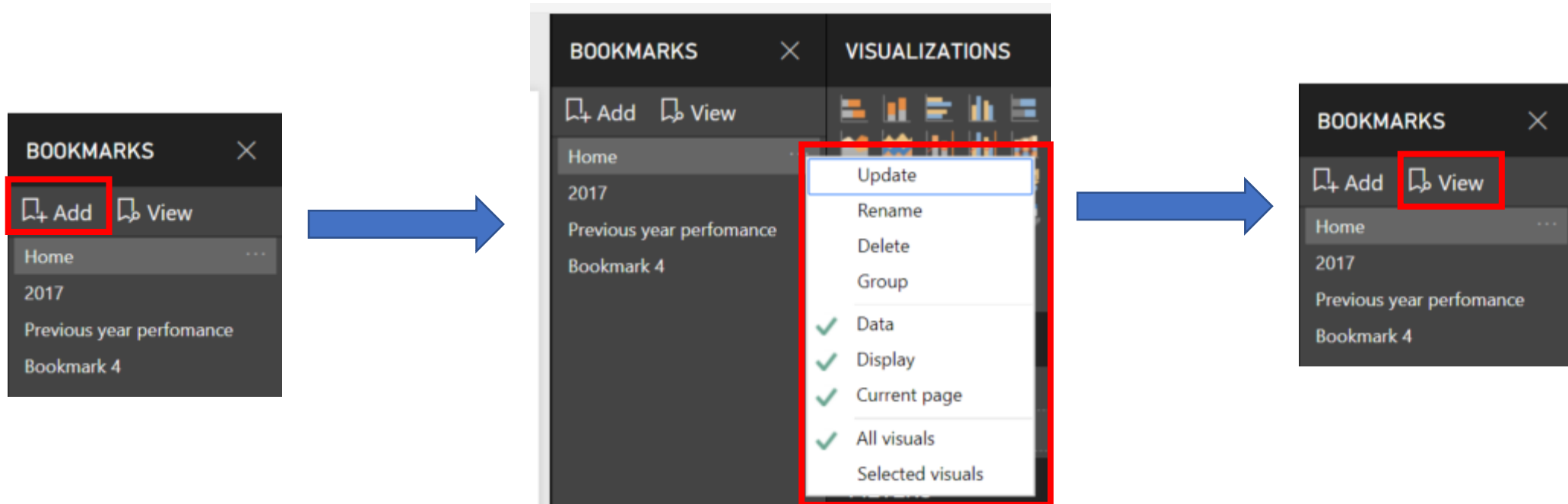
Bookmarks Slide Show

Start Slide show by clicking view
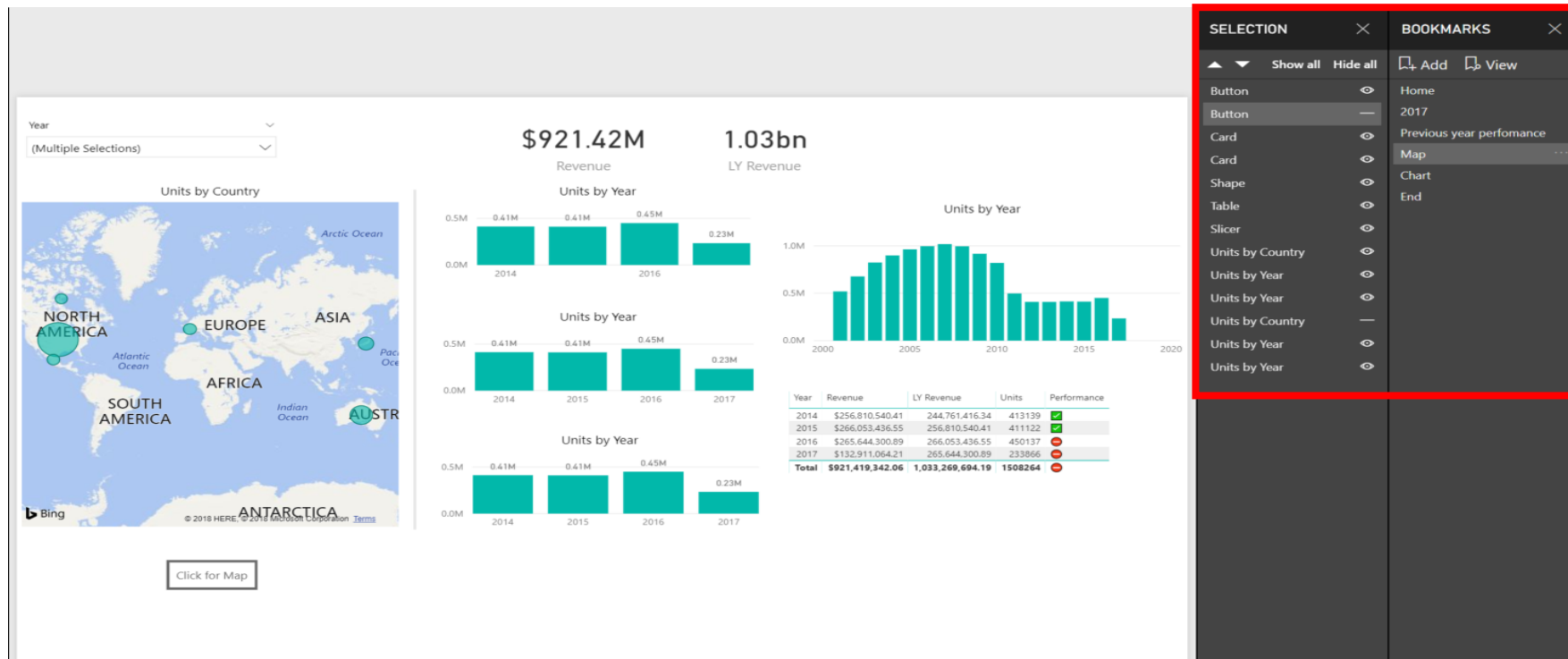
Use bottom page arrows to navigate.

Bookmark for Shapes & Images

- Action Button or an image can apply a set bookmark

Visibility & Bookmarks

- Using Selection pane with bookmarks is powerful
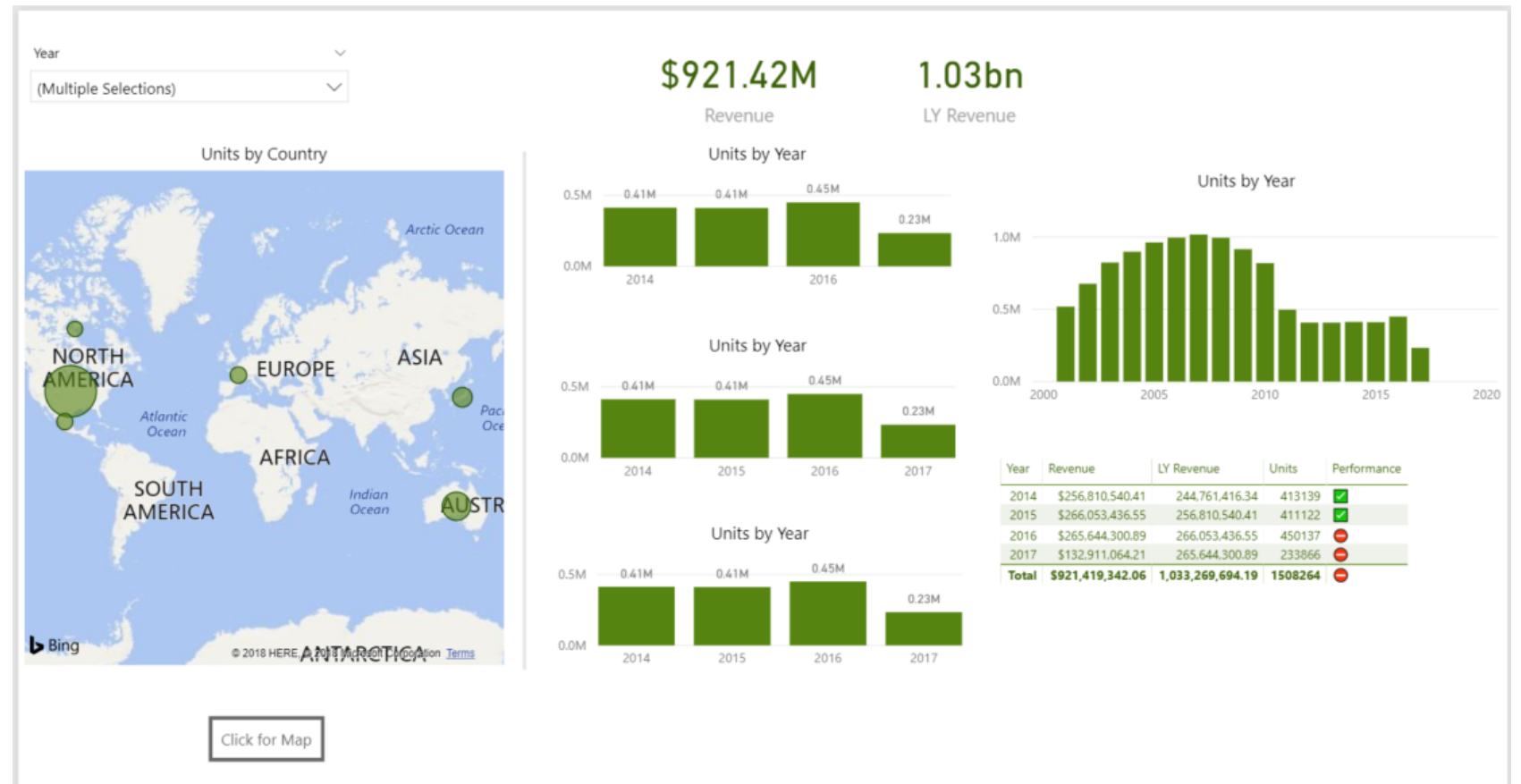- Can hide some visuals in order to tell a story or enhance a report.

Bookmarks DEMO

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Agenda

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➤Themes

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❏Publishing Reports

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Report Themes

- Reports can be styled to use a color scheme that's applied to the entire report
  - Corporate Colors
  - Season coloring

Reports Themes Cont.

- Reports Theme requires a JSON file which can be imported into Power BI Desktop
  - Name
  - DataColors
  - Backgroud
  - Foreground
  - tableAccent

```
1  {
2      "name": "St Patricks Day",
3      "dataColors": ["#568410", "#3A6108", "#70A322", "#915203", "#D79A12", "#bb7711", "#114400", "#aacc66"],
4      "background":"#FFFFFF",
5      "foreground": "#3A6108",
6      "tableAccent": "#568410"
7  }
```
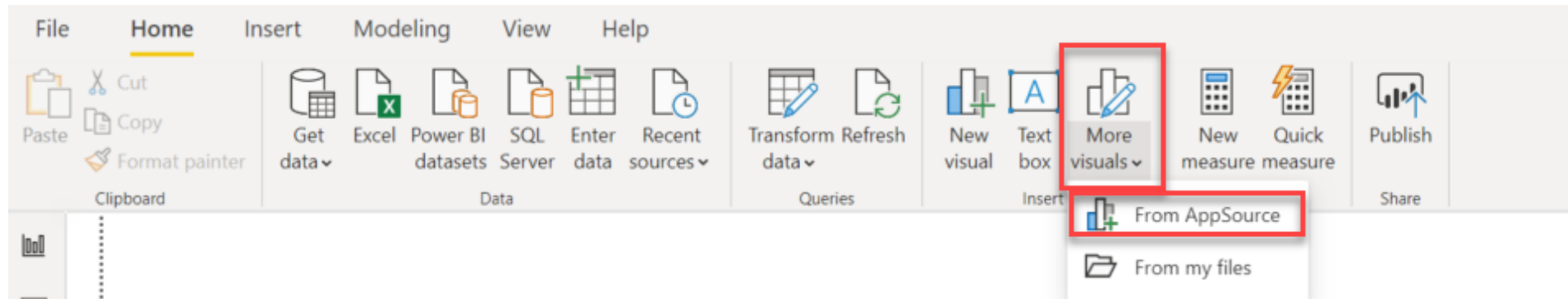
- Provides consistency across reports

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Themes DEMO

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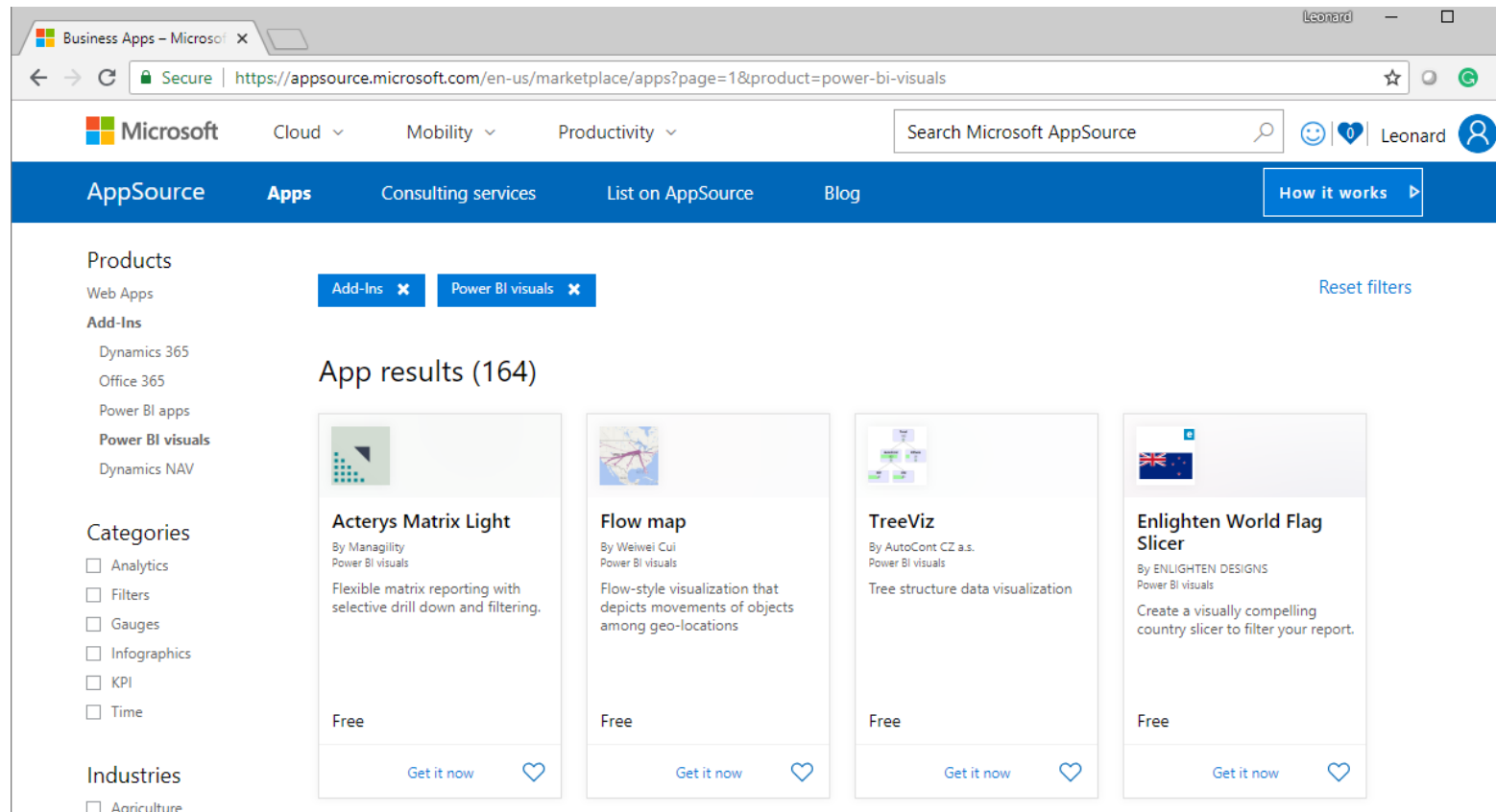
❑Publishing Reports

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Custom Visuals

- Power BI Custom visuals are extensive

- They extend the built-in visuals allowing deeper story telling capabilities.
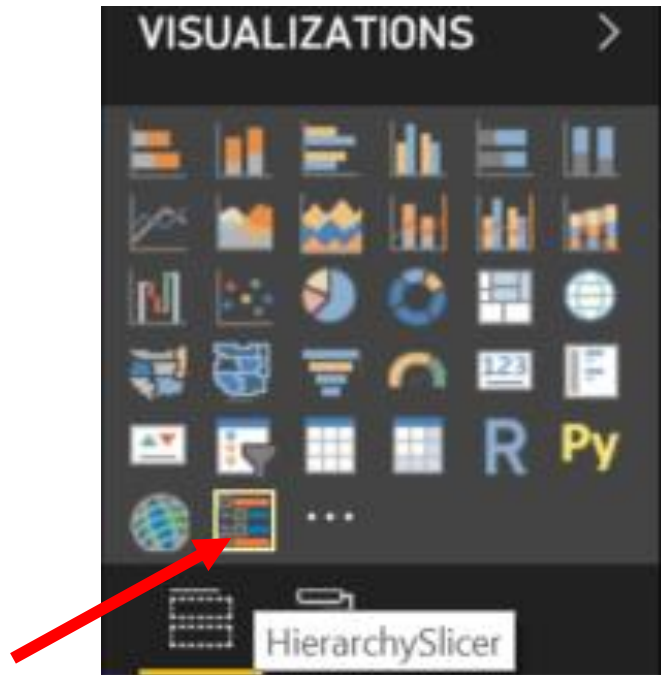
- In Power BI Desktop
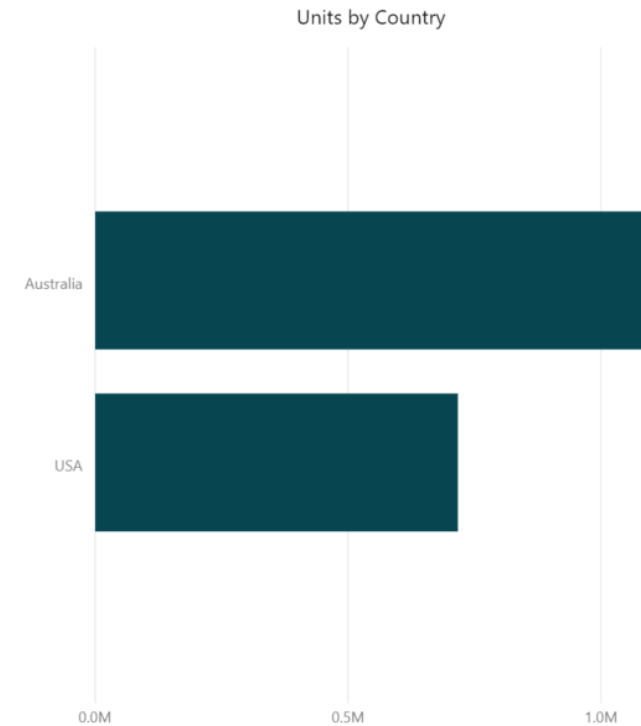
Custom Visuals

- Alternatively by going to https://appsource.Microsoft.com

Custom Visual

Custom Visuals DEMO

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➢Mobile Devices Reports

❑Publishing Reports

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Mobile Devices Reports

- Reports may not be viewable on mobile device

- Phone layout – used to create a separate version of report for mobile devices
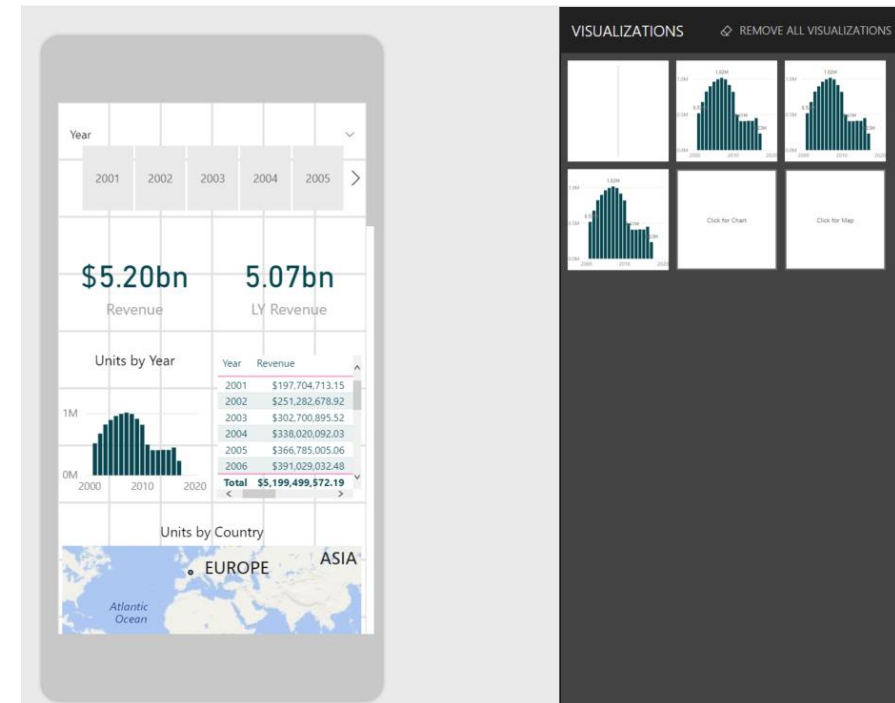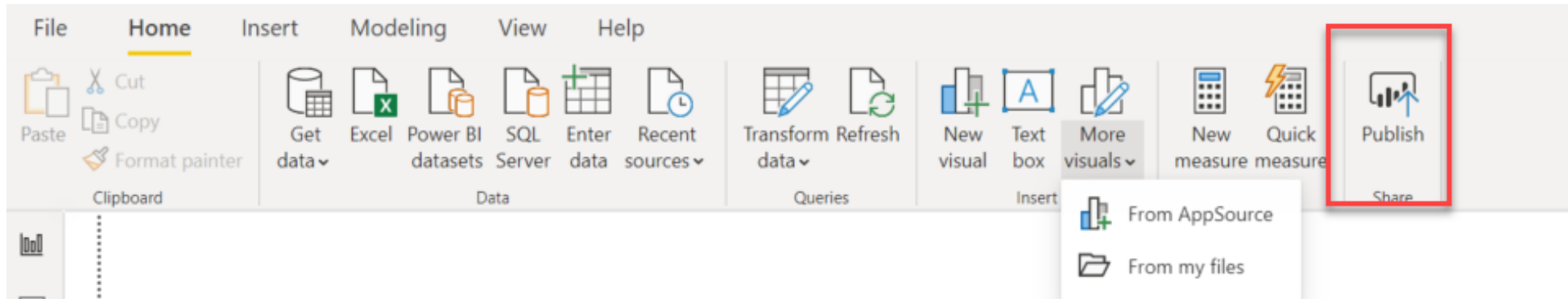
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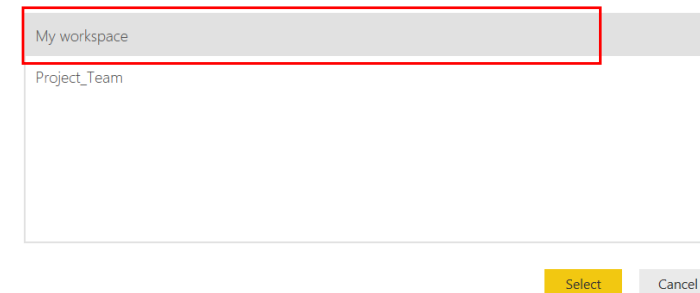
➢Publishing Reports

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Publishing Reports

- After completing reports design, its time to publish your report

- Authenticate to Power BI
- Publish in Personal workspace

Agenda

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