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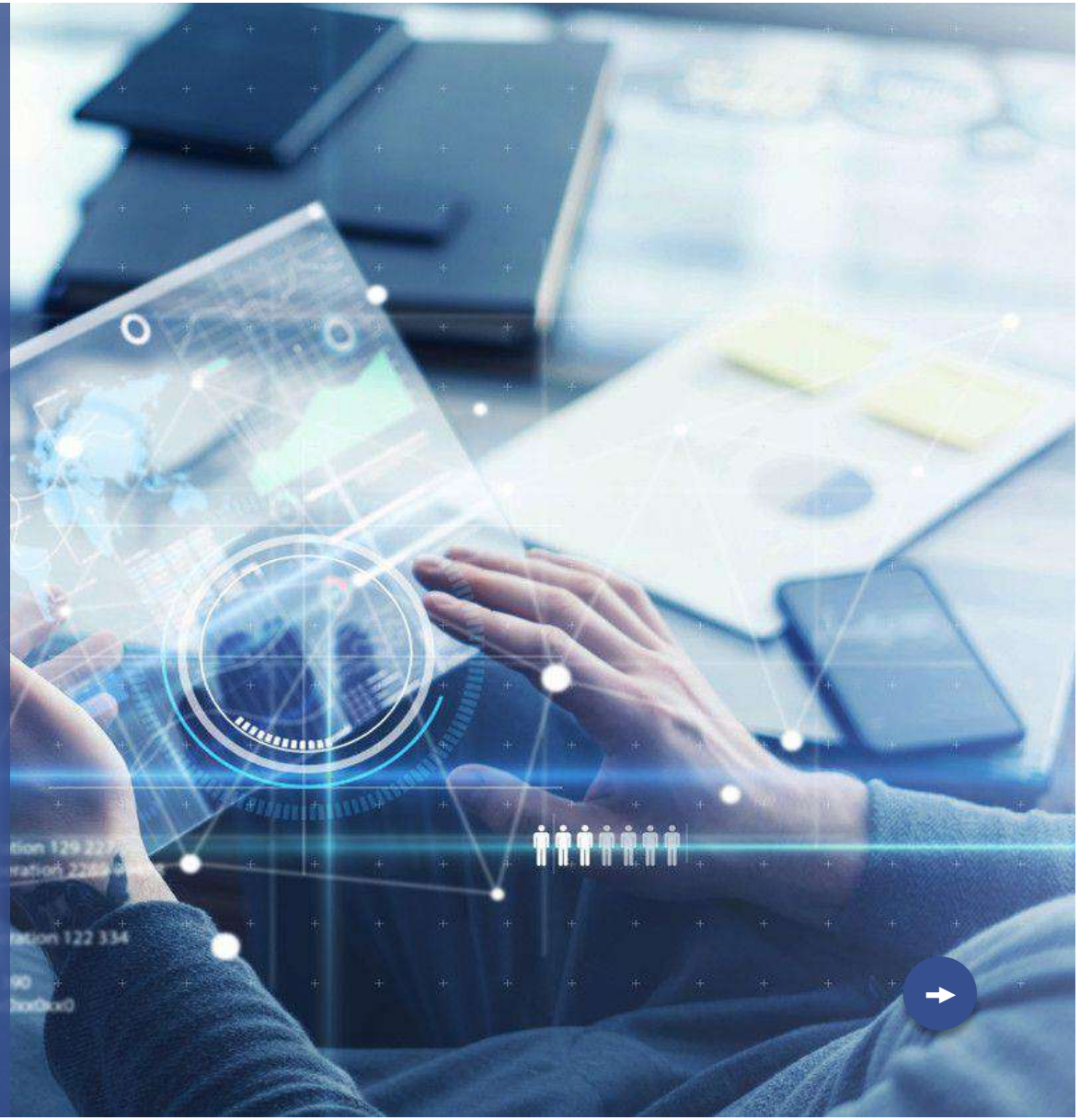
POWER BI TECHIE TALK'S

The New dimension of extracting branded information by playing with your data.



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Power BI

TECHIE TALKS

Overview

Power BI provides its user to easily embed a report to their website. Any report created through Power BI can be embedded. Here we have embedded a Power BI report with NSS website.
Link:
http://nicesoftwaresolutions.com/power-bi-2/

Advantages

Embedding a report to the website can help users of the organization to easily access the report. The customers and users who visit the website will be able to view the report.

Courtesy : Noel Samuel

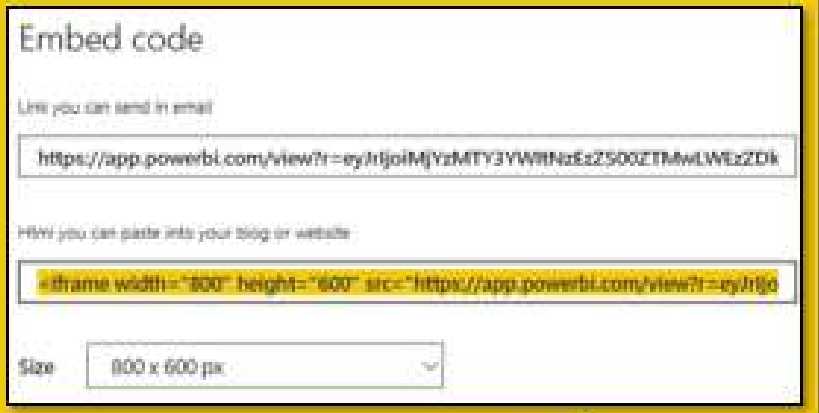
Embedding Power BI Dashboard in Website!

Implementation

Step 1 : Publish the report in Power BI service account. Once the report is published, click on File button and select the option of Publish to web.

Step 2 : Copy the HTML code as required. The Size can be selected to generate custom link accordingly.

Step 3 : Paste the link in the website to display the report in your website.



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Power BI

Power BI

TECHIE TALKS

Overview

You can subscribe yourself and your colleagues to the report pages, dashboards, and paginated reports that matter most to you. Power BI emails a snapshot to your inbox. You tell Power BI how often you want to receive the emails.

Advantages

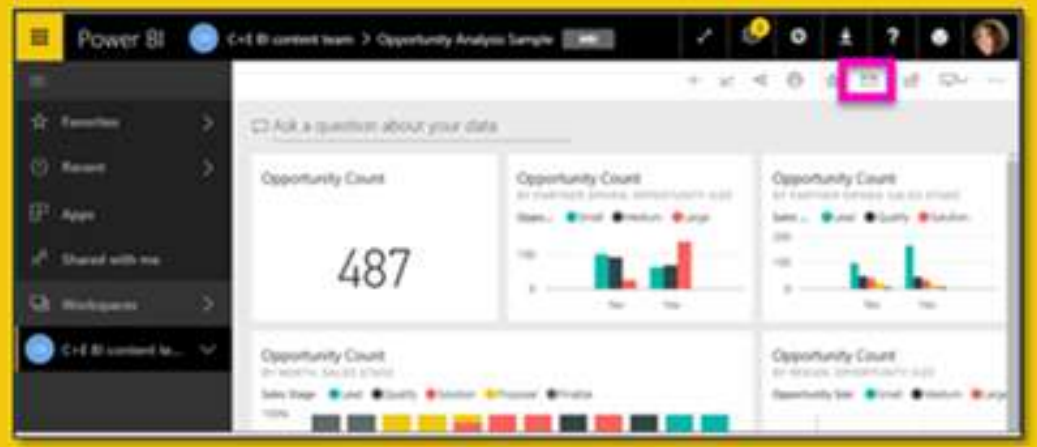
You receive an email with a snapshot of the report page or dashboard, with a link to open the report or dashboard. On mobile devices with Power BI apps installed, selecting this link launches the Power BI app, instead of opening the report or dashboard in the Power BI web site.

Courtesy : Ashwin Kulkarni

Email subscription in Power BI

Implementation

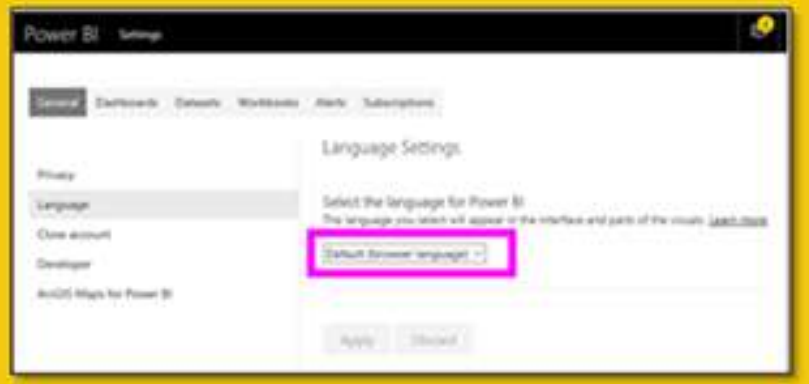
Step 1 : Login to service account and go to any report from the top menu bar, select **Subscribe** or select the envelope.



Step 2 : Use the yellow slider to turn the subscription on and off. Enter email address also enter subject and message.

Step 3 : Select a Frequency for your subscription: Daily, Hourly, Weekly, Monthly, or After Data Refresh (Daily).

Step 4 : User will receive email on scheduled time with screenshot of the dashboard/report.



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TechieTalks

Overview

Alerts can be set by Users, set the rule for any measure in the visualization.
Set the condition and threshold for the alert to trigger, set the notification frequency. It will trigger an email to be sent to the user setting the alert.

Advantages

Alerts can be used to notify users if when data in the dashboards changes beyond limits the user has set.

Courtesy : Noel Samuel

Set Alert and Trigger Email in Power BI

In this example, we are creating an alert that notifies you once a day if the number of total stores goes above 100.

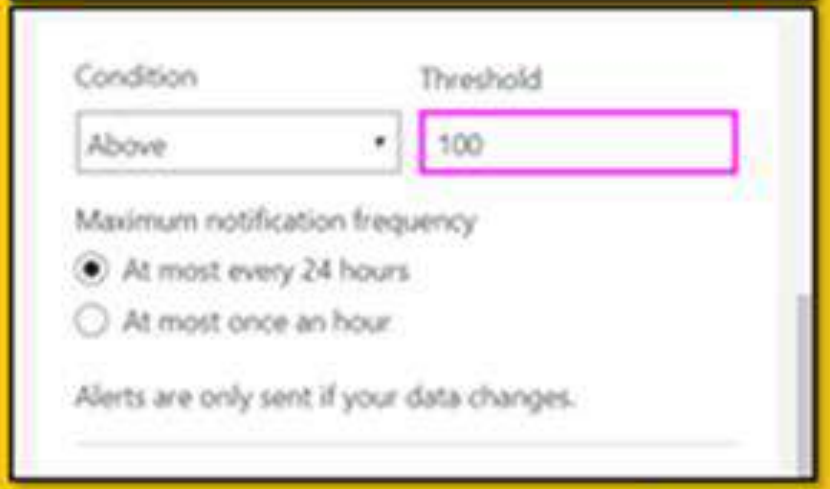
Implementation

Step 1 : Start on a dashboard and select the ellipses.

Step 2 : Select the bell icon to add one or more alerts.

Step 3 : To start, select + Add alert rule, ensure the Active slider is set to On, and give your alert a title. Titles help you easily recognize your alerts.

Step 4 : Scroll down and enter the alert details.



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TECHIE TALKS

Overview

PowerApps can be used to create Apps that can run on Android, iOS, Windows.
PowerApps can also be used to create feedback forms.
It can also be used to input data into database.

Advantages

PowerApps forms can be integrated with Power BI reports to take suggestions or feedbacks by the users.

Courtesy : Noel Samuel

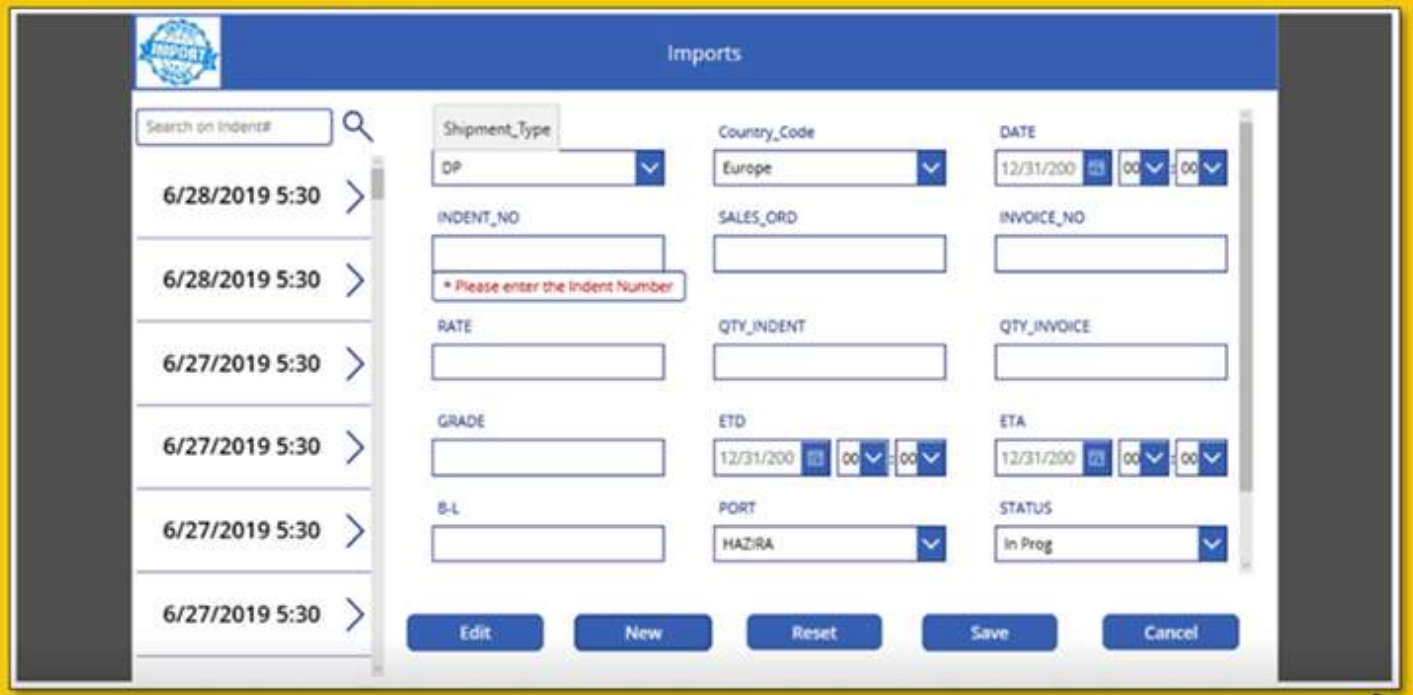
Use Transaction Services in Power BI - PowerApps Integration

Implementation

Step 1 : Import the PowerApps visual from the Microsoft store. Use the visual in the PBIX file. Select all the fields from the table which you want to use in the app or form.

Step 2 : Click on create new, this will lead you to PowerApps studio portal.

Step 3 : The user can create forms or apps with the help of PowerApps studio.



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TECHIE TALKS

Overview

Sometimes, there is a situation when a client requests that whenever they click on an email link, it will automatically open the link in a new page. Power BI provides a functionality to show an email as a hyperlink.

Advantages

- This functionality lets you send emails directly to clients by opening Outlook just by one click.
- User doesn't need to switch apps manually.
- TO and FROM fields are automatically filled.

Courtesy : Ashwin Kulkarni

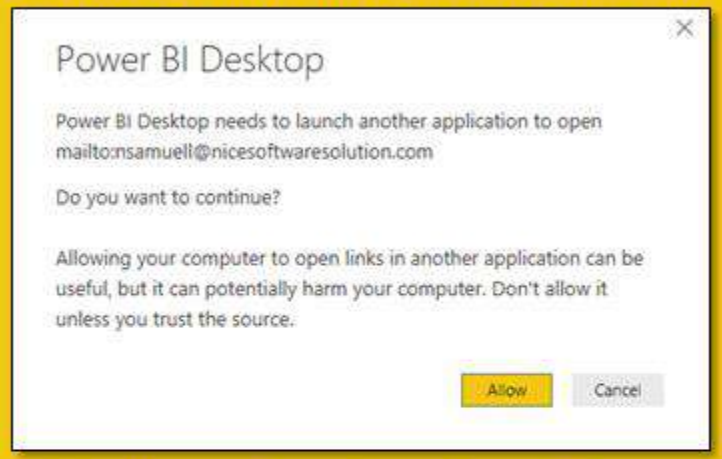
Open outlook using Power BI

Implementation

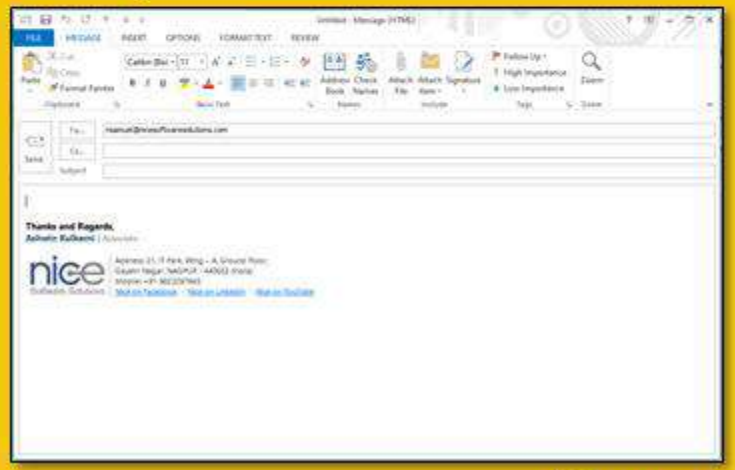
Step 1 : Insert a textbox in the report to enter the email address. Select Textbox enter * and select font as wingdings

Step 2 : Enter email address with prefix as mailto: in URL field.

Step 3 : Click on email link. And click on allow.



Step 4: It will open the selected mail browser to send the email. TO and from fields will be automatically filled.



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Overview

Are you looking to tell a story with your data? Or have you ever wanted your charts and reports to be highly tailored to your specific topic? The new infographic designer custom visual for Power BI gives you the flexibility to achieve this and more!

Advantages

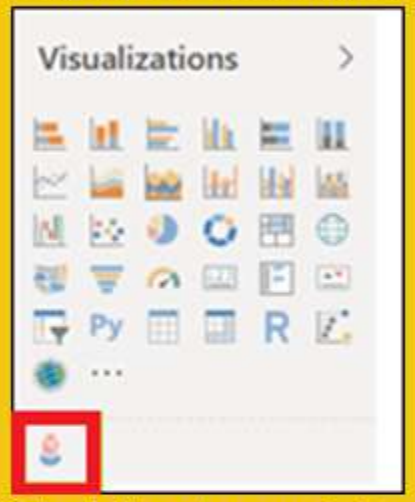
The infographic designer custom visual lets you control the specific appearance of lists, bar charts, and column charts with precise control of shapes, color, and layout so that you can represent information in a way that best tells the story of your data.

Courtesy : Ashwin Kulkarni

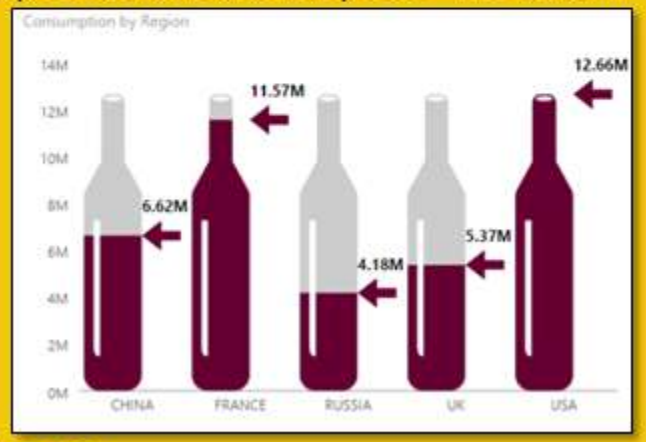
Infographic design visualization

Implementation

Step 1 : To create visual for drinks sold in a restaurant we will use infographic design. Import infographic visualization from market place.



Step 2 : Select the shape of the visual.



Step 3 : Select design from range of visuals that suits best for your story.

Step 4 : Change shape/design of each visual according to your requirement..

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TECHIE TALKS

Overview

You can create visually rich report tooltips that appear when you hover over visuals, based on report pages you create in Power BI Desktop. While creating such tooltip, it can include visuals, images, and any collection of items you create in the report page.

Advantages

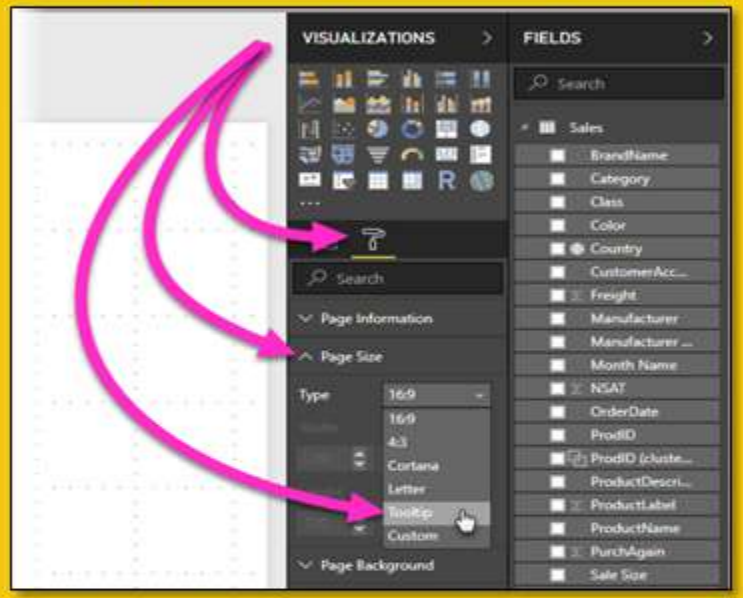
You can create as many tooltip pages as you want. Each tooltip page can be associated with one or more fields in your report. The tooltip you created on your tooltip page appears when you hover over the visual.

Courtesy : Ashwin Kulkarni

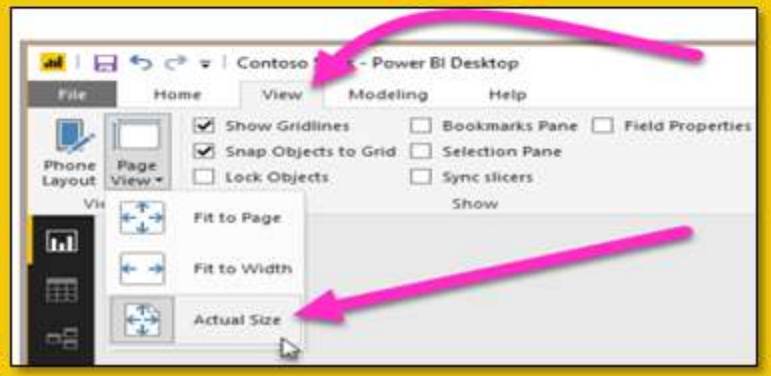
Use Report page as Tooltip

Implementation

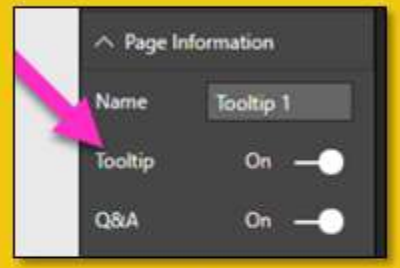
Step 1 : To get started, create a new report page by clicking the **+** button and In the **Format** pane of the **Page Size** card, select page size template as *Tooltip*.



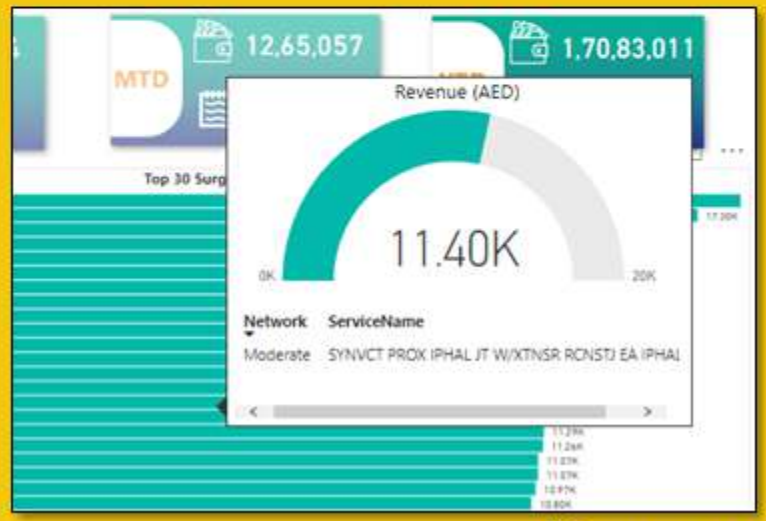
Step 2 : Go to view and set the page view to **Actual size**.



Step 3 : Turn on tooltip slider inside **Page information** in format pane of tooltip visual.



Step 4 : Create visual which need to be shown as tooltip and select tooltip page in tooltip fields of parent visual.



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Customized tornado visual using table visualization

Overview

These are special type of Bar charts, where the data categories are listed vertically instead of the standard horizontal presentation, and the categories are ordered so that the largest bar appears at the top of the chart and so on.

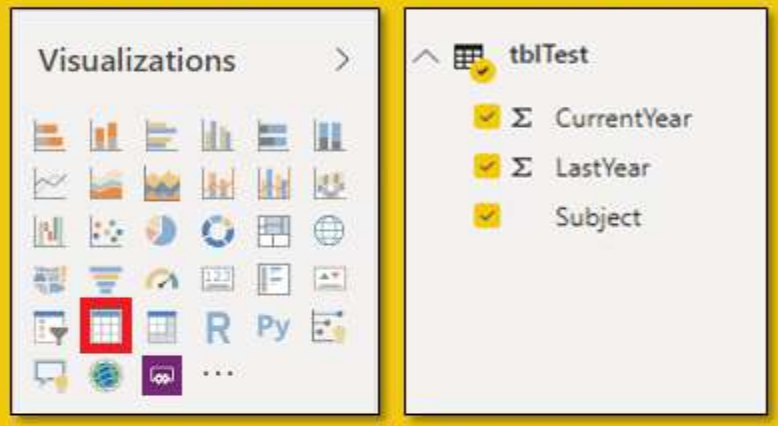
Advantages

It shows the effect on the output of varying each input variable at a time, keeping all the other input variables at their initial (nominal) values. Creating Tornado Chart using table /grid visual will allow you to put data labels between two values.

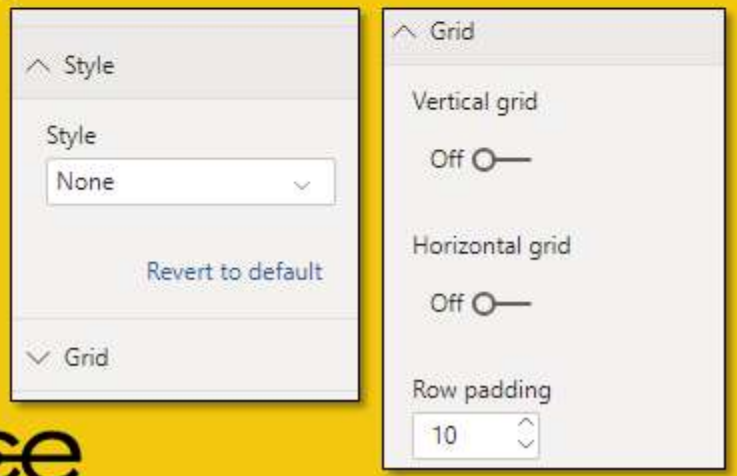
Courtesy : Ashwin Kulkarni

Implementation

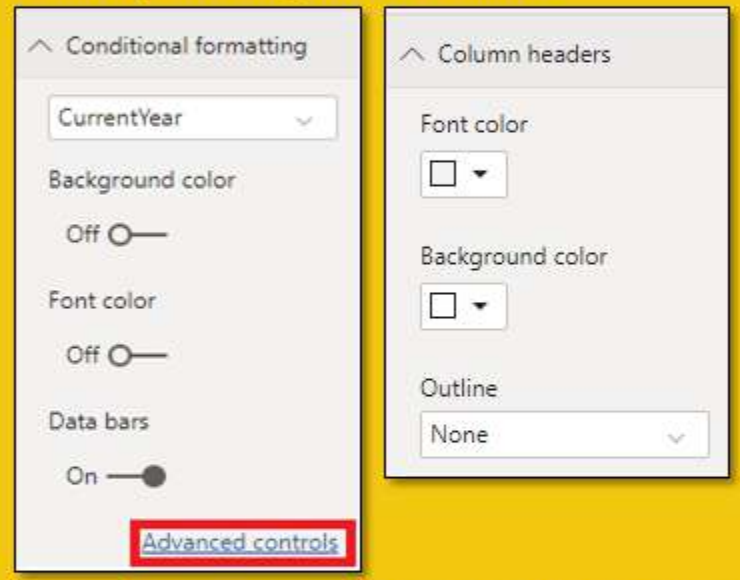
Step 1 : To get started, select Grid visual and select values that you want to show in Tornado Chart.



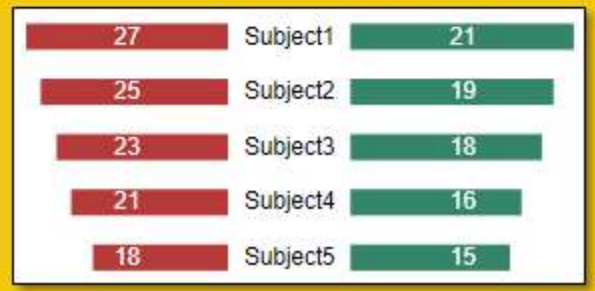
Step 2 : Select Style type as NONE and turn off both Vertical and Horizontal grids also make Row padding as 10.



Step 3 : Go to column headers and make outline as None also make font color as background color. Than go to conditional formatting and make data bars on by entering all other fields.



Step 4 : Centrally align the data of all fields under field formatting and apply required color.



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Overview

You can run Python scripts directly in **Power BI Desktop** and import the resulting datasets into a Power BI Desktop data model.

Advantages

Enables you to use Python scripts to prepare your dataset, apply sophisticated analytics or machine learning in the Power BI Desktop and then plot the results in your Power BI reports using any of the hundreds of open-source Python visualization packages.

Courtesy : Noel Samuel

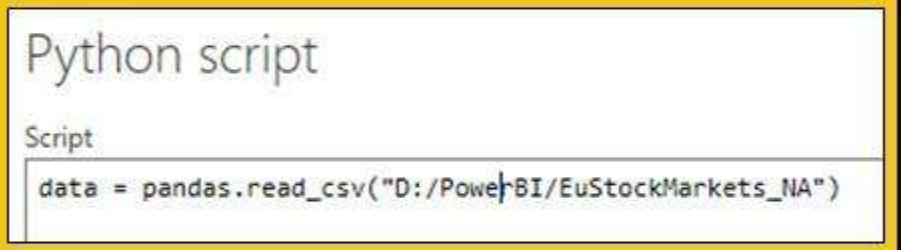
Importing CSV file in Power BI using Python Script Editor

Implementation

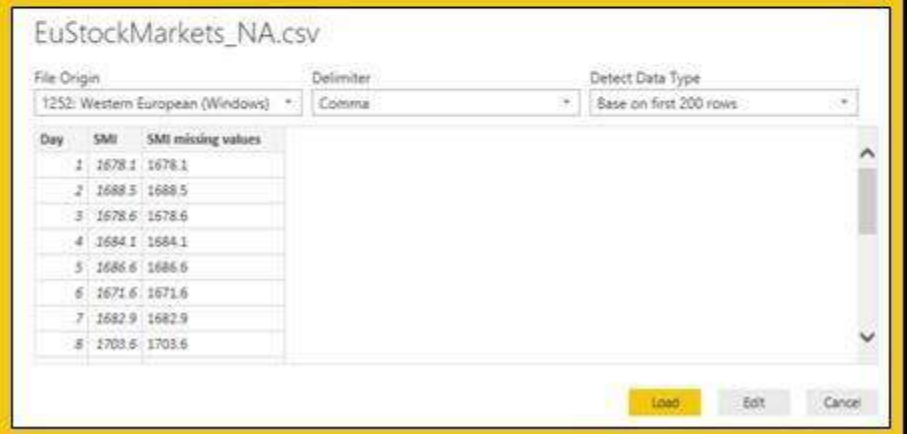
To run your Python Script in Power BI Desktop:

Step 1: In the Home ribbon, select **Get Data** > **Other** > **Python script** as shown in the image.

Step 2: Select **Connect**. Your local machine's latest installed Python version is selected as your Python engine. Copy your script into the Python script dialog box that appears. Here, we enter the simple Python script shown in the second image.



Step 3: Select **OK**. If the script runs successfully, the Navigator dialog box appears and you can load the data and use it. Data can be loaded or edited before using it any further.



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TECHIE TALKS

Overview

In Power BI Desktop, you can connect to a **PDF file** and use the included data from the file, just like any other data source in Power BI Desktop.

Advantages

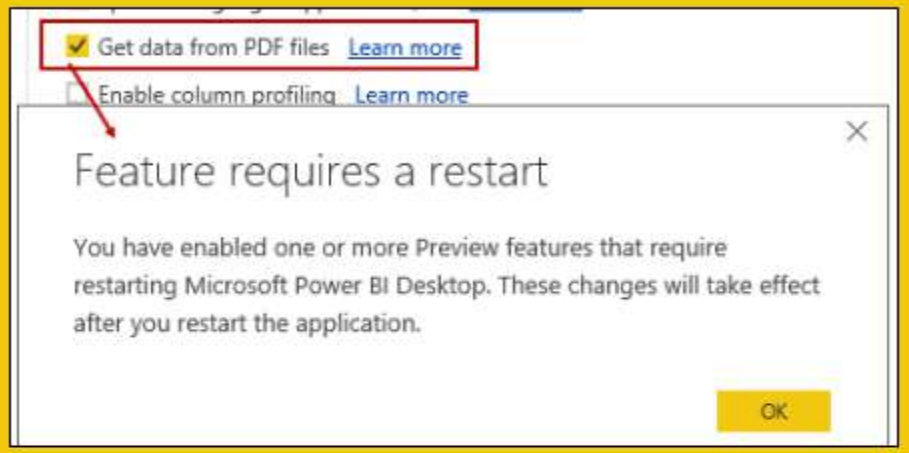
In this way, one can easily source data from PDF files without any coding. Another option to source data from PDF files is by using R Scripts, but that would require installation of some external packages on an R server as well as few lines of code.

Courtesy : Noel Samuel

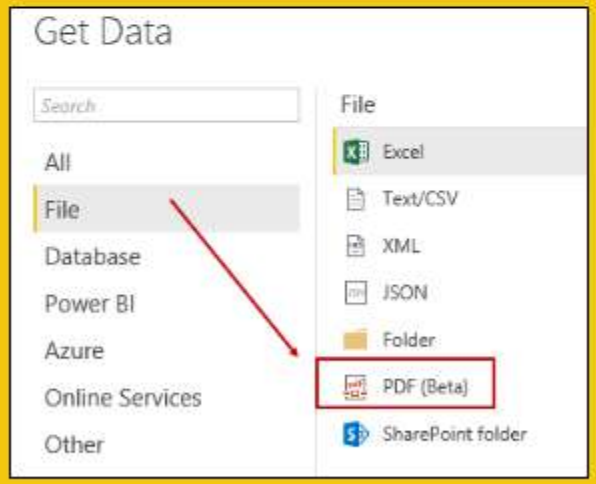
Importing data from a PDF file in Power BI Desktop

Implementation

Step 1: Launch the Power BI and go to the File menu. In the File menu, go to Options and settings>Options>Preview features>Get data from PDF files.



Step 2: Once we relaunch Power BI Desktop, go to Get Data->More again from the menu bar. In the following screenshot, you can get a new option under 'File'. We get the option 'PDF (Beta) to use as a data source.



Step 3: Click on PDF (Beta) connector and connect. PDF file can be loaded in Power BI to create meaningful reports.

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TECHIE TALKS

Overview

Grouping rows or columns in Power BI can be very useful if you want to visually group items under a heading, or if you want to be able to hide or show data for better display.

Advantages

Once you group Power BI group columns with headers, you can more easily manage the data. Your headers could be the totals for each area on that budget, with your collapsible columns being the line items for each area.

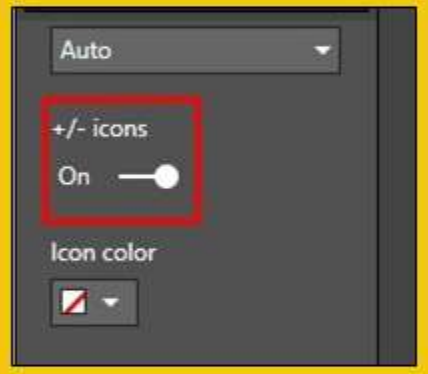
Courtesy : Noel Samuel

Add expand/collapse feature to column headers

Implementation

Step 1. Use the matrix visualization and select the rows and columns as required.

Step 2. Under the formatting pane toggle the **"+/-"** button.



Step 3. The data in the matrix will be displayed with + and – sign. When a user will click + the data will expand and clicking on – will collapse the data.

Region	Level-1	Level-2	Level-3	Level-4	Total
KDAP	**2522**	**78**	**2171**	**117**	**4888**
Australia	234	13	195		**442**
China	572	26	858	26	**1482**
Germany			13		**13**
Guam	13				**13**
Hong Kong	104		65		**169**
India	169		91	26	**286**
Total	**13494**	**975**	**11531**	**468**	**26468**

Region	Level-1	Level-2	Level-3	Level-4	Total
KDNA	**4264**	**390**	**5915**	**156**	**10725**
United States	3965	364	5499	156	**9984**
Canada	299	26	416		**741**
KDLA	**689**		**325**	**26**	**1040**
KDEU	**6019**	**507**	**3107**	**169**	**9802**
Uzbekistan	26		13		**39**
United States	26				**26**
United Kingdom	559	130	598		**1287**
Ukraine	65				**65**
Turkey	169		143	39	**351**
Thailand	13				**13**
Switzerland	52				**52**
Sweden			26		**26**
Total	**13494**	**975**	**11518**	**468**	**26455**

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TechieTalks

Overview

hierarchy slicer is created with single fields or pre-defined - as a slicer to filter other report items. Each level can be expand or collapsed for optimal navigation thru the hierarchy and to find to the correct attribute from the slicer.

Advantages

Lets you expand and dig into each level of your hierarchy data.

Allows you to display a measure value at the lowest level.

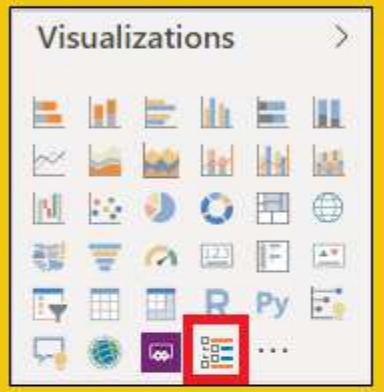
Replaces the idea using multiple regular slicers to represent what the Hierarchy Slicer does.

Courtesy : Noel Samuel

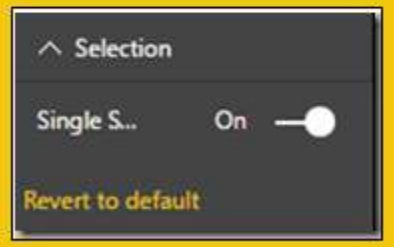
Hierarchy slicer

Implementation

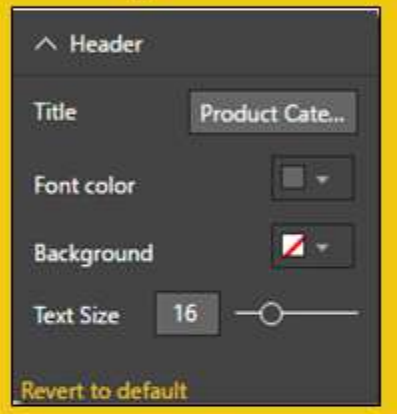
Step 1 : To start with import Hierarchy slicer visual from market place. Select hierarchy slicer from visualization pane.

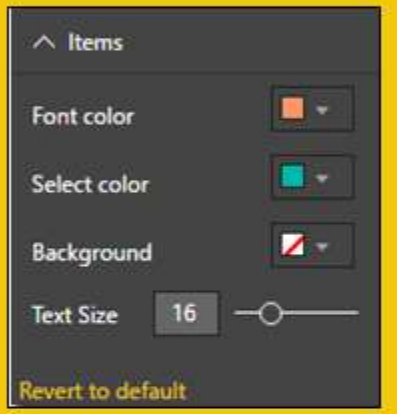


Step 2 : Go to **Format** pain and select **Selection** pane where you can choose to turn on the ability for multi-select values in the Hierarchy



Step 3 : Go to **Header** section to change the slicer Title and adjust other formatting settings of the title. Go to **Items** section to adjust the formatting of the hierarchy values.





Step 4 : Final output

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TECHIE TALKS

Overview

Creating a dynamic slicer to show different measures in a chart using disconnected tables making it more dynamic and flexible for users consuming the reports.

Advantages

The advantage of using this technique makes the visualizations more dynamic and flexible for the users consuming the reports.

Courtesy : Nitesh Trehan

Dynamic measure selection for slicer value– *Power BI*

Implementation

Step 1 : Create a disconnected table. The disconnected table stores my values that I want to display on my slicer.

Measure Name
Value Sales
Volume Sales
Order Count

Step 2 : Creating a dynamic measure using DAX function as SWITCH and SELECTEDVALUE

Step 3 : Place the slicer and drag the measure created in the disconnected table. Similarly, Drag the created dynamic measure to the visual so that values gets changed according to the selected value in the slicer.

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TECHIE TALKS

Dynamic visual titles using title expression– *Power BI*

Overview

Creating dynamic customized titles in Power BI Visuals. Need to create a DAX expression based on which we will be able to create the dynamic title.

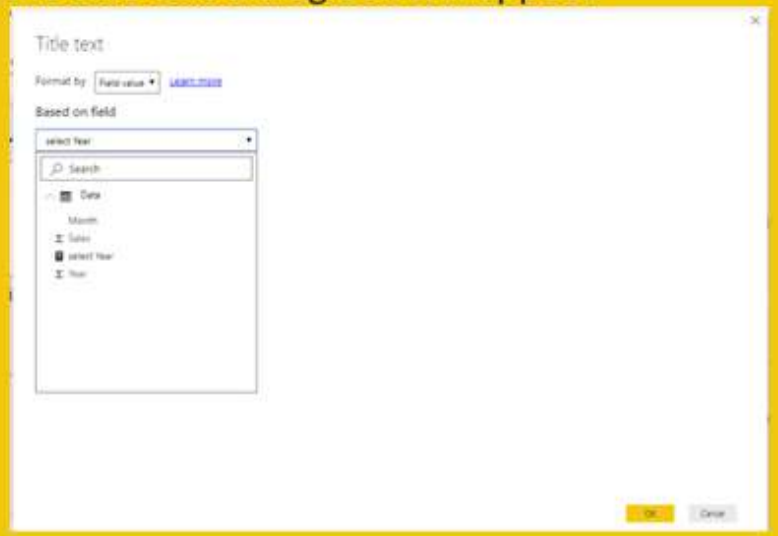
Advantages

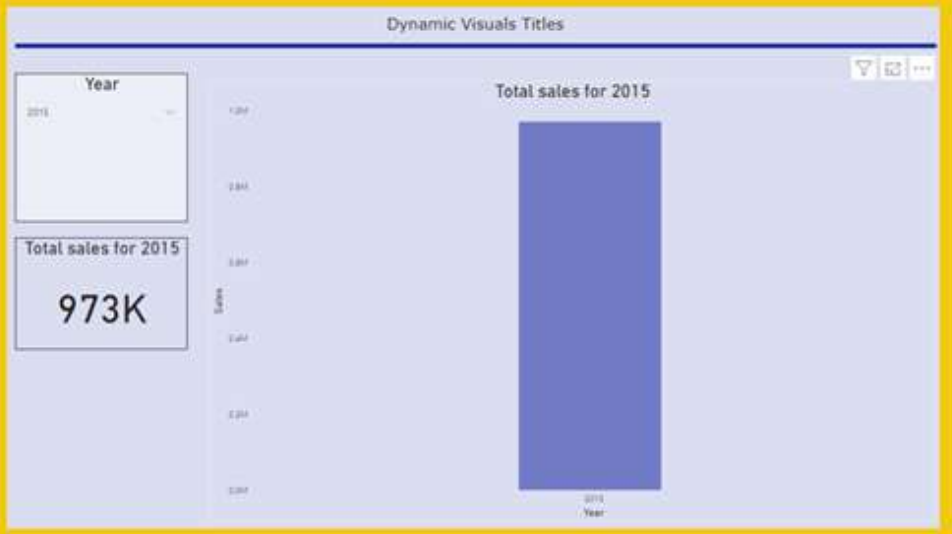
Dynamic titles are powerful and immensely valuable from a user- experience stand point.

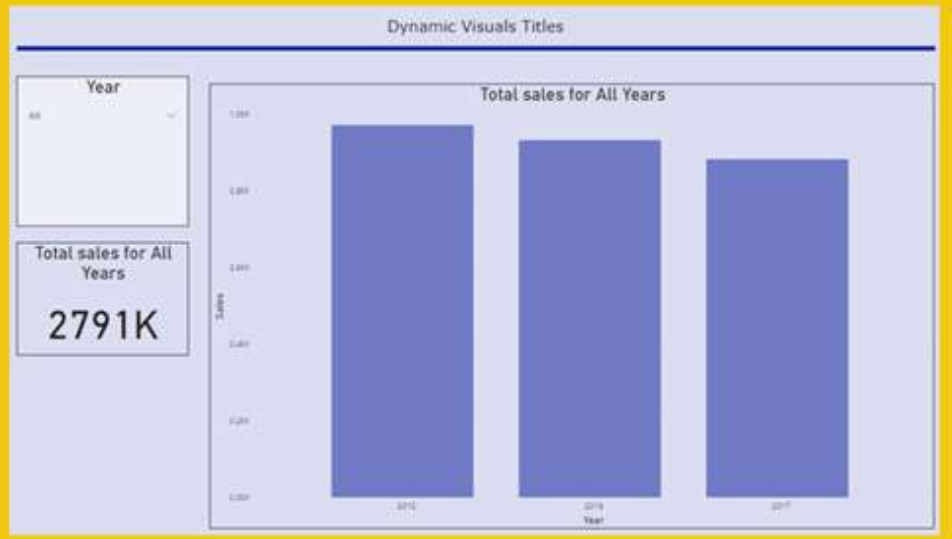
Implementation

Step 1 : Creating an expression-based title to create a field in your model to use for the title.

Step 2 : Once the DAX is created in the step 1, you need to apply the same on the visual title. To select the field and apply it, go to the visualizations pane. In the format area, select the title. When you right right-click on the title text, a context menu will appear that allows you to select the conditional formatting. After that the title text dialog box will appear.







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Courtesy : Nitesh Trehan

Power BI

TECHIE TALKS

Overview

DAX Unichar function accepts the integer that maps to the character you would like to display on the visual. It helps to identify what you want to communicate with the visuals.

Advantages

It helps to include non text characters inside the visuals. It can also be used in the conditionally formatting and also allows to use both color with numbers and icon to indicate the direction.

Courtesy : Nitesh Trehan

Use unichar characters in calculated column and measure– *Power BI*

Implementation

Step 1 : In the data view, create a calculate column using the Unichar () DAX function. The general pattern for using UNICHAR characters in a visual is decided what you want to showcase so that the concept is communicate well.

Step 2 : Create a measure to display the stars for the hotel on the basis of score.

Step 3 : Drag the measures on the grid visual and then you will be able to get the things in the grid.

Hotel	Score	Rating
Hyatt	5	▲
Le Meridian	5	▲
Marco Polo	4	▲
Omega	5	▲
Rajdoot	2	▼
Ashoka	4	▲
Reds	2	▼
Kingsway	3	➤
Delhi Darbaar	5	▲
Musketeers	4	▲

Unichar characters in calculated column and measures

Hotel's Rating

Hotel	Stars	Rating
Ashoka	★★★★☆	▲
Delhi Darbaar	★★★★★	▲
Hyatt	★★★★★	▲
Kingsway	★★★☆☆	➤
Le Meridian	★★★★★	▲
Marco Polo	★★★★☆	▲
Musketeers	★★★★☆	▲
Omega	★★★★★	▲
Rajdoot	★★☆☆☆	▼
Reds	★★☆☆☆	▼
Total	★★★★☆	

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TECHIE TALKS

Overview

DAX Unichar function accepts the integer that maps to the character you would like to display on the visual. It helps to identify what you want to communicate with the visuals.

Advantages

It helps to include non text characters inside the visuals. It can also be used in the conditionally formatting and also allows to use both color with numbers and icon to indicate the direction.

Courtesy : Nitesh Trehan

Use unichar characters in calculated column and measure– *Power BI*

Implementation

Step 1 : In the data view, create a calculate column using the Unichar () DAX function. The general pattern for using UNICHAR characters in a visual is decided what you want to showcase so that the concept is communicate well.

Step 2 : Create a measure to display the stars for the hotel on the basis of score.

Step 3 : Drag the measures on the grid visual and then you will be able to get the things in the grid.

Hotel	Score	Rating
Hyatt	5	▲
Le Meridian	5	▲
Marco Polo	4	▲
Omega	5	▲
Rajdoot	2	▼
Ashoka	4	▲
Reds	2	▼
Kingsway	3	➤
Delhi Darbaar	5	▲
Musketeers	4	▲

Unichar characters in calculated column and measures

Hotel's Rating

Hotel	Stars	Rating
Ashoka	★★★★☆	▲
Delhi Darbaar	★★★★★	▲
Hyatt	★★★★★	▲
Kingsway	★★★☆☆	➤
Le Meridian	★★★★★	▲
Marco Polo	★★★★☆	▲
Musketeers	★★★★☆	▲
Omega	★★★★★	▲
Rajdoot	★★☆☆☆	▼
Reds	★★☆☆☆	▼
Total	★★★★☆	

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TECHIE TALKS

On-premises data fresh using gateway

Overview

Power BI gateway acts as a gatekeeper for the on-premises data source. All the connection requests are attended by the gateway and access is granted based on their authentication and requirements.

Advantages

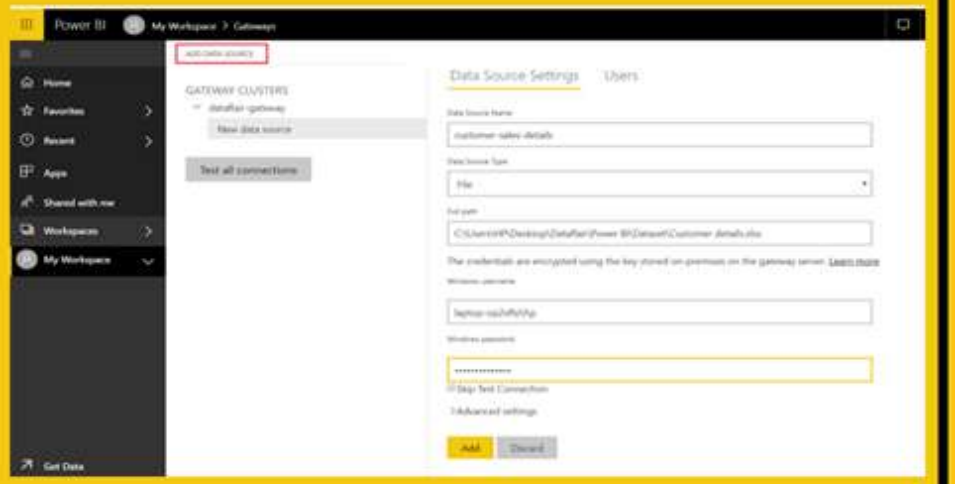
Gateways helps us to configure a schedule refresh to ensure that power BI dataset has recent data. It also reviews the refresh history to analyze the outcomes of past refresh cycles.

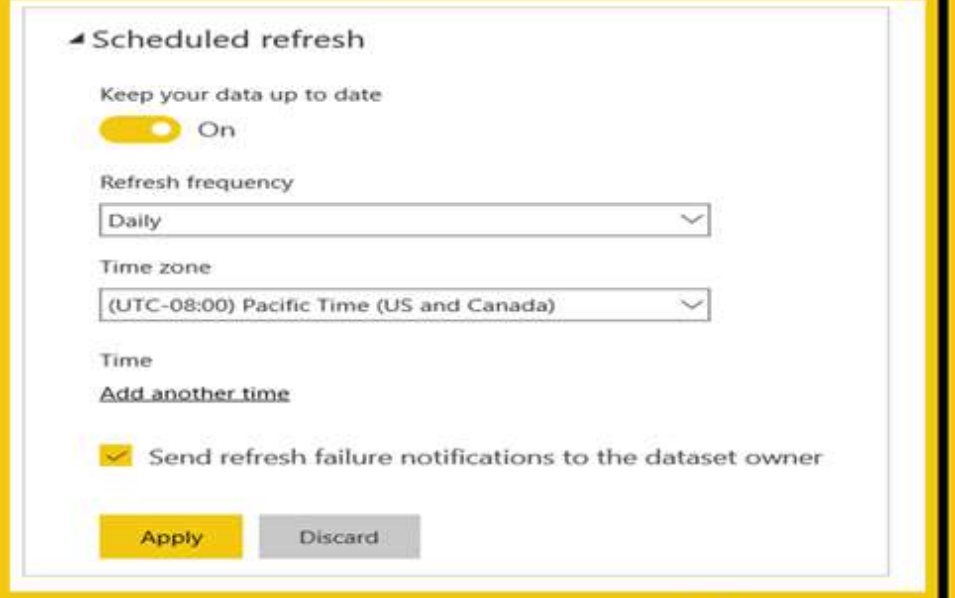
Courtesy : Nitesh Trehan

Implementation

With the on-premises gateways, we can keep the data fresh by connecting on-premises data sources. There are two types of gateways: Standard mode and Personal mode. Schedule refresh is only applicable on import data and can do 8 refreshes per day on shared and up to 48 refreshes per day on premium capacity.

Step 1 : Go to Power BI workspace and click on the download arrow and install the gateway.
Step 2: Click on Add Data Source, and then it will popup various sources, select your data source and provide the respective authentication.
Step 3: To setup the connection, open the Power BI service and go to settings and click on settings.
Step 4: Click on datasets tab and select the dataset and then click on gateway connection, select the Use a data gateway and click on Apply.
Step 5: If you want to schedule the data refresh then click on the option and schedule the refresh on the desired time you want to get it schedule.





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techie talks

Group Visuals – *Power BI Release*

Overview

With **Group functionality** in **Power BI Desktop**, you can group visuals together in your report, such as buttons, textboxes, shapes images, and any visual you create, just like you group items in PowerPoint.

Advantages

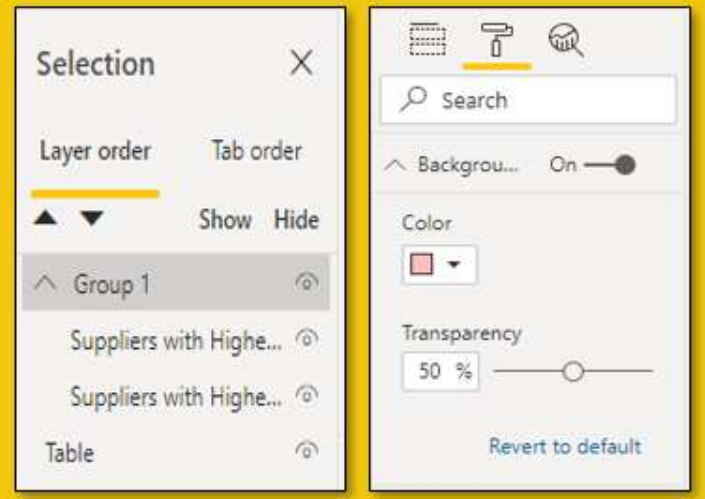
Grouping visuals in a report lets you treat the group like a single object, making moving, resizing, and working with layers in your report easier, faster, and more intuitive.

Courtesy : Rutuja Mowade

Implementation

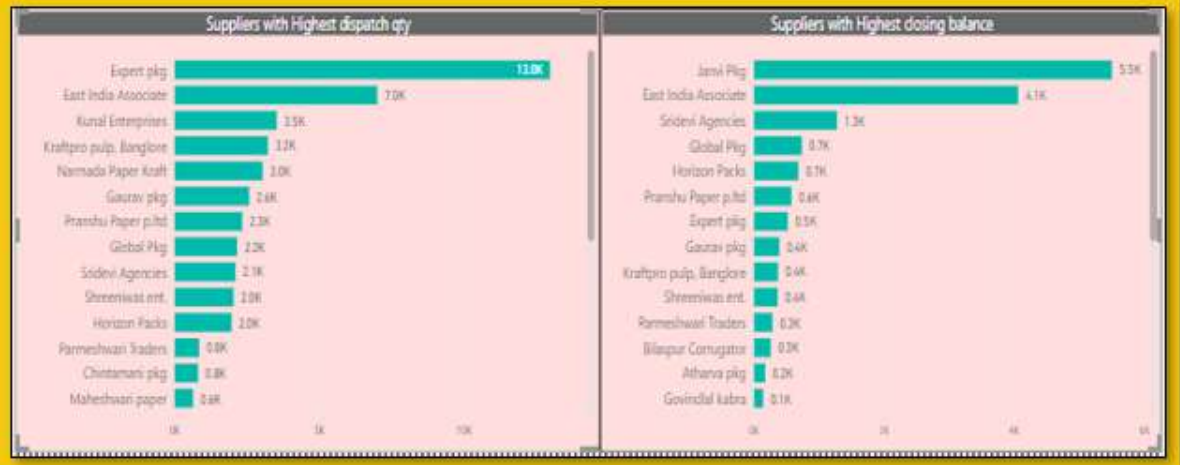
Step 1 : Select two or more visuals. Right Click and select “Group”.

Step 2 : Select the newly created group from Selection Pane.



Step 3 : Change the background color of visuals as required.

Step 4 : Change the visual size as required.



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Power BI techie talks

Use Image as Slicer – *Power BI functionality*

Overview

Slicers are a great choice when we want to filter out data as per the requirement on the report canvas.

Advantages

Slicers can be further tweaked by assigning the required elements to the available values.
Assigned values can be either Image, URL, or any other required element list.

Courtesy : Rutuja Mowade

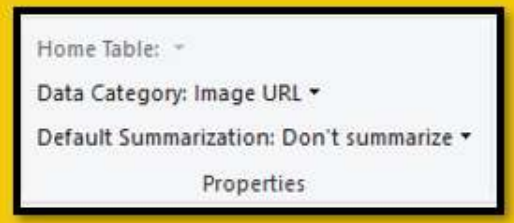
Slicer Requirement

Implementation

Step 1 : Create a new table for assigning the available selector values to the required image url.

Review Status	Image
Horrible	http://pix.iemoji.com/images/emoji/apple/ios-9/256/pouting-face.pn
Poor	http://pix.iemoji.com/images/emoji/apple/ios-9/256/white-frowning
Neutral	http://pix.iemoji.com/images/emoji/apple/ios-9/256/neutral-face.pn
Good	http://pix.iemoji.com/images/emoji/apple/ios-9/256/grinning-face.pr
Excellent	http://pix.iemoji.com/images/emoji/apple/ios-9/256/smiling-face-wit

Step 2 : Select the Image column, change the Data Category from "Uncategorized" to "Image URL"



Step 3 : Create a slicer using new dimension "Image" as its field object.

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Overview

The calendar table is a very powerful technique that can save us a lot of time. Also referred to as **Date Dimension Table**

Advantages

- Calendar tables are used to create relationships between data tables.
- Acts as a lookup table for date groupings.

Courtesy : Rutuja Mowade

Creating a DAX Calendar – *Power BI functionality*

Requirement

Date	Year	Day	DayOfMonth	MonthOfYear	Month	QuarterofYear	Quarter	OrdinalDate	DayofWeek	WeekEnding
01-01-2015 00:00:00	2015	Thursday	1	1	Jan-2015	1	Q1-2015	1	4	04-01-2015 00:00:00
02-01-2015 00:00:00	2015	Friday	2	1	Jan-2015	1	Q1-2015	2	5	04-01-2015 00:00:00
03-01-2015 00:00:00	2015	Saturday	3	1	Jan-2015	1	Q1-2015	3	6	04-01-2015 00:00:00
04-01-2015 00:00:00	2015	Sunday	4	1	Jan-2015	1	Q1-2015	4	7	04-01-2015 00:00:00
05-01-2015 00:00:00	2015	Monday	5	1	Jan-2015	1	Q1-2015	5	1	11-01-2015 00:00:00
06-01-2015 00:00:00	2015	Tuesday	6	1	Jan-2015	1	Q1-2015	6	2	11-01-2015 00:00:00
07-01-2015 00:00:00	2015	Wednesday	7	1	Jan-2015	1	Q1-2015	7	3	11-01-2015 00:00:00
08-01-2015 00:00:00	2015	Thursday	8	1	Jan-2015	1	Q1-2015	8	4	11-01-2015 00:00:00

Implementation

Step 1 : Create a Date table with the range of required dates using a CALENDAR function.

Eg : **Date table** = CALENDAR (DATE (2015, 1, 1), DATE (2030, 12, 31))

Date
01-01-2015 00:00:00
02-01-2015 00:00:00
03-01-2015 00:00:00
04-01-2015 00:00:00
05-01-2015 00:00:00
06-01-2015 00:00:00
07-01-2015 00:00:00
08-01-2015 00:00:00
09-01-2015 00:00:00
10-01-2015 00:00:00
11-01-2015 00:00:00

Step 2 : We can create various other required columns like

- **Day** = FORMAT('Date table'[Date],"DDDD")
- **Day Of Month** = DAY('Date table'[Date])
- **Day of Week** = WEEKDAY([Date],2)
- **Month** = FORMAT([Date], "MMM") & "-" & [Year]
- **Month Of Year** = MONTH('Date table'[Date])
- **Quarter of Year** = ROUNDUP(MONTH('Date table'[Date])/3,0)
- **Year** = YEAR('Date table'[Date])
- **Week End** = [Date] + (7- [Day of Week])

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Overview

Sometimes a single number is the most important thing you want to track in your Power BI dashboard or report, such as total sales, market share year over year, or total opportunities. This type of visualization is called a Card.

Advantages

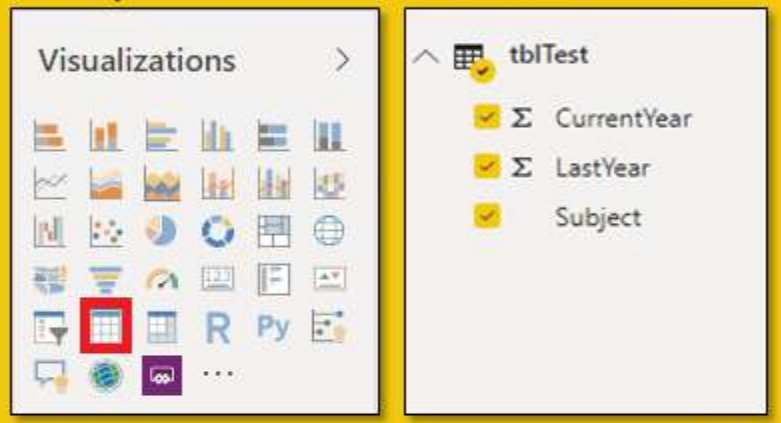
These card visuals are useful when user have to show single card value in comparison with targeted value and verify weather actual value is above or below the targeted value.

Courtesy : Ashwin Kulkarni

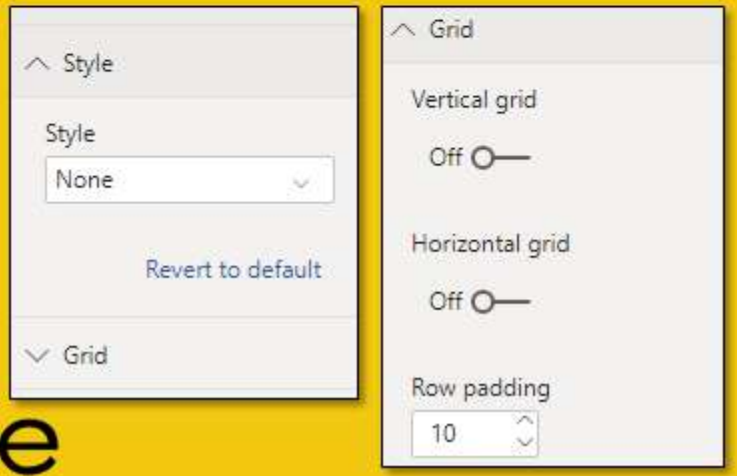
Create custom card using table visual

Implementation

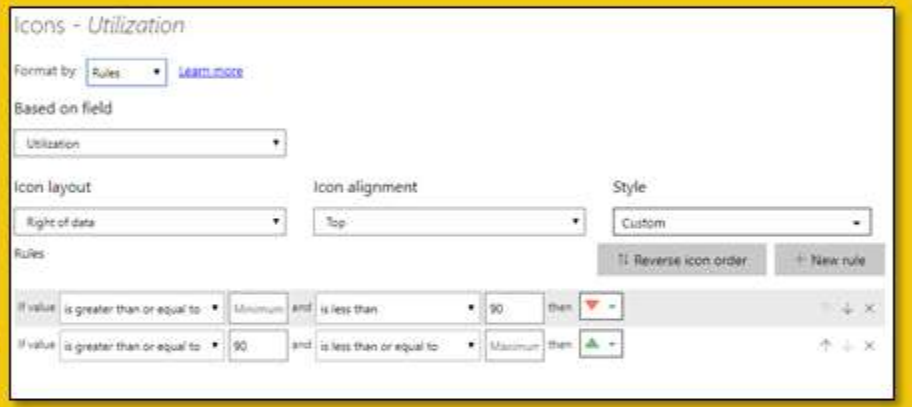
Step 1 : To get started, select Grid visual and select values that you want to show in Tornado Chart.



Step 2 : Select Style type as NONE and turn off both Vertical and Horizontal grids.

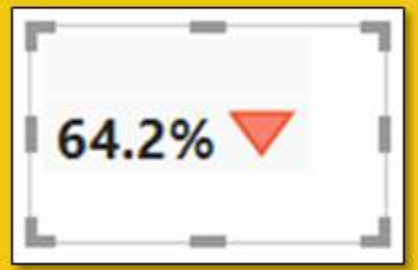


Step 3 : Go to column headers and make outline as None also make font color as background color. Than go to conditional formatting and select the option of icons and setup conditions.



Step 4 : Centrally align the data of all fields under field formatting.

Final Output.



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Overview

Do want to crate a sample report with dummy data and then change it with actual data? Here is a solution how you can do it easily. Just follow these simple steps to change/replace dataset and keeping you report intact.

Advantages

Changing data source is of great advantage when you have added new data in the dataset.

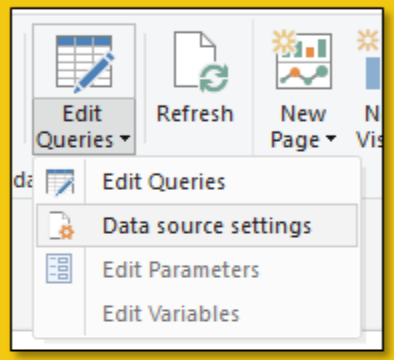
When you have similar dataset structure with different data, replacing/changing dataset is of great help by keeping all the report analysis intact.

Courtesy : Ashwin Kulkarni

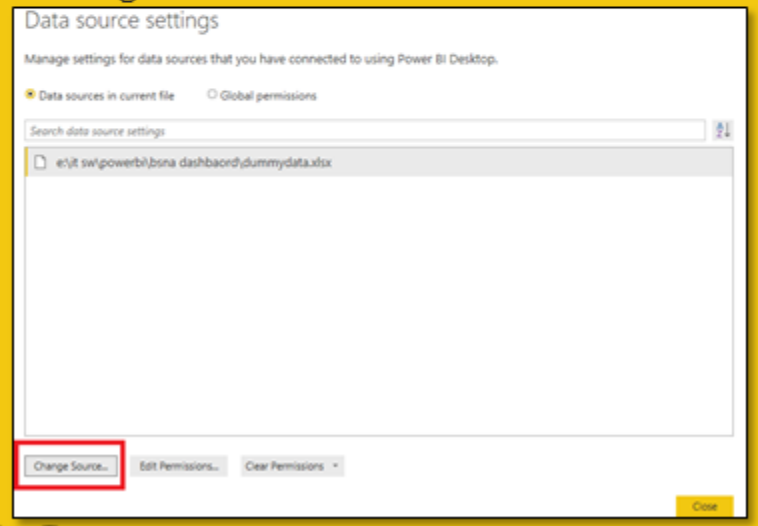
Replace Dataset by changing data source

Implementation

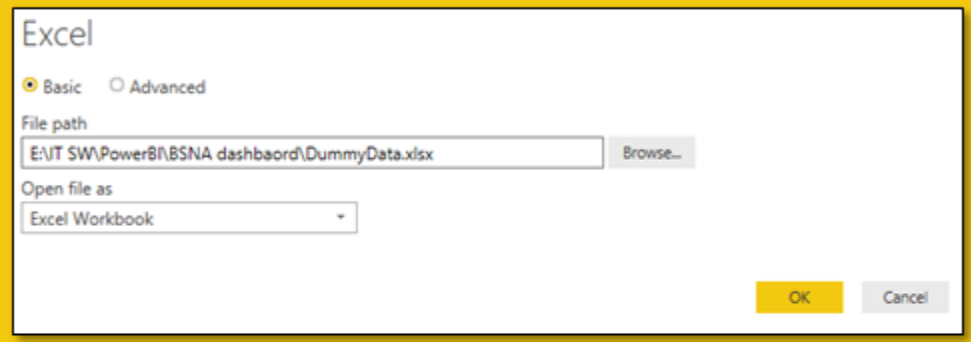
Step 1 : On HOME page of Power BI Desktop click on edit queries ad select the option of Data source settings.



Step 2 : Select “Data sources in current file” and click on change source button.



Step 3 : Select option of “Basic” and select file path for new dataset file you want to upload. Click on OK and close dialogue box.



Step 4 : It will automatically refresh the dataset and will also change report with new data.

Prerequisite for changing dataset :
While changing dataset you need to have same data/column structure as you had in earlier dataset.

NOTE : There are some other methods to change the dataset as well. You can change dataset using any method end result will always be same.

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Overview

This feature will let you set up rules for showing different sets of icons to show in your table and matrix, very similar to the Icon Sets feature in Excel.

Advantages

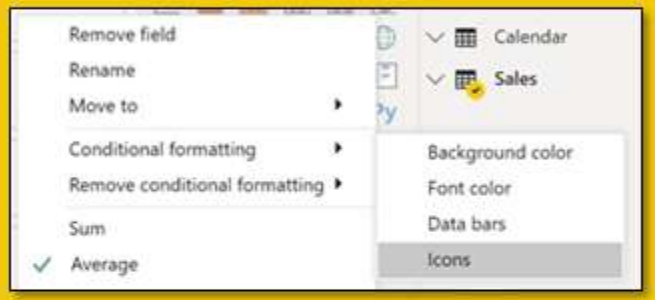
Showing icons along with the data helps in analyzing the data.
Also it is useful to compare the data just by looking at the numbers and icon.
Icon colors helps in better understanding of the data.

Courtesy : Ashwin Kulkarni

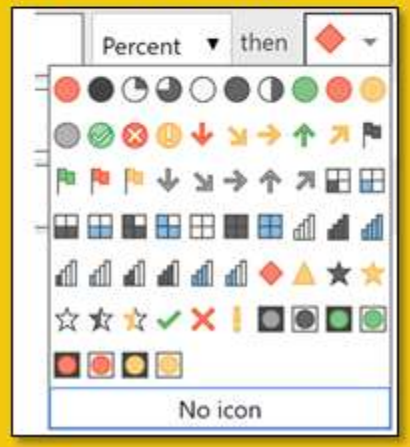
Icon sets for table and matrix

Implementation

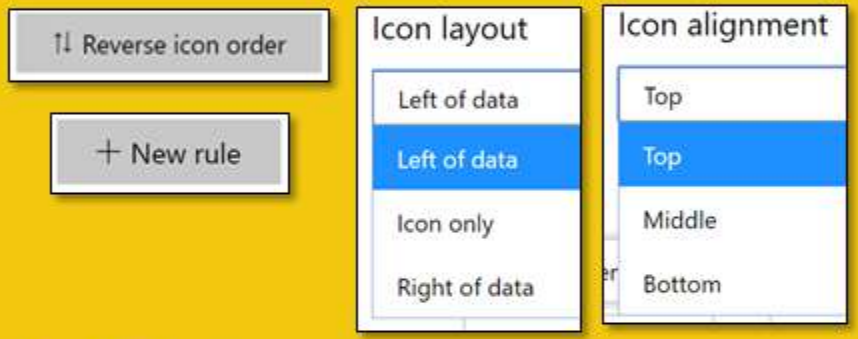
Step 1 : select table or matrix visual and turn on icons for your table or matrix using conditional formatting feature.



Step 2 : When you turn on Icons, the default rules will apply a red diamond to the lower 33%, a yellow triangle to the middle 33%, and a green circle to the upper 33%. But you can change accordingly.



Step 3 : In addition to adjusting current rules, you can add new rules to the list using the New rule button and swap the order of the icons in all the rules with one click using the Reverse icon order button. Also you can change alignment of icons.



Final Output.

Country	Large	Medium	Small	Total
Australia	**$8,098**	**$2,090**	**$358**	**$1,052**
Deluxe	$8,369	$2,479	$476	**$2,646**
Economy		$1,640	$251	**$315**
Regular	$7,135	$2,004	$445	**$1,098**
Canada	**$8,454**	**$2,098**	**$366**	**$1,015**
France	**$8,539**	**$2,099**	**$352**	**$1,049**
Germany	**$8,430**	**$2,045**	**$358**	**$1,084**
Great Britain	**$8,453**	**$2,124**	**$350**	**$1,075**
Deluxe	$8,859	$2,505	$460	**$2,724**

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TECHIE TALKS

Dynamic Row level Security with Power BI Made Simple

Overview

It is one of the most efficient way to restrict data views across an organization. Using DAX functions, DRLS filters the dataset based on the Power BI service user's log-in credentials. This allows Power BI report authors to easily create filtered data for managing the assignment of users to these roles.

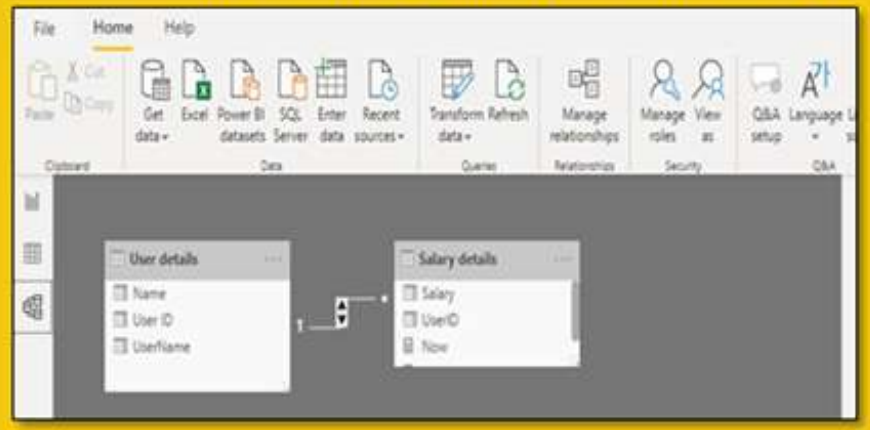
Advantages

Why dynamic row level security? Static row level security is simple to implement, however, if you have thousands of roles, then it would be a nightmare to maintain. For example, if you want to create a payroll Power BI report, in a company with thousand users, you want every user to have his/her role. Dynamic row level security is the answer for such scenarios.

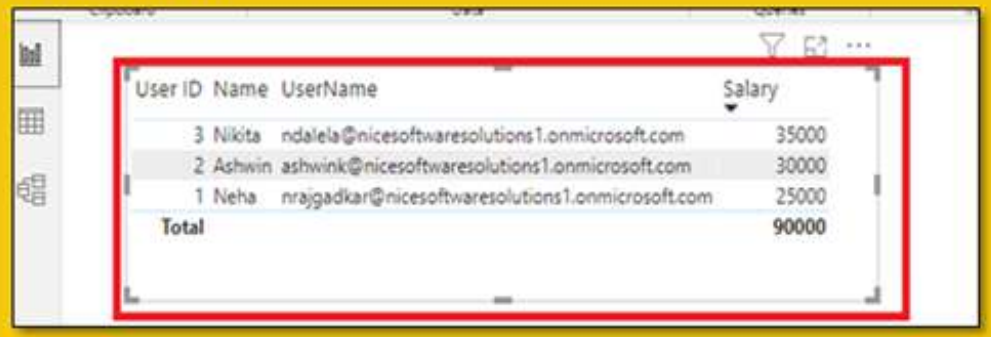
Courtesy : Neha Rajgadkar

Implementation

Step 1 : For this example let's create two simple tables User details and salary details using Power query. Go to Relationship tab and verify the relationship between User Details(User ID) and Salary details (User ID);



Step 2 : For this example, I will be using basic table visualization.



User ID	Name	UserName	Salary
3	Nikita	ndalela@nicesoftwaresolutions1.onmicrosoft.com	35000
2	Ashwin	ashwink@nicesoftwaresolutions1.onmicrosoft.com	30000
1	Neha	nrajgadkar@nicesoftwaresolutions1.onmicrosoft.com	25000
Total			90000

Step 3 : Go to manage Roles and give RLS to User details table using DAX "Username()" to filter table on the basis of username. Save and publish the file on shared workspace.

Step 4 : Make sure to give security to added users as viewer of the report. With this method the viewer will see their view of the world.

Final Output.

User ID	Name	UserName	Salary
1	Neha	nrajgadkar@nicesoftwaresolutions1.onmicrosoft.com	25000
Total			25000

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Power BI techie talks

Customized Tooltip with popup – *Power BI Functionality*

Overview

A report page can be used as tooltip. We can say it as information window as we can show any visualization in the tooltip.

Advantages

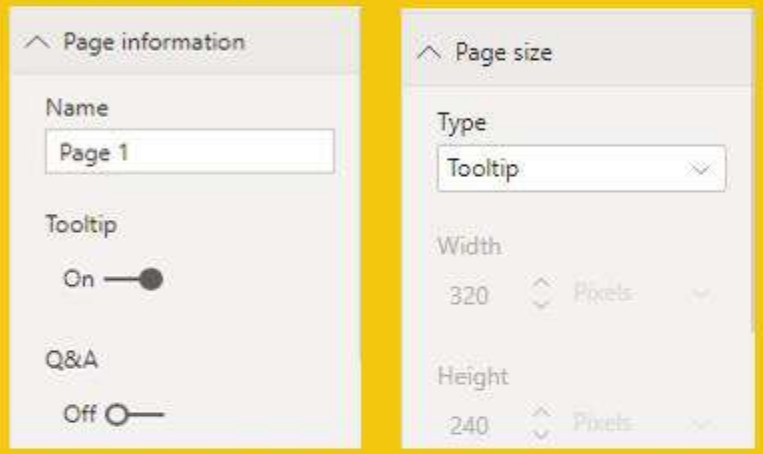
Customizing tooltips provides additional context and information for users viewing the visual.

Custom tooltips enable you to specify additional data points that display as part of the **tooltip**

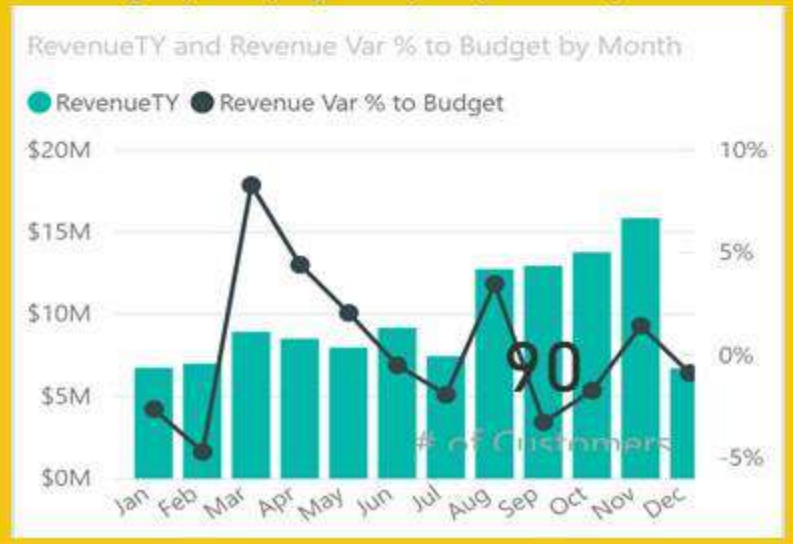
Courtesy : Pooja Darbhe

Implementation

Step 1 : Add a new page in the report, go to format, enable tooltip available in page information, select Page size as Tooltip.

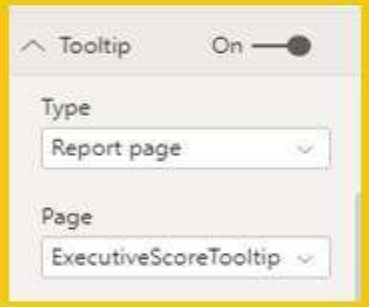


Step 2 : Now design your page as per your requirement



Step 3 : Go to other page and select the visualization where you wish to show the customize tooltip, go to formatting options.

Step 4 : Under Tooltip select Report page as type and name of the page.



Your Tooltip will be look like this.

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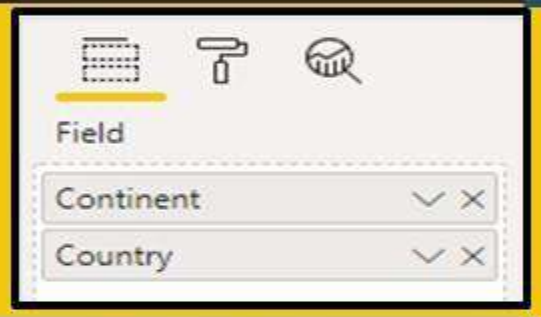
Hierarchy Slicer

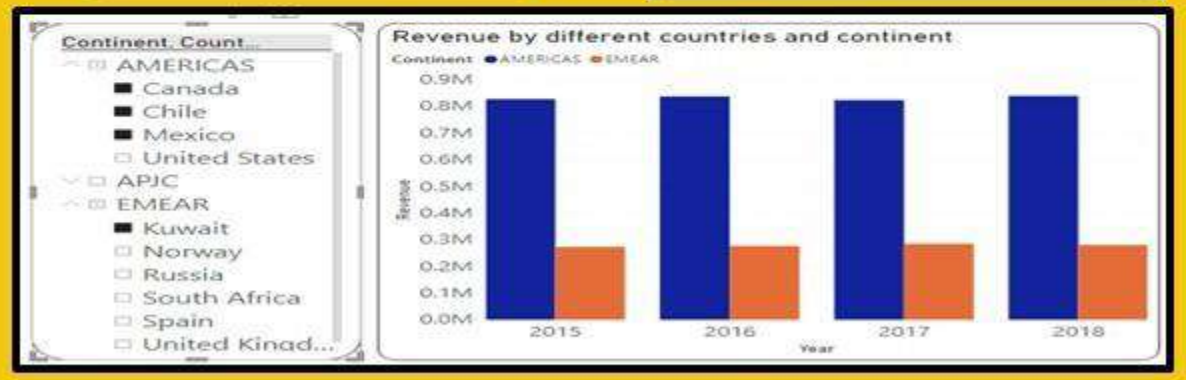
Problem Statement

A Retail company has different products with multiple branches in multiple countries. Requirement is to build a graph to compare revenue by having different countries and Continent within one filter as a hierarchy.

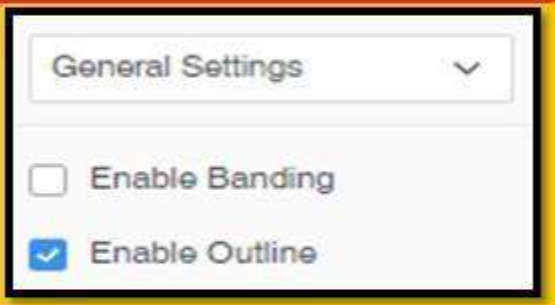
Power BI VS MicroStrategy

For me Hierarchy Slicer needs data in a specific way!
Please arrange the required dimensions as per the required hierarchy.





Though not directly! But indirectly definitely I can give the same look & feel!!
Create a grid of same attributes with outline enabled & see the magic!



1) Multi select is possible directly in Power BI as we have a ready made selector whereas for MSTR we need to press control key every time while selection.
2) 2) Power BI allows the selection of multiple levels in same hierarchy, (example : Americas total as well as Mexico bars together) while MSTR allows selection of one level at a time.

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#PowerBI, #techietalks, #mstr, #MicroStrategy

Courtesy- Neha Rajgadkar, Pooja Darbhe

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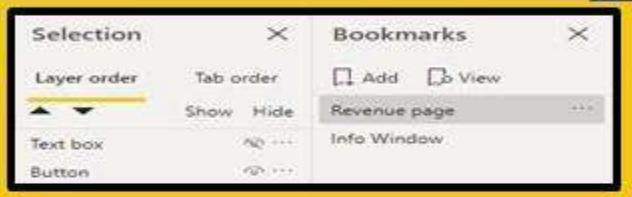
Information Window

Problem Statement

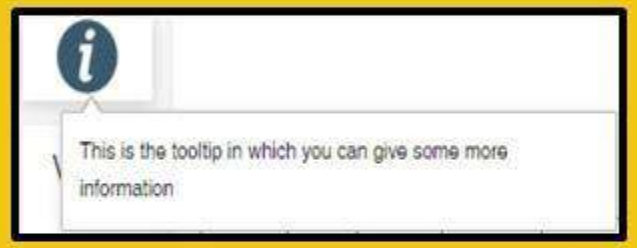
A retail company having different products in different line with multiple branches in multiple countries wants to build a report to compare revenue and revenue forecast with their actual value in grid as its information window.

Power BI VS MicroStrategy

Using Bookmark, Button to create Pop- up window.
We can also build a page as a tooltip to show the information window when we hover on a bar chart .



In Dashboard user can achieve this with the help of information window, but not in dossier. You can apply a work around for messages using any image icon as shown in Dossier but not for showing visuals.



In Power BI, info window is directly achieved in 2 ways i.e. using bookmarks and selection pane to create pop up window and other is by showing page as a tooltip while in MSTR this achievable in Document directly but not in Dossier. Idea of having it in Dossier has been already raised: https://community.microstrategy.com/s/idea/087440000008rfCAAQ/detail

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#PowerBI, #techietalks, #mstr, #MicroStrategy

Courtesy- Neha Rajgadkar, Pooja Darbhe

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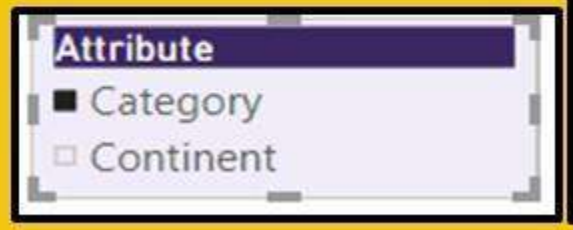
Dynamic X axis via slicer

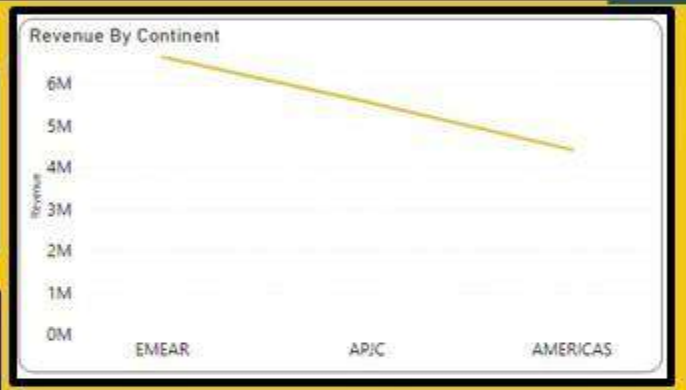
Problem Statement

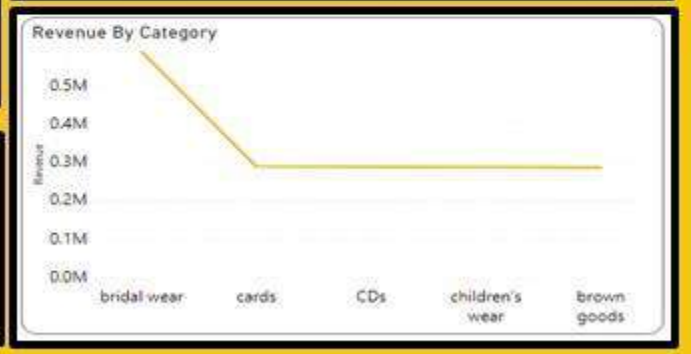
Our client wants to view the bookings of their products by continent and category on one go. So instead of building two visuals for different attributes we came up with solution of building dynamic X-Axis line chart.

Power BI VS MicroStrategy

Duplicate the table in which attributes are listed. Unpivot the attributes column. By using the attributes column in slicer, customer will be able to switch axis dynamically.







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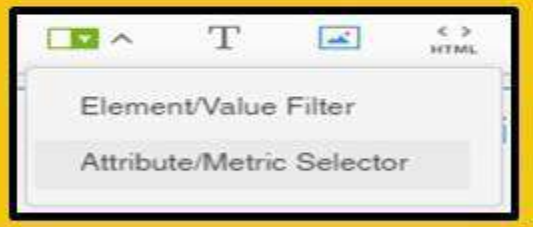

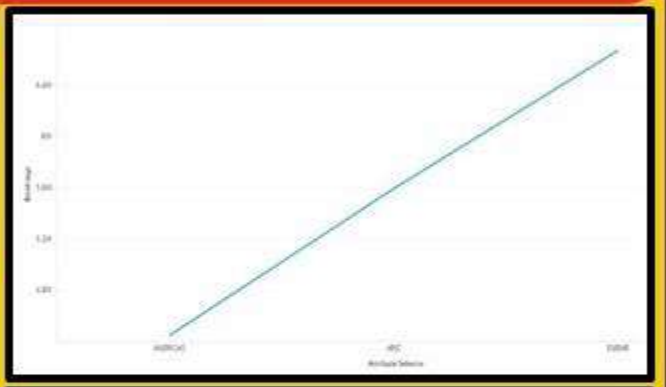

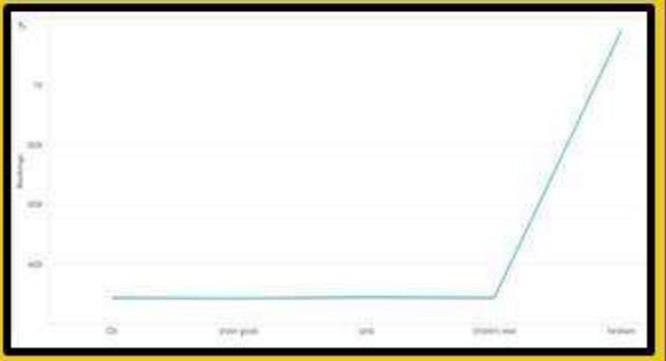

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Courtesy- Neha Rajgadkar, Pooja Darbhe

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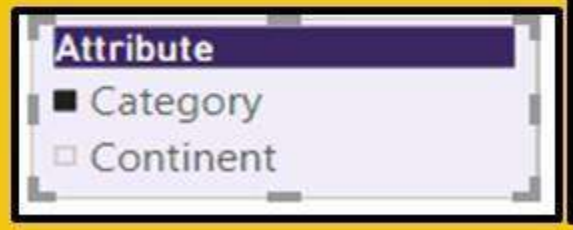

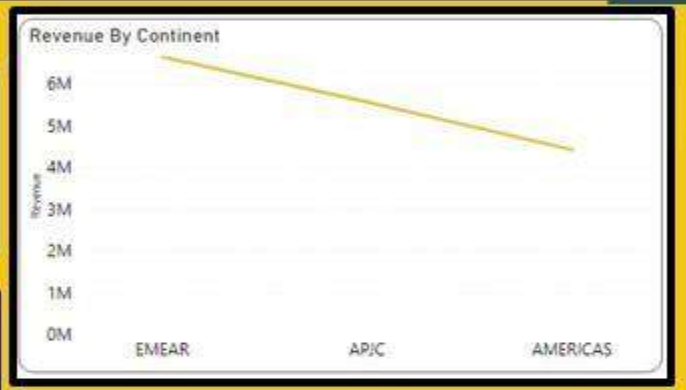

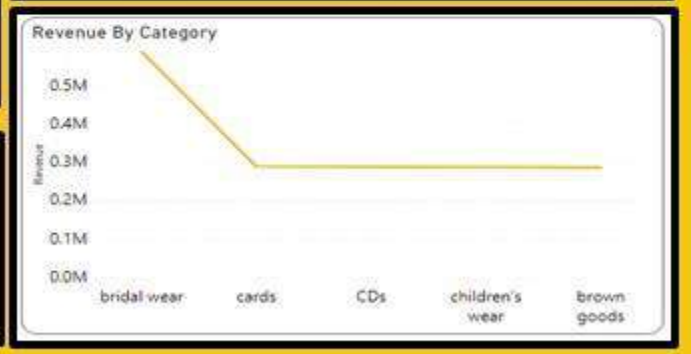

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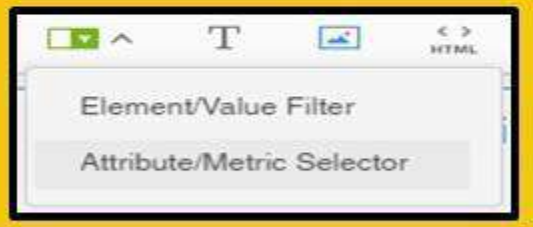

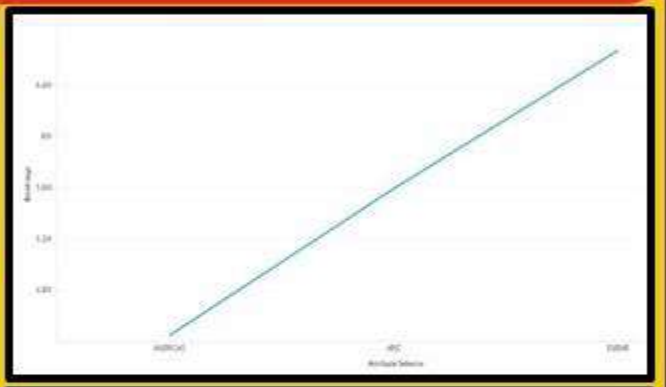

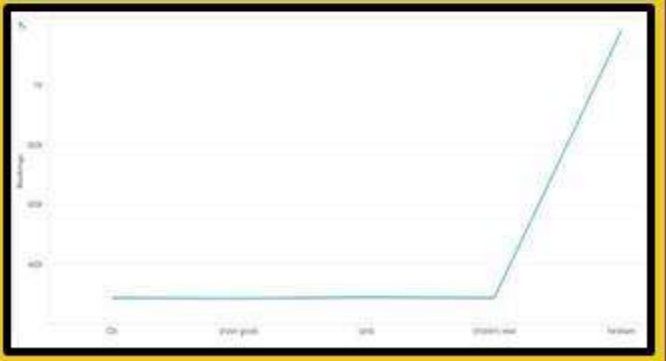

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Courtesy- Neha Rajgadkar, Pooja Darbhe

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Column Header Colour Change

Problem Statement

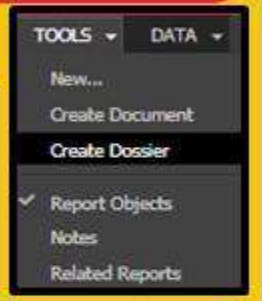
Our client wants to view the expenses on customer . However they want us to bifurcate all the columns that define expenses in blue shades and Customer in different colour. The requirement is possible by using field formatting of the grid.

Power BI **VS** MicroStrategy

Select table directly from visualization. Add columns and in Format pane go to Field Formatting, select individual column to change its background/font colour.

Category	Product Type	Customer	Expenses_Forecast	Expenses_Target
Clothing	Products	Gaysons	49,61,750.43	47,46,022.15
Clothing	Services	Gaysons	49,61,750.43	47,46,022.15
Clothing	Products	Here & Now	49,61,750.43	47,46,022.15
Clothing	Services	Here & Now	49,61,750.43	47,46,022.15
Clothing	Products	Ritu Kumar	49,61,750.43	47,46,022.15
Clothing	Services	Ritu Kumar	49,61,750.43	47,46,022.15
Clothing	Products	Roadster	49,61,750.43	47,46,022.15
Clothing	Services	Roadster	49,61,750.43	47,46,022.15
Total			**2,06,24,730.30**	**1,97,28,002.90**

In document this functionality can be directly implemented whereas in MSTR dossier following workaround needs to be applied. Create report in web, apply different colors to column headers, run report, from tools menu Create Dossier and you are done.



Category	Product Type	Customer	Expense Forecast	Expense Target
Alcohol	Products	Amazing Eateries	11841621.46434	15432390.6
		Amoeba	11841621.46434	15432390.6
		Bajaj Finance	11841621.46434	15432390.6
		Benedril	11841621.46434	15432390.6
		Gaysons	11841621.46434	15432390.6
		Ginger Hotels	11841621.46434	15432390.6
		Here & Now	11841621.46434	15432390.6
		Himalaya	11841621.46434	15432390.6
		JK Technichians	11841621.46434	15432390.6
		Kingfisher	11841621.46434	15432390.6
		Myntra	11841621.46434	15432390.6
		Novelty	11841621.46434	15432390.6
		Nykaa	11841621.46434	15432390.6
		Play Arena	11841621.46434	15432390.6

In Power BI , individual column header colour change is directly possible with the help of field formatting in Format pane . In case of MSTR, it is directly possible in document in editable mode while this is possible in Dossier with above workaround.

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#PowerBI, #techietalks, #mstr, #MicroStrategy

Courtesy- Neha Rajgadkar, Pooja Darbhe

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Dynamic TopN Selector

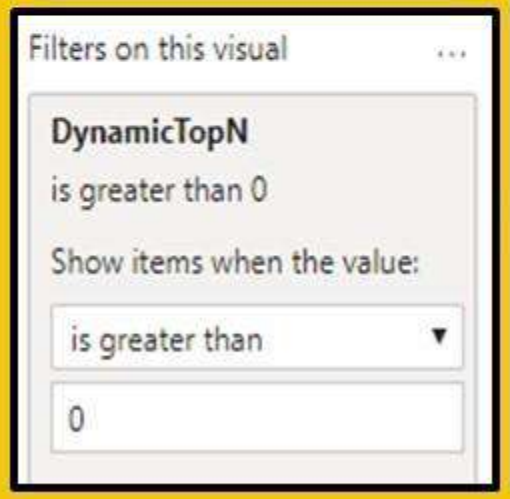
Problem Statement

Our client wants to view category wise revenue generated. The requirement is to be able to see top N categories generating maximum revenue with a selector to select TopN value. So, we came up with a DAX solution to achieve it.

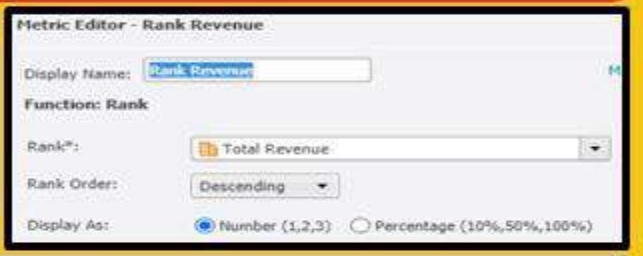
Power BI **VS** MicroStrategy

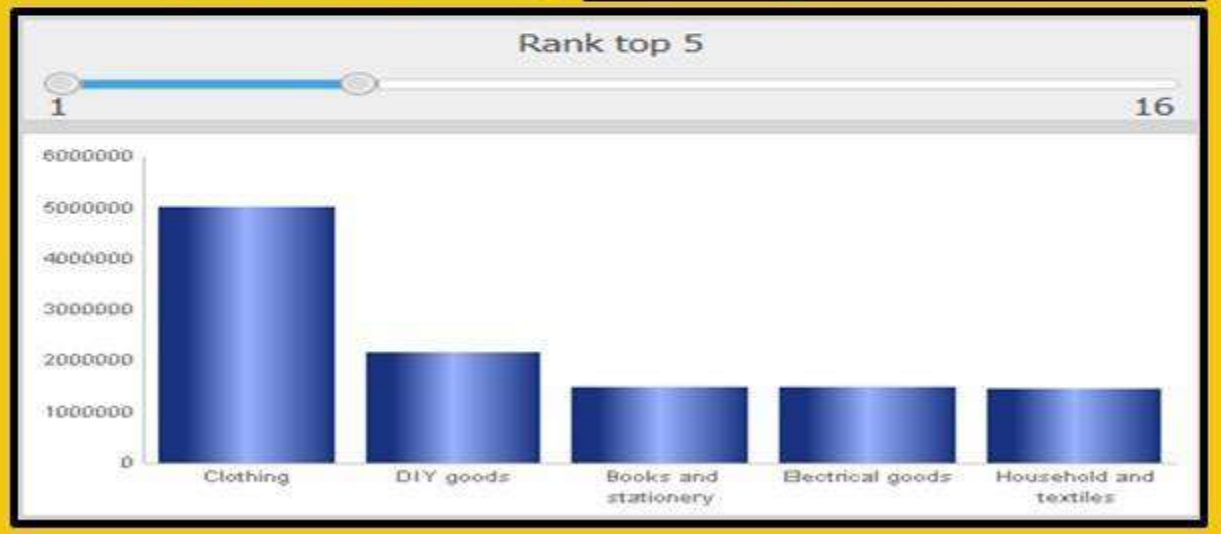
Create a table having values of TopN selector to use it in slicer. Compare rank of a category with value selected on slicer. Filter all records for which category rank is less or equal to slicer value.

```
DynamicTopN =
    VAR SlicerValue = SELECTEDVALUE('TopN'[TopN],10)
    VAR CategoryRankByRevenue = IF(HASONEVALUE(Revenue[Category]),RANKX(ALL
(Revenue[Category]),[Revenue],,DESC))
    RETURN
 IF(CategoryRankByRevenue <= SlicerValue,1,0)
```



Create Rank Metric, Insert Metric slider, drag the newly created metric, insert graph, drag any attribute along with the metric on which you have created rank, target the graph.





In Power BI this functionality can be completely implemented using the mentioned DAX function with any type of filter, whereas in MSTR we can either use a slider or qualification for getting the required result.

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Courtesy- Nikita Dalela, Pooja Darbhe

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Market Basket Analysis

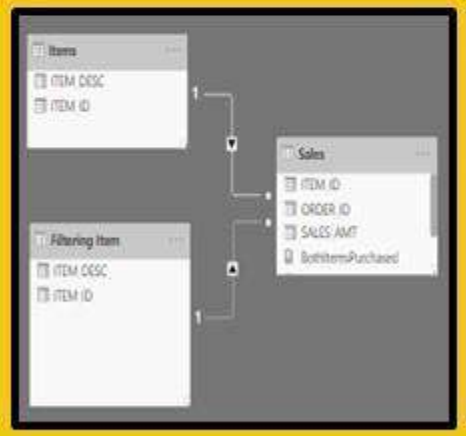
Problem Statement

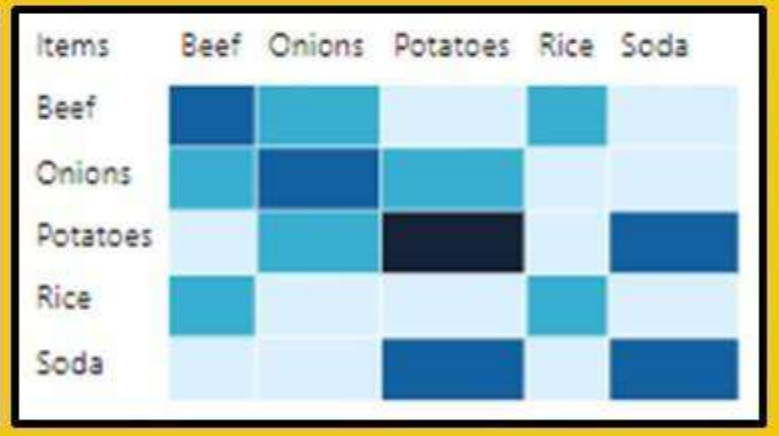
We have a retailer client who wants to compare sales of a product with another product which can help in their decision making with respect to placement of product, determining the timing and extent of promotions on product and also have a better understanding of customer purchasing habits.

Power BI **VS** MicroStrategy

We can implement the concept of Market Basket analysis using a single DAX function in Power BI

```
BothItemsPurchased =
CALCULATE (
    DISTINCTCOUNT( Sales[ORDER_ID] ),
    CALCULATETABLE (
        SUMMARIZE ( Sales,Sales[ORDER_ID] ),
        ALL ( Items ),
        USERELATIONSHIP ( Sales[ITEM_ID], 'Filtering Item'[ITEM_ID] )
    )
)
```





1) Create two attributes Item, Order. Create Item metric, Create Training metric, in that choose Association as a type of analysis, then follow the wizard steps.

2) Create a report with Item, order and training metric and run, it will create Rule and Confidence metric for all the probabilities

3) Create report with Item, order and all the metrics which are created for rule and confidence metric.

4) From the context menu of Predicted metric, select 'View Predicted Model' and choose the view tab.

Basket analysis can be achieved in Power BI by creating a single DAX measure and making some changes in table relationship, whereas in MSTR we have to go through much long process as explained above.

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PRICE TREND ANALYSIS USING HISTORICAL DATA

Problem Statement

Our client wants to determine possible price movement based on past patterns. The requirement is to have a table with open, close, high and low values for a specified period of time. So, we came up with a DAX solution to achieve it.

Power BI VS MicroStrategy

Create a new table from modelling tab in Power BI. Use the SUMMARIZE function to get a new table with open value, close value, high value and low value

OrderDate	LowValue	HighValue	OpenValue	CloseValue
07-06-2018	6.17	3256.14	1180.51	64.58
04-06-2018	9.01	1528.03	227.68	9.01
30-05-2018	11.2	1458.51	96.88	22.38
21-06-2018	6.6	896.24	199.96	97.34
27-06-2018	0.14	859.71	289.57	493.63
06-06-2018	2.31	1079.75	113.84	147.78
15-06-2018	0.1	1589.57	76.28	290.22
05-06-2018	6.88	3899	309.81	27.22
01-07-2018	7.93	2031.09	18.87	46.16

```
Table =
  SUMMARIZECOLUMNS(Orders[OrderDate], FILTER(Orders, Orders[order_status] = "delivered"),
    "LowValue", CALCULATE(MIN(Order_Payments[payment_value]), Orders[order_purchase_timestamp]),
    "HighValue", CALCULATE(MAX(Order_Payments[payment_value]), Orders[order_purchase_timestamp]),
    "OpenValue", CALCULATE(FIRSTNONBLANK(Order_Payments[payment_value], 1),
        FILTER(Orders, Orders[order_purchase_timestamp] = MIN(Orders[order_purchase_timestamp]))),
    "CloseValue", CALCULATE(FIRSTNONBLANK(Order_Payments[payment_value], 1),
        FILTER(Orders, Orders[order_purchase_timestamp] = MAX(Orders[order_purchase_timestamp]))))
```

1) Go to Document or Dossier, Import the data which you want to use for the analysis.

2) Create Attribute for date, month and year, because we need to show the data day wise which is our lowest level and the selectors as Month and Year.

3) Now create 4 different metrics to calculate Minimum value, maximum value, open value and close value for that particular time period.

4) Insert Grid and drag newly created attribute Date and other metrics Min value, max value, open value close value. Also add two selectors for Year and Month.

In Power BI, with the help of SUMMARIZE function in DAX we can create several values on particular group in a single expression, whereas in MSTR we need to create several different metrics to calculate such values.

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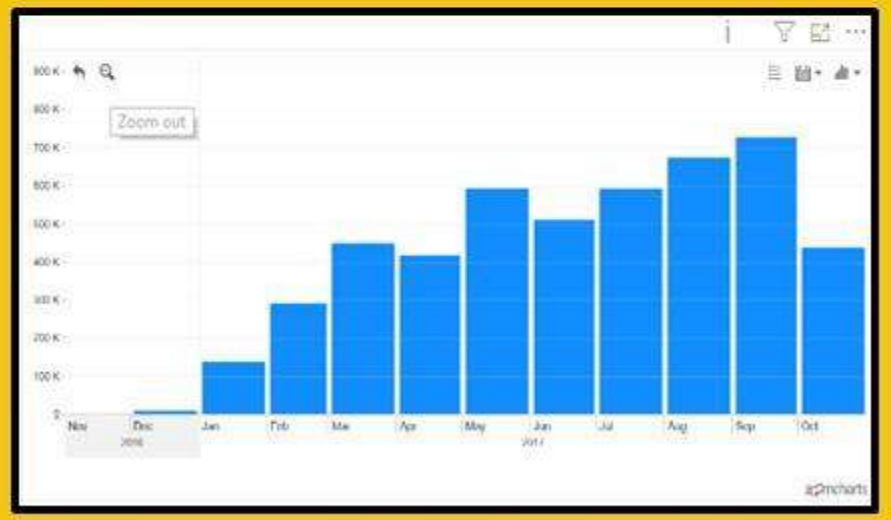
Drill-Down on Time Based Data

Problem Statement

Our client has sales data with the purchase timestamp, they need to see the exact amount of sales by every second, minute, hour, day, month, quarter and year in a visual. So, we used a drill down chart by ZoomCharts in Power BI to meet the requirement.

Power BI VS MicroStrategy

Download the custom visual from marketplace. Drag the date column to Date axis and Revenue column to values axis. Click on the column bars to drill down the hierarchy or select units from the top right icon in visual.



Create Time hierarchy in schema, with time attributes like Year, Quarter, Month, Day, hour.

Import the report in the dashboard and create any visualization add any time based attribute with any metric.

Create a report with all the attributes which you wish to show on the dashboard.

Now run the report and right click on attribute, it will give you option to drill on various levels you wish.

In Power BI, data can be represented in the form of a Column, Line or Area chart in Drill-Down chart for time based data where as in MSTR we have to create hierarchy and add attributes to report and then we can drill to only level which we have created.

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Color Change using DAX

Problem Statement

Our client wants to see the month wise sales in a line chart. The functionality must be such that data up to a specific month selected on slicer should be represented by a black line and that after the specified month by a red line.

Power BI VS MicroStrategy

Create a measure that gives sales for months before selected month and another measure that gives sales for month after selected month. Drag these measures into Line chart and set data colors as black and red respectively.

```
BlackMeasure =
VAR SelectedMonth = SELECTEDVALUE(SlicerTable[SlicerValue])
RETURN CALCULATE(SUM(Sheet1[Sales]),
Sheet1[Month]<=SelectedMonth, GROUPBY(Sheet1,Sheet1[Month]))
```

```
RedMeasure =
VAR SelectedMonth = SELECTEDVALUE(SlicerTable[SlicerValue])
RETURN CALCULATE(SUM(Sheet1[Sales]),
Sheet1[Month]>=SelectedMonth, GROUPBY(Sheet1,Sheet1[Month]))
```

1) Create a conditional metric where check if the month is greater than selected filter month value

2) Create another conditional metric where check if the month is less than selected filter month value

3) Plot these metrics on chart and manually give them different color for each metric line

In Power BI, we achieved the requirement by creating two measures in DAX where as in MSTR we need to create two conditional metrics to achieve this type of scenario.

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Maps Supported in Power BI

Problem Statement

Our client wants to explore the maps and their features in Power BI in order to show ratings of food in different country.

Map Box

1. Render Massive location data fast.
2. Ability to display multiple layer in single map.
3. Highly customizable properties.

ARCGIS – ESRI Map

1. You can pin locations(till street address) even if it is not in your dataset.
2. Adding layers to map.
3. Drive time can be calculated(ex. I want to know cafe near my place within 30 mins of drive time)
4. Pre created infographics can also be added.

Icon Map

1. Analysing and animating data.
2. Can display images/icons instead of data.

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#PowerBI, #techietalks, #mapbox, #ESRI

Courtesy- Neha Rajgadkar, Aasawari Ghate

THANK YOU

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