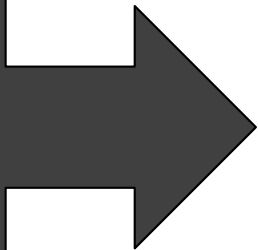




Contact us for
customized inhouse
sessions in Power BI
or MS Excel for your
team or visit our
website's Events
section for our public
sessions



Microsoft Power BI vs Excel

14 Jan 2020

At the Areef Ali & Associates Success Centre

Facilitator:

Mr. Areef Ali B.Sc., FCCA, CA, MBA

info@aaa-bsol.com

868-788-7538

www.aaa-bsol.com



What is MS Excel

A spread sheet application developed by
Microsoft launched in 1985

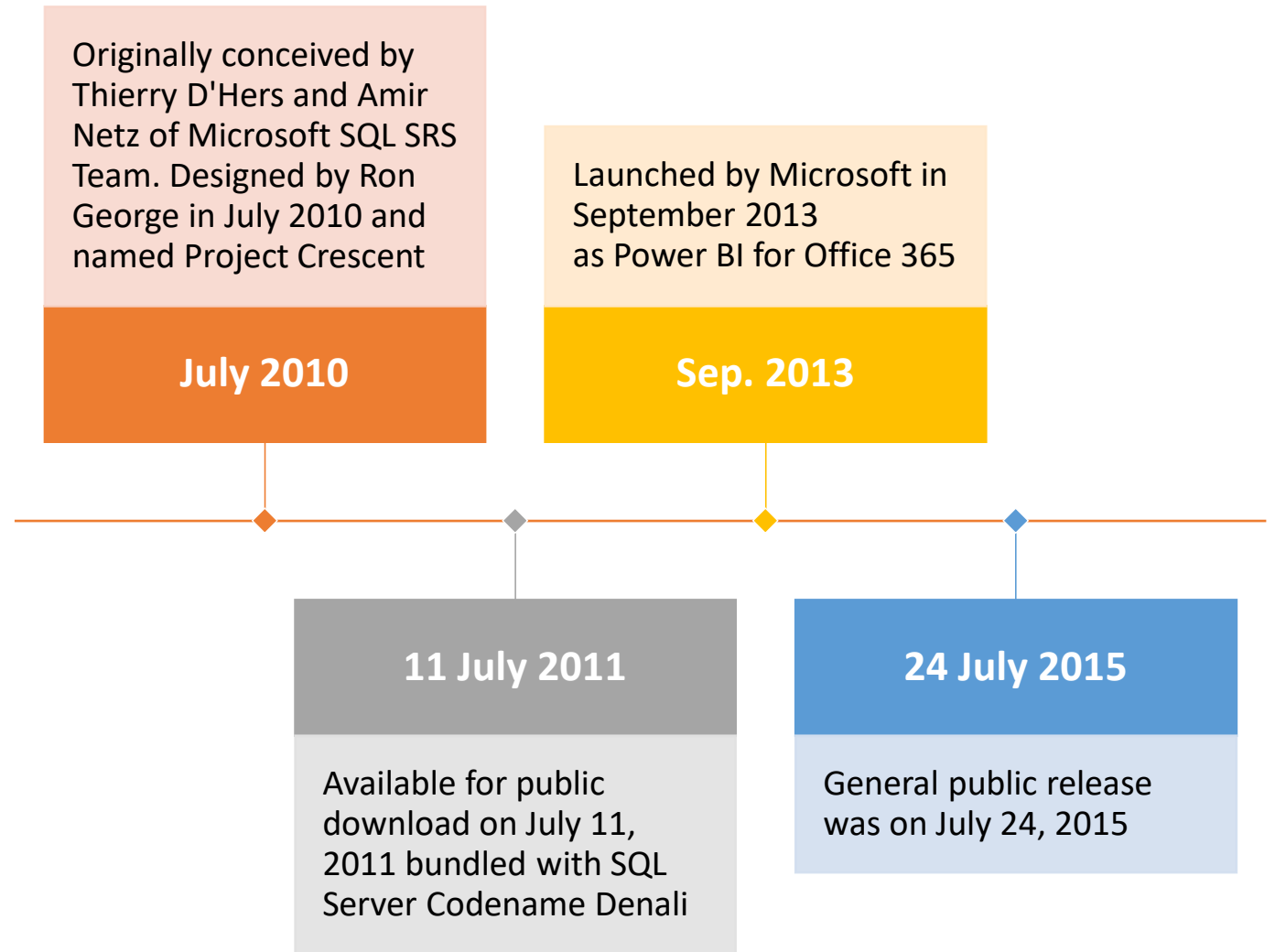


What is Power BI?

A business analytics service developed by Microsoft



History





What can it help me do?



Collect data from multiple sources



Allows for big data analysis



Has tools to clean, merge & create relational links to data sources



Create Interactive visualizations



Business intelligence capabilities

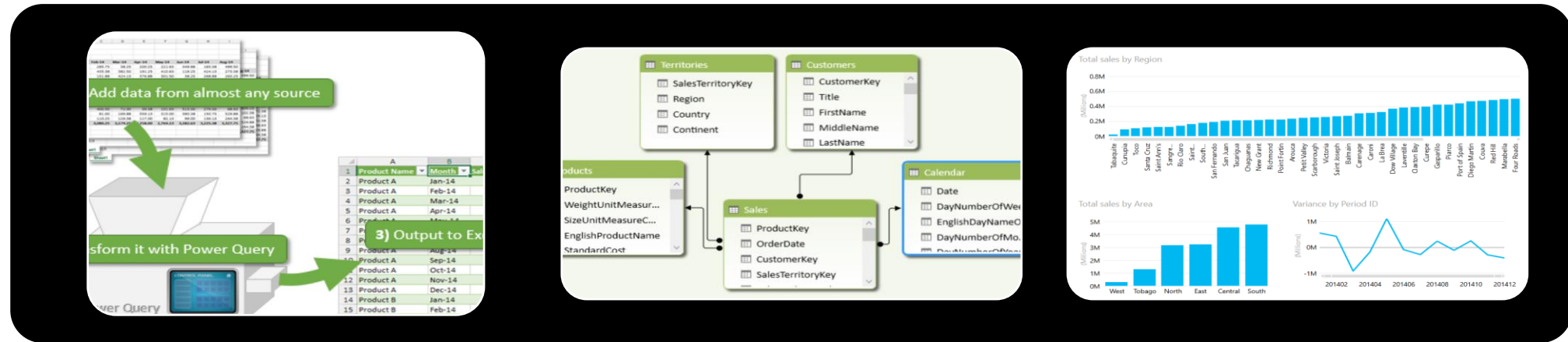


Self Service reporting



Cloud sharing of reports / On premises

Common to both MS Excel & Power BI



Power
Query

Power
Pivots

Power
View





Base Elements

Create

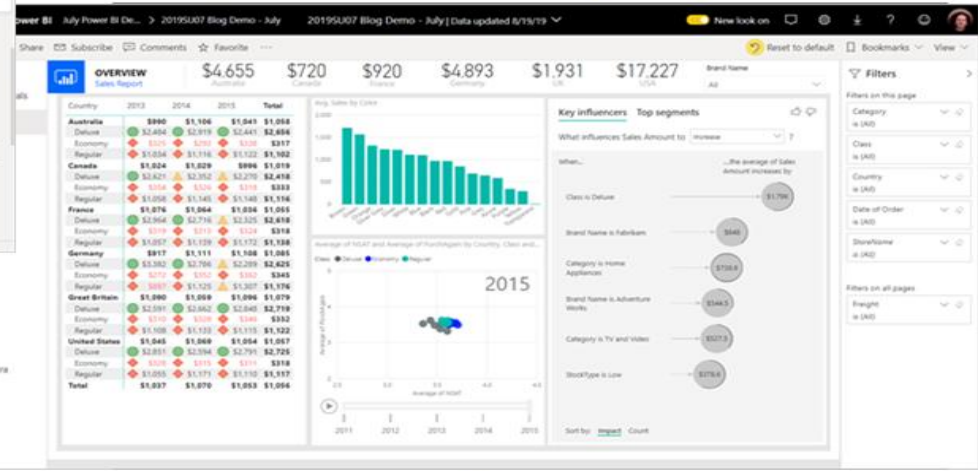
Share



Power BI service

Consume

Power BI Mobile



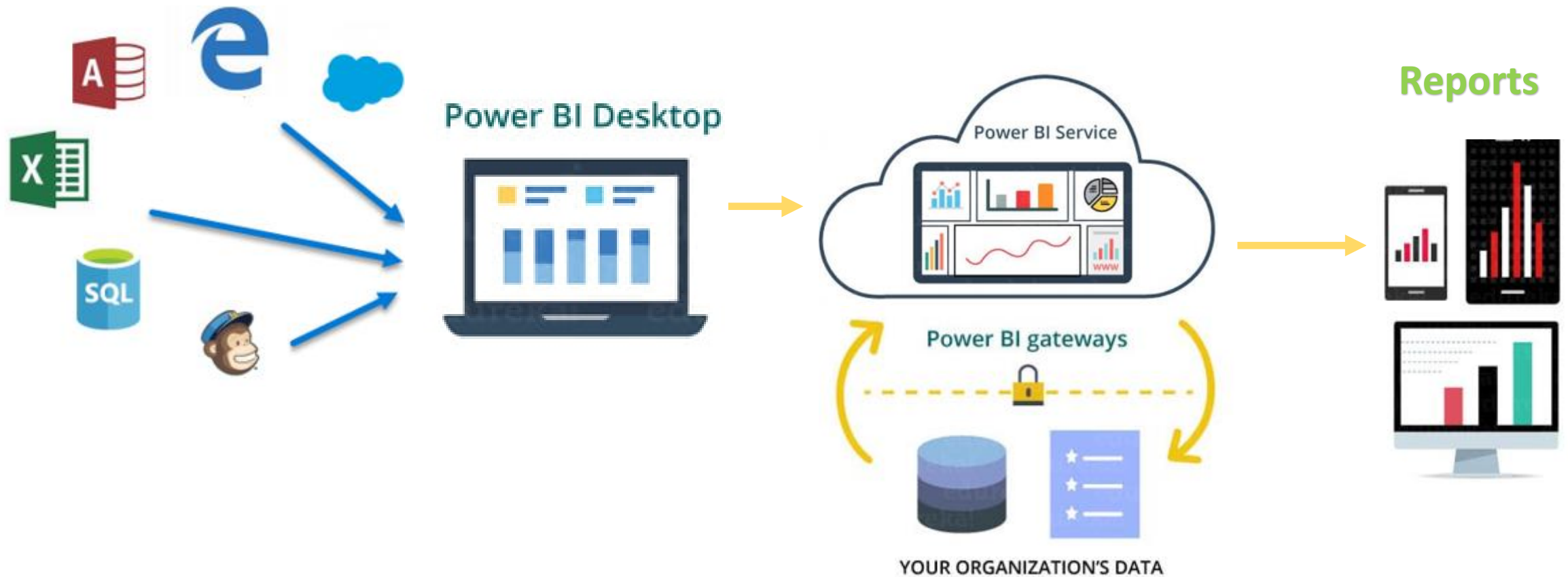


4th element

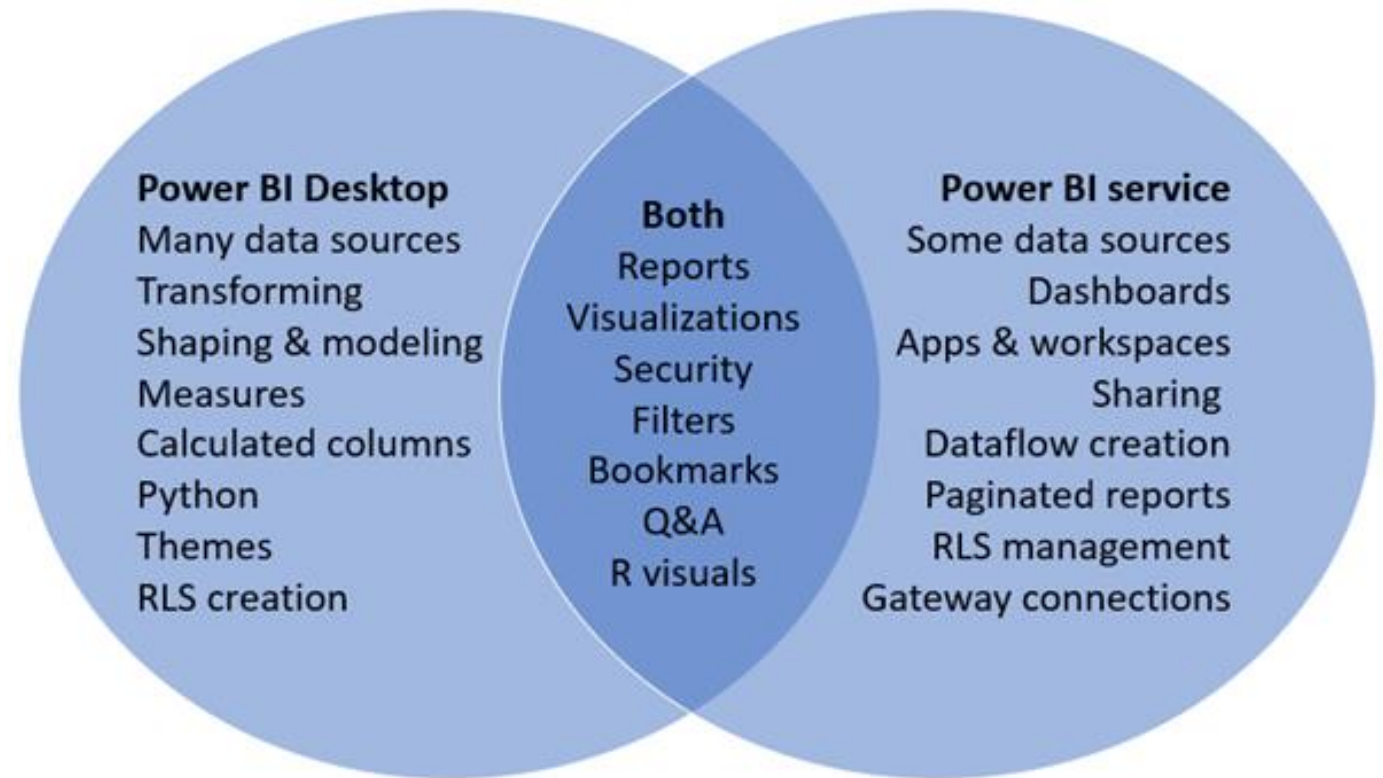
- **Power BI Report Server**, allows you to publish reports to an on-premises report server, after creating them in Power BI Desktop



Flow of Work in Power BI



Power BI: Desktop vs Service



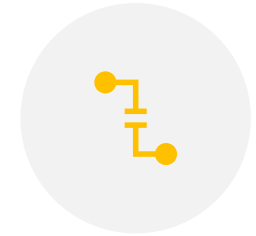
Power BI - Better than Excel for



INTERACTIVE
DASHBOARD
REPORTING



VISUALISATIONS



CROSS FILTERING OF
REPORTS



SHARING CLOUD
BASED REPORTS



ASKING QUESTIONS
AND GET ANSWERS
FROM DATA

What is Excel better at compared to Power BI?



CREATING TABULAR /
STRUCTURED REPORTS



SMALL BUSINESS
ACCOUNTING /
TRACKING / PLANNING



PERFORMING MORE
COMPLEX SENSITIVITY
/ SCENARIO ANALYSIS



STATISTICAL ANALYSIS



SOLVING
OPTIMIZATION
PROBLEMS

Power BI / MS Excel - Leveraging both



CAN UPLOAD
WORKBOOK TO POWER
BI VIA FILE / PUBLISH
MENU IN EXCEL



INTERACT WITH EXCEL
WORKBOOK JUST LIKE
EXCEL ONLINE



PIN WORKBOOK
SELECTIONS TO THE
POWER BI DASHBOARD



SHARE WORKBOOK /
SELECTED ELEMENTS TO
POWER BI



EXPORT TABLE DATA /
MODEL DATA FROM
EXCEL INTO POWERBI
DATA SETS



CREATE POWER BI
REPORTS / DASHBOARDS
FROM DATASETS



EXPORT DATA TO EXCEL
FROM VISUALS IN
POWER BI DESKTOP



CONNECT EXCEL TO
POWER BI DATASETS VIA
THE POWER BI SERVICE
& GENERATE PIVOT
REPORTS

Microsoft
currently ranked
as the #1 BI
Platform by
Gartner

Figure 1. Magic Quadrant for Analytics and Business Intelligence Platforms



Source: Gartner (February 2019)

Cost & Benefits

- On premises solution
- Clean & Transform data
- Prepare relational data models
- Create data visualizations & reports
- Share reports with others having Power BI Desktop
- Export / Print reports as PDF

Power BI Desktop

FREE

Cost & Benefits

- Self-service BI in the cloud
- Collaboration, publishing, and ad hoc analysis
- Share reports / dashboards via Power Point, web portals / web sites, from BI Service, PDF or mobile phone apps etc
- Share BI datasets with Excel for Pivot Table Analysis
- Fully managed by Microsoft

Power BI Pro

\$9.99

Monthly price per user

Note: Cost in USD for Power BI Pro is provided for guidance only. You will need to do a detailed assessment of the pros and cons compared to other BI services before deciding which one is right for you

Cost of Competing Tableau BI Service

Tableau Creator

Every deployment requires at least one Creator

\$70

user/month | billed annually

Discover insights with a powerful suite of products that support your end-to-end analytics workflow.

Includes: Tableau Desktop, Tableau Prep Builder, and one Creator license on Tableau Online.

Tableau Explorer

\$42

user/month | billed annually
min. 5 Explorers required

Explore trusted data and answer your own questions faster with full self-service analytics.

Includes: One Explorer license of Tableau Online.

Tableau Viewer

\$15

user/month | billed annually
min. 100 Viewers required

View and interact with dashboards and visualizations in a secure, easy-to-use platform.

Includes: One Viewer license of Tableau Online.

Note: Cost in USD for the Tableau BI product suite is provided for guidance only. You will need to do a detailed assessment of the pros and cons compared to the Power BI service before deciding which one is right for you

Power BI Desktop common tasks

Connect to data



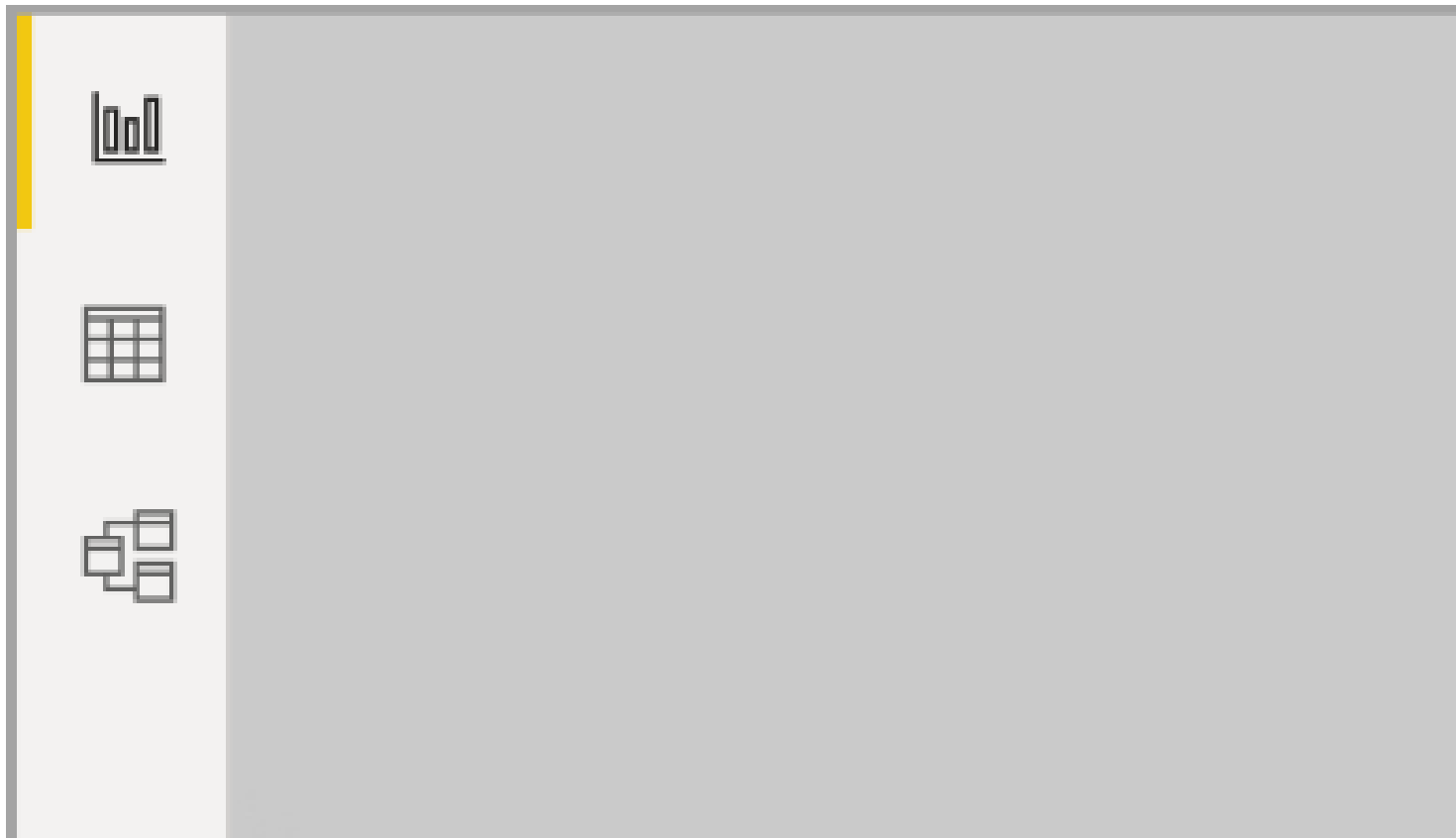
Transform, clean & link data sources to get a data model



Create visuals, such as charts or graphs



Share reports with others using the **Power BI service**



- Report View
- Data View
- Model View

Power BI Desktop views

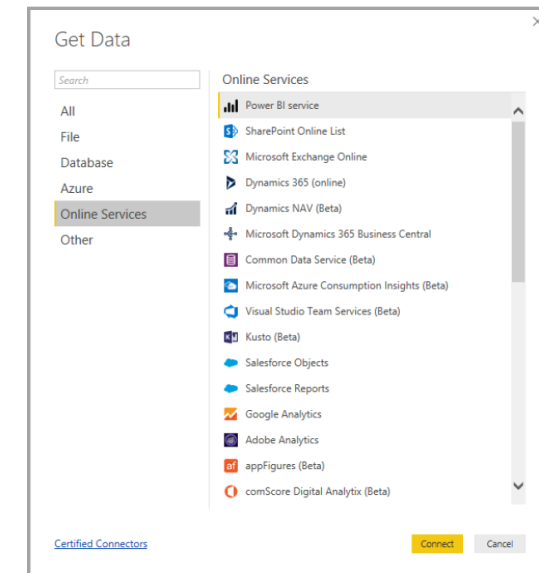
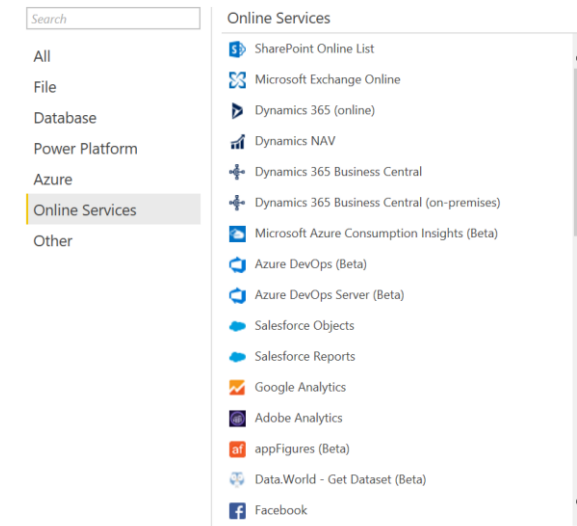
Power BI Desktop

– Gather data

Home / Get Data

/ More menu

Get Data



Power BI Desktop

– Transform & Clean data

Home / Edit Queries

Safety & Medical sales report - Power Query Editor

File Home Transform Add Column View Help

Close & Apply New Source Recent Enter Data Data source settings Manage Parameters Refresh Advanced Editor Choose Remove Keep Remove Split Group Data Type: Text Merge Queries Append Queries Combine Files Combine

Close New Query Data Sources Parameters Query Manage Columns Manage Rows Reduce Rows Sort Transform Use First Row as Headers Replace Values

Queries [13] This preview may be up to 4 days old. Refresh

HR Data - All years

Actual sales 2019

Actual sales 2020

rep_details

Area

Budget 2019

Budget 2020

Actual sales - All Years

Budgets - All Years

Actual dates

Budget dates

Calendar dates

Geomap data

= Table.SelectRows(#"Renamed Columns", each true)

	Employee Name	Street address	Town	Title	Region
1	Aaron A Allen	P.O. Bag 262, TT Post	Port of Spain	Mr.	Tobago
2	Aaron A Allen	P.O. Bag 262, TT Post	Port of Spain	Mr.	Tobago
3	Aaron J Hughes	1 Lady Young Road	Port of Spain	Ms.	Guyana
4	Aaron J Hughes	1 Lady Young Road	Port of Spain	Ms.	Guyana
5	Aaron L King	39 Pembroke Street	Port of Spain	Mr.	Trinidad
6	Aaron L King	39 Pembroke Street	Port of Spain	Mr.	Trinidad
7	Aaron L King	P.O. Bag 262, TT Post	Port of Spain	Mr.	Tobago
8	Aaron L King	P.O. Bag 262, TT Post	Port of Spain	Mr.	Tobago
9	Abby Subram	18 St Albans Road	Arima	Ms.	St. Lucia
10	Abby Subram	18 St Albans Road	Arima	Ms.	St. Lucia
11	Abby K Kovár	P.O. Bag 262, TT Post	Port of Spain	Mr.	Trinidad
12	Abby K Kovár	P.O. Bag 262, TT Post	Port of Spain	Mr.	Trinidad
13	Abby L Sai	18 St Albans Road	Arima	Ms.	Trinidad
14	Abby L Sai	18 St Albans Road	Arima	Ms.	Trinidad
15	Abigail James	45 Grey Street	Couva	Mr.	St. Lucia
16	Abigail James	45 Grey Street	Couva	Mr.	St. Lucia
17	Abigail Smith	89 Fairview Dr.	St. James	Ms.	Guyana
18	Abigail Smith	89 Fairview Dr.	St. James	Ms.	Guyana
19	Abigail M Perry	52 Park Street	Port of Spain	Ms.	Guyana
20					

14 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED ON SUNDAY

Query Settings

PROPERTIES

Name

HR Data - All years

All Properties

APPLIED STEPS

Source

Navigation

Changed Type

Transposed Table

Merged Columns

Transposed Table1

Promoted Headers

Changed Type1

Unpivoted Other Columns

Split Column by Position

Changed Type2

Trimmed Text

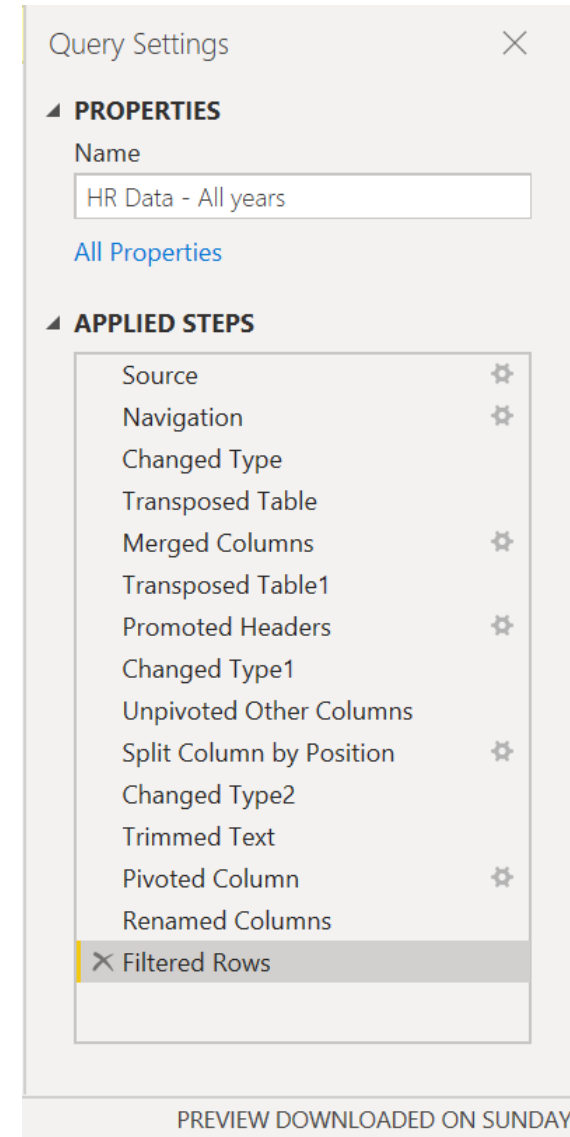
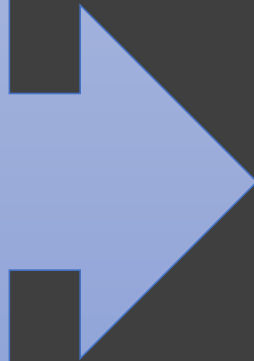
Pivoted Column

Renamed Columns

Filtered Rows

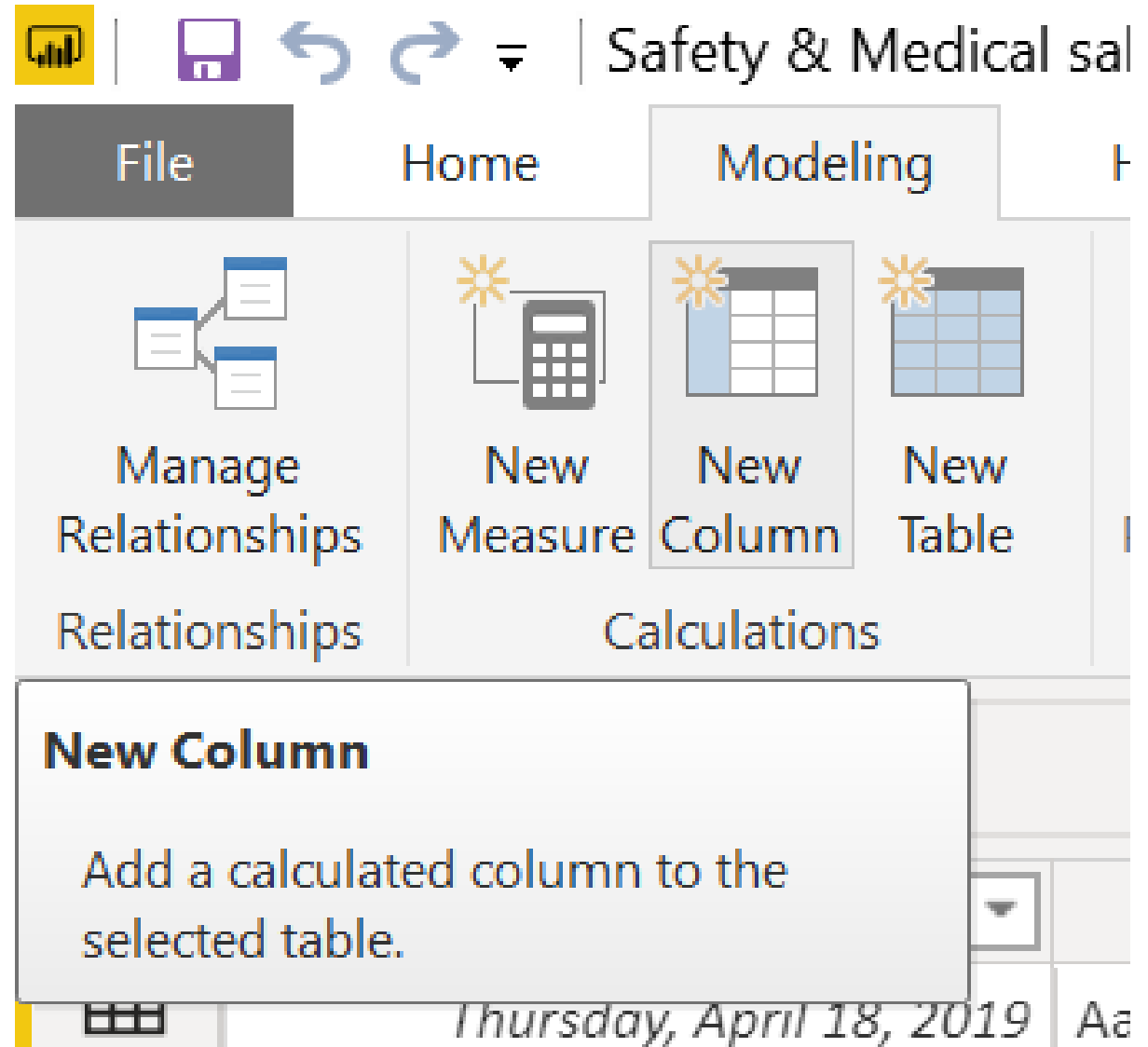
Power BI Desktop – Query Settings pane Home / Edit Queries

- Query settings properties maintains an audit trail of the steps performed to clean / transform the raw data to get it in a tabular form for merging / “relational modelling with other tables.



Power BI Desktop –
Calculated columns in Tables
Data View: Modeling / New
Column

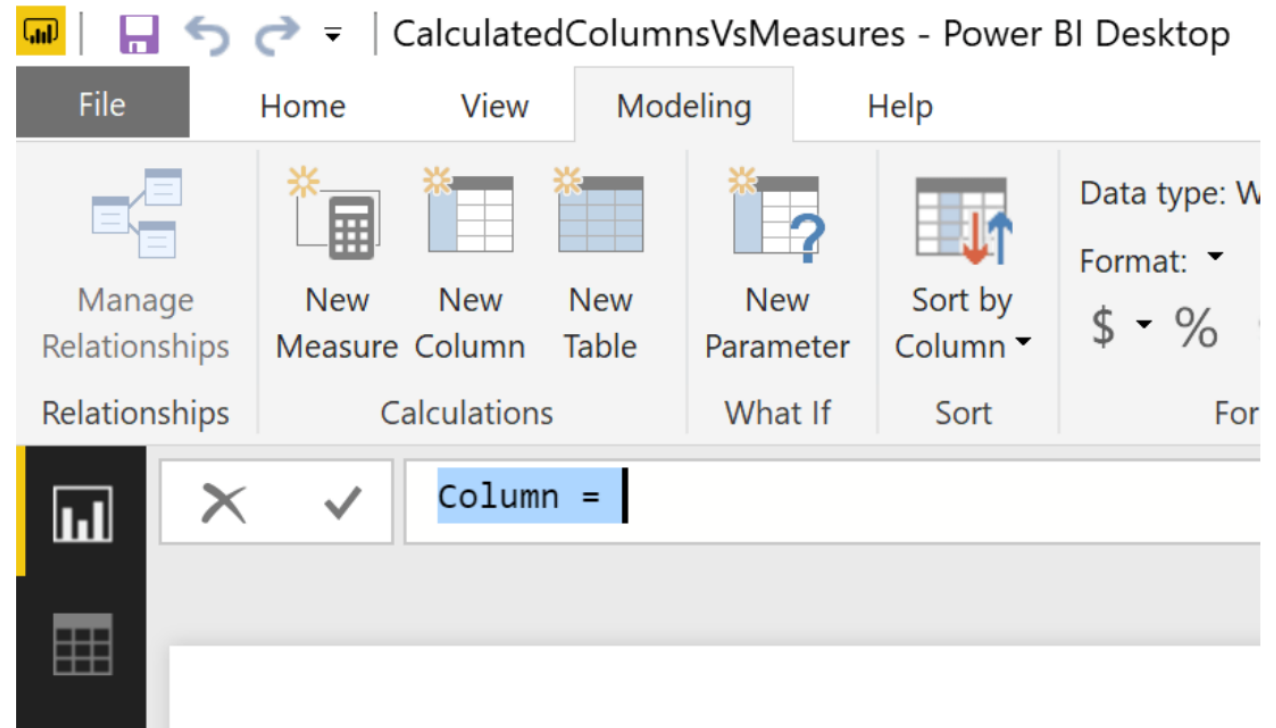
- Calculated columns are formulas computed per row based on data that has already been loaded into your data model i.e. from Table columns



Power BI Desktop – Measures Modeling / New Measure

- The formula bar will then appear, and you will need to specify your calculated column formula

Formula to be specified



Margin Column = Sales[Revenue] - Sales[Cost]

Power BI Desktop – Calculated columns in Tables

- The formula bar will then appear and you will need to specify your calculated column formula

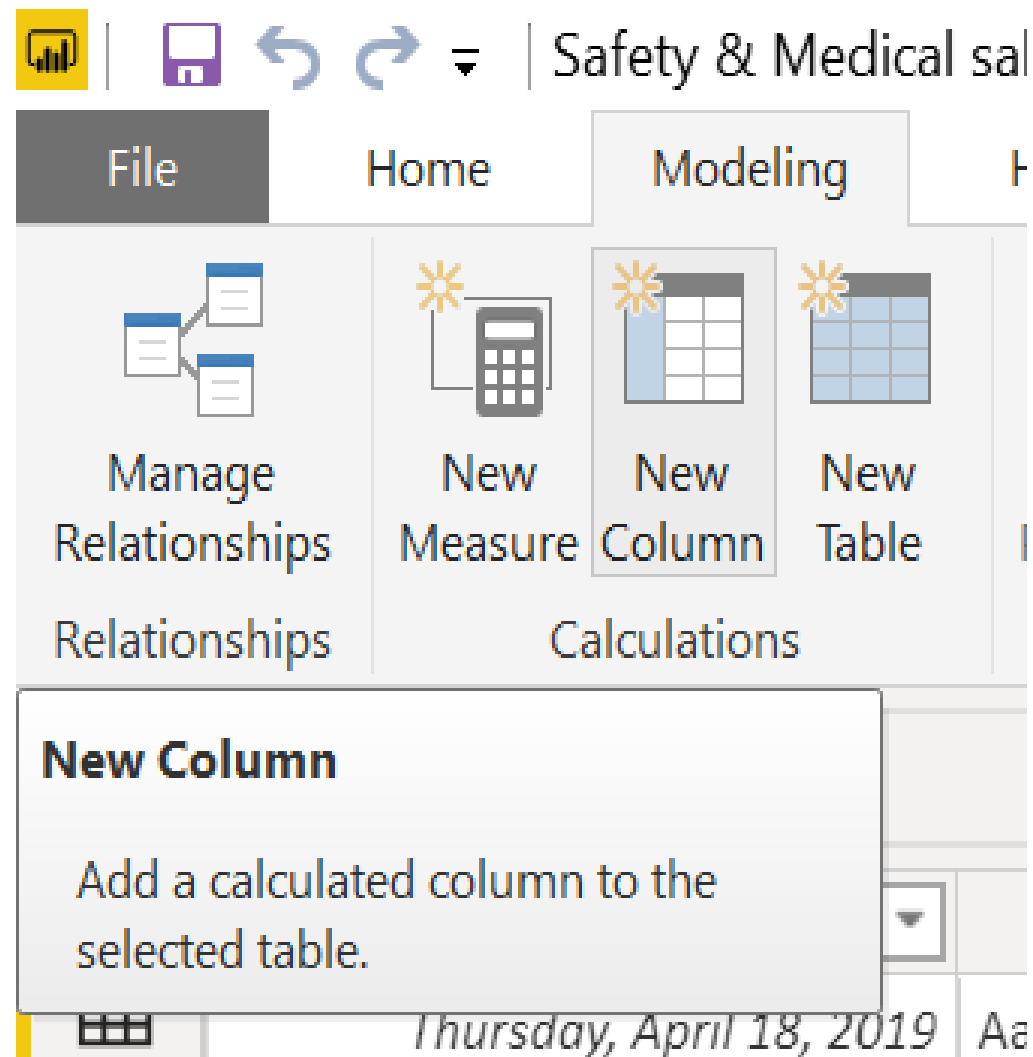
The screenshot shows the Power BI Desktop interface with the 'Modeling' tab selected. The ribbon includes options like 'Manage Relationships', 'New Measure', 'New Column', 'New Table', 'New Parameter', 'Sort by Column', and 'Data type'. The formula bar at the top displays the formula: `Margin Column = Sales[Revenue] - Sales[Cost]`. Below the formula bar, a table is visible with columns: Product, Revenue, Cost, and Margin Column. The 'Margin Column' column is highlighted in yellow.

Product	Revenue	Cost	Margin Column
A Pro	\$250	\$180	\$70
B Comp	\$600	\$200	\$400
A Comp	\$900	\$810	\$90

Power BI Desktop – Measures Modeling / New Measure

- Measures are formulas which can be defined once & do not need to be created / stored for each record row. It displays only for the rows / columns shown in the report

Measure formula



Margin Measure = SUMX (Sales, Sales[Revenue] - Sales[Cost])

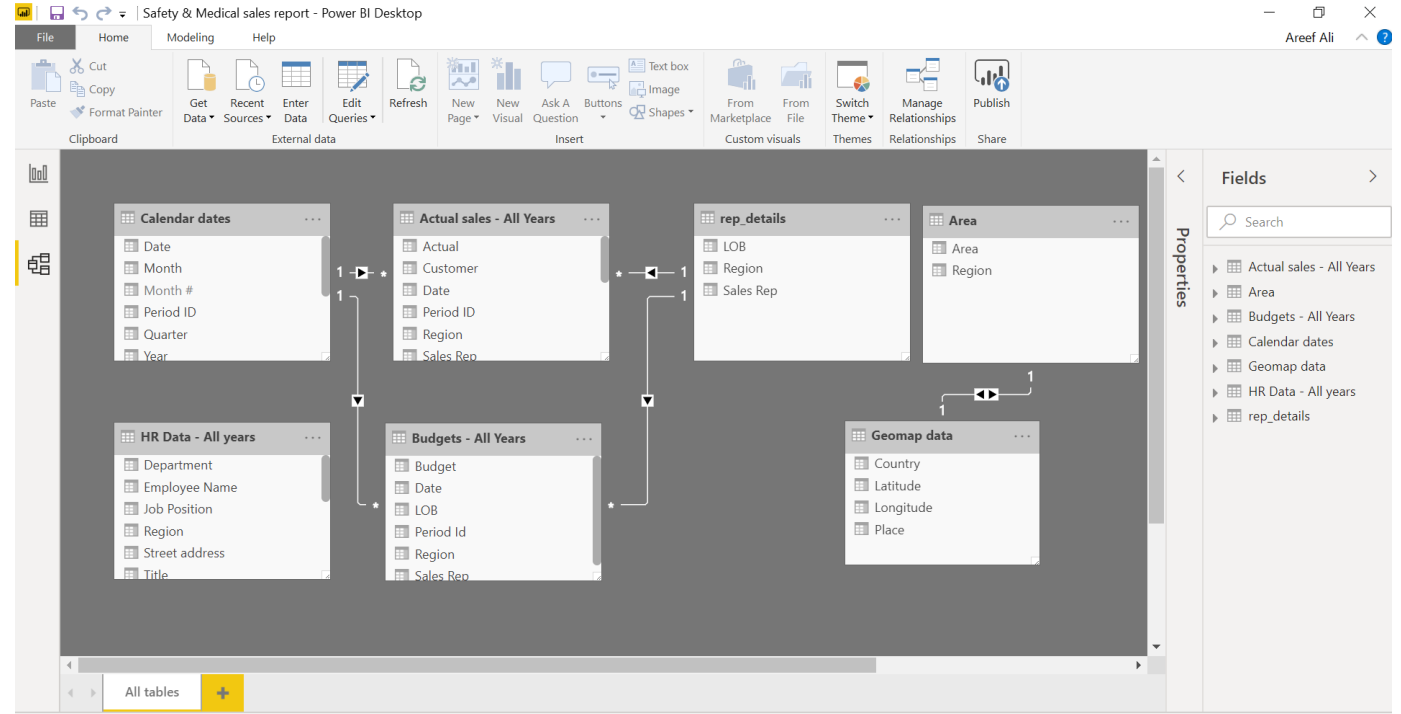
Power BI Desktop – Measures

The screenshot shows the Power BI Desktop interface with the 'Modeling' tab selected. The formula bar displays the measure: `Margin Measure = SUMX (Sales, Sales[Revenue] - Sales[Cost])`. Below the formula bar, a table with 4 columns (Product, Revenue, Cost, Margin Column) and 3 rows of data is shown. The 'FIELDS' pane on the right lists the 'Sales' table with fields: Cost, Margin Column, Margin Measure (highlighted), Product, and Revenue. The status bar at the bottom indicates: 'TABLE: Sales (3 rows) COLUMN: Margin Measure (0 distinct values)'.

Product	Revenue	Cost	Margin Column
A Pro	\$250	\$180	\$70
B Comp	\$600	\$200	\$400
A Comp	\$900	\$810	\$90

Power BI Desktop

– Relationships / Data Modelling Model View

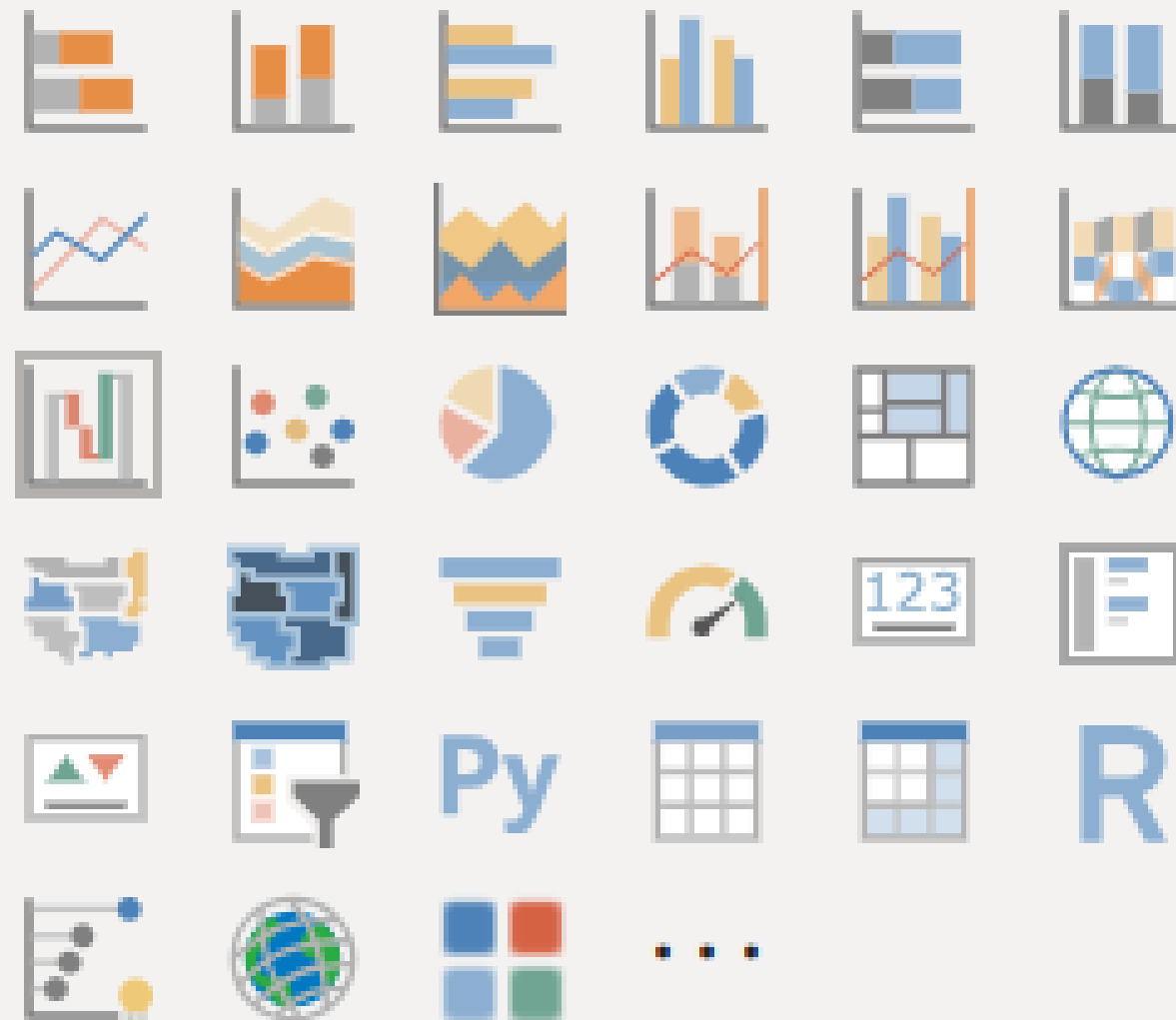


Power BI Desktop Visualisation

- Report View - Many Different types of visuals to choose from

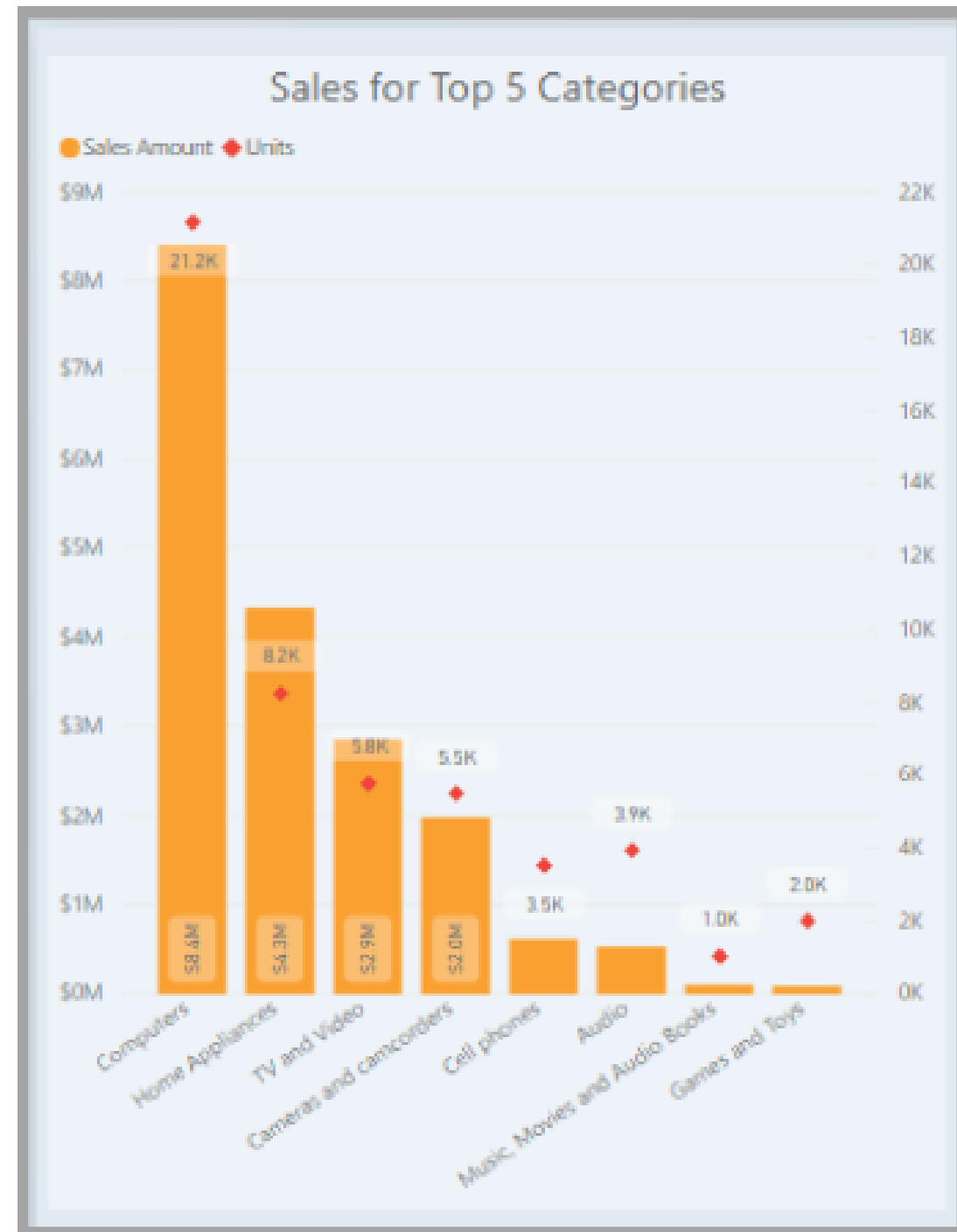


Visualizations



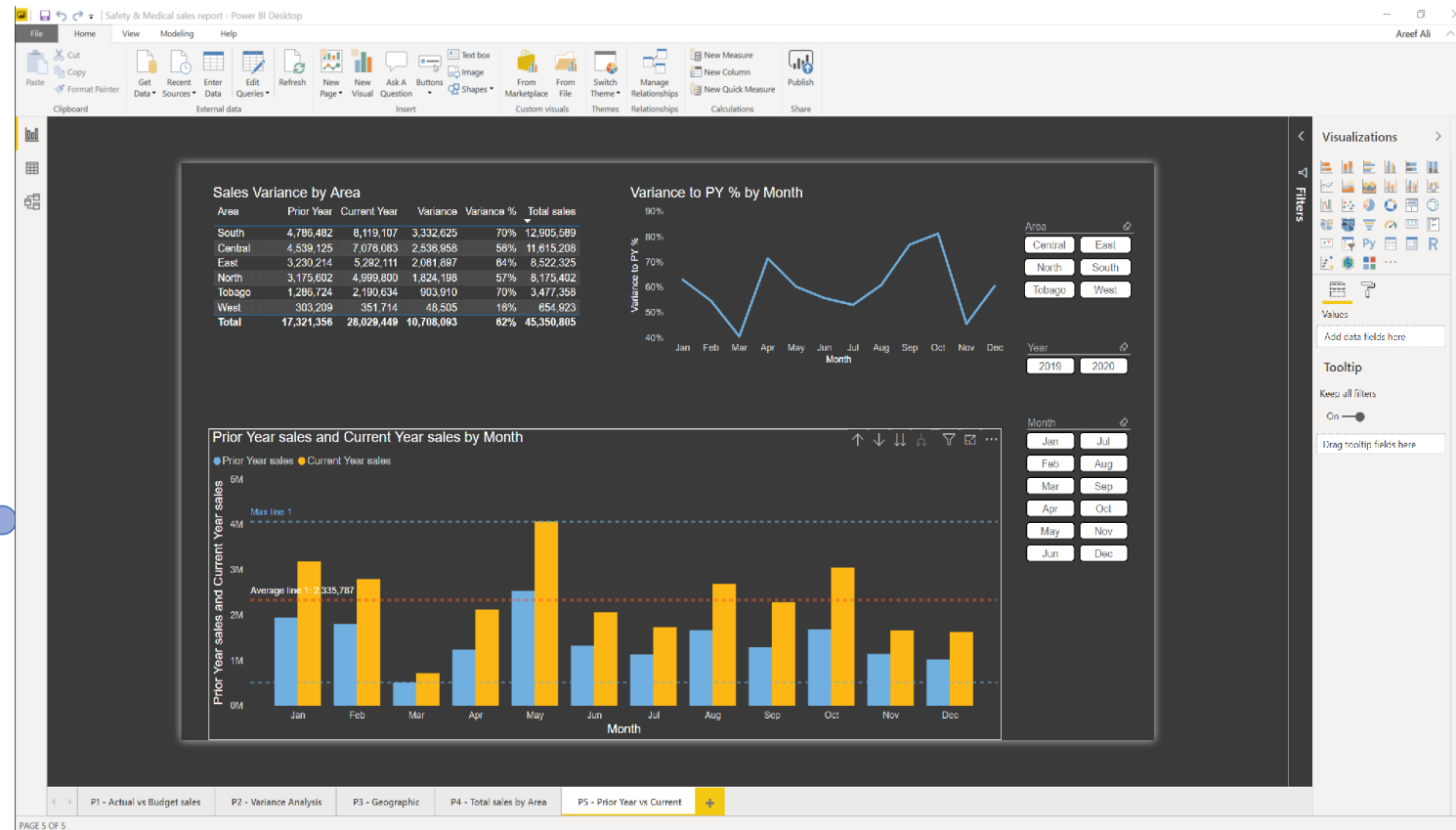
Power BI Desktop – Visualisation Report View

- To create or change a visual, just select the visual icon from the **Visualizations** pane. If you have a visual selected on the report canvas, the selected visual changes to the type you selected. If no visual is selected, a new visual is created based on your selection



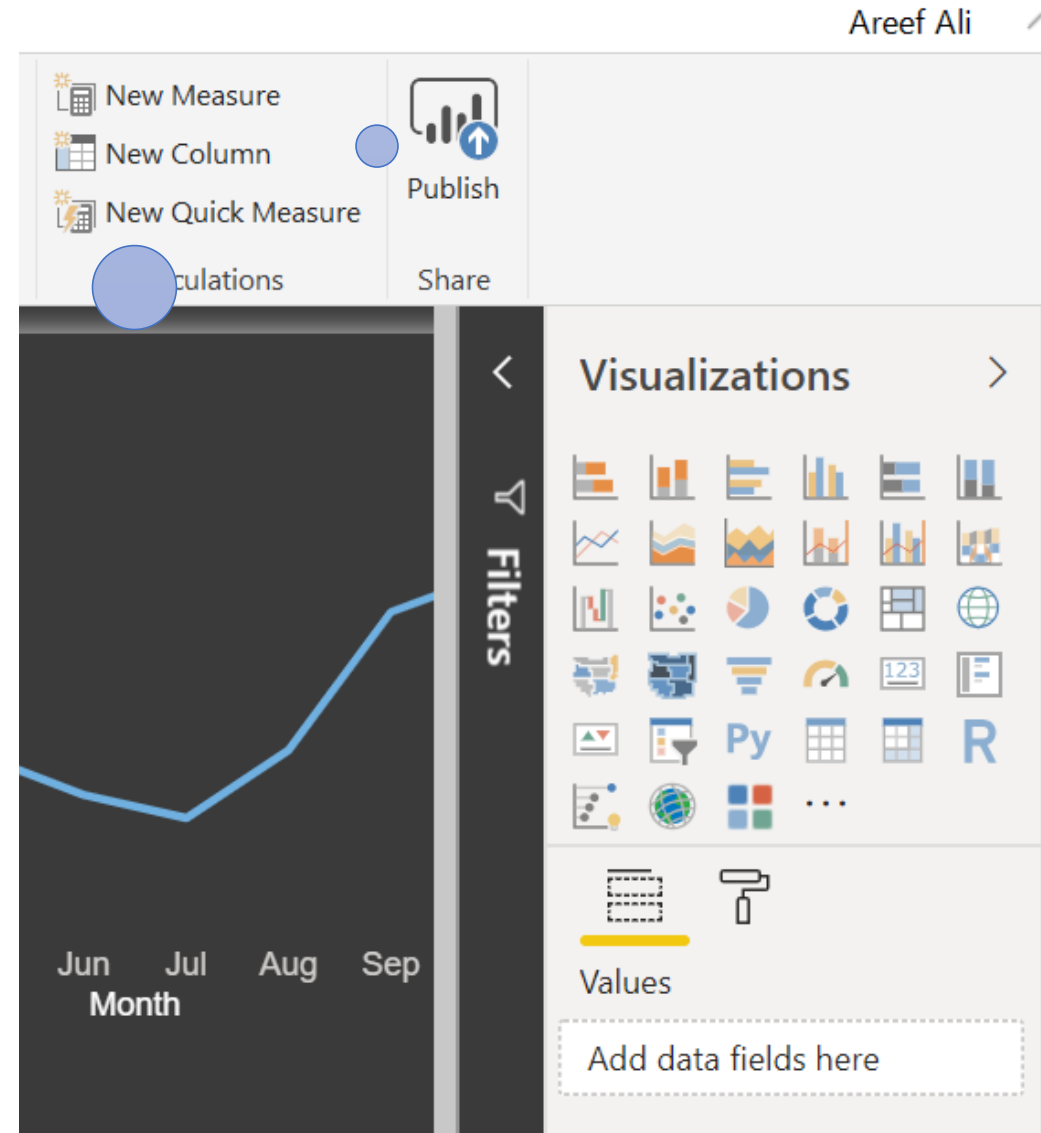
Power BI Desktop – Visualisation Report View

- Add multiple visuals to the report canvas to get a report



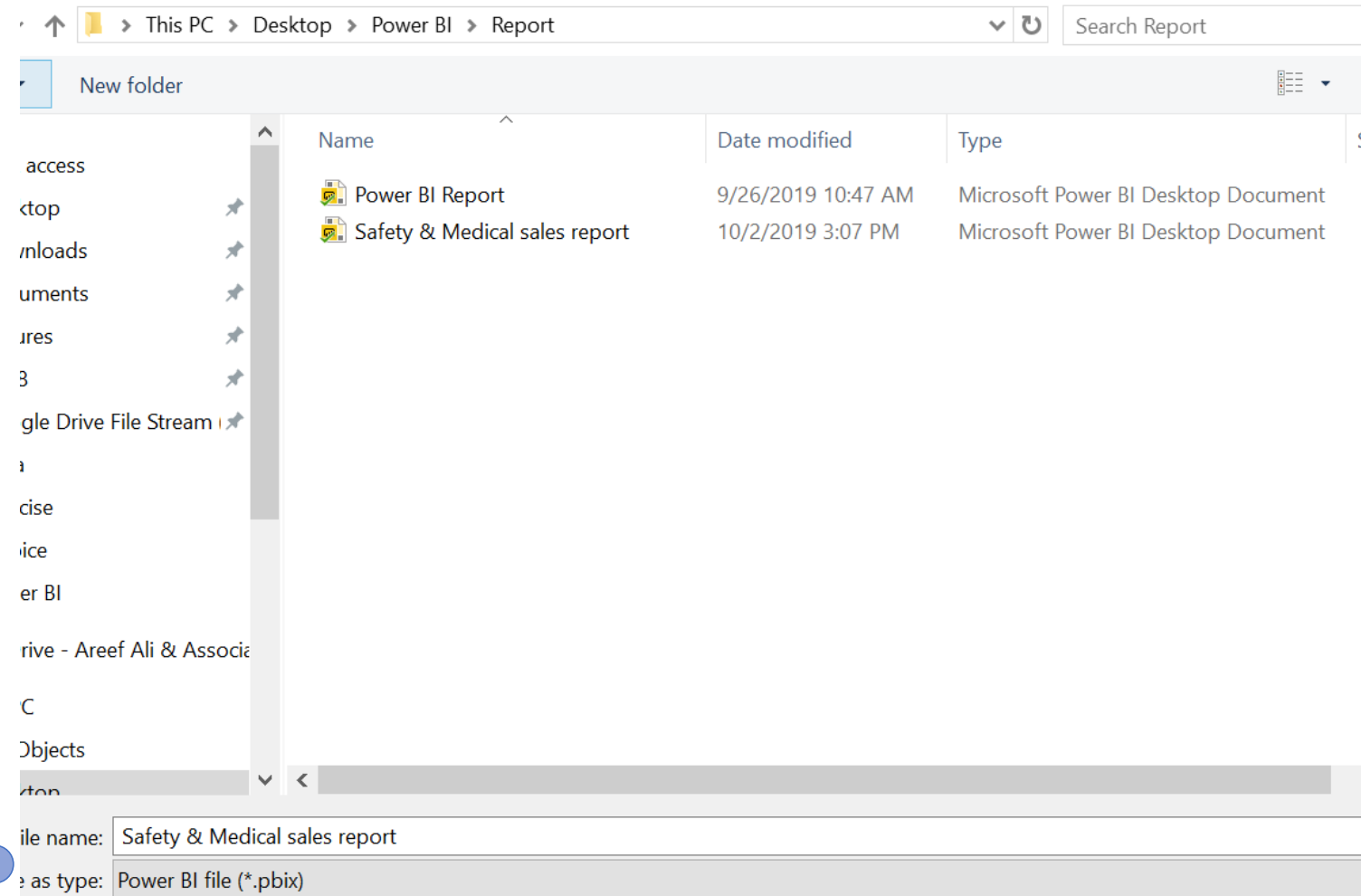
Power BI Desktop – Sharing Reports Publish to Cloud Service

- Click **Publish** to load the report to the **Power BI service**, and cloud share it with anyone in your organization who has a Power BI license



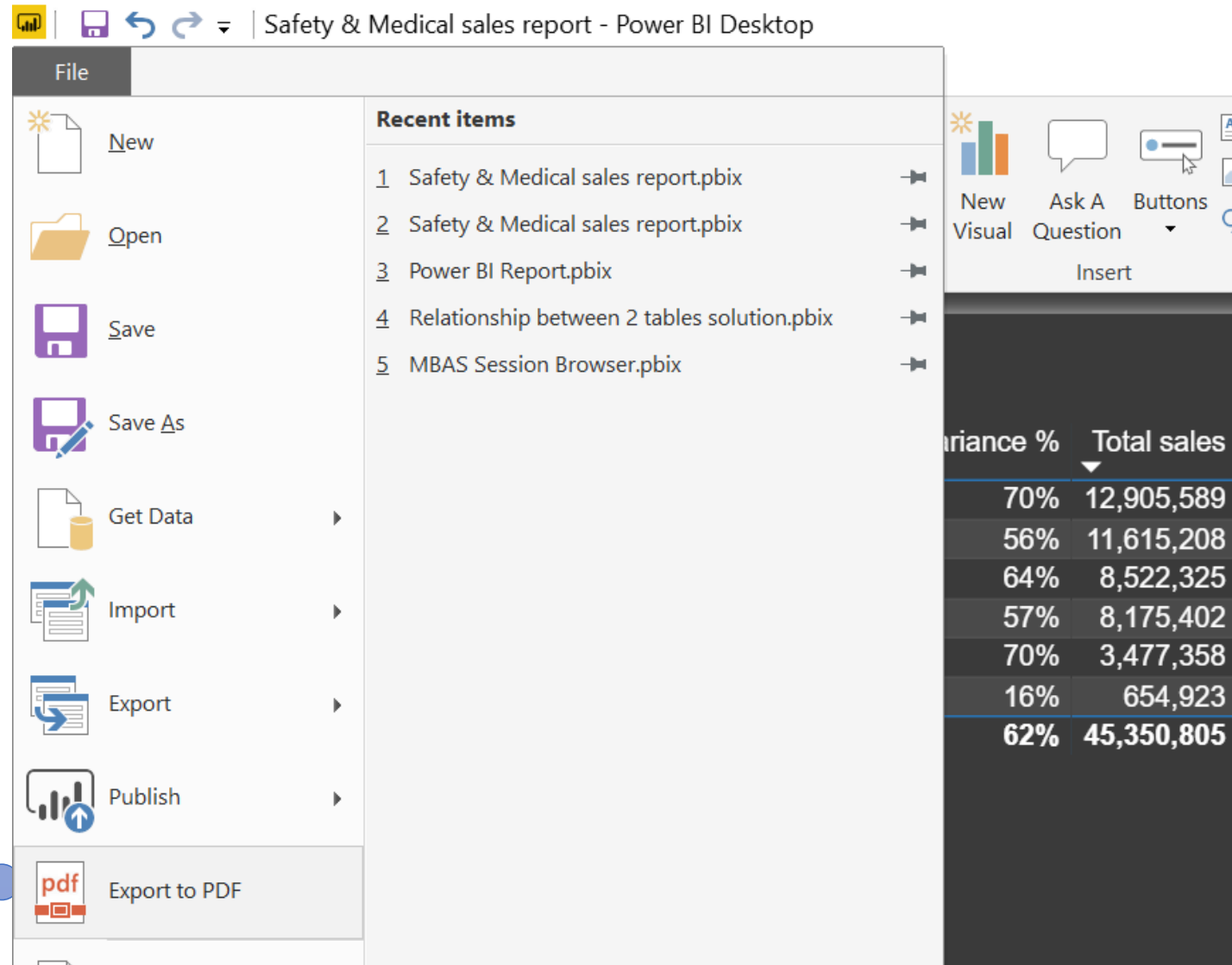
Power BI Desktop – Sharing Reports File / Save as PBIX

- Click File / Save as to save your Power BI Desktop file to a local drive & share it with anyone who has Power BI Desktop installed



Power BI Desktop – Sharing Reports File / Export to PDF

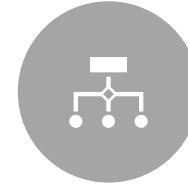
- Can be exported as a PDF file, saved to a local folder & shared directly from Power BI Desktop



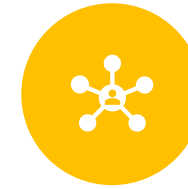
How you can Share your work - Power BI service



WORKSPACES.
COLLABORATE WITH
COWORKERS ON
REPORTS AND
DASHBOARDS



APPS. BUNDLE THOSE
DASHBOARDS AND
REPORTS INTO *APPS* AND
DISTRIBUTE THEM IN
YOUR ORGANIZATION.



**CREATE *SHARED*
DATASETS.** COWORKERS
CAN USE FOR THEIR
OWN REPORTS, IN THEIR
OWN WORKSPACES.



**CREATE A *TEMPLATE*
APP.** USE TO
DISTRIBUTE TO
EXTERNAL POWER BI
USERS, VIA MICROSOFT
APPSOURCE.



**POWER BI SERVICE OR
POWER BI MOBILE**
APPS. SHARE
DASHBOARDS OR
REPORTS WITH A FEW
PEOPLE



EXPORT REPORTS. MS
POWERPOINT OR AS A
PDF



PRINT REPORTS. FOR
YOUR MEETINGS



EMBED REPORTS.
SECURE PORTALS OR
PUBLIC WEB SITES.

Lets look at some examples



Artificial intelligence in Excel - Ideas



Artificial intelligence in Power BI -
Decomposition Tree



Pattern recognition - PQ - Period ID
extraction from dates



Fuzzy logic matching - Power BI & Excel