

Power BI Overview

- Why Power BI?
- How to install it?
- Power BI Introduction
- Understanding the Interface



Why Power BI?

- Connectivity of more than **50** input data sources
- Can easily handle high data volume and frequency
- Working with multiple tables by simple relationship
- Offers attractive design options
- Easily Analyze Data
- Automatic data refresh (real time analytics)
- Simple report/dashboard sharing

Business intelligence (BI)

software is a set of business analytics solutions used by companies to **retrieve, analyze, and transform data into useful business insights**, usually within easy-to-read visualization like charts, graphs, and dashboards

Why Power BI?



Segment	(All)		Segment	(All)	
Row Labels	Sum of Sales	Sum of Profit	Row Labels	Sum of Sales	Sum of Profit
Jan	676788.927	73440.45944	Furniture	4110451.898	285082.7302
Feb	554649.8913	72932.27822	Office Supplies	3787492.513	518595.8279
Mar	760517.976	91873.57966	Technology	4744557.498	663778.7332
Apr	695978.4108	73822.41864	Grand Total	12642501.91	1467457.291
May	915492.8309	106970.0379			
Jun	1262080.917	144604.7684			
Jul	752306.3022	76525.69502			
Aug	1294314.958	154593.4394			
Sep	1431753.403	169705.8221			
Oct	1185227.69	158903.8959			
Nov	1546728.156	175983.1895			
Dec	1566662.447	168101.7071			
Grand Total	12642501.91	1467457.291			



Customer Segment

400K (20.8%)

658K (34.18%)

402K (20.88%)

464K (24.14%)

Customer Segment

Corporate

Home Office

Consumer

Small Business

Sales by Month

0.4M

0.2M

0.0M

January

February

March

April

May

June

Month

Profit by Month

0.2M

0.1M

0.0M

January

February

March

April

May

June

Month

Sales vs Profit Daily

50K

0K

0.0M

0.1M

Sales

Profit

Product Category

712K (37.01%)

661K (34.33%)

551K (28.65%)

Product Category

Furniture

Office Supplies

Technology

Sales vs Profit Per State

California

New York

Illinois

Texas

Florida

Washington...

Michigan

Ohio

District o...

Massach...

Pennsylv...

Alabama

State or Province

0.0M

0.2M

Sales and Profit

Sales vs Profit Per City

Los Ange...

New York...

Washingt...

Boston

Seattle

Detroit

Philadelp...

Chicago

Madison

Miami

San Diego

Greenville

City

0.0M

0.1M

0.2M

Sales and Profit

Select or drag fields to populate this visual

Central

East

South

West

Excel Vs Power BI

	EXCEL	POWER BI
01. Tabular reports	Ideal for creating reports in tabular format.	Creating tabular reports is more limited.
02. Duplicated tables	Allows you to display duplicated tables.	Cannot display duplicated tables.
03. Reports	Simpler and less attractive reports than those of Power BI.	More beautiful, personalized, attractive, and interactive reports.
04. Crossed filters	No advanced cross-filtering between graphics.	Supports advanced cross-filtering features between charts.

Excel Vs Power BI

05. Charts and visuals	newest charting features, but cannot be connected to the data models.	and KPIs. Includes better visuals than Excel and allows data to be analyzed visually
06. Automatic update	Data is not automatically updated.	Data is automatically updated.
07. Availability	Reports are limited to a specific number of users.	Reports can be worked on by a large number of users, whether they are experts or not.
08. Analytics	Fewer data analysis options than Power BI.	More powerful analytical capabilities than Excel.
09. Data model	Ideal for building complex data models easily.	Ability to work on simple and structured data models.
10. Separate tables	It is difficult to connect separate tables.	Separate tables can be easily related to each other.

How to Install Power BI Desktop?

Get from
Microsoft Store



Get from
Official Website. [Link](#)

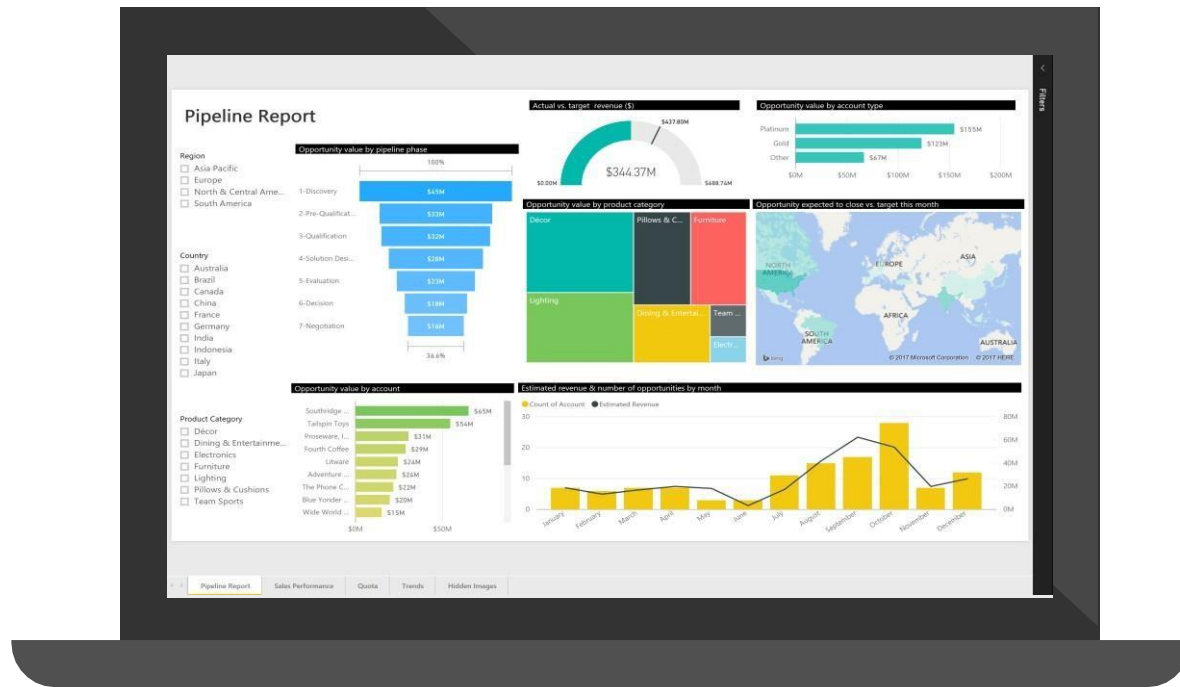


Power BI Pro license required to publish Power BI reports to Power BI Report Server

Power BI Introduction



Effortlessly import the data and create interactive reports to visualize your data and gain insights



Variety of built in and custom visuals

Filter at a visual, page, or report level

Drill to details

Power BI Workflow

Create



Create interactive reports
in Power BI Desktop

Publish

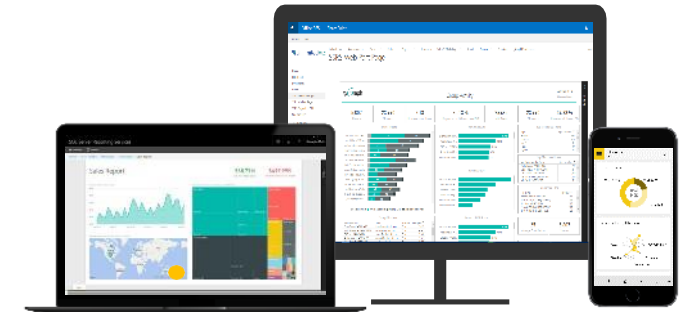


Publish to Power BI Report Server

Consume



View and interact in
Power BI Mobile or web browser



Consume Reports in Multiple Ways

Mobile apps

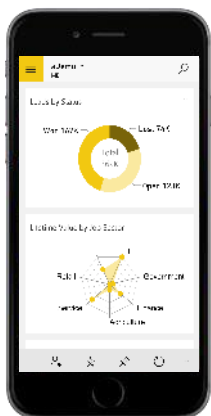
Windows



Android

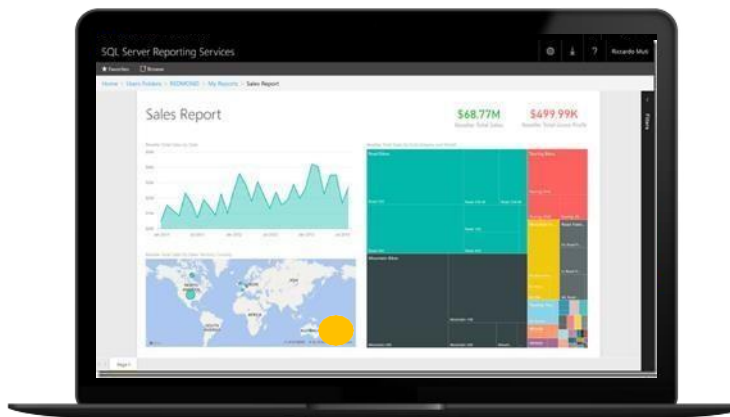


iOS



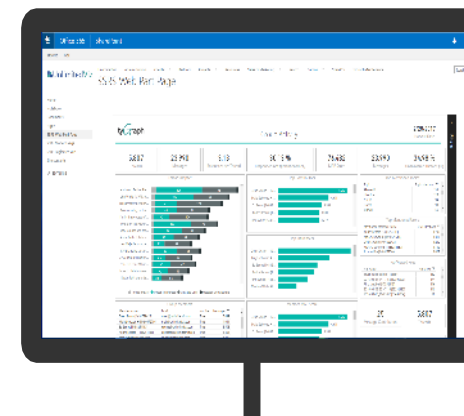
Web portal

HTML5

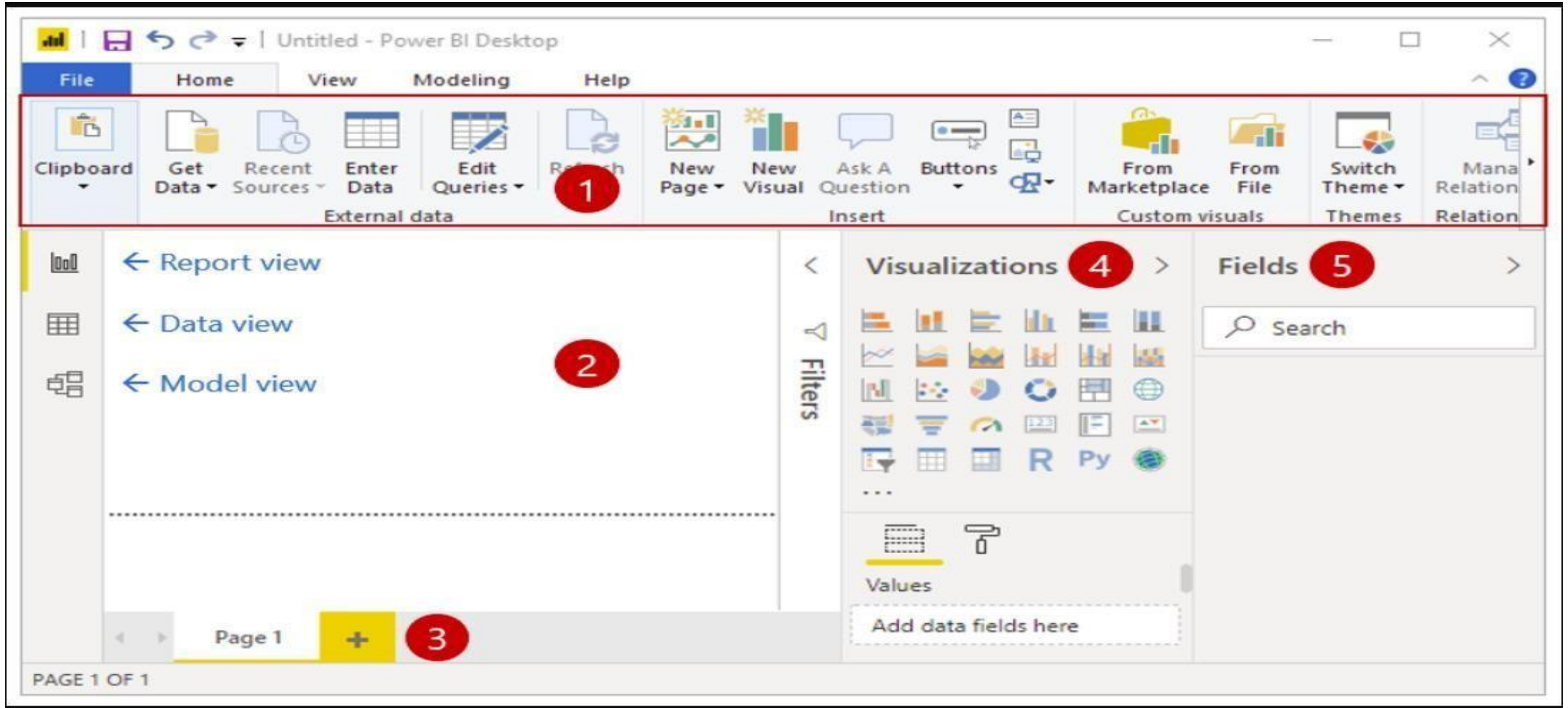


Embedded In your apps

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Interface

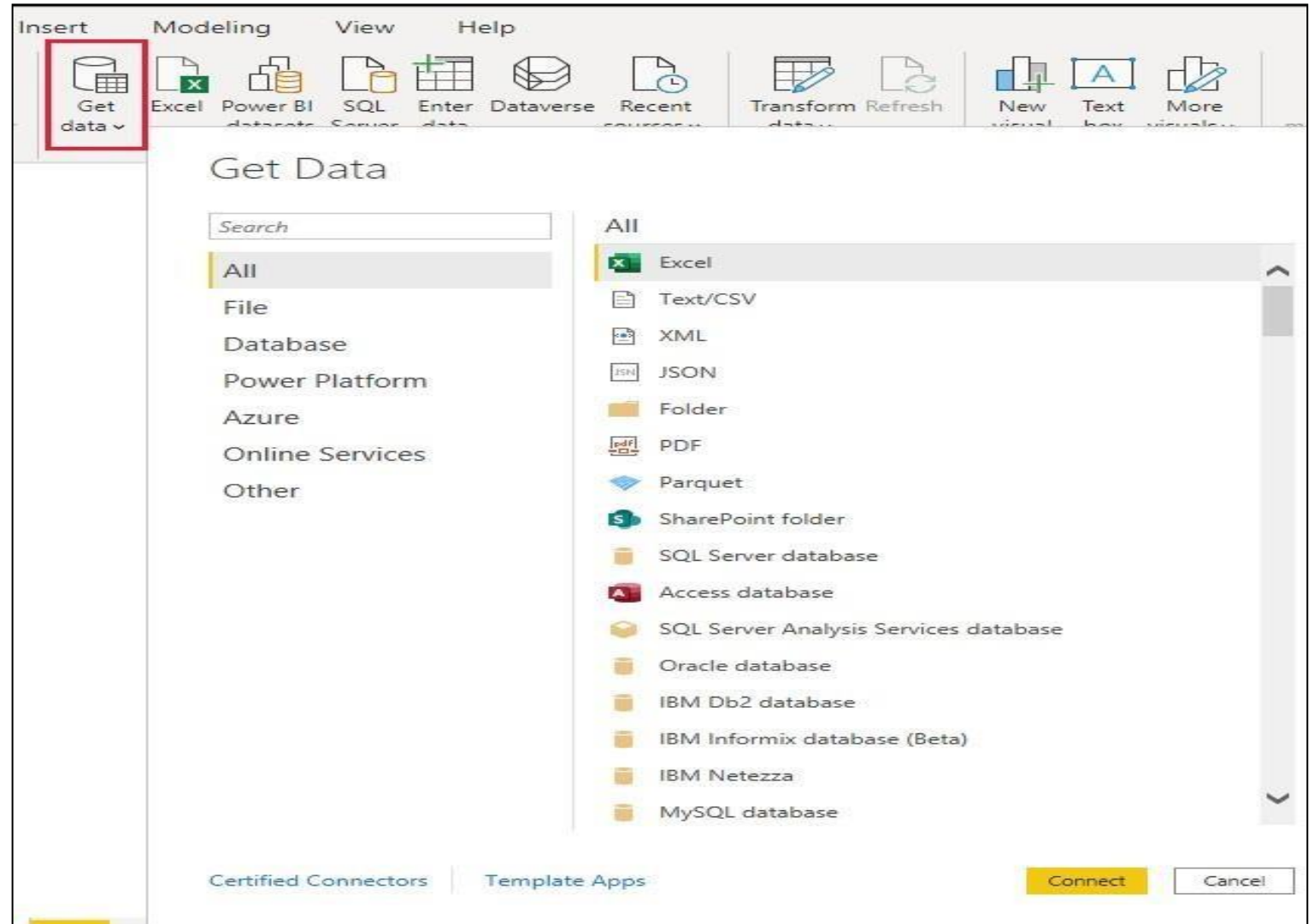


Creating a Dashboard (steps)

- Get/Import Data
- Study Data
- Transform Data using Power Query
- Building Relationships
- Listing Requirements
- Analysis/Calculations using DAX
- Creating Visualizations
- Publish

1. Data Sources (Getting/Importing Data)

- With Power BI Desktop, you can connect to data from many different sources.
- You connect to data by using the **Home** ribbon.
- To show the **Most Common** data types menu, select the **Get data** button label or the down arrow.



2. Data View (Study Data)

- Data view helps you inspect, explore, and understand data in your Power BI Desktop model.
- It's different from how you view tables, columns, and data in Power Query Editor.
- With Data view, you're looking at your data after it has been loaded into the model.

The screenshot displays the Power BI Desktop interface in Data View. The ribbon at the top includes 'File', 'Home', 'Help', and 'Table tools'. The 'Table tools' ribbon has sections for 'Calendars', 'Relationships', and 'Calculations'. The main area shows a data table with columns: Units Sold, Manufacturing Price, Sale Price, Gross Sales, Discounts, Sales, COGS, Profit, Date, and Month. The table contains 700 rows of data. The left sidebar shows the 'Fields' pane with a search bar and a list of tables, including 'financials' and 'Sheet1'. Red callouts 1 through 5 highlight specific UI elements: 1 points to the Data View icon in the left sidebar, 2 points to a cell in the data table, 3 points to the 'Table tools' ribbon, 4 points to the 'Fields' pane, and 5 points to the 'Sheet1' table in the Fields pane.

Units Sold	Manufacturing Price	Sale Price	Gross Sales	Discounts	Sales	COGS	Profit	Date	Month
1513	3	350	529550	0	529550	393380	136170	Monday, December 1, 2014	
1006	10	350	352100	0	352100	261560	90540	Sunday, June 1, 2014	
1725	10	350	603750	0	603750	448500	155250	Friday, November 1, 2013	
1513	10	350	529550	0	529550	393380	136170	Monday, December 1, 2014	
1006	120	350	352100	0	352100	261560	90540	Sunday, June 1, 2014	
1527	250	350	534450	0	534450	397020	137430	Sunday, September 1, 2013	
2750	260	350	962500	0	962500	715000	247500	Saturday, February 1, 2014	
1210	3	350	423500	4235	419265	314600	104665	Saturday, March 1, 2014	
1397	3	350	488950	4889.5	484060.5	363220	120840.5	Wednesday, October 1, 2014	
2155	3	350	754250	7542.5	746707.5	560300	186407.5	Monday, December 1, 2014	
2155	10	350	754250	7542.5	746707.5	560300	186407.5	Monday, December 1, 2014	
943.5	250	350	330225	3302.25	326922.75	245310	81612.75	Tuesday, April 1, 2014	
1397	250	350	488950	4889.5	484060.5	363220	120840.5	Wednesday, October 1, 2014	
2852	3	350	998200	19964	978236	741520	236716	Monday, December 1, 2014	
2852	10	350	998200	19964	978236	741520	236716	Monday, December 1, 2014	
2966	120	350	1038100	20762	1017338	771160	246178	Tuesday, October 1, 2013	
2877	120	350	1006950	20139	986811	748020	238791	Wednesday, October 1, 2014	
2877	250	350	1006950	20139	986811	748020	238791	Wednesday, October 1, 2014	
266	250	350	93100	1862	91238	69160	22078	Sunday, December 1, 2013	

Table: Sheet1 (700 rows)

3. Transform Data using Power Query

Power BI Transform Data

- Changing Table Name
- Change Header Row
- Replace Null Value
- Remove Unnecessary Rows
- Rename Column Headings
- Separating Columns
- Append Queries
- Merge Columns
- Change Data Type
- Conditional Column

The screenshot displays the Power Query Editor window for a file named 'Van ArsdalSales'. The interface includes a ribbon with tabs: File, Home, Transform, Add Column, View, and Help. The 'Transform' tab is active, showing various transformation options like 'Choose Columns', 'Remove Columns', 'Keep Rows', 'Remove Rows', 'Sort', 'Split Column', 'Group By', 'Data Type', 'Use First Row as Headers', 'Replace Values', 'Merge Queries', 'Append Queries', and 'Combine Files'.

The 'Queries [11]' pane on the left shows a list of queries, with 'Date' selected. A red arrow points from the 'Date' query to the main data table. A tooltip 'Selected table' is visible over the table header.

The main data table displays a list of dates from 01/01/2000 to 14/01/2000, along with columns for MonthNo, MonthName, MonthID, Month, Quarter, and Year. A red arrow points from the 'Date' query to the 'Date' column header.

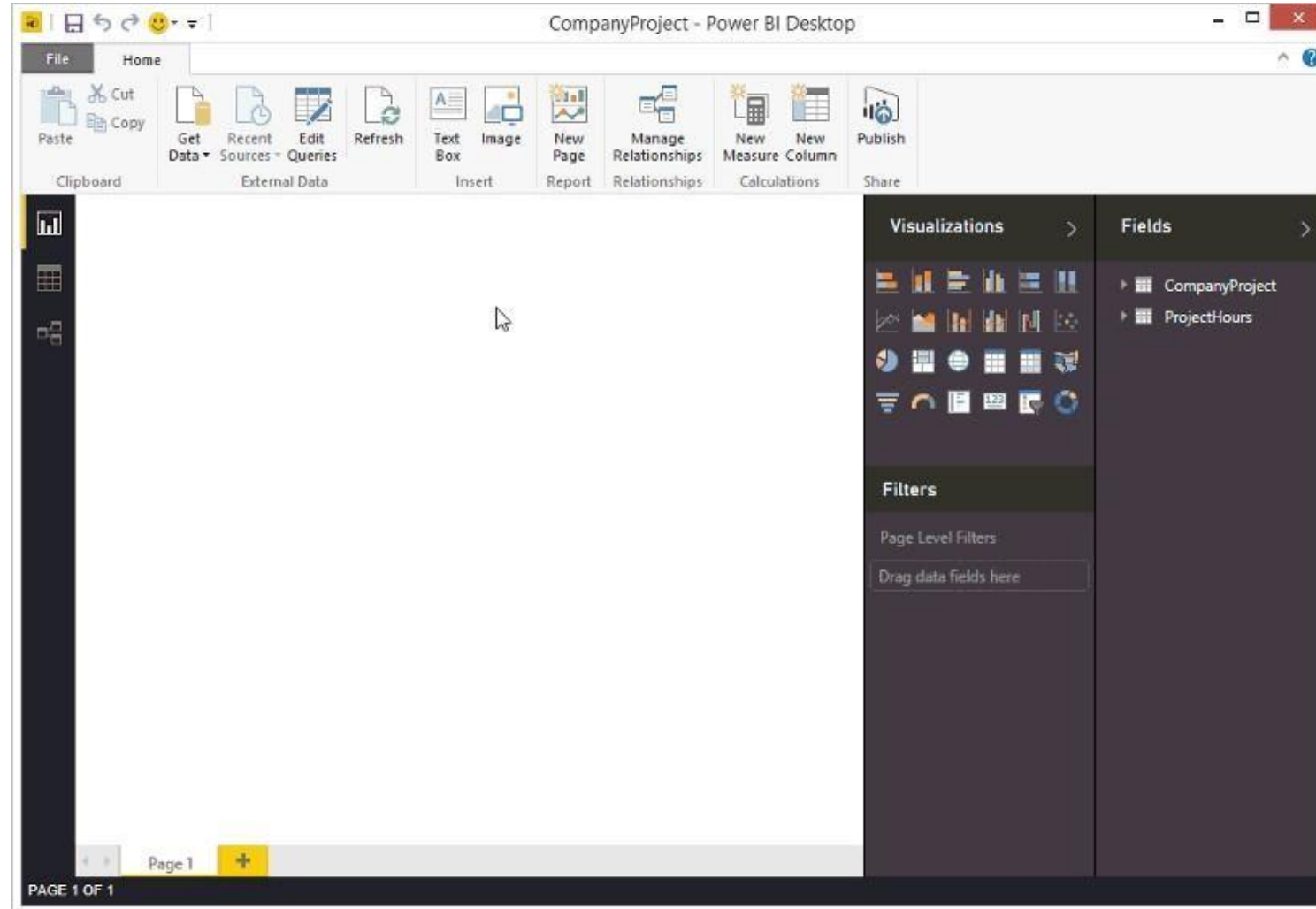
The 'QUERY SETTINGS' pane on the right shows the 'APPLIED STEPS' list, which includes 'Source', 'Navigation', 'Changed Type', and 'Filtered Rows'. A red arrow points from the 'Filtered Rows' step to the main data table. A tooltip 'List of steps applied' is visible over the 'Filtered Rows' step.

The formula bar at the top shows the following M code: `= Table.SelectRows("#Changed Type", each [Date] > #date(1999, 12, 31))`

	Date	MonthNo	MonthName	MonthID	Month	Quarter	Year
1	01/01/2000	1	Jan	200001	Jan-00	Q1	2000
2	02/01/2000	1	Jan	200001	Jan-00	Q1	2000
3	03/01/2000	1	Jan	200001	Jan-00	Q1	2000
4	04/01/2000	1	Jan	200001	Jan-00	Q1	2000
5	05/01/2000	1	Jan	200001	Jan-00	Q1	2000
6	06/01/2000	1	Jan	200001	Jan-00	Q1	2000
7	07/01/2000	1	Jan	200001	Jan-00	Q1	2000
8	08/01/2000	1	Jan	200001	Jan-00	Q1	2000
9	09/01/2000	1	Jan	200001	Jan-00	Q1	2000
10	10/01/2000	1	Jan	200001	Jan-00	Q1	2000
11	11/01/2000	1	Jan	200001	Jan-00	Q1	2000
12	12/01/2000	1	Jan	200001	Jan-00	Q1	2000
13	13/01/2000	1	Jan	200001	Jan-00	Q1	2000
14	14/01/2000	1	Jan	200001	Jan-00	Q1	2000

4. Create a Relationship with AutoDetect (1/2)

- If your query has two or more tables when the data is loaded.
- If there are any potential relationships, they are created automatically.
- You can still use the **Manage relationships** dialog box to manually create or edit relationships.

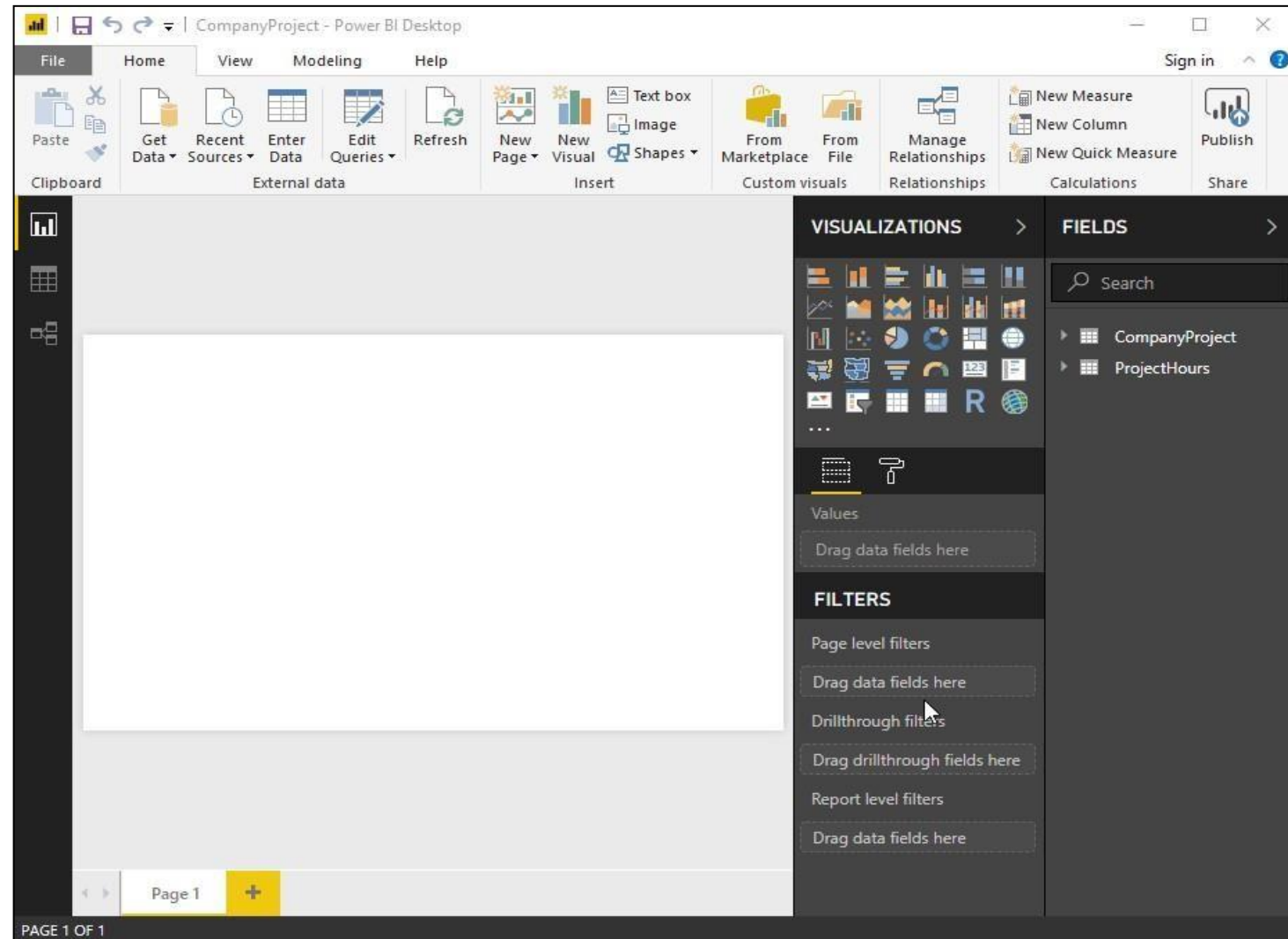


4. Create a Relationship Manually (2/2)

- On the **Modeling** tab, select **Manage relationships > New**.
- In the **Create relationship** dialog box, in the first table drop-down list, select a table. Select the column you want to use in the relationship.
- In the second table drop-down list, select the other table you want in the relationship. Select the other column you want to use, and then select **OK**.

Edit a relationship

- On the **Modeling** tab, select **Manage relationships**.
- In the **Manage relationships** dialog box, select the relationship, then select **Edit**.



5. Listing the Requirements

Requirements can be given by:

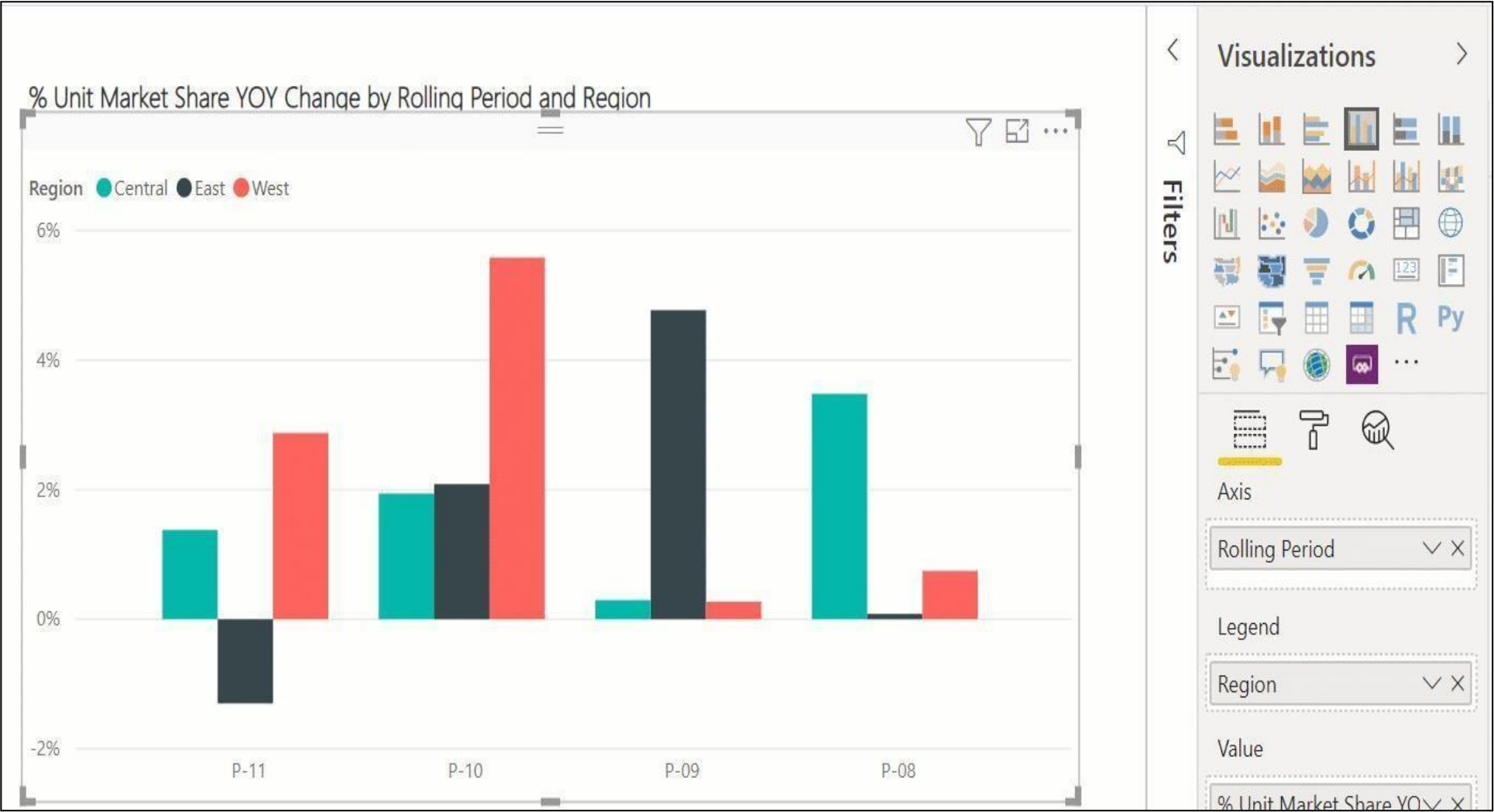
- Clients
- Business Heads / Manager
- Various departments
- Yourself (As Business Analyst)



Requirements explored by Business Analyst:

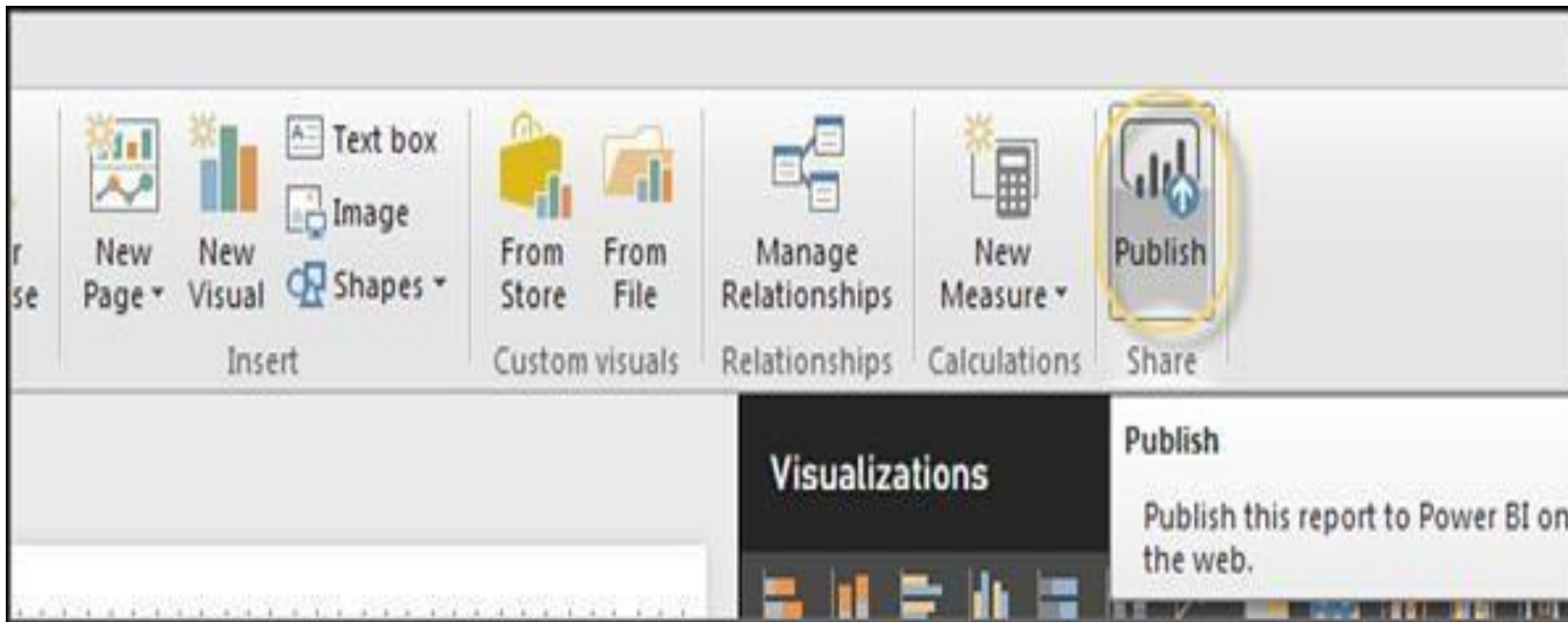
- Exploring Dataset and Key Business Parameters
- Listing Categories (dimensions) and Measures Separately
- Following Top-Down Approach
- Generating insights according to business heads needs

7. Visualisation



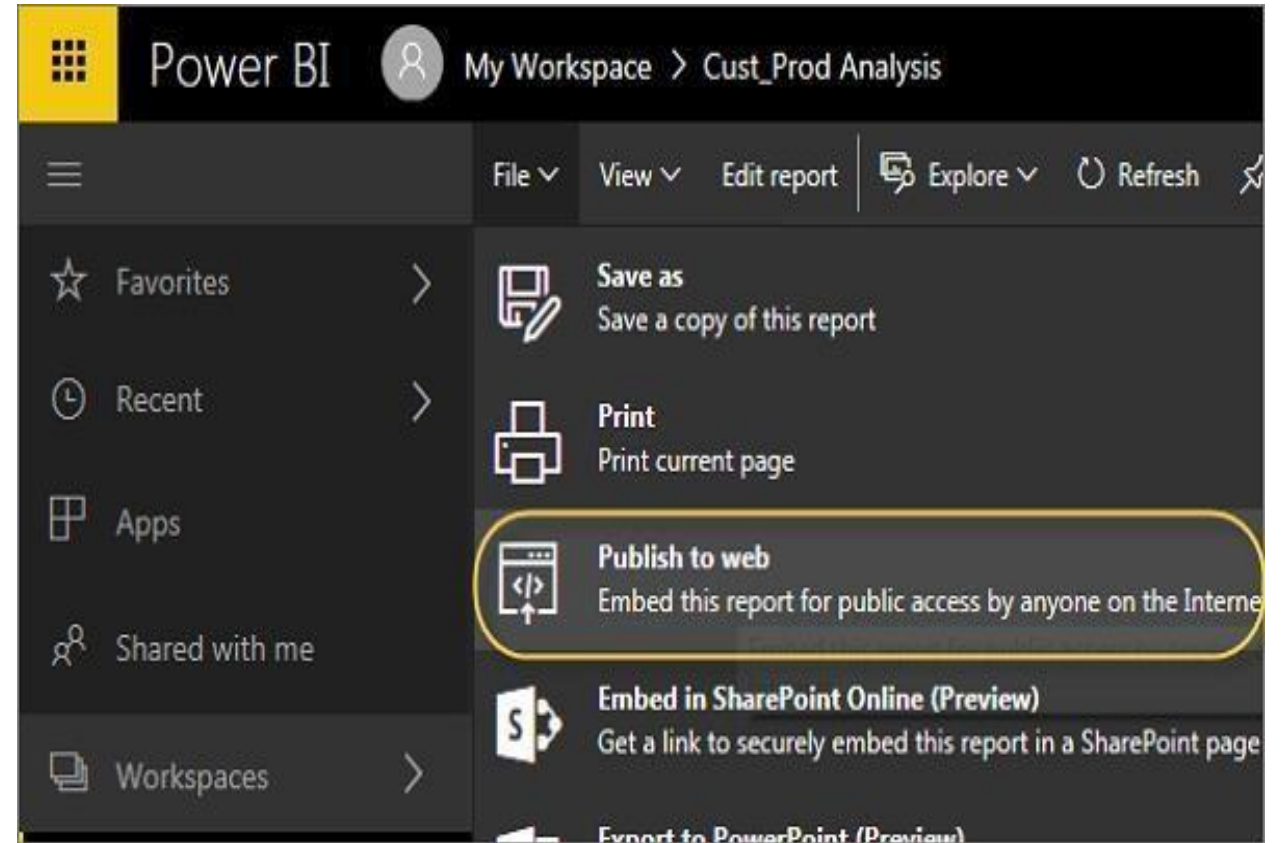
8. Publishing (1/2)

Once the report is created, navigate to the Publish button on the Home tab in Power BI desktop.



8. Publishing Report to Web (2/2)

- To publish a report to the web, you have to navigate to Power BI service → My Workspace.
- Once you open the report that you want to publish, navigate to the File tab → Publish to Web.
- Once you select this option, it opens a new dialog that creates an embed code for this report to include in the website or email.



Finalized Report (Dashboard)





Executive dashboard

How we are performing?



Select a date:

2012

2013

2014

2015

2016

2017

\$273 mln

Total Sales

460 tys.

Total Units

\$592

Revenue per Unit

\$48 mln

Gross Profit

0.01%

Sales growth YoY

How close we are to planned sales by Category?

● Sales ● Planned Sales



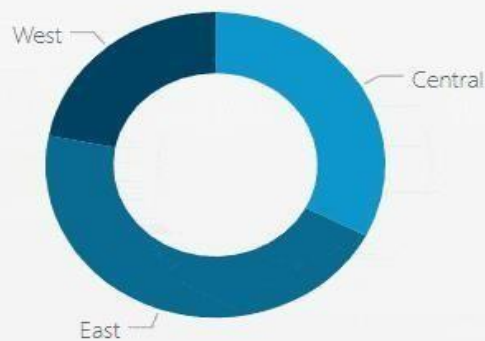
What is our Sales Trend?



How much units we are selling by Segment?



How much we are selling by Region?



How much we are selling by State?

