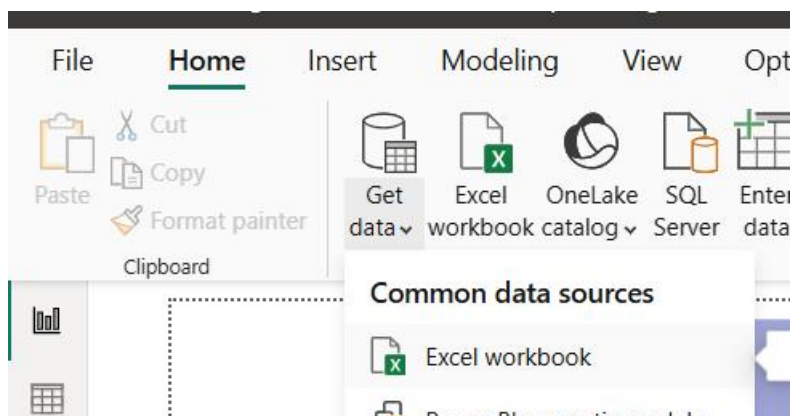


Assignment 5-Enterprise-Grade Power BI Report Design

Step 1: create the dataset

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	OrderID	OrderDate	ProductID	CustomerID	Region	Category	SubCategory	SalesAmount	Profit	Quantity			
2	O1001	2024-04-27 0:00:00	P103	C230	West-India	Technology	Accessories	130496	22184	2			
3	O1002	2023-06-13 0:00:00	P134	C235	South-India	Technology	Phones	136675	34168	11			
4	O1003	2023-11-04 0:00:00	P115	C244	South-India	Furniture	Chairs	190644	49567	3			
5	O1004	2023-10-04 0:00:00	P106	C233	North-India	Technology	Phones	197380	53292	12			
6	O1005	2023-02-06 0:00:00	P120	C208	South-India	Technology	Phones	180377	59524	11			
7	O1006	2023-06-15 0:00:00	P112	C241	South-India	Office Supplies	Binders	157464	47239	8			
8	O1007	2024-10-20 0:00:00	P126	C211	North-India	Technology	Accessories	94393	14158	1			
9	O1008	2024-06-22 0:00:00	P114	C241	East-India	Office Supplies	Binders	41232	12369	12			
10	O1009	2023-07-01 0:00:00	P149	C212	West-India	Office Supplies	Binders	199653	21961	1			
11	O1010	2023-01-27 0:00:00	P138	C222	West-India	Office Supplies	Paper	165510	31446	15			
12	O1011	2024-09-22 0:00:00	P105	C242	South-India	Technology	Laptops	89134	17826	13			
13	O1012	2023-08-07 0:00:00	P128	C248	West-India	Technology	Accessories	71977	15115	11			
14	O1013	2023-07-19 0:00:00	P141	C245	East-India	Technology	Accessories	121360	12136	11			
15	O1014	2023-02-13 0:00:00	P134	C204	East-India	Technology	Phones	163284	39188	10			
16	O1015	2023-09-16 0:00:00	P101	C239	South-India	Furniture	Bookcases	170667	29013	9			
17	O1016	2024-01-27 0:00:00	P146	C240	North-India	Furniture	Chairs	137035	23295	15			
18	O1017	2023-10-12 0:00:00	P138	C242	North-India	Technology	Accessories	80203	8020	14			

Step 2: open PowerBI Desktop and click on get data option there choose Excel Workbook and then load the data



Step 3: now click on the location where the data is stored and then choose all the tables of the data and click on transform data

Navigator

Display Options ▾

Sales_Data_Enterprise.xlsx [4]

- ☒ DimCustomer
- ☒ DimProduct
- ☒ FactSales
- ☒ Targets

FactSales

OrderID	OrderDate	ProductID	CustomerID	Region	Category
O1001	45409	P103	C230	West-India	Techno
O1002	45090	P134	C235	South-India	Techno
O1003	45234	P115	C244	South-India	Furnitu
O1004	45203	P106	C233	North-India	Techno
O1005	44963	P120	C208	South-India	Techno
O1006	45092	P112	C241	South-India	Office S
O1007	45585	P126	C211	North-India	Techno
O1008	45465	P114	C241	East-India	Office S
O1009	45108	P149	C212	West-India	Office S
O1010	44953	P138	C222	West-India	Office S
O1011	45557	P105	C242	South-India	Techno
O1012	45145	P128	C248	West-India	Techno
O1013	45126	P141	C245	East-India	Techno
O1014	44970	P134	C204	East-India	Techno
O1015	45185	P101	C239	South-India	Furnitu
O1016	45318	P146	C240	North-India	Furnitu
O1017	45212	P128	C242	North-India	Techno
O1018	45060	P113	C235	East-India	Office S
O1019	45535	P126	C208	North-India	Techno
O1020	45189	P104	C232	North-India	Furnitu
O1021	44962	P136	C231	East-India	Office S
O1022	45066	P114	C206	South-India	Office S
O1023	45554	P133	C213	North-India	Office S

Load

Transform Data

Cancel

STEP 4: Remove missing values:

In the FactSales table, click on remove blank rows for the column orderID

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Export query results Refresh Preview Advanced Editor Properties

Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Text Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Combine

Remove Top Rows Remove Bottom Rows Remove Alternate Rows Remove Duplicates Remove Blank Rows Remove Errors

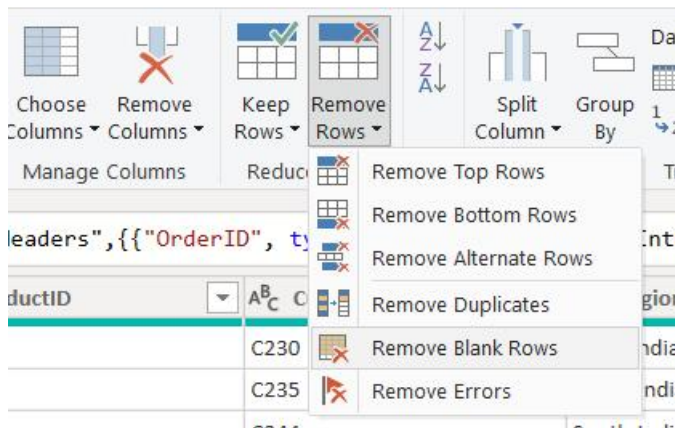
Remove all blank rows from this table.

Queries [4]

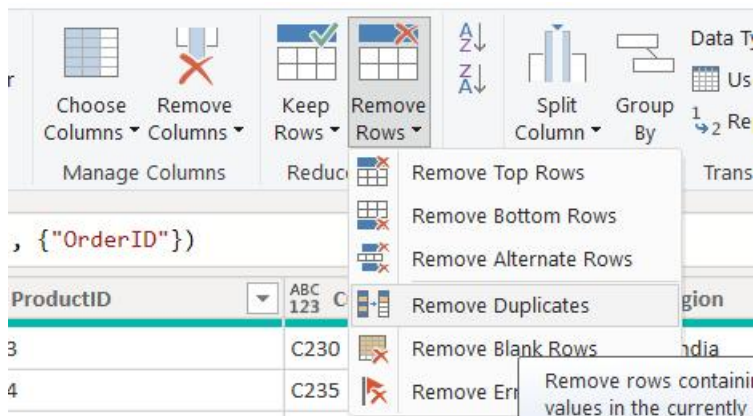
- DimCustomer
- DimProduct
- FactSales
- Targets

fx = Table.TransformColumnTypes(#"Promoted Headers",{{"OrderID", type text}, {"OrderDate", type text}, {"ProductID", type text}, {"CustomerID", type text}, {"Region", type text}, {"Category", type text}, {"SubCategory", type text}})

OrderID	OrderDate	ProductID	CustomerID	Region	Category	SubCategory
1 O1001	45409	P103	C230	West-India	Technology	Accessories
2 O1002	45090	P134	C235	South-India	Technology	Phones
3 O1003	45234	P115	C244	South-India	Furniture	Chairs
4 O1004	45203	P106	C233	North-India	Technology	Phones



STEP 5: Remove duplicate values:



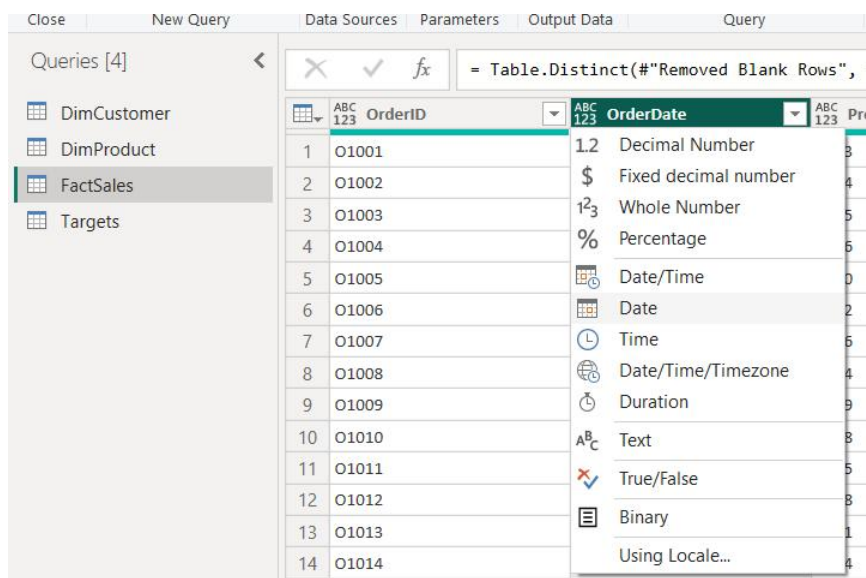
STEP 6: convert the datatype

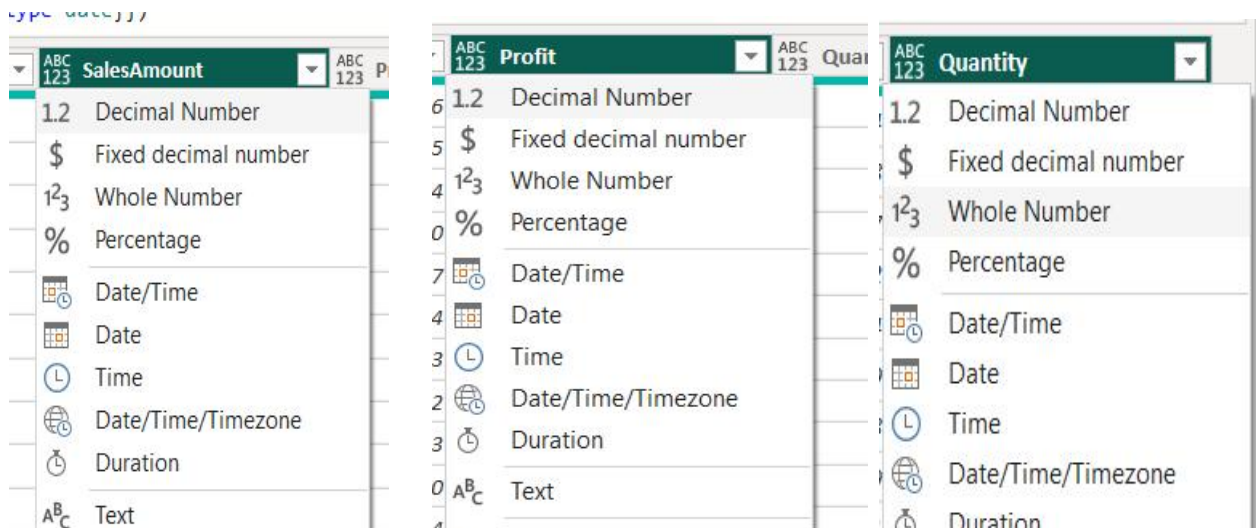
OrderDate -> date

SalesAmount->decimal

Profit->decimal

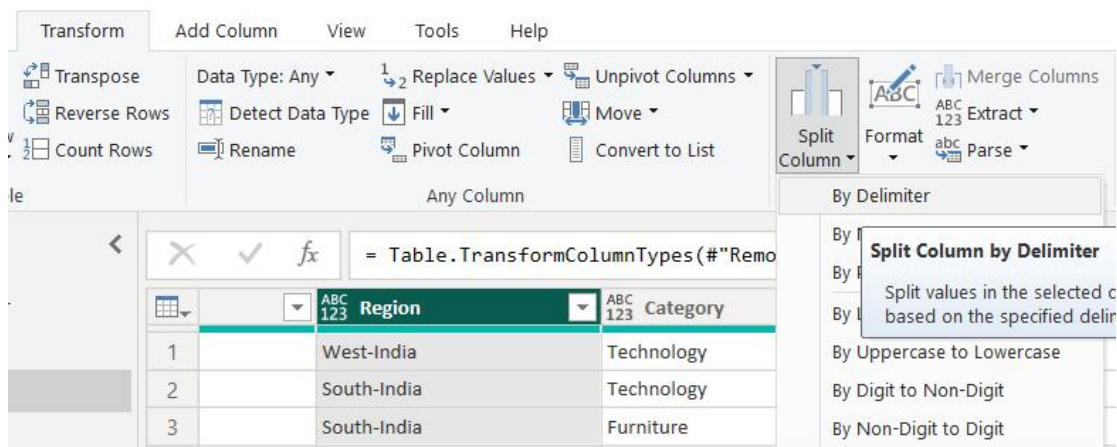
Quantity->whole number





STEP 7: Split Region Column

In the transform tab, click on split column and then click - as delimiter



Split Column by Delimiter

×

Specify the delimiter used to split the text column.

Select or enter delimiter

--Custom--

-

Split at

☐ Left-most delimiter
 ☐ Right-most delimiter
 ☒ Each occurrence of the delimiter

Advanced options

Quote Character

"

☐ Split using special characters

Insert special character

OK

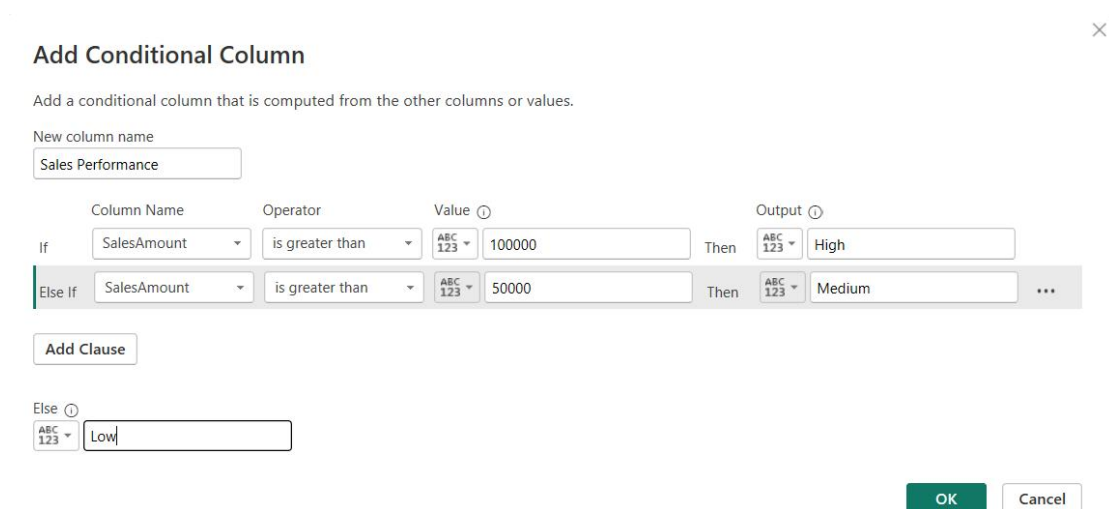
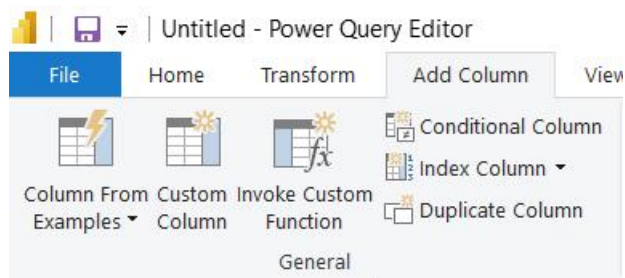
Cancel

Now rename the
Region 1->ZONE
Region 2->country

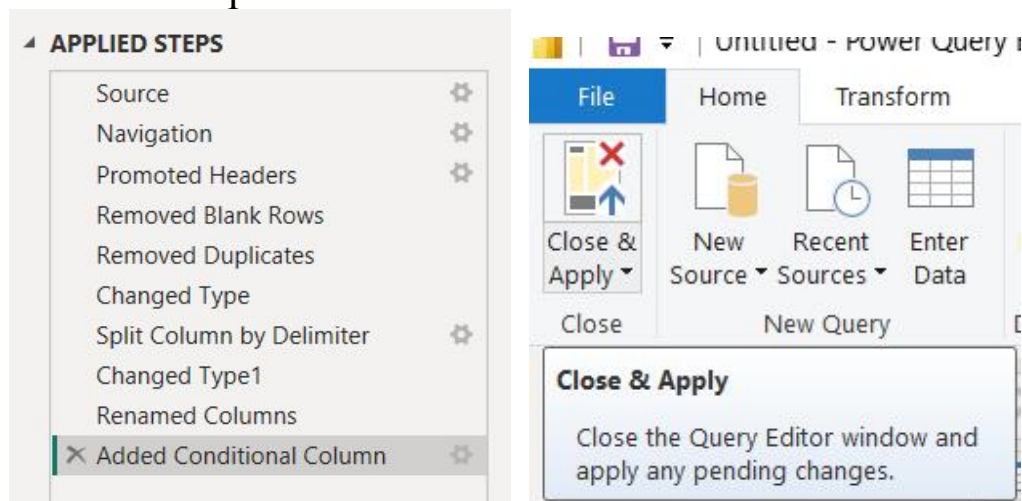
A ^B _C Region.1	A ^B _C Region.2
West	India
South	India
South	India
North	India
South	India
South	India
North	India
East	India
A ^B _C Zone	A ^B _C Country
West	India
South	India
South	India
North	India
South	India

STEP 8:Create Conditional Column (Business Logic)
Add Column → Conditional Column
Name: Sales Performance

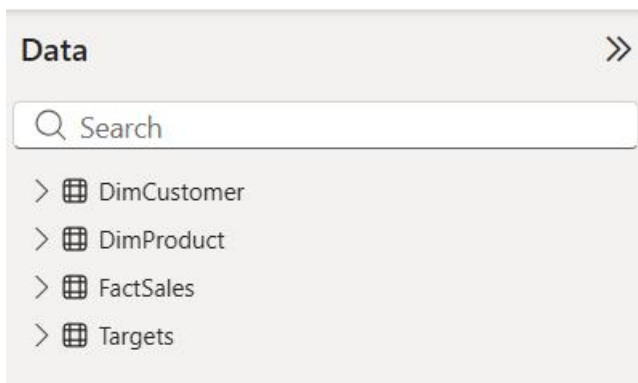
SalesAmount > 100000 → High
 SalesAmount > 50000 → Medium
 Else → Low



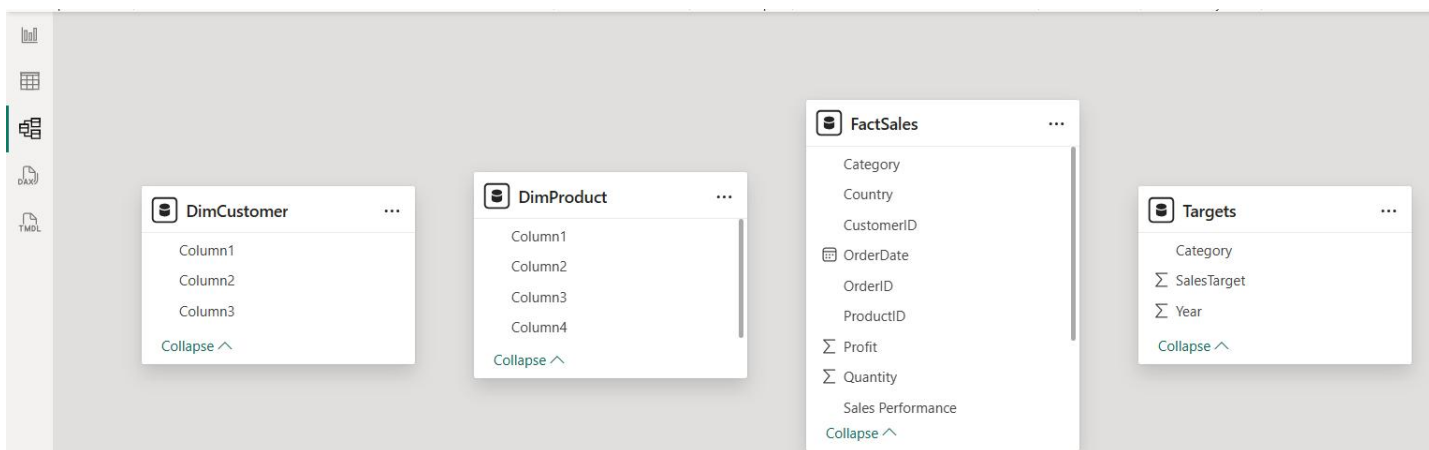
Followed steps :



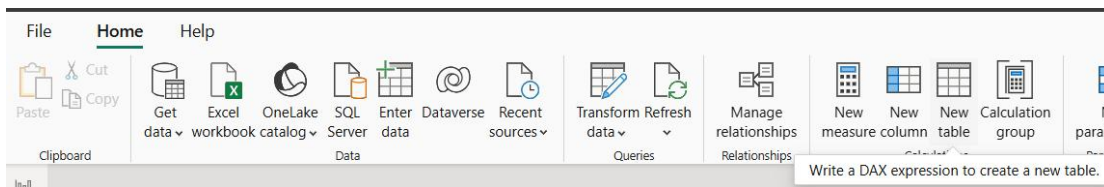
After close and apply the data will be loaded:



Model view:



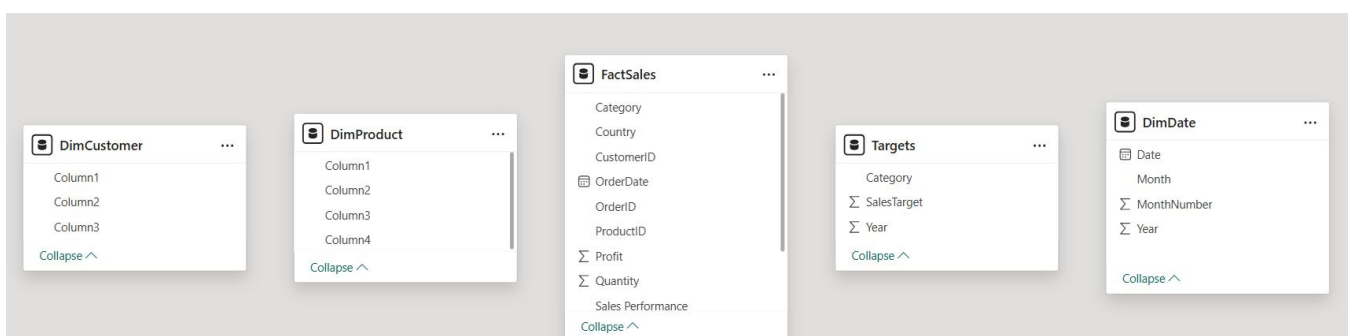
Now we create a new table called DimDate and now here we create the essential columns needed



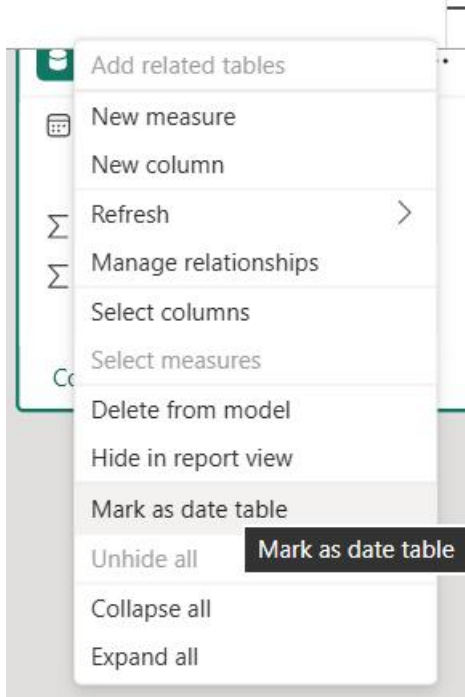
```

1 DimDate =
2 ADDCOLUMNS(
3     CALENDAR (DATE(2023,1,1), DATE(2024,12,31)),
4     "Year", YEAR([Date]),
5     "Month", FORMAT([Date], "MMM"),
6     "MonthNumber", MONTH([Date])
7 )
8 |

```



Mark table as date table :



Relationships:

FactSales[OrderDate] → DimDate[Date]

FactSales[ProductID] → DimProduct[ProductID]

FactSales[CustomerID] → DimCustomer[CustomerID]

FactSales[Category] → Targets[Category]

New relationship

Select tables and columns that are related.

From table

FactSales

Category	Country	CustomerID	OrderDate	OrderID	ProductID	Profit
Technology	India	C230	27 April 2024	O1001	P103	22184
Technology	India	C235	13 June 2023	O1002	P134	34168
Furniture	India	C244	04 November ...	O1003	P115	49567

To table

DimDate

Date	Month	MonthNumber	Year
01-01-2023 0...	Jan	1	2023
02-01-2023 0...	Jan	1	2023
03-01-2023 0...	Jan	1	2023

Cardinality

Many to one (*:1)

Cross-filter direction

Single

☒ Make this relationship active

☐ Apply security filter in both directions

☐ Assume referential integrity

Save

Cancel

Renamed the columns to create the relationships

Queries [4]

DimCustomer

DimProduct

FactSales

Targets

✕

✓

*f*_x

= Table.Skip("#Renamed Columns",1)

	<div><div>AB_C</div><div>ProductID</div></div>	<div><div>AB_C</div><div>ProductName</div></div>	<div><div>AB_C</div><div>Category</div></div>	<div><div>AB_C</div><div>SubCategory</div></div>
1	P101	Bookcases Model 1	Furniture	Bookcases
2	P102	Binders Model 2	Office Supplies	Binders
3	P103	Accessories Model 3	Technology	Accessories
4	P104	Bookcases Model 4	Furniture	Bookcases

New relationship



Select tables and columns that are related.

From table

FactSales

▼

Category	Country	CustomerID	OrderDate	OrderID	ProductID	Profit
Technology	India	C230	27 April 2024	O1001	P103	22184
Technology	India	C235	13 June 2023	O1002	P134	34168
Furniture	India	C244	04 November...	O1003	P115	49567

To table

DimProduct

▼

Category	ProductID	ProductName	SubCategory
Furniture	P101	Bookcases M...	Bookcases
Office Supplies	P102	Binders Mode...	Binders
Technology	P103	Accessories ...	Accessories

Cardinality

Many to one (*:1)

▼

Cross-filter direction

Single

▼

☒ Make this relationship active

☐ Apply security filter in both directions

☐ Assume referential integrity

Save

Cancel

New relationship



Select tables and columns that are related.

From table

FactSales

▼

Category	Country	CustomerID	OrderDate	OrderID	ProductID	Profit
Technology	India	C230	27 April 2024	O1001	P103	22184
Technology	India	C235	13 June 2023	O1002	P134	34168
Furniture	India	C244	04 November...	O1003	P115	49567

To table

DimCustomer

▼

CustomerID	CustomerName	Segment
C201	Customer_1	Home Office
C202	Customer_2	Consumer
C203	Customer_3	Consumer

Cardinality

Many to one (*:1)

▼

Cross-filter direction

Single

▼

☒ Make this relationship active

☐ Apply security filter in both directions

☐ Assume referential integrity

Save

Cancel

New relationship



Select tables and columns that are related.

From table

Targets



Category	SalesTarget	Year
Furniture	223385	2023
Technology	398187	2023
Office Supplies	433174	2023

To table

DimProduct



Category	ProductID	ProductName	SubCategory
Furniture	P101	Bookcases M...	Bookcases
Office Supplies	P102	Binders Mode...	Binders
Technology	P103	Accessories ...	Accessories

Cardinality

Many to many (*:*)



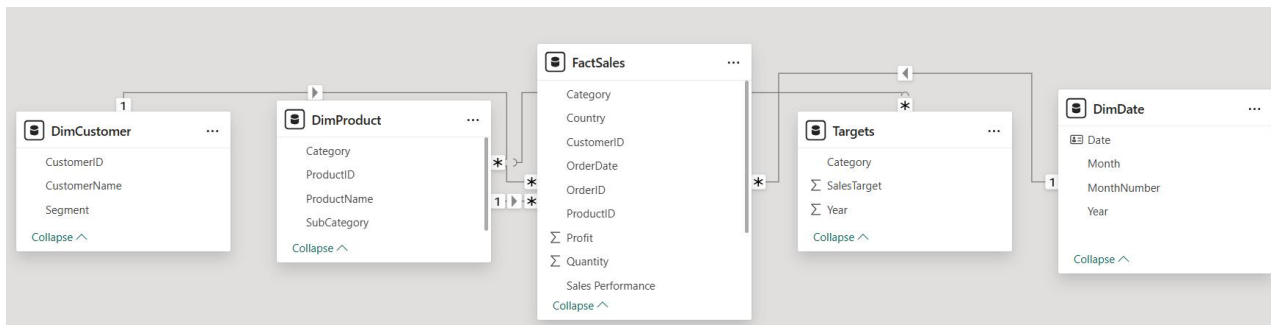
Cross-filter direction

Both



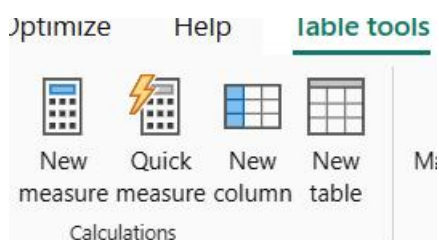
- ☒ Make this relationship active
- ☐ Apply security filter in both directions
- ☐ Assume referential integrity

Star schema:



Dax

Here, create a new measure



```
1 Total Sales = SUM(FactSales[SalesAmount])
```

```
1 Total Profit = SUM(FactSales[Profit])
```

```
2
```

```
1 Total Quantity = SUM(FactSales[Quantity])
```

```
2
```

```
Sales YTD =
```

```
TOTALYTD(  
    [Total Sales],  
    DimDate[Date]  
)
```

```
1 Sales LY =
```

```
2 CALCULATE(  
3     [Total Sales],  
4     SAMEPERIODLASTYEAR(DimDate[Date])  
5 )  
6
```

```
1 YoY Growth % =
```

```
2 DIVIDE(  
3     [Total Sales] - [Sales LY],  
4     [Sales LY]  
5 )  
6
```

```
1 Target Sales = SUM(Targets[SalesTarget])
```

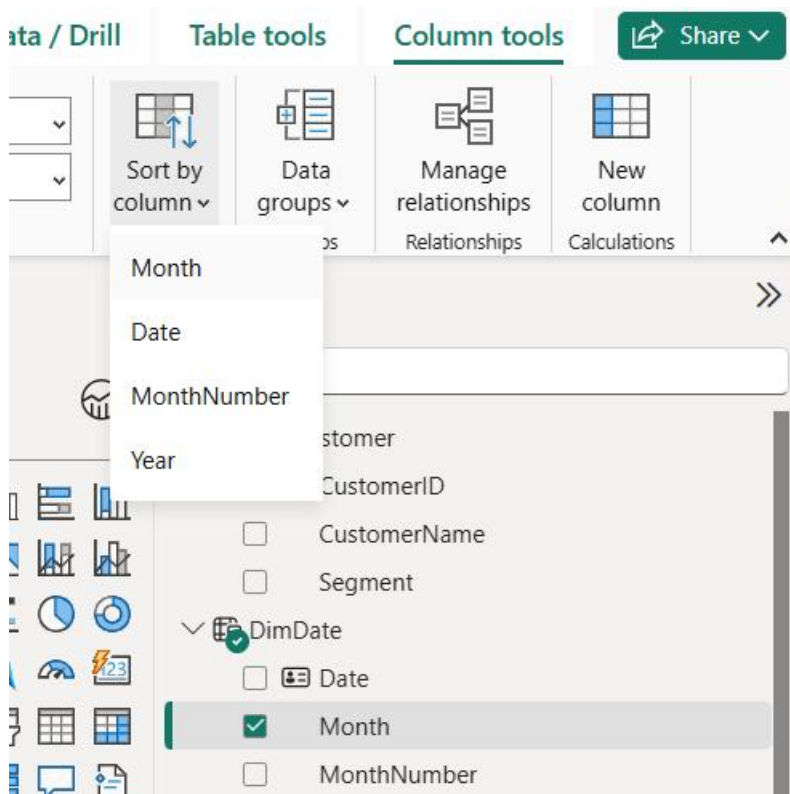
```
2
```

```

1 Target Achievement % =
2 DIVIDE(
3     [Total Sales],
4     [Target Sales]
5 )
6

```

Here we are sorting the month by month number



Performing visuals:

PAGE 1: Executive Dashboard

- KPI Cards (Sales, Profit, YoY Growth)
- Donut Chart → Sales by Category
- Ribbon Chart → Category Rank Over Time
- Line Chart → Sales Trend (Monthly)

PAGE 2: Trend Analysis

- Line Chart (Sales & Profit)
- Line + Stacked Column Chart
- Shape Map → Sales by Region

PAGE 3: Product Performance

- Matrix (Category → Subcategory → Product)
- Conditional formatting
- Top N filters

EXECUTIVE DASHBOARD

View Product Details

Total Sales

11.99M
Total Sales

Help Q&A understand people better by adding synonyms.

Add synonyms now

total sales by category

Showing results for Fact sale category and total sales



YoY Growth %

1.17

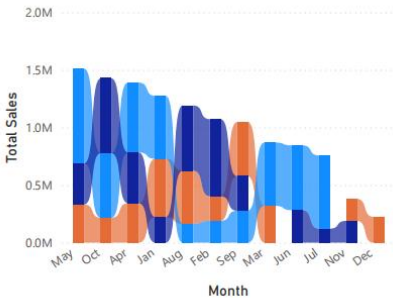
YoY Growth %

Total Profit

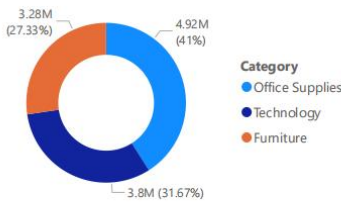
2.56M
Total Profit

Category Rank Over Time

Category Furniture Office Supplies Technology



Total Sales by Category

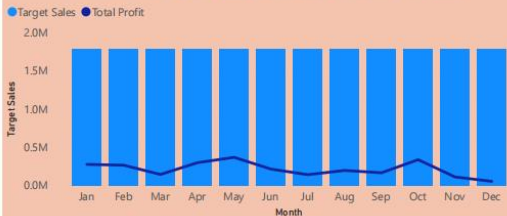


Monthly Sales Trend



TREND ANALYSIS

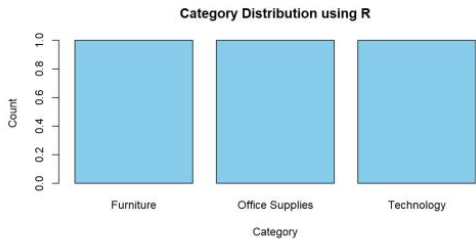
Actual vs Target Sales & Profit Trend



Sales by Region

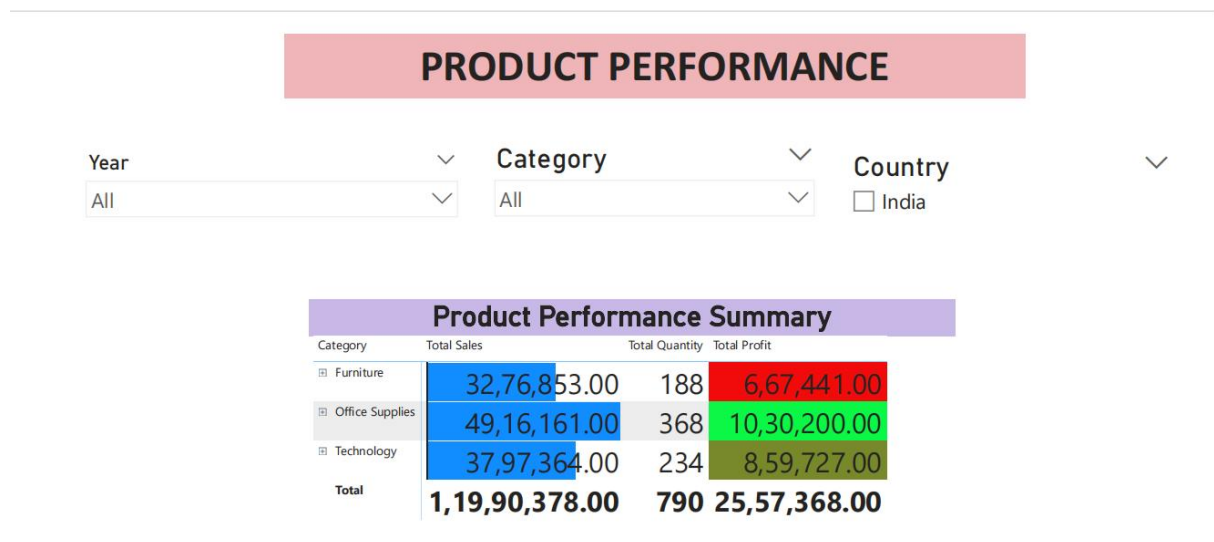


Category



Sales & Profit Trend





performed conditional formatting on the visuals for the matrix:

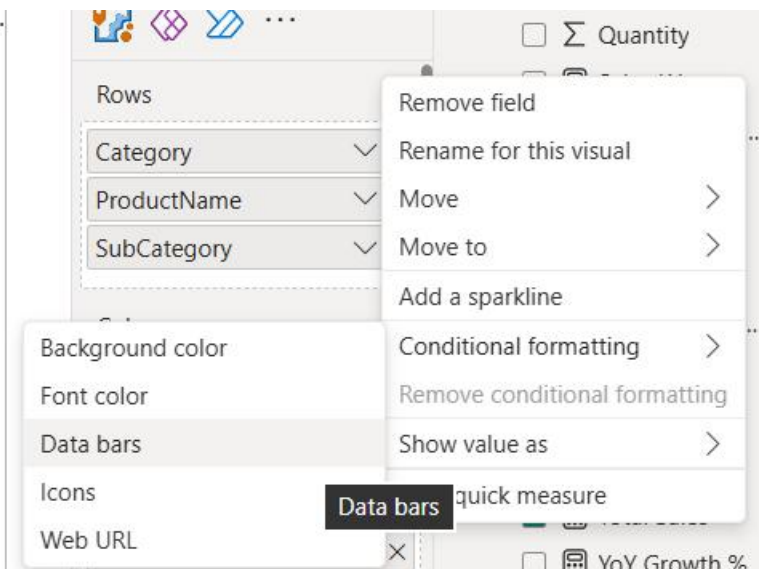
Matrix Formatting

- Data bars for Sales
- Color scale for Profit
- Bold totals

Report-Level Filters

- Year
- Region
- Category

Applied once → affects all pages



Data bars - Total Sales

Format style

Data bars

Apply to

Values only

What field should we base this on?

Total Sales

Bar direction

Left to right

Minimum

Lowest value

Enter a value

Maximum

Highest value

Enter a value

Positive bar

Blue

Negative bar

Light blue

Axis

Black

☐ Show bar only

[Learn more about conditional formatting](#)

OK

Cancel

Changed the color for total profit

Background color - Total Profit

Format style

Gradient

Apply to

Values only

What field should we base this on?

Total Profit

How should we format empty values?

As zero

Minimum

Lowest value

Maximum

Highest value

Enter a value

Enter a value

☐ Add a middle color

[Learn more about conditional formatting](#)

OK

Cancel

Text color

Background color

Banded row color

On

Alignment

Text wrap

On

+/- icons

On

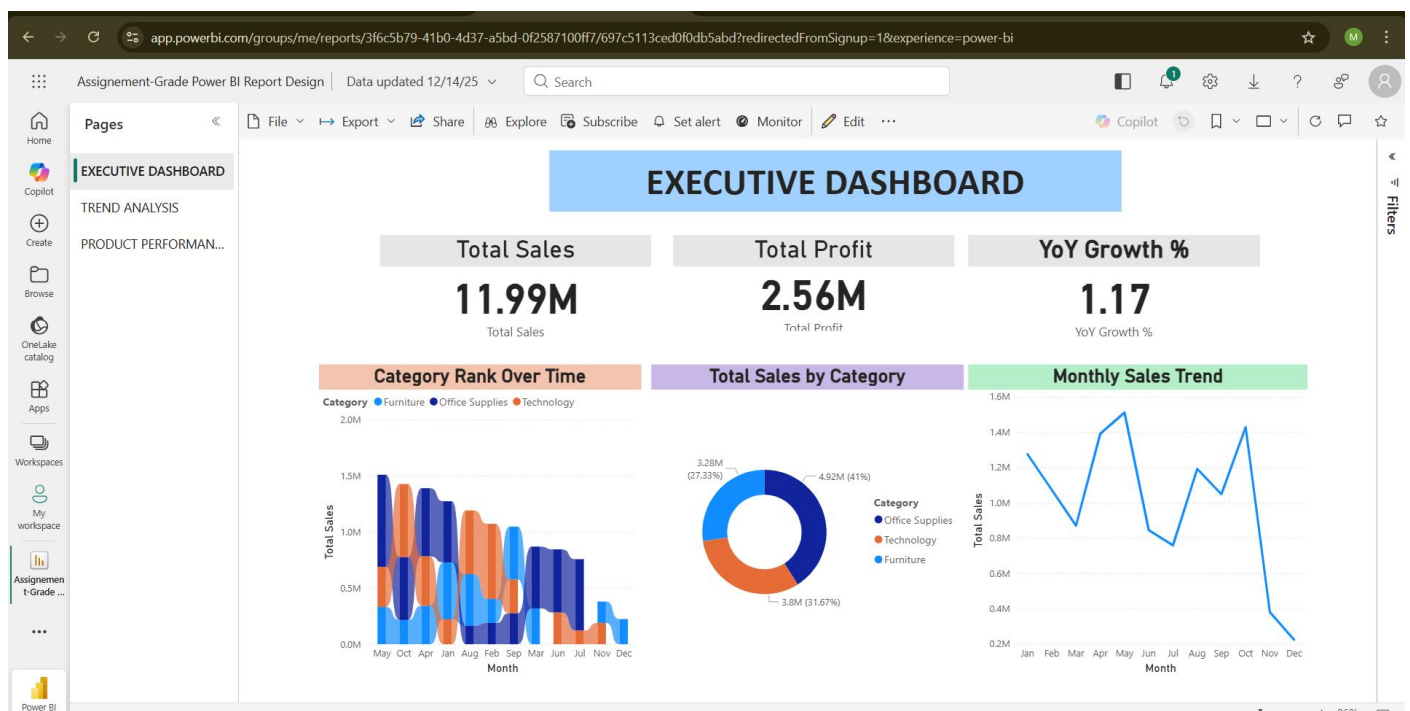
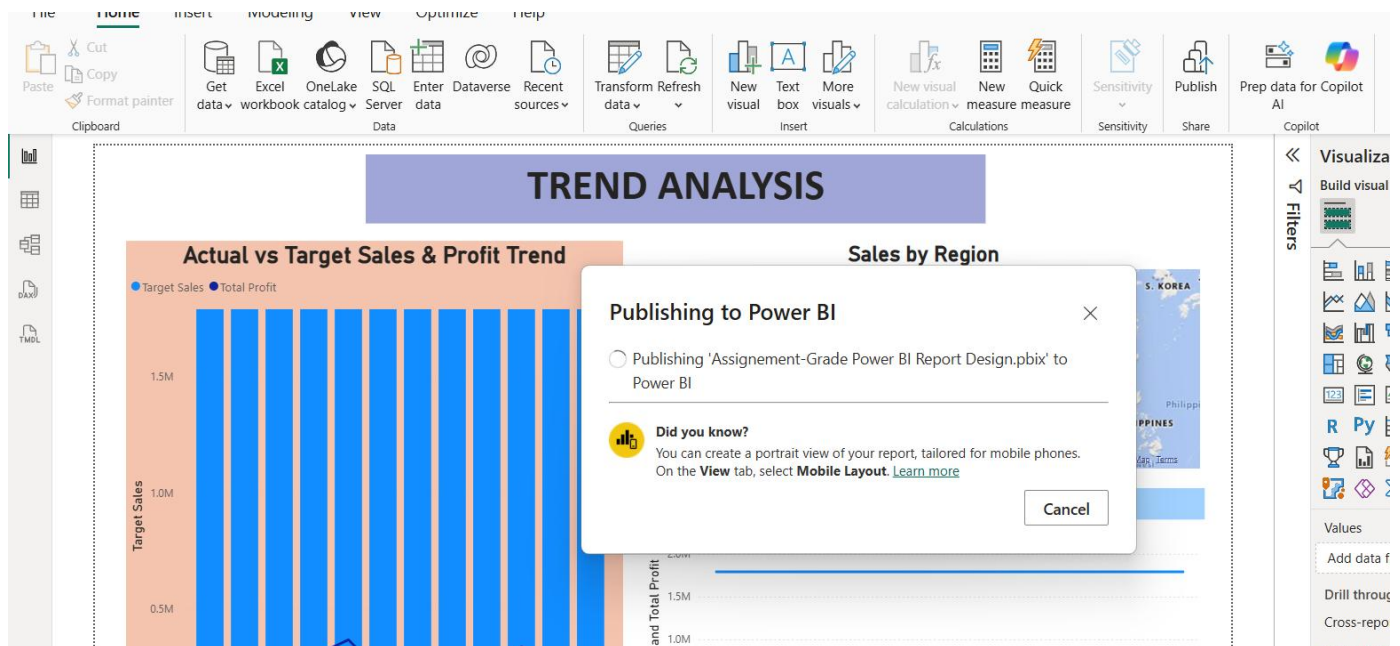
Color

Size

8 px

Dashboard Creation & Actions

1. Publish to Power BI Service
2. Pin visuals to Dashboard
3. Create **Dashboard Actions**
 - Click KPI → Navigate to detail page
4. Enable **Q&A visual**
5. Set alerts on KPIs



My workspace

+ New item

New folder

→ Import

Migrate

Workspace settings

Filter by keyword

Filter

Choose from predefined task flows or add a task to build one

Select from one of Microsoft's predefined task flows or add a task to start building one yourself.

Select a predefined task flow

Add a task

→ Import a task flow

	Name	Status	Type	Task	Owner	Refreshed	Next refresh	Endorsement	Sensitivity
	Assignment-Grade Power BI Report Design		Report	—	Pranathi Mag...	12/14/2025, 1:23...	—	—	—
	Assignment-Grade Power BI Report Design		Semantic mo...	—	Pranathi Mag...	12/14/2025, 1:2...	N/A	—	—

Pin visuals to Dashboard:

Initially we create a new dashboard and next when we pin the others we pin in the existing dashboard itself

Total Sales

11.99M

Pin to dashboard

Select an existing dashboard or create a new one.

Where would you like to pin to?

☐ Existing dashboard

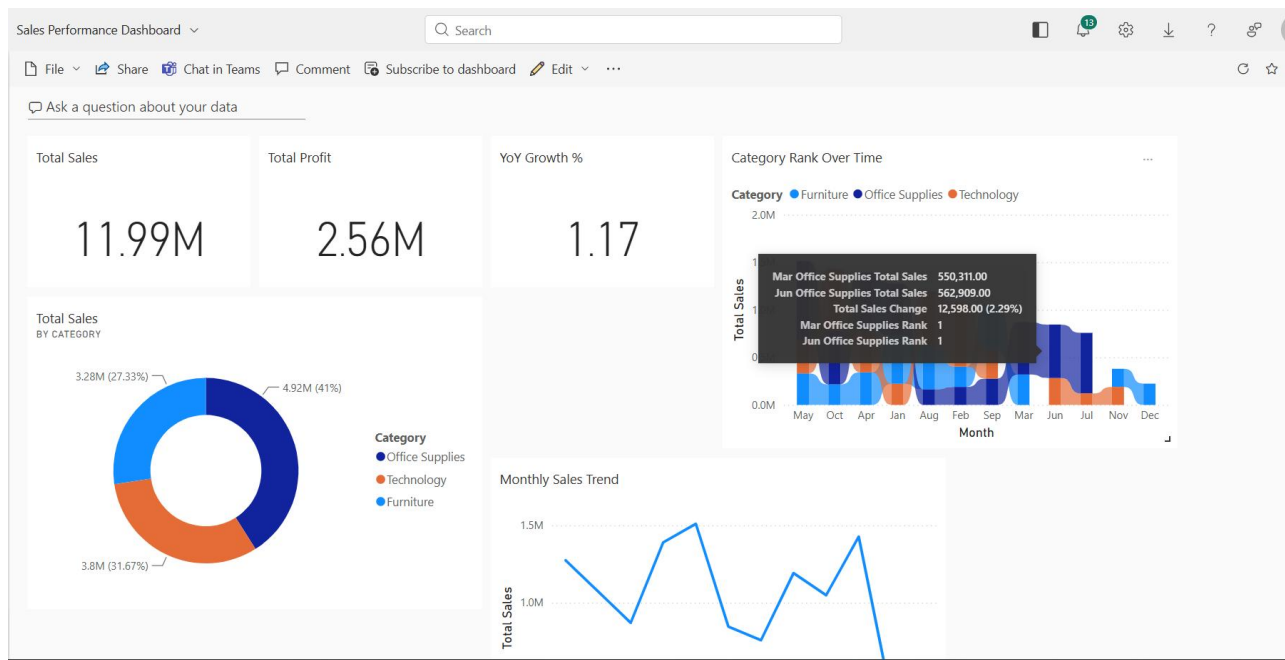
☒ New dashboard

Dashboard name

Sales Performance Dashboard

Pin

Cancel



Add the button for navigation

Format button

Search

Button General

> Shape

> Rotation

> Style

> Action

On

> Action

Type

Page navigation

Bookmark

None

Destination

PRODUCT PERF... fx

Web URL

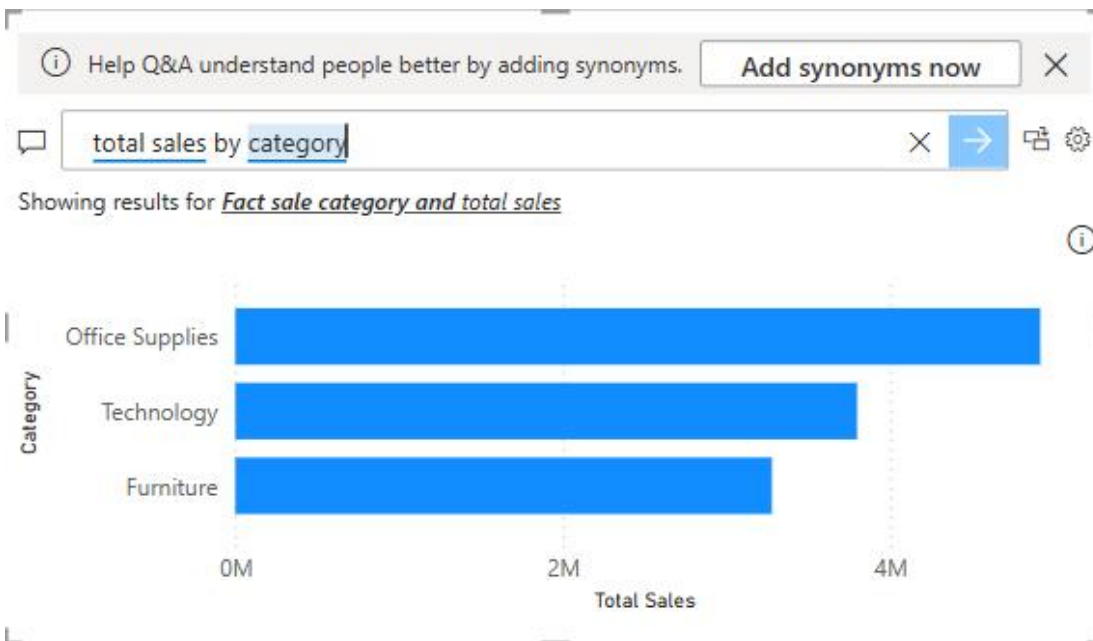
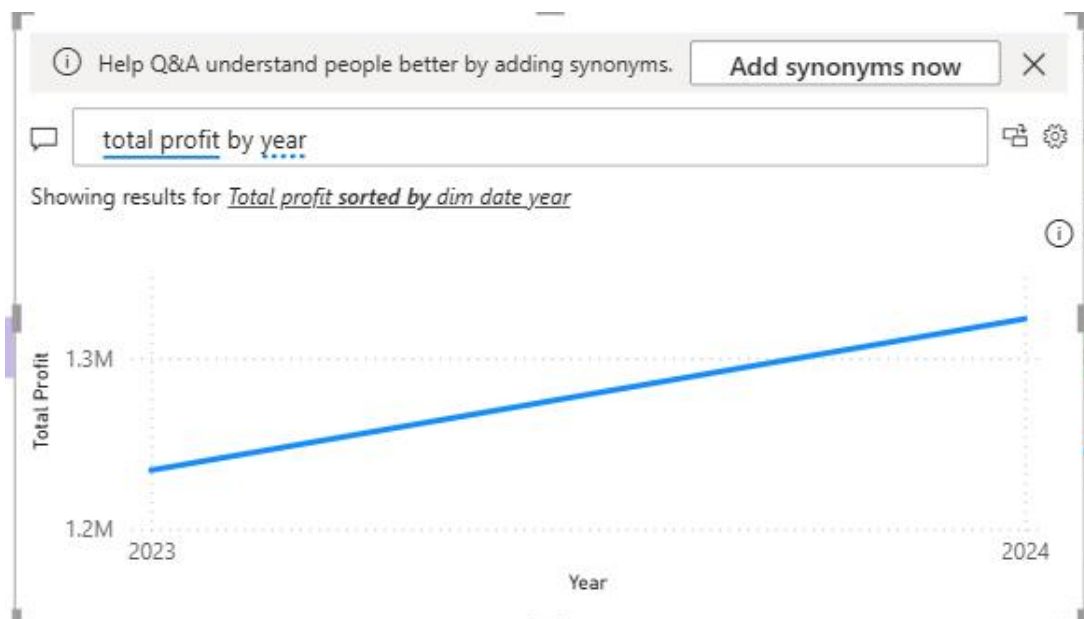
fx

> Tooltip

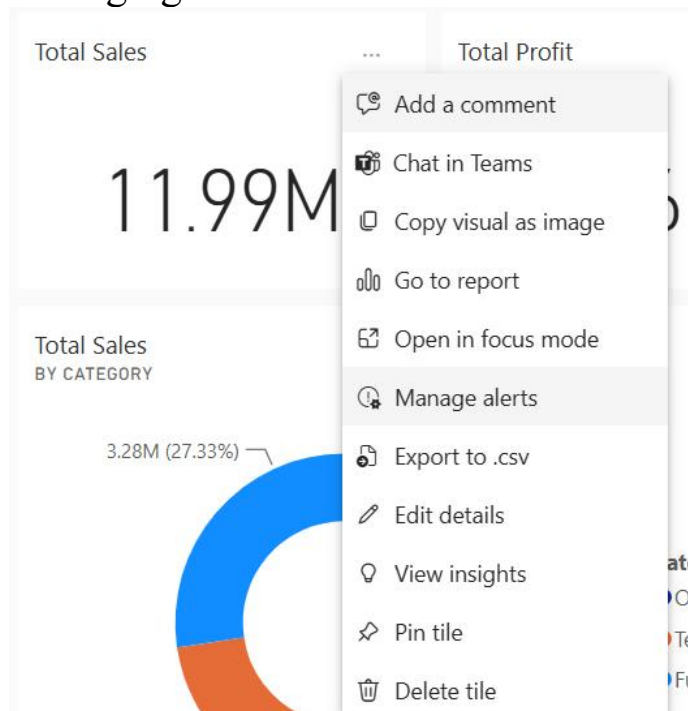
On

The 'Format button' panel is used to configure the button's appearance and behavior. It includes tabs for 'Button' and 'General'. Under the 'Action' section, the 'Action' toggle is turned 'On'. The 'Action' dropdown is set to 'Page navigation'. The 'Bookmark' is set to 'None'. The 'Destination' is set to 'PRODUCT PERF...' with a formula icon (fx) next to it. The 'Web URL' field is empty with a formula icon (fx) next to it. The 'Tooltip' toggle is also turned 'On'.

Q/A query:



Managing Alerts:



TOTAL SALES

Manage alerts



+ Add alert rule

Alert title

Total Sales

Set alerts rule for

Total Sales

Condition

Above

Threshold

1000000

Maximum notification frequency

☒ At most every 24 hours

☐ At most once an hour

Alerts are only sent if your data changes.

By default, you'll receive notifications on the service in the notification center.

☒ Send me email, too

[Learn more about alerting in Power BI](#)

Save and close

Cancel

Advanced Visuals

Using R scripts

