DASHBOARD PRACTICAL LIST WITH SOLUTION
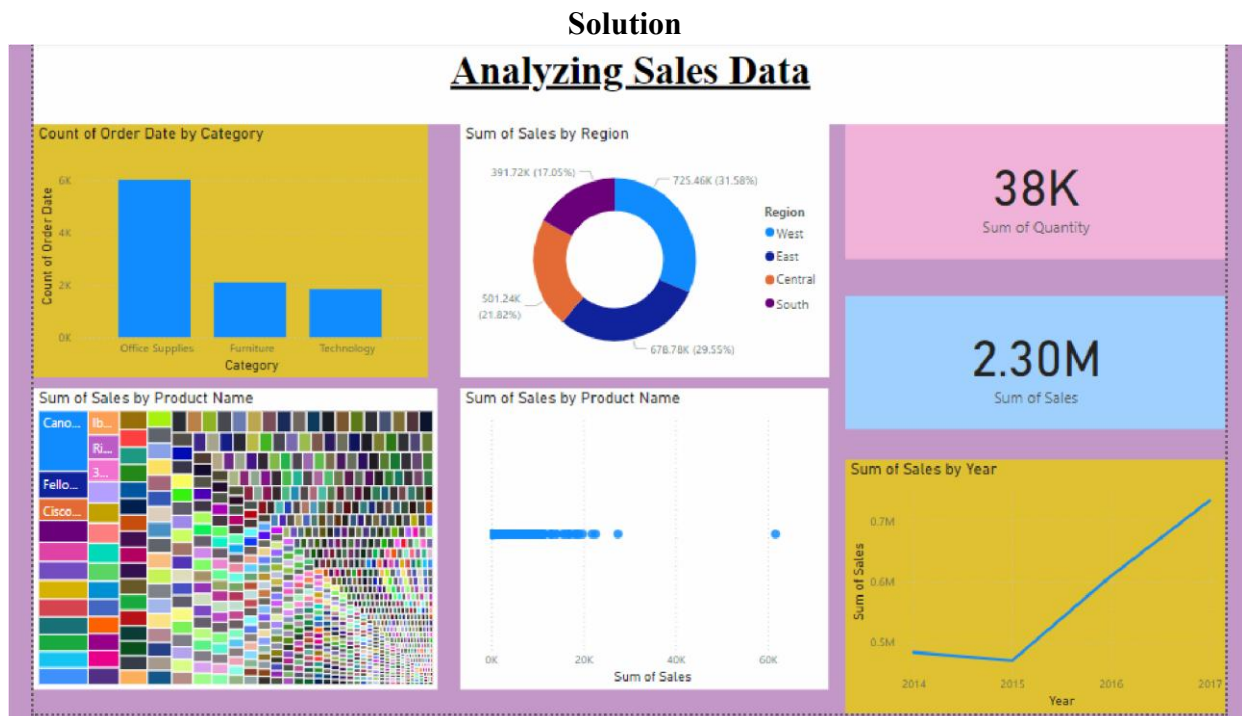
Exercise 1: Analyzing Sales Data

Dataset: Retail sales data **Visualizations:**

1. **Stacked Column Chart:** Show monthly sales for each product category.
2. **Line Chart:** Track sales changes over time.
3. **Donut Chart:** Display sales by region.
4. **Tree Map:** Highlight the best-selling products. 5. **Scatter Plot:** Compare price and quantity sold.

Cards:

6. **Total Revenue:** Show the total money made from sales.
7. **Total Units Sold:** Count how many items were sold.

Solution

Step-by-Step Guide to Create Visualizations in Power BI
1. Import the Dataset
   • Open Power BI Desktop.
   • Click on "Get Data" and select your dataset (e.g., Excel, CSV). Load the data into Power BI.
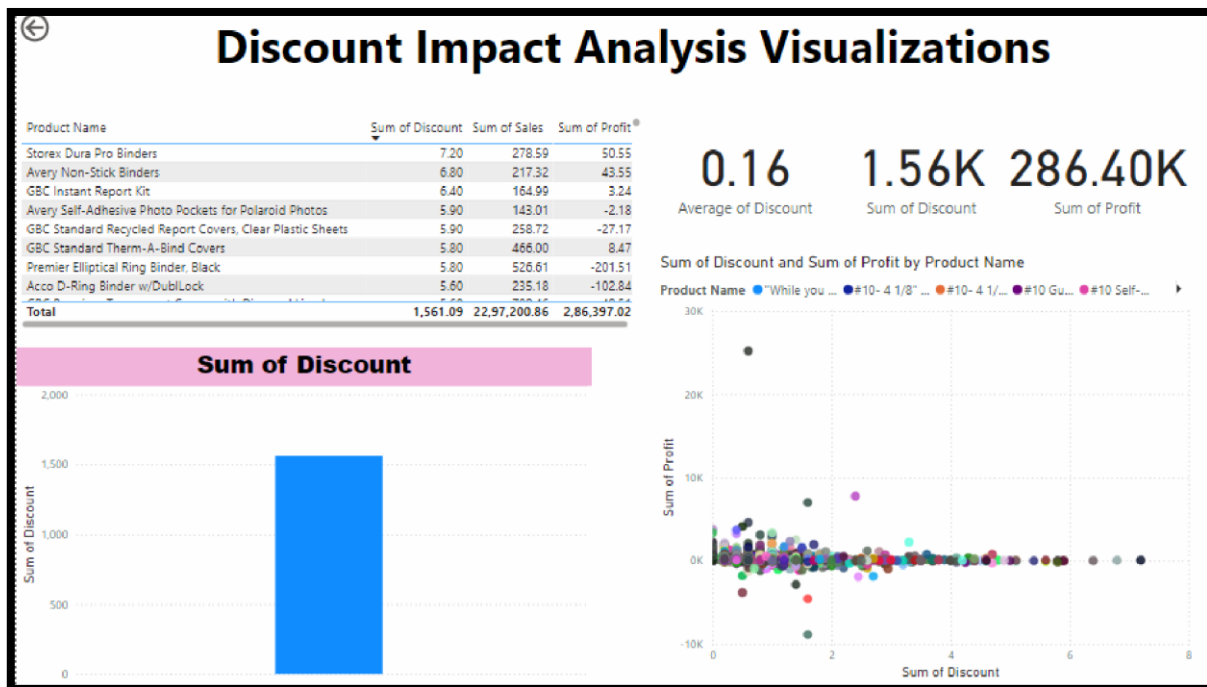*2. Create Visualizations*
a. Stacked Column Chart: Monthly Sales by Product Category Go to the "Visualizations" pane.
   • Select the "Stacked Column Chart."
   • Drag the Order Date field to the "Axis" section. Set it to show by month. Drag the Sales field to the "Values" section.
   • Drag the Category field to the "Legend" section.
b. Line Chart: Sales Trend Over Time

- Select the "Line Chart" from the "Visualizations" pane.
- Drag the Order Date field to the "Axis" section (set to date). ⬚ Drag the Sales field to the "Values" section.

c. Donut Chart: Sales Distribution by Region
- Choose the "Donut Chart" visualization.
- Drag the Region field to the "Legend" section. ⬚ Drag the Sales field to the "Values" section.

d. Tree Map: Top-Selling Products
- Select the "Tree Map" visualization.
- Drag the Product Name field to the "Group" section. ⬚ Drag the Sales field to the "Values" section.

e. Scatter Plot: Price vs. Quantity Sold
- Choose the "Scatter Chart."
- Drag the Price (or Sales divided by Quantity) to the "X-Axis."
- Drag the Quantity field to the "Y-Axis."
- Optionally, you can add Product Name to the "Details" section for better identification.

3. Create Cards

a. Total Revenue
- Select the "Card" visualization.
- Drag the Sales field to the "Values" section. This will show the total revenue. b. Total Units Sold
- Create another "Card."
- Drag the Quantity field to the "Values" section to display total units sold.

Final Touches
- Arrange the Visualizations: Position the charts and cards on your report canvas for clarity.
- Formatting: Use the "Format" pane to adjust colors, fonts, and styles for better visual appeal.
- Save Your Work: Don't forget to save your Power BI report!

Exercise 6: Discount Impact Analysis Visualizations:

1. Scatter plot - Discount vs. Profit
2. Histogram - Distribution of Discount percentages 3. Table - Top products with highest discount Cards:
4. Average Discount
5. Total Discount Amount
6. Profit Ratio (Profit / Sales)
7. Correlation between Discount and Profit

Solution

Discount Impact Analysis Visualizations

Product Name	Sum of Discount	Sum of Sales	Sum of Profit
Storex Dura Pro Binders	7.20	278.59	50.55
Avery Non-Stick Binders	6.80	217.32	43.55
GBC Instant Report Kit	6.40	164.99	3.24
Avery Self-Adhesive Photo Pockets for Polaroid Photos	5.90	143.01	-2.18
GBC Standard Recycled Report Covers, Clear Plastic Sheets	5.90	258.72	-27.17
GBC Standard Therm-A-Bind Covers	5.80	466.00	8.47
Premier Elliptical Ring Binder, Black	5.80	526.61	-201.51
Acco D-Ring Binder w/DublLock	5.60	235.18	-102.84
Total	**1,561.09**	**22,97,200.86**	**2,86,397.02**

0.16 Average of Discount   **1.56K** Sum of Discount   **286.40K** Sum of Profit

1. **Scatter Plot: Discount vs. Profit**
   1. Open Power BI and load your data.
   2. In the Visualizations pane, select the Scatter Chart.
   3. Drag the Discount field to the X-Axis.
   4. Drag the Profit field to the Y-Axis.
   5. Optionally, drag Product Name to the Legend to provide more context.
2. **Histogram: Distribution of Discount Percentages**
   1. Select the Column Chart visualization.
   2. In the Values area, drag Discount.
   3. Adjust the title and axis labels for clarity.
3. **Table: Top Products with Highest Discounts**
   1. Select the Table visualization.
   2. Add the following fields:
      o Product Name
      o Discount o
      Sales o Profit
   3. Sort the table by Discount in descending order to show the highest discounts at the top.
4. **Average Discount (Card Visualization)**
   1. Select the Card visualization.
   2. Create a measure for average discount.
5. **Total Discount Amount (Card Visualization)**
   1. Choose another Card visualization.
   2. Create a measure for total discount amount.
6. **Profit**
   1. Select a Card visualization.

2. Create a measure for profit.

HR

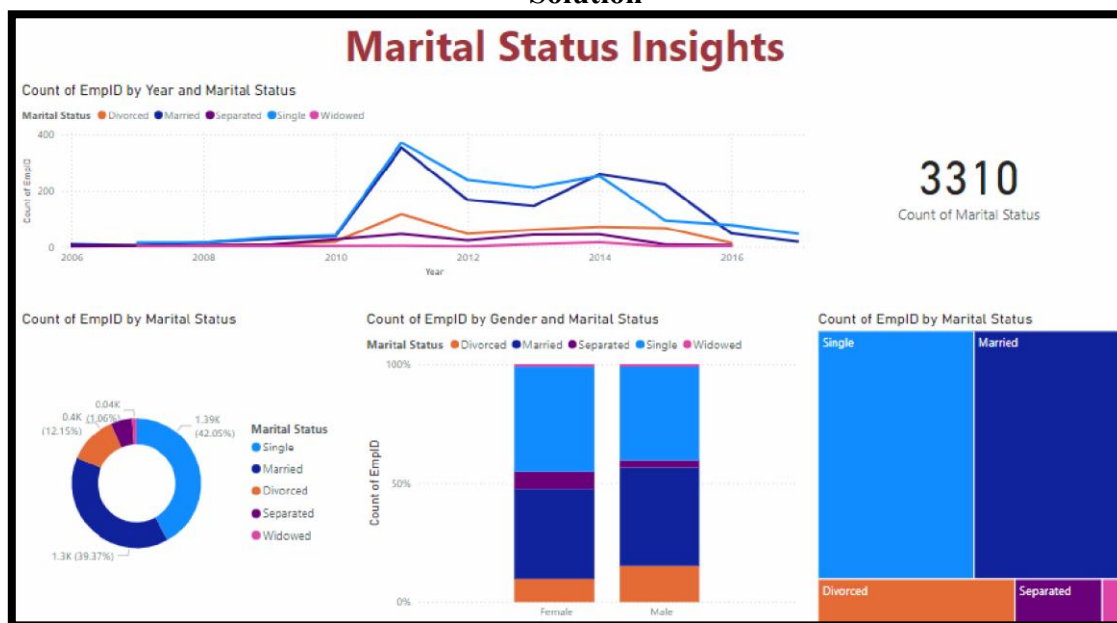**Exercise 5: Marital Status Insights in Power BI**

1. Visualizations:

- **Donut Chart:** Show the distribution of employees by **Marital Status**.
- **Stacked Bar Chart:** Display the composition of **Marital Status** by **Gender**.
- **Treemap:** Illustrate the count of employees based on **Marital Status**.
- **Line Chart:** Track the trend of **Marital Status** over time using **Hire Date**.

2. Cards:

- **Card 1:** Total number of **Married Employees**.

Solution

Step 1: Load Your Data 1.
        Open Power BI
    Desktop.
2. Click on **Get Data**, choose **Excel**, and select your Excel file.
3. Load the relevant sheet containing the employee data.

Step 2: Create Visualizations
1. Donut Chart: Distribution of Employees by Marital Status
1. In the **Visualizations** pane, select the **Donut Chart**.
2. Drag **Marital Status** to the **Legend** field.
3. Drag **EmpID** to the **Values** field and set it to **Count**.

2. Stacked Bar Chart: Marital Status Composition by Gender1.   Select the **Stacked Bar Chart** from the Visualizations pane.
   2. Drag **Gender** to the **Axis** field.
   3. Drag **Marital Status** to the **Legend** field.
   4. Drag **EmpID** to the **Values** field and set it to **Count**.

3. Treemap: Employee Count by Marital Status
   1. Select the **Treemap** visualization.
   2. Drag **Marital Status** to the **Group** field.
   3. Drag **EmpID** to the **Values** field and set it to **Count**.
4. Line Chart: Marital Status Trend Over Time
   1. Select the **Line Chart** from the Visualizations pane.
   2. Drag **Hire Date** to the **Axis** field.
   3. Drag **Marital Status** to the **Legend** field.
   4. Drag **EmpID** to the **Values** field and set it to **Count**.

Step 3: Create Cards
1. Card 1: Total Married Employees
   1. Create a **Card** visualization.
   2. Drag marriage status for married male (click on bar which shows married male on Stacked Bar Chart).