Chapter-25 MS Excel Dashboard -Case Study

Creating an **Excel Dashboard** typically involves compiling data from various sources, performing data analysis, and presenting the findings in a visually appealing and interactive format. A good Excel dashboard helps users quickly understand key performance metrics, track progress, and make informed decisions.

Below, I'll outline a **Case Study** and walk through the solution to create an Excel Dashboard, including the steps for data preparation, analysis, and visualization.

Case Study: Sales Performance Dashboard

Scenario:

Imagine a company that sells products in different regions. The company wants to track and analyze its sales performance over the past year. The sales team needs a dashboard to:

- Track monthly sales performance.
- Compare sales by region and product category.
- Identify top-performing products.
- Track sales targets against actual performance.

The data available includes:

1. **Sales Transactions Data** (Date, Region, Product, Units Sold, Revenue, etc.)
2. **Monthly Sales Target** (Target Revenue for each month)
3. **Product Categories** (Product, Category, and Sales)

Steps to Create an Excel Dashboard for Sales Performance

Step 1: Organize and Clean the Data

You first need to organize your data into structured tables. For this case study, you may have multiple data sheets, such as:

1. **Sales Data**: Contains individual transaction details, including Date, Region, Product, Units Sold, Revenue, etc.
2. **Sales Target Data**: Contains sales targets for each month.
3. **Product Data**: Contains the product name and category.

Example Data:

1. **Sales Data:**

	A	B	C	D	E
1	**Date**	**Region**	**Product**	**Units Sold**	**Revenue**
2	2024-01-01	East	Widget A	50	500
3	2024-01-02	West	Widget B	30	450
4	2024-02-01	East	Widget A	40	400
5	2024-02-02	North	Widget C	20	300

2. **Sales Target Data:**

	A	B
1	**Month**	**Target Revenue**
2	January	10000
3	February	12000

3. **Product Category Data:**

	A	B
1	**Product**	**Category**
2	Widget A	Gadgets
3	Widget B	Gadgets
4	Widget C	Tools

Step 2: Perform Calculations & Data Analysis

1. **Total Sales by Region and Month**:
   - Use **SUMIFS** to calculate total sales by month and region.
   - Example formula: `=SUMIFS(Revenue, Region, "East", Date, ">=2024-01-01", Date, "<=2024-01-31")`
2. **Monthly Sales vs. Target**:
   - You can create a comparison between actual sales and the target using a formula.
   - Example: `=SUMIFS(Revenue, Date, ">=2024-01-01", Date, "<=2024-01-31")` to get total sales for January, and compare it with the target for that month.
3. **Top-performing Products**:
   - Use **Pivot Tables** to aggregate sales by product.
   - Example: Create a Pivot Table with **Product** in Rows, and **Revenue** in Values, sorted by Revenue.

Step 3: Create the Dashboard Layout

1. **Create a New Sheet for the Dashboard**: In the new sheet, reserve space for the key elements you want to track. These might include:
    - **Sales Summary (Total Sales)** by Region
    - **Month-over-Month Comparison** of Sales vs. Target
    - **Top-performing Products**
    - **Sales by Category** (Pie or Bar Chart)
    - **Trend Analysis (Line Chart)** for Monthly Sales
2. **Insert Pivot Tables**:
    - **Sales by Region and Month**: Create a Pivot Table to summarize sales by Region and Month.
    - **Sales vs. Target Comparison**: Create another Pivot Table or use a combination of **SUMIFS** and **Sales Target Data**.
    - **Top-performing Products**: Use a Pivot Table to list the products and their total revenue, sorted in descending order.

Step 4: Insert Visual Elements (Charts and Graphs)

1. **Create a Bar or Column Chart** for Sales by Region:
    - Select the relevant data (e.g., Sales by Region) and insert a **Bar/Column Chart**.
2. **Create a Line Chart** for Monthly Sales Trends:
    - Select the data for **Sales by Month** and insert a **Line Chart**.
    - This helps track sales performance over time.
3. **Create a Pie Chart** for Sales by Product Category:
    - Use the Pivot Table data that aggregates sales by Product Category.
    - Insert a **Pie Chart** to visually show the sales distribution by category.
4. **Create a Comparison Chart** for Sales vs. Target:
    - Use a **Clustered Column Chart** to show the actual sales and target sales side by side.

Step 5: Add Interactivity to the Dashboard

1. **Add Slicers**:
    - Use **Slicers** to add interactivity to your Pivot Tables.
    - For example, add a slicer for **Region** and **Month** so users can filter the data and charts dynamically.
    - To add a slicer:
        1. Click on a Pivot Table.
        2. Go to the **PivotTable Analyze** tab.
        3. Click **Insert Slicer**.
        4. Choose the fields (e.g., Region, Month) you want to use as filters.
2. **Conditional Formatting**:
    - Use **Conditional Formatting** to highlight key data, such as:
        - Highlighting sales values that exceed targets.
        - Applying color scales to show performance trends over time.

Step 6: Finalize the Dashboard Layout

1. **Clean the Layout**:
   - Ensure that all charts and Pivot Tables are aligned and spaced properly. Keep the dashboard clean and organized for easy interpretation.
   - Use Excel's **Align** and **Distribute** tools to organize the elements neatly.
2. **Add Titles and Labels**:
   - Make sure each chart has a title (e.g., "Sales by Region", "Sales vs. Target", etc.).
   - Use **Data Labels** where necessary to make the numbers clear and readable.
3. **Protect the Dashboard**:
   - If the dashboard is being shared, consider **protecting the Workbook** to prevent accidental changes to the data or charts.

Step 7: Review and Share the Dashboard

1. **Test the Dashboard**: Before finalizing, ensure that the dashboard functions as expected by filtering with the slicers, checking the accuracy of data, and ensuring all charts are updating dynamically.
2. **Save the Workbook**: Save your Excel file in a secure location, especially if it contains sensitive data.
3. **Share the Dashboard**: You can share the Excel file with stakeholders, or convert it into a PDF to share as a report.

Sample Excel Dashboard Design

Here's how the sections of the dashboard might be laid out:

Element	Description	Visual Type
Total Sales by Region	Total sales summarized by region	Column Chart
Sales vs. Target	Comparison between actual sales and monthly targets	Clustered Column Chart
Top-performing Products	List of top products based on revenue	Bar Chart / Pivot Table
Sales Trend (Line Chart)	Monthly sales trend for the year	Line Chart
Sales by Category	Percentage of sales by product category	Pie Chart