

# Chapter-11 Creating a Scatter Chart in Power BI

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A **Scatter Chart** in Power BI is used to display the relationship between two continuous variables. Each point in the chart represents a data point from your dataset, making it ideal for identifying trends, correlations, and outliers between two variables.

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## When to Use a Scatter Chart

1. **Analyzing Relationships Between Two Variables**
    - For example, understanding how **Advertising Spend** correlates with **Sales**.
  2. **Identifying Trends or Patterns**
    - Spot trends, clusters, or patterns in large datasets.
  3. **Visualizing Outliers**
    - Highlight data points that deviate significantly from the pattern.
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## Steps to Create a Scatter Chart in Power BI

1. **Import or Load Data**
  - Load your dataset into Power BI.
2. **Navigate to Report View**
  - Go to the **Report** view to create your visualizations.
3. **Add a Scatter Chart**
  - In the **Visualizations** pane, click the **Scatter Chart** icon.
4. **Assign Data Fields**
  - Drag and drop fields from the Fields pane into the chart's data slots:
    - **X-Axis:** Add the first continuous field (e.g., **Advertising Spend**).
    - **Y-Axis:** Add the second continuous field (e.g., **Sales**).
    - **Details:** Optionally, add a categorical field to group data points (e.g., **Product Category**).
    - **Size:** Optionally, add a field to size the data points (e.g., **Profit**).
    - **Color:** Optionally, assign color to data points based on a categorical field (e.g., **Region**).
    - **Tooltips:** Add additional fields to appear when hovering over a data point (e.g., **Date**, **Sales Rep**).
5. **Customize the Chart**
  - Use the **Format** pane to adjust the appearance:
    - **Data colors:** Change the color of data points based on categories.

- **Gridlines:** Adjust the visibility of gridlines for better clarity.
- **X-Axis and Y-Axis:** Customize axis titles, labels, and scales.
- **Data Labels:** Add labels to display values on the data points.
- **Title:** Edit the chart title to reflect the data.

## 6. Filter and Interact

- Use slicers, filters, or cross-filtering to refine the data displayed in the chart.

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## Example: Analyzing the Relationship Between Advertising Spend and Sales

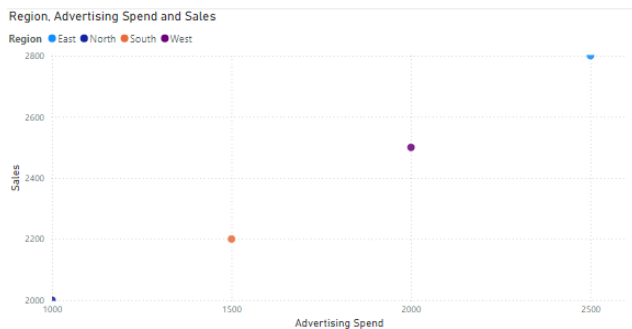
### Dataset:

Advertising Spend	Sales	Region
1000	2000	North
1500	2200	South
2000	2500	West
2500	2800	East

### Steps:

1. Add a **Scatter Chart** to the report canvas.
2. Drag **Advertising Spend** to the **X-Axis** field.
3. Drag **Sales** to the **Y-Axis** field.
4. Optionally, drag **Region** to the **Legend** to differentiate regions by color.

### Result:



- A scatter chart showing **Advertising Spend** on the X-axis and **Sales** on the Y-axis, with different **Region** colors. Larger points represent higher **Profit**.
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## Best Practices for Scatter Charts

### 1. Use for Continuous Data

- Scatter charts work best with continuous data (e.g., sales, time, or temperature) on both axes.

### 2. Label Axes Clearly

- Make sure both the X and Y axes are labeled to clearly define the data being compared.

### 3. Handle Outliers

- Look for outliers (points far from the cluster) to investigate any anomalies or special cases.

### 4. Limit Data Points

- If the dataset is too large, consider using filters or summarizing the data to avoid cluttering the chart.

### 5. Size and Color for Additional Insights

- Use the **Size** field to show a third variable, and **Color** to differentiate categories or groups.
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