

Chapter-23 Working with Radar chart in MS Excel

A **Radar Chart** (also known as a **Spider Chart** or **Web Chart**) in Microsoft Excel is a graphical representation of data where multiple variables are displayed along axes that start from the same point. Radar charts are useful for comparing multiple variables across different categories and are ideal for showing performance metrics or comparing various items against a set of criteria.

Why Use a Radar Chart?

- **Comparing Multiple Variables:** Radar charts allow you to compare several variables across multiple categories, making them ideal for visualizing data with multiple dimensions.
 - **Performance Analysis:** They are often used in performance evaluations to show strengths and weaknesses across different metrics.
 - **Trend Visualization:** Radar charts can help visualize how data changes across categories or how one entity compares to others across various dimensions.
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Creating a Radar Chart in Excel

Step 1: Organize Your Data

Your data should be structured in a way that each row represents a category, and each column represents a variable that will be plotted on the radar chart.

Example Data:

	A	B	C	D	E	F
1	Category	Metric 1	Metric 2	Metric 3	Metric 4	Metric 5
2	Product A	8	7	6	9	5
3	Product B	6	8	7	6	9
4	Product C	7	6	9	7	6

In this example:

- **Product A, Product B, Product C** represent the categories you want to compare.
- **Metric 1, Metric 2, Metric 3, Metric 4, Metric 5** represent the variables you're comparing across each category.

Step 2: Select Your Data

1. Select the data range, including the headers. In the example above, you would select **A1:F4** (including categories and metrics).
2. Ensure that the first column contains your category names and that each subsequent column contains the metrics you want to compare.

Step 3: Insert the Radar Chart

1. Go to the **Insert** tab in the Excel ribbon.
2. In the **Charts** group, click the **Radar Chart** icon (it looks like a web with concentric circles).
3. From the dropdown menu, select the **Radar** chart style you prefer:
 - **Radar**: The basic radar chart with only lines connecting the data points.
 - **Radar with Markers**: Similar to the basic radar chart but with markers on the data points.
 - **Filled Radar**: A radar chart with filled areas, useful for highlighting the differences between categories more clearly.
4. The radar chart will appear on your worksheet with the selected data.

Step 4: Customize the Radar Chart

Once the radar chart is inserted, you can customize it to make it more informative:

1. **Chart Title**: Click on the default chart title and change it to something relevant, like "**Product Performance Comparison**".
2. **Axis Titles**: Add axis titles to explain what each axis represents.
 - Click the chart, then go to **Chart Tools > Add Chart Element > Axis Titles** to add titles to the axes.
 - For example, you can label each axis with the name of the metric (e.g., "**Metric 1**", "**Metric 2**").
3. **Legend**: The chart will automatically add a legend to differentiate the categories (e.g., **Product A**, **Product B**, etc.). You can adjust the position of the legend by dragging it, or you can remove it if not needed.
4. **Data Labels**: You can add data labels to each data point on the radar chart for clarity.
 - Right-click on any data series (the lines connecting the points) and select **Add Data Labels** to show the values on the chart.
5. **Gridlines**: Radar charts often have gridlines to show how far each data point extends along the axis. You can remove or modify gridlines to make the chart cleaner.
 - Go to **Chart Tools > Add Chart Element > Gridlines** to add or remove gridlines.

Step 5: Format the Radar Chart

1. **Change Line Style**: You can change the color, thickness, or style of the lines connecting the data points.
 - Right-click on the line connecting the points and select **Format Data Series**. Under the **Line** options, you can change the line style and color.

2. **Change Fill Color:** For a filled radar chart, you can adjust the fill color to highlight areas that perform well or poorly.
 - o Right-click on the filled area and choose **Format Data Series**. Under the **Fill** options, select a color.
 3. **Adjust the Scaling:** Sometimes, you may need to adjust the scaling of the axes if the data is spread unevenly across categories. This can be done through the **Format Axis** options.
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Example: Performance Comparison Radar Chart

Let's use the following dataset for a performance comparison of three products across five different metrics.

	A	B	C	D	E	F
1	Category	Metric 1	Metric 2	Metric 3	Metric 4	Metric 5
2	Product A	8	7	6	9	5
3	Product B	6	8	7	6	9
4	Product C	7	6	9	7	6

Steps to Create the Radar Chart:

1. Select **A1:F4** (including the product names and the metric values).
 2. Go to the **Insert** tab and click on the **Radar Chart** icon.
 3. Select **Radar with Markers** to show the data points more clearly.
 4. Customize the chart title to "**Product Performance Comparison**".
 5. Add axis titles for each metric (e.g., "**Metric 1**", "**Metric 2**", etc.).
 6. Optionally, adjust the chart's color and line style for better visual appeal.
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Advanced Features of Radar Charts

1. Filled Radar Chart

A **Filled Radar Chart** is useful when you want to emphasize the differences between categories. The area inside the radar chart is filled with color, which helps to visually highlight the performance of each category.

- To create a filled radar chart, choose **Radar with Fill** from the **Insert > Radar** dropdown.

2. Multiple Data Series

You can compare more than one set of data in a radar chart by adding multiple series. For example, you could compare the performance of multiple products or compare different time periods for a single product.

- To add another data series, right-click on the chart, choose **Select Data**, and then click **Add** to add another series.

3. Customizing Axes

You can customize the axes to adjust how each metric is scaled, which is particularly useful if your metrics have different ranges of values.

- Right-click on the axis and select **Format Axis** to modify the axis range or scale.

4. Using Radar Chart for Performance Reviews

Radar charts are often used in performance reviews for comparing individual or team performance across different competencies or skills. For example, you could create a radar chart for an employee comparing their performance across different criteria like **Leadership**, **Communication**, **Problem-Solving**, and so on.

Benefits of Using a Radar Chart

- **Easy Comparison:** Radar charts make it easy to compare multiple variables at once, especially when there are several categories or items to compare.
 - **Visualizing Strengths and Weaknesses:** By comparing data points across multiple metrics, you can quickly identify areas where a product, person, or process excels or needs improvement.
 - **Clear Trends:** Radar charts allow you to observe trends or patterns across different metrics in a single glance.
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Limitations of Radar Charts

- **Overcrowding:** Radar charts can become cluttered if you have too many data series or variables, making the chart difficult to read.
- **Difficult for Large Data Sets:** If you have large datasets, radar charts may not be the best choice as they become harder to interpret.
- **Misleading Representation:** Radar charts can be misleading if the axis scales are not consistent or if the data ranges are too varied.