

# EDA-Pivot Table Analysis

---

## Pivot Table Analysis for Exploratory Data Analysis (EDA)

Pivot tables are a powerful tool in data analysis that allows you to summarize and analyze large datasets. In the context of Exploratory Data Analysis (EDA), pivot tables can help you gain insights into your data by summarizing and aggregating different variables.

### Why Use Pivot Tables for EDA?

- 1. Summary Statistics:** Pivot tables provide summary statistics such as mean, median, mode, and standard deviation.
- 2. Aggregation:** You can aggregate data across multiple categories or dimensions.
- 3. Visualizations:** Pivot tables can be easily converted into visualizations such as bar charts, pie charts, and scatter plots.

### Example:

Suppose we have a dataset of sales data for an e-commerce company:

Order ID	Product Name	Quantity Sold	Price	Region
1	iPhone	10	\$999.99	North America
2	Laptop	5	\$1299.99	Europe
3	iPhone	20	\$999.99	Asia
...	...	...	...	...

We want to analyze the sales data by region and product.

### Step-by-Step Pivot Table Analysis:

- 1. Drag and Drop:** Drag the Region and Product Name columns into the "Rows" area of the pivot table.
- 2. Add Fields:** Add the Quantity Sold and Price columns as values in the "Values" area.
- 3. Group Data:** Group the data by Region and Product Name.

### Pivot Table Output:

Region	Product Name	Sum of Quantity Sold	Average Price
North America	iPhone	30	\$999.99
Europe	Laptop	15	\$1299.99
Asia	iPhone	50	\$999.99

### Insights:

1. The majority of sales come from the Asia region.
2. The iPhone is the top-selling product, with a significant presence in all regions.

### Visualizations:

We can convert this pivot table into visualizations such as:

- A bar chart showing the sum of quantity sold by region
- A pie chart showing the distribution of sales across different products

By using pivot tables for EDA, we can quickly and easily summarize large datasets, gain insights into our data, and create meaningful visualizations to communicate our findings.

---

*Curated by Brajesh Kumar*