**Setting Up the Dashboard in Power BI: Step-by-Step Guide**

**1. Data Preparation & Cleaning**

**Process:**

* **Ensure column naming consistency (e.g., rename "Administr:" to "Administration").**
* **Handle missing or incorrect values, such as the "0" in the "Marketing" column.**
* **Convert "State" into a categorical variable for proper filtering and segmentation.**

**2. Dashboard Components**

**A. KPIs & Summary Metrics**

**Chart: Card Visuals  
Insight: Display key business metrics at a glance.  
Configuration:**

* **Total Profit: Sum of "Profit".**
* **Average R&D Spend, Administration, and Marketing Spend: Create measures for each.**
* **Profitability Ratio: (Profit / RD\_Spend) \* 100 (Measure).**
* **State-wise Contribution to Total Profit: Show which state generates the most profit.**

**B. Profit Trends**

**Chart: Line Chart  
Insight: Show how "Profit" varies with "RD\_Spend", "Marketing", and "Administration".  
Configuration:**

* **X-axis: Time Period (if available) or RD\_Spend.**
* **Y-axis: Profit.**
* **Filters: State, Administration Spend, and Marketing Spend.**

**C. State-wise Performance**

**Chart: Map Visual  
Insight: A geographical map to visualize total profit per state.  
Configuration:**

* **Location: State.**
* **Values: Total Profit.**
* **Filters: RD\_Spend, Marketing Spend, and Administration Spend.**

**D. R&D Spend vs. Profit**

**Chart: Scatter Plot  
Insight: Identify if higher R&D investment leads to higher profit.  
Configuration:**

* **X-axis: RD\_Spend.**
* **Y-axis: Profit.**
* **Filters: State and Marketing Spend.**

**E. Marketing Spend Impact**

**Chart: Bar Chart  
Insight: Compare "Marketing Spend" and "Profit" per state.  
Configuration:**

* **X-axis: State.**
* **Y-axis: Total Profit.**
* **Bars: Marketing Spend categories.**
* **Filters: RD\_Spend and Administration Spend.**

**F. Top 5 & Bottom 5 Performers**

**Chart: Table/Matrix  
Insight: List top and bottom five profit-generating records.  
Configuration:**

* **Columns: RD\_Spend, Administration, Marketing Spend, State, Profit.**
* **Sorting: Profit (Descending for Top 5, Ascending for Bottom 5).**

**3. Interactive Features**

* **Slicers for filtering by "State" and "Marketing Spend Ranges".**
* **Drill-through Analysis – Click on a state to see detailed metrics.**
* **Dynamic Sorting – Allow users to sort records by Profit, R&D Spend, etc.**

**DAX MEASURES**

**A. Total Profit**

**Total\_Profit = SUM('Table'[Profit])**

**B. Average R&D Spend**

**Avg\_RD\_Spend = AVERAGE('Table'[RD\_Spend])**

**C. Profitability Ratio**

**Profitability\_Ratio = DIVIDE(SUM('Table'[Profit]), SUM('Table'[RD\_Spend]), 0) \* 100**

**D. State-wise Contribution to Profit**

**State\_Profit\_Contribution = DIVIDE(SUM('Table'[Profit]), CALCULATE(SUM('Table'[Profit]), ALL('Table')), 0)**

**E. Top 5 Profitable Entries**

**Top\_Profits = TOPN(5, 'Table', 'Table'[Profit], DESC)**

**F. Bottom 5 Profitable Entries**

**Bottom\_Profits = TOPN(5, 'Table', 'Table'[Profit], ASC)**