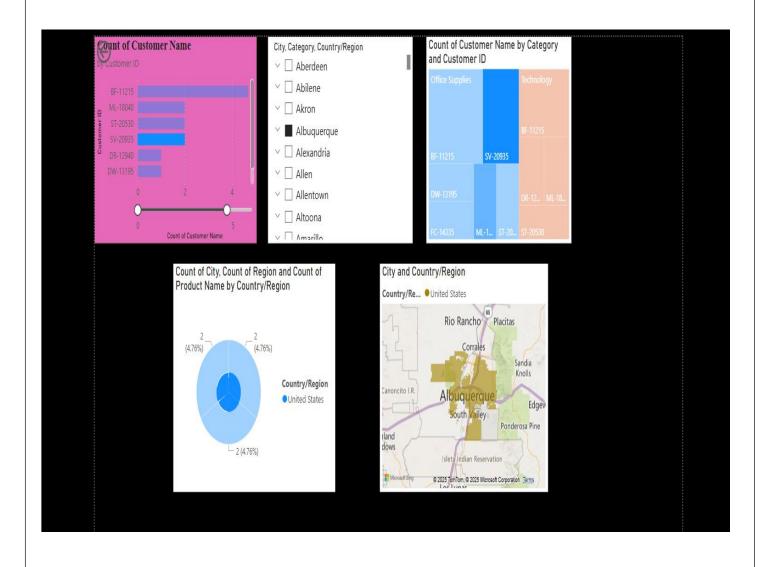NAME:SNEHA K

13-05-2025

POWERBI-TASK 2

**3. Highlight Key Takeaways (Insights derived from your visuals)**

◇ **Customer Concentration**

- A few customers, such as BF-11215 and SV-20935, generate significantly more orders compared to others.

- Indicates reliance on repeat customers—retention is critical.

◇ **Category-Based Customer Activity**

- **Technology** and **Office Supplies** categories dominate in terms of customer engagement.

- Minimal activity in **Furniture**, indicating possible underperformance.

◇ **Geographical Focus**

- Most customer orders and interactions are coming from **Albuquerque**, United States.

- Other cities like **Abilene**, **Akron**, and **Alexandria** have minimal order activity.

◇ **Regional Spread of Sales**

- All customers are from **United States**, suggesting a national-level operation with localized activity in few cities.

- This narrow geography is shown in the **Map View** and **Donut Chart**.

◇ **Product Focus**

- Despite a large product range, only a few products repeatedly appear in customer orders.

- Indicates high-volume sellers or frequently re-ordered SKUs.

**4. Add Context to Each Chart (Chart-specific Explanation)**

**Bar Chart – Count of Customer Name by Customer ID**

This chart shows the **number of orders placed by individual customers**.

- **Context**: Helps identify your **most loyal or frequent customers**.

- **Use Case**: Useful for targeting loyalty programs or exclusive deals.

**Hierarchical Tree Filter – City, Category, Country/Region**

A **dynamic slicer** that allows you to filter data across cities, categories, and regions.

- **Context**: Gives users flexibility to explore metrics by geographic or product dimensions.
- **Use Case**: Interactive drill-down into customer behavior by city or product.
-

## Treemap – Count of Customer Name by Category

Shows **customer engagement across product categories**.

- **Context**: Measures which product categories attract more customers.
- **Insight**: Can influence inventory and marketing priorities.

## Donut Chart – Count of City, Region, Product Name by Country

Visualizes count-based proportions for **geography and product** distribution.

- **Context**: Helps summarize data for **geographical reach** and **product variety**.
- **Insight**: Tells how widespread the customer/product base is.

## Map Chart – City and Country/Region

Geo-visualization to identify **customer concentration by location**.

- **Context**: Essential for understanding **regional demand**.
- **Insight**: Reveals geographical sales hotspots and opportunities for expansion.

## Bar Chart

Business Insights:  Certain customers generate high volume

## Tree Map

Business Insights: Technology leads in customer engagement

## Map View

Business Insights: Albuquerque is a customer hotspot

## Donut Chart

Business Insights: Limited city and region reach

## Slicer

Product-customer-city drill-down possibilities

**Top Customers**

- Show Bar Chart of Count of Customer Name

    o Top 3 customers account for major share of repeat orders.

    o High concentration = High retention value.

    o Focus on building customer lifetime value.

**Product Category Engagement**

- Show Treemap of Category vs Customer

    o Technology and Office Supplies dominate.

    o Furniture underperforms—needs attention.

    o Suggest targeted promotions or reviews in weak segments.

**Geo Analysis**

- Show Map + Donut Chart

    o All customers in U.S., mostly in specific cities.

    o Albuquerque is a key hub.

    o Expand to adjacent cities or underpenetrated regions.

**Interactive Filtering Potential**

- Show Slicer + Sample Interaction

    o Drill down across City, Product, and Region.

    o Enables actionable segmentation.

    o Supports decision-making for sales and logistics teams.

INTERVIEW QUESTION

**1. What is the importance of data visualization?**

**Answer**:
Data visualization helps transform raw data into visual formats (like charts, graphs, maps) that are easier to understand, analyze, and communicate. It highlights trends, patterns, and outliers, enabling faster and better decision-making.

**2. When do you use a pie chart vs bar chart?**

**Answer**:

- **Pie Chart**: Best used to show **parts of a whole** (e.g., market share, sales distribution). Ideal when there are **few categories** and total = 100%.

- **Bar Chart**: Used to **compare quantities** across categories (e.g., sales by region, number of customers). More effective for showing **rankings and differences**.

**3. How do you make visualizations more engaging?**

**Answer**:

- Use clear titles and labels

- Choose the right chart for the data

- Apply color wisely to highlight key insights

- Enable interactivity (filters, slicers, tooltips)

- Tell a story or relate visuals to business questions

- Avoid clutter and keep visuals focused

**4. What is data storytelling?**

**Answer**:
Data storytelling is the art of **combining data, visuals, and narrative** to communicate insights effectively. It helps the audience understand not just *what* the data shows, but *why it matters* and *what to do next*.

**5. How do you avoid misleading visualizations?**

**Answer**:

- Always start axes at zero (when appropriate)
- Use consistent scales and intervals
- Avoid manipulating chart sizes or proportions
- Clearly label data sources and values
- Don't cherry-pick or hide data
- Use appropriate chart types for the message

**6. What are best practices in dashboard design?**

**Answer**:

- Start with the business question or objective
- Keep layout clean and intuitive
- Use KPIs and summary cards for quick insights
- Limit colors to create visual hierarchy
- Use filters and drill-downs for interactivity
- Ensure mobile/responsive compatibility
- Test with users before finalizing

**7. What tools have you used for visualization?**

**Answer**:

- **Power BI** – for interactive dashboards and business reports
- **Tableau** – for drag-and-drop visual analytics
- **Excel** – for quick and simple charts
- **Google Data Studio** – for online dashboarding