Questions for Analysis, Modeling, and Visualization on Customer Segmentation Dataset

Data Understanding and Exploration:

1. What is the distribution of customers across different age groups (`Age_Group`)?
2. How does `Customer_Gender` vary across different countries or states?
3. What is the most popular `Product_Category` and `Sub_Category` in terms of `Order_Quantity`?

Clustering for Segmentation:

4. Can we segment customers based on their purchasing behavior (e.g., `Order_Quantity`, `Profit`, `Revenue`)? Use clustering techniques such as K-Means or Hierarchical Clustering.
5. What are the characteristics of each customer cluster?

Profitability and Revenue Analysis:

6. Which `Product_Category` or `Sub_Category` generates the highest `Profit` and `Revenue`?
7. Analyze the relationship between `Unit_Cost`, `Unit_Price`, and `Profit`.

Demographic Insights:

8. Which `Age_Group` contributes most to `Revenue` and `Profit`?
9. How does customer spending (`Revenue`) differ between `Customer_Gender` groups?

Time-Series Analysis:

10. Analyze the monthly or yearly trends in `Revenue` and `Profit`.

Model Building:

11. Predict the likelihood of high `Order_Quantity` based on customer demographics and product details using classification algorithms.
12. Create a regression model to predict `Profit` based on product and customer attributes.

Visualization:

13. Visualize the customer distribution by `Country` and `State`.
14. Create a bar chart showing `Revenue` or `Profit` for each `Product_Category`.
15. Plot clusters of customers based on purchasing behavior for visual inspection.