Lesson 06: Analyzing Sales Performance

Overview

This exercise involves analyzing sales data from a retail company to derive insights into sales performance and trends. The objective is to utilize calculated fields and table calculations in Tableau to perform various analyses and visualization techniques.

Instructions

- Review the learning materials in Lesson 06
- Carefully read the situation, task, actions, and result sections to grasp the assignment fully
- Complete and submit your assignment via the Learning Management System (LMS)
- Follow the provided guidelines closely, ensuring your report includes all required analyses and interpretations
- Use the **SalesData.csv** dataset provided in the Reference Material section on LMS

Situation

You are a data analyst working for a retail company. Your manager has asked you to analyze sales data to identify key performance indicators (KPIs) and trends that will aid in decision-making processes. The company is particularly interested in understanding sales performance across different product categories and regions.

Task

Your task is to analyze retail sales performance by creating calculated fields for vital metrics such as profit margin and applying table calculations for year-over-year comparisons, moving averages, and sales ranking. These analyses are aimed at revealing insights into sales dynamics across product categories and regions.

Action

1. **Import the SalesData.csv dataset into Tableau**

   - Open Tableau; click on **Connect** and select **Microsoft Excel**
   - Navigate to the location of **SalesData.xlsx** and select it
   - Verify that the data types are correctly interpreted and adjust if needed

2. **Explore the dataset to understand its structure and contents**

   - Examine the fields in the Data pane to understand the columns available
   - Click on the **View Data** to get a better understanding of each categories

3. **Create calculated fields for the following metrics**

   - Navigate to the Data pane and right-click to select **Create Calculated Field**
   - Profit margin: **(SUM([Profit]) / SUM([Sales])) * 100**
   - Sales growth rate: **((SUM([Sales]) - LOOKUP(SUM([Sales]), -1)) / LOOKUP(SUM([Sales]), -1)) * 100**
   - Average order value: **SUM([Sales]) / COUNTD([Order ID])**

4. **Utilize table calculations to perform the following analyses**

   For year-over-year (YoY) growth:
   - Drag **Order Date** to **Columns** and **Sales** to **Rows**
   - Right-click on **Sales** on the **Rows** shelf and select **Quick Table Calculation** and then choose **Year Over Year Growth**
   - Click on **Text** label present above the **Columns** shelf

   For moving average:
   - Create a calculated field for moving average: **WINDOW_AVG(SUM([Sales]), -2, 0)**
   - Drag this calculated field (**Moving average**) into the **Rows** and adjust the date granularity as **month**

   For sales rank:
   - Drag **Product** to **Rows** and **Sales** to **Columns**

- Right-click on **Sales** on the **Columns** shelf and select **Add Table Calculation**. Choose **Rank** as the calculation type and configure settings as desired.
- Apply filters to focus on specific categories of **Product** and observe their rankings

5. **Create additional visualizations to explore other aspects of the dataset**

    - From the **Marks** card, generate **bar chart**, **line graph**, or **scatter plot** to visualize trends over time
    - Create **map** to identify regional sales patterns

6. **Apply filters to interactively analyze specific segments of the data**

    - Go to **Analysis**, click on **Filters**, and select **Sum of Sales**
    - Go to **Analysis**, click on **Filters**, and select **Product**

Result

Summarize the analysis findings, presenting visualizations and insights derived from calculated fields and table calculations. Highlight key discoveries such as top-selling products, regions with the highest growth rates, and trends observed over time. Create a Word document and add screenshots of relevant visualizations to supplement the analysis report. Finally, upload the completed analysis report to the Learning Management System (LMS).

Rubrics

Your submission will be evaluated based on the following key criteria, each representing a crucial aspect of the project. These criteria are:

Criteria	Complete or Incomplete
Importing Dataset: Check if the SalesData.csv dataset is imported successfully into Tableau	
Creating Calculated Fields: Check if the calculated fields are created for Profit Margin, Sales Growth	

Rate, and Average Order Value per the provided formulas	
Utilizing Table Calculations: Ensure that the table calculations are applied to analyze year-over-year sales growth, moving average, and sales rank	
Creating additional visualizations: Check if bar charts, line graphs, or scatter plots are generated to visualize trends over time. Also, check if geographical maps are created to identify regional sales patterns.	
Applying filters: Check if Date filters are implemented to focus on sales trends within a specific time period. Also, check if Product category filters are used to drill down into sales performance by product type.	