Lesson 04: Navigating Trends and Forecasts

Overview

In this project, you will delve into the Analytics Pane and Parameters functionality in Tableau using the **Superstore** dataset. Through hands-on exploration, you will gain valuable experience in utilizing features such as reference lines, reference bands, distribution analysis, box plots, trend lines, forecasting, and parameter controls with various data dimensions and measures. By completing this project, you will develop a deeper understanding of how to analyze and visualize sales data effectively using Tableau.

Instructions

- Review the learning materials in Lesson 04 to familiarize yourself with the concepts of Analytics Pane and Parameters in Tableau
- Carefully read the situation, task, actions, and result sections to understand the assignment thoroughly
- Utilize the Superstore dataset provided in the Reference Material section on the Learning Management System (LMS).
- Create and submit your assignment via the Learning Management System (LMS), ensuring your document effectively communicates key insights and trends

Situation

You are a data analyst working for X-mart Superstore. The store is interested in understanding sales trends and forecasts. It wants to gain insights into sales performance across different product categories, analyze trends over time, and forecast future sales. Your task is to use Tableau and the Superstore sales dataset to analyze sales data and provide actionable insights to improve decision-making.

Task

Your task is to use Tableau's Analytics Pane and Parameters to analyze the Superstore sales dataset. This involves exploring data trends with features like reference lines, bands, distribution analysis, box plots, trend lines, and

forecasting. Implement parameter controls for dynamic filtering and analysis to gain valuable insights efficiently.

Action

1. **Import Superstore Data**
    - Open Tableau Desktop
    - Connect to the Superstore sales dataset (Superstore.xls)
    - Import the data into Tableau

2. **Reference Lines**
    - Drag the **Order Date** field to the **Columns** shelf
    - Drag the **Sales** field to the **Rows** shelf
    - In the **Analytics** pane, select **Add Reference Line**
    - Configure the reference line to display the average sales over time
    - Change line formatting: make line bold and update the color

3. **Reference Bands**
    - In the **Analytics** pane, select **Add Reference Band**
    - Define the reference band to highlight sales trends from average to maximum

4. **Distribution Analysis**
    - Create a new worksheet
    - Drag the **Category** field to the **Columns** shelf
    - Drag the **Sales** field to the **Rows** shelf
    - Drag **Distribution Band** from **Analytics** pane
    - Click on **OK**

5. **Box Plot**
    - Create another worksheet
    - Drag the **Sales** field to the **Rows** shelf
    - Drag the **Category** field to the **Columns** shelf
    - Select **Show Me** and choose the box plot (**box-and-whisker-plot**)

6. **Trend Lines**
    - Navigate to new worksheet and drag **Order Date** to **Columns** and **Sales** to **Rows**
    - In the **Analytics** pane, select **Add Trend Line**

7. **Forecasting**
    - From the **Analytics** pane, drag **Forecast**

- Configure the forecasting options to predict future sales for 5 years, click on forecast line, and then click on **Edit**
- Select **Exactly** under **Forecast Length** and make it **5 Years**

8. **Parameters with Filters**
    - Create the Date Range Parameter
        - Right-click in the data pane and select **Create Parameter**
        - In the dialog box, name the parameter (example **Date Range**
        - **Parameter**)
        - Under **Data type**, select **Date**
        - Under **Allowable values**, select **Range**
        - Define the allowable range based on your dataset and click **OK**
    - Create the Calculated Field
        - Select **Analysis** and click on **Create Calculated Field**
        - In the dialog box, name the calculated field (example **Date Range Filter**)
        - In the formula field, create a calculation: **[Order Date] >= [Date Range Parameter] AND [Order Date] <= [Date Range Parameter]**
    - Create the View
        - Drag **Sales** to the **Columns** shelf
        - Drag **State** to the **Rows** shelf
        - Right-click on **Date Range Parameter** in the data pane and select **Show Parameter Control**
        - Drag **Date Range Filter** to the **Filters** shelf
        - In the Filter dialog, check **True** and click **OK**

Result

Your submission should include screenshots illustrating each step performed in the Word document highlighting actionable insights into sales performance. The document will include visualizations of top-performing products, monthly sales trends, and the impact of product categories on sales. Upload the Word Document to the Learning Management System (LMS).

Rubric

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
Reference Lines: Add Order Date and Sales, then include a reference line for average sales over time	
Reference Bands: Utilize a reference band in Analytics Pane to highlight seasonal sales trends	
Distribution Analysis: Create a worksheet with Product Category and Sales for a distribution plot	
Box Plot: Use another worksheet with Sales and Product Category for a box plot	
Trend Lines: Add trend lines to Line Chart visualization for displaying sales trends	
Forecasting: Configure forecasting options in Line Chart visualization to predict future sales	
Parameters with Filters: Create a parameter control for date range filtering linked to Superstore dataset	