



CMT 426 - BUSINESS INTELLIGENCE AND ANALYTICS

ASSIGNMENT 1: STORYLINE

Lecturer's Name

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1. Data Collection

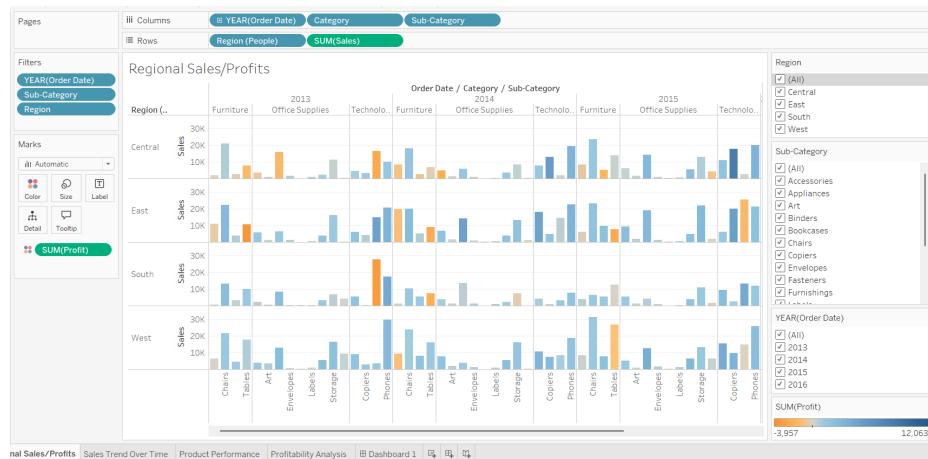
2. Data Cleaning and Preparation

This screenshot shows the Tableau Desktop Public Edition interface. The main window displays the 'Orders+ (Sample-Superstore)' worksheet. The sidebar on the left shows a connection to 'Sample-Superstore' and lists sheets such as 'Orders', 'People', 'Returns', 'Orders A1-B3', 'New Union', and 'New Table Extension'. A note in the sidebar indicates that data has been modified and can be restored. The main area shows a data grid with 21 fields and 9994 rows, with columns including Row ID, Order ID, Order Date, Ship Date, and Customer ID.

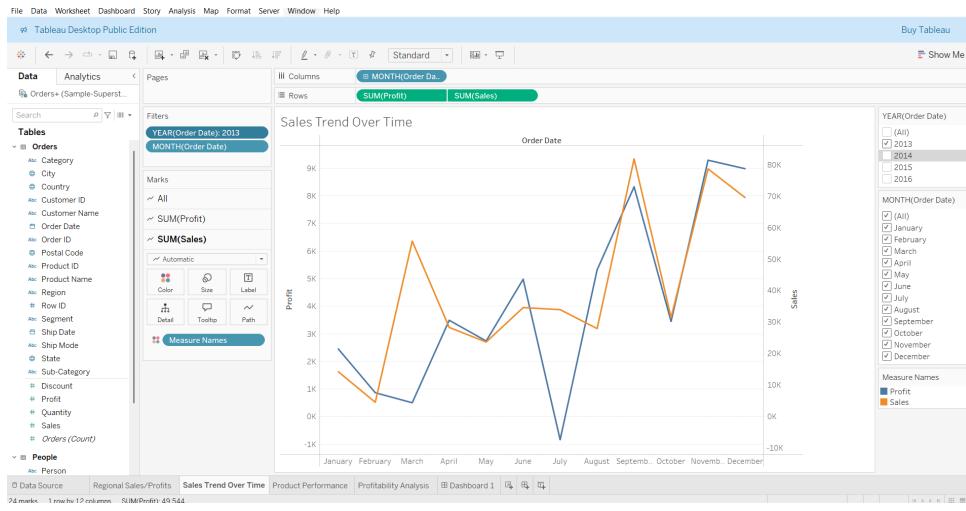
This screenshot shows the same Tableau Desktop Public Edition interface as the first one, but it appears to be a later version or a different session. The data grid now contains 21 fields and 9994 rows, indicating that the cleaning process has been completed.

3. Dashboard

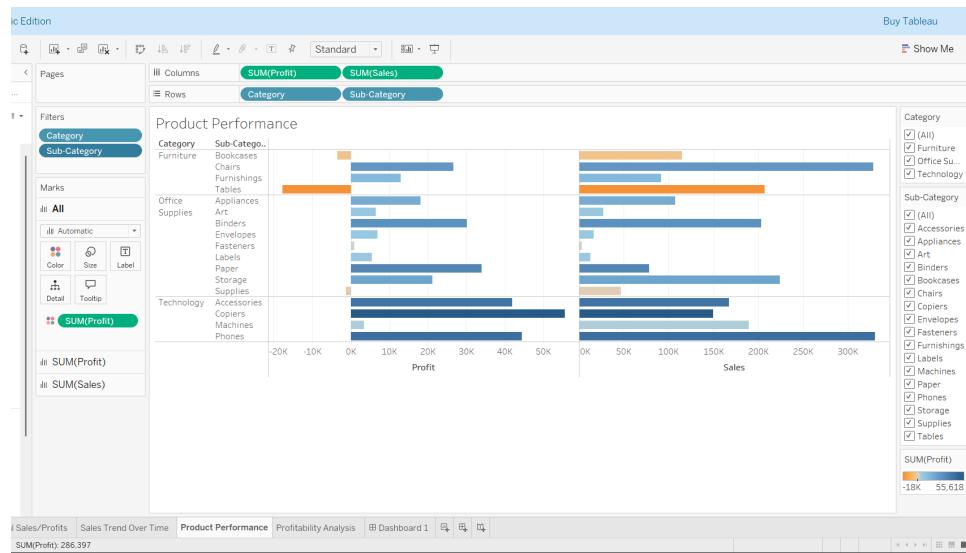
a) Sales and Profit by Region



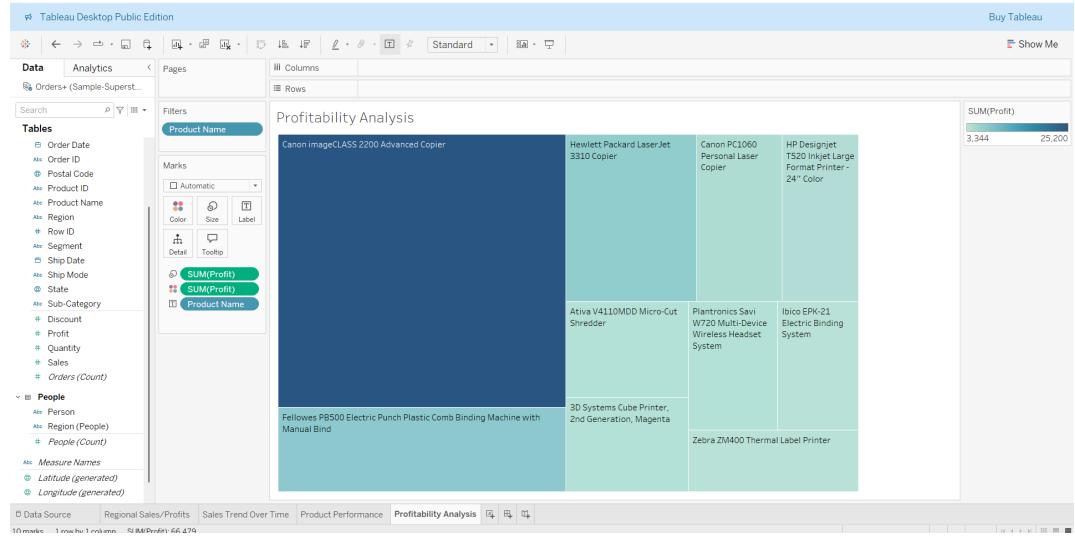
b) Sales Trends Over Time



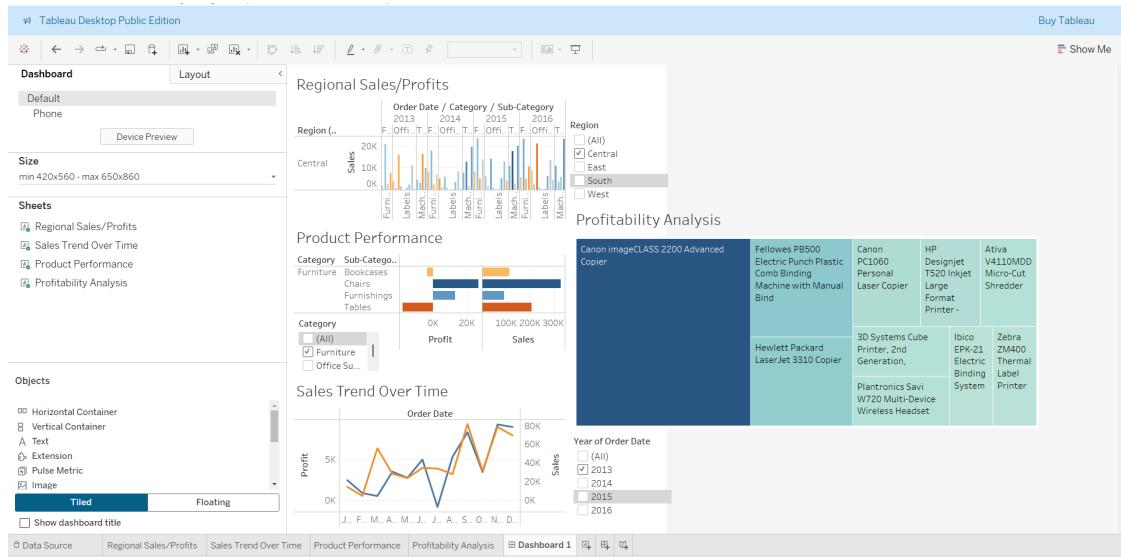
c) Product Performance by Category and Sub-Category



d) Profitability Analysis



e) Dashboard



Insights

1. Business Problem

Superstore is seeking to expand and improve its operations. However, before making strategic decisions, the company must evaluate which regions, product categories, and individual products are performing well in terms of sales and profitability. The objective of this analysis is to identify key patterns, strengths, and weaknesses in business performance, and deliver data-driven recommendations.

2. Key Insights

A. Regional Sales & Profit (Bar Chart by Region)

- East and West regions show consistently higher sales volumes, but South has significant profit losses, especially in certain sub-categories like Tables and Machines.
- Central region maintains balanced performance but lacks significant growth.

B. Sales Trends Over Time (Dual-Line Graph)

- Sales and profits follow a seasonal trend, peaking during Q3 and Q4 (especially September to December).
- Certain years such as 2014 and 2015 show much sharper profit growth, while others like 2013 had uneven profitability.

C. Product Performance by Category & Sub-Category (Horizontal Bar Chart)

- Technology products like Copiers and Phones are top performers, both in sales and profitability.
- Office Supplies generally have lower profit margins. Tables in the Furniture category show high sales but negative profits, indicating potential issues with pricing or cost.

D. Profitability Analysis (Treemap)

- The Top 10 most profitable products are heavily concentrated in the Technology category (e.g., Canon imageCLASS Copiers, HP LaserJet Printers).
- No Furniture items appear in the top 10 list, highlighting a need for review of that category's profitability.

3. Business Recommendations

a. Prioritize High-Profit Products

Focus marketing and inventory efforts on top-performing items such as Copiers, Printers, and select Office Tech. Expand this product line regionally.

b. Investigate Unprofitable High-Sellers

Products like Tables are selling well but are consistently unprofitable. Consider renegotiating supplier costs, raising prices, or phasing out low-margin SKUs.

c. Boost South Region Strategy

The South region shows repeated profit losses. A localized strategy involving operational efficiency, cost control, or tailored marketing may improve results.

d. Leverage Seasonal Peaks

Since Q4 shows a spike in sales/profit, consider planning major promotions, restocking, and campaigns ahead of September to December.