

# Strategic Product Placement Analysis: Unveiling Sales Impact with Tableau Visualization

## 1. INTRODUCTION

### 1.1 Project Overview

Strategic Product Placement Analysis is a data analytics project developed using Tableau to analyse sales performance, customer demographics, product positioning, pricing, and promotional impact.

The objective of this project is to identify which product categories perform better in different store positions (Front of Store, Aisle, End-cap) and to generate insights that help retail managers make data-driven decisions to improve sales volume.

The project includes data preprocessing, dashboard creation, and story visualization to present business insights in a clear and interactive manner.

---

### 1.2 Purpose

The purpose of this project is to:

- Analyze sales trends across product categories
  - Understand the impact of product placement on sales
  - Study customer demographics and buying behavior
  - Evaluate the effect of promotions on sales volume
  - Provide strategic recommendations for product positioning
- 

## 2. IDEATION PHASE

### 2.1 Problem Statement

Retail stores often struggle to determine optimal product placement strategies. Poor placement decisions may lead to low sales performance even if the product quality is good.

The problem addressed in this project is:

**How can sales data, pricing information, and customer demographics be analyzed to determine the most effective product placement strategy to maximize sales volume?**

---

## 2.2 Empathy Map Canvas

The target persona is a Retail Product Manager who:

- Needs clear sales insights
- Wants to improve store performance
- Faces difficulty understanding complex data
- Requires visual dashboards for quick decision-making

The empathy map helped identify the manager's needs, frustrations, and goals, which guided dashboard design.

---

## 2.3 Brainstorming

During brainstorming, the following ideas were identified:

- Compare average sales volume by product category
- Analyze competitor price vs product price
- Study promotion impact (Yes/No) on sales
- Identify high-performing store positions
- Visualize demographic-wise sales contribution

These ideas were later converted into dashboards and storyboards.

---

### **3. REQUIREMENT ANALYSIS**

#### **3.1 Customer Journey Map**

1. Store manager collects sales data
  2. Data is analyzed using Tableau
  3. Insights are generated through dashboards
  4. Strategic decisions are made based on visual reports
  5. Sales performance improves through optimized placement
- 

#### **3.2 Solution Requirement**

Functional Requirements:

- Load dataset into Tableau
- Perform preprocessing and cleaning
- Create interactive dashboards
- Develop story presentation

Non-Functional Requirements:

- User-friendly visualization
  - Accurate data representation
  - Fast dashboard loading
  - Clear layout and design
- 

#### **3.3 Data Flow Diagram**

Input → Dataset (CSV file)

Processing → Data cleaning & transformation

Analysis → Tableau visualizations

Output → Dashboard & Story Insights

---

### **3.4 Technology Stack**

- Tableau Public – Data Visualization
  - Python (Flask) – Web Integration
  - HTML/CSS – Frontend interface
  - CSV Dataset – Data source
  - GitHub – Project repository
  - Google Drive – Demo video hosting
- 

## **4. PROJECT DESIGN**

### **4.1 Problem Solution Fit**

The proposed solution provides visual dashboards that simplify complex sales data and allow managers to quickly identify high-performing product categories and positions.

---

### **4.2 Proposed Solution**

The system analyses retail sales data and provides insights such as:

- Highest performing product category
- Best store position for sales
- Impact of promotions
- Demographic contribution to sales

The dashboard helps managers make strategic placement decisions.

---

### **4.3 Solution Architecture**

Dataset → Tableau Dashboard → Flask Web Application → User Browser

The user accesses the dashboard through a local web server (127.0.0.1:5000), where embedded Tableau visualizations are displayed.

---

## 5. PROJECT PLANNING & SCHEDULING

The project was completed in phases:

- Phase 1: Problem identification & ideation
  - Phase 2: Data preprocessing
  - Phase 3: Dashboard development
  - Phase 4: Story creation
  - Phase 5: Web integration using Flask
  - Phase 6: Testing & documentation
- 

## 6. FUNCTIONAL AND PERFORMANCE TESTING

### 6.1 Performance Testing

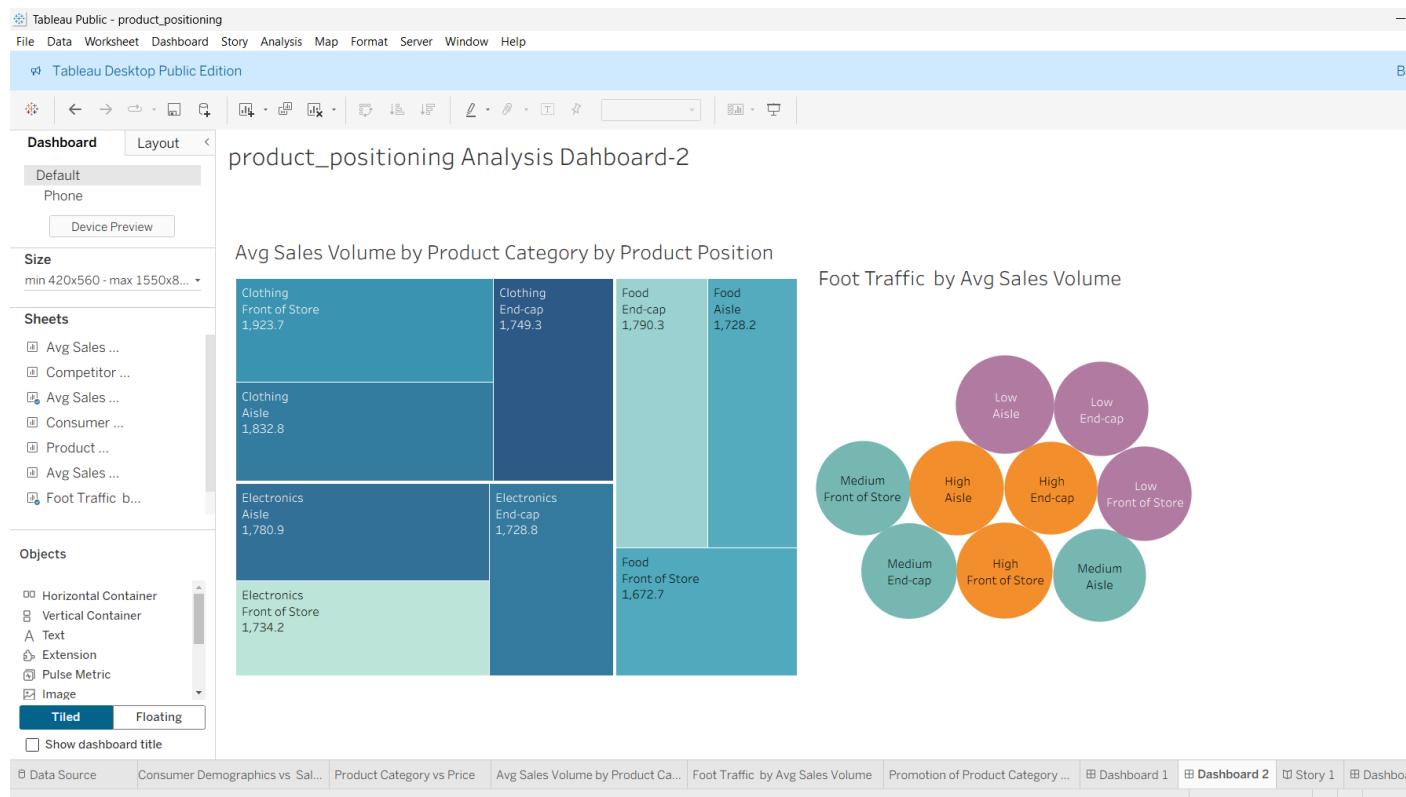
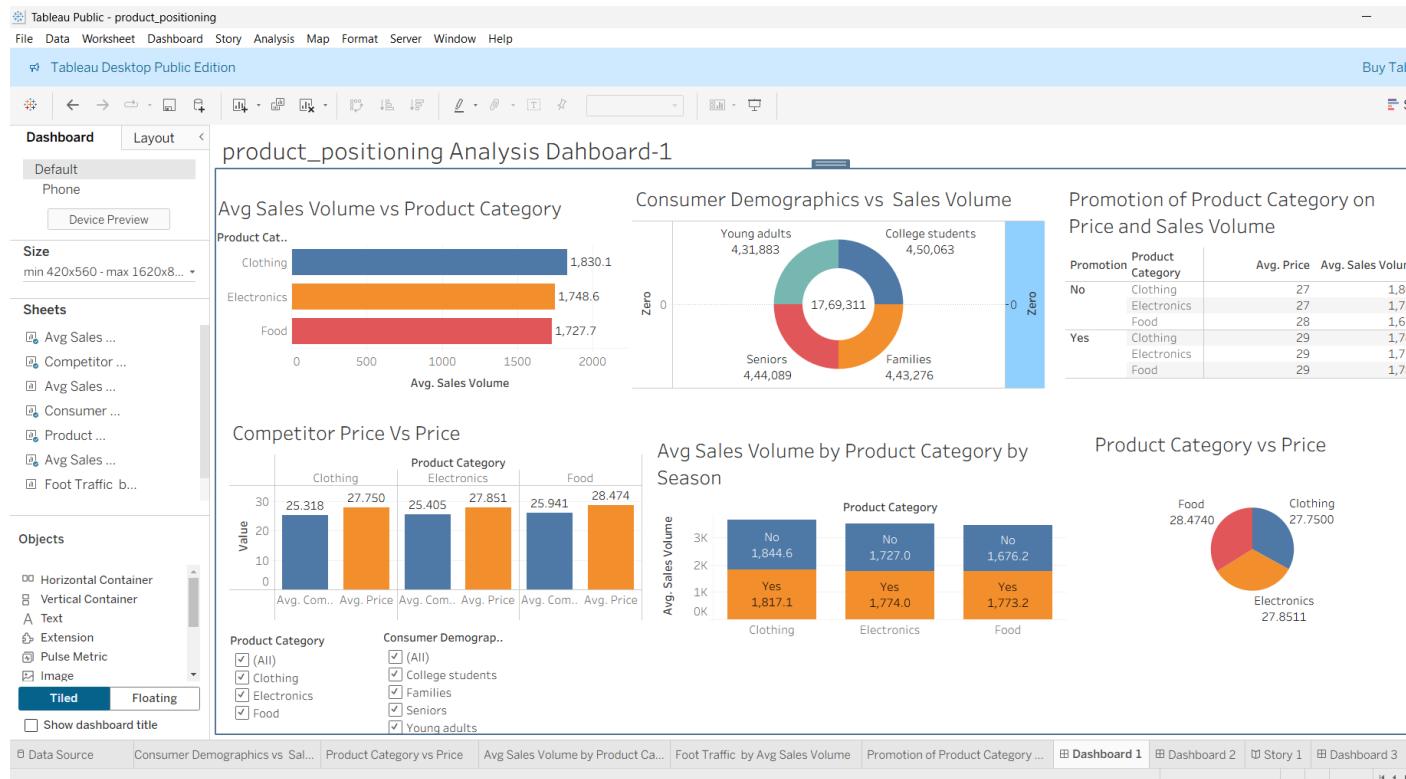
- Dashboard loads successfully without errors
  - All charts display correct data
  - Filters function properly
  - Web integration works via Flask server
  - No data mismatch observed
- 

## 7. RESULTS

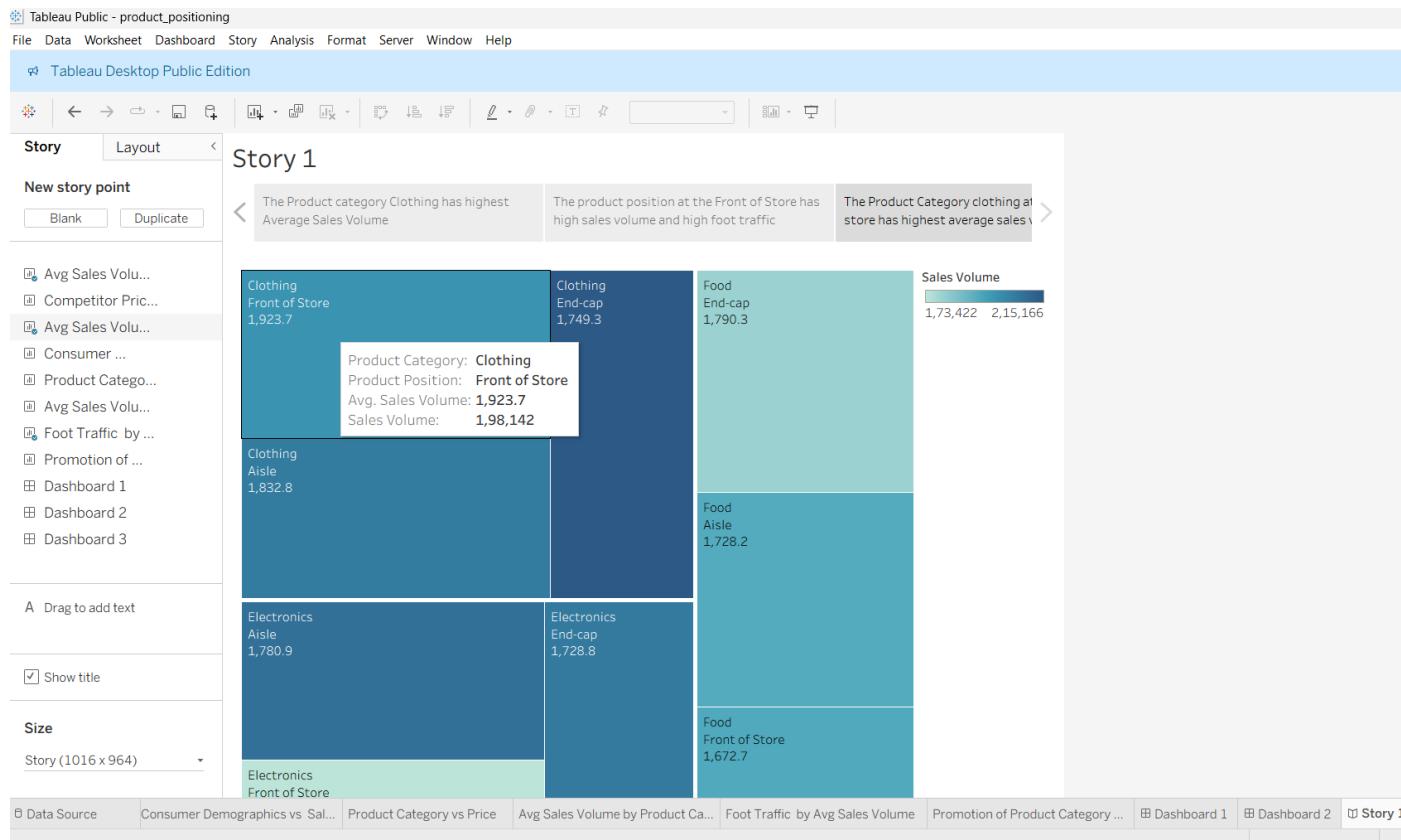
### 7.1 Output Screenshots

The dashboard and story visualizations successfully display:

DASHBOARDS:



**STORY:**



## 8. ADVANTAGES & DISADVANTAGES

### Advantages:

- Easy to understand visual insights
- Supports data-driven decision making
- Interactive filtering
- Improves strategic planning

### Disadvantages:

- Limited dataset scope
- No real-time data integration
- Depends on data quality

## **9. CONCLUSION**

The Strategic Product Placement Analysis project successfully demonstrates how data visualization tools like Tableau can transform raw sales data into meaningful business insights.

The dashboard enables retail managers to identify optimal product placement strategies, leading to improved sales performance and better customer targeting.

---

## **10. FUTURE SCOPE**

- Integration with real-time sales data
  - Cloud deployment
  - Advanced predictive analytics
  - Machine learning-based sales forecasting
  - Automated recommendation system
- 

## **11. APPENDIX**

Source Code: Flask application files

Dataset Link: Given in the project

GitHub Repository: <https://github.com/laharikachoudary27/product-positioning-analysis/tree/main>