PROJECT REPORT

1. INTRODUCTION:

product placement plays a crucial role in influencing consumer purchasing behavior. Where a product is placed—whether on an end-cap, at eye level, or near the checkout counter—can significantly affect its visibility and, ultimately, its sales.

"Strategic Product Placement Analysis: Unveiling Sales Impact with Tableau," aims to bridge this gap by using data-driven visualizations to analyze the relationship between product placement and sales performance.

1.1 Project Overview:

This project focuses on analyzing how product placement within a retail environment influences sales performance. Using Tableau, a powerful data visualization tool, we aim to convert raw sales. By visualizing these insights, businesses can optimize product visibility, improve store layout efficiency, and maximize revenue through strategic placement decisions.

1.2 PURPOSE:

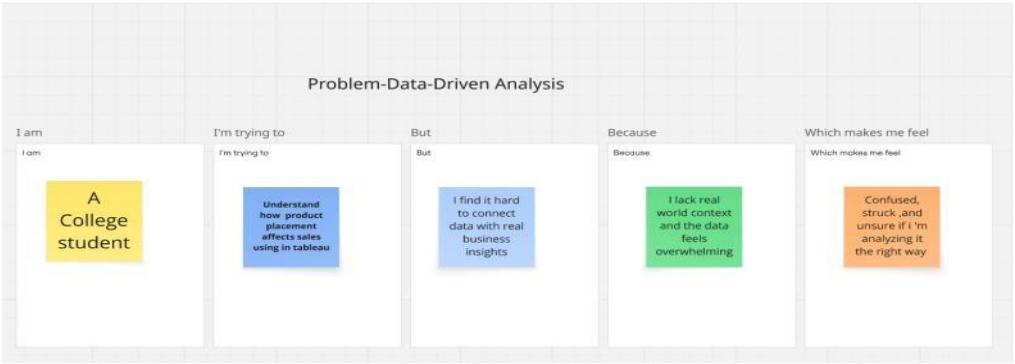
The purpose of this project is to evaluate and visualize the impact of product placement strategies on retail sales using Tableau. By analyzing where and how products are positioned within stores, the project aims to uncover patterns that influence customer purchasing behavior.ultimately leading to increased sales, better customer experiences, and improved return on investment.

2. IDEATION PHASE:

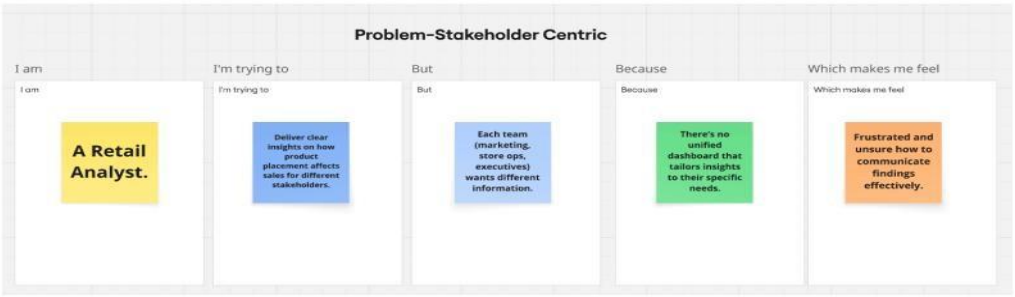
The Ideation Phase is where initial concepts, questions, and possibilities are explored to define the direction of the project. For this project, the goal is to identify how product placement affects sales and how those insights can be effectively

2.1 PROBLEM STATEMENT

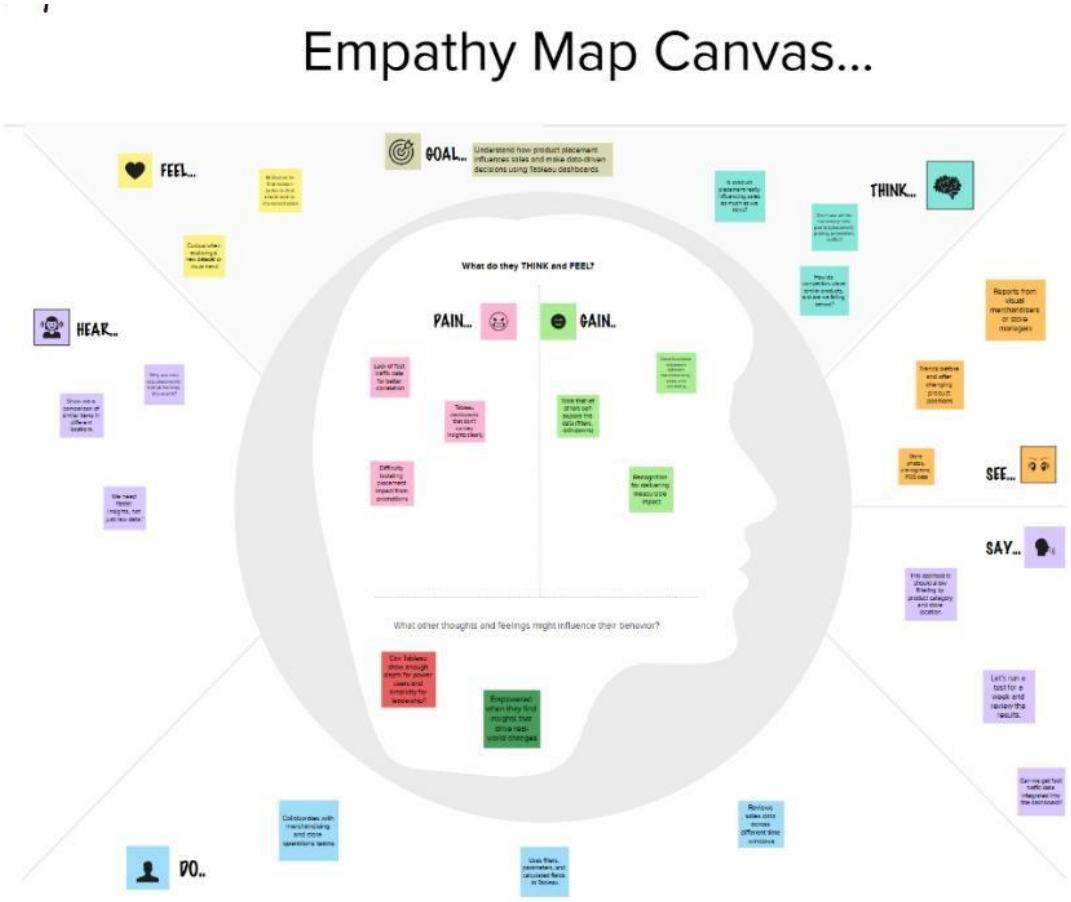
1. Problem Statement: Data Driven Analysis

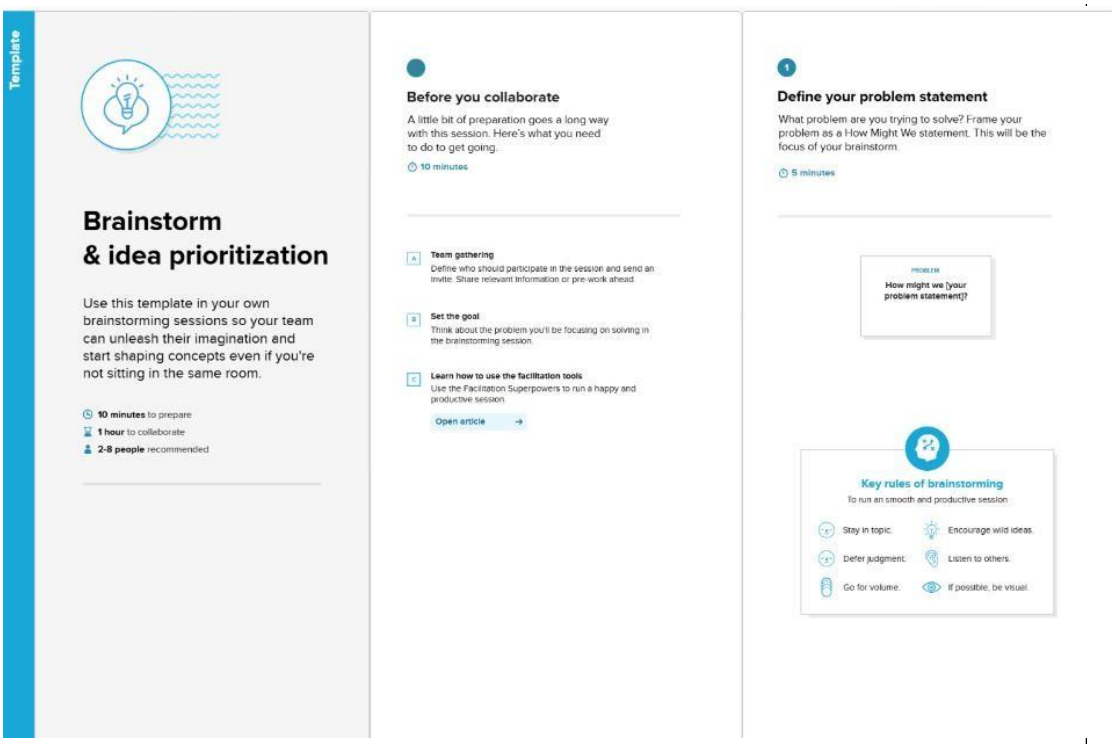


2.Problem Statement: Stakeholder Centric



2.2 **EMPATHY MAP CANVAS:**





2.3 **BRAINSTORMING:**

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Person 1

- Analyze sales before and after placement changes
- Identify top-performing shelf zones

Person 2.

- Correlate placement type (eye-level, end-cap) with sales
- Track promotion overlap with placement impact

Person 3

- Build a dashboard with filters (time, product, store)
- Compare placement strategies across regions

Person 4

- Visualize placement performance across multiple stores
- Group products by placement sensitivity

3

Group ideas

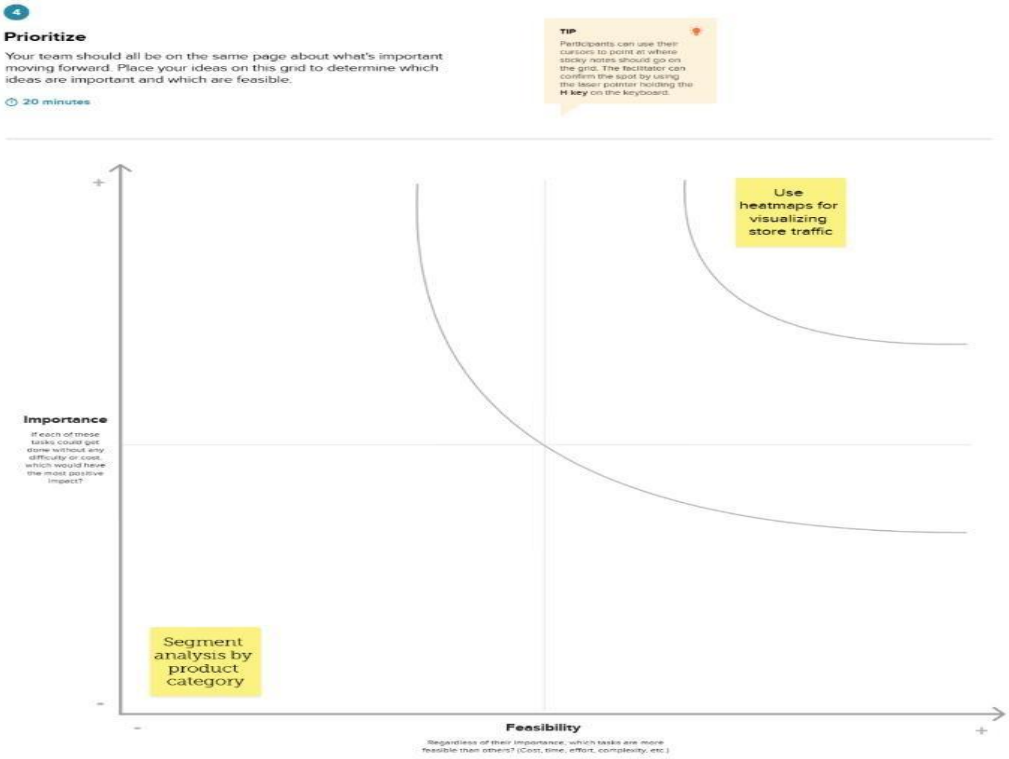
Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

- Use heatmaps for visualizing store traffic
- Segment analysis by product category
- Highlight customer behavior patterns
- Integrate competitor price analysis



3.REQUIREMENT ANALYSIS:

Requirement analysis helps define what is needed to successfully complete the project covering both functional and non-functional needs.

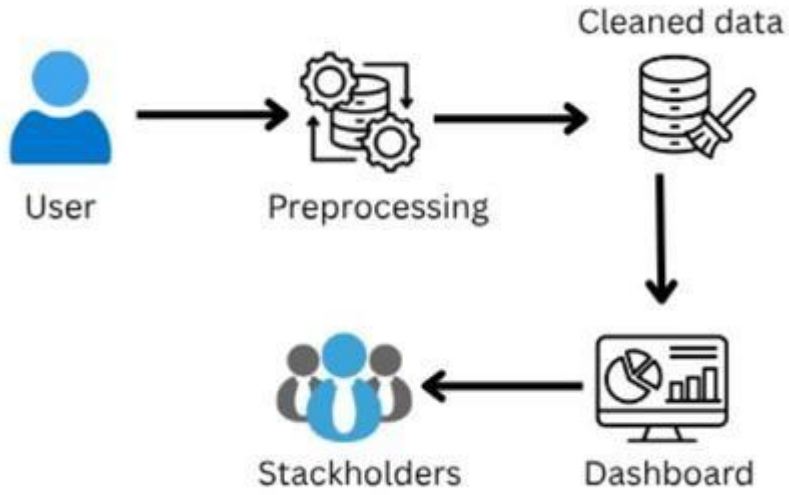
3.1 Customer Journey Map:

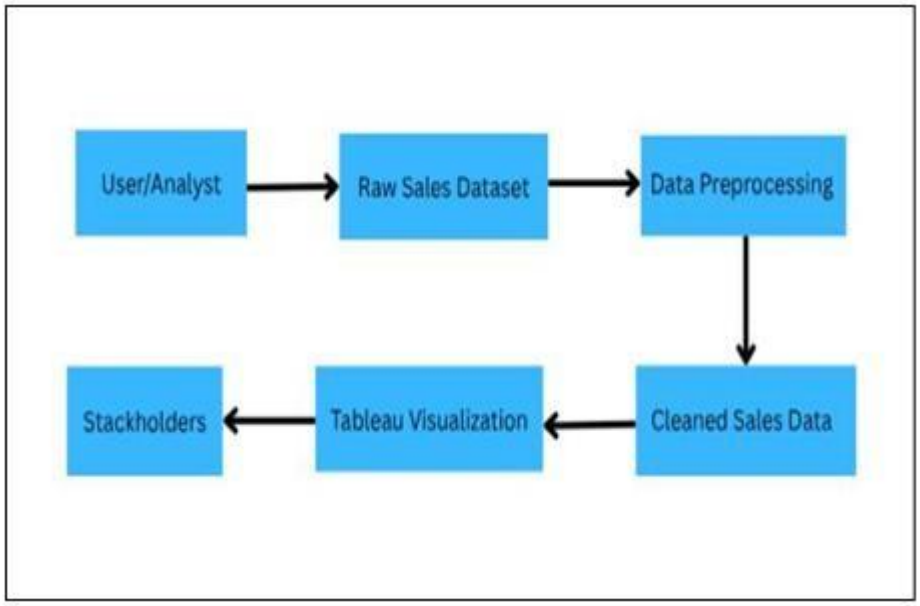
Scenario: [Strategic Product Placement Analysis]	Entry What do people experience as they begin the process?	Browsing How does the customer move through the store and explore the available products?	Product Selection What influences the customer's choice of product-are they choosing what is easiest to see or reach?	CheckOut What catches the customer's attention while waiting at the checkout counter?	Exit What do people typically experience as the process finishes?
Customer Actions What does the person (or people) can perform an actions in each step?	Walks into the store	Navigates aisles,checks dispalys	Picks products based on visibility	Waits in line, views last-minute items	Leaves the store
Experience What does the person (or people) at the center of this scenario typically experience in each step?	Neutral / Excited	Confused / Engaged	Interested / Uninterested	Bored / Rushed	Satisfied / Unaware
Opportunity This step identifies what actions can be taken to delight the customer and improve their experience during the buying process?	Greet or give promotions	Strategic shelf placement	Place high-margin items	Place impluse buys near counter	Loyalty programs, surveys

3.2 Solution Requirement:

This section outlines the necessary components like tools, data, and functionality that the solution must have to meet project goals effectively.These data points will be used to compare sales before and after placement changes, identify high-performing zones, and track key metrics like Uplift %, ROI, and Conversion Rate.the solution should be fast, easy to use, and saleable across multiple stores. The ultimate goal is to turn raw data into actionable insights for smarter product placement and increased sales.

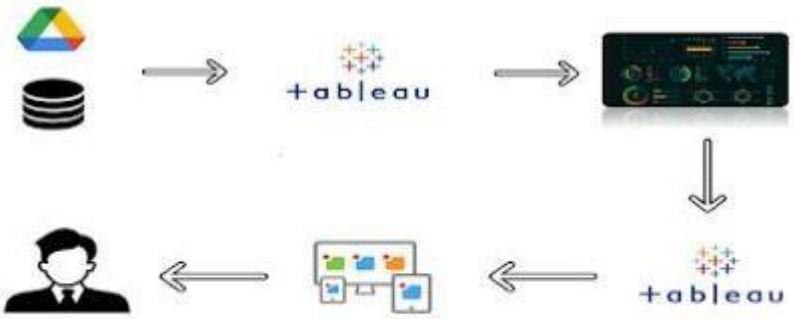
3.3 Data Flow Diagram:





3.4 Technology Stack:

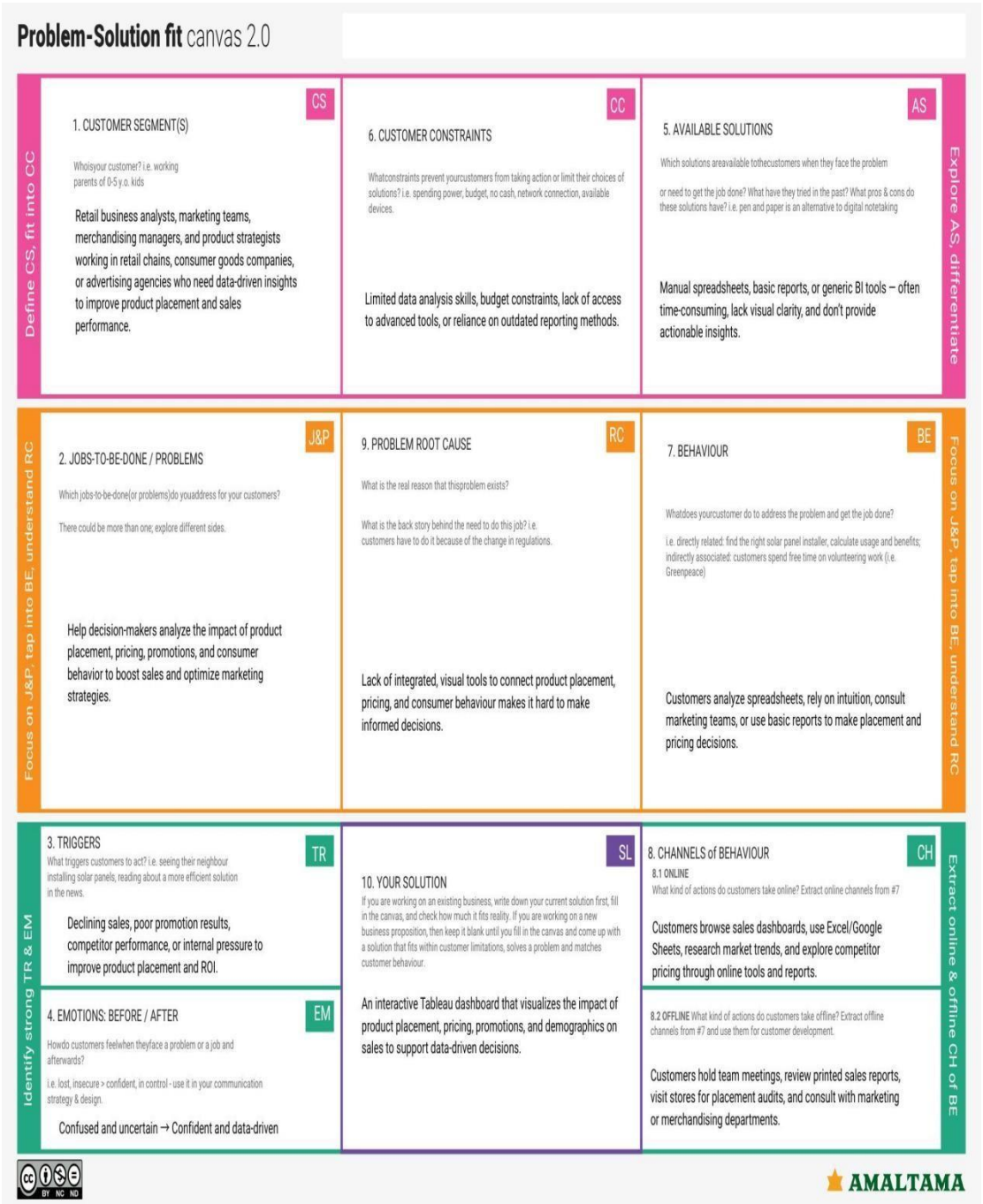
Technical Architecture:



4.PRODUCT DESIGN:

The product design of this project revolves around creating an interactive Tableau dashboard that transforms raw retail data into visual insights about product placement and its effect on sales. The design focuses on simplicity, clarity, and usability, ensuring that stakeholders can easily interpret and act on the insights.

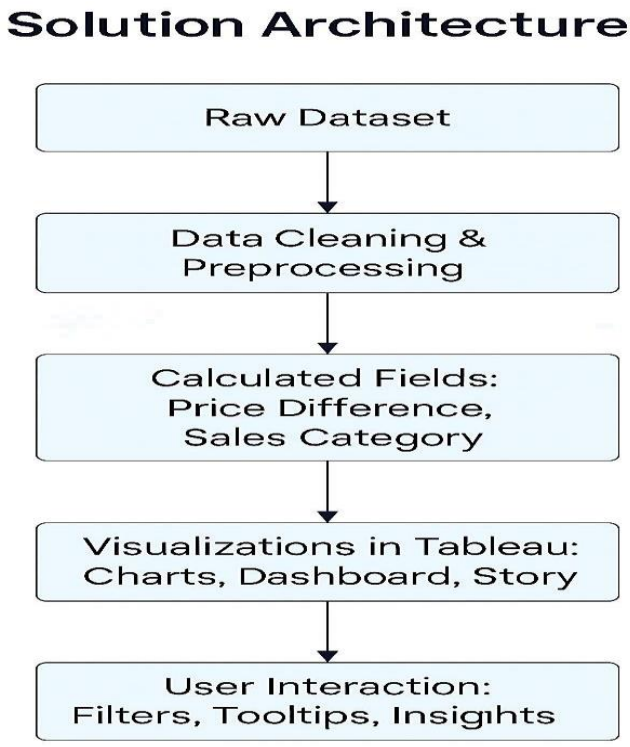
4.1 Problem Solution Fit:



4.2 Proposed Solution:

the proposed solution is to develop a Tableau-based data visualization dashboard that analyzes and displays the impact of product placement on retail sales. This solution will integrate data from multiple sources including sales records, shelf placement details, promotional activity, and store metadata to generate actionable insights.By using Tableau, the solution will allow users to track sales trends, compare performance across placement types (e.g., end-cap, eye-level), and monitor key metrics such as Uplift %, ROI, and Conversion Rate.

4.3 Solution Architecture:



Solution Architecture

5. PROJECT PLANNING AND SCHEDULING:

Effective planning and scheduling are essential to ensure the successful execution of the project. This project is divided into clear phases, each with specific objectives, timelines, and deliverable.

5.1 Project Planning:

Project planning is a critical phase that outlines the roadmap for achieving the objectives of the project in a structured and timely manner. For the project **"Strategic Product Placement Analysis: Unveiling Sales Impact with Tableau,"** the planning process involves defining clear phases, allocating tasks, setting deadlines, and identifying the required tools and resources.

The project is divided into key stages:

a. **Requirement analysis** to identify goals and data needs.
b. **Data collection and cleaning** to ensure accuracy and consistence.
c. **Dashboard design and development** in Tableau to build visual insights.
d. **Testing and validation** to confirm data accuracy and usability.
e. **Final deployment and presentation** to showcase results to stakeholders. **6.**

Functional And Performance Testing:

Verifies that the features of the Tableau dashboard and data pipeline work as expected and Ensures that the Tableau dashboards run efficiently under expected loads.

6.1 Performance Testing:

Performance testing ensures that the Tableau dashboards used for analyzing

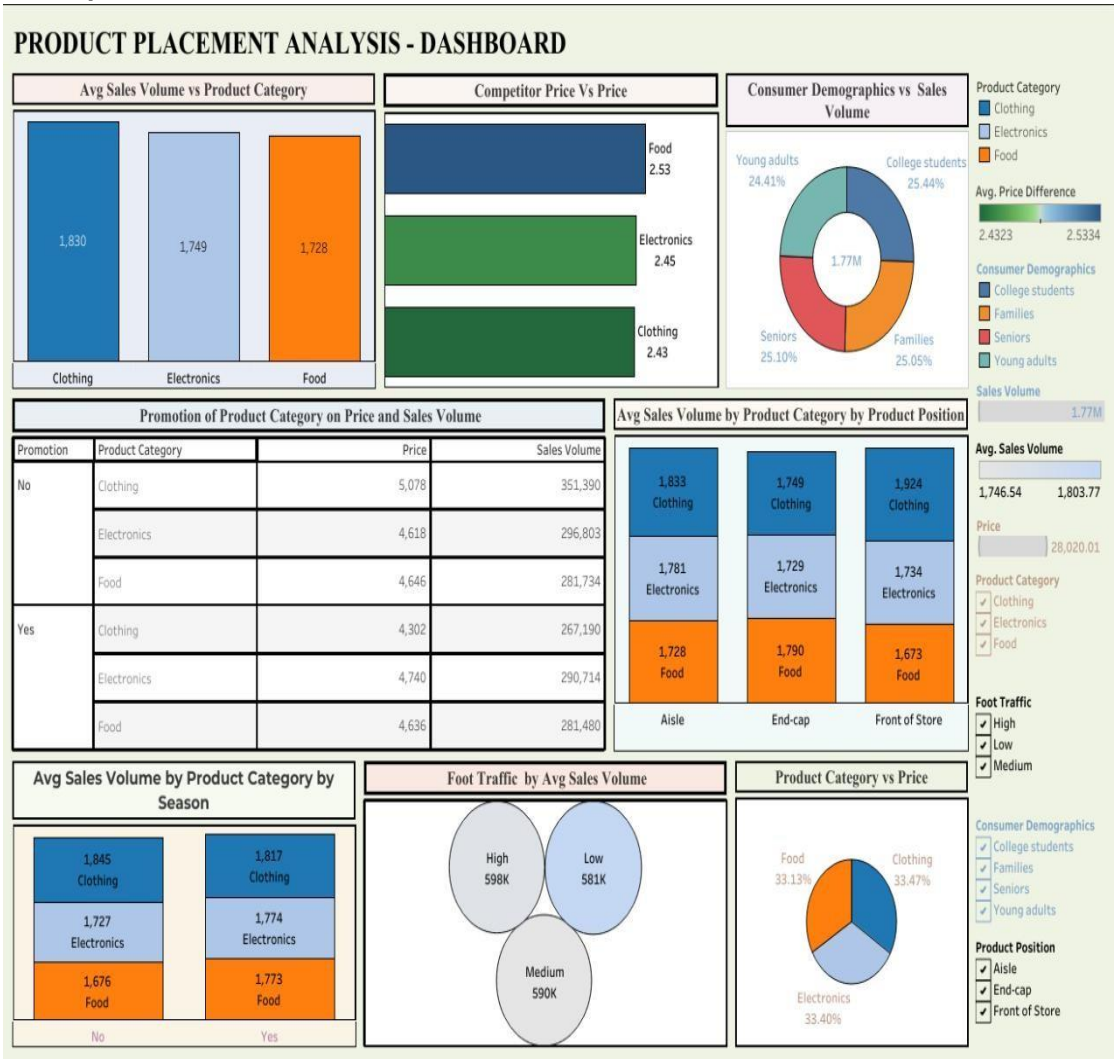
product placement and its sales impact perform efficiently under various usage conditions. This testing helps guarantee fast load times, smooth user experience, and reliable insights, especially when large datasets or complex filters are used.

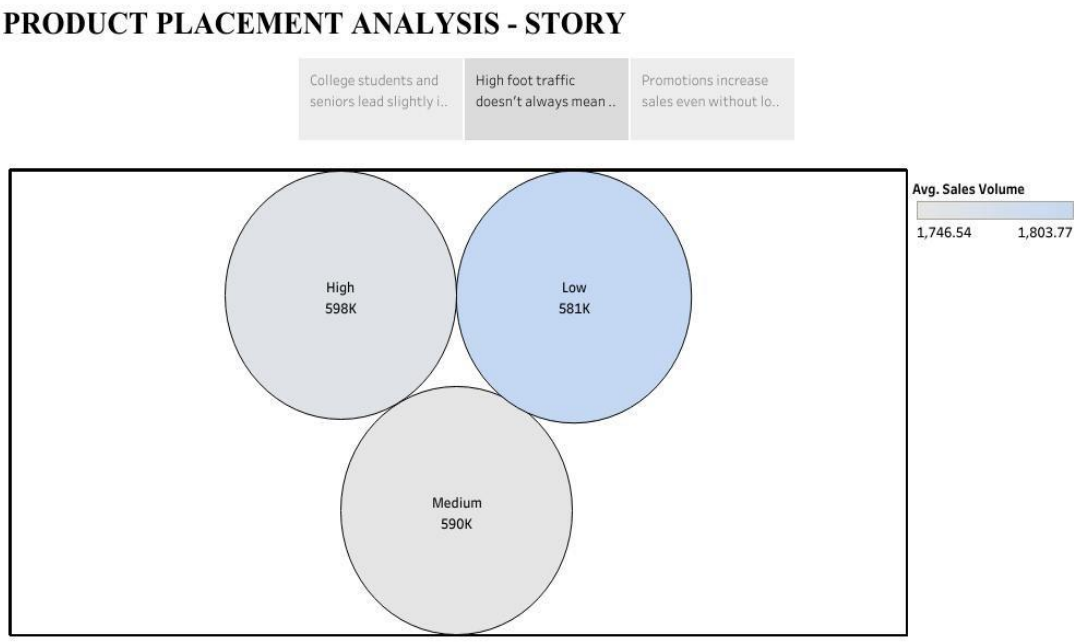
To evaluate the speed, scalability, and responsiveness of Tableau dashboards and the underlying data pipeline when handling real-time or historical sales data based on product placement strategies.

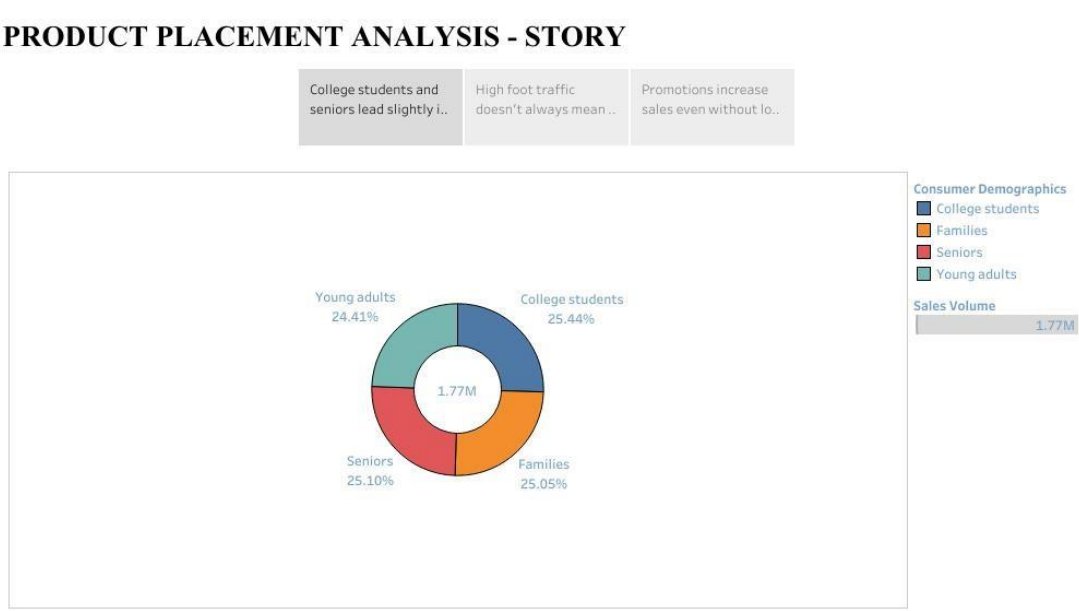
7. RESULT:

The project successfully demonstrated how data-driven insights can enhance product placement strategies and directly impact sales performance. Through Tableau dashboards, key placement zones (e.g., end-cap, checkout, eye-level) were evaluated across different product categories and store regions.

7.1 **Output**







8. ADVANTAGES AND DISADVANTAGES:

Advantages:

a. Data-Driven Decision Making
b. Improved Sales Performance
c. Visual insights
d. Time efficiency
e. Customization Analysis

Disadvantages:

a. Data dependency
b. Initial setup complexity
c. High learning curve
d. Limited causal proof

e. Performance limitiations

9. CONCLUSION:

The project successfully demonstrated how strategic product placement, when paired with interactive data visualization tools like Tableau, can significantly influence and improve sales outcomes. By analyzing sales data across different placement zones, product categories, and time periods, the project provided clear, actionable insights into which placements yield the highest returns.

Through data-driven analysis, merchandising strategies were optimized, underperforming areas were identified, and high-impact placements were scaled effectively. the project contributed to improved sales performance, greater operational efficiency, and a culture of data-backed decision-making, making it a valuable asset for both retail and business intelligence teams.

10. FUTURE SCOPE:

Case Studies:

1. **Predictive Placement Recommendations (AI/ML):**

This feature uses **machine learning algorithms** to analyze historical sales, placement zones, and product data to **predict the best product placements** for maximum sales impact. The model suggests optimal zones (e.g., end-cap, checkout) and forecasts sales uplift for each product based on time, category, and location.

Integrated with Tableau, the predictions are visualized as recommended layouts, forecastcharts, and risk indicators, helping teams make smarter, faster merchandising decisions.

2. **Integration with Supply Chain and Inventory Systems**

Integrating product placement insights with supply chain and inventory systems ensures that **top-performing placements** are always **well-stocked**. By connecting Tableau dashboards with live inventory data, businesses can be;

a. Prevent **stock outs** in high-impact zone.
b. Improve **inventory turnover** and replenishment planning.
c. Align **sales trends** with supply chain operations.
d. Enable **real-time restocking decisions.**

This integration helps create a seamless link between **merchandising strategy** and **logistics efficiency**.

11.APPENDIX:

Dataset link:

https://drive.google.com/file/d/1vHDNGw130kbYUPj-wl4640xcz5349GM/view?usp=sharing

GitHub link: https://github.com/dedipya03/Strategic-Product-PlacementAnalysis-Unveiling-Sales-Impact-with-Tableau-Visualization

Project Demo link:

https://drive.google.com/drive/folders/1v_V8DH16St_NvcjL6AplvaWw9UFoCklT?usp=sharing