

## 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:

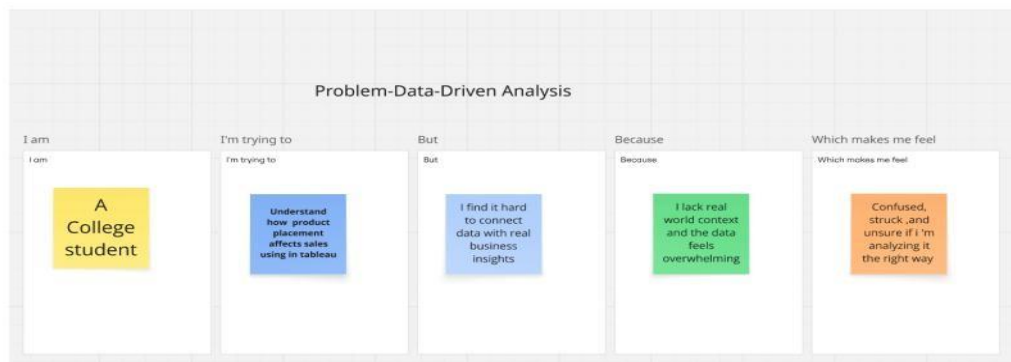
The purpose of this project is to evaluate and visualize the impact of product placement strategies on retail sales using Tableau. By analyzing where and how products are positioned within stores, the project aims to uncover patterns that influence customer purchasing behavior, ultimately leading to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

### 2. IDEATION PHASE:

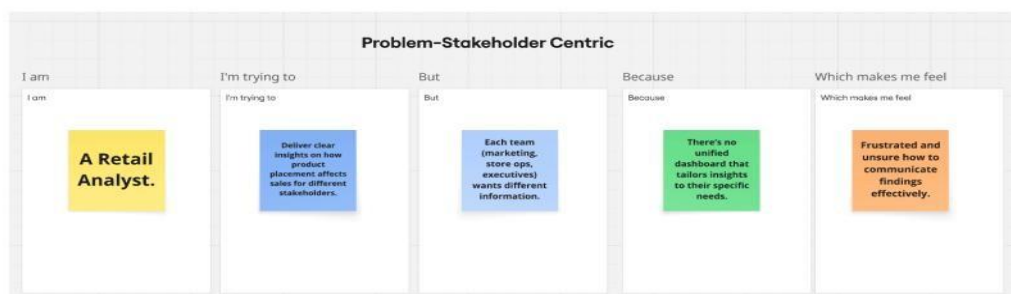
The Ideation Phase is where initial concepts, questions, and possibilities are explored to define the direction of the project. For this project, the goal is to identify how product placement affects sales and how those insights can be effectively

#### 2.1 PROBLEM STATEMENT

##### 1. Problem Statement: Data Driven Analysis

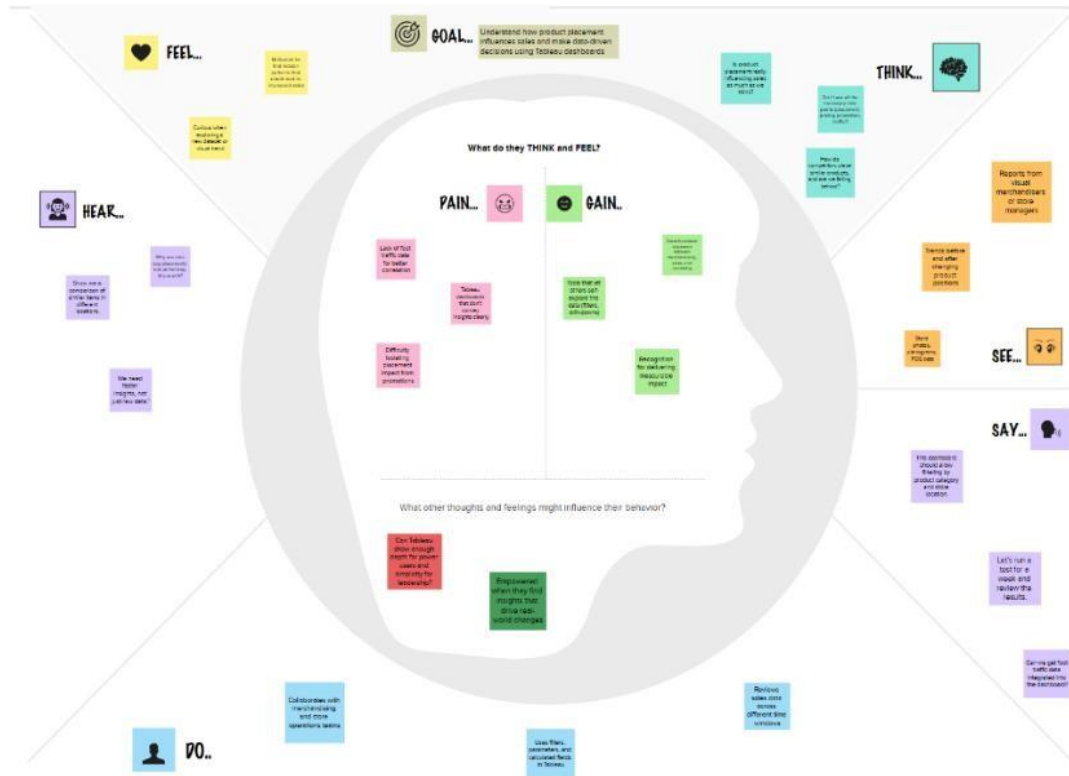


##### 2. Problem Statement: Stakeholder Centric



## 2.2 EMPATHY MAP CANVAS:

# Empathy Map Canvas...



Template

## Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

10 minutes to prepare  
 1 hour to collaborate  
 2-8 people recommended

### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

- Team gathering**  
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.
- Set the goal**  
Think about the problem you'll be focusing on solving in the brainstorming session.
- Learn how to use the facilitation tools**  
Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) →

### Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

PROBLEM

How might we [your problem statement]?

#### Key rules of brainstorming

To run a smooth and productive session

- Stay in topic.
- Defer judgment.
- Go for volume.
- Encourage wild ideas.
- Listen to others.
- If possible, be visual.

### 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 can 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

4

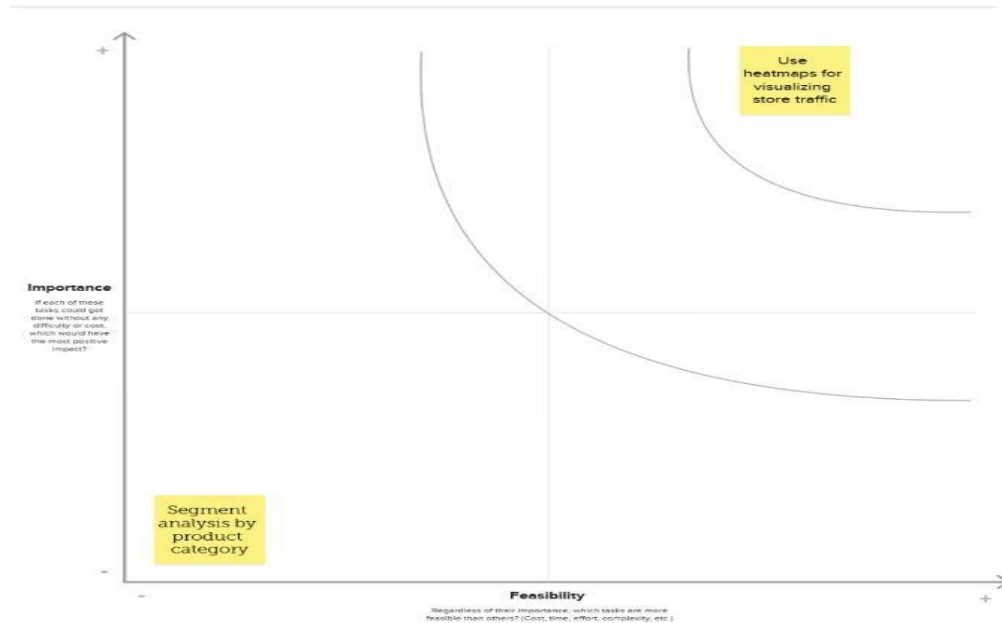
**Prioritize**

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

⌚ 20 minutes

**TIP**

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the H key on the keyboard.

**3.REQUIREMENT ANALYSIS:**

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

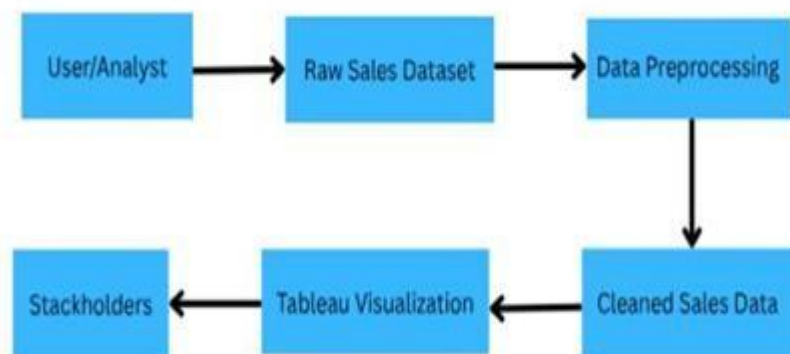
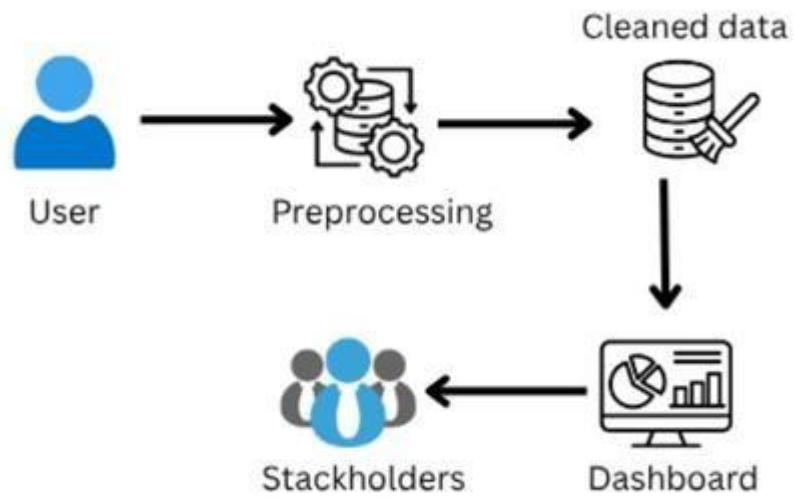
**3.1 Customer Journey Map:**

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 as they choosing what is easiest to see or reach?	CheckOut What catches the customer's attention while waiting at the checked-out counter?	Exit What do people typically experience as the process finished?
Customer Actions What does the person (or people) can perform an actions in each step?	Walks into the store	Navigates aisles, checks displays	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 impulse 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:

## Problem-Solution fit canvas 2.0

Define CS, fit into CC	<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> Who is your customer? i.e. working parents of 0-5 y.o. kids  Retail business analysts, marketing teams, merchandising managers, and product strategists working in retail chains, consumer goods companies, or advertising agencies who need data-driven insights to improve product placement and sales performance.	<b>6. CUSTOMER CONSTRAINTS</b> <span>CC</span> What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.  Limited data analysis skills, budget constraints, lack of access to advanced tools, or reliance on outdated reporting methods.	<b>5. AVAILABLE SOLUTIONS</b> <span>AS</span> Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking  Manual spreadsheets, basic reports, or generic BI tools – often time-consuming, lack visual clarity, and don't provide actionable insights.	Explore AS, differentiate	
	<b>2. JOBS-TO-BE-DONE / PROBLEMS</b> <span>J&amp;P</span> Which jobs-to-be-done (or problems) do you address for your customers?  There could be more than one; explore different sides.  Help decision-makers analyze the impact of product placement, pricing, promotions, and consumer behavior to boost sales and optimize marketing strategies.	<b>9. PROBLEM ROOT CAUSE</b> <span>RC</span> What is the real reason that this problem exists?  What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations.  Lack of integrated, visual tools to connect product placement, pricing, and consumer behaviour makes it hard to make informed decisions.	<b>7. BEHAVIOUR</b> <span>BE</span> What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)  Customers analyze spreadsheets, rely on intuition, consult marketing teams, or use basic reports to make placement and pricing decisions.		Focus on J&P, tap into BE, understand RC
	<b>3. TRIGGERS</b> <span>TR</span> What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.  Declining sales, poor promotion results, competitor performance, or internal pressure to improve product placement and ROI.	<b>10. YOUR SOLUTION</b> <span>SL</span> If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.  An interactive Tableau dashboard that visualizes the impact of product placement, pricing, promotions, and demographics on sales to support data-driven decisions.	<b>8. CHANNELS of BEHAVIOUR</b> <span>CH</span> <b>8.1 ONLINE</b> What kind of actions do customers take online? Extract online channels from #7  Customers browse sales dashboards, use Excel/Google Sheets, research market trends, and explore competitor pricing through online tools and reports.  <b>8.2 OFFLINE</b> What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.  Customers hold team meetings, review printed sales reports, visit stores for placement audits, and consult with marketing or merchandising departments.		
<b>4. EMOTIONS: BEFORE / AFTER</b> <span>EM</span> How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design.  Confused and uncertain → Confident and data-driven					



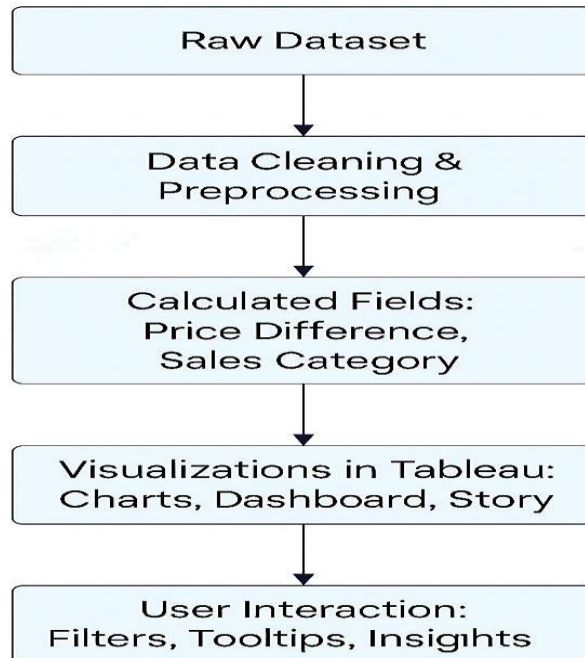
### 4.2 Proposed Solution:

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



### 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

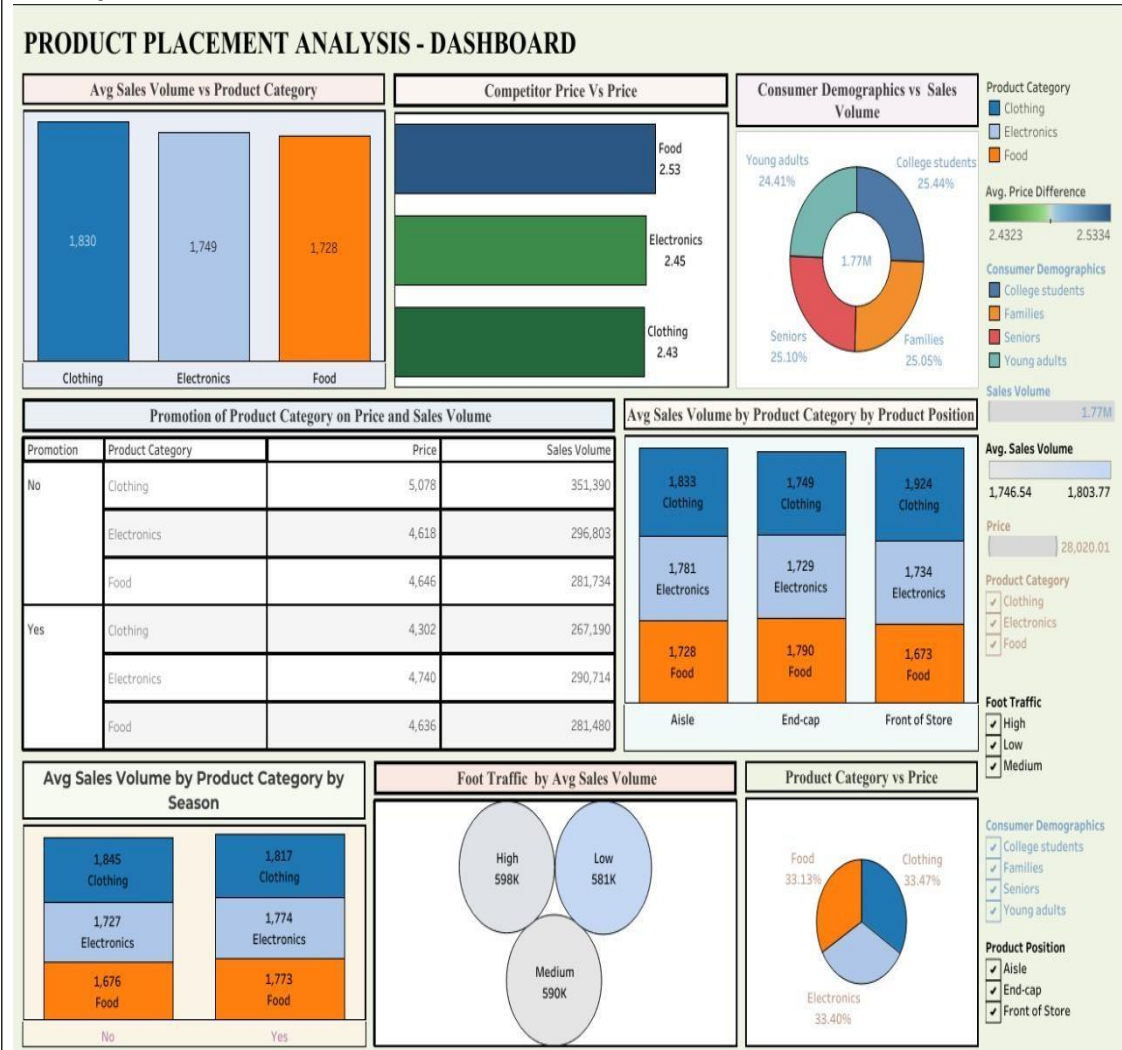
product placement and its sales impact perform efficiently under various usage conditions. This testing helps guarantee fast load times, smooth user experience, and reliable insights, especially when large datasets or complex filters are used.

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

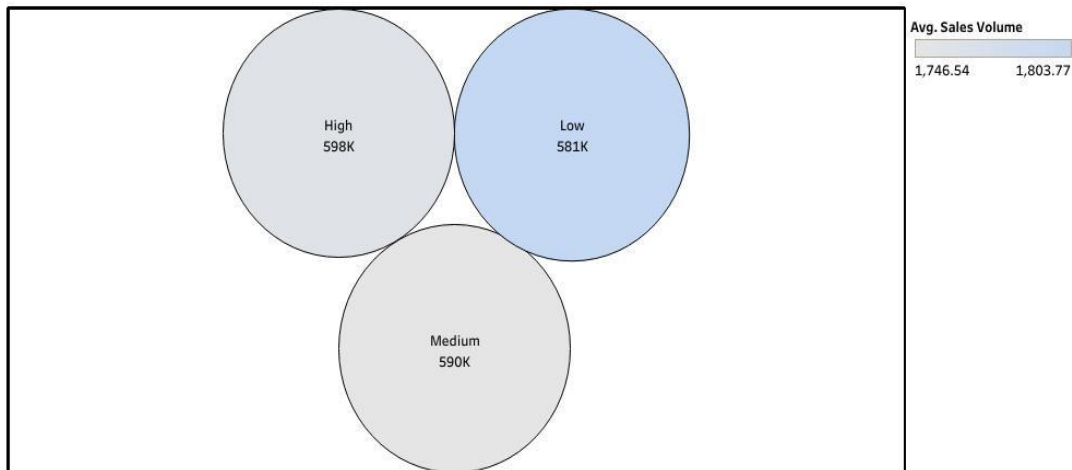


## PRODUCT PLACEMENT ANALYSIS - STORY

College students and seniors lead slightly i..

High foot traffic doesn't always mean ..

Promotions increase sales even without lo..

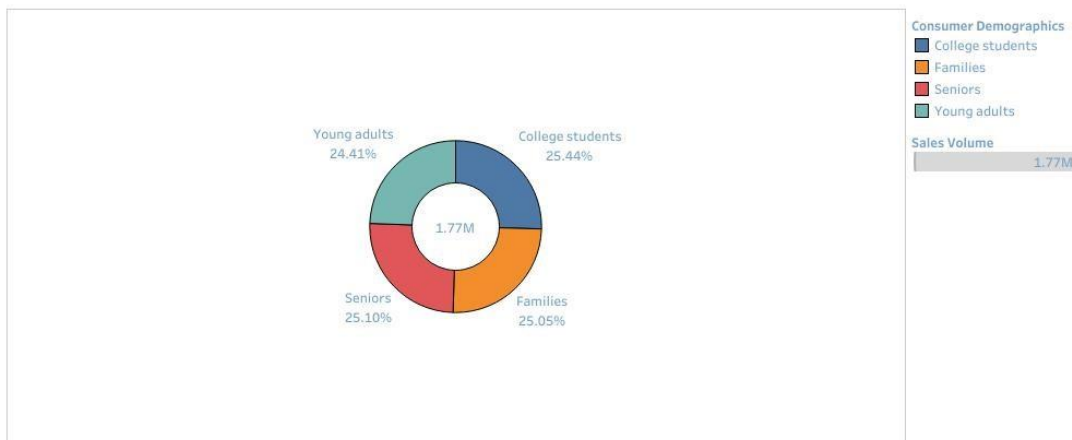


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## 8. ADVANTAGES AND DISADVANTAGES:

### Advantages:

- Data-Driven Decision Making
- Improved Sales Performance
- Visual insights
- Time efficiency
- Customization Analysis

### Disadvantages:

- Data dependency
- Initial setup complexity
- High learning curve
- Limited causal proof

e. Performance limitations

## 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, forecast charts, 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\\_NvcjL6AplvaWw9UFoCkIT?usp=sharing](https://drive.google.com/drive/folders/1v_V8DH16St_NvcjL6AplvaWw9UFoCkIT?usp=sharing)