

# Project Report

**Project Name : Cosmetic Insights – Navigating Cosmetics Trends and Consumer Insights with Tableau**

**Team Id: LTVIP2025TMID48549**

**Team Members:**

Name	Roles
M.Venkata SaiSrijana	Data Visualizations and Dashboards
N.Rajitha	Data Collection and Performance Testing
I.Swatika	Data Extraction and Web Integration
Afiya Anjum	Story

## 1.INTRODUCTION

### 1.1 Project Overview:

Cosmetic Insights: Navigating Cosmetics Trends and Consumer Insights with Tableau" is a data visualization project that aims to empower cosmetic brands with data-driven insights. By collecting and analyzing customer behavior, product feedback, and market trends, the platform leverages Tableau to present interactive dashboards for smarter business decisions.

### 1.2 Purpose:

The purpose of this project is to provide real-time, actionable insights into the cosmetics industry through interactive dashboards. It helps brands optimize marketing strategies, enhance customer satisfaction, and improve product distribution by understanding consumer trends and preferences.

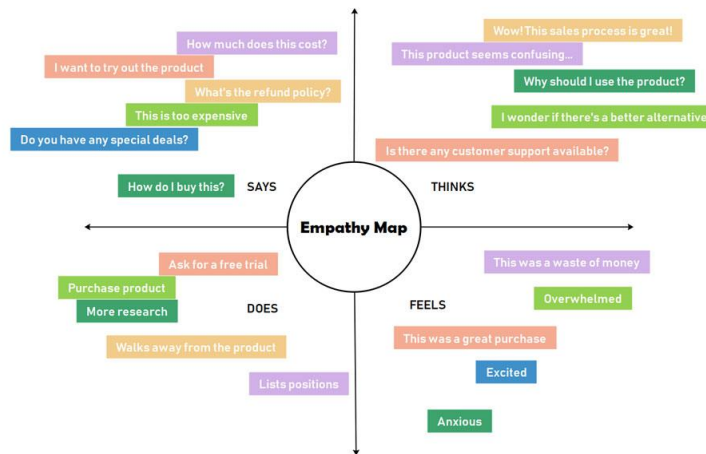
## 2.IDEATION PHASE

### 2.1 Problem Statement:

Cosmetic brands face challenges in understanding dynamic customer preferences, tracking product performance, and adapting quickly to market shifts. Current analytics are delayed, fragmented, and lack visual intuitiveness.

## 2.2 Empathy Map Canvas:

- Says: We need data to guide product changes.
- Thinks: What products are working where?
- Feels: Frustrated with slow, unclear reports.
- Does: Checks scattered Excel sheets and waits on analyst reports.



## 2.3 Brainstorming:

- Monitor real-time consumer trends
- Detect negative product sentiment
- Predict future demand using historical data
- Visualize regional sales
- Filter insights by demographics
- Enable alert systems for performance drops

## 3. REQUIREMENT ANALYSIS

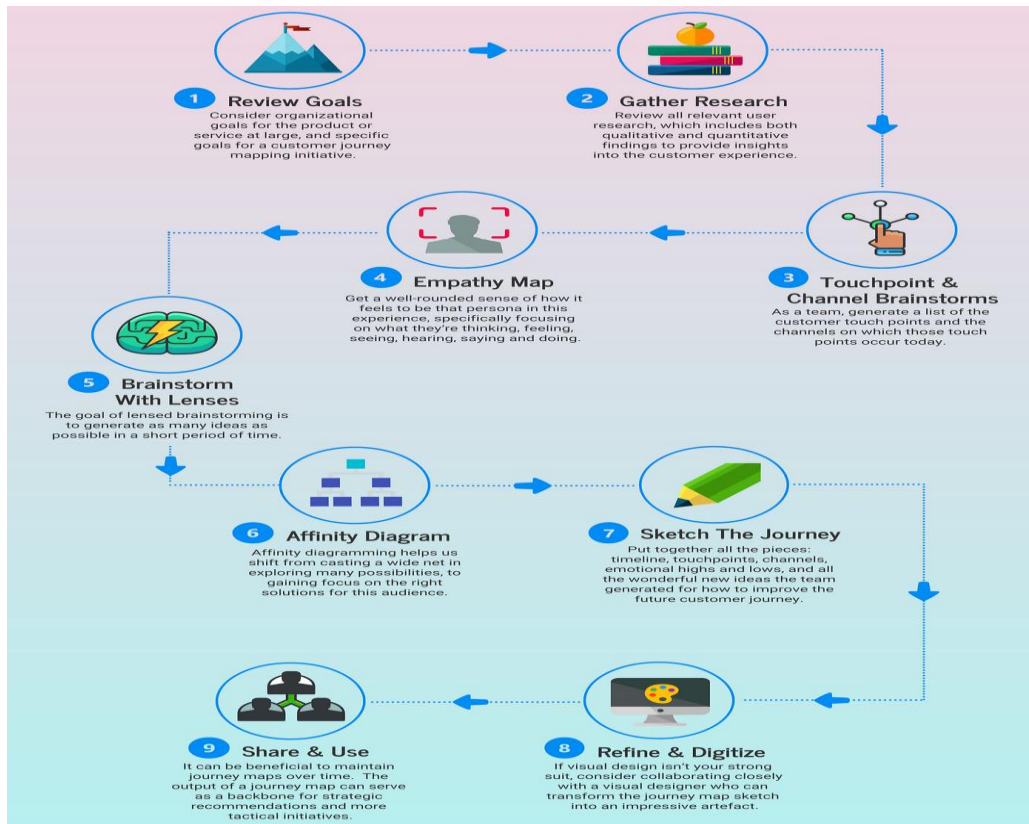
### 3.1 Customer Journey Map:

- **Awareness:** Customer learns about the dashboard
- **Consideration:** Compares it with traditional reports
- **Adoption:** Starts using filters and views
- **Retention:** Uses regularly for campaign planning
- **Loyalty:** Recommends to peers and integrates in workflow

### 3.2 Solution Requirement:

- Real-time data updates
- Filter by region, age, gender
- Sentiment analysis integration
- Export capability (PDF, Excel)

### 3.3 Data Flow Diagram:



### 3.4 Technology Stack:

- **Frontend:** Flask (for UI embedding)
- **Visualization:** Tableau Public
- **Backend/ETL:** Python, SQL, Excel
- **Storage:** Google Sheets / SQL Database

## 4. PROJECT DESIGN

### 4.1 Problem-Solution Fit:

Real-time analytics and interactive dashboards solve the brand's problem of slow, fragmented reporting by integrating all key metrics into one intuitive view.

### 4.2 Proposed Solution:

A centralized Tableau dashboard with sentiment tracking, product trend monitoring, and demographic-based filtering, allowing for smarter and faster business decisions.

### 4.3 Solution Architecture:

Data from various sources undergoes ETL, is stored centrally, and visualized in Tableau. Flask serves as the front-end interface embedding the dashboard.

## 5. PROJECT PLANNING AND SCHEDULING

### 5.1 Project Planning Table:

Sprint	Task	Duration	Team Members
Sprint 1	User login, registration, dashboard embed	1 week	Dev A, QA A
Sprint 2	Sales/demographic filters, UI styling	2 week	Dev B, Analyst A
Sprint 3	Sentiment analysis, alert setup	2 week	Dev C, Analyst B
Sprint 4	Export features, testing, deployment	1 week	Dev A, QA B

## 6. FUNCTIONAL AND PERFORMANCE TESTING

### 6.1 Performance Testing

Test Type	Result
Load Time	Dashboard loads under 3 seconds
Device Testing	Responsive on desktop, tablet
Concurrent Users	Handles 20+ users without lag

## 7. RESULTS



Fig1:Price vs Brand

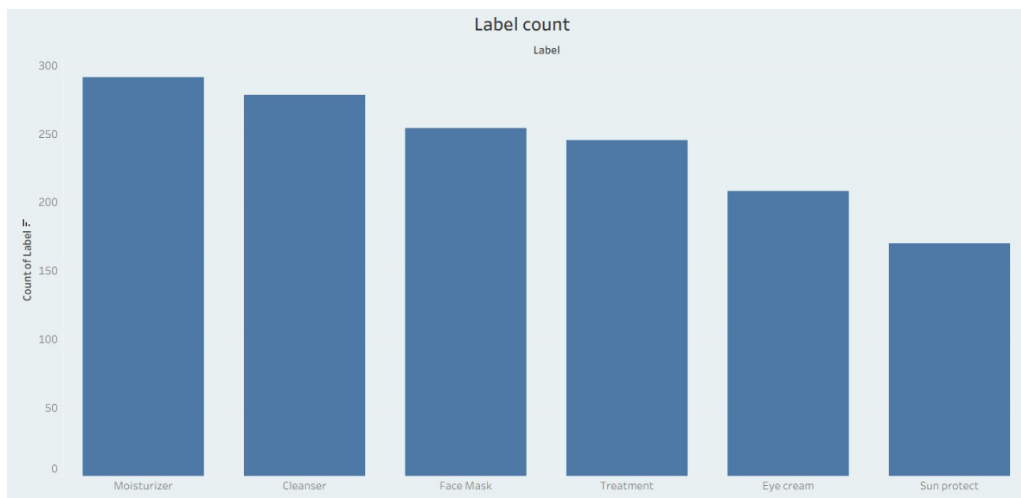


Fig2: Label Count

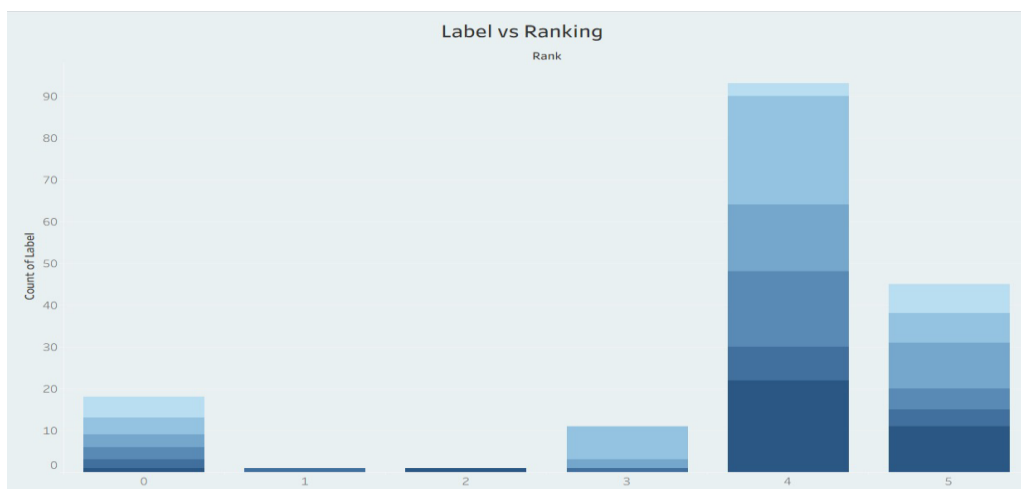


Fig3: Label vs Ranking

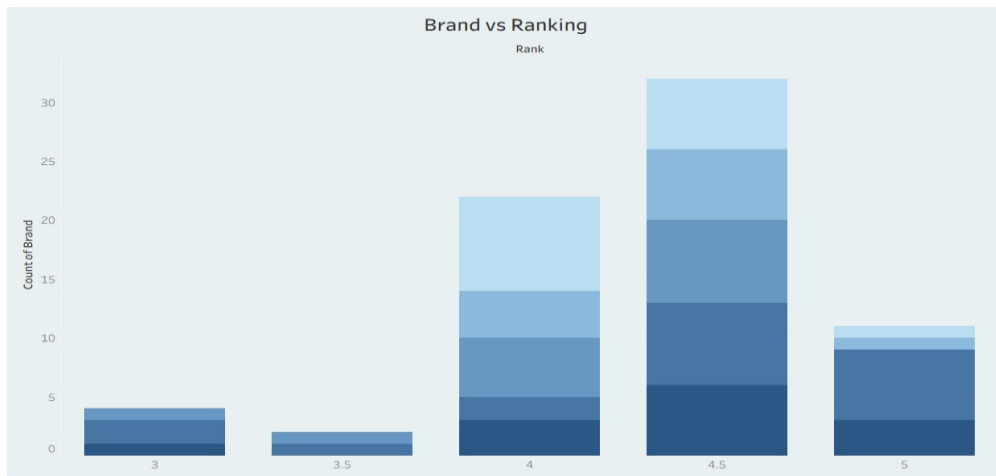


Fig4: Brand vs Ranking

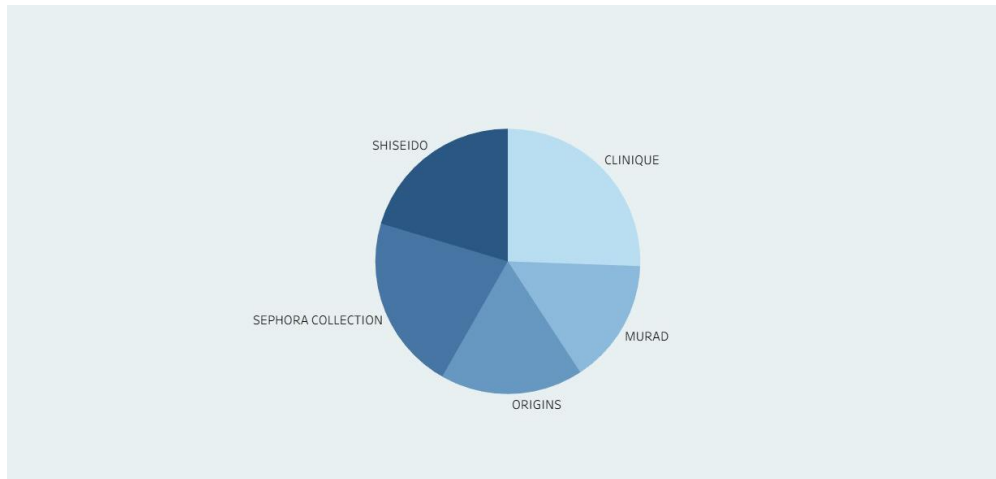


Fig5: Leading Cosmetic Brands

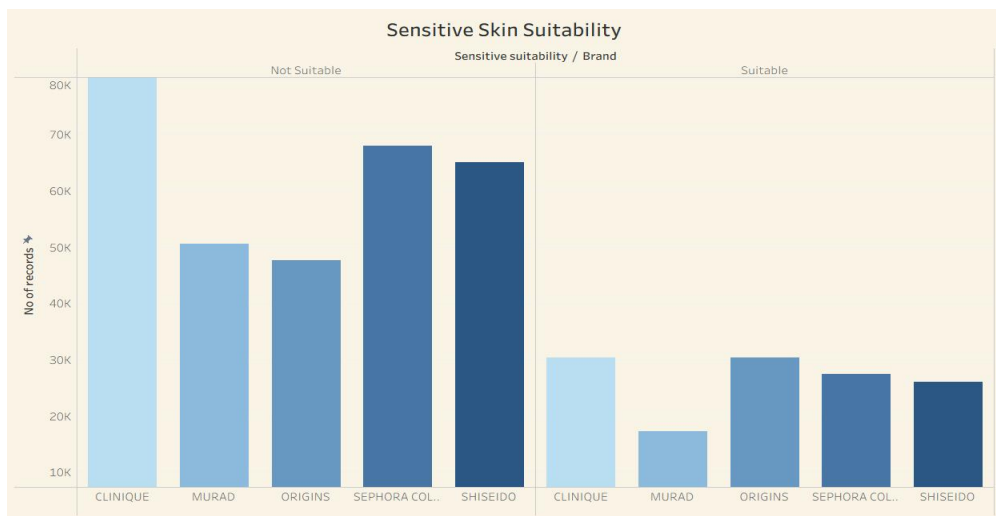


Fig 6: Sensitive Skin Suitability

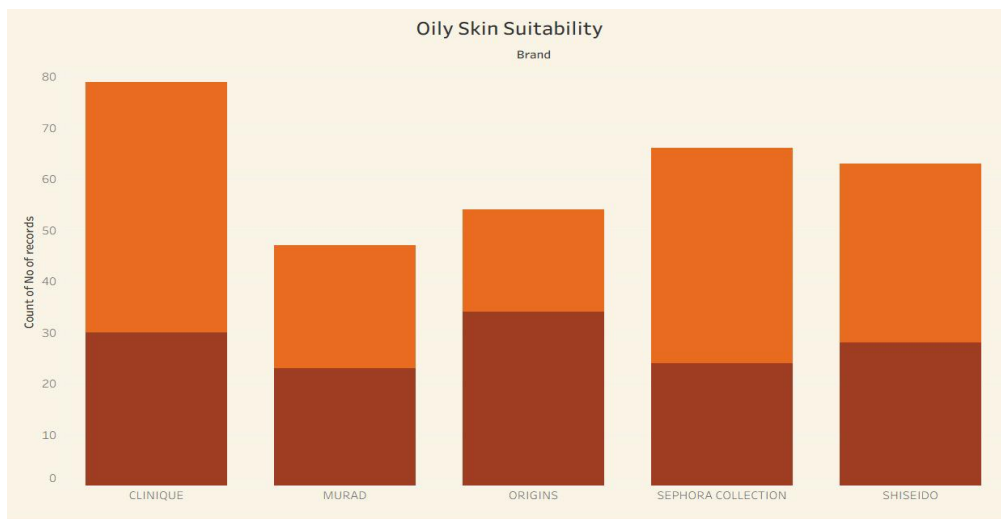


Fig7: Oily Skin Suitability

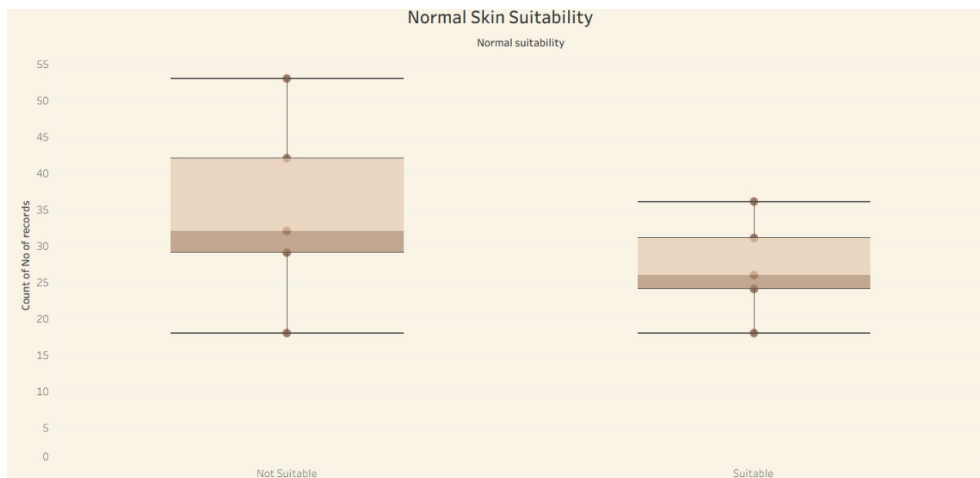


Fig8: Normal Skin Sustainability



Fig9: Dry Suitability

## 8. ADVANTAGES AND DISADVANTAGES

### 8.1 Advantages

- Real-time visual analytics
- Scalable dashboard layers
- Easy embedding and access

### 8.2 Disadvantages

- Relies on external data quality
- Limited to Tableau Public's feature set

## 9. CONCLUSION

This project illustrates how Tableau can revolutionize decision-making in the cosmetics sector by providing real-time, consumer-focused dashboards. It increases engagement and reduces marketing risks.

## 10. FUTURE SCOPE

- Integration with predictive ML models
- Role-based access for internal users
- Mobile-optimized dashboard deployment

## 11. APPENDIX

### 11.1 DataSet Link:

<https://www.kaggle.com/datasets/kingabzpro/cosmetics-datasets>

### 11.2 Project Demo Link:

[https://drive.google.com/file/d/1LxR-kq6OpE56w\\_kYymbLwIfN6M7WeQvm/view?usp=drivesdk](https://drive.google.com/file/d/1LxR-kq6OpE56w_kYymbLwIfN6M7WeQvm/view?usp=drivesdk)