Project Report

Project Name : Cosmetic Insights - Navigating, Cosmetics Trends and Consumer Insights with Tableau

Team Id: LTVIP2025TMID48549

Team Members:

Name	Roles
M.V.SaiSrijana	Data Visualization and Dashboard
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.

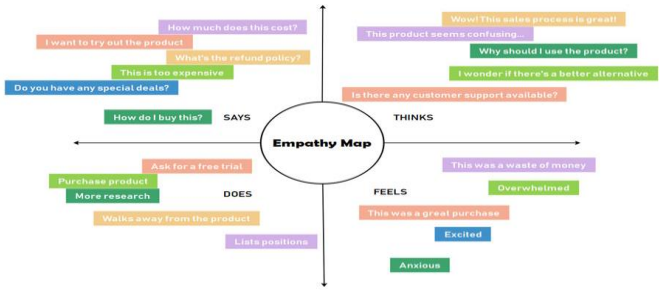
2.IDEATION PHASE

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

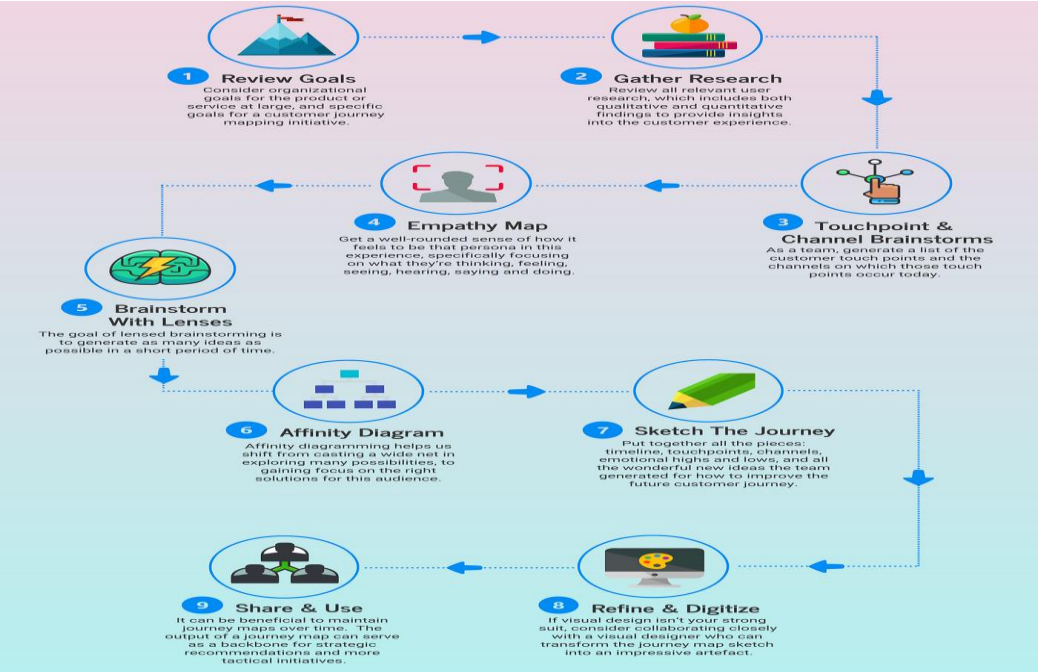
3.1 Customer Journey Map:

- **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

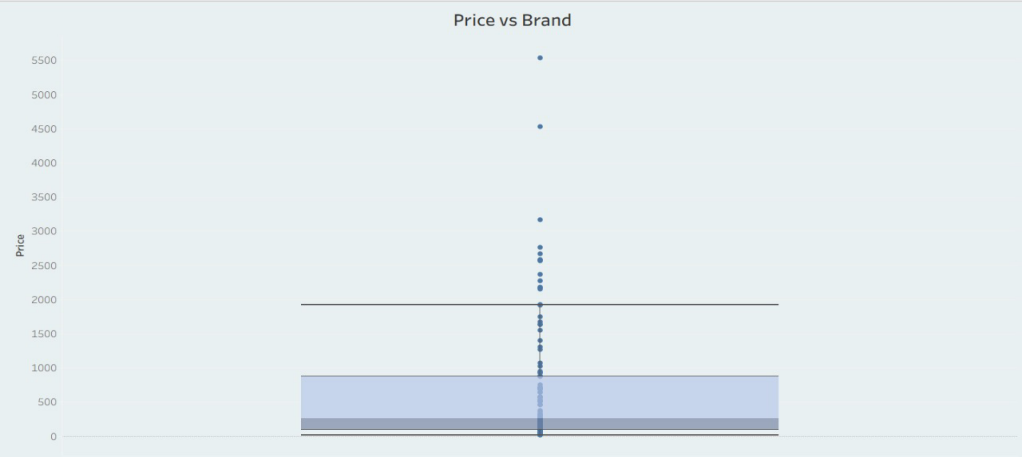


Fig1:Price vs Brand

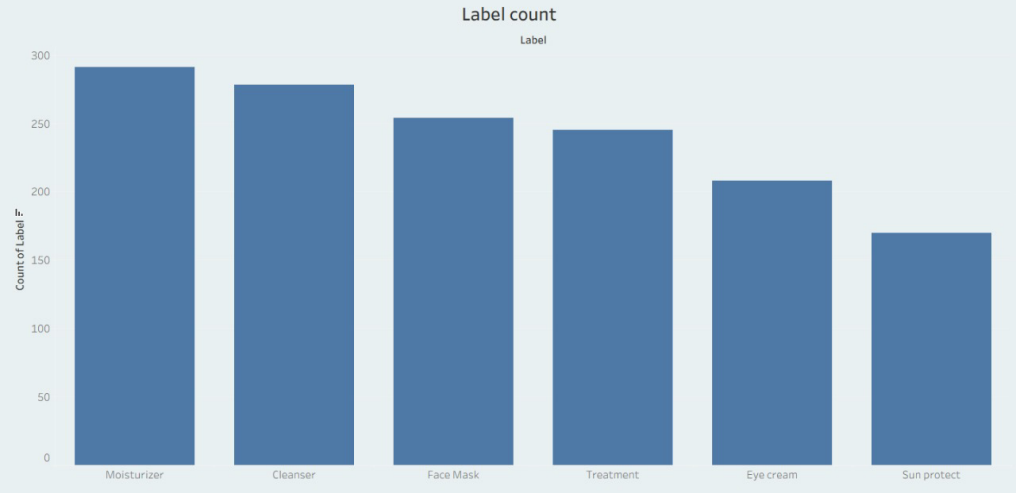


Fig2: Label Count

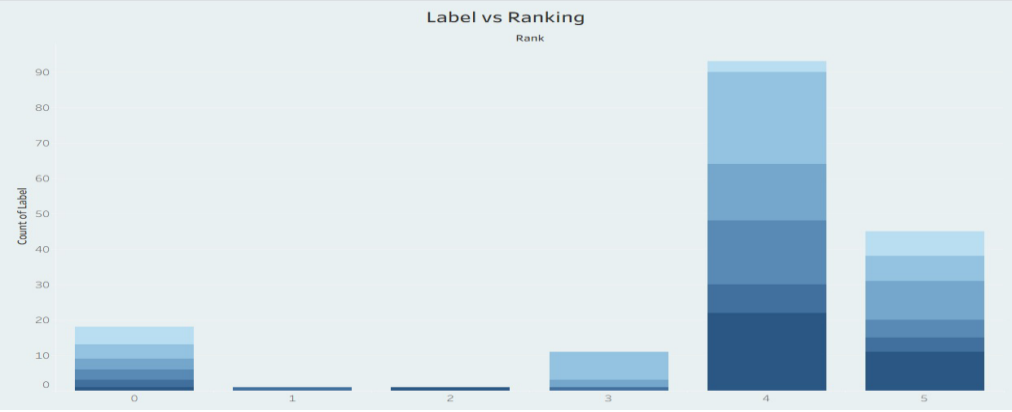


Fig3: Label vs Ranking

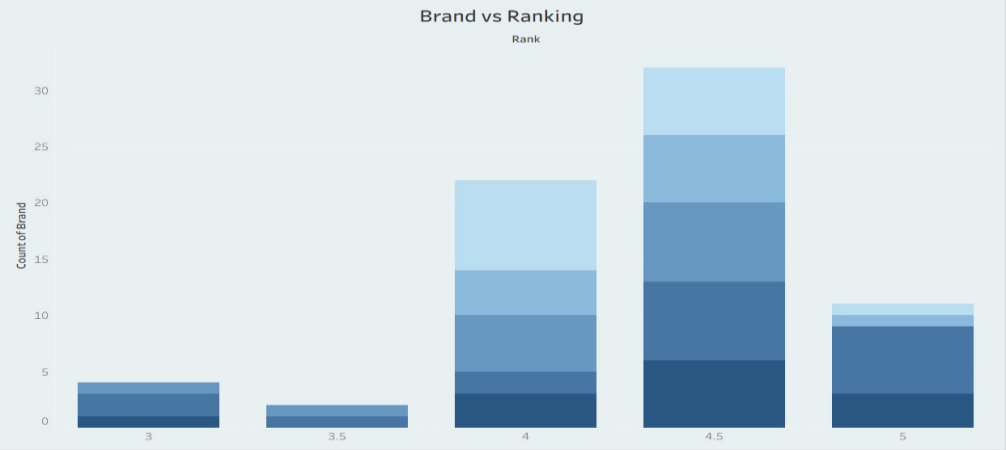


Fig4: Brand vs Ranking

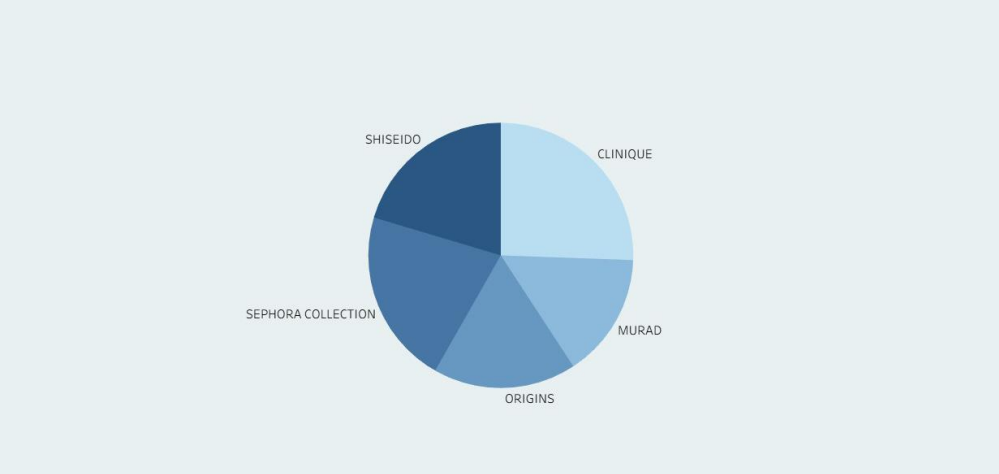


Fig5: Leading Cosmetic Brands

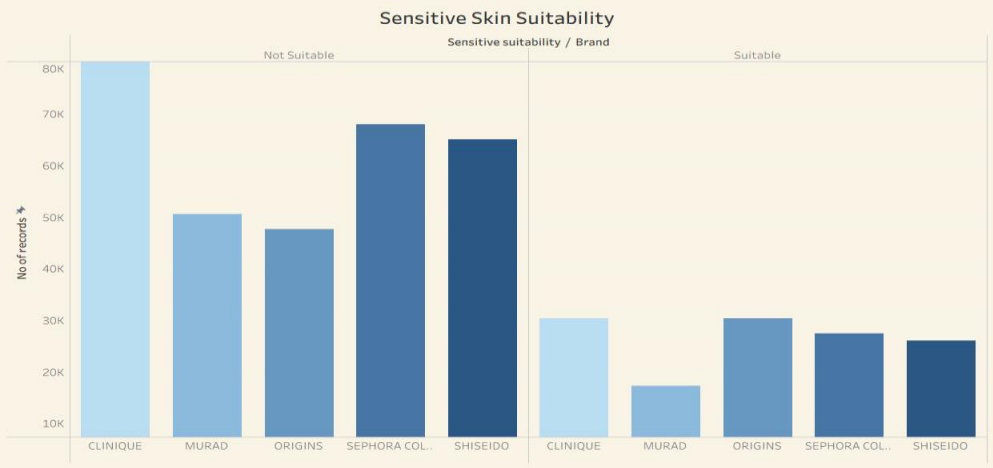


Fig 6: Sensitive Skin Suitability

Fig7: Oil Skin Suitability

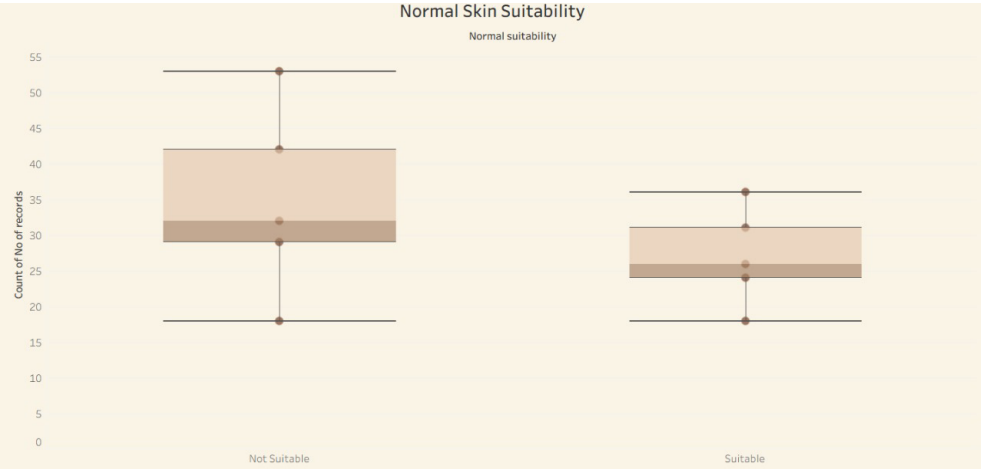


Fig8: Normal Skin Sustainability

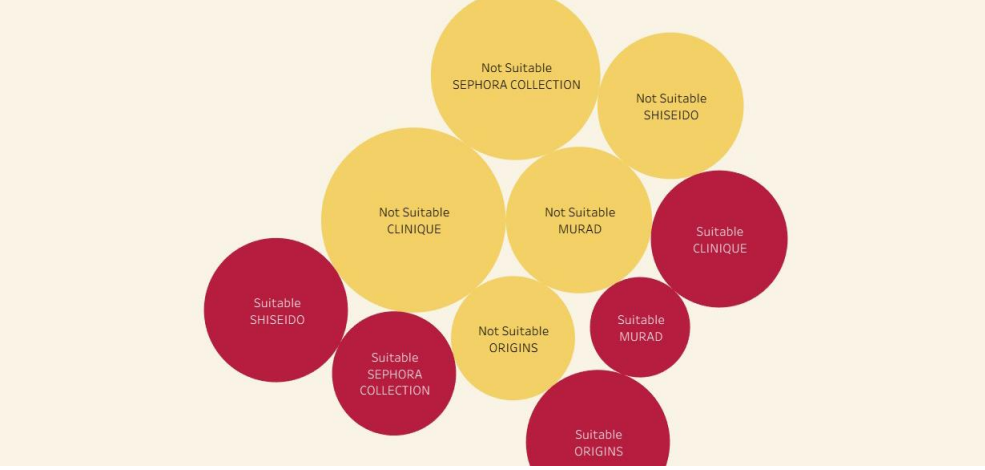


Fig9: Dry Suitability

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 Source Code:

11.3 Github and Project Demo Link