

Title: COSMETIC INSIGHTS : NAVIGATING COSMETIC TRENDS AND CONSUMER INSIGHTS WITH TABLEAU

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Cosmetic Insights : Navigating Cosmetics Trends and Consumer Insights with Tableau

"Cosmetic Insights : Navigating Cosmetics Trends and Consumer Insights with Tableau" is an innovative project aimed at revolutionizing how cosmetics data is visualized and utilized to drive informed decision-making and enhance brand success in the beauty industry. In today's competitive cosmetics market, having access to comprehensive insights into consumer preferences, product efficacy, and market dynamics is crucial to empower stakeholders with actionable information.

This project seeks to create a dynamic and intuitive platform using Tableau, where data from various aspects of consumer behavior, product performance, and market trends can be transformed into interactive visualizations and insightful analytics. By leveraging Tableau's capabilities effectively, the "Cosmetic Insights" project aims to empower cosmetics companies with actionable insights, foster data-driven decision-making, and drive business growth by facilitating a deeper understanding of consumer dynamics and promoting evidence-based marketing strategies.

Scenarios:

Scenario 1: Monitoring Consumer Preferences

In a real-time scenario, imagine receiving an alert indicating a concerning trend in consumer preferences, such as a significant decline in interest in certain cosmetic products or ingredients. Using the Cosmetic Insights data, we can promptly assess the extent and potential impact of this trend, identify contributing factors, and deploy immediate interventions to adapt product offerings and marketing strategies. Whether it's through targeted promotional campaigns, adjustments in product formulations, or personalized recommendations, real-time analysis enables agile decision-making and proactive measures to meet evolving consumer needs.

Scenario 2: Addressing Product Concerns

In the event of identifying widespread product concerns, such as negative reviews or safety issues associated with specific cosmetic items, real-time access to Cosmetic Insights data enables swift response and management. Cosmetic companies and regulatory bodies can utilize the dataset to gather crucial information about the concerns, including their prevalence, potential impacts on consumer trust, and affected product demographics. By leveraging real-time analytics, they can implement quality control measures, recall products if necessary, and communicate transparently with consumers to address their concerns and maintain brand integrity.

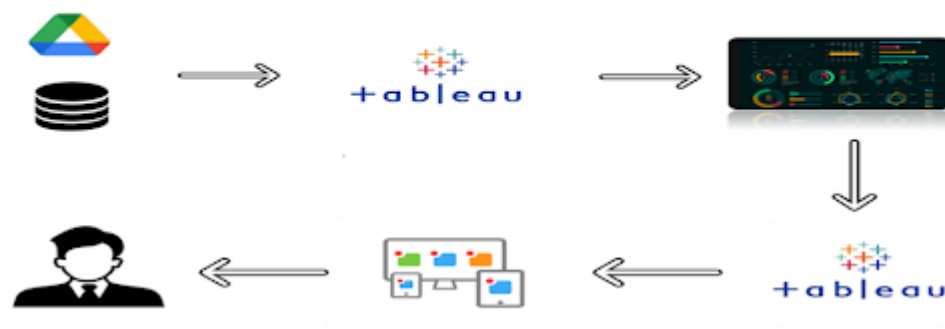
Scenario 3: Predictive Analysis and Product Innovation

Leveraging predictive analytics capabilities, Cosmetic Insights empowers companies to anticipate and respond to emerging trends and consumer preferences in the

beauty industry. By analyzing historical data and identifying predictive indicators, companies can proactively innovate new products, adjust existing formulations, and tailor marketing strategies to meet evolving consumer demands. Real-time monitoring of market trends, consumer feedback, and competitor activities enables timely interventions, product innovation, and strategic decision-making to stay ahead in a competitive market landscape.

Technical Architecture

Technical Architecture:



Project Flow

To accomplish this, we have to complete all the activities listed below,

? Data Collection & Extraction from Database

- o Collect the dataset,

- o Connect data with Tableau

? Data Preparation

- o Prepare the Data for Visualization

? Data Visualizations

- o No of Unique Visualizations

? Dashboard

- o Responsive and Design of Dashboard

? Story

- o No of Scenes of Story

? Performance Testing

- o Amount of Data Loaded

- o Utilization of Data Filters

- o No of Calculation Fields
- o No of Visualizations/ Graphs
- ? Web Integration
- o Dashboard and Story embed with UI With Flask
- ? Project Demonstration & Documentation
- o Record explanation Video for project end to end solution
- o Project Documentation-Step by step project development procedure

Data Collection & Extraction from Database

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, evaluate outcomes and generate insights from the data.

Downloading the dataset

Activity 1.1: Understand the data

Data contains all the meta information regarding the columns described in the CSV files

Column Description of the Dataset:

1. Label: Type of Product
2. Brand: Brand of Product
3. Name: Name of Cosmetic
4. Price: Price in USD
5. Rank: Ranking
6. Ingredients: Ingredients
7. Combination: Combination of Dry and Oily
8. Dry: For Dry Skin
9. Normal: For Normal Skin
10. Oily: For Oily Skin
11. Sensitie: For Sensitive Skin



- 12.
13. Cosmetics datasets | Kaggle..
14. Cosmetics ingredients, rank, price and effects on skin..
15. <https://www.kaggle.com/datasets/kingabzpro/cosmetics-datasets>

Loading the Dataset

Dataset file is CSV format

Steps:

Open Tableau Desktop

- Launch the Tableau application on your computer.

Connect to a Data Source

- On the home screen, under “Connect”, choose:
- “Text File” (This is used for CSV files).

Browse and Select Your CSV

- A file dialog will open.
- Navigate to the location of your .csv file.
- Select it and click “Open”.

View Data in Data Source Tab

- Tableau loads your CSV file into the Data Source tab.
- You can preview and clean data here (rename columns, change data types, split fields, etc.).

Drag to Canvas (if needed)

- If your CSV has multiple files (rare), drag the desired sheet to the canvas area.

Go to Worksheet

- Click on “Sheet 1” at the bottom to start building visualizations using the uploaded CSV data.

Data Preparation

- **Prepare the Data for Visualization**

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency. Since the data is already cleaned, we can move to visualization.

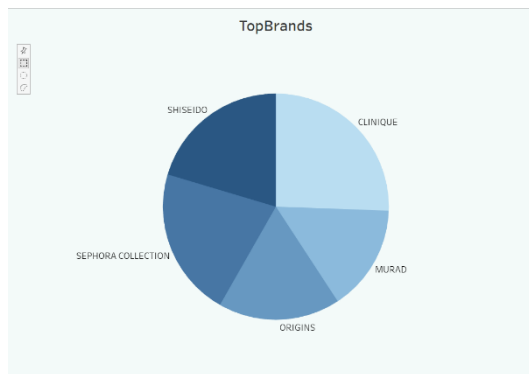
Data Visualization

Data visualization is the process of creating graphical representations of data to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

visualizations

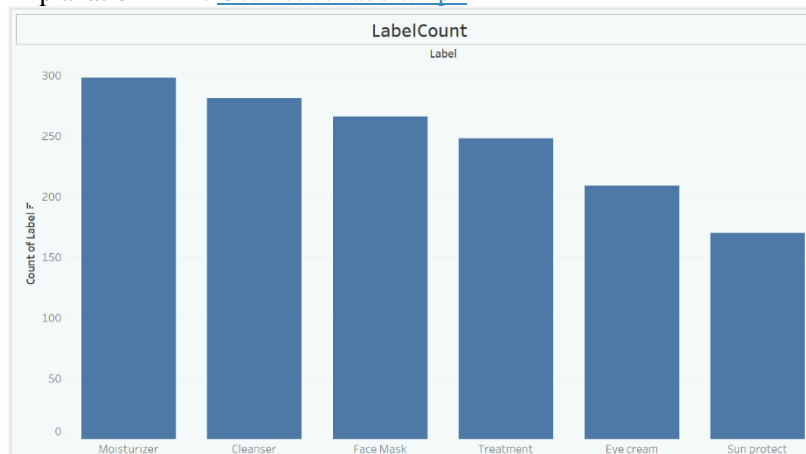
Link: https://drive.google.com/file/d/1Gew9TcVNBWdIT8n5Zhk1-mV8xpRa5E5_/view?usp=drive_link

Activity 1.1: Top Brands:

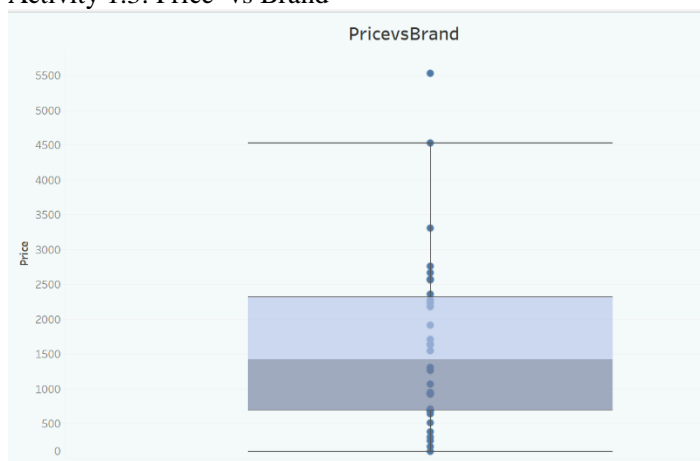


Activity 1.2: Label Count

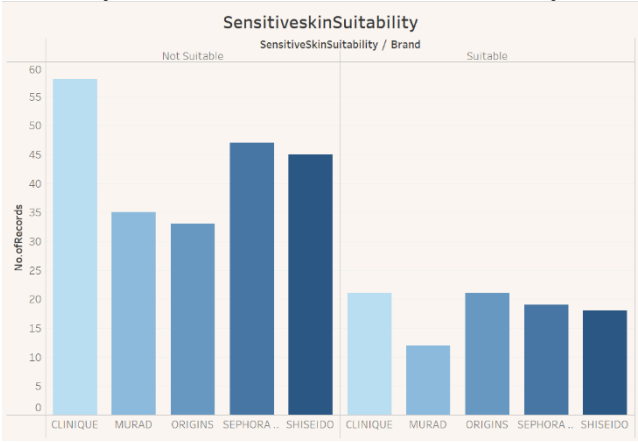
Explanation Link: [CosmeticsLabels.mp4](#)



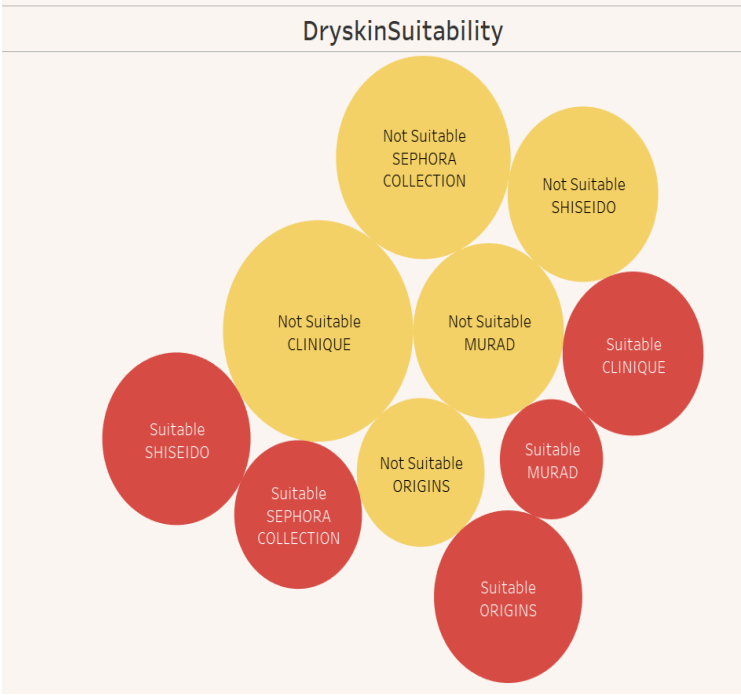
Activity 1.3: Price vs Brand



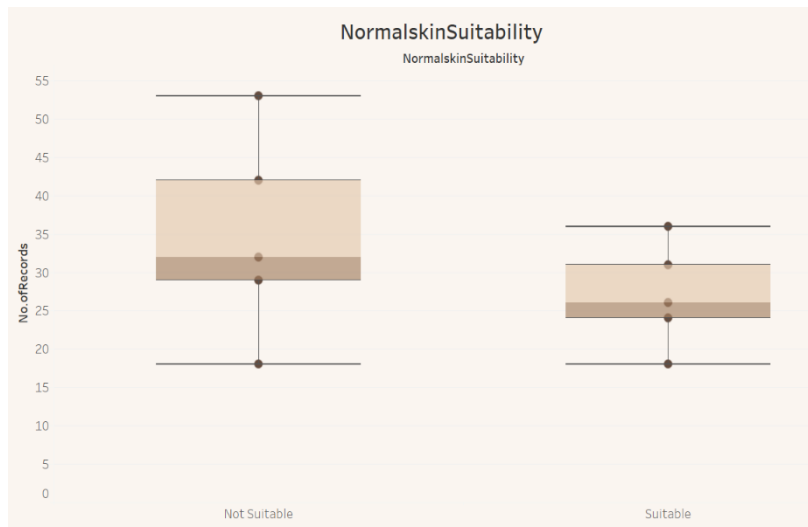
Activity 1.4 : Sensitive Skin Suitability



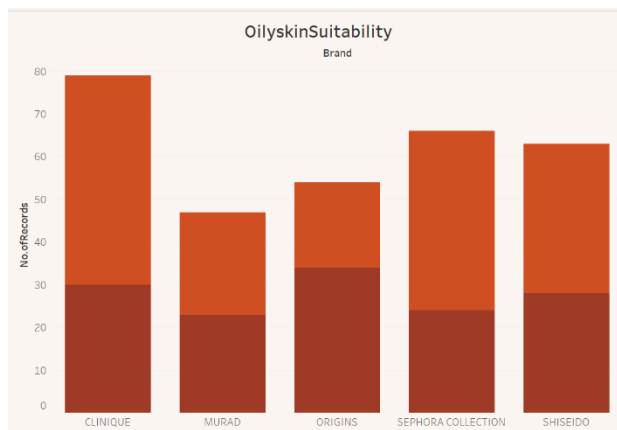
Activity 1.5 : Dry Skin Suitability



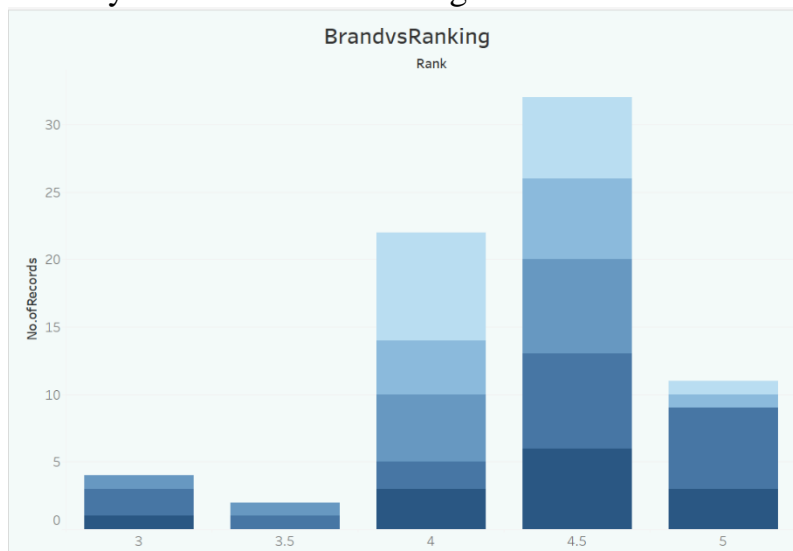
Activity 1.6 : Normal Skin Suitability



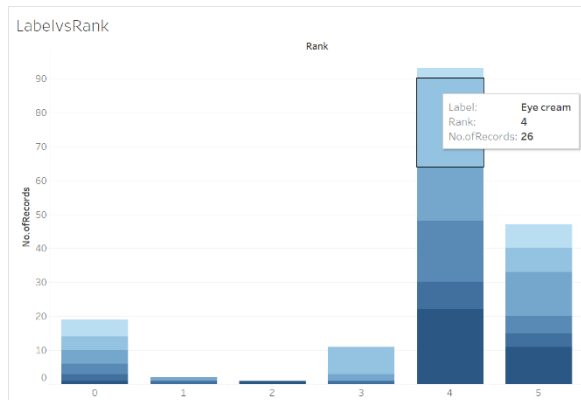
Activity 1.7 : Oily skin suitability



Activity 1.8 : Brand vs Ranking



Activity 1.9 : Label vs Ranking

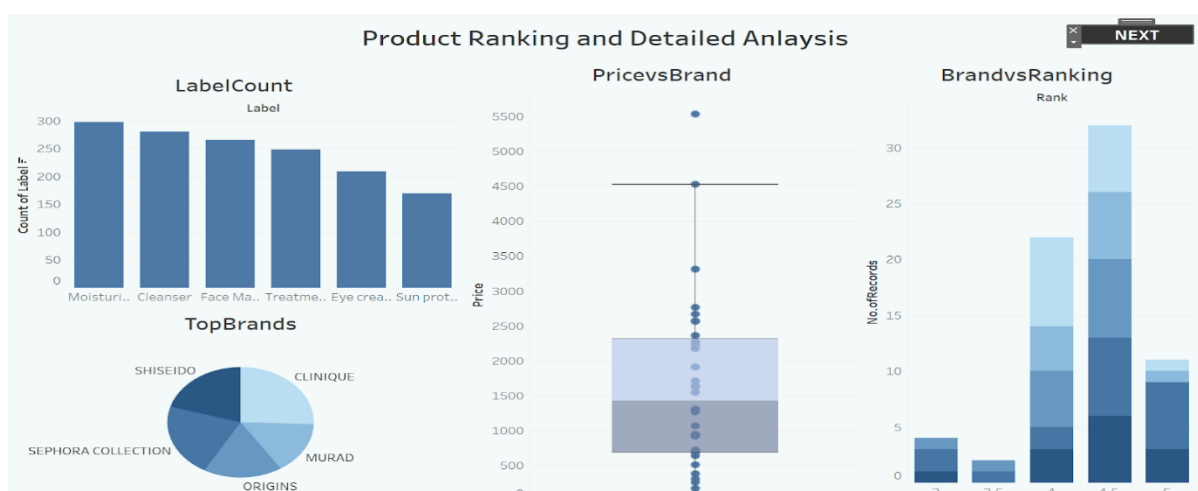


Dashboard

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Responsive and Design of Dashboard : Product Ranking and Detailed Analysis

Dashboard 1:



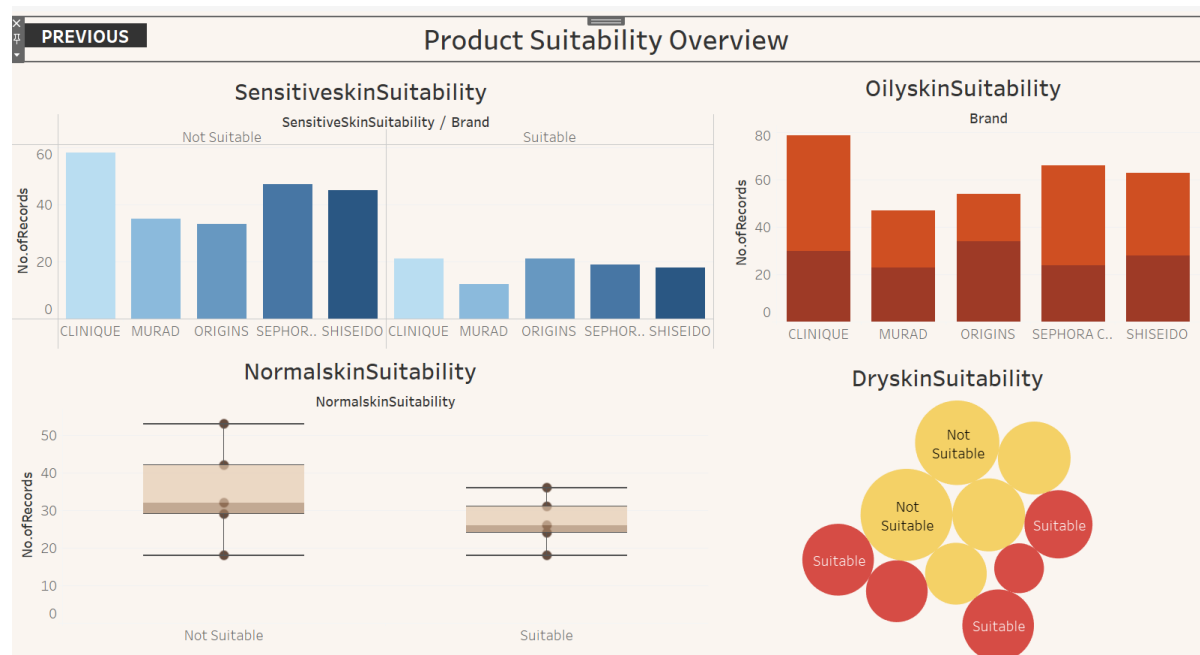
Cosmeticsdashboard1.mp4 - Google Drive..

No description..

<https://drive.google.com/file/d/1x63UzINd-84V6gZ4DhA79jm7ISllyg10/view?usp=sharing>

Product Suitability Overview

Dashboard 2:



CosmeticsDashboard2.mp4 - Google Drive..

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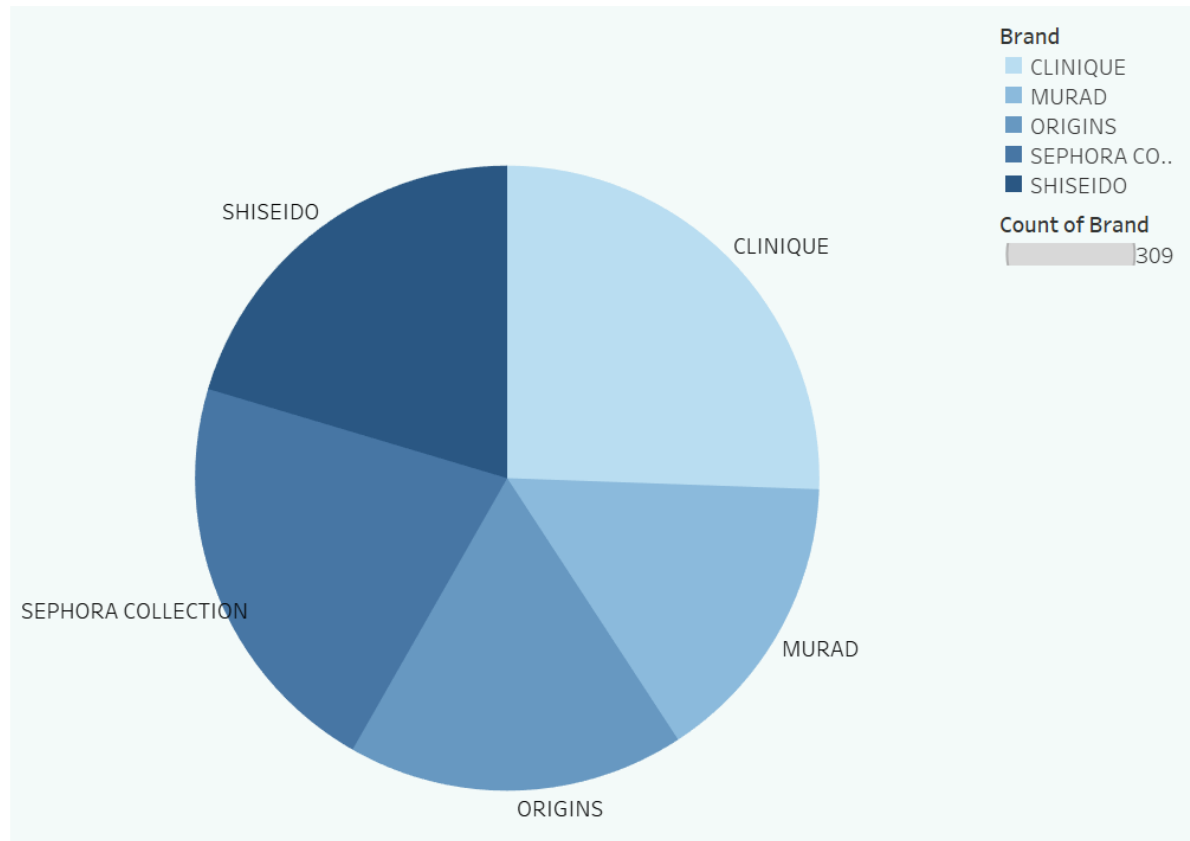
Story

A data story is a way of presenting data and analysis in a narrative format, with the goal of making the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis in a logical and systematic way, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

No of Scenes of Story

Understanding Product Suitability and Brand Performance

< Top Brands Different Labels of Price of different SkinSuitability Brand Ranking Label Ranking >



Performance Testing

Amount of Data Loaded

"Amount of Data Loaded" refers to the quantity or volume of data that has been imported, retrieved, or loaded into a system, software application, database, or any other data storage or processing environment. It's a measure of how much data has been successfully processed and made available for analysis, manipulation, or use within the system.

Type	Field Name	Physical Table	Remote Field ...
Abc	Label	cosmetics.csv	Label
Abc	Brand	cosmetics.csv	Brand
Abc	Name	cosmetics.csv	Name
#	Price	cosmetics.csv	Price
#	Rank	cosmetics.csv	Rank
Abc	Ingredients	cosmetics.csv	Ingredients
#	Combination	cosmetics.csv	Combination
#	Dry	cosmetics.csv	Dry
#	Normal	cosmetics.csv	Normal
#	Oily	cosmetics.csv	Oily

#	Sensitive	cosmetics.csv	Sensitive
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No of Visualizations/ Graphs

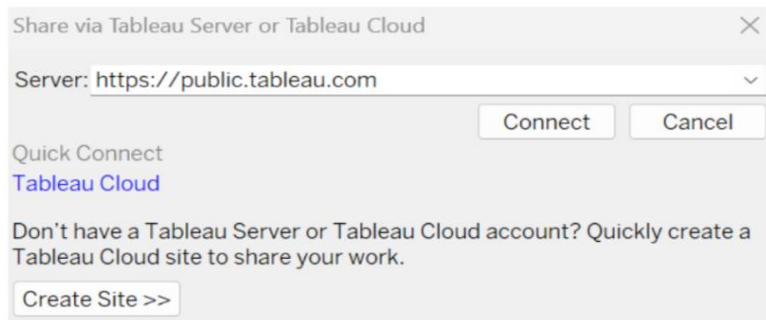
- Top Brands
- Label Count
- Price vs Brand
- Sensitive skin suitability
- Normal skin suitability
- Oily skin suitability
- Dry skin suitability
- Brand vs Ranking
- Label vs Ranking

Web integration

Publishing helps us to track and monitor key performance metrics, to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others. Publishing dashboard and reports to tableau public

Go to Dashboard/story, click on share button on the top ribbon

Give the server address of your tableau public account and click on connect.



Step 2: Once you click on connect it will ask you for tableau public user name and password.



Once you login into your tableau public using the credentials, the particular visualization will be published into tableau public.

Note: While publishing the visualization to the public, the respective sheet will get published when you click on share option

https://drive.google.com/file/d/19n5bhOdDt-cDrJMO_r9EWmxzc-6G3mn4/view?usp=sharing

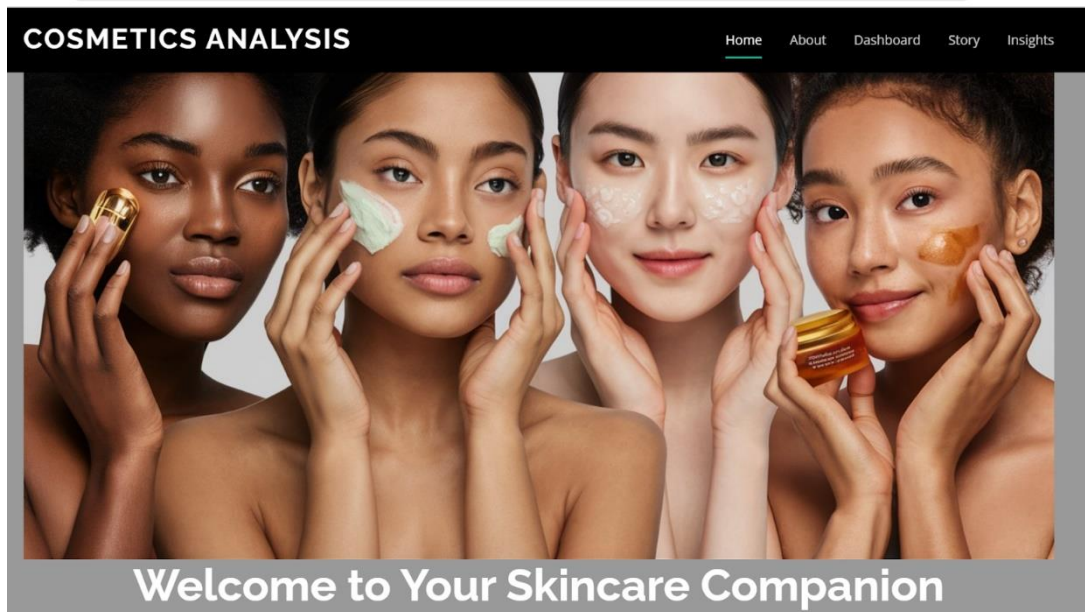
Dashboard and Story embed with UI With Flask

```
index.html X app.py X
from flask import *

app = Flask(__name__)


@app.route("/")
def home():
    return render_template("index.html")

if __name__ == "__main__":
    app.run(debug = True, port = 2323)
```








COSMETICS ANALYSIS

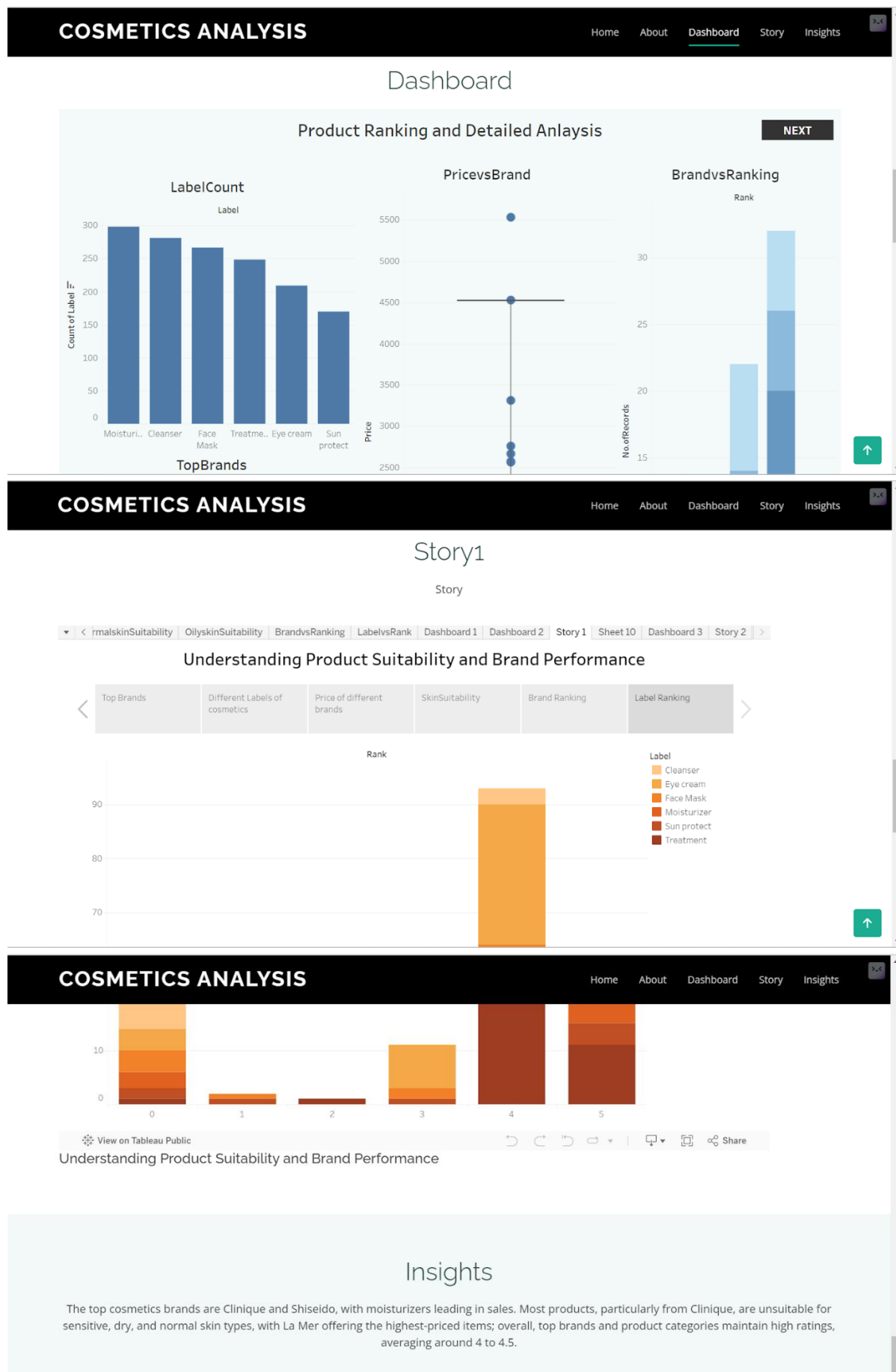
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Get clear, straightforward advice without the jargon, making skincare simple and fun.
-  **Trusted Recommendations**
Our team of skincare enthusiasts provides reliable insights to help you make the best choices.
-  **Start Your Journey**
Dive into the world of skincare and find what works best for you with 



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