

Data Analysis Report on Cosmetics Dataset

Introduction

Project Overview

This report provides an analysis of a dataset containing various cosmetic products. The goal is to help consumers make informed decisions based on product rankings, suitability for different skin types, and pricing.

Objectives

- To identify the best-rated cosmetic products based on customer reviews and rankings.
- To analyze product suitability for different skin types.
- To provide insights into pricing trends among cosmetic products.
- To assist consumers in making informed purchase decisions.

Project Initialization and Planning Phase

Problem Statement

PS-1: Finding the Best Product for a Given Skin Type

- **Customer Concern:** Consumers struggle to find suitable skincare and makeup products.
- **Challenge:** Too many options and inconsistent product information.
- **Impact:** Frustration and uncertainty in purchase decisions.

PS-2: Effectiveness of Beauty Products

- **Customer Concern:** Customers want high-quality cosmetics that deliver results.
- **Challenge:** Misleading claims and lack of a centralized comparison system.
- **Impact:** Skepticism about spending money on products that may not work.

PS-3: Finding Skincare Products with Sun Protection

- **Customer Concern:** Difficulty in identifying effective SPF-containing skincare products.
- **Challenge:** Brands do not clearly highlight sun protection details.
- **Impact:** Concern about skin protection and exposure.

Data Collection and Preprocessing Phase

Data Collection Plan

The dataset consists of 1,472 records with information on various cosmetic products, including:

- **Brand and Product Name**
- **Price**
- **Rankings (customer ratings)**
- **Ingredients**
- **Suitability for different skin types**

Data Quality Report

- **Missing Values:** No missing values were identified.
- **Data Types:** The dataset consists of numeric and categorical variables.
- **Data Consistency:** Data appears to be well-structured and consistent.

Data Exploration and Preprocessing

- The dataset was cleaned and formatted for analysis.
- Categories such as **Sensitive Skin Suitability**, **Oily Skin Suitability**, etc., were analyzed for patterns.

Data Visualization

- **Top-Rated Products:** Identifying products with the highest customer ratings.
- **Price Analysis:** Examining the pricing distribution of cosmetics.
- **Skin Suitability Trends:** Analyzing which products are best suited for specific skin types.

Dashboard

- A Tableau dashboard was designed to provide interactive visualizations.

Report

- The dataset provides insights into top cosmetic brands, best-rated products, and pricing trends.
- Findings will help consumers make informed purchasing decisions.

Conclusion/Observation

- Certain brands consistently receive high rankings.
- Some products are universally suitable for multiple skin types.
- Pricing varies significantly across different product categories.

Future Scope

- Expanding the dataset to include more user reviews.
- Incorporating additional product features like SPF effectiveness.
- Developing an AI-driven recommendation system for cosmetics.

Appendix

- **GitHub & Project Demo Link:** <https://github.com/Vaishnavi-web-jp/Cosmetic-Insights-Navigating-Cosmetics-Trends-and-Consumer-Insights-with-Tableau->
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- This report serves as a data-driven approach to help consumers navigate the vast cosmetic product market efficiently.