

**Data Collection and Preprocessing Phase:**

Date	18 June 2025
Team ID	Cosmetic Insights: Navigating Cosmetics Trends and Consumer Insights with Tableau
Project Title	LTVIP2025TMID47665
Maximum Marks	10 Marks

**Data Exploration and Preprocessing Template:**

Section	Description
Data Overview	Cosmetic is defined as a product that is applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance without affecting the body structure or functions. Cosmetics are substances used to enhance the appearance or Odor of the human body. Cosmetics include skin-care products, fingernail and toe nail polish, eye and facial makeup, and permanent wave solution. To develop a comprehensive analytical framework using data analysis and visualization techniques, specifically leveraging Tableau, to provide actionable insights into current and emerging cosmetic trends and consumer behaviors.
Data Cleaning	When diving into cosmetic insights using Tableau, robust data cleaning is paramount focused look at handling missing values, duplicates, and errors. We grid the data to remove the null values. We removed the duplicate rows to ensure each record represents a unique entity. We find the errors and removed those errors to represent the quality data to present the prefect visualization.
Data Transformation	<b>Filter Name:</b> "Brand" <b>Purpose:</b> To categorize and compare brands based on their suitability for sensitive skin. <b>Calculation field:</b> SUM(Rank) <b>Purpose:</b> This indicates that the "Rank" field is being aggregated using the SUM function.

	<ul style="list-style-type: none"> <li>Transforming image data into numerical data for facial recognition or skin analysis.</li> <li>Organizing raw sales numbers into usable reports.</li> </ul>
Column Splitting and Merging	We never used Column splitting and merging because website original data is perfect to create visualization so we did not use this column splitting and merging.
Data Modeling	When working with "Cosmetic Insights: Navigating Cosmetics Trends and Consumer Insights with Tableau," defining relationships between tables is crucial for accurate and insightful analysis. Tableau offers powerful features to manage these relationships. Those are Connect to Your Data, Drag Tables to the Canvas, Define Relationship Conditions etc.
Save Processed Data	Save the Tableau workbook (.xls) file. This file contains all your data connections, worksheets, dashboards, and formatting. Publish the Workbook to Tableau Server. This allows you to share the workbook with others and collaborate on the analysis in real-time. Saving our data depends on our specific needs and how we are intending to use the data in the future. Considering factors such as accessibility, collaboration, and the need for ongoing updates when making your decision.
Data Type Conversion	<p>cosmetics trends and consumer insights, brands should focus on data-driven personalization, leveraging AI for insights, and understanding emerging consumer preferences like sustainability and inclusivity. When we work with cosmetic insights and consumer trends in Tableau, data conversions are crucial for accurate analysis and visualization.</p> <ul style="list-style-type: none"> <li>Tracking trends over time requires proper date/time datatype, to convert the data string into datetime format to create time-series charts to analyze the time-of-day consumer purchased.</li> <li>Converting text data into numerical data for sentiment analysis.</li> </ul>

