

Project Design Phase
Solution Architecture

Date	01 July 2025
Team ID	LTVIP2025TMID51607
Project Name	Cosmetic Insights : Navigating Cosmetics Trends and Consumer Insights with Tableau
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture helps bridge the gap between cosmetic market challenges and data-driven technology solutions. In this project, it provides the structure and flow needed to collect, process, and visualize cosmetic product data to support insights into customer preferences and product trends.

Objectives:

- Find the most efficient tech stack for understanding consumer preferences and cosmetic market behavior.
- Define how data flows from collection to visualization.
- Outline key tools and platforms used (e.g., Tableau, CSV data, Python, Excel).
- Provide a clear overview for stakeholders on how the dashboards are created and used.

Description of Solution Architecture:

This solution is built around data visualization using Tableau. The architecture includes the following stages:

- Data Collection: Cosmetic product data and customer reviews are obtained in CSV format from online sources or survey forms.
- Data Cleaning (Optional): Null values, duplicates, or inconsistent entries are removed using Excel or Python to ensure data quality.
- Tableau Processing: Cleaned data is imported into Tableau Desktop. Visualizations such as bar charts (e.g., top brands), pie charts (e.g., category share), and trend lines (e.g., monthly preference) are created.
- Dashboard Compilation: The visualizations are compiled into interactive dashboards and stories to display insights clearly.
- Publication: The dashboards are published on Tableau Public to enable online sharing and access.
- Stakeholder Access: Brand managers, marketing teams, and product developers can access dashboards using shareable links for data-driven decisions.

Example - Solution Architecture Diagram:

Cosmetics Insights – Solution Architecture

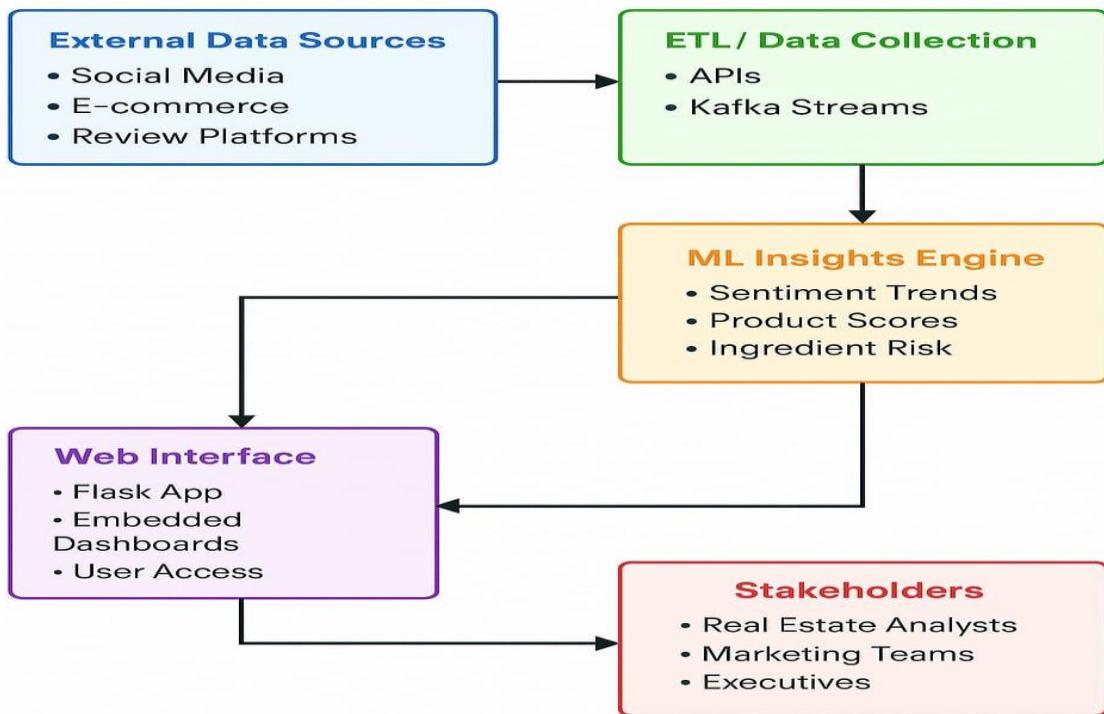


Figure 1: Architecture and data flow of the Cosmetics Insights application