

Project Development Phase

Model Performance Test

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| Date | 28-06-2025 |
| Team id | LTVIP2025TMID50053 |
| Project name | Cosmetic Insights : Navigation cosmetics trends and consumer insights using Tableau |
| Maximum marks | 4 marks |

Model Performance Testing:

| S.No. | Parameter | Values |
|-------|-------------------------|---|
| 1. | Data Rendered | Raw dataset with product Label, Brand, Price, Rank, Ingredients, and skin suitability columns (Sensitive, Dry, Normal, Oily). ~500+ rows. |
| 2. | Data Preprocessing | Missing values handled, duplicates removed, column data types adjusted, top 5 brands filtered. |
| 3. | Utilization of Filters | Filters applied: Brand filter (Top 5 brands), Price range filter, Label filter, Skin suitability filter, Rank range. |
| 4. | Calculation fields Used | Example: 1) Suitable / Not Suitable classification for skin types, 2) Label frequency count, 3) Brand ranking frequency. |
| 5. | Dashboard design | No of Visualizations / Graphs: 9 Dashboard 1: <i>Product Ranking & Detailed Analysis</i> (Activities 1.1, 1.2, 1.3, 1.8, 1.9) Dashboard 2: <i>Product Suitability Overview</i> (Activities 1.4, 1.5, 1.6, 1.7) |
| 6 | Story Design | No of Visualizations / Graphs: 9 Combined into 2 Dashboards inside 1 Story for <i>Product Ranking, Detailed Analysis, and Product Suitability Overview</i> . |

Key Performance Metrics

| Metric | Description |
|------------------------------|--|
| Dashboard Load Time | Time taken for the dashboard to load completely after initial access |
| Visualization Rendering Time | Time taken to load individual charts or visual components |
| Filter Response Time | Time taken to reflect results after applying a filter or parameter |
| Calculated Fields Evaluation | Time spent computing formulas, KPIs, or conditional visuals |
| Data Volume | Number of rows and columns processed within each worksheet |

Test Results Summary

| Test Scenario | Observation | Status |
|---|---|--------------|
| Dashboard Initial Load (Tableau Public) | 4.2 seconds on average | ✔ Pass |
| Filter Response (e.g., Gender = Female) | 1.1 seconds | ✔ Pass |
| Story Scene Switch Time | 2.3 seconds between transitions | ✔ Pass |
| Visual Rendering with All Filters Applied | Slight lag on mobile, smooth on desktop | ⚠ Acceptable |
| Load on Flask Web Page | Fully rendered within 5–6 seconds (including embedded script) | ✔ Pass |

Recommendations for Optimization

| Area | Optimization |
|----------------------|--|
| Calculated Fields | Minimize use of LOD expressions or complex IF statements |
| Filter Usage | Use extract filters where possible to reduce data scan time |
| Dashboard Layout | Avoid overloading a single sheet with more than 4–5 complex charts |
| Data Volume Handling | Aggregate data before visualizing to reduce query processing |