

SuperLabs
Vendor Technical Assessment
(Sr. Data Analyst)

E-Commerce Analytics – Evaluation Task

This assessment will be used to evaluate vendors for a total project value of ₹ 2,00,000 for a full-scale analytics implementation project. Performance in this task directly impacts selection and pricing for the complete project.

Objective

To evaluate the vendor's ability to:

- Clean and analyze e-commerce search data
- Build meaningful KPIs and insights
- Create a high-quality analytics dashboard
- Present findings clearly
- Host the dashboard online

The vendor must use the provided Excel dataset (search logs & metrics) and deliver production-ready analytics output.

Tools Allowed

Vendors may use any tool(s) of their choice:

Analytics / Visualization

- Tableau
- Power BI
- Looker Studio
- Superset / Metabase
- Python (Pandas, NumPy, Jupyter)
- SQL (PostgreSQL, BigQuery, DuckDB etc.)

Other

- Any NLP, clustering or synonym-detection techniques
- Any data modeling framework

Data Source

Provided Excel file Link: <https://bytebox.superlabs.co/s/9dFWpG5YBHMPn83>

Vendor must analyze this data.

Task Overview

A. Data Preparation

- Clean and normalize data
- Fix missing or inconsistent values
- Identify typos, synonyms, clustering candidates
- Convert timestamps to weekly buckets
- Generate weekly KPI aggregations

B. Required Analyses (Metrics)

1. Top Search Volume – most searched keywords
2. Trending Keywords (WoW Growth) – detect viral surges
3. Zero-Result Searches – content/catalog gaps
4. Low-Result Searches (<3 results) – category expansion needs
5. High-Exit Searches – search → no click → bounce
6. Top Brand Searches – brand partnerships
7. Category Search Demand – optimize site navigation
8. Attribute Trends – “vegan”, “SPF”, “acne safe”, etc.
9. Price Intent Segments – avg min/max price ranges
10. Rating Sensitivity – filter preference
11. Search-to-Cart Conversion
12. Search Fail Rate = (#ZeroResult + #NoClick)/Total Searches
13. Regional Search Trends – city/state patterns

14. Seasonality Analysis (YoY)
15. New vs Returning Customer Search Behavior
16. Keyword Clustering (NLP)
17. Synonym Misses – identify typos & missing synonyms
18. Conversion Funnel – Search → Click → Cart → Purchase
19. Cross-Search Patterns – within-session exploration
20. Category/Collection Mapping Accuracy

C. Dashboard Requirements

Vendor must build and host a live dashboard (Tableau Public / Power BI Web / Looker Studio).

Dashboard must include:

- Overview KPIs
- Trend charts
- Zero-result & low-result insights
- Regional heatmaps
- Conversion funnel visualization
- Keyword clusters & synonym insights
- Price & rating intent segmentation

Dashboard link must be shareable publicly for evaluation.

D. Technical Document (1–2 Pages)

Vendor must submit a concise explanation covering:

- Data cleaning methodology
- KPI formulas
- Architecture / workflow design
- Dashboard layout & reasoning
- Insight summary & recommendations
- Assumptions made

Evaluation Criteria

Primary (Analytics Quality)

- KPI correctness
- Depth of insights
- Data cleaning quality
- Logic of weekly aggregations
- Clarity of explanations

Technical Strength

- SQL/Python quality (if applicable)
- Efficient modeling
- Reproducibility

Dashboard

- Completeness of required metrics
- Usability & clarity
- Hosted (viewable) link

Other Factors

- Clean documentation
- Ability to deliver within 1 day
- Overall professionalism

Submission Requirements

Vendor must submit:

1. Hosted dashboard link (mandatory)
2. Technical documentation (PDF, 1–2 pages)
3. GitHub/GitLab repo (optional but preferred)
4. Enhanced Excel file with derived metrics (optional)

Naming Convention:

VendorName_EcommerceAnalytics_Assessment

Notes

- No UI design expectations beyond clear visualizations
- Vendor free to choose any analytics platform
- Focus is on insights, modeling, and dashboard clarity