# Task 2 Summary Report

### Column Analysis:

- **Key Data Fields :** CAUSAL\_PART\_NM, CUSTOMER\_VERBATIM, CORRECTION\_VERBATIM, REPAIR\_DATE, PLATFORM.

- **Data Quality :**

- Missing values in CAUSAL\_PART\_NM and PLANT were filled with "Unknown" and "Not Available."

- Standardized categorical values (removed typos and inconsistent capitalization).

**2. Data Cleaning:**

**- Handled Missing Values:**

- CAUSAL\_PART\_NM: 5 missing values replaced with "Unknown."

- PLANT: 1 missing value replaced with "Not Available."

**- Standardized Formats:**

- Capitalized categorical fields (PLATFORM, BODY\_STYLE, VPPC).

**3. Key Visual Insights:**

- Most Common Causal Parts in Repairs: Steering wheel issues dominate failures.

- Repair Trends Over Time: Spikes in certain periods suggest seasonal patterns in failures.

- Vehicle Platform Analysis: Certain platforms experience more frequent breakdowns.

**4. Extracted Keywords & Insights:**

- Top Complaint Keywords: "steering," "wheel," "coming," "not."

- Top Repair Actions: "replaced," "found," "removed," indicating frequent part swaps.

- Potential Insights:

- Steering wheel failures are a primary concern.

- Electronics/modules often require replacements.

- Quality control improvements could reduce recurring issues.

**5. Recommendations:**

- Preventative Measures: Improve quality control on steering components.

- Predictive Maintenance: Use failure trends to proactively replace high-risk parts.

- Customer Communication: Provide clearer guidance on common failure symptoms.

This analysis provides a structured approach to identifying recurring failures and optimizing maintenance strategies.