Quality and Reliability Analysis Report

Objective:

This report provides insights into vehicle issue patterns across different body styles and manufacturing plants, along with average kilometres driven before issues are reported. The findings support quality control, product improvement, and strategic planning decision-making.

1. Issue Distribution by Body Style

- The **Crew Cab (37 cases)** and **Single Cab (30 cases)** report the highest number of issues among all body styles.
- Other body styles, including **Utility 4 Door, Sedan, Coupe, and Extended Cab**, report significantly fewer issues.

Implication:

Crew Cab and Single Cab designs may have structural or component weaknesses that warrant deeper quality checks or design changes.

2. Issue Distribution by Manufacturing Plant

- Plants such as **SIL, FTW, SHT, and ARL** report the highest issue counts.
- Other plants (DEL, OS2, LGR, FAI, etc.) show comparatively low issue volumes.

Implication:

Manufacturing practices and quality assurance processes at high-issue plants may need auditing or reinforcement to reduce defect rates.

3. Average Kilometres Driven Before Issue by Body Style

- **4 Door Sedan** shows the highest reliability, with an average of **42,000 KM** before an issue arises.
- **Crew Cab and Extended Cab** perform well, averaging **35,000–36,000 KM**.
- **2 Door Coupe (4,000 KM)** and **Single Cab (16,000 KM)** report issues far earlier.

Implication:

The **2 Door Coupe,** in particular, suffers from **premature component failure**, making it a priority for design and material review. Meanwhile, **Sedan models demonstrate strong longevity** and should be promoted for their durability.

Recommendations

Focus Quality Control on:

- Single Cab and Crew Cab body styles.
- Plants SIL, FTW, SHT, and ARL.

Product Improvement:

- Investigate early-failure issues in the 2 Door Coupe and Single Cab.
- Leverage the reliability strengths of the 4 Door Sedan in marketing and future models.

Operational Action:

- Conduct root cause analysis at high-issue plants.
- Align engineering and manufacturing teams to address systemic quality concerns