**ANP-D0449**

**DATA ANALYSIS USING PYTHON**

**FUEL CONSUMPTION TRENDS IN TRANSPORTATION FLEETS**

**Abstract:**

This analysis explores fuel efficiency trends and patterns using a dataset containing vehicle fuel consumption records. The primary goals were to handle missing values, perform statistical summarization, and conduct comparative and trend analyses. Missing values were identified and addressed through imputation methods or row removal, ensuring data consistency. Statistical summarization revealed the average fuel consumption across all vehicles, providing a baseline for efficiency. Comparative analysis across vehicle makes and models highlighted the most and least fuel-efficient vehicles. Aggregation by vehicle class allowed for insights into fuel usage patterns across different types of vehicles.

Furthermore, a trend analysis was conducted to identify changes in fuel efficiency over time by calculating average fuel consumption per year. The results showcased whether fuel efficiency has improved or worsened over the years. This study offers valuable insights for manufacturers, policymakers, and consumers aiming to understand and promote fuel-efficient transportation solutions.