Regression Analysis Report: Overhead Cost Drivers

# Regression Equation

Overhead\_Cost = 12359.95 + 12.08 \* Labor\_Hours + 12.92 \* Machine\_Hours + 1471.57 \* Number\_of\_Setups - 18.56 \* Batch\_Size + 285.23 \* Material\_Movements

# Model Fit Statistics

R-squared: 0.2443 — Explains 24.43% of variance in overhead cost.

Adjusted R-squared: 0.2041 — Adjusted for number of predictors.

F-statistic: 6.08

Prob (F-statistic): 0.0001 — Indicates overall model significance.

# Variable Significance (p-values)

const: p-value = 0.4484 (Not Significant)

Labor\_Hours: p-value = 0.0523 (Not Significant)

Machine\_Hours: p-value = 0.0960 (Not Significant)

Number\_of\_Setups: p-value = 0.0183 (Significant)

Batch\_Size: p-value = 0.4053 (Not Significant)

Material\_Movements: p-value = 0.0004 (Significant)

# Business Interpretation

The regression results help identify which operational variables are statistically significant in explaining the overhead costs. Significant drivers can be used as allocation bases under ABC, improving cost attribution accuracy. Non-significant variables may be excluded from ABC models to reduce noise and complexity.