

## Churn Analysis Report: Driver Workforce

### 1. Key Findings on Churn Drivers:

- **Gender:** Males exhibit a higher churn rate (39.73%) compared to females (28.14%).
- **Education:** Churn is relatively consistent across education levels, with a slight increase for those with Education Level 2.
- **Designation:** Drivers in Designation 1 and 2 have the highest churn rates.
- **Grade:** Half of drivers in grades 1 and 2 have left the company.
- **Quarterly Rating:** A last quarterly rating of 1 leads to a significant churn rate (60%), highlighting the impact of performance reviews on retention.
- **Overall Churn Rate:** A high churn rate of 68% indicates workforce instability.

### Impact of Performance and Compensation:

- **Quarterly Rating Change:** Drivers with stagnant ratings are much more likely to churn (64.43%) compared to those with improved ratings (3.44%).
- **Income Increase:** Drivers without an income increase have a significantly higher churn rate (67.74%), highlighting its importance in retention.

### 2. Model Performance and Insights:

- **Model 1 (Random Forest Classifier):** Achieves good performance with an F1 score of 87%, accuracy of 82%, and AUC of 86%.
- **Model 2 (Gradient Boosting Classifier):** Outperforms Model 1 with an F1 score of 88%, accuracy of 83%, and AUC of 88%, indicating a deeper understanding of churn factors.

### 3. Most Influential Features:

Both models identified these factors as the most influential for predicting churn:

- Income increase
- Quarterly rating increase
- Driver's grade
- Education level

### Ranking of Influence:

1. Income increase
2. Quarterly rating increase
3. Grade

#### 4. Education level

#### 4. Actionable Insights & Recommendations:

- **Gender-Specific Initiatives:** Design targeted retention programs for men, focusing on career development, competitive pay, and work-life balance.
- **Education Level Focus:** Provide additional training and development for employees with Education Level 2 to align skills with career goals.
- **Designation-Specific Strategies:** Improve job satisfaction for lower designation roles through enhancements, support systems, and recognition.
- **Grade-Related Adjustments:** Enhance support for drivers in grades 1 and 2 with better onboarding, mentorship, and compensation reevaluation.
- **Performance Evaluation:** Revamp the performance evaluation process for fair and frequent feedback and support for low performers.
- **Development and Recognition:** Implement continuous improvement programs with personal development, coaching, and recognition for all performance levels.
- **Compensation Structure Review:** Restructure salary increments and bonuses to be competitive and performance-based, ensuring clear paths to income increases.

This report provides valuable insights to address driver churn and improve workforce stability.