HR Analytics Report: Attrition Prevention Strategies

Summary of Insights (from EDA & SHAP Analysis)

Based on the visualizations and model interpretability (SHAP values), several key patterns have emerged regarding employee attrition:

1. **High Attrition in Certain Departments**

   o The Sales and Human Resources departments show higher attrition rates compared to others like R&D.

   o These may be due to target pressure, limited growth, or unbalanced work-life conditions.

2. **Job Roles with Increased Attrition**

   o Roles like Sales Executive and Laboratory Technician show higher attrition.

   o These positions often involve repetitive tasks, limited career mobility, or dissatisfaction with compensation.

3. **Influence of Promotions and Career Growth**

   o Employees with **no recent promotions** (YearsSinceLastPromotion ≥ 3) are more likely to leave.

   o Lack of career development opportunities is a significant risk factor.

4. **Salary Band Impact**

   o Employees in **lower salary bands** (especially freshers or early-career employees) tend to leave more.

   o Financial dissatisfaction can drive employees to look for better offers.

5. **Work-Life Balance and Overtime**

   o Attrition is notably high among employees with high overtime hours.

   o Work-life imbalance appears as a consistent factor in SHAP interpretation.

✅ **Actionable Strategies for Reducing Attrition**

1. Improve Work-Life Balance

- Implement flexible work hours and hybrid options.

- Monitor and reduce excessive overtime across departments.

- Introduce regular wellness initiatives (mental health days, employee assistance programs).

2. Create Clear Promotion Paths

- Build transparent promotion and appraisal criteria.

- Offer personalized career growth plans.

- Encourage internal mobility across departments.

3. Address Salary Dissatisfaction

- Benchmark compensation regularly against industry standards.

- Offer performance-linked incentives and retention bonuses.

- Consider revising starting salaries for entry-level roles.

4. Targeted Engagement in High-Risk Departments

- Conduct anonymous surveys in high-attrition departments like Sales or HR.

- Identify specific stressors (manager relationships, workload, lack of recognition).

- Implement localized HR interventions (team-building, upskilling workshops).

5. Enhance Workplace Environment

- Improve job satisfaction through team dynamics and leadership feedback.

- Celebrate employee milestones and contributions.

- Promote a culture of recognition and continuous feedback.

📌 **Conclusion**

By identifying the key factors driving attrition and applying data-driven strategies, organizations can not only **reduce turnover** but also enhance **employee satisfaction and productivity**. Regular monitoring of these metrics through HR dashboards and predictive models can ensure proactive workforce management.