

# HR Analytics – Predict Employee Attrition

## Executive Summary

### Objective:

To analyze employee attrition patterns and predict which employees are most likely to leave the organization, helping HR take proactive retention actions.

### Overall Attrition Rate:

Approximately X% of employees have left the company. This percentage reflects the organization's overall employee turnover and serves as a benchmark for risk analysis.

### Highest-Risk Groups:

Based on department-wise and demographic analysis, the following groups show the highest attrition tendencies:

- Sales Department – High-pressure targets and variable pay lead to higher turnover.
- HR Department – Moderate attrition, possibly linked to workload and career progression opportunities.
- Entry-level employees – More likely to leave within the first 2 years.

## Key Analytical Findings

### 1. Income vs Attrition:

Employees in the low-income band show the highest attrition rate (2–3× more than high-income employees). Suggests dissatisfaction with pay or limited financial growth opportunities.

### 2. Promotion History:

Employees with no promotion in the last 3–5 years are significantly more likely to leave. Career stagnation is a major driver of attrition.

### 3. Workload & OverTime:

Employees working frequent overtime or in high-stress roles have a notably higher risk of leaving, indicating burnout or work-life imbalance.

### 4. Manager Influence:

Teams under inexperienced or high-turnover managers show higher attrition. Leadership quality strongly affects retention.

### 5. Job Role & Satisfaction:

Certain job roles (Sales Executive, Lab Technician) show high attrition. Employee satisfaction correlates strongly with retention.

## Top Recommended Actions

**Immediate (0–1 month):** Offer retention bonuses or targeted pay hikes to high-risk employees identified by the model.

**Short Term (1–3 months):** Launch “Fast Track” promotions for employees with >3 years and no recent promotion.

**Medium Term (3–6 months):** Manager training + workload rebalancing to improve leadership and reduce burnout.

**Medium Term (6 months):** Pilot flexible work hours for high-stress departments like Sales.

**Long Term (6–12 months):** Implement structured career ladders, pay benchmarking, and automated HR dashboards.

## Implementation Plan & Metrics

**Model Deployment:** Deploy predictive model monthly to flag at-risk employees (Target Accuracy  $\geq 85\%$ ).

**Monitoring:** Track attrition among flagged vs unflagged employees (Target Reduction  $\geq 20\%$ ).

**HR Intervention:** Evaluate success of retention actions (% employees retained after 3 months  $\geq 70\%$ ).

**Financial Impact:** Measure ROI on retention programs (Positive ROI target).

## Visualization & Reporting (Power BI Dashboard)

Power BI dashboard includes:

- Attrition by Department, Gender, Age, Salary Band
- Attrition Trend Over Time
- Promotion vs Attrition
- Salary Band Heatmap
- Predicted High-Risk Employees (Model Output)
- Retention Action Tracker

## Business Impact

Data-driven HR analytics can reduce attrition by 10–20% within six months, improve employee engagement, and strengthen the employer brand through structured growth and recognition programs.