Mini HR Analytics Report – By Kashish Bhatia (Reg. No.- 2023PGDM1121)

SEC-1: Understanding the Organization & Data.

1.Industry Representation: -

Fictional Large-scale enterprise Likely IT or tech services focused on workforce attrition and performance metrics.

2.Total employees: -

1470 employees are Included

3.Key Variable: -

Age, Gender, Marital Status, Department, Job Role, Job level, Business travel, Year At Company, Total Working Years, Year Since Lost Promotion, Monthly Income, Percent Salary Hike, Stock Option Level, Job satisfaction, Environment Satisfaction, Work-Life Balance, Over Time

4.Missing Valve:

No missing on dataset Inconsistent values in the Dataset.

Section 2: HR Metrics Calculation

5.Overall Attrition Rate: - 16.12%

6.Department with Highest Tenure: -

Sales: 20.63%

HR 19.05%

R&D 1384 %

7.Average Tenure: -

Mean tenure is approximately 7 years, with total experience average around 11 years.

8.Average Tenure by Role (Department):-

Entry Level employees (Job level 1) have highest attrition (26%)

Managers/directors attrition have significantly lower attrition.

9.Grender Ratio:-

60% Male, 40% Female.

Male attrition slightly higher at 17%, female at 14.8%.

10.Highest Paying Department: -

Sales (Avg. Salary: - 6959.17)

11.Performance Rating vs Tenure/Training: -

Rating 4 employees have slightly high tenure (7.06 years)

Rating 3 and 4 have similar training hours (~2.8)

12.Training vs Performance Correlation: -

Very Weak Negative correlation (-0.016)

SEC-3: Interpretation and Insights: -

13.Trends/Anomalies in Attrition: -

Highest attention in R&A and Sales Mast attrition occurs early.

14.Attrition Patterns: -

By Gender: Mare (63.3%) leaves more than females.

By Job Role: Most exists from Lab Technicians and sales executives.

15.At Risk Groups: -

Sales Representatives, Lab Technicians, and new employees.

16.HR Retention Focus: -

Focus on R&D and sales teams.

Strengthen onboarding and engagement in early years.

17.Diversity Imbalance: -

Slight gender disparity: males have higher attention (~17% vs. 14.8%)

18.Career Progression Insight: -

Higher job levels show longer gaps since last promotion.

SFC-4: Strategic Recommendations: -

19.HR Initiatives: -

Robust onboarding and mentoring for first year hires.

Overtime Monitoring to prevent burnout.

Clear career paths and promotion plans especially for entry level roles.

Targeted training, especially among zero training Employees.

20.Analytics for workforce planning: -

Use Predictive attrition modelling with trainable rise factors Like tenure, overtime and pay.

21.Training Investment: -

Yes-training appears to reduce attrition (~15% vs ~28%), making it a worthwhile investment.

22. Aligning HR metrics & Business Outcomes: -

Track attrition, tenure, Satisfaction metrics alongside business metrics to validate HR Interventions.

23.Dashboards & Report for Decision Making: -

Attrition Dashboard

Engagement Indicators

Promotion Tracker

SEC- 5: Reflection on the Analytics Process: -

24.Challanges: -

Minimal missing data- mostly cleaning Categorial labels removing constant columns.

25.Practical HR Metrics Insight: -

Illustrated how tenure, satisfaction, training and overtime directly predict attrition-demonstrating the power of measurable HR KPI.

26.Additional Data for Deeper Analysis: -

Engagement Surveys, exit interviews, and manage 360 feedback for Casual insights.

27.Scalling the project: -

Use platforms like Azure Databricks or AWS SageMaker for continuous monitoring and automated retraing of predictive models.

28.Explaining HR Analytics Value to Non-HR Execs: -

Predictive attrition analytics enable proactive retention- reducing hiring cost, preserving Institutional knowledge, and enhancing productivity-clearly Linking HR actions to business performance.