HR Analytics Report

# 1. Objective

The objective of this HR Analytics project is to explore and analyze human resource data to gain insights into employee behavior, satisfaction, compensation, and performance. The primary aim is to support strategic HR decisions by identifying patterns that can drive employee retention, increase satisfaction, and enhance productivity. This analysis also aims to address pay equity, performance disparities, and departmental trends across the organization.

# 2. Procedure

The following steps were performed for this analysis:

* Imported the HR dataset into Power BI.
* Performed initial data profiling and cleaned missing or inconsistent entries.
* Created new calculated columns (e.g., Tenure in Years, Age Group) and measures (e.g., Average Salary by Role).
* Developed interactive dashboards and custom visuals for detailed analysis.
* Incorporated user-friendly filters and slicers to enhance interactivity and insights.
* Performed segmentation analysis by department, gender, job role, and performance level.

# 3. Create Visualization

The Power BI dashboard includes the following visualizations:

1. KPI Cards: Total Employees, Attrition Rate, Average Monthly Income, and Satisfaction Index.
2. Bar Chart: Attrition by Department to identify high-turnover areas.
3. Column Chart: Monthly Income across Job Roles to analyze pay distribution.
4. Histogram: Age Distribution segmented by Attrition status.
5. Scatter Plot: Relationship between Years at Company and Job Satisfaction.
6. Heatmap: Education Level vs. Performance Rating to uncover educational impact.
7. Donut Chart: Gender Distribution across the organization.
8. Line Chart: Attrition trend over time if historical data is available.
9. Tree Map: Employee count by Department and Job Role.
10. Stacked Bar Chart: Attrition by Gender within each Department.
11. Matrix Visual: Cross-tab of Department, Education Field, and Performance Rating.
12. Filters/Slicers: Department, Gender, Education, Age Range, Job Role, and Marital Status.

# 4. Result and output

* The enhanced HR Analytics dashboard delivered several key insights for strategic HR management
* Departments such as Sales and R&D showed the highest attrition rates, indicating areas needing engagement strategies.
* Gender-based analysis revealed balanced representation but uncovered income gaps in certain job roles.
* Employees with fewer years at the company showed higher job satisfaction, suggesting early-stage engagement is effective.
* Performance was relatively higher among employees with advanced education levels.
* Income disparities and their links to job roles were visually highlighted, supporting equitable pay initiatives.
* Age distribution analysis showed higher attrition among younger employees, useful for designing career growth paths.Overall, the dashboard acts as a comprehensive tool to support talent retention, diversity analysis, and workforce planning.

