HR Analytics Report

1. Introduction

Employee attrition (resignation) is a serious issue for companies. In this project, we used Power BI to understand why employees leave the company. The goal is to find key reasons behind attrition and suggest ways to reduce it.

2. Abstract

We used the IBM HR Employee Attrition dataset. After cleaning the data, we created an interactive Power BI dashboard. This dashboard shows details like total employees, attrition count, department-wise attrition, age group analysis, education fields, job satisfaction, and income by job role. This helped us find patterns like which departments or job roles face more attrition and which age group is most affected.

3. Tools Used

Tool Purpose

Python (pandas): Initial data cleaning and preprocessing

Power BI: To clean data further, create visuals, and build the dashboard

Excel: Data checking and preparation

4. Steps Involved in Building the Project

- 1. Loaded the HR dataset into Power BI.
- 2. Cleaned the data:
 - Checked data types and fixed errors.
 - Removed unwanted columns etc.
- 3. Built a dashboard with a clean and simple theme.
- 4. Added KPI cards to show:
 - Total Employees
 - Attrition Count
 - Attrition Rate
 - Active Employees
 - Average Age
- 5. Created visualizations:
 - Pie chart for department-wise attrition
 - o Bar charts for age group, education field, and income

- o Matrix for employee distribution by job role and age group
- Average job satisfaction by education field
- 6. Used slicers for filtering by education level.
- 7. Found useful insights and added them to the report.

5. Conclusion

From the dashboard:

- The Sales and Research departments have the highest attrition.
- Most employees who left are in the age group **25-34**.
- Life Sciences field shows the highest attrition.
- Managers earn the most; Sales Representative earn the least.
- Average job satisfaction is lower in the **HR** and **Other** education fields.

To reduce attrition:

- Focus on the 25–34 age group.
- Provide better job satisfaction in low-rated education fields.
- Improve working conditions in high-attrition departments like Sales and R&D.
- Offer competitive salaries and career growth opportunities.

Dashboard View

