# HR Analytics Project Report

## 1. Project Objective

To identify the key drivers of employee attrition and help the HR department make data-driven decisions to improve employee retention, using data visualization and analysis tools—Power BI and Python (Pandas, Seaborn, etc.).

## 2. Dataset Overview

Source: HR dataset with 1470 employee records
Key Features Analyzed: Age, Gender, Education Field, Salary, Job Role, Years at Company, Attrition status, etc.

From the notebook:
- Total Employees: 1470
- Employees who left (Attrition = Yes): 237 (16.1%)
- Employees who stayed (Attrition = No): 1233

## 3. Key Findings from Exploratory Data Analysis

**A. Attrition by Age:**

Most attrition occurs between ages 26–35, peaking around 29–30 years.

**B. Attrition by Gender:**

Male attrition is higher in absolute terms, but relative attrition shows females also at significant risk.

**C. Attrition by Salary Slab:**

Over 69% of attrition is among employees earning ≤5K. Those

leaving have significantly lower salaries.

**D. Attrition by Education Field:**
Life Sciences (38%) and Medical (27%) have the highest attrition.

**E. Attrition by Job Role:**
Highest attrition observed in Laboratory Technicians (62), Sales Executives (57), and Research Scientists (47).

**F. Attrition by Years at Company:**
Majority of attrition occurs within the first 5 years—indicating challenges with onboarding and early engagement.

## 4. Dashboard Highlights

• Interactive slicing by role, age, gender, and salary slab
• Heatmap by job role and tenure
• Key metrics: Attrition rate, average age, average salary, years at company

## 5. Tools Used

| Tool | Purpose |
|---|---|
| Power BI | Visual dashboard & slicing |
| Python | Data cleaning, analysis (pandas, seaborn, matplotlib) |
| Jupyter | Notebook-based EDA |