HR Data Analytics Project Documentation

1. Project Overview

1.1. Project Title
HR Data Analytics

1.2. Project Objective
The goal of this project is to analyze HR data to extract insights about employee performance, attrition, and other important HR metrics to help decision-makers optimize HR policies and strategies.

1.3. Business Problem
This project helps HR departments monitor key performance indicators such as employee attrition, average age, salary, and years at the company to improve retention strategies and enhance organizational performance.

2. Data Description

2.1. Data Source
The HR dataset used for this analysis is collected from internal company records.

2.2. Dataset Structure
The dataset contains the following columns:
- Employee ID: Unique identifier for each employee.
- Age: Age of the employee.
- Department: Department to which the employee belongs.
- Salary: Monthly salary of the employee.
- Attrition: Whether the employee has left the company (Yes/No).
- Years at Company: Number of years the employee has worked at the company.

3. Key Metrics Calculations

3.1. Employee Count
The total number of employees in the dataset is calculated by counting the unique Employee IDs.

3.2. Attrition
Attrition is calculated by counting the number of employees who have left the company (where Attrition = Yes).

3.3. Attrition Rate
Attrition rate is calculated using the formula:
(Number of employees who left / Total number of employees) * 100

3.4. Average Age
The average age of employees is calculated by taking the mean of the Age column.

3.5. Average Salary
The average salary of employees is calculated by taking the mean of the Salary column.

3.6. Average Years at Company
The average number of years employees have worked at the company is calculated by taking the mean of the Years at Company column.

4. Data Analysis

4.1. Attrition Insights
Analysis of attrition rates provides insights into employee turnover. Factors such as age, department, and job satisfaction may influence attrition. Identifying trends in these areas helps in designing better retention strategies.

4.2. Salary and Age Distribution
The distribution of salary and age helps identify patterns such as whether younger employees or older employees are more likely to leave the company or whether higher-paid employees tend to stay longer.

5. Dashboard:

6. Conclusion

This HR data analytics project provides valuable insights into employee demographics, attrition rates, and key performance indicators. The analysis can help HR departments optimize retention strategies, salary adjustments, and workforce planning.