**Project Documentation: HR Analytics Dashboard**

**1. Project Overview**

This Power BI project provides a comprehensive HR Analytics Dashboard designed to analyze and visualize employee attrition trends, identify contributing factors, and support data-driven decision-making. The dashboard consolidates HR data to track workforce metrics such as attrition rate, demographics, education background, job satisfaction, and salary-related factors.

**2. Objectives**

* To monitor overall employee attrition and its distribution.
* To identify patterns and key reasons for attrition across different segments (age, education, salary, job role, etc.).
* To enable HR teams to make informed decisions for retention strategies.
* To create an interactive and visually intuitive dashboard for quick insights.

**3. Data Sources**

* **Primary Data Source:** HR employee records (Excel/CSV/Database).
* **Key Data Fields:**
  + Employee ID
  + Age
  + Gender
  + Education Field
  + Salary Slab
  + Job Role
  + Years at Company
  + Job Satisfaction (1-4 scale)
  + Attrition (Yes/No)

**4. Key Metrics and KPIs**

* **Count of Employees:** Total number of employees in the dataset.
* **Attrition Count:** Number of employees who have left.
* **Attrition Rate (%):**

Attrition Rate= Attrition Count ​×100

Total Employees

* **Average Age:** Mean age of employees.
* **Average Salary:** Mean salary.
* **Average Years:** Average tenure in years.

**5. Dashboard Components**

**a) Summary Cards**

* Count of Employees
* Attrition Count
* Attrition Rate
* Average Age
* Average Salary
* Average Years at Company

**b) Attrition by Education**

* Donut chart showing attrition distribution across education fields (Life Sciences, Medical, Marketing, etc.).

**c) Attrition by Age**

* Bar chart categorizing attrition by age groups (18–25, 26–35, 36–45, etc.).

**d) Attrition by Gender**

* Stacked bar chart comparing attrition between male and female employees.

**e) Attrition by Salary Slab**

* Horizontal bar chart showing attrition counts across salary categories (e.g., Up to 5k, 5k–10k, etc.).

**f) Attrition by Years at Company**

* Line chart showing attrition trends against employee tenure.

**g) Job Satisfaction vs Job Role**

* Matrix visual displaying job satisfaction scores (1–4) for each job role.

**h) Attrition by Job Role**

* Horizontal bar chart showing attrition count per job role.

**6. Interactivity**

* **Filters/Slicers:**
  + Department selection (Human Resource, Research & Development, Sales)
  + Drill-down capability for more detailed analysis.

**7. Tools & Technologies Used**

* **Power BI Desktop:** For data modeling, visualization, and dashboard creation.
* **DAX (Data Analysis Expressions):** For calculated columns and measures.
* **Power Query:** For data cleaning and transformation.

**8. Insights and Observations**

* Highest attrition is seen in the **26–35 age group**.
* Employees with **Life Sciences education** have the highest attrition percentage.
* **Lower salary slabs** (up to 5k) show significantly higher attrition.
* Certain job roles (Laboratory Technician, Sales Executive) experience the most attrition.

**9. Future Enhancements**

* Integration with real-time HR databases.
* Predictive modeling for attrition risk.
* Adding more demographic dimensions (location, marital status, etc.).
* Exportable automated HR reports.