

Business Problem Statement

A mid-sized technology and services company is experiencing a **significant rise in employee attrition**, leading to increased recruitment costs, loss of productivity, and difficulty in maintaining a consistent performance standard. The HR department seeks to understand **which factors contribute most to employee turnover** and how variables such as salary, work-life balance, job satisfaction, and career growth impact overall retention and engagement.

The company's leadership aims to use **data analytics and visualization** to uncover insights into workforce dynamics and design proactive strategies for employee retention and satisfaction.

You are tasked with analyzing the organization's HR dataset to address the following overarching business question:

"How can the company leverage workforce analytics to identify key attrition drivers, improve employee retention, and enhance overall performance and satisfaction?"

Deliverables

1. Data Preparation & Cleaning (Python):

- Import, clean, and preprocess the HR dataset.
- Handle missing data, standardize columns, and engineer new features such as *age group*, *experience level*, and *attrition flag*.

2. Data Analysis (SQL):

- Design a relational database to store and query HR data.
- Perform SQL-based analysis to identify attrition rates by department, job role, and demographic group.
- Extract actionable insights on compensation, performance, and satisfaction patterns.

3. Visualization & Insights (Power BI):

- Build an interactive HR Analytics Dashboard highlighting attrition trends, performance metrics, and compensation distribution.
- Include KPIs such as **Attrition Rate**, **Average Monthly Income**, **Job Satisfaction Index**, and **Department-wise Performance**.

4. Report and Presentation:

- Summarize the findings in a professional business report outlining major trends, risk factors, and strategic recommendations.
- Provide visual evidence and an executive summary tailored for senior HR management.

5. GitHub Repository:

- Include all **Python scripts, SQL queries, and Power BI dashboard files** in a structured and well-documented repository.
- Add a clear README.md describing the project objectives, workflow, and results.

Expected Outcomes

- A **data-driven understanding** of the main causes of employee attrition.
- A clear identification of **high-risk employee segments** based on role, experience, and satisfaction.
- **Interactive Power BI dashboard** enabling HR leaders to monitor workforce trends and make informed retention decisions.
- **Actionable recommendations** to reduce turnover, improve engagement, and optimize compensation strategies.