



HR Employee Attrition

● Prepared By: Hala Farid

HR Employee Attrition Analysis Documentation

1. Introduction

Project Overview

This project aims to analyze employee attrition trends in an organization using **Power BI**. The goal is to understand the factors contributing to attrition and provide data-driven insights to **HR and management** to improve employee retention.

Objectives

- Identify key **attrition drivers** (departments, gender, job roles, etc.).
- Create a **star schema** for efficient data modeling.
- Develop meaningful **KPIs** and **measures** (Attrition %, Total Employees, etc.).
- Provide interactive **visualizations** to explore attrition trends.
- Recommend actionable **strategies** to reduce attrition.

2. Dataset Description

The dataset consists of employee records with various attributes related to their work environment, performance, and demographics.

Key Features:

- **Employee Information:** Employee Num, Gender, Job Level, Job Role
- **Departmental Details:** Department ID, Department, Promotion Status
- **Job Status:** Distance from Home, Business Travel
- **Performance Metrics:** Environment Satisfaction, Performance Rating
- **Compensation & Tenure:** Daily Rate, Service Years
- **Attrition Indicator:** Whether the employee left the company

3. Data Preparation & Star Schema

Data Cleaning

- Removed duplicate or inconsistent records.
- Created **conditional columns** for better categorization.
- Standardized missing or incorrect values.

Star Schema Design

Fact Table: Fact_Attrition

- EmpNum, Attrition Status, Department ID, Job Role ID, Performance ID, etc.

Dimension Tables:

- **Dim_Employees** (EmpNum, Gender, Job Level, Job Role, etc.)
- **Dim_EmpDepartments** (DeptID, Department, Promotion Status)
- **Dim_EmpJobStatus** (Distance from Home, Business Travel)
- **Dim_EmpPerformance** (Environment Satisfaction, Performance Level)
- **Dim_EmpRating** (Daily Rate, Service Years)

4. Measures & Calculations

Key Metrics:

- **#Attrition** = COUNT of employees who left.
- **Attrition %** = (#Attrition / Total Employees) * 100.
- **#Employees** = Total number of employees.
- **#Departments** = COUNT of unique departments.

5. Visualizations & Insights

Key Dashboards:

- **Attrition by Departments** → Highest attrition in **Research & Development**.
- **Attrition by Working Years** → Higher attrition among employees with **0-10 years** experience
- **Attrition by Employee Satisfaction** → Lower satisfaction correlates with higher attrition
- **Male vs. Female Attrition %** → Male attrition rate is higher
- **Attrition by Distance to Work** → Employees living farther have higher attrition
- **Attrition by Job Roles, Age, and Education** → Younger employees and certain job roles show **higher attrition rates**
- **Attrition by Overtime and Work-Life Balance** → Employees with **frequent overtime** and **poor work-life balance** tend to leave more
- **Attrition by Environment Satisfaction and Performance Levels** → **Lower environment satisfaction** and **low performance ratings** contribute to higher attrition
- **Employees Due for Promotion vs. Not Due** → **Employees overdue for promotion** are more likely to leave

6. Findings & Recommendations

Key Insights:

- **High attrition in Research & Development** → HR should investigate workload and job satisfaction.
- **Low employee satisfaction leads to high attrition** → Improve workplace conditions.
- **Long commute distance affects attrition** → Consider flexible work options.
- **Lack of career growth opportunities increases attrition** → Strengthen promotion policies.
- **Overtime impacts work-life balance** → Encourage a balanced work environment.

Recommendations:

1. **Improve Employee Engagement** → Conduct regular feedback sessions.
2. **Enhance Work-Life Balance** → Introduce hybrid work models.
3. **Offer Career Growth Opportunities** → Implement mentorship and upskilling programs.
4. **Reassess Compensation & Benefits** → Ensure competitive salaries and incentives.
5. **Targeted Retention Strategies** → Identify high-risk employee groups and address concerns proactively.

Conclusion

This HR Attrition Analysis provides actionable insights for HR and management to **reduce attrition, enhance employee satisfaction, and retain top talent**. Implementing the recommendations will help create a more sustainable and employee-friendly workplace.