

HR Attrition Analytics

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BUSINESS REQUIREMENTS

Business Problem ---

The HR department is facing high employee attrition. Management wants to understand why employees are leaving and what factors influence attrition.

Business Objectives ---

- ❖ Calculate Attrition Rate
- ❖ Identify key factors causing attrition
- ❖ Analyze attrition by department, job role, salary, overtime, and experience
- ❖ Build a dashboard for HR and management
- ❖ Provide actionable recommendations

Stakeholders ---

- ❖ HR Manager
- ❖ Senior Management
- ❖ Business Analyst
- ❖ Data Analyst

KPIs

- ❖ Total Employees
- ❖ Total Attrition
- ❖ Attrition Rate (%)
- ❖ Average Monthly Income
- ❖ Attrition by Department
- ❖ Attrition by OverTime

PROJECT IMPLEMENTATION ---

Data Collection

- ❖ Dataset: HR_Analytics.csv
- ❖ Raw HR data received from company system
- ❖ Original file kept unchanged

Data Understanding ---

- ❖ Identify important columns like Age, Gender, Department, JobRole
- ❖ Target column: Attrition (Yes/No)
- ❖ Salary and experience related fields reviewed

Data Cleaning (Excel) ---

- ❖ Check and handle missing values
- ❖ Remove unnecessary columns (EmployeeCount, StandardHours)
- ❖ Remove duplicate records using EmpID
- ❖ Create Age Group and Attrition Flag columns
- ❖ Save cleaned file as Cleaned_HR_Data.CSV

Load Data into SQL ---

- ❖ Create database hr_analytics
- ❖ Create hr_data table
- ❖ Import cleaned Excel file into SQL database

SQL Analysis ---

- ❖ Calculate total employees
- ❖ Calculate attrition count and attrition rate
- ❖ Analyze attrition by department, job role, overtime, salary group, and experience

Power BI Dashboard ---

- ❖ Load data from Excel or SQL
- ❖ Create KPI cards
- ❖ Create charts and slicers
- ❖ Build interactive dashboard

Insights ---

- ❖ Overtime employees show higher attrition
- ❖ Sales department has higher attrition
- ❖ Low salary and less experience employees leave more

Recommendations ---

- ✓ Reduce overtime workload
- ✓ Improve salary structure
- ✓ Improve work-life balance
- ✓ Introduce employee engagement programs

Conclusion ---

This project helps management understand employee attrition and take data-driven decisions to improve retention.