

Project Planning & Management

1- Project Proposal

Overview

This project analyzes *employee attrition and performance trends* using two datasets:

- **Employee Data** (1,470 records): Demographics, job details, tenure, and attrition status.
- **Performance Reviews** (6,709 records): Satisfaction levels, training, ratings, and work-life balance scores over time.

Goal: Identify attrition drivers, performance trends, and equity gaps to improve retention strategies.

Objectives

- Analyze *attrition drivers* (e.g., salary, overtime, work-life balance).
- Evaluate *performance trends* (self vs. manager ratings, training impact).
- Assess *demographic disparities* (gender, age, department) in promotions/salary.
- Develop an *interactive dashboard* for HR stakeholders.

Scope

- Merge and preprocess *Employee.xlsx* and *PerformanceRating.xlsx* via *EmployeeID*.
 - Conduct *EDA* to uncover attrition patterns and satisfaction trends.
 - Model correlations between attrition and factors like *tenure, salary, and training*.
 - Visualize *attrition rates, salary distributions, and performance evolution*.
 - Build a dashboard tracking *KPIs: attrition rate, avg. satisfaction, promotion timelines*.
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2. Project Plan (Timeline & Milestones)

Phase	Tasks	Team Members	Duration
<i>Data Preprocessing</i>	Clean, merge datasets, handle missing values	Omar Abdelhamid	*10/02/2025*
<i>EDA</i>	Identify attrition drivers & performance trends	Ahmed & Hazem & Sameh & Omar	*15/02/2025*
<i>Analysis</i>	Analyze satisfaction trends over time	Omar & Hazem	*20/02/2025*
<i>Data Modeling</i>	Correlate attrition with key factors	Ahmed & Sameh & Hazem	*25/02/2025*
<i>Visualization</i>	Create charts (e.g., attrition heatmaps)	Sameh & Hazem	*01/03/2025*
<i>Dashboard Development</i>	Build interactive HR dashboard	Hazem & Ahmed	*05/03/2025*

3. Task Assignment & Roles

- **Omar Abdelhamid:** Data preprocessing (*merge datasets, clean missing values*).
- **Hazem & Ahmed:** Data analysis & modeling (*attrition correlations, performance trends*).
- **Sameh & Hazem:** Visualizations (*attrition drivers, salary vs. satisfaction scatter plots*).
- **Ahmed & Hazem:** Dashboard (*Tableau/Power BI with filters for department/tenure*).

4. Risk Assessment & Mitigation Plan

Risk	Potential Impact	Mitigation Strategy
<i>Data misalignment</i>	Incorrect merge via EmployeeID	Validate key matches before analysis
<i>Data complexity</i>	Hard to track trends over time	Focus on latest review or quarterly averages

5. Key Performance Indicators (KPIs)

- **Attrition Rate:** % of employees leaving annually.
- **Salary Gap:** Discrepancies between ratings and compensation.
- **Work-Life Balance:** Avg. scores by department/overtime status.
- **Dashboard Engagement:** User interactions (filters applied, clicks).