Employee Attrition Analysis and Prediction Dashboard Report

Introduction:

This dashboard is designed to help understand why employees are leaving the company (attrition) and what factors might be contributing to it. It shows various important metrics and visualizations to give a clear picture of the workforce.

Key Metrics:

- Average Performance Rating (3.15): *This metric gives an idea of how well employees are performing on average. A higher number generally means employees are performing well.*

- Turnover Rate (0.16): *This shows how many employees are leaving the company relative to the total number of employees. A turnover rate of 0.16 means 16 out of 100 employees leave the company.*

- Average Job Satisfaction (2.73): *This measures how satisfied employees are with their jobs on average. The scale likely ranges from 1 (least satisfied) to 5 (most satisfied).*

- Average Relationship Satisfaction (2.60): *This reflects how satisfied employees are with their relationships at work, such as with managers and colleagues.*

- **Average Work-Life Balance (2.66):** *This metric shows how well employees feel they can balance their work and personal lives. A lower score might indicate employees are struggling to find this balance.*

Visualizations:

- **Histogram (Employee Numbers by Age):** *This chart shows how many employees fall into different age groups. For example, it might show that there are more employees in the 30-40 age range compared to the 50-60 range. This helps in understanding the age distribution of the workforce.*

-**Pie Chart(Attrition by Department):** *This chart breaks down the attrition rate (how many employees leave) by department, such as Human Resources, Research & Development, and Sales. It helps to identify which department has the highest turnover.*

- **Donut Chart(Marital Status by Department):** *This chart shows the distribution of employees' marital status (like single, married, or divorced) across different departments. This can provide insights into whether marital status correlates with higher turnover in certain departments.*

- **Box plot(Sum of Monthly Income and Total Working Years by Age):** *This Plot provides detailed financial and experience-related information based on employees' ages. For instance, it might show that older employees tend to have higher incomes and more years of experience.*

Turnover Analysis by Various Factors:

This dashboard goes deeper into understanding turnover by looking at different factors such as job roles, gender, and employee satisfaction. It's useful for identifying specific patterns in turnover.

 - Overall Turnover by Job Role and Gender: *This chart shows the turnover rate for different job roles, broken down by gender. For example, it might reveal that female employees in Sales roles have a higher turnover rate than males in the same role. This helps in understanding if certain job roles or gender groups are more likely to leave.*

 - Overall Turnover by Job Satisfaction and Department: *This chart shows how turnover is related to job satisfaction within different departments. For instance, it might show that employees in the Sales department with low job satisfaction are more likely to leave than those in Human Resources with high satisfaction.*

Line Charts:

 - Overall Turnover by Attrition: *This line chart might show how overall turnover changes as attrition increases. For example, as the number of employees leaving increases, the overall turnover might also increase.*

 - Overall Turnover by Age: *This chart looks at how turnover rates change with age. It might show that younger employees have higher turnover rates, with a prediction of how this might trend in the future.*

Summary

These dashboards provide a detailed and visual way to understand why employees are leaving the company. They highlight key factors like job satisfaction, work-life balance, and employee demographics, which can influence turnover. By analyzing this data, HR teams can make informed decisions to improve employee retention, such as targeting specific departments with higher attrition rates or addressing issues that are causing dissatisfaction among employees.