

## Employee Attrition Analysis and Prediction

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**AIM :** This project aims to provide insights into the factors influencing employee attrition and predict which employees are likely to leave the company

### DATASET DESCRIPTION:

The dataset typically includes several features that provide insights into employee characteristics, job satisfaction, and performance. While the exact features may vary, here's a general list of common features you might find in such a dataset:

1. **Employee ID:** A unique identifier for each employee.
2. **Age:** The age of the employee.
3. **Attrition:** A binary variable indicating whether the employee has left the company (1) or is still employed (0).
4. **Business Travel:** The frequency and nature of business-related travel (e.g., "Travel\_Rarely," "Travel\_Frequently," "Non-Travel").
5. **Department:** The department to which the employee belongs (e.g., "Sales," "Research & Development," "Human Resources").
6. **Distance From Home:** The distance of the employee's residence from the workplace.
7. **Education:** The employee's level of education (e.g., "1: 'Below College'," "2: 'College'," "3: 'Bachelor'," "4: 'Master'," "5: 'Doctor'").
8. **Education Field:** The field in which the employee's education lies (e.g., "Life Sciences," "Medical," "Marketing").
9. **Environment Satisfaction:** The level of satisfaction with the work environment on a scale.
10. **Gender:** The gender of the employee.
11. **Job Involvement:** The degree to which the employee is involved in their job.
12. **Job Level:** The level or rank of the employee's position.
13. **Job Role:** The specific role or title of the employee's job.
14. **Job Satisfaction:** The level of satisfaction with the job on a scale.
15. **Marital Status:** The marital status of the employee.
16. **Monthly Income:** The monthly salary of the employee.
17. **Num Companies Worked:** The number of companies the employee has worked for.
18. **Over Time:** Whether the employee works overtime or not.
19. **Performance Rating:** The performance rating of the employee.

20. **Relationship Satisfaction:** The level of satisfaction with relationships at the workplace.
21. **Stock Option Level:** The level of stock options provided to the employee.
22. **Total Working Years:** The total number of years the employee has been working.
23. **Training Times Last Year:** The number of training sessions the employee attended last year.
24. **Work-Life Balance:** The balance between work and personal life.
25. **Years At Company:** The number of years the employee has been with the current company.
26. **Years In Current Role:** The number of years the employee has been in their current role.
27. **Years Since Last Promotion:** The number of years since the last time the employee was promoted.
28. **Years With Current Manager:** The number of years the employee has been working under the current manager.

## POWER BI DASBOARD:



This dashboard provides a comprehensive analysis of the factors influencing employee attrition and predicts the likelihood of employees leaving the company. It leverages key employee data, including demographics, job satisfaction, work-life balance, and performance metrics, to identify trends and patterns. By visualizing these insights, the dashboard aids in strategic decision-making to enhance employee retention and organizational stability. Explore the various metrics to understand the drivers of attrition and proactively address potential issues within the workforce.

## INTERPRETATIONS:

Attrition By Department Pie Chart:

This data comprises of only 3 major departments- among which Research and Development department has the highest attrition rates , followed by the Sales . Human Resource Department has the least attrition rates, that suggests the stability and content of the department as can be seen from the chart above.

Attrition By Job Satisfaction Column Chart:

With an increasing job satisfaction, the attrition rates decrease as can be seen in the chart above. Also from range 1-2 range we can infer (as seen above in Environment Satisfaction), the attrition level falls, but raises from 2-3, where the people tend to choose better opportunities

Attrition By Work Life Balance:

As the work life balance level increases people are more accustomed to better life and want to go for attrition. But this trend perishes when the work life balance is really good, and people are satisfied with the work they are doing

Attrition by Percent Salary Hike:

Higher hikes motivate people to work better, and stay in the organization. Hence we see the chances of an employee leaving the organization where the hike is lower, is much more than a company that gives a good hike.

Attrition By Years With Curr Manager:

Employees have a tendency to switch jobs during within first year. At an average span of 2 & 7 years they tend to go for a change. But when the relative time spend with a manager is very high- people are satisfied with their work. Hence the chances of an employee resigning then is significantly low.

Attrition by Distance From Home:

Most of the people who leave the company are located more than 11-12 km away from the company

## **RECOMMENDATIONS:**

Research and Development: Conduct thorough exit interviews to understand why employees are leaving. Implement mentorship programs, and provide clear career advancement opportunities. Enhance recognition programs to appreciate employee contributions.

Conduct regular job satisfaction surveys to identify areas of dissatisfaction

Offer flexible working hours and remote work options to improve work-life balance.

Regularly review and adjust salary structures to ensure they are competitive with the market.

Encourage regular one-on-one meetings between managers and employees to discuss career goals and concerns

Provide transportation subsidies or relocation assistance for employees who live far from the office.