

# Employee Attrition Analysis

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# 1. Introduction

i. Problem statement:

Acme Corporation, a leading tech company, is facing a significant challenge with employee turnover. The HR department is concerned about the increasing rate of attrition, as it negatively impacts team dynamics, project continuity, and overall company morale.

ii. Objective:

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

iii. About Dataset:

Acme Corporation has provided historical data on employee demographics, job satisfaction, work environment, performance metrics, and turnover status. This dataset spans the last five years and includes information on employees who have left the company and those who are still currently employed.

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.

## **2. Dashboard Overview**

The ACME Corp Employee Dashboard provides a comprehensive view of key human resource metrics, designed to help management understand workforce dynamics and make informed decisions. Here's a detailed breakdown of the dashboard components:



## i. Key Metrics:

- Total Employees: 1,470
- Male Employees: 882 (60%)
- Female Employees: 588 (40%)
- Total Payroll Cost: \$9.56M
- Active Workers: 1,233 (84%)
- Employee Turnover Count: 237 (16%)
- Employees Due for Promotion: 72
- Next Retrenchment Candidates: 117

## ii. Interactive Filters:

- Department: Allows filtering data by specific departments.
- Age Range: Slider to filter employees based on age.
- Personal Info: Options to filter data by gender (select all, female, male) & their marital status.

## iii. Tables:

A list of employees who are due for promotion & retrenchment.

## iv. Graphical Insights:

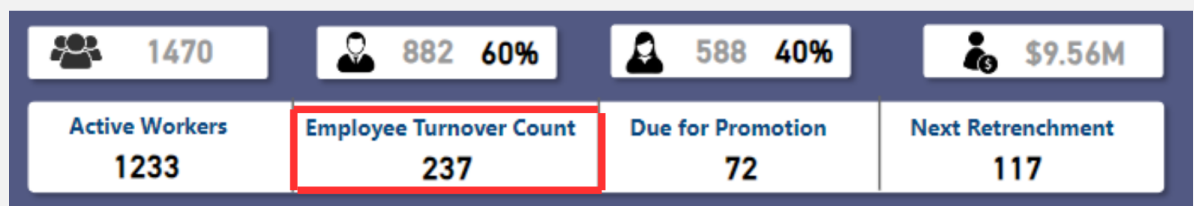
- Average Satisfaction Scores by Employee Attrition: Compares various satisfaction metrics (environment satisfaction, job satisfaction, relationship satisfaction, work-life balance) for employees who have stayed versus those who have left.
- Employee Attrition by Job Level: Pie chart depicting attrition across different job levels.
- Attrition Count by Tenure: Bar chart showing the distribution of attrition count based on the tenure of employees.

- Average Salary by Tenure: Bar chart illustrating the average salary distributed across different tenure periods.

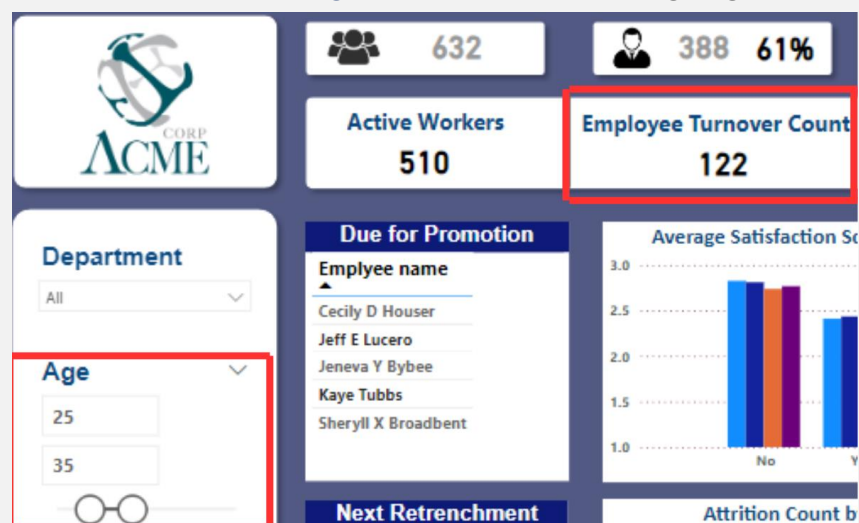
### 3. Detailed Analysis

#### i. Key insights:

- Approximately 16% (237 out of 1470) of employees have left the company, while 84% (1233 out of 1470) have stayed.



- Out of the employees that left, Majority (122 out of total 237) of them ranges b/w 25 – 35 age group.

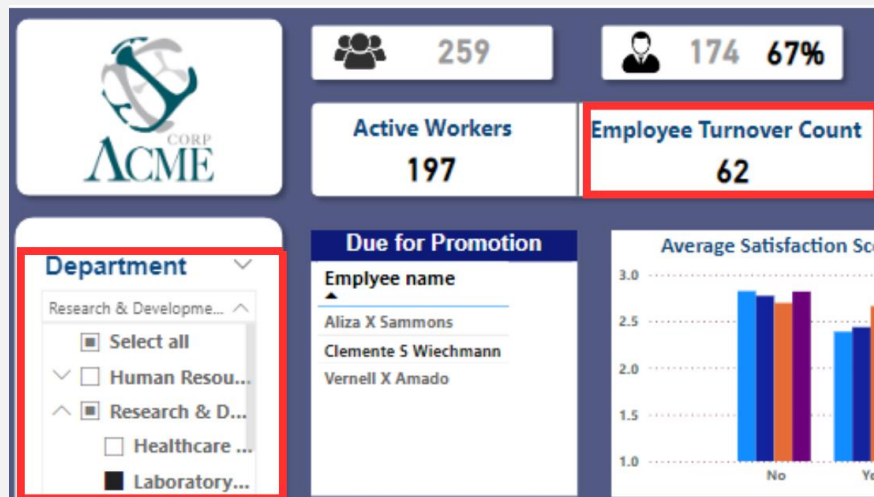




- Furthermore, Higher attrition is witnessed among males (150 out of 237) compared to females. Where most of these employees are single (73 out of 150).

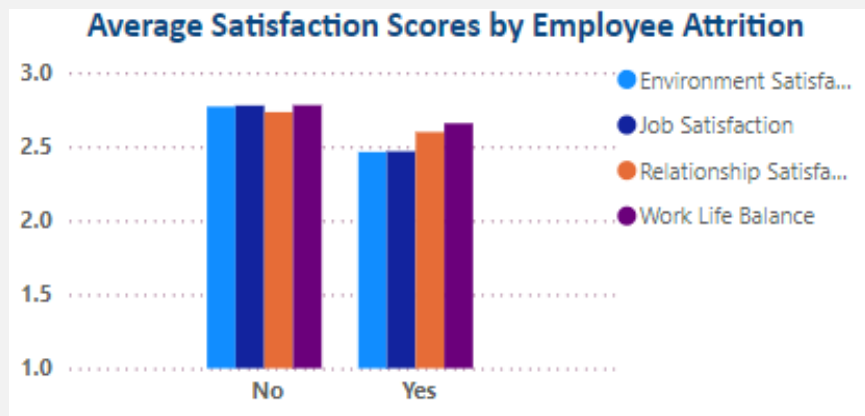


- Laboratory Technician & Sales Executives have a significant number of employees that left the company.

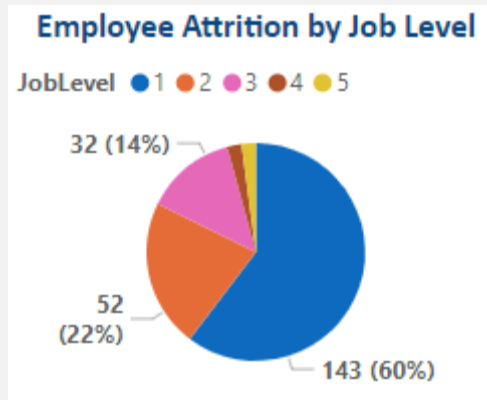




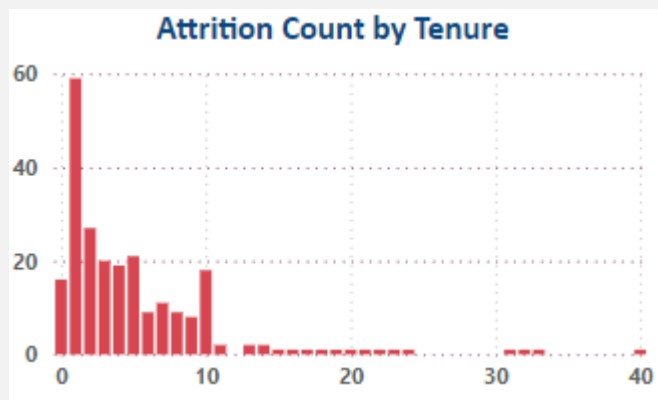
- Average satisfaction scores are generally low. Notably, both **Environment Satisfaction** and **Job Satisfaction** averages are significantly lower among employees who left compared to those who stayed.



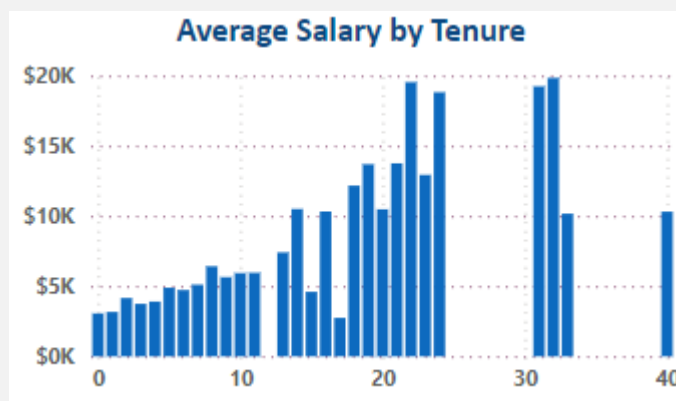
- **60%** of attrition occurs at job level 1, indicating that employees at the beginning of their careers are dissatisfied.



- Most attrition occurs within the first 5 years of service, with the highest rate of attrition happening after employees have worked at the company for 1 year.



- Employees have a low average income during their first 5 years of service, which may contribute to the high attrition rates during this period.



ii. Recommendations:

- Develop targeted engagement programs for employees in the 25-35 age group to address their specific needs and concerns.
- Implement regular feedback sessions and focus groups to understand and improve job satisfaction.
- Conduct thorough reviews and improvements in work conditions, especially for Laboratory Technicians and Sales Executives.
- Review and adjust the salary structure, especially for employees in their first 5 years of service, to ensure competitive compensation.
- Introduce performance-based bonuses and incentives to increase motivation and reduce attrition.
- Provide clear career progression pathways and professional development opportunities, particularly for employees at job level 1.
- Take necessary actions for employees listed for promotion or retrenchment.

## **4. Conclusion**

In conclusion, addressing key factors such as employee engagement, work environment, compensation, career development, and targeted retention strategies can significantly reduce attrition rates and improve overall job satisfaction within the company.