

Workforce Dynamics: An HR Analytics Study

Findings:

1. Attrition Rate:

- The total attrition rate is 50.21% out of 50,000 employees, with a total attrition count of 25,105.

2. Average Attrition Rate by Department:

- Research & Development: 51.208%
- Software: 50.540%
- Support: 50.187%
- Sales: 50.018%
- Human Resources: 49.857%
- Hardware: 49.443%

3. Attrition Rate vs. Monthly Income:

- Departments with higher average monthly income tend to have higher attrition rates. For example, the Research & Development department shows a higher attrition rate despite higher income.

4. Average Hourly Rate of Male Research Scientist:

- The average hourly rate is 115.43.

5. Job Role vs. Work-Life Balance:

- Research Scientist: 2.514
- Human Resources: 2.505
- Developer: 2.511
- Manufacturing: 2.502
- Healthcare Representative: 2.507
- Sales Representative: 2.499

6. Average Working Years per Department:

- Software: 20.65 years
- Sales: 20.62 years
- Support: 20.48 years
- Hardware: 20.48 years
- Human Resources: 20.45 years
- Research & Development: 20.30 years

7. Attrition Rate vs. Years Since Last Promotion:

- Attrition rates vary significantly, with the highest rate at 77.78% occurring in the period with the longest duration since the last promotion.

Insights:

1. High Attrition Rate in Research & Development:

- Despite the higher average monthly income, the Research & Development department has the highest attrition rate, indicating that factors other than salary may influence attrition.

2. Work-Life Balance:

- Research Scientists report the highest work-life balance score, suggesting that work-life balance may be a crucial factor in job satisfaction and retention for this role.

3. Consistent Working Years:

- The average working years across departments are relatively consistent, indicating stability in terms of employee tenure.

4. Impact of Promotions on Attrition:

- There is a notable spike in attrition rates for employees with the longest duration since their last promotion, suggesting that lack of career advancement opportunities may drive employees to leave.

Recommendations:

1. Address Non-Salary Factors in Research & Development:

- Conduct further analysis to identify specific factors causing high attrition in the Research & Development department. Consider implementing initiatives to improve job satisfaction and retention beyond salary increases.

2. Enhance Work-Life Balance:

- Continue to promote and support work-life balance initiatives, especially for roles with high demands, to improve overall job satisfaction and retention.

3. Career Development Programs:

- Implement career development and promotion programs to address the high attrition rates related to the duration since the last promotion. Providing clear career advancement paths may help reduce attrition.

4. Targeted Retention Strategies:

- Develop targeted retention strategies for departments with higher attrition rates. Tailor interventions based on specific department needs and employee feedback.

Conclusion:

The Workforce Dynamics Data Analysis Project provides valuable insights into the factors influencing employee retention and job satisfaction. The high attrition rate in the Research & Development department, despite higher income, highlights the importance of addressing non-salary factors. Work-life balance and career advancement opportunities emerge as critical areas for improving employee retention. By implementing targeted strategies and addressing key factors identified in this study, the organization can enhance workforce management, reduce attrition, and support overall employee well-being.