

Employee Attrition Analysis

"Navigating Attrition: Insights to Drive Employee Retention and Growth"



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Thank You

Introduction

XYZ Company, established a few years ago, has been experiencing a Consistent Attrition Rate of approximately 15% over the past couple of Years. This high turnover rate has had significant consequences on the Company's Productivity, Morale, and Overall Operational Costs. Employee Attrition not only Leads to Increased Recruitment and Training Expenses but also Disrupts team dynamics and slow down the Continuity of Ongoing Projects.

Recognizing the Critical Need to address this Issue, XYZ Company has sought the Expertise of an HR Analytics Consultancy to conduct a Comprehensive Analysis of their Employee Data. The Goal is to Identify the underlying Causes of Employee Attrition and to Develop Actionable Insights that can Help the Organization implement Effective Retention Strategies.



bjective

- **Identify Key Attrition Factors:** Analyze employee data to determine the primary reasons for high attrition rates, including demographic factors, job satisfaction levels, and departmental differences.
- **Analyze Impact of Tenure:** Examine how the length of employment, years since the last promotion, and other tenure-related factors influence attrition.
- **Evaluate Department and Role-Specific Attrition:** Assess which departments and job roles are most affected by attrition to provide targeted recommendations for improvement.
- **Correlate Work-Life Balance and Job Satisfaction with Attrition:** Investigate the relationship between employees' work-life balance, job satisfaction, and their likelihood to leave the company.
- **Provide Data-Driven Recommendations:** Based on the analysis, offer actionable insights and strategies to XYZ Company aimed at reducing the attrition rate and improving employee retention.



Data Overview

- The Dataset used in this Project contains 4,410 Records with 29 Columns, encompassing Various Employee Attributes. Here's a brief Overview of the Key Details:

Number of Records: 4,410

Number of Columns: 29

- Source: The Data was Sourced from a provided Link.
- Missing Values: Some columns like NumCompaniesWorked, TotalWorkingYears, EnvironmentSatisfaction, JobSatisfaction, and WorkLifeBalance have missing values, which have been filled using appropriate techniques.

Data Preparation



- Data Extraction

The Dataset obtained from a provided Link. This dataset contained detailed information on employee demographics, job roles, satisfaction levels, and attrition status.

- Data Transformation

Missing values in the columns NumCompaniesWorked, TotalWorkingYears, EnvironmentSatisfaction, JobSatisfaction, and WorkLifeBalance were addressed. The median values were used to fill these missing data points to maintain the integrity and consistency of the dataset.

To better manage and analyze the data, the Attrition Fact Table was divided into multiple tables using the primary key (EmployeeID). The dataset was split into several smaller, more focused tables: Emp Details, Emp Education Details, Emp Job Details, Emp Travel Details.

These tables were interconnected using EmployeeID as the primary key, ensuring data integrity and ease of access across different tables.

- Data Loading

After the transformation, the data was loaded into Power BI for further analysis. With the data loaded and the necessary transformations applied, various charts and visualizations were created in Power BI. These visualizations were designed to provide insights into the factors influencing employee attrition, helping the organization make data-driven decisions.

A new table named the Measure Table was created to store calculated measures essential for the analysis, such as Attrition Rate, Attrition Count, and other relevant metrics.

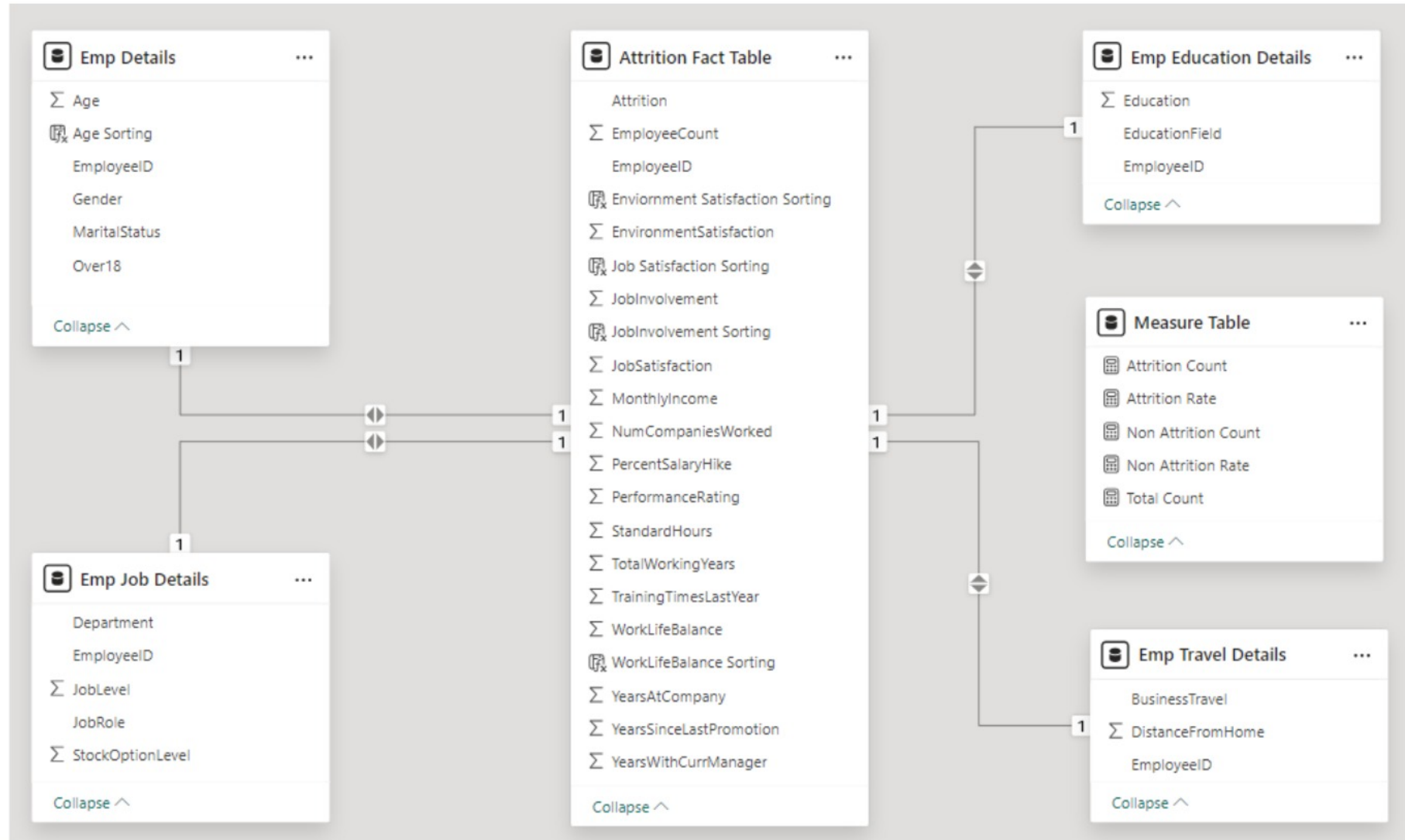
Data Modeling

- A Star Schema was used to organize the Data, with the Attrition Fact Table at the center and various dimension tables connected around it. This Design was chosen to optimize performance and simplify the Analysis Process.
- The Fact Table was created by refining the original dataset, handling missing values, and ensuring that only relevant columns were included.

Fact Table: Attrition Fact Table

Dimension Tables: Emp Details Table, Emp Education Details Table, Emp Job Details Table, Emp Travel Details Table.

- These Dimension Tables were created by duplicating the Attrition Fact Table and selecting the relevant columns for each dimension. The Primary Key EmployeeID connects each dimension table to the fact table, ensuring a robust relational model.



Dashboard Overview

- Cards:

Attrition Rate: Overall percentage of employees who left.

Total Employees: Total number of employees.

Attrited Employees: Number of employees who left.

Current Employees: Number of remaining employees.

- Slicers:

Gender: Filter by gender.

Marital Status: Filter by marital status.

Department: Filter by department.

Education Field: Filter by education field.



- Charts:

Stacked Column Chart: Attrition by age, gender, marital status, job role.

Donut Chart: Attrition vs. non-attrition by department.

Pie Charts: Attrition by business travel, job satisfaction, environment satisfaction, work-life balance, job involvement.

Area Chart: Attrition by years at company, years since last promotion.

This dashboard provides key insights into employee attrition, helping to identify trends and inform retention strategies.

HR Analytics Dashboard

16.12
Attrition Rate

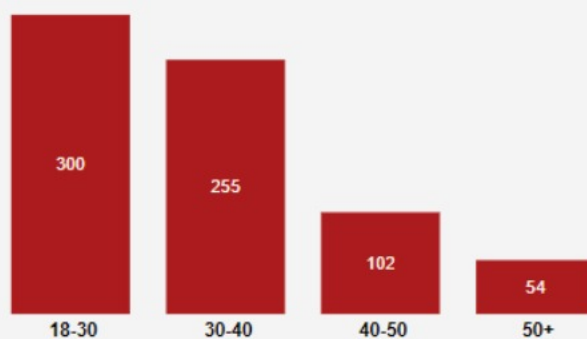
4410
Total Employees

711
Attrited Employees

3699
Current Employees

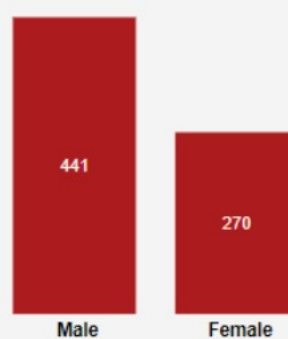
Age

"Most Leavers are Aged 18-30."



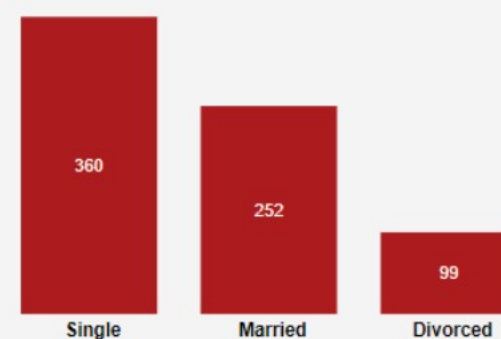
Gender

"More Male are Leaving than Female."



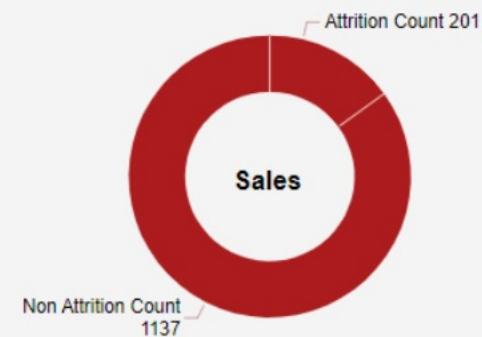
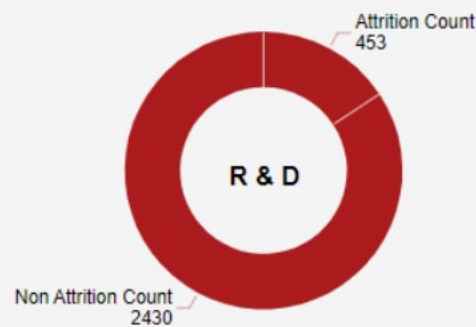
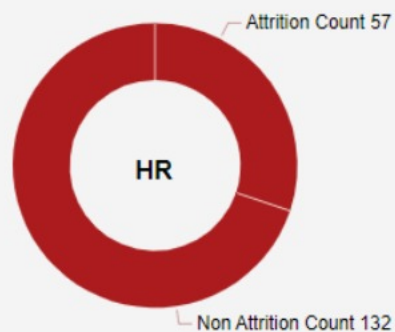
Marital Status

"Single Employees are Leaving the Most."



Department

"R&D Department has the Highest Attrition; HR has the Lowest."



HR Analytics Dashboard

Gender

All

Marital Status

All

Department

All

Education Field

All

Job
Satisfaction
High

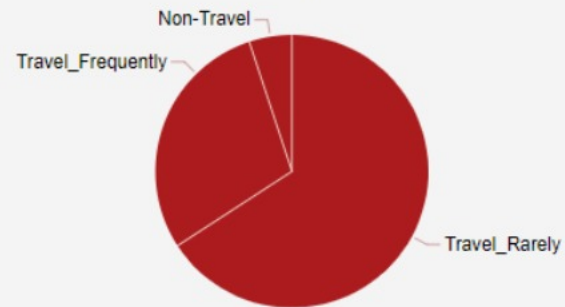
Environment
Satisfaction
Low

Work Life
Balance
High

Job
Involvement
High

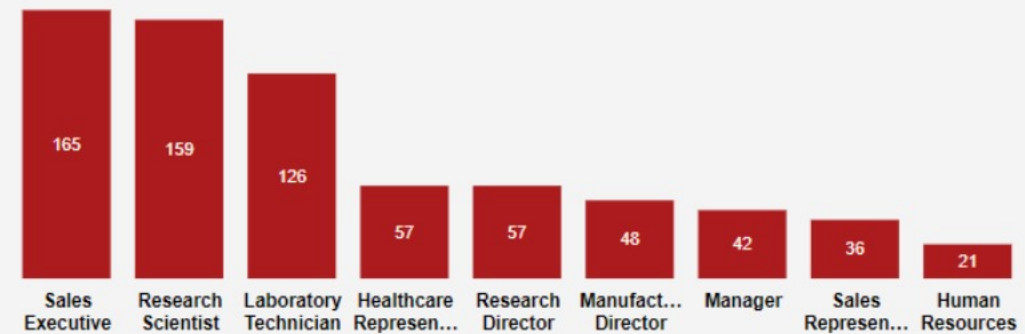
Business Travel

"Rare Travelers have the Highest Attrition."



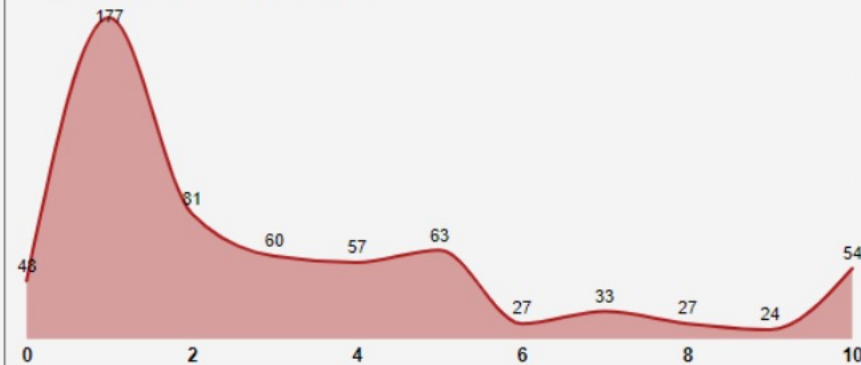
Job Role

"Sales Executive face the Highest Attrition among All Job Roles."



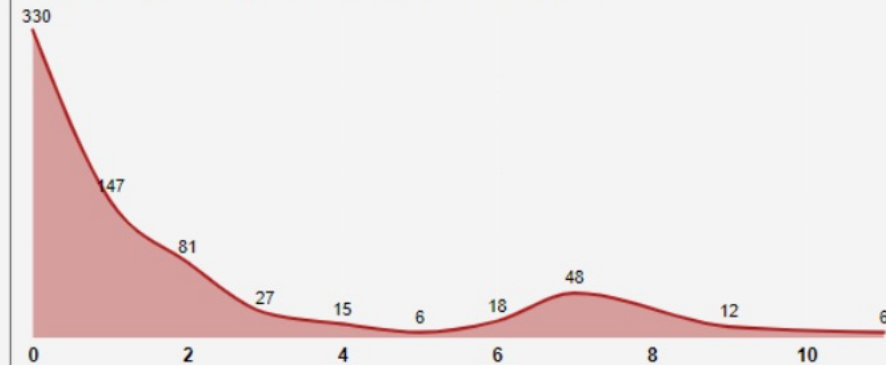
Years at Company

"Highest Attrition within 1-2 years."



Years Since Last Promotion

"Attrition Peaks 1-3 Years after the Last Promotion."



Insights

- High Attrition in Younger Employees:

The highest attrition is among employees aged 18-30, indicating that younger employees are more likely to leave the organization.

- Gender Disparity in Attrition:

More male employees are leaving the company compared to female employees, highlighting a gender gap in attrition.

- Single Employees are Leaving More:

Single employees have the highest attrition rate compared to married or divorced employees, suggesting that relationship status might influence retention.

- R&D Department Faces the Highest Attrition:

The Research & Development (R&D) department has the highest number of employees leaving, indicating potential issues specific to this department.



- **Low Travel Employees Have Higher Attrition:**

Employees who travel rarely are more likely to leave, compared to those who travel frequently or not at all.

- **Sales Executives and Research Scientists Have High Attrition:**

Sales Executives and Research Scientists are the roles with the highest attrition rates, pointing to potential job-specific challenges.

- **Early Employment Attrition:**

The highest attrition occurs within the first 1-2 years of employment, suggesting that new employees are more vulnerable to leaving.

- **Attrition Peaks After Promotion:**

Attrition peaks 1-3 years after the last promotion, indicating that employees may feel stagnation or dissatisfaction after this period.

Recommendations

- **Strengthen Onboarding:** Focus on better integration for younger employees (aged 18-30) to reduce early attrition.
- **Gender-Specific Strategies:** Investigate why male employees are leaving more and develop tailored retention initiatives.
- **Support for Single Employees:** Offer flexible work arrangements and social activities to improve retention among single employees.
- **R&D Department Focus:** Address the high attrition in R&D through targeted development programs and feedback-driven improvements.
- **Review Travel Policies:** Adjust policies to better support employees who rarely travel, ensuring they feel engaged and valued.

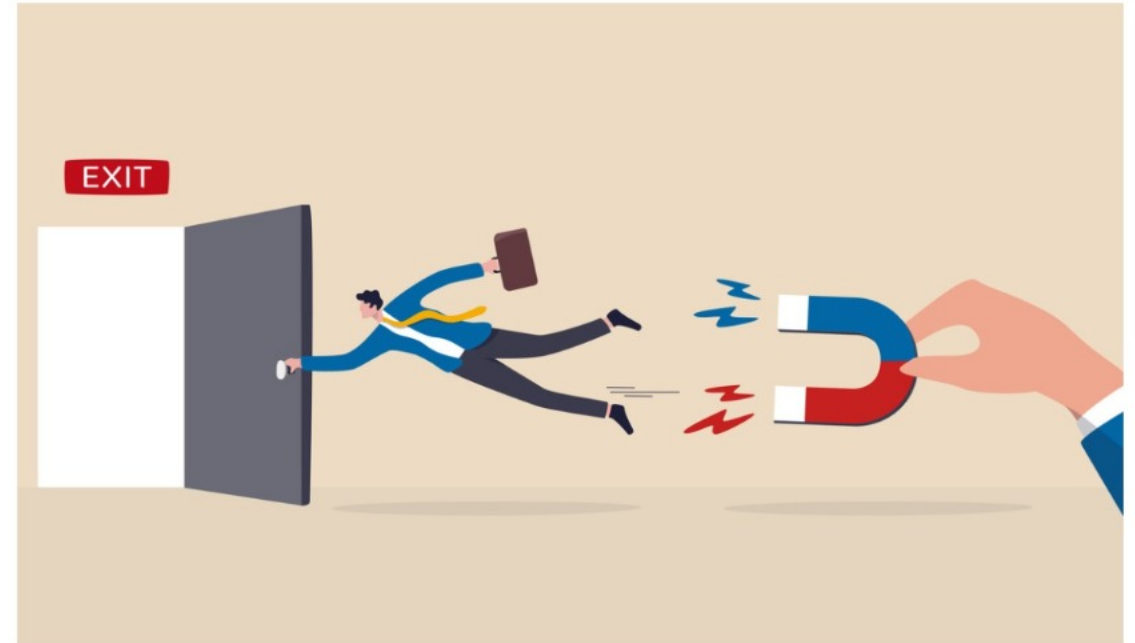


- **Role-Specific Retention:** Provide specialized training and incentives for high-risk roles like Sales Executives and Research Scientists.
- **Promotion Pathways:** Keep employees engaged after promotions with clear career progression and additional development opportunities.
- **Enhance Work-Life Balance:** Offer flexible work options and wellness programs to maintain high satisfaction in work-life balance.

Conclusion

The Employee Attrition Analysis for XYZ Company has provided Valuable Insights into the factors driving Employee Turnover. By Identifying key areas such as job satisfaction, work-life balance, career development, and the Impact of frequent business travel, the Company can take Targeted Actions to Reduce its Attrition Rate.

Implementing the Recommended Strategies will help XYZ Company create a more Engaging and Supportive work environment, ultimately Leading to Better Employee Retention and Overall Organizational Success.



Thank You

Thank you for taking the time to explore our Employee Attrition Analysis Project. Your attention and engagement are Greatly Appreciated. We hope this Presentation has provided Valuable Insights into the power of data-driven Decision-Making.

If you have any Questions or would like further information, please feel free to ask. We're here to help!

Data Analyst

Vijay Sanas

Phone

+91 9137051056

Email

vijay.sanas45@gmail.com

