

# Employee Attrition Analysis and Retention Strategies

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# Executive Summary

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graph TD; ES[Executive Summary] --- R1(( )); R1 --- I[Introduction]; R1 --- M[Methodology]; R1 --- R[Results]; R1 --- V[Visualisation]; V --- R2(( )); R2 --- D[Dashboard]; R2 --- Dis[Discussion]; R2 --- FI[Findings & Implications]; R2 --- C[Conclusions]; R2 --- A[Appendix]; V --- D;
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*Introduction*

*Methodology*

*Results*

*Visualisation*

*Dashboard*

*Discussion*

*Findings &  
Implications*

*Conclusions*

*Appendix*

# INTRODUCTION

In the current corporate landscape, employee retention is crucial for maintaining productivity and reducing recruitment costs. Our organization is facing a significant challenge with rising employee attrition, which is disrupting team dynamics, eroding institutional knowledge, and increasing hiring expenses. This analysis aims to identify the key drivers of employee turnover, explore correlations between demographic and job-related factors, and recommend actionable strategies to enhance employee retention. Through data analysis, we hope to develop insights that will drive informed HR decisions, ultimately improving employee satisfaction and engagement.



## Methodology

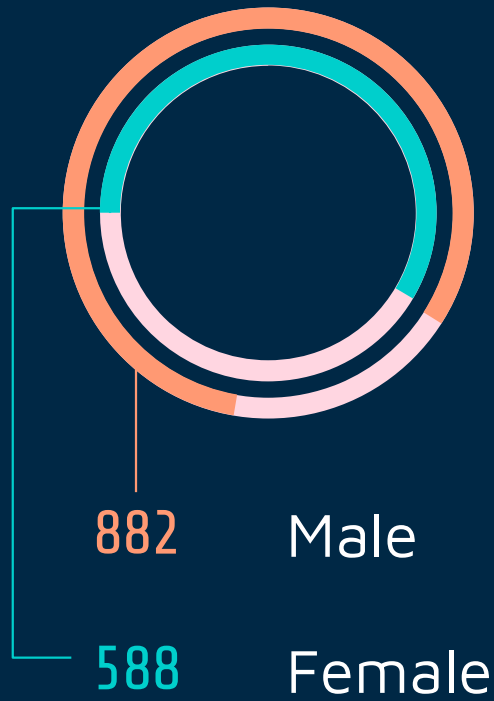


This study leverages a dataset from IBM's employee attrition data containing comprehensive employee information, such as JobRole, Age, Department, DistanceFromHome, YearsAtCompany, Attrition, TrainingTimesLastYear, PerformanceRating, and Salary. Data analysis was performed using tools like Python for Exploratory Data Analysis (EDA) and Power BI for visualizations. Key factors such as job satisfaction, work-life balance, and career growth were evaluated, and predictive models were used to identify high-risk employees for attrition. Various measures and KPIs were tracked to ensure a comprehensive analysis of attrition trends.

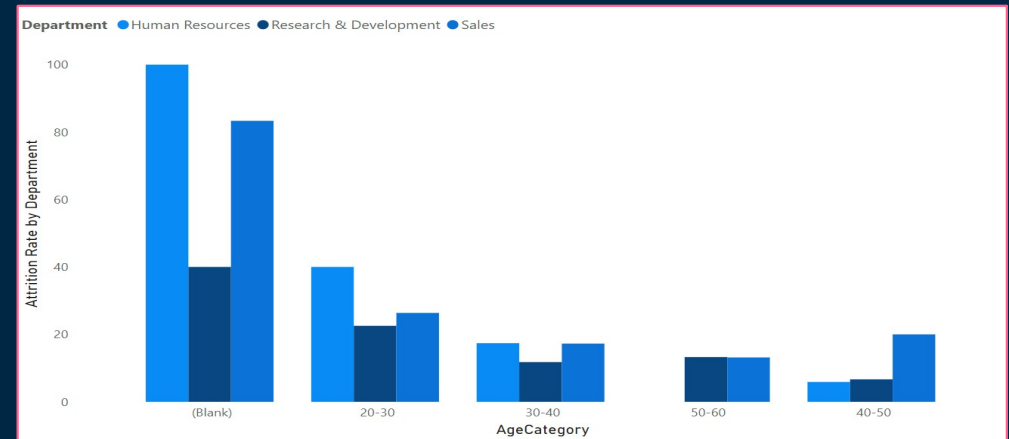


# TARGET

## GENDER



## AGE



1.47K+

Employees

# Results

The analysis revealed several key insights:

- **Total Employees by Department:** The highest number of employees was found in the Research & Development department, followed by Sales and HR.
- **Overall Attrition Rate:** The organization faces an average attrition rate of 16%. Sales and Research & Development departments have the highest turnover rates, signaling potential issues in these areas.
- **Job Satisfaction & Work-Life Balance:** Employees reporting low job satisfaction or poor work-life balance were significantly more likely to leave. Departments like Sales, where job satisfaction is lower, showed the highest attrition rates.
- **High-Risk Job Roles:** Sales Executives and Laboratory Technicians were identified as the most at-risk job roles for attrition, mainly due to dissatisfaction with career growth opportunities and limited job advancement prospects.
- **Attrition by Age Category:** Younger employees (under 35) and those over 50 are more likely to leave, driven by different factors. Younger employees seek career growth and mentorship, while older employees are looking for work-life balance and better health benefits.
- **Distance from Home:** Employees living further from the office are more likely to leave, suggesting a need for flexible work arrangements, such as remote work options or flexible hours.
- **Gender Pay Gap:** A gap in pay between male and female employees was identified, particularly in higher-level roles. This disparity impacts job satisfaction and retention, particularly among female employees.
- **Training and Experience:** Employees in high-risk roles tend to have fewer training opportunities and fewer years of experience, suggesting that increasing employee development initiatives could improve retention in these roles.



A Picture Is Worth a  
Thousand Words

# VISUALIZATION- CHARTS

## Tree Maps

showing worklife balance rating among different department

## Pie Charts

*showing attrition rates by age group and distance from home.*

## Line Charts

tracking attrition rates over distance from home.

## Donuts

showing Total Employees that can be further divided department wise

## Bar Graphs

highlighting the relationship between Age group and job attrition, correlation between various features affecting attrition.

## Area Graphs

showing comparison of total employees with their experience and attrition rate .



# SNEAK PEEK TO THE POWER BI DASHBOARD!!!



filtered to all employees



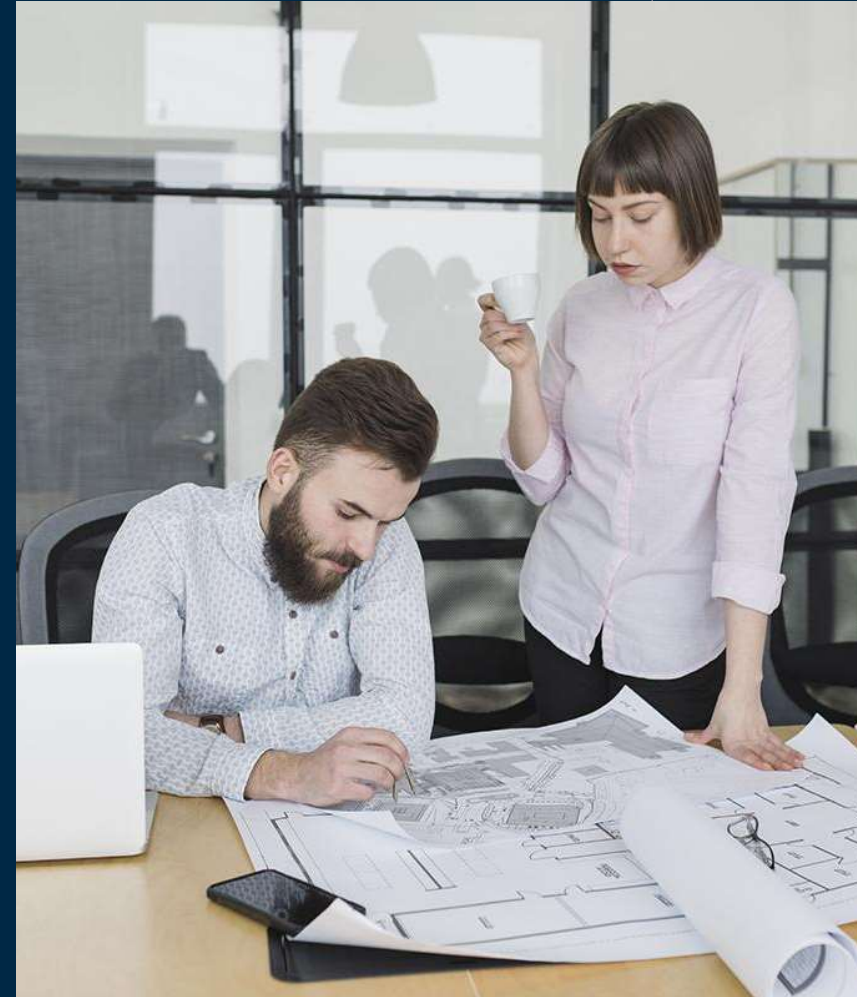
filtered to only sales department



filtered to only female employees

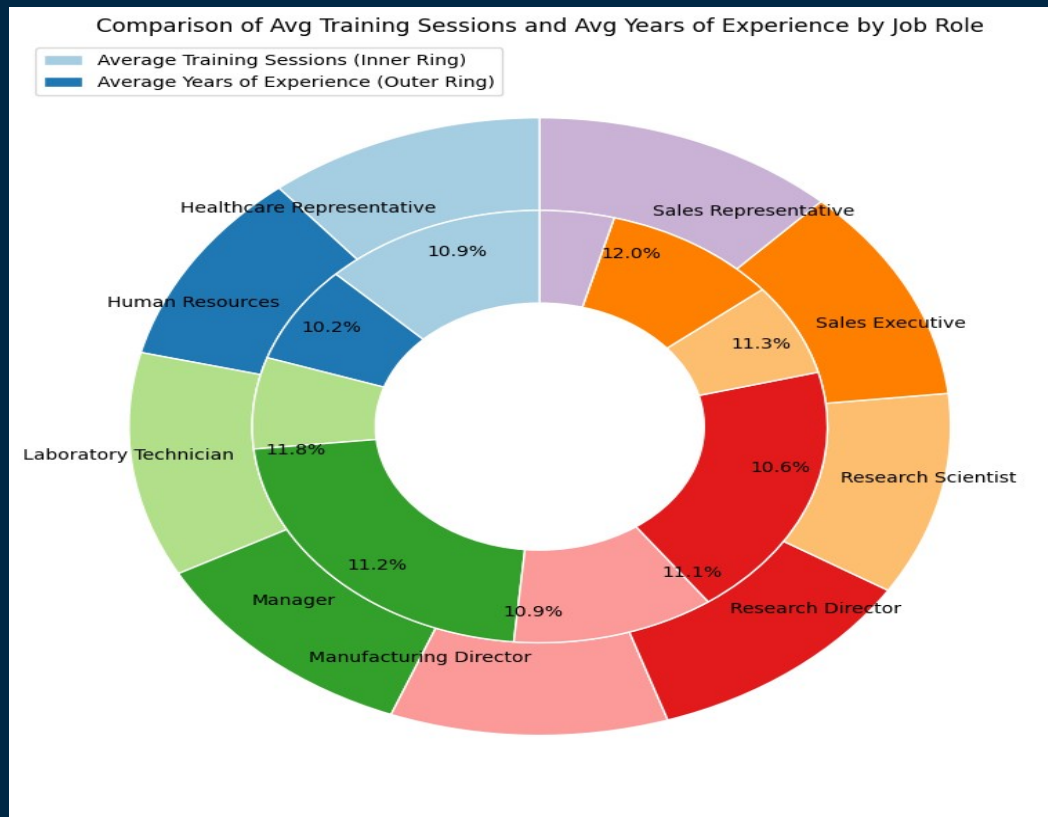
# Discussion

The findings of this analysis emphasize the importance of focusing on work-life balance, job satisfaction, and career development opportunities to reduce attrition. Sales Executives and Laboratory Technicians are at the highest risk, with dissatisfaction largely stemming from limited upward mobility and lack of professional growth. Additionally, the growing demand for remote work options, especially for employees commuting long distances, suggests the need for more flexible working policies.



# ANALYSIS: Skill Development

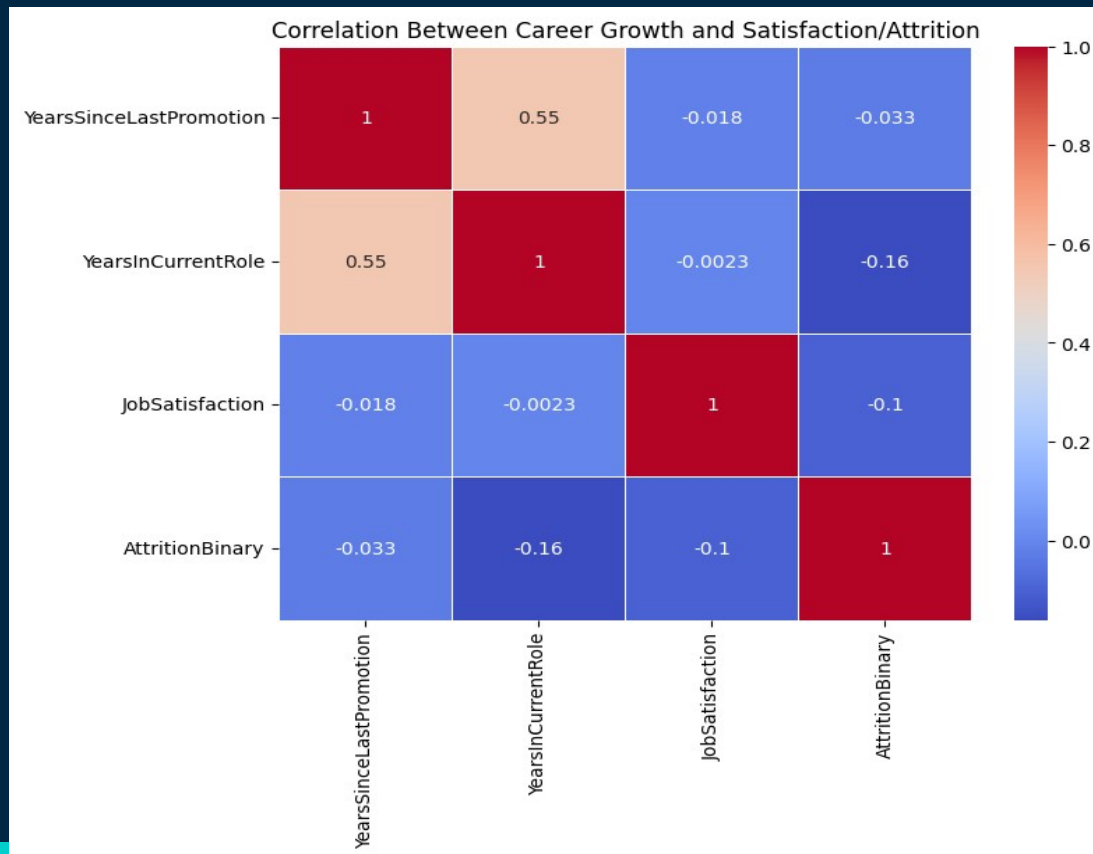
comparison of average training and average years of experience by job role



Sales Executives have higher average training sessions, indicating a focus on skill development. Managers possess more years of experience, suggesting stability in their roles.

# ANALYSIS: Job Satisfaction

comparing Work life Balance category of different department



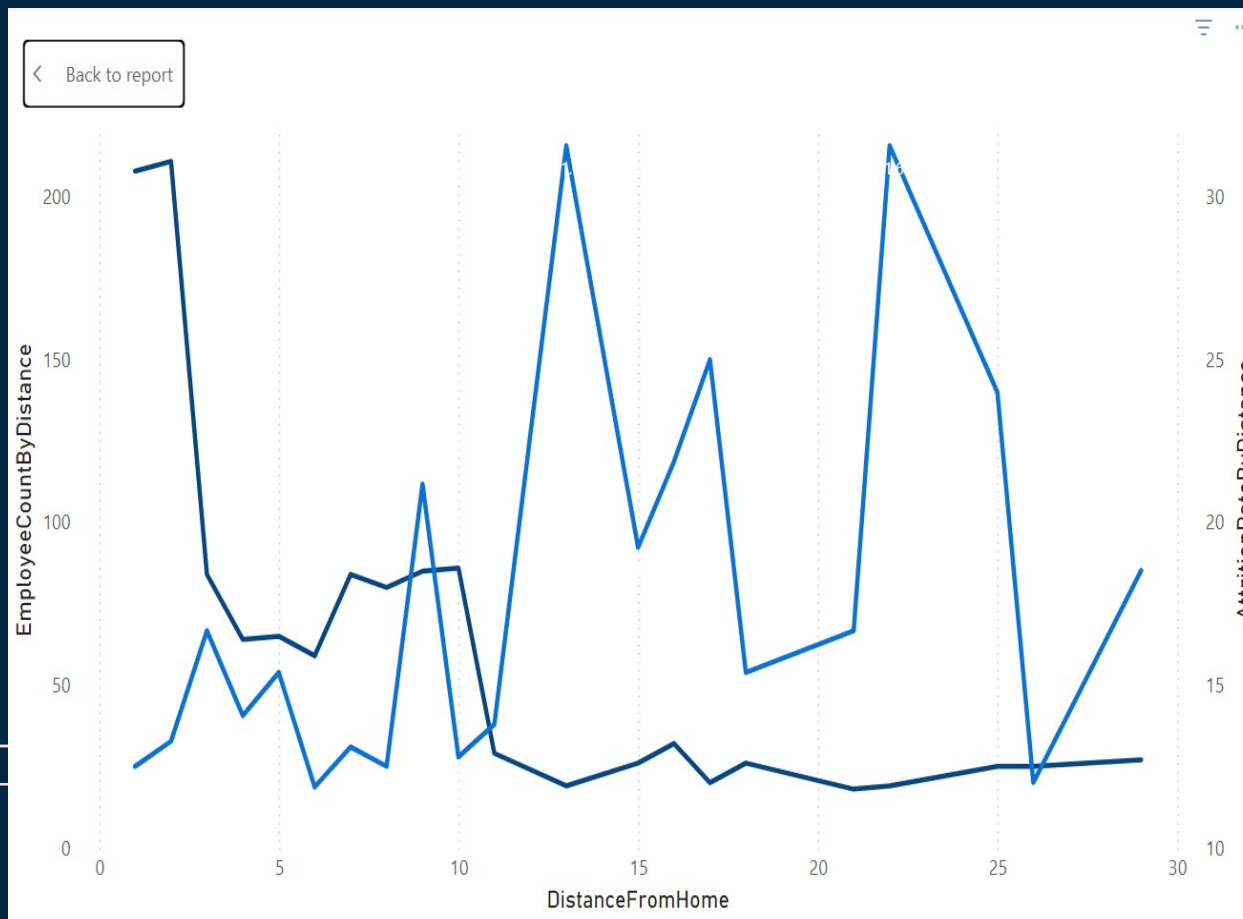
It shows how many employees in a department has the best , Better, good and bad work life balance:

insights can be drawn such as:

- Employees with long gaps since their last promotion may have lower job satisfaction and higher attrition.
- Employees remaining in the same role for extended periods might show signs of reduced satisfaction or are more likely to leave.
- Propose career development programs to retain top talent and increase satisfaction.

# ANALYSIS: Distance from home

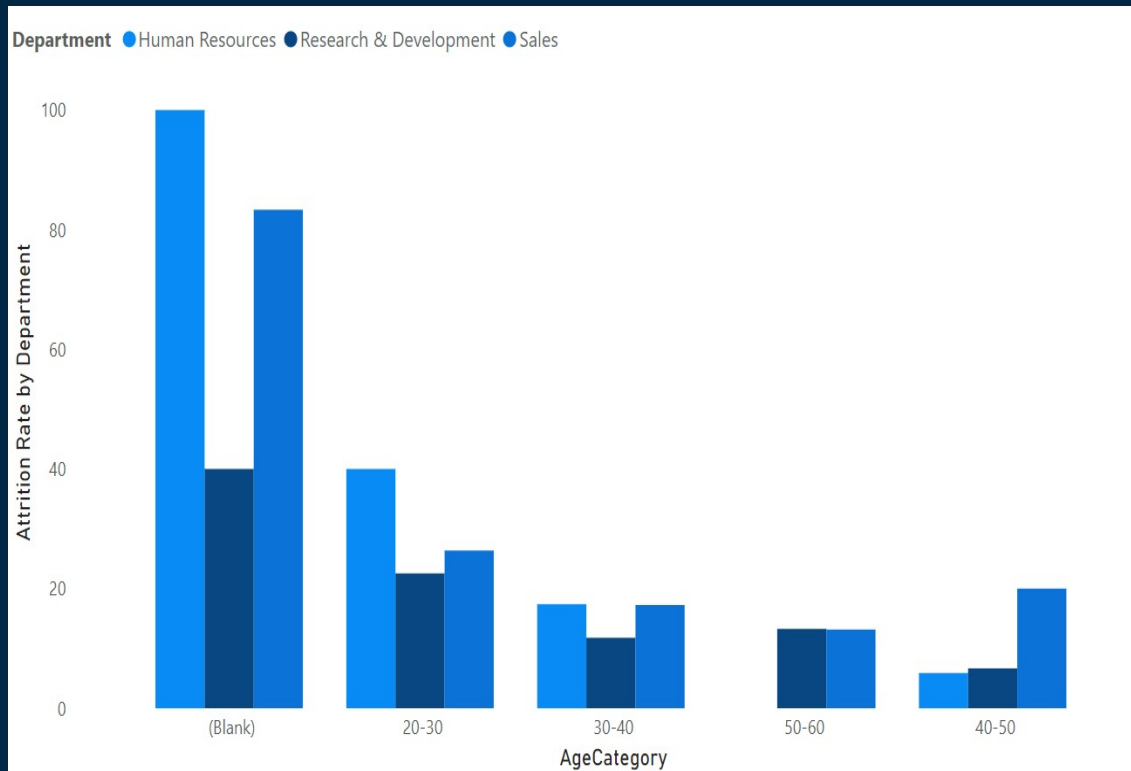
comparing Distance from home of Employess with employee count



It shows how many employees leave their job because of distance from home  
so, identify that distance with maximum employee belongs and provide them with cab facility for easy convenience

# ANALYSIS: Age Group

comparing Age Group of Employees with their department



It shows how many employees of a particular department leaving their job are of which age group :

Overall Attrition Rate across the organization: 16.12%

The age category with the highest attrition rate is: 20-30 with an average attrition rate of 29.63%

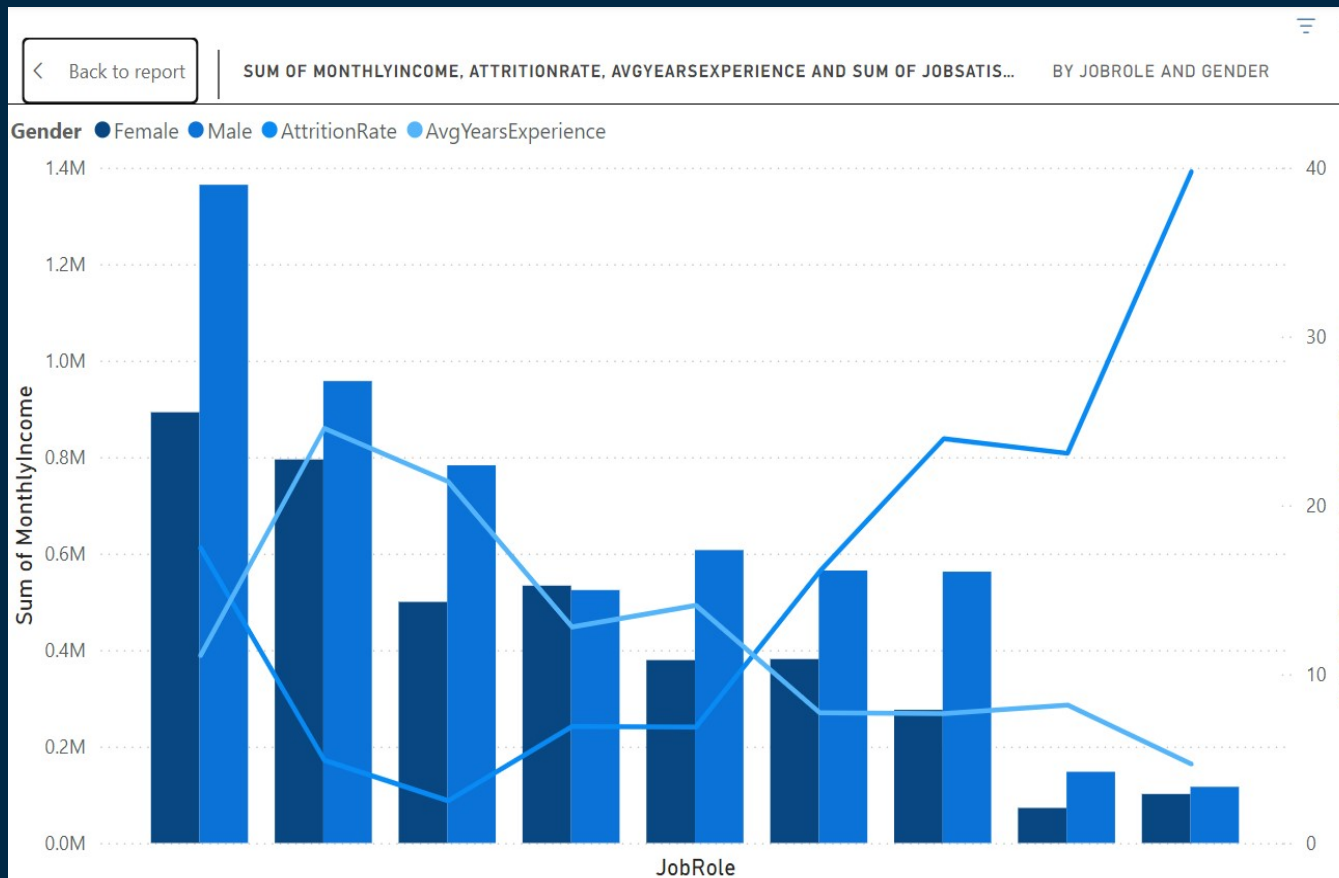
The department with the highest attrition rate is: Human Resources with an average attrition rate of 21.09%

Key Insights:

- Younger employees (20-30) may leave the organization more frequently, possibly due to career growth or better opportunities elsewhere.
- The Human Resources department has the highest attrition rate, indicating potential issues with job satisfaction, workload, or opportunities in that department

# ANALYSIS: Gender Gap

comparing monthly income and attrition rate of employees divided on the basis of gender



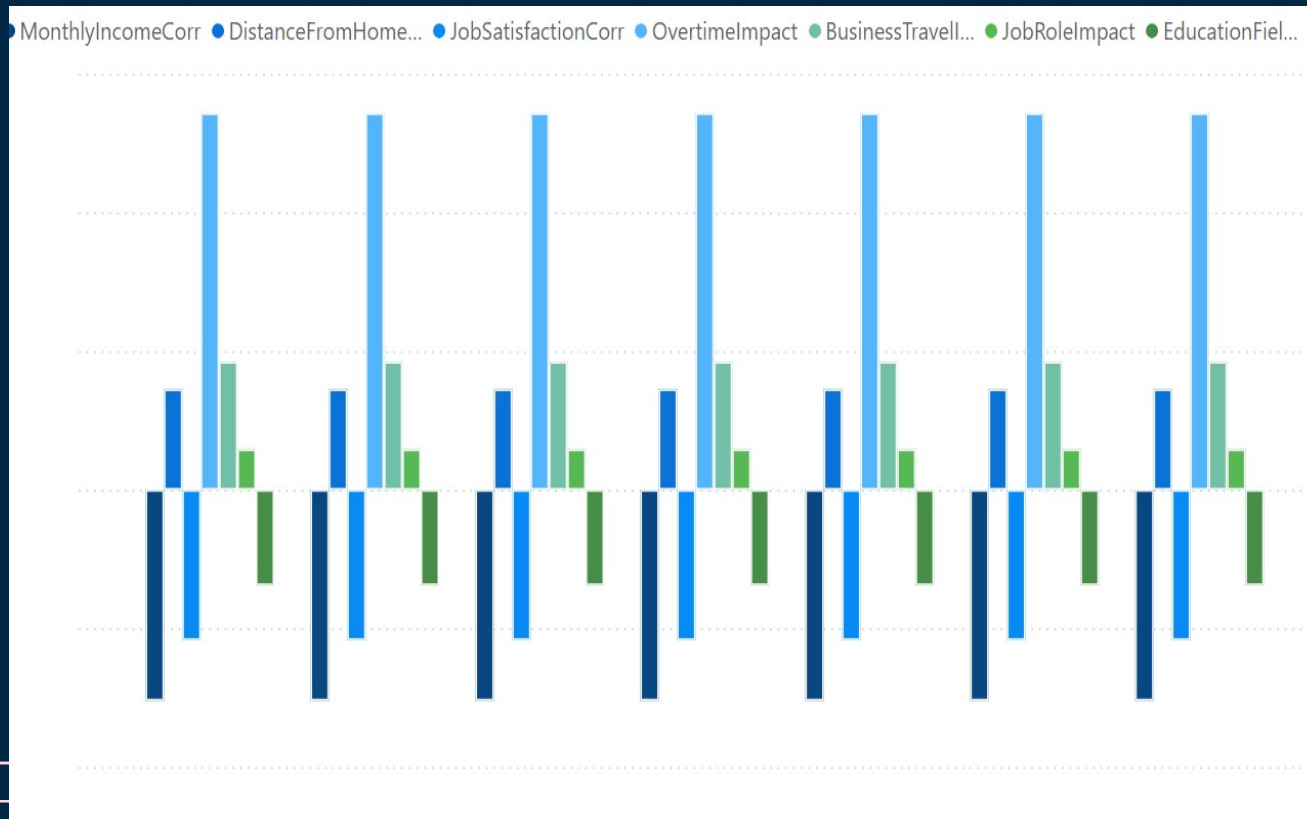
Based on the analysis, insights can be drawn such as:

- The line and column chart shows salary distribution differences by gender.
- Analyze job satisfaction and promotion gaps to understand the impact of gender on retention.
- Use these insights to recommend strategies for closing any gender pay gap or promotion inequalities.



# ANALYSIS: Important Features

Comparing correlation of Features effecting attrition rate



By contrasting features like Monthly income, Distance from home, Job satisfaction, overtime impact, business travel, job replacement and education field with each other to find causes of attrition.

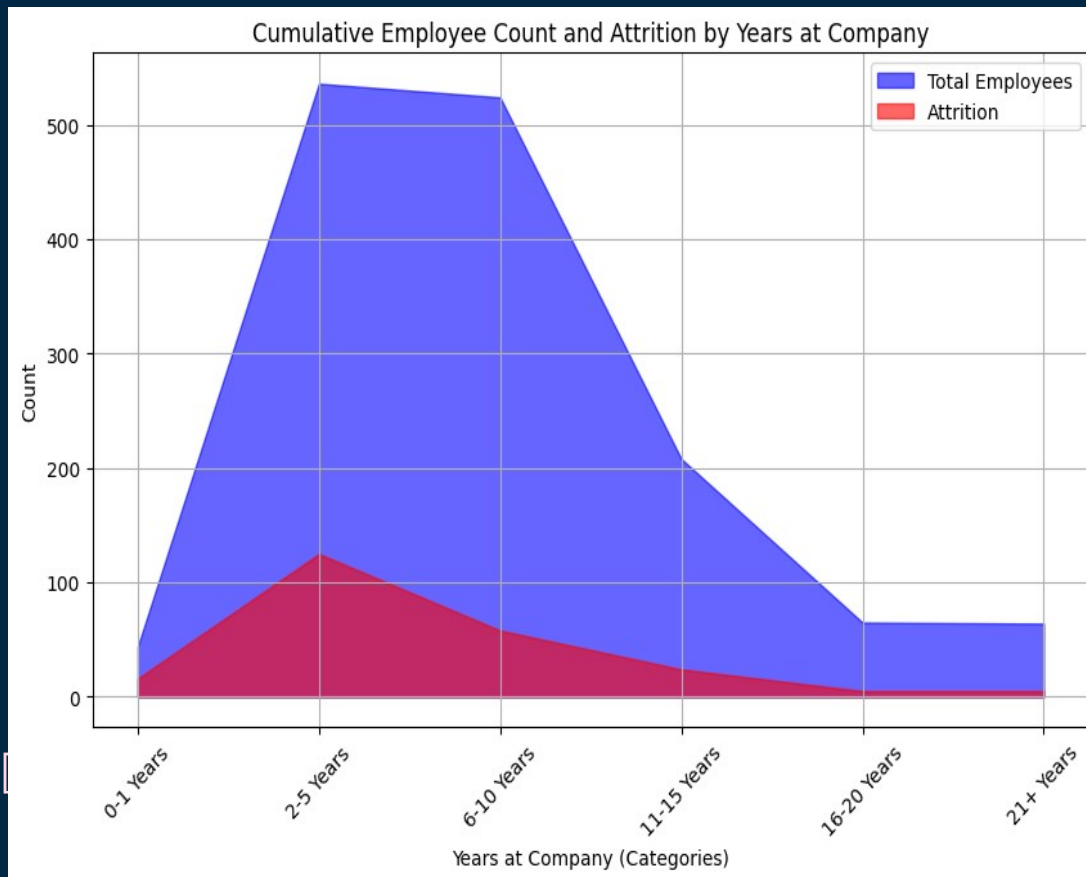
Based on the feature importance analysis, key factors contributing to employee attrition can be identified.

- Suggest retention strategies focusing on improving job satisfaction, offering flexible work options for those working overtime, and adjusting pay scales.



# ANALYSIS: Working Years

It compares numbers of employees working year vs attrition rate of the employees



## Attrition Percentage by Years at Company Categories:

Category: 0-1 Years, Attrition Rate: 36.36%

Category: 2-5 Years, Attrition Rate: 23.32%

Category: 6-10 Years, Attrition Rate: 11.07%

Category: 11-15 Years, Attrition Rate: 11.54%

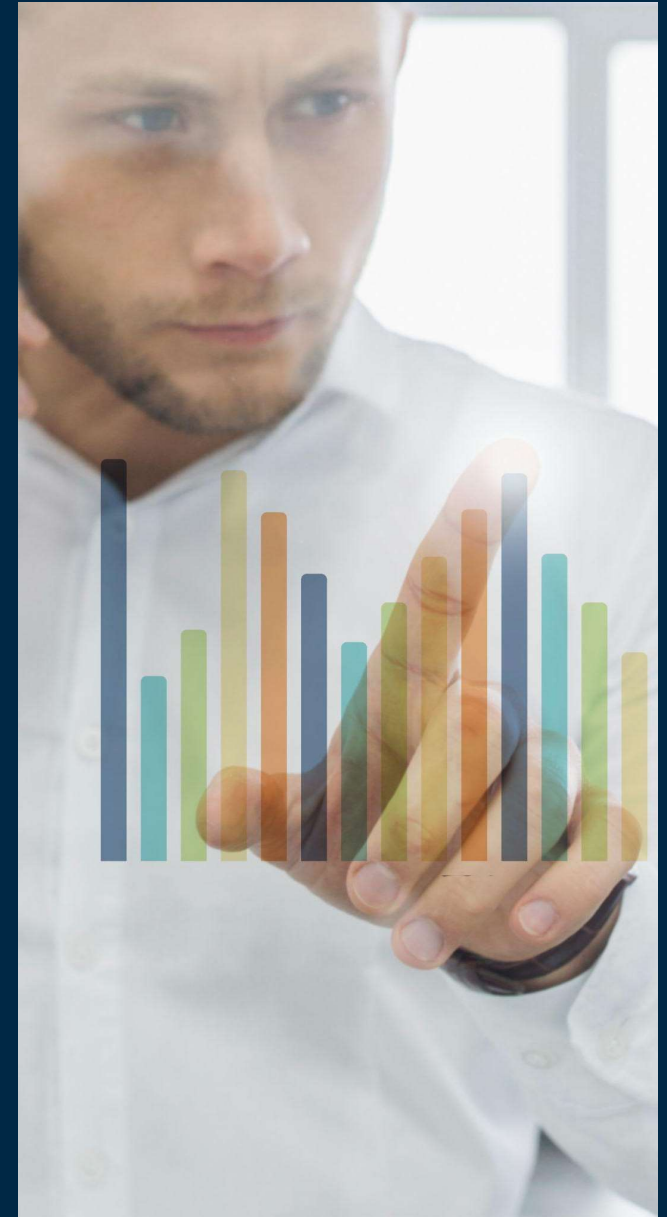
Category: 16-20 Years, Attrition Rate: 7.69%

Category: 21+ Years, Attrition Rate: 7.81%

Conclusion: The attrition rate is within acceptable limits, suggesting a stable workforce.

# Findings & Implications

- **Job Satisfaction and Work-Life Balance:** Companies must invest in employee engagement programs, recognition systems, and flexible work options to improve satisfaction and reduce turnover.
- **High-Risk Roles:** Targeted retention strategies are essential for Sales Executives and Laboratory Technicians, such as mentoring programs and offering career advancement paths.
- **Remote Work and Flexibility:** Offering remote work or flexible hours can reduce attrition for employees living far from the office.
- **Gender Pay Gap:** Addressing the pay disparity between male and female employees is critical for improving job satisfaction and retaining top talent.



# Effective Retention Strategies and Best Practices

01

Pros

Enhances employee  
engagement

reduces recruitment costs

improves team morale

fosters loyalty and commitment

increases productivity levels

supports organizational  
stability

02

Cons

Requires ongoing investment

may face resistance to change

can be time-consuming to  
implement

effectiveness varies by  
organization

potential for unequal benefits

risk of complacency in  
management



# Conclusion

This project highlights the importance of analyzing key factors like job satisfaction, work-life balance, and career growth to mitigate employee attrition. By focusing on improving these areas, the company can develop targeted retention strategies, reduce turnover, and create a more engaged and productive workforce. Moving forward, HR should implement flexible work policies, provide more training opportunities, and address the gender pay gap to enhance overall organizational performance.

# Appendix

- **Data Source:** IBM Employee Attrition Dataset from Kaggle.
- **Queries and Code:** Python and DAX queries used in the analysis.
- **Additional Visualizations:** Charts showing detailed breakdowns of attrition trends by department, age, and job role.

The background is a dark navy blue. It is decorated with various geometric elements: small squares in teal, pink, and orange, some of which are hollow outlines; and thin, light-colored vertical lines of varying lengths. A prominent solid teal rectangle is located at the bottom center of the slide.

# THANKS!