



EMPLOYEE ATTRITION ANALYSIS

● FADHIIL DZAKI MULYANA



Linkedin

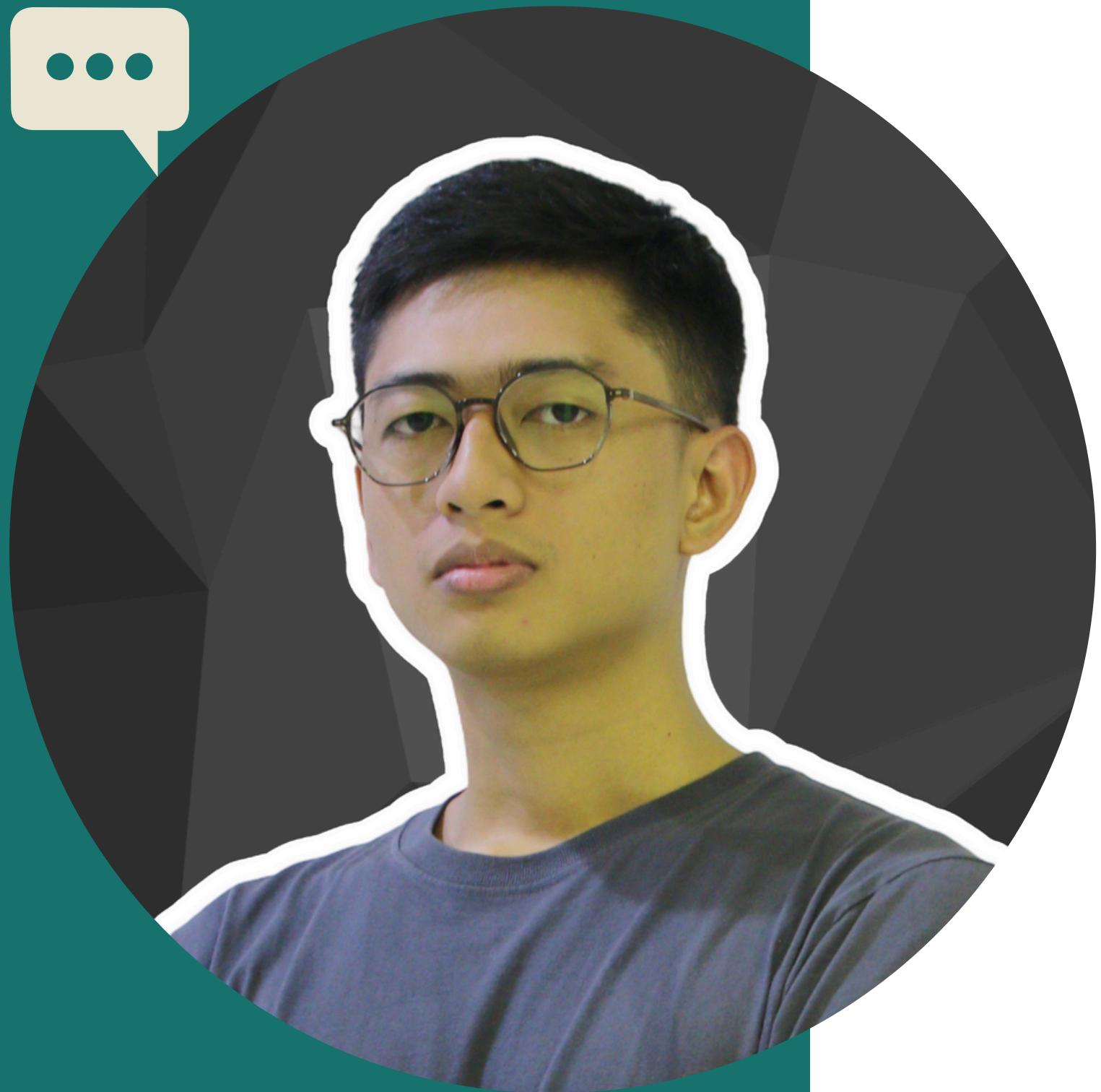
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Dashboard

[TABLEAU](#)

Github

https://github.com/FadhiilDzaki/Employee_Attrition



HI, I'M FADHIL D.

An aspiring data analyst & scientist professional who seeks to connect the dots from what I've been learning to real-world experiences.

skilled in python, Excel, SQL, Tableau, and machine learning, with hands-on experience in data analytics projects.

Committed to continuous learning and professional growth in the field of data

Recently completed a 4 months Full-Time Data Science program from Hacktiv8

Thank you



INTRODUCTION

ABOUT MY PROJECT

I'LL DO

Conducted an in-depth analysis of employee turnover for PT Indo Health, a company in the healthcare industry. Uncover the secrets behind employee turnover.

MISSION

Our mission is to deliver strategic and impactful solutions to reduce attrition from 16% to 10% within 12 months.

METHODOLOGY

WHAT I DO IN THIS PROJECT

01

Data Preparation

Cleaned and preprocessed the dataset for analysis.

02

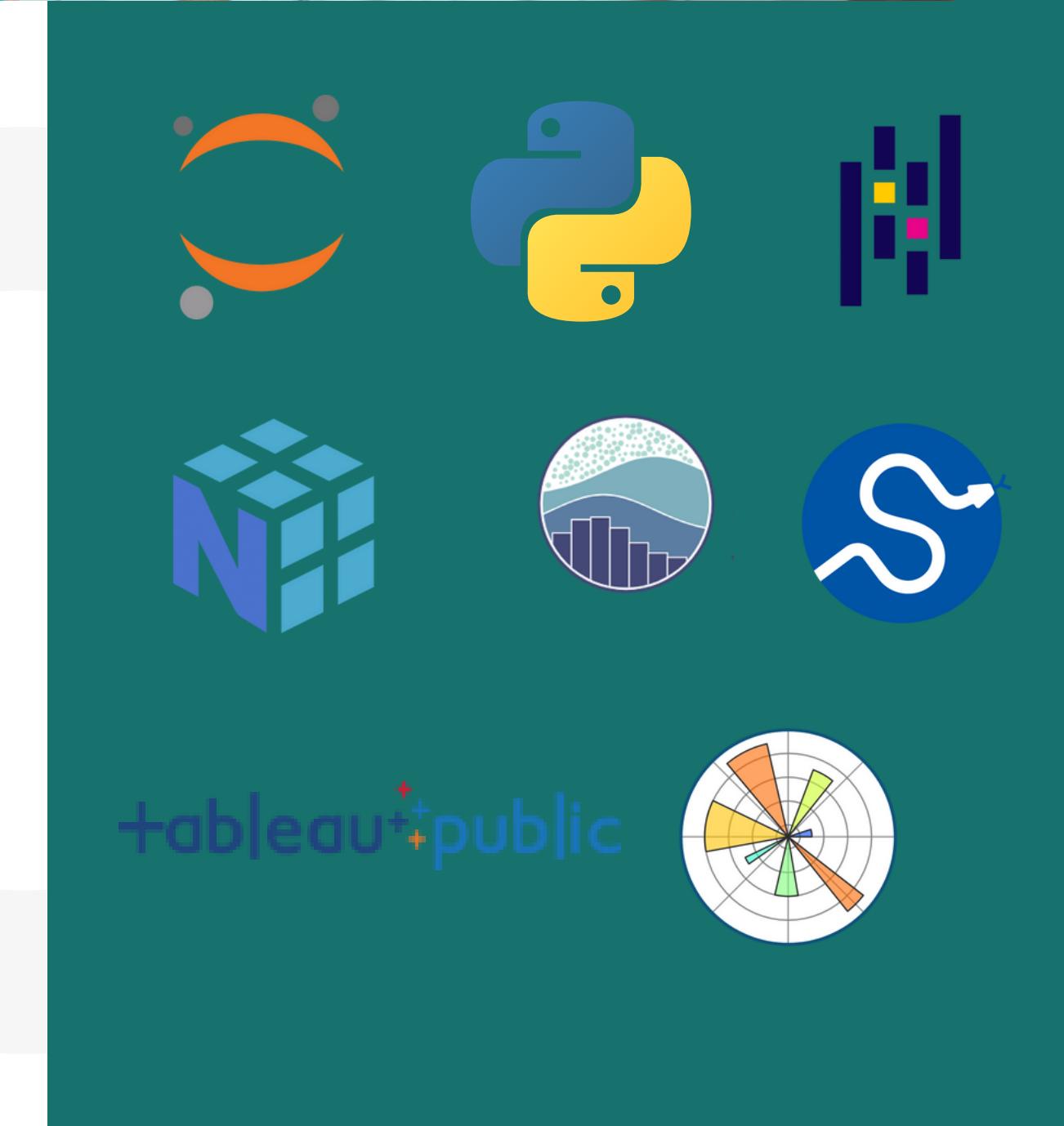
Exploratory Data Analysis

Identified patterns and key factors influencing attrition.

03

Building Tableau Dashboard

Created an interactive Tableau dashboard to visualize findings and support decision-making.



DATA PREPARATION

Before:

| | Age | Attrition | BusinessTravel | DailyRate | Department | DistanceFromHome | Education | EducationField |
|---|-----|-----------|-------------------|-----------|------------------------|------------------|-----------|----------------|
| 0 | 41 | Yes | Travel_Rarely | 1102 | Sales | 1 | 2 | Life Sciences |
| 1 | 49 | No | Travel_Frequently | 279 | Research & Development | 8 | 1 | Life Sciences |
| 2 | 37 | Yes | Travel_Rarely | 1373 | Research & Development | 2 | 2 | Other |
| 3 | 33 | No | Travel_Frequently | 1392 | Research & Development | 3 | 4 | Life Sciences |
| 4 | 27 | No | Travel_Rarely | 591 | Research & Development | 2 | 1 | Medical |

After:

| | Age | Attrition | BusinessTravel | DailyRate | Department | DistanceFromHome | Education | EducationField | EmployeeCount | EmployeeNumber | Over18 | StandardHours |
|---|-----|-----------|----------------|-----------|------------------------|------------------|-----------|----------------|---------------|----------------|--------|---------------|
| 0 | 41 | Yes | Rarely | 1102 | Sales | 1 | 2 | Life Sciences | 1470 | 1000000000 | 1 | 40 |
| 1 | 49 | No | Frequently | 279 | Research & Development | 8 | 1 | Life Sciences | 1470 | 1000000001 | 1 | 40 |
| 2 | 37 | Yes | Rarely | 1373 | Research & Development | 2 | 2 | Other | 1470 | 1000000002 | 1 | 40 |
| 3 | 33 | No | Frequently | 1392 | Research & Development | 3 | 4 | Life Sciences | 1470 | 1000000003 | 1 | 40 |
| 4 | 27 | No | Rarely | 591 | Research & Development | 2 | 1 | Medical | 1470 | 1000000004 | 1 | 40 |

```
shape (before) (1470, 35)  
shape (after) (1470, 31)
```

01

Overall Check

Checking for missing value, duplicated value, data type, column names, and cardinality.

02

Remove Unnecessary Columns

'EmployeeNumber', 'EmployeeCount', 'Over18', and 'StandardHours' do not provide any valuable information.

02

Value Manipulation

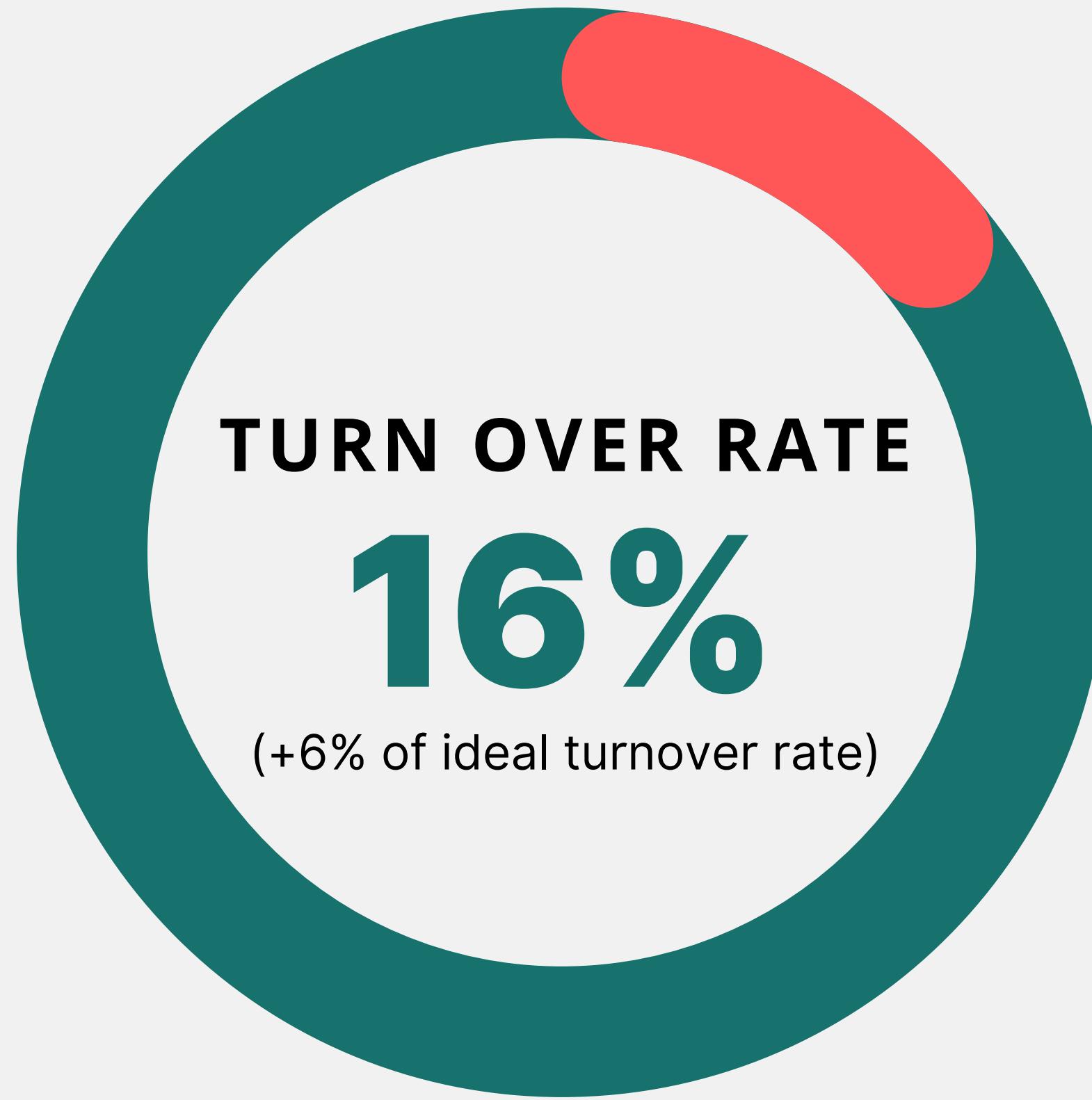
- Separating "Manager" in each department by adding department name in front of "Manager" Job role.
- Replacing "_" with space since the other columns don't have "_".

EXPLORATORY DATA ANALYSIS

● DATA ANALYSIS

TABLEAU DASHBOARD





Attrition Rate

PT. Indo Health

"a healthy employee turnover rate is around 10%." - Gallup

A high turnover percentage has the potential to affect the company in terms of business, especially on the company's image and operational costs.

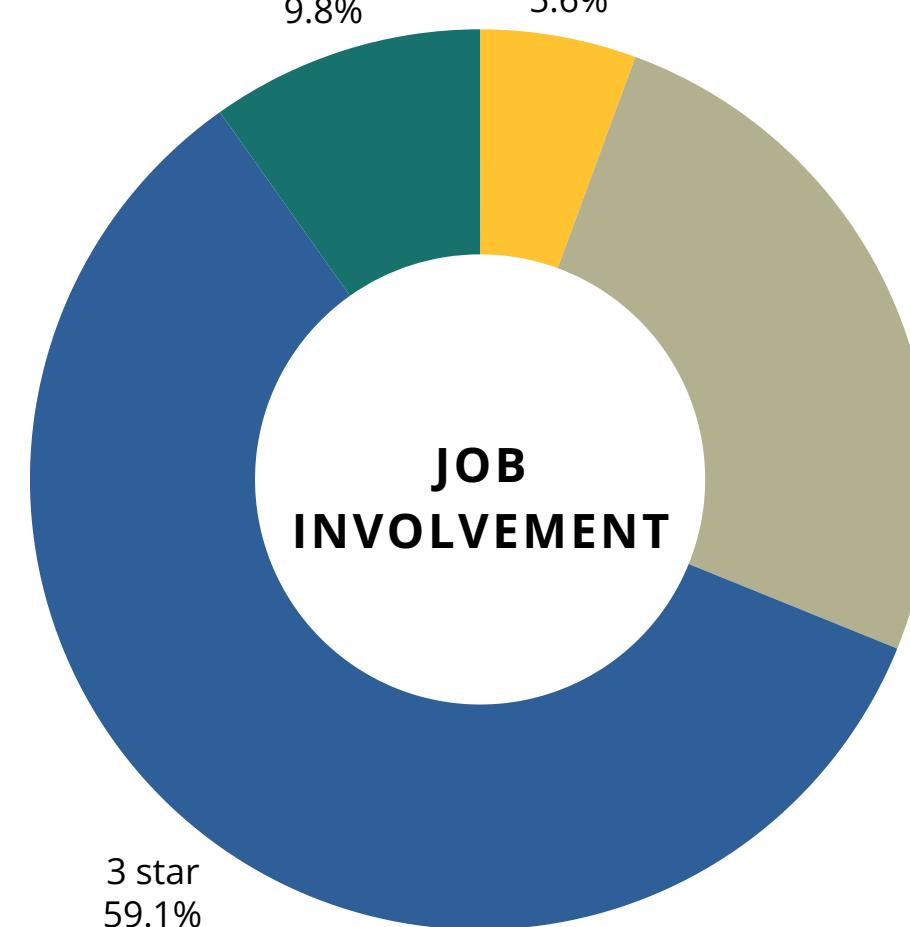
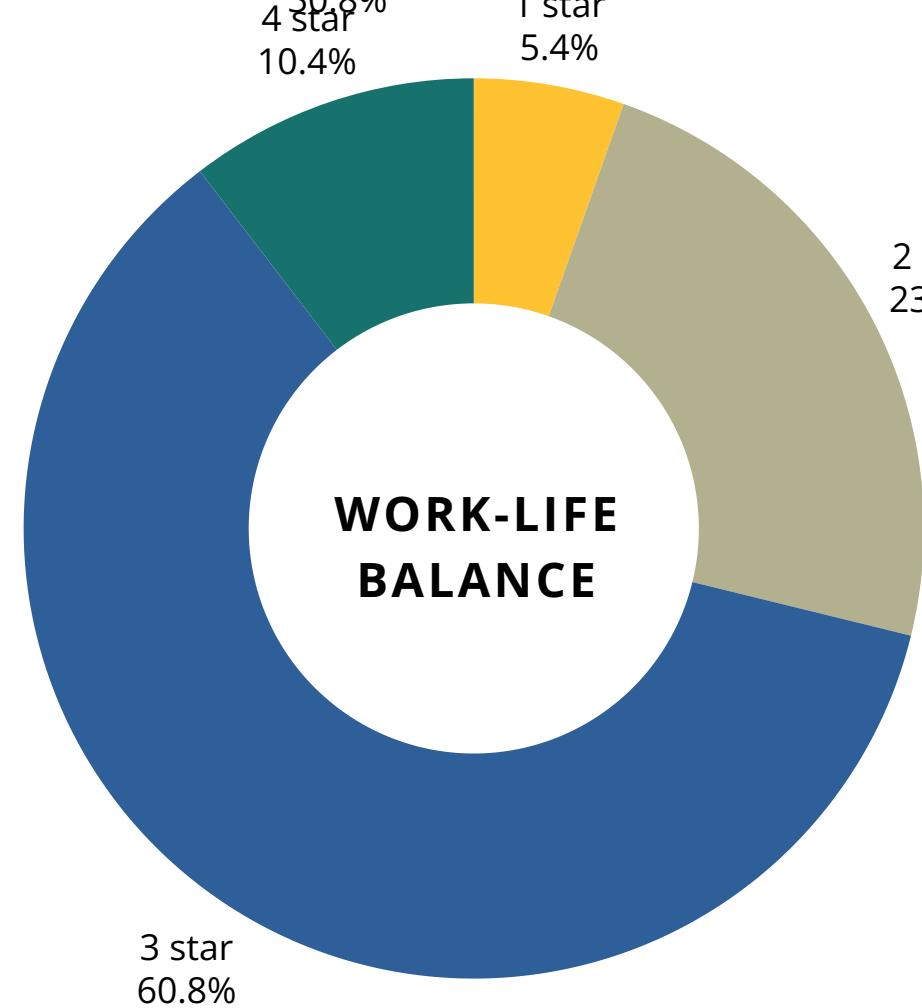
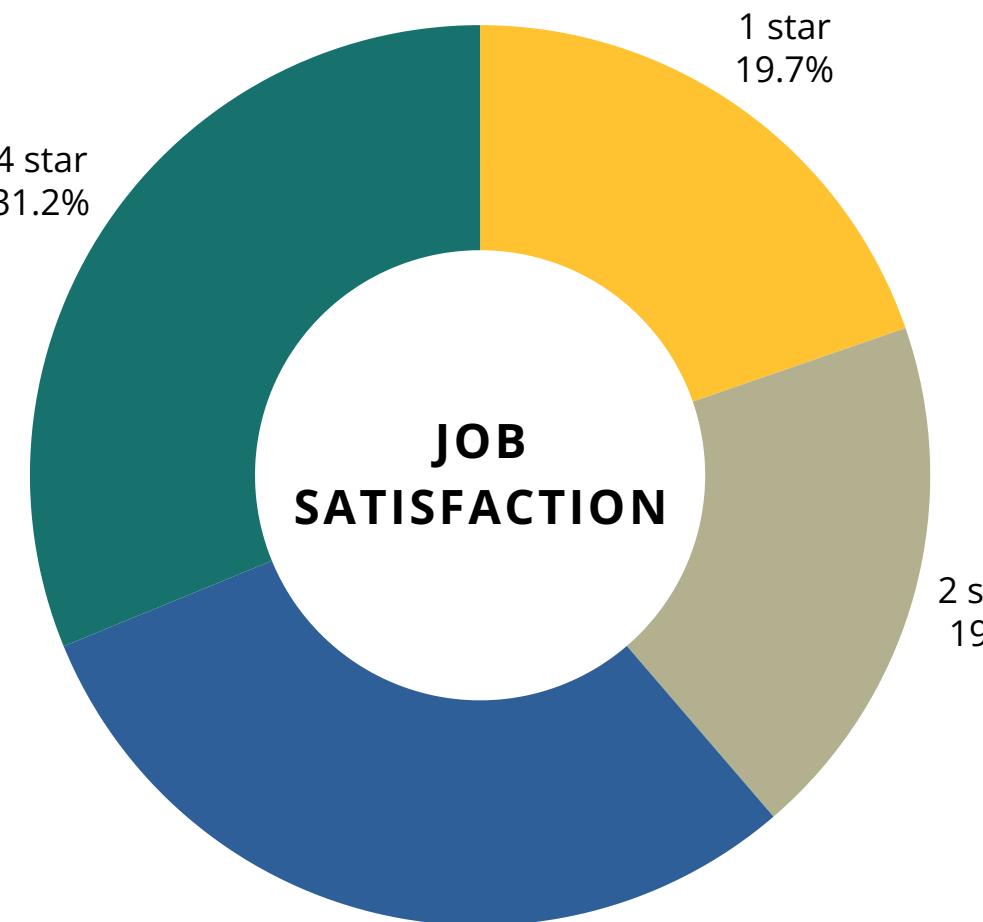
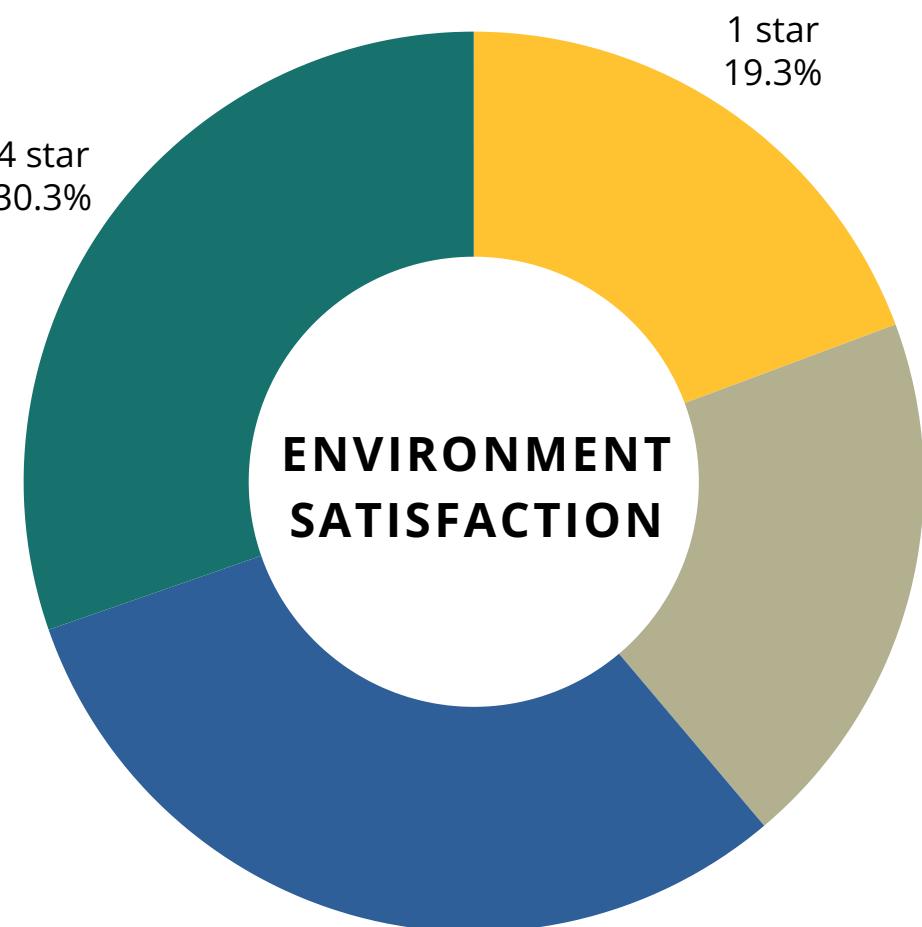
EMPLOYEE PROFILE

Analysis reveals that younger and unmarried employees are more likely to leave the company. In contrast, gender and education level do not significantly impact turnover rates.

| | | Attrition | No | Yes |
|----------------|--------|---------------|---------------|-----|
| Age | count | 1233.0 | 237.0 | |
| | mean | 37.561233 | 33.607595 | |
| | std | 8.88836 | 9.68935 | |
| | min | 18.0 | 18.0 | |
| | 25% | 31.0 | 28.0 | |
| | 50% | 36.0 | 32.0 | |
| Gender | 75% | 43.0 | 39.0 | |
| | max | 60.0 | 58.0 | |
| | count | 1233 | 237 | |
| | unique | 2 | 2 | |
| | top | Male | Male | |
| | freq | 732 | 150 | |
| MaritalStatus | count | 1233 | 237 | |
| | unique | 3 | 3 | |
| | top | Married | Single | |
| | freq | 589 | 120 | |
| | count | 1233 | 237 | |
| | unique | 6 | 6 | |
| EducationField | top | Life Sciences | Life Sciences | |
| | freq | 517 | 89 | |

SATISFACTION

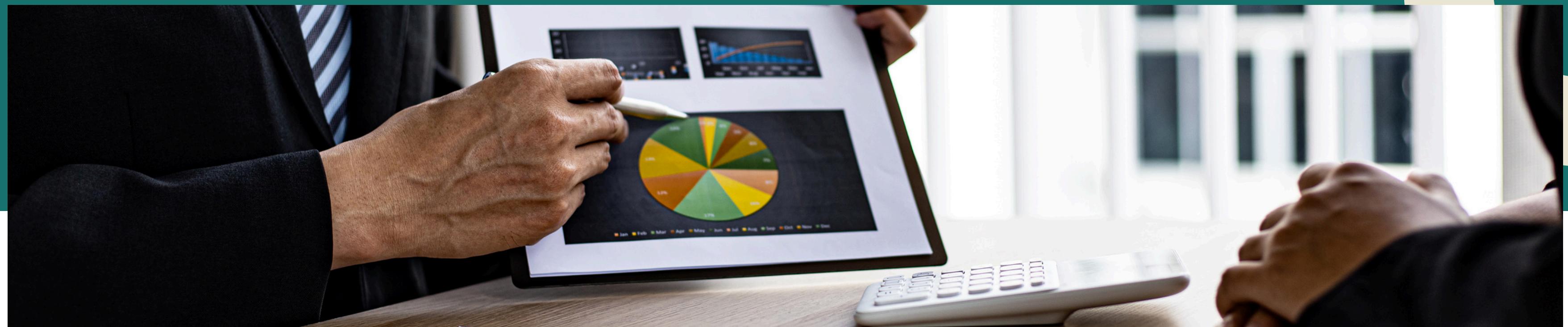
MEASURE EMPLOYEE STRESS LEVEL



"The median employee engagement across the industry is 71%."

- Culture AMP

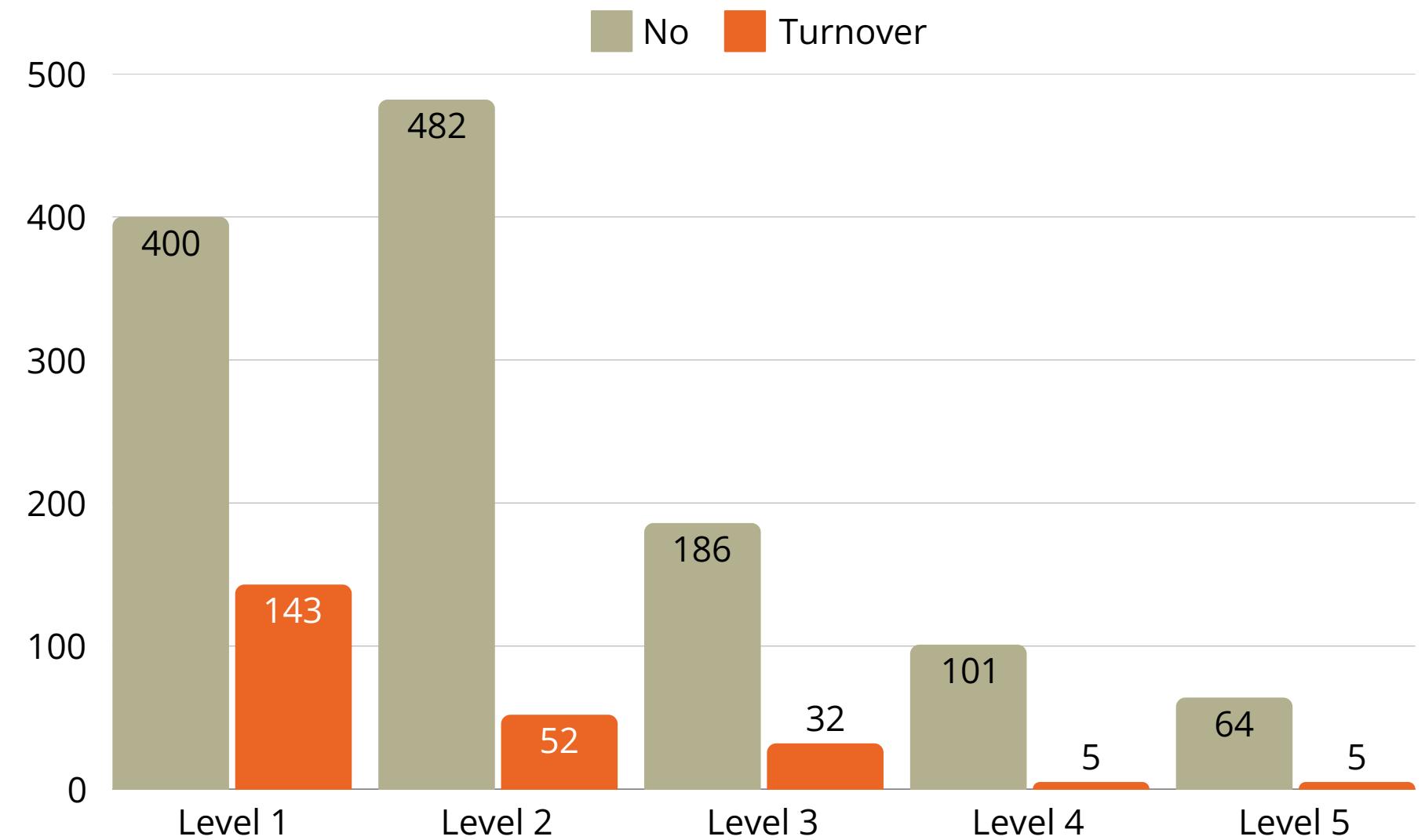
the current levels of satisfaction with the work environment, job, and work engagement are below the healthy threshold, highlighting the need for targeted improvements in these areas.



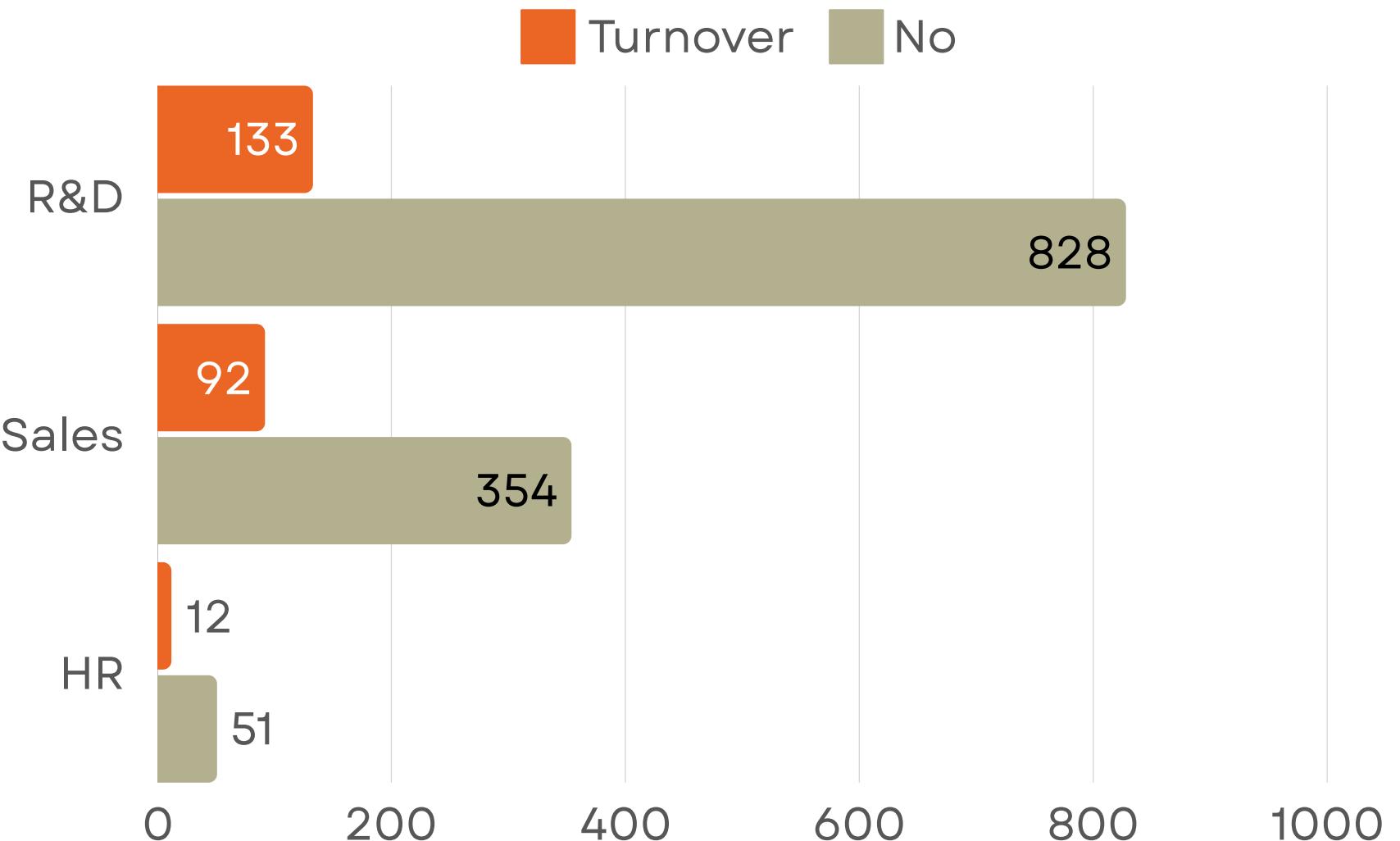
ATTRITION BY JOB LEVEL

LOWER JOB LEVEL, HIGHER TURNOVER

the number of turnovers decreases progressively from level 1 to levels 2, 3, 4, and 5.

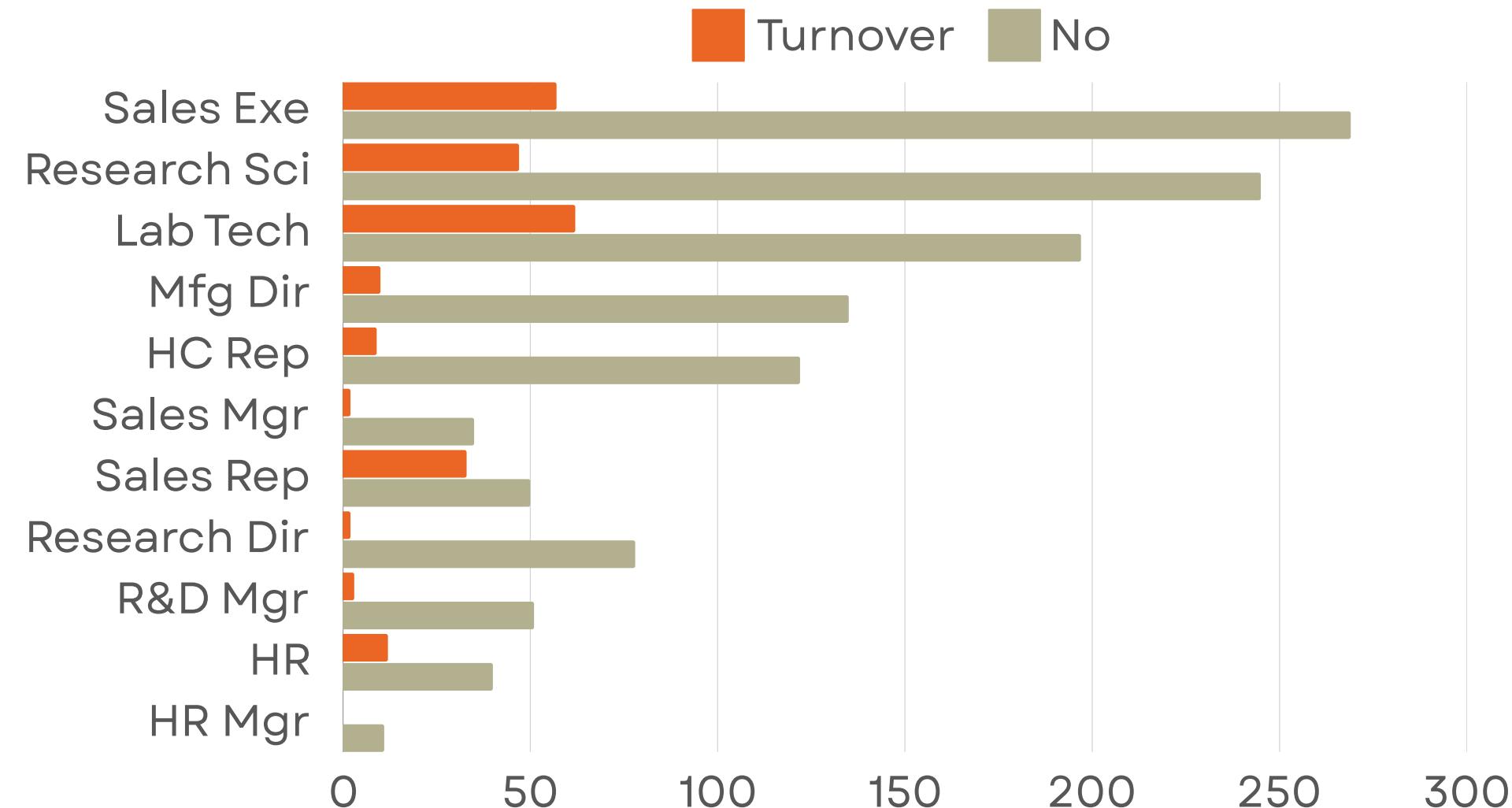


ATTRITION BY DEPARTMENT



High Attrition in R&D and Sales

Suggests that these departments face unique challenges. Could include heavy workloads, lack of motivation or high pressure.



Higher Turnover in Lower Positions

The lowest turnover rates are found in higher positions, such as Manager and Director roles. This supports that turnover is more common in lower job levels.

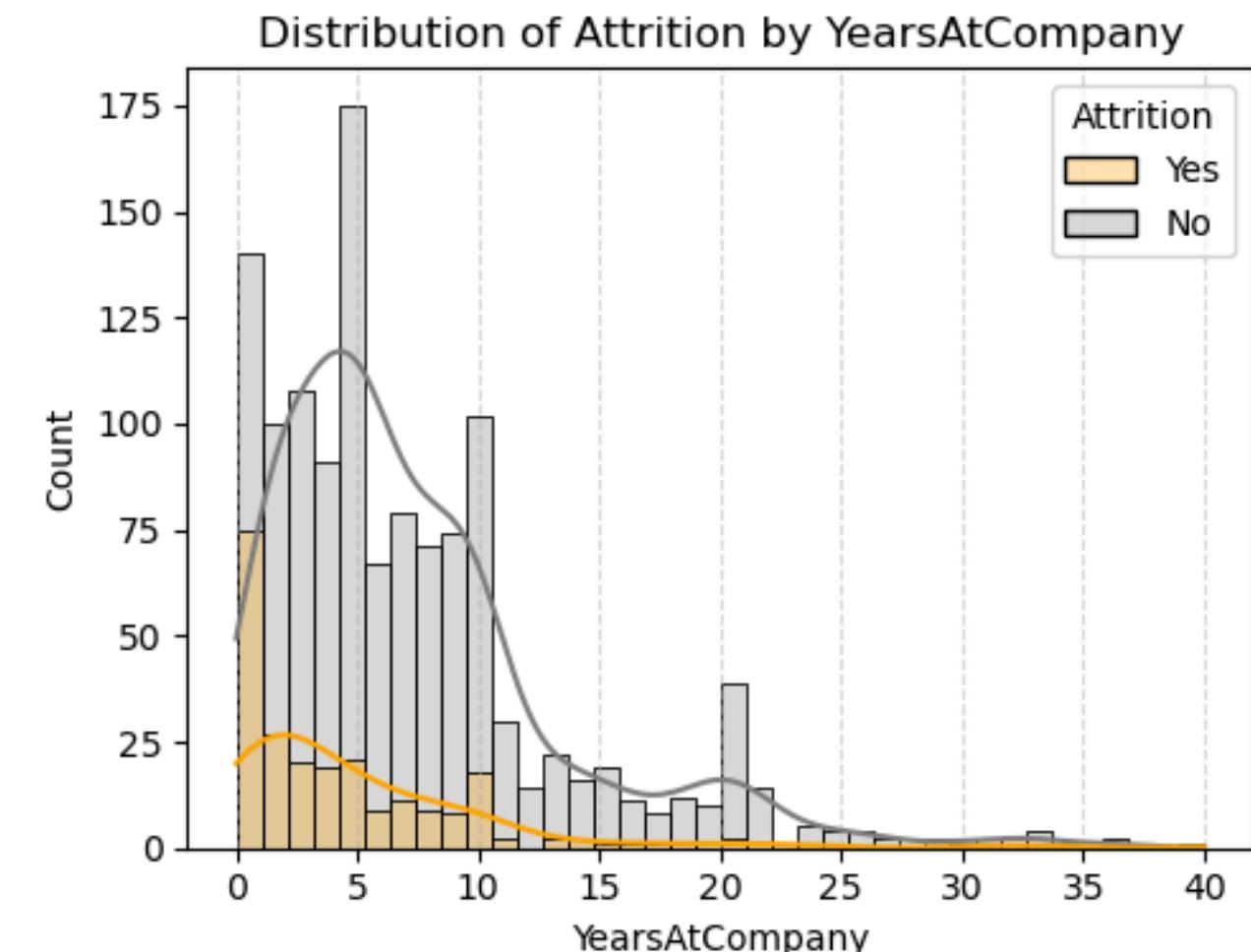
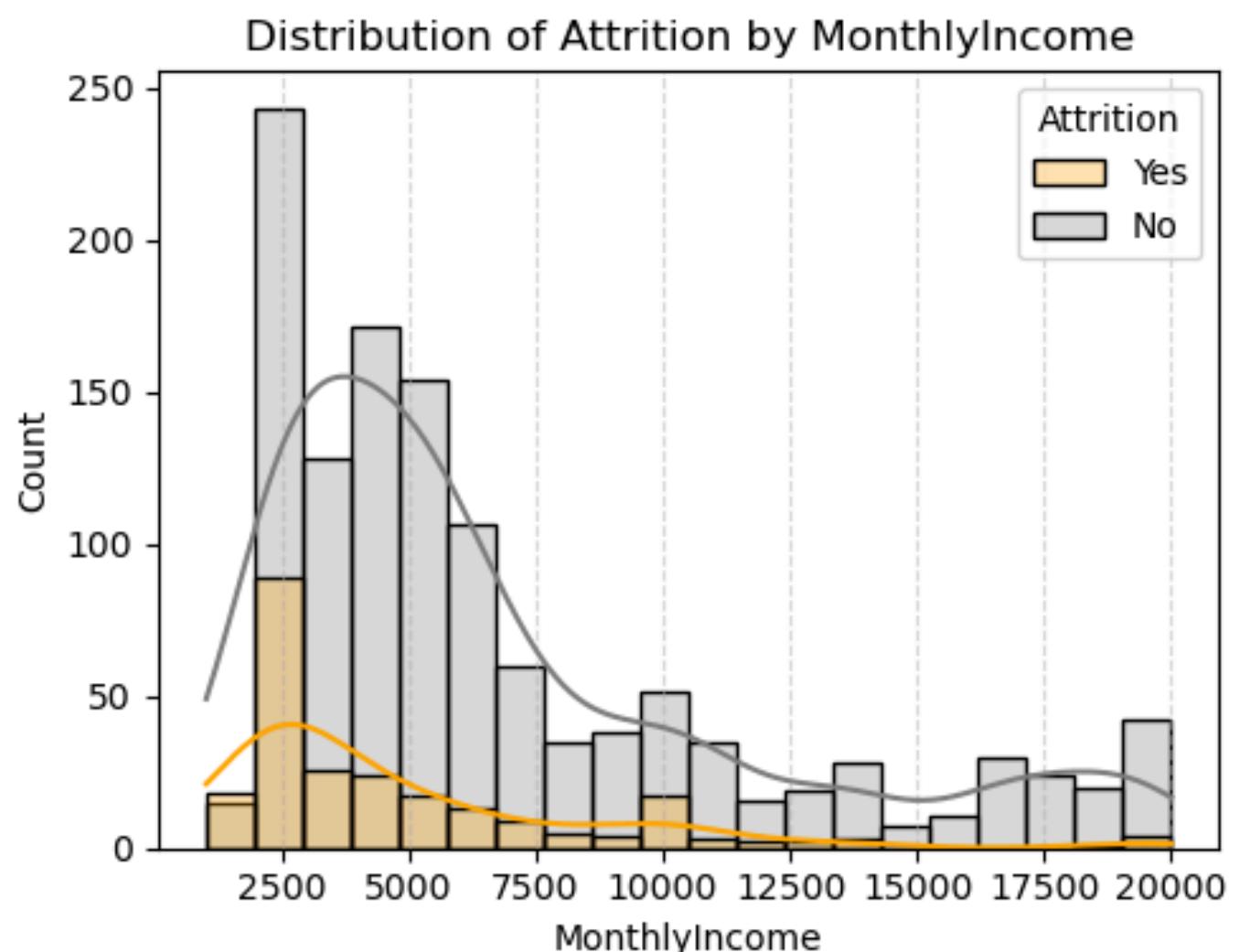
ATTRITION BY SALARY AND TENURE

Lower Monthly Income more likely to turnover

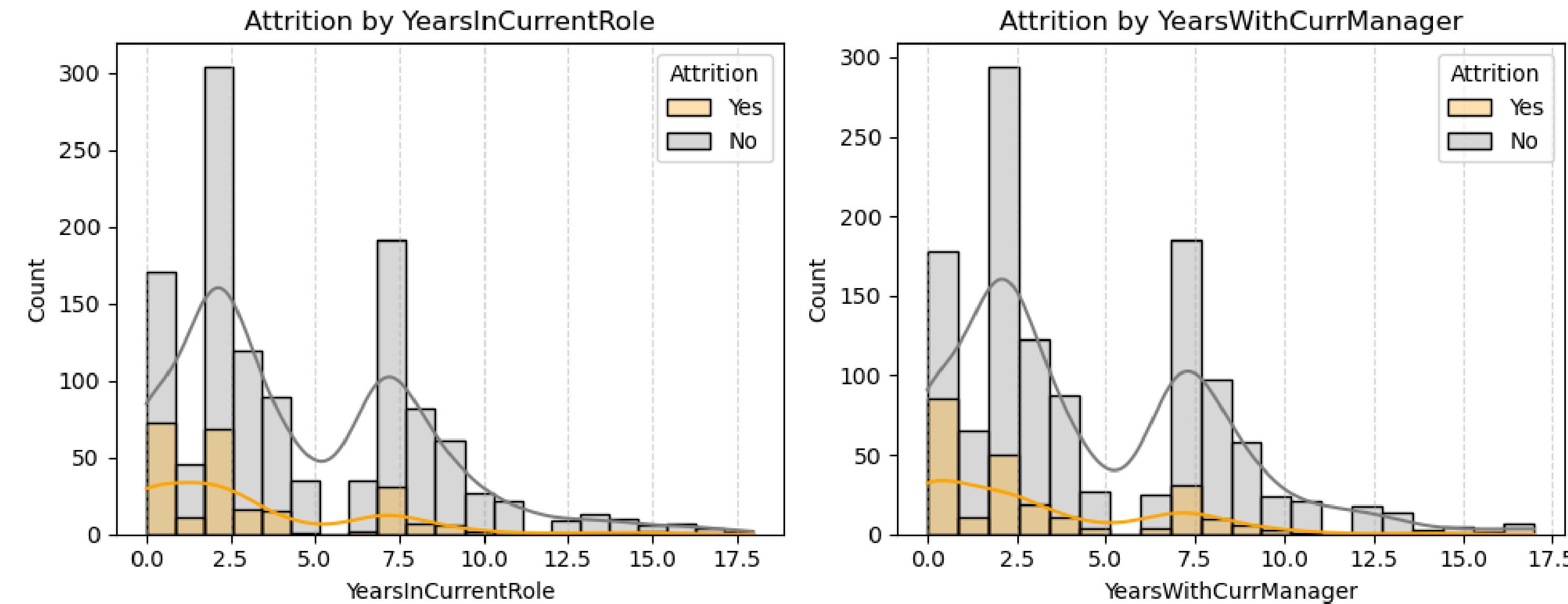
could be due to feelings of being undervalued, salaries perceived as too low for their job level, or a correlation with age, as younger employees with lower salaries might be more inclined to explore other job opportunities.

Turnover in Short Tenures

new employees are still in their adjustment phase, are more likely to leave if they are dissatisfied with the work culture. This indicates that the early years of employment are crucial for retaining employees



RELATIONSHIP WITH MANAGER



The Critical Early Years

Setting clear expectations, fostering positive working relationships between managers and employees during the first 1-2 years, and providing managerial training can strengthen these relationships and help reduce attrition.

PROBLEMS

WE WILL SOLVE THE PROBLEMS

01

Groups Vulnerable to Turnover

Young Employees, Low Monthly Income, and Short Tenure

02

Departments and Roles at Risk

RnD and Sales and Low Job Levels (1–3).

03

Environmental and Job Satisfaction Factors

Low satisfaction score on work-life balance, the work environment, employee engagement, and their job.

03

Relationship with Managers

Poor relationships or unmet expectations with managers early on can expedite the decision to leave the company.

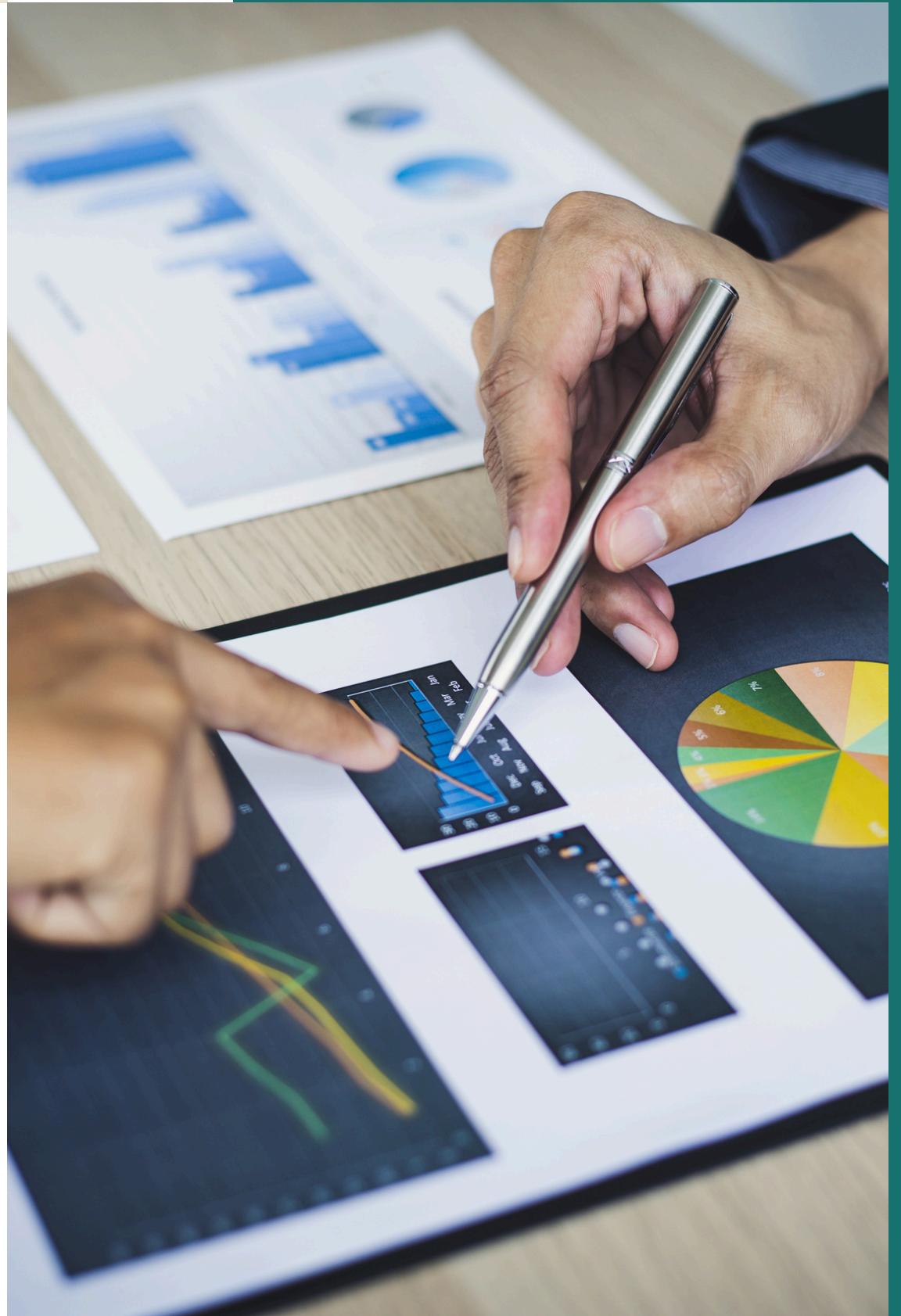


ABOUT US

GET TO KNOW US BETTER

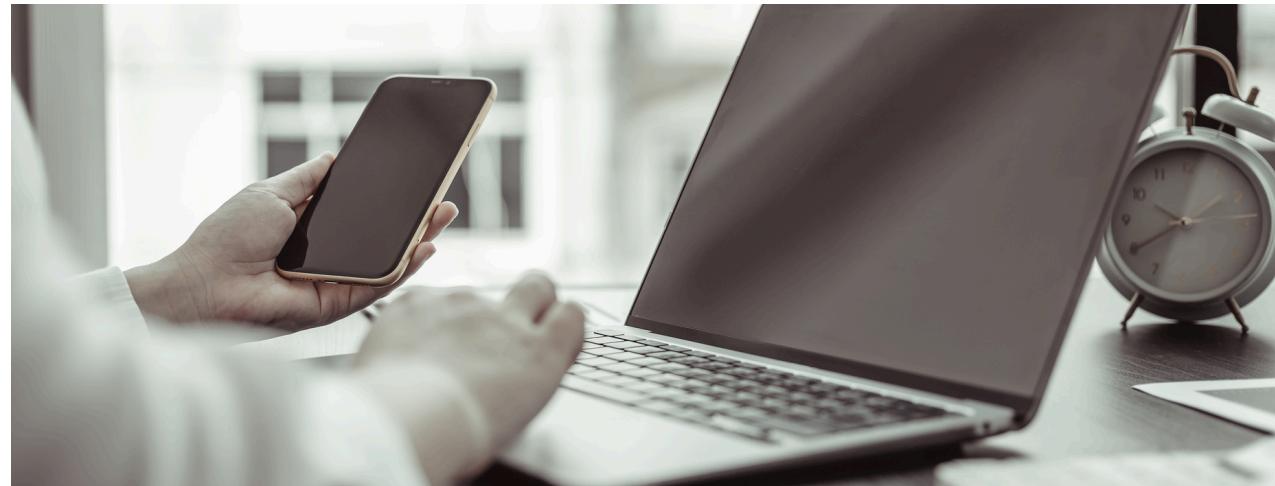
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SOLUTIONS

SOLUTIONS OF THE PROBLEMS



01

New Employees

Focus on effective onboarding, mentoring, and building positive working relationships with managers to reduce the risk of turnover during the early stages of employment.

02

Improving Job Satisfaction

Provide more flexibility in work schedules or workloads and Train managers in effective communication, leadership, and conflict resolution skills.

02

Review Compensation Structure

Reevaluate the salary structure, especially for employees with low income and those at lower to mid-level positions.

THANK YOU

● FOR YOUR NICE ATTENTION

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