



HR ANALYTICS

HR ATTRITION ANALYSIS

Topics covered



Introduction to HR Analytics

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Project Objectives & KPIs

Data Analysis Process

Data Overview

Attrition Analysis

Recommendations

Introduction to HR Analytics

What is HR Analytics?

HR Analytics is the process of collecting, analyzing, and interpreting workforce data to drive strategic human resource decisions.

Why is HR Analytics Important?

- Enables data-driven HR planning and decision-making
- Identifies patterns and trends in employee behavior
- Helps reduce attrition and improve employee engagement
- Aligns workforce strategies with business goals

01 PROBLEM STATEMENT

Understanding the key drivers of employee attrition is essential to develop strategic HR interventions and improve retention.

- The organization is currently facing a **16% attrition rate**, with 237 employees having exited the company out of 1,470 total employees.
- High attrition rates are impacting team stability, increasing hiring/training costs, and affecting business continuity.

02

DATA ANALYSIS PROCESS

1- Data Collection	Collected data from HRIS and supplementary online sources.
2- Business Understanding & Objectives	Aligned goals through collaboration with HR stakeholders.
3- Data Preparation & Cleaning	Cleaned, de-duplicated, and standardized raw data.
4- Data Processing & Analysis	Used SQL and Power BI for exploration and analysis.
5- Visualization & Insights	Created dashboards and derived actionable insights.

Data Preparation & Cleaning:

- Created, 'attritcount', 'Marital Status', 'Job Satisfaction'
- Labeled satisfaction using SQL CASE

```
-- New table  
CREATE VIEW Satisfaction AS  
SELECT  
    CASE  
        WHEN Job_Satisfaction = 1 THEN 'Poor'  
        WHEN Job_Satisfaction = 2 THEN 'Medium'  
        WHEN Job_Satisfaction = 3 THEN 'Good'  
        WHEN Job_Satisfaction = 4 THEN 'Excellent'  
        ELSE 'Unknown'  
    END AS Satisfaction_Label  
FROM HRdata  
WHERE CF_attrition_label = 'Current Employees';
```

109 %
Results Messages

	Satisfaction_Label
1	Medium
2	Good
3	Medium
4	Excellent
5	Poor
6	Good
7	Good
8	Good
9	Medium
10	Good

```
-- Number of employees by marital status  
CREATE VIEW vw_EmployeeCountByMaritalStatus AS  
SELECT Marital_Status, COUNT(*) AS EmployeeCount  
FROM HRdata  
GROUP BY Marital_Status;
```

45 %

Results Messages

Marital_Status	EmployeeCount
Single	470
Divorced	327
Married	673

• DAX Measures in Power BI:

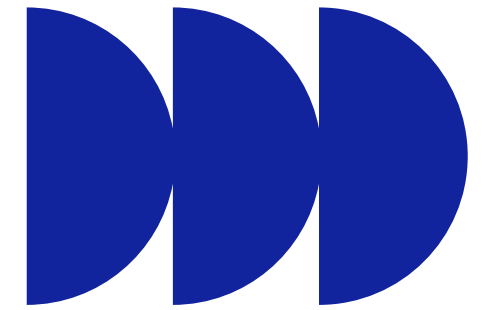
- TurnoverRate, ActiveMembers, ActiveMembersPercentage
- ExcellentEmployees, GoodEmployees
- Gender-based counts and percentages

```
Active Members = DIVIDE(SUM('HRdata'[attritcount]),SUM('HRdata'[Employee_Count]),"")
```

```
femaleCount =  
CALCULATE(  
    COUNT(HRdata[Employee_Number]),  
    HRdata[Gender] = "female"  
)
```

03

Project Objectives & KPIs



- Analyze workforce demographics and attrition patterns
- Identify key factors influencing employee turnover.
- Provide data-driven recommendations to reduce attrition.

04

DATA OVERVIEW



Employee Overview Dashboard-2024

Marital_Status

- ☐ Divorced
- ☐ Married
- ☐ Single

Education

- ☐ Associates Degree
- ☐ Bachelor's Degree
- ☐ Doctoral Degree
- ☐ High School
- ☐ Master's Degree

age

- ☐ 25 - 34
- ☐ 35 - 44
- ☐ 45 - 54
- ☐ Over 55
- ☐ Under 25



Total Employees

1470
100%



Male

882
60%



Female

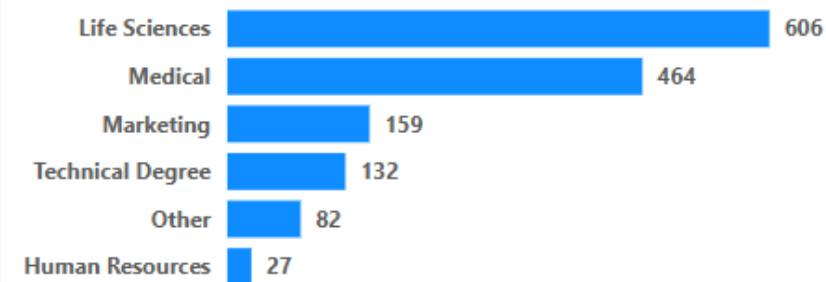
588
40%



Average
Income

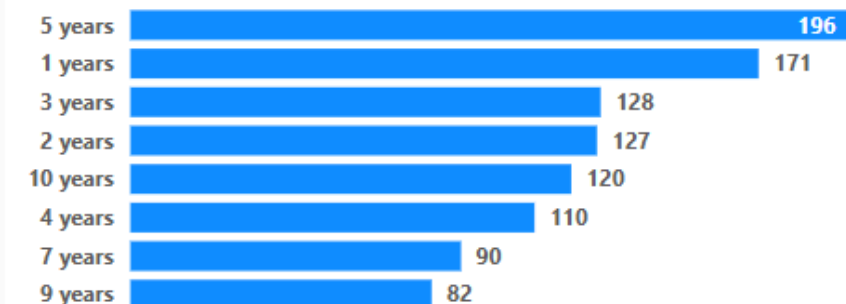
6.5K

Education Level Distribution



Count of Employee_Number

Service Year

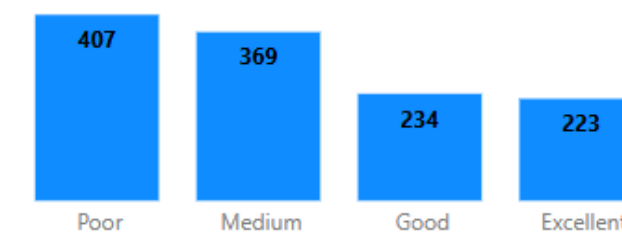


Count of Employee_Count

Education Level Distribution



Satisfaction of Current employee



DATA OVERVIEW



Total Employees

1470

100%



Male

882

60%



Female

588

40%



Average
Income

6.5K

Total Employees & Gender Split

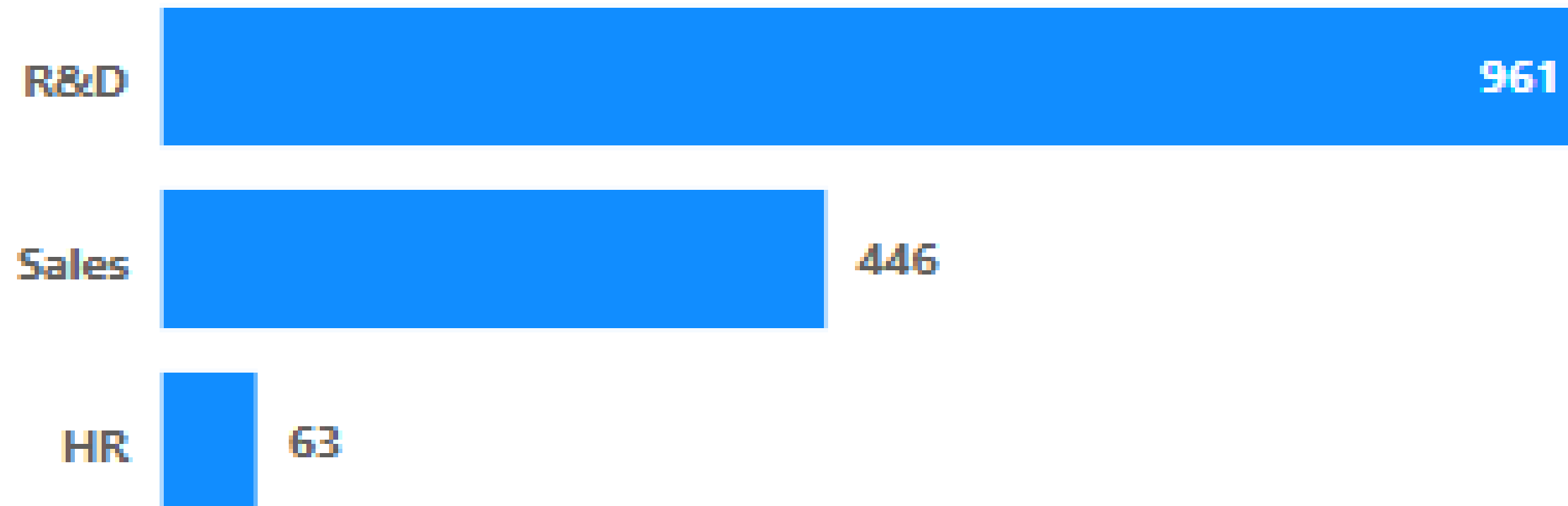
- Total: 1,470
- Male: 882 (60%)
- Female: 588 (40%)

Average Income: \$6.5K

DATA OVERVIEW

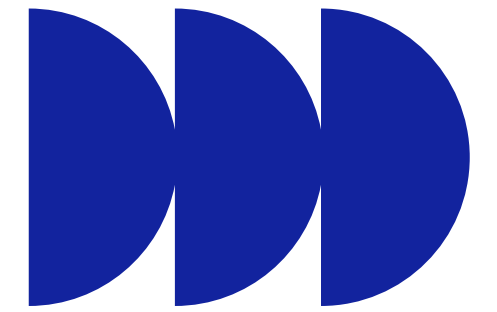


number of employee for each dep

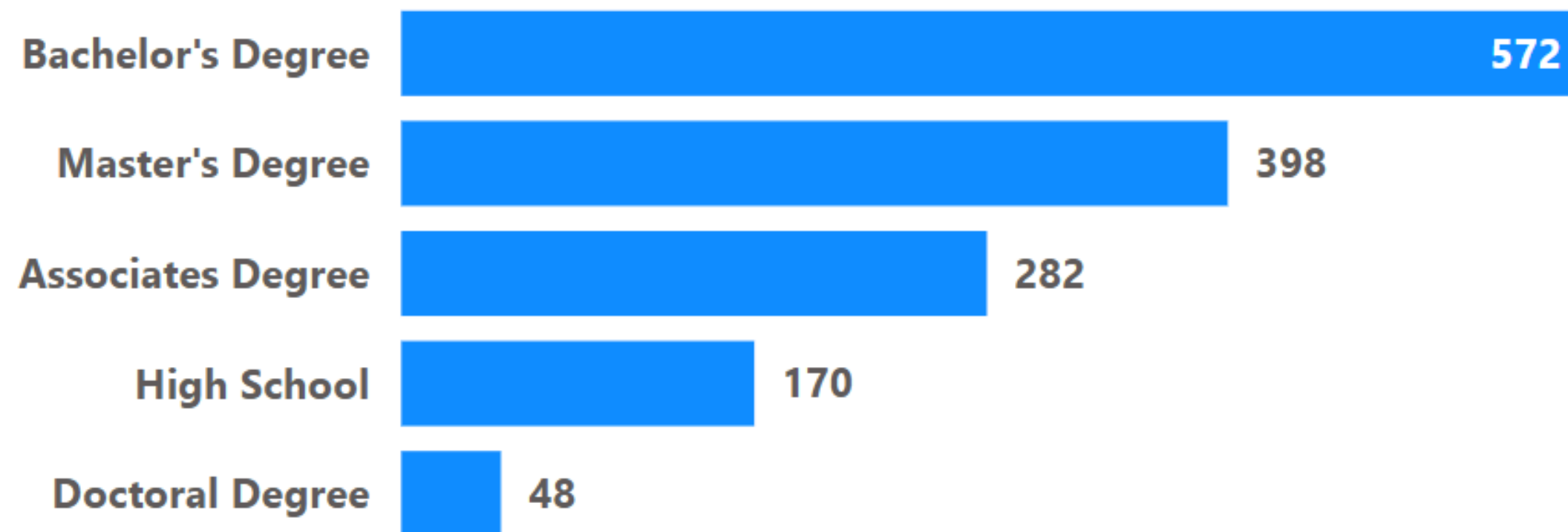


Count of Employee_Number

DATA OVERVIEW



education

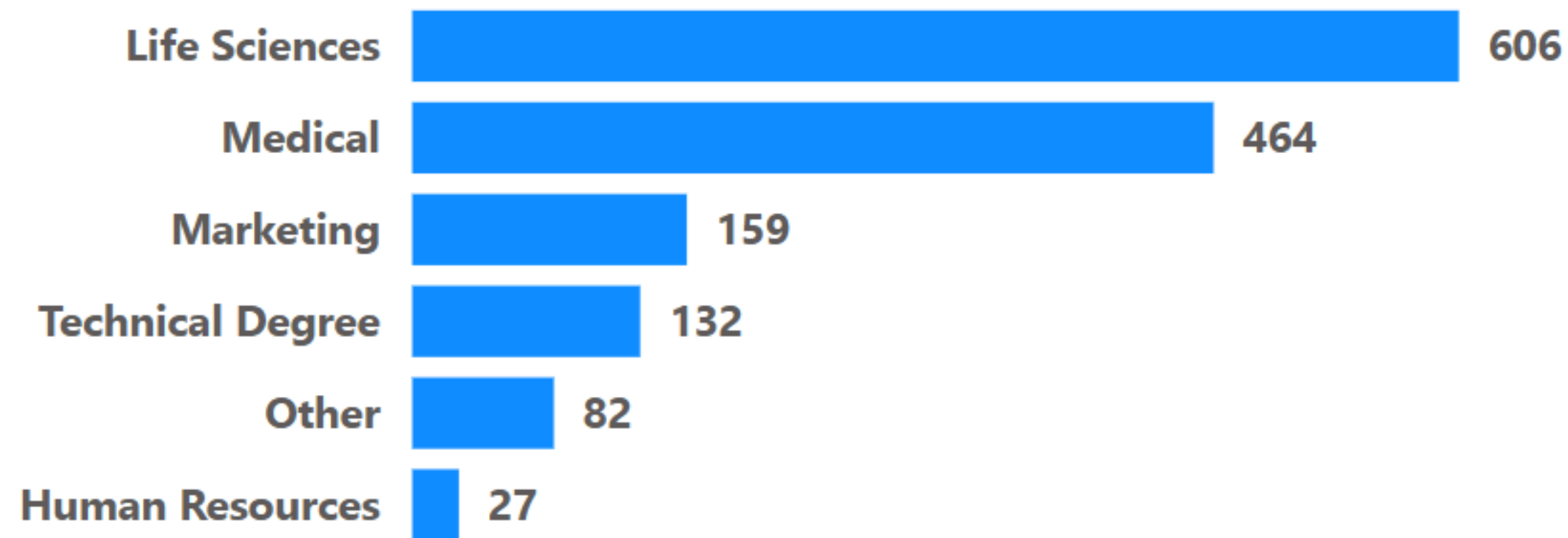


Count of Employee_Count

DATA OVERVIEW

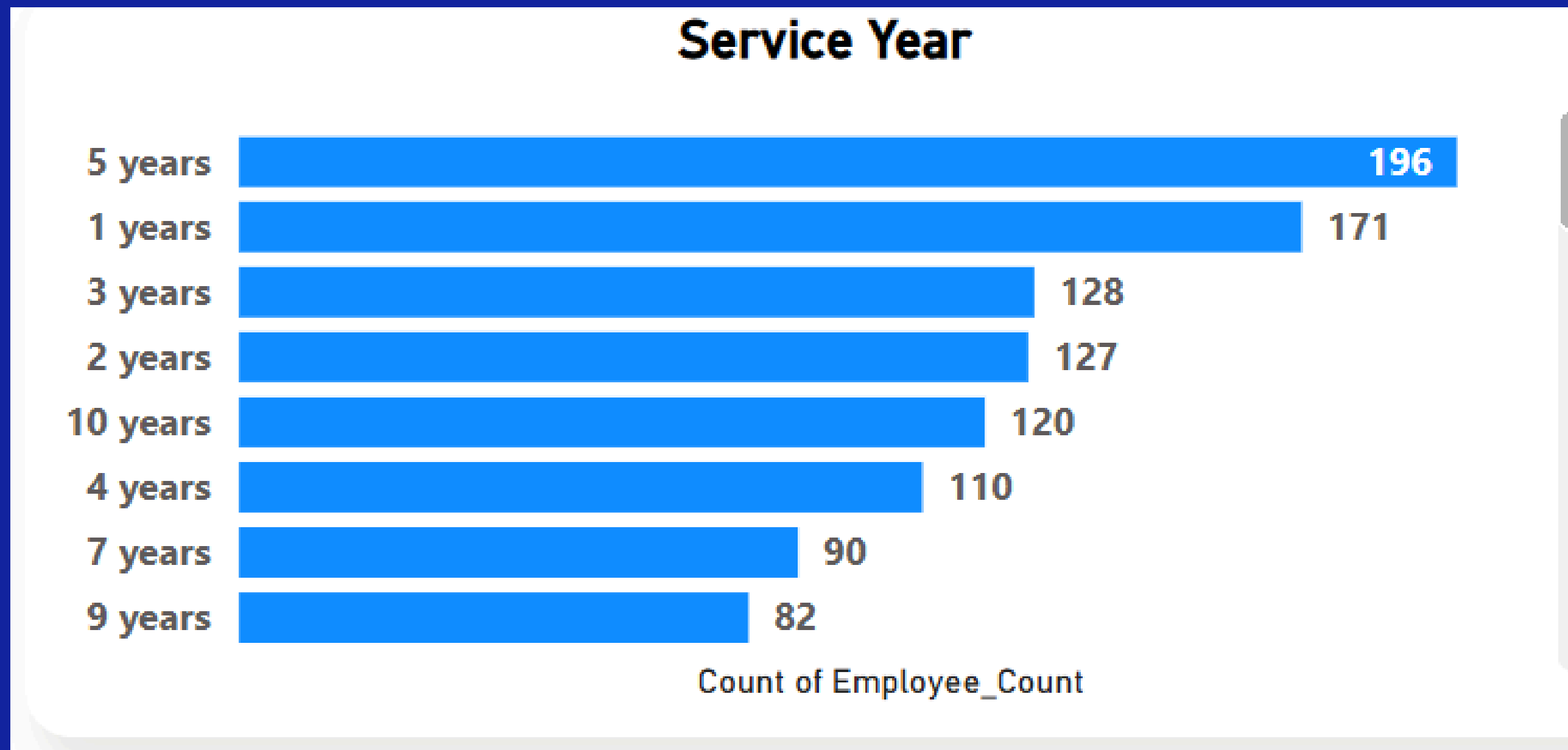


Education Level Distribution



Count of Employee_Number

DATA OVERVIEW



DATA OVERVIEW



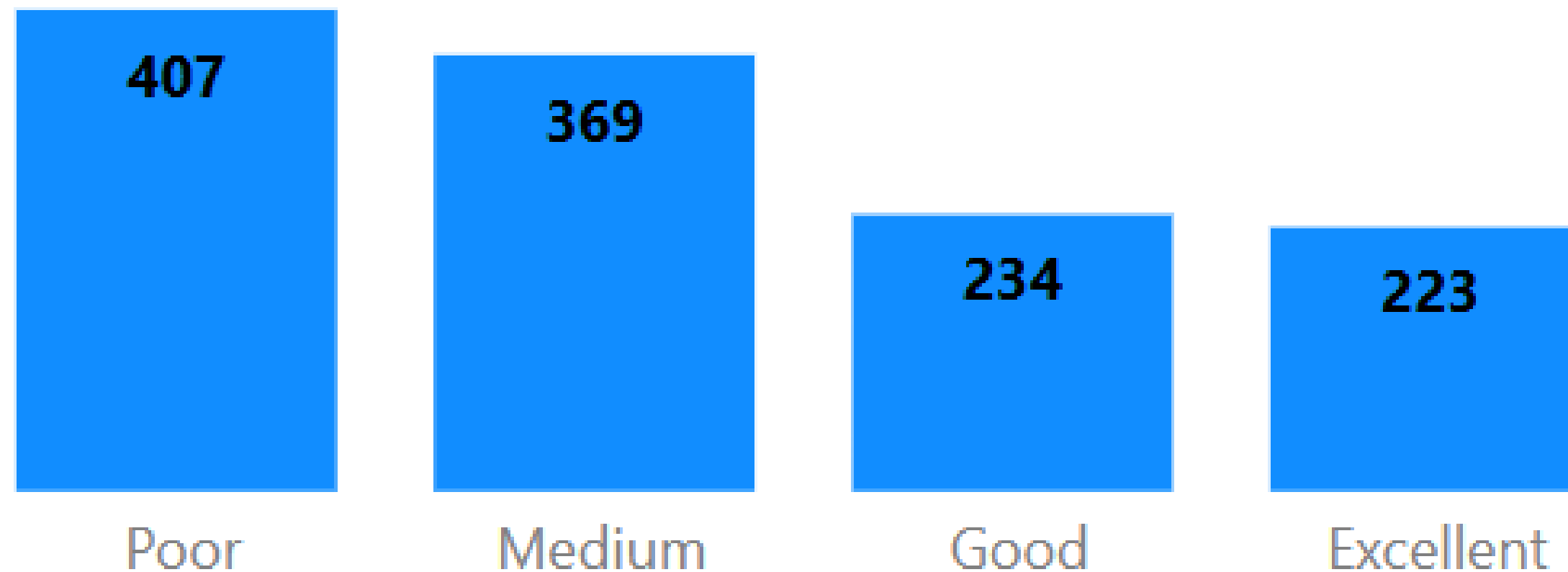
salary for each jop role



DATA OVERVIEW

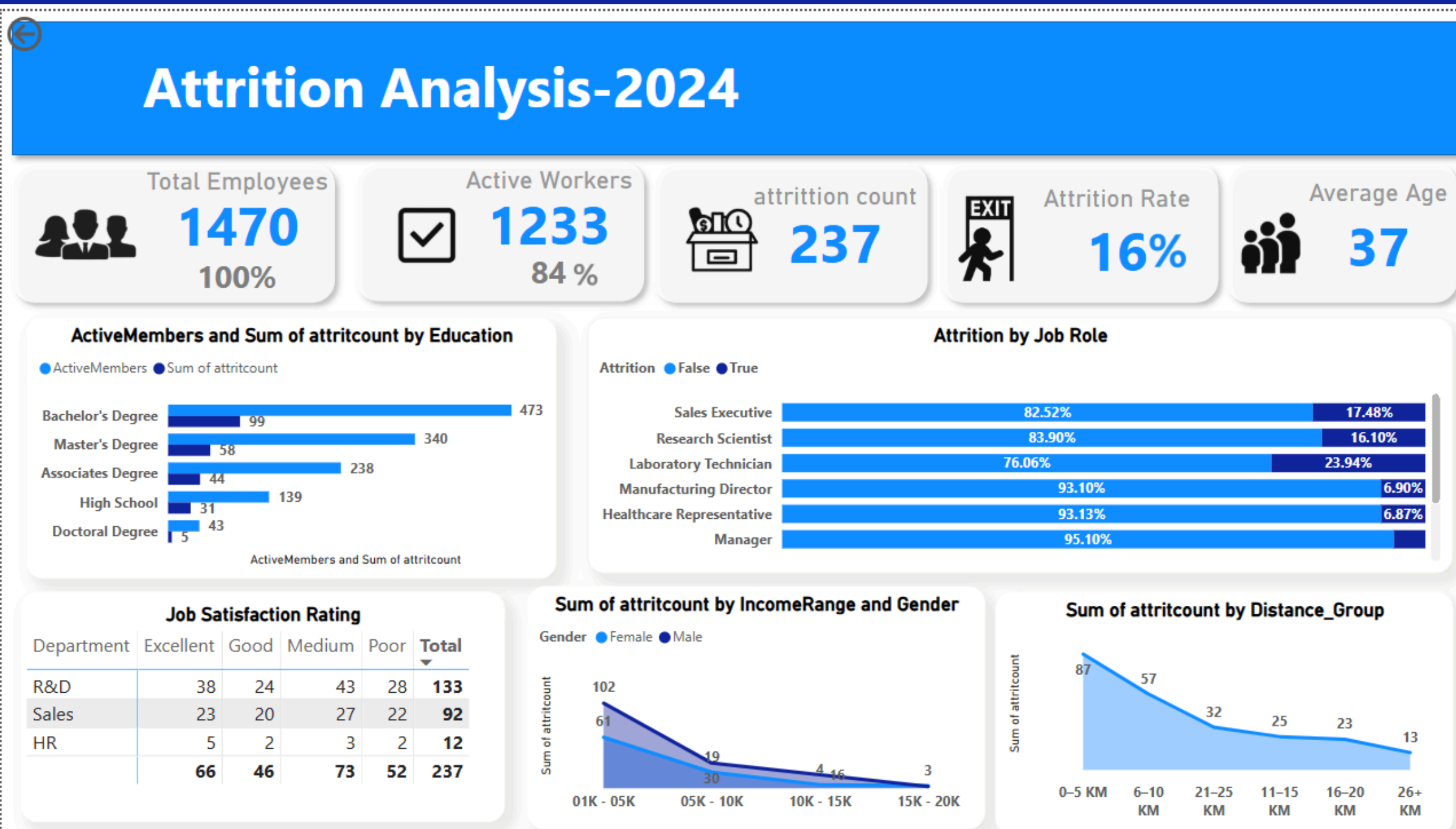


Satisfaction of Current employee

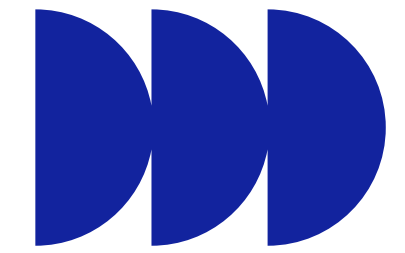


05

ATTRITION ANALYSIS



ATTRITION ANALYSIS



Total Employees
1470
100%

Active Workers
1233
84 %

attrition count
237

Attrition Rate
16%

Average Age
37

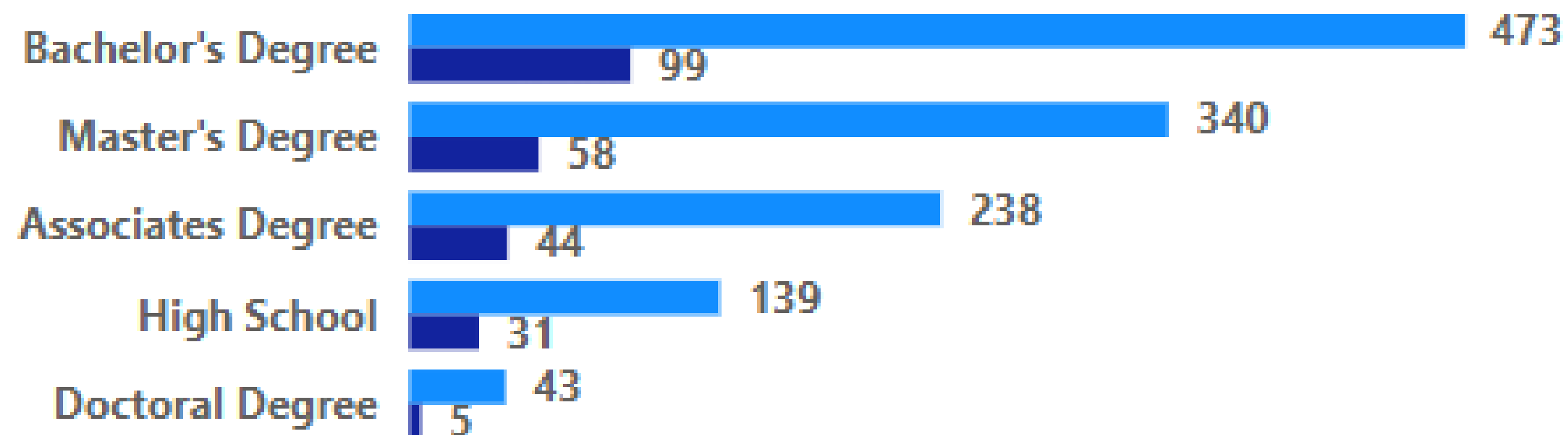
- Total Employees: 1,470
- Attrition Count: 237
- Attrition Rate: 16%
- Active Employees: 1,233
- Average Age: 37

ATTRITION ANALYSIS



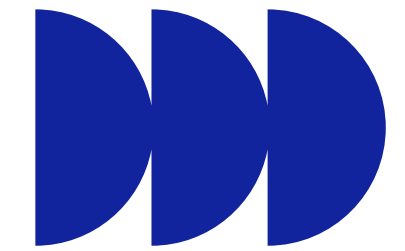
ActiveMembers and Sum of attritcount by Education

● ActiveMembers ● Sum of attritcount



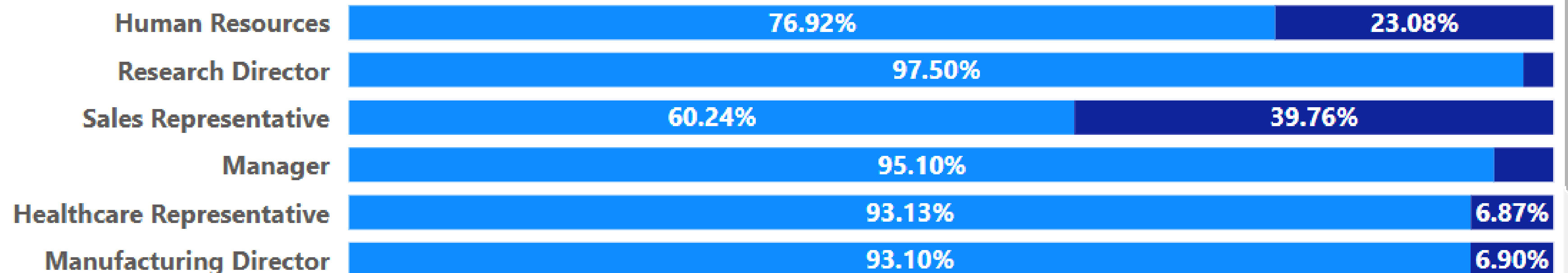
ActiveMembers and Sum of attritcount

ATTRITION ANALYSIS

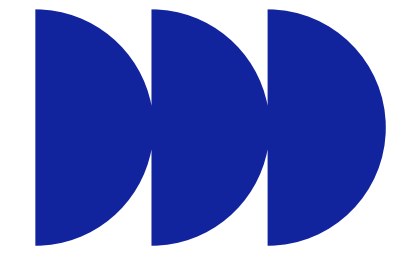


Attrition by Job Role

Attrition ● False ● True



ATTRITION ANALYSIS

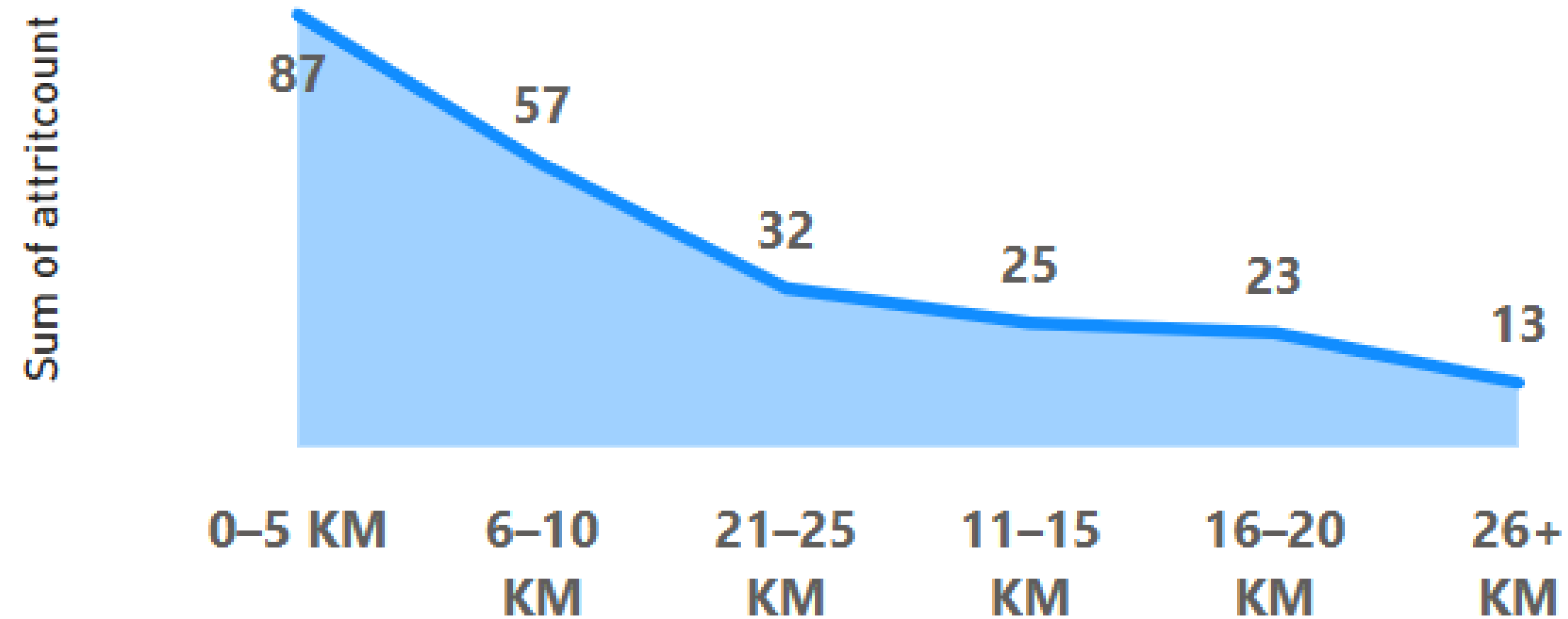


Job Satisfaction Rating					
Department	Excellent	Good	Medium	Poor	Total ▼
R&D	38	24	43	28	133
Sales	23	20	27	22	92
HR	5	2	3	2	12
	66	46	73	52	237

ATTRITION ANALYSIS



Sum of attritcount by Distance_Group

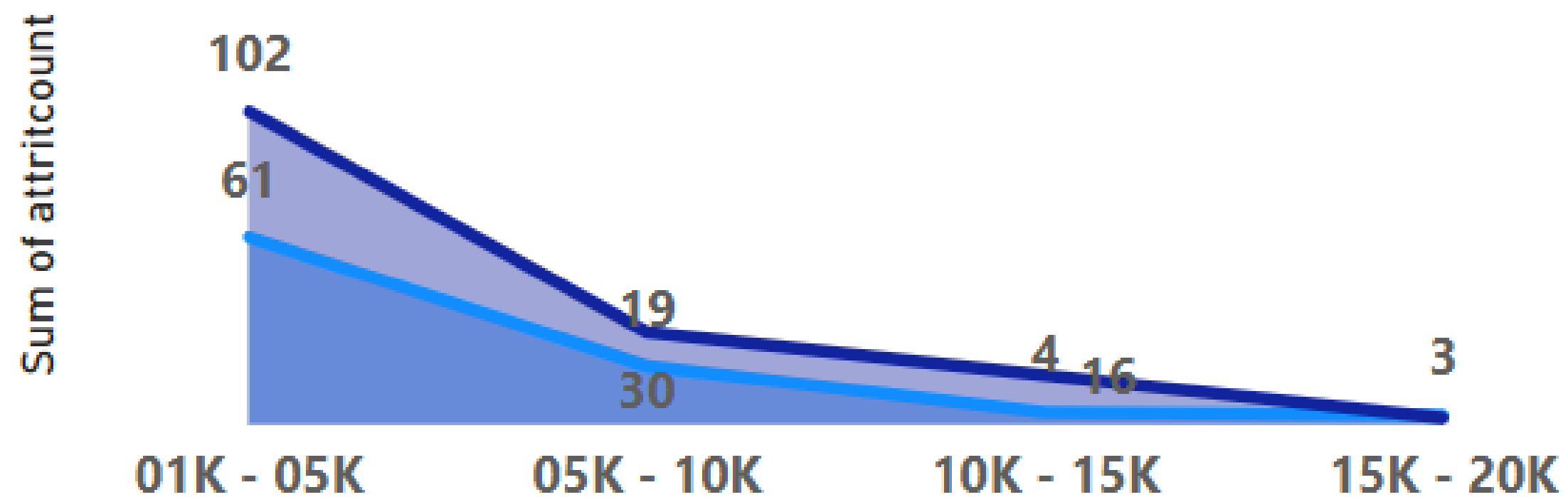


ATTRITION ANALYSIS



Sum of attritcount by IncomeRange and Gender

Gender ● Female ● Male

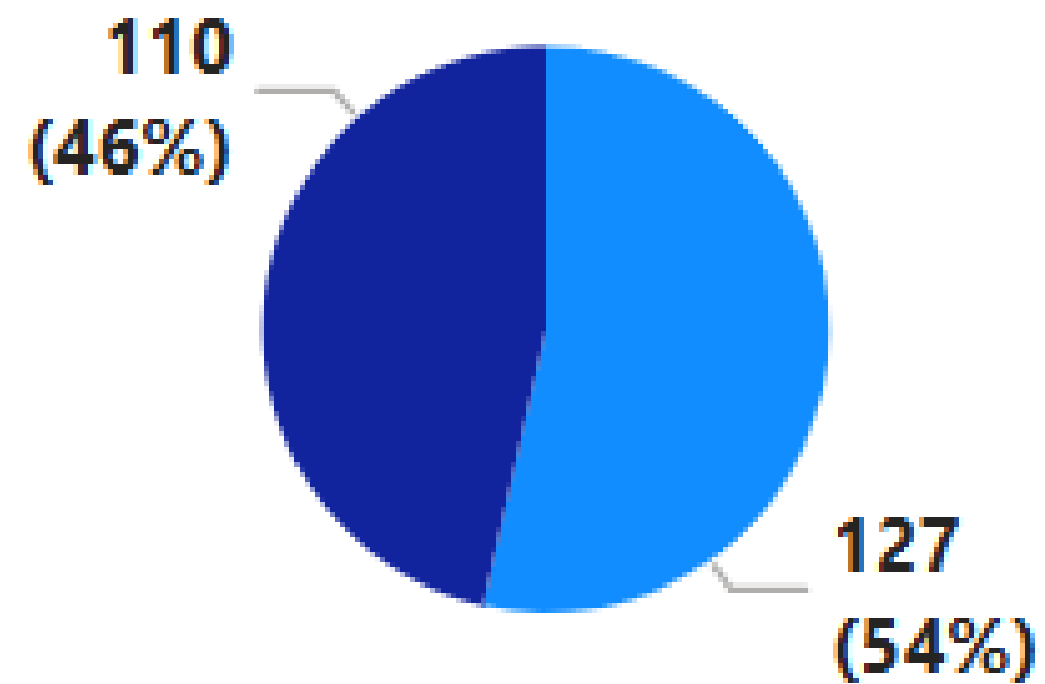


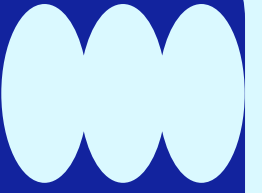
ATTRITION ANALYSIS



**Sum of attritcount by
Over_Time**

● True ● False





RECOMMENDATIONS

- **Improve Job Satisfaction:**

Focus on employees with low to medium satisfaction scores.

- **Target Key Roles:**

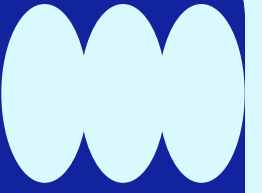
Prioritize retention efforts for lab techs, sales execs, and researchers.

- **Review Pay Structure:**

Re-evaluate salaries, especially in the 0–5K income range.

- **Offer Remote Options:**

Reduce commute stress with hybrid or remote work choices.



RECOMMENDATIONS

- **Start Retention Programs:**

Support younger staff and those with 1–5 years of service.

- **Upskill Employees:**

Offer training and mentoring, especially for lower education levels.

- **Discuss Overtime Policy:**

Open conversations with employees about overtime rules and rewards.

**Reach out
to the HR
Team if
you need
support!**

Email:

essammenna08@gmail.com

thank you

