

HR Analytics Dashboard



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BATCH 27
TEAM 2

Data Overview

Source:

<https://www.kaggle.com/datasets/vidushikataria/hr-employee-attrition-csv>

Data Description:

This dataset contains employee details, focusing on attrition (employee turnover). Key columns include:

- Attrition: Whether the employee left the company (Yes/No).
- Age: Employee's age.
- BusinessTravel: Frequency of business travel.
- Department & JobRole: Employee's department and role.
- Education & EducationField: Employee's education level and field of study.
- Gender & MaritalStatus: Employee's gender and marital status.
- MonthlyIncome : Employee's monthly income .
- JobSatisfaction & WorkLifeBalance: Employee's satisfaction with job and work-life balance.
- PerformanceRating & TrainingTimesLastYear: Employee's performance and training frequency.
- YearsAtCompany: Duration of employment at the company.

Data Preprocessing



- Removed Columns: Certain unnecessary columns were removed from the dataset to focus on relevant attributes.
- Added Conditional Columns: A new column was created by giving some conditions, to classify or categorize data (Educational Details).
- Verified Data Quality: Data profiling tools were used to check for errors, missing values, and consistency across columns.
- Ensured Data types are proper for each column(eg:"Age"-Integer, "Attrition"- text, "BusinessTravel"- text etc.,)



Enhancing data with DAX



```
Attrition Rate =
DIVIDE(
    COUNTROWS(FILTER('HR-Employee-Attrition', 'HR-
Employee-Attrition'[Attrition] = "Yes")),
    COUNTROWS('HR-Employee-Attrition'),
    0
)

AttritionByEducation =
DIVIDE(
    COUNTROWS(
        FILTER(
            'HR-Employee-Attrition',
            'HR-Employee-Attrition'[Attrition] = "Yes" &&
            NOT(ISBLANK('HR-Employee-Attrition'[Education]))),
        COUNTROWS('HR-Employee-Attrition'),
        0
    ) * 100
```

```
RankDepartment =
RANKX(
    ALL('HR-Employee-Attrition'[Department]),
    CALCULATE(AVERAGE('HR-Employee-
Attrition'[PerformanceRating])),
    DESC,
    Dense
)

EligibleforPromotion =
SWITCH(TRUE(),'HR-Employee-
Attrition'[YearsSinceLastPromotion]>3,"Eligible",
"Not Eligible")
```



Enhancing data with DAX



```
Salary Slab =  
SWITCH(  
    TRUE(),  
    'HR-Employee-Attrition'[MonthlyIncome] <= 5000, "Up to  
    5K",  
    'HR-Employee-Attrition'[MonthlyIncome] > 5000 && 'HR-  
    Employee-Attrition'[MonthlyIncome] <= 10000, "5K-10K",  
    'HR-Employee-Attrition'[MonthlyIncome] > 10000 && 'HR-  
    Employee-Attrition'[MonthlyIncome] <= 15000, "10K-15K",  
    'HR-Employee-Attrition'[MonthlyIncome] > 15000, ">15K"  
)
```

```
Experience_Level =  
SWITCH(  
    TRUE(),  
    'HR-Employee-Attrition'[JobLevel]<=2,"Beginner",'HR-  
    Employee-Attrition'[JobLevel]<=4,"Intermediate",'HR-  
    Employee-Attrition'[JobLevel]>4,"Experienced","Unknown"  
)
```

```
Tenure Group = SWITCH(TRUE(),'HR-Employee-  
Attrition'[YearsAtCompany]<=15,"0-15  
Years",'HR-Employee-  
Attrition'[YearsAtCompany]<=30,"15-30  
Years",'HR-Employee-  
Attrition'[YearsAtCompany]>30,"30+  
Years","Unknown")
```

```
WorkPlaceEngagement =  
IF([WorkLifeBalance]>=3 &&  
[EnvironmentSatisfaction]>=3 &&  
[JobSatisfaction]>=3,"High","Low")
```

Attrition Analysis

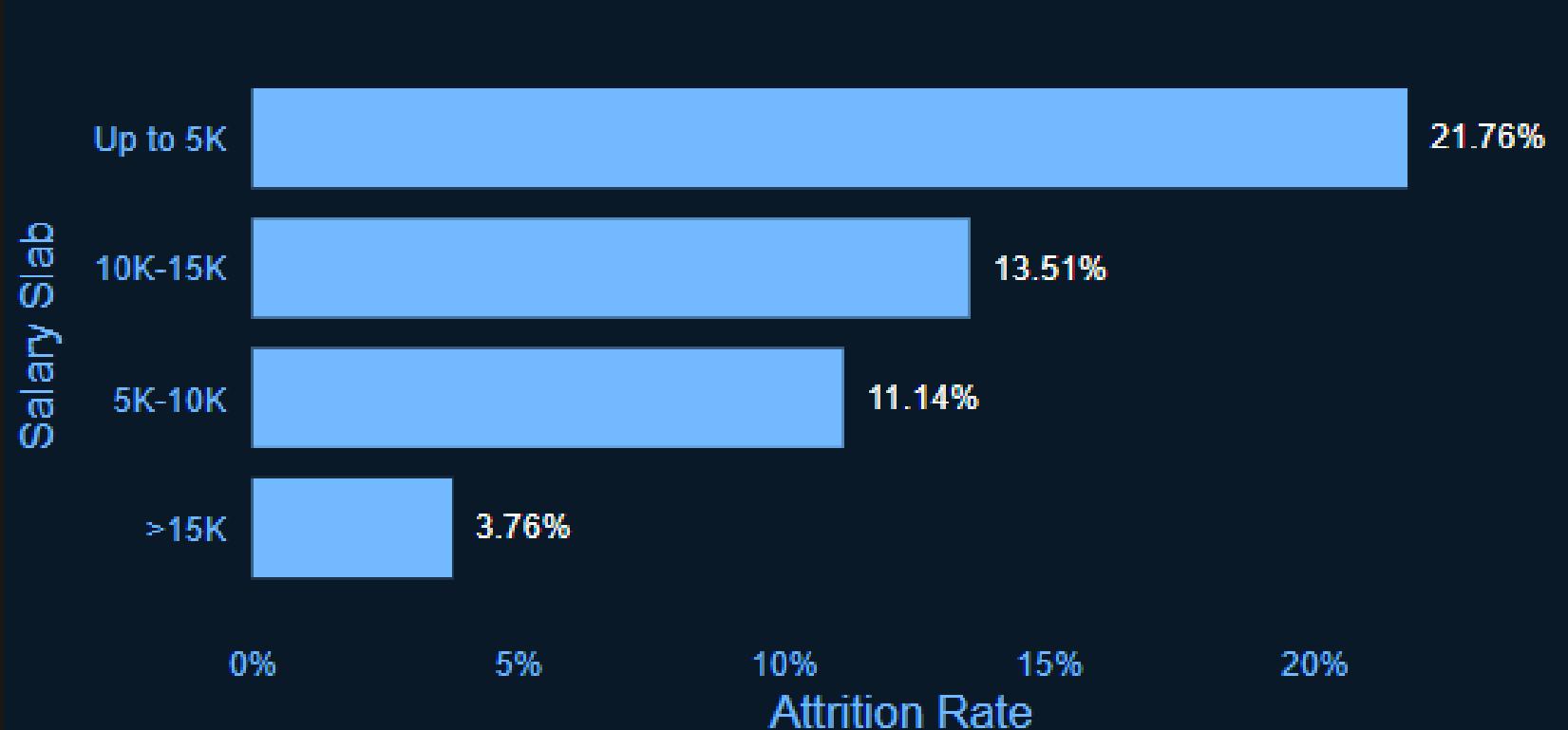
Attrition Count

1470

Attrition Rate

16.1%

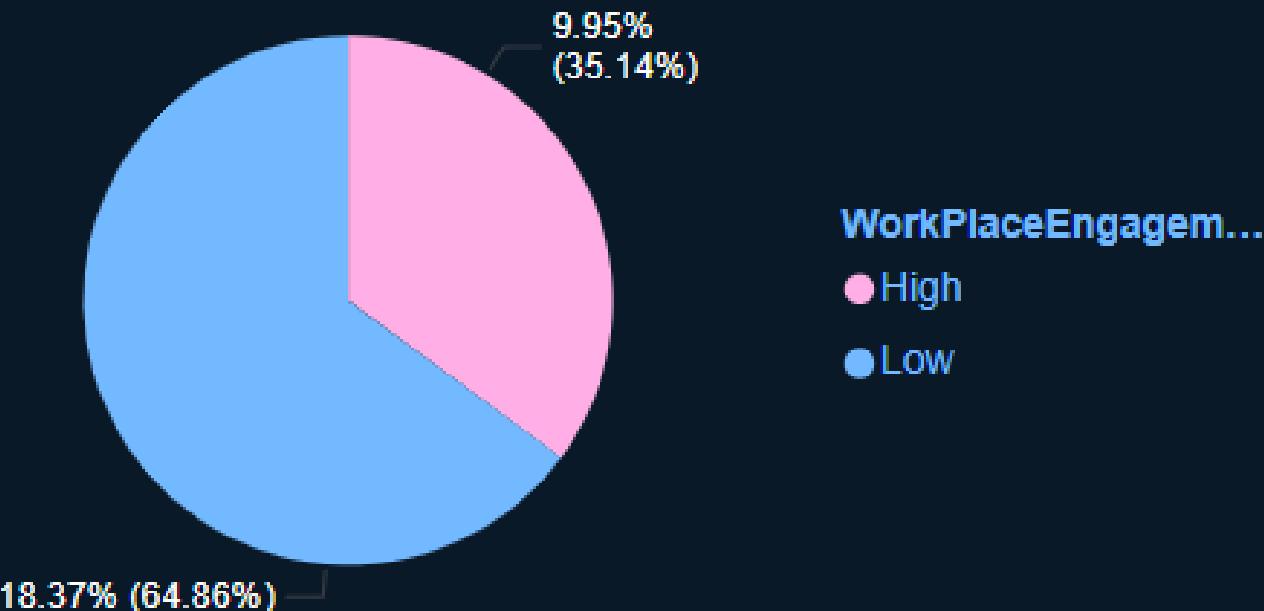
Attrition Rate by Salary Slab



Attrition Rate by Department



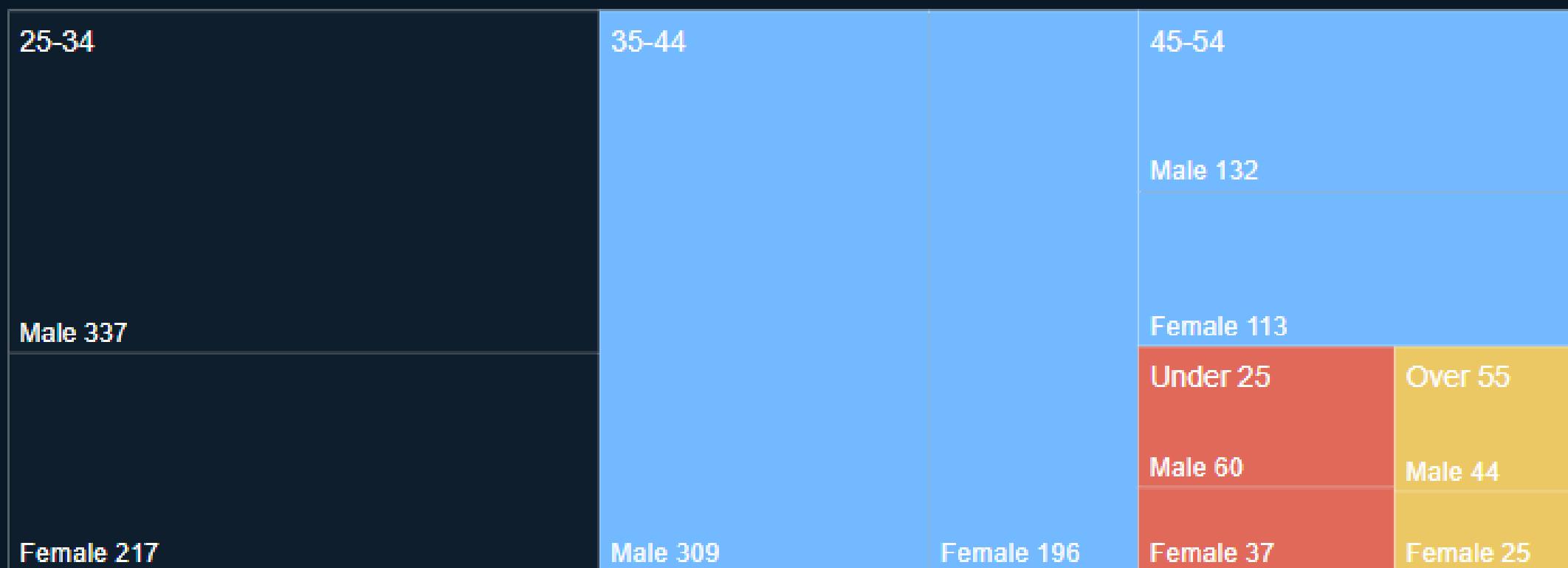
Attrition Rate by WorkPlaceEngagement



Attrition Rate by Education level

Educational Details	AttritionByEducation
No College	18.24
Under Graduate	17.31
Attended College	15.60
Post Graduate	14.57
Doctorate	10.42
Total	16.12

Attrition by Age Group and Gender



Attrition analysis-Key Findings

- * 1470 employees left the company in the past year.
- * Overall Attrition rate is 16.1% .
- * Low engagement is a major factor.
- * Lower-paid employees are more likely to leave.
- * No significant difference in attrition by age or gender.



Problem

The company is experiencing a high attrition rate of 16.1%, indicating a significant number of employees are leaving the organization. This turnover has negative consequences such as increased recruitment costs, loss of productivity, and damage to company morale.

Solution

- * Increase Engagement
- * Competitive Salaries
- * Development opportunities
- * Targeted Retention



Employee Analysis

Count of Employees

1470

Average Salary

6.50K

Department

- Human Resources
- Research & Development
- Sales

JobRole

- Healthcare Representative
- Human Resources
- Laboratory Technician
- Manager
- Manufacturing Director

Number of Employee by Gender

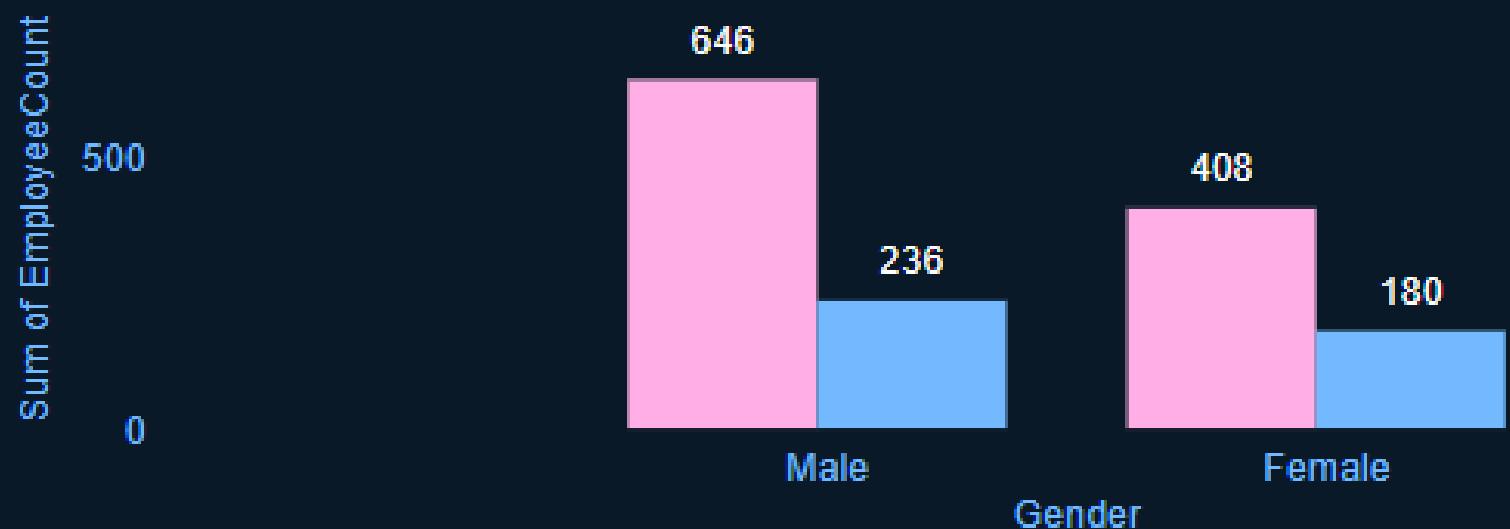
	Male	Female
	882	588

Tenure vs Experience level Analysis

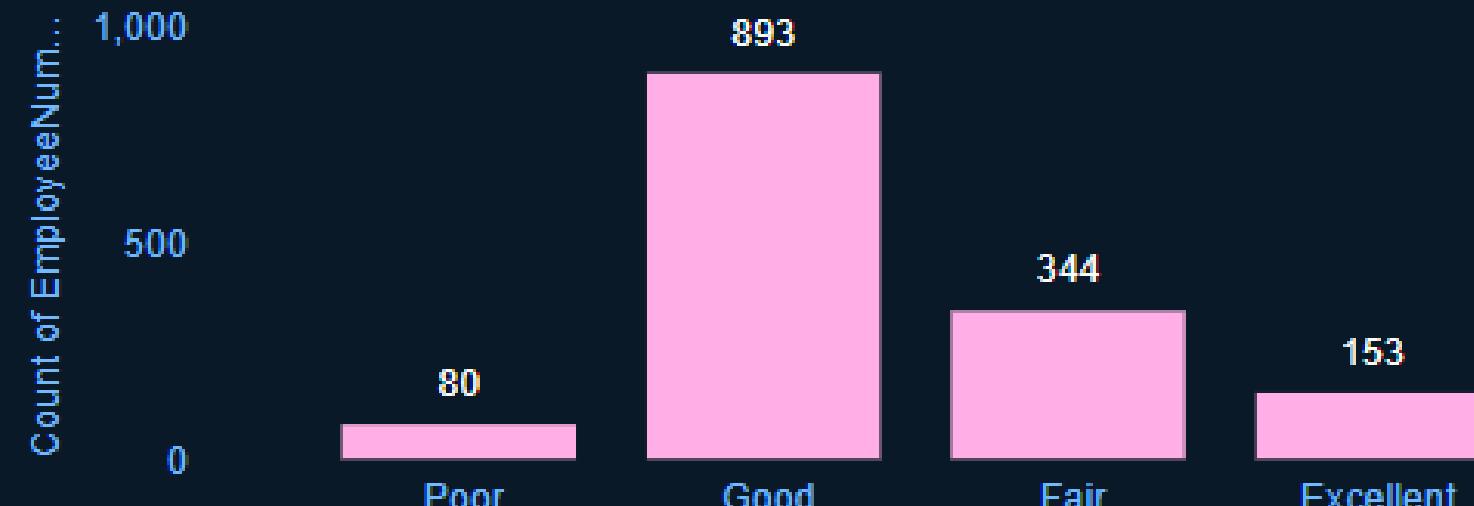
Tenure Group	Beginner	Experienced	Intermediate	Total
0-15 Years	1054	33	245	1332
15-30 Years	23	28	71	122
30+ Years		8	8	16
Total	1077	69	324	1470

EmployeeCount by Gender and OverTime

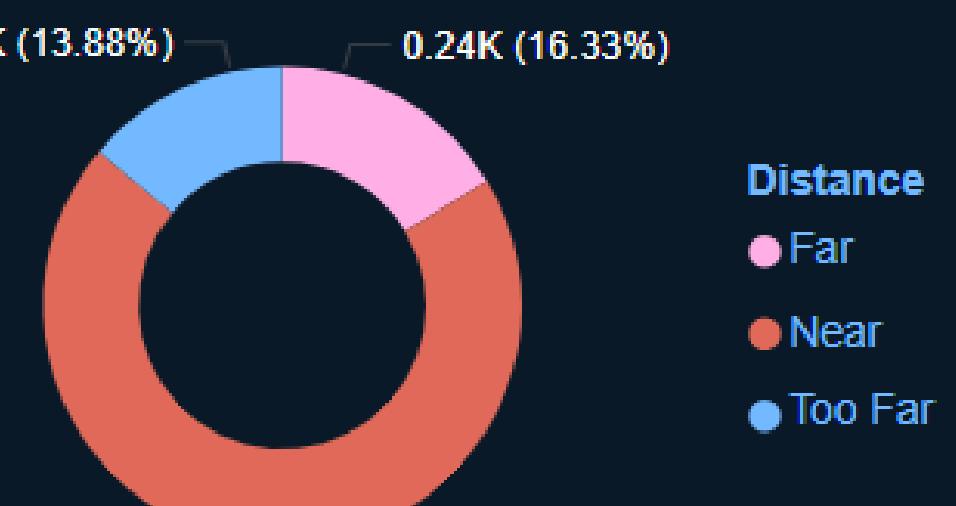
OverTime • No • Yes



Count of Employee by WorkLifeBalance



Count of Employee by Distance



Insights:

The employees with good worklife balance had the highest Count of EmployeeNumber at 61, followed by Fair, Excellent, and Poor.

For employees who have good work life balance account for 59.80% of Count of EmployeeNumber.

Across all 4 WorkLifeBalanceCategory, Count of EmployeeNumber ranged from 80 to 893.

Employee analysis-Key Findings



- * Average salary is 6.50K across all departments.
- * A significant portion of employees report a "Good" work-life balance.
- * Most employees live within a "Near" distance from the workplace.



1. Enhance Work-Life Balance

- * Implement flexible work arrangements
- * Offer wellness programs

2. Address Distance Concerns

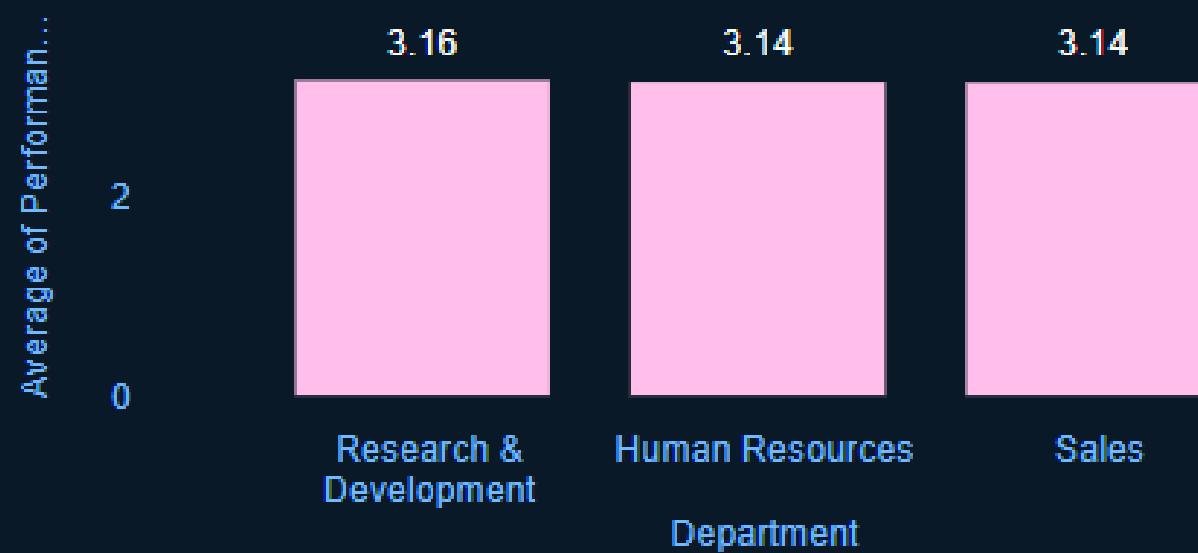
- * Improve commuting options
- * Explore alternative work arrangements

Performance Analysis

Rank of the Department based on PerformanceRating

Department	RankDepartment
Research & Development	1
Human Resources	2
Sales	3

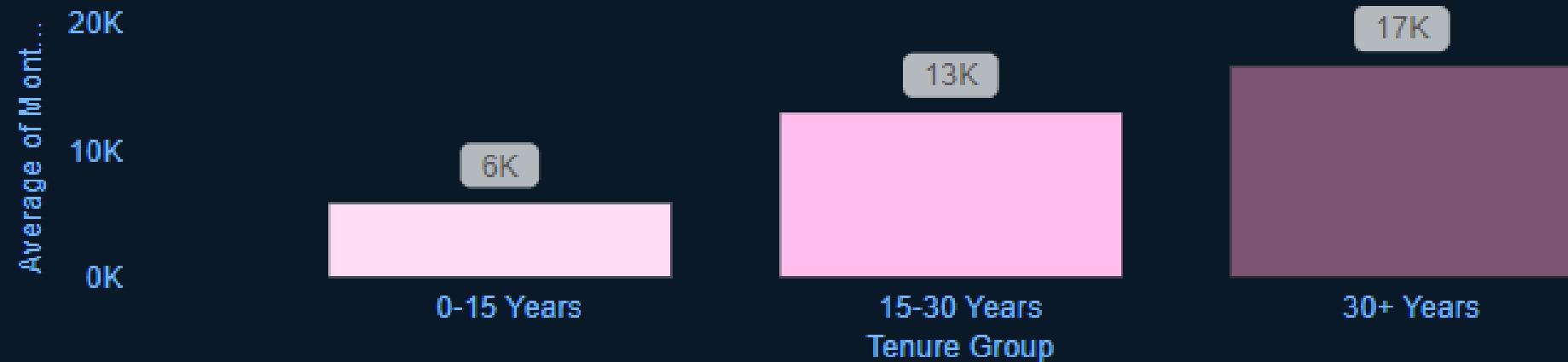
Average of PerformanceRating by Department



Average of PerformanceRating by TrainingTimesLastYear

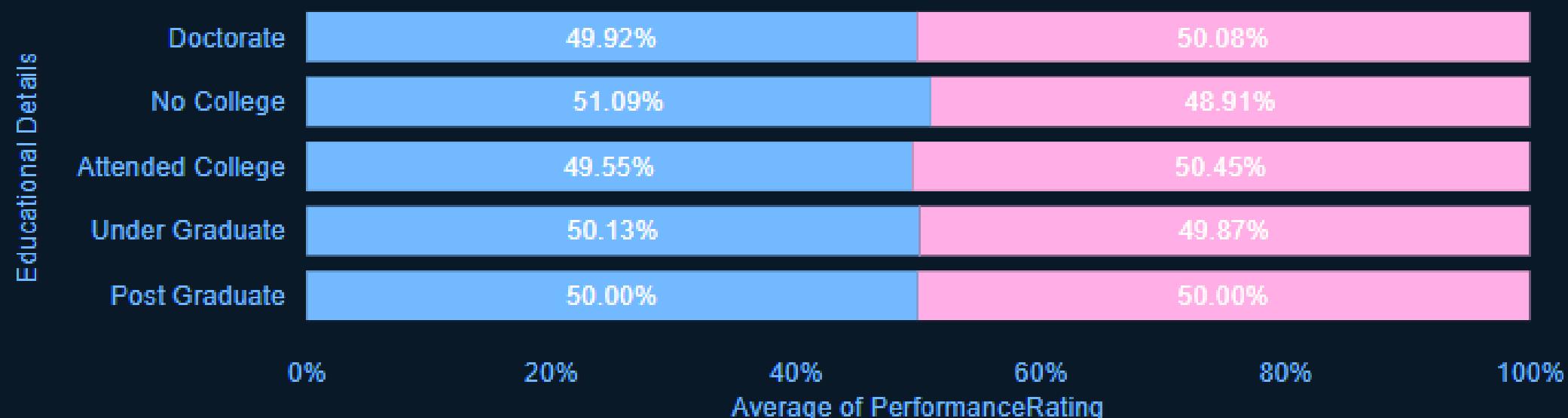


Average of MonthlyIncome by Tenure Group



Average of PerformanceRating by Educational Details and Gender

Gender ● Female ● Male



Insights:

30+ Years had the highest Average of MonthlyIncome at 16,602.38, followed by 15-30 Years at 12,932.96 and 0-15 Years at 5,792.68.

0-15 Years had 5,792.68 Average of MonthlyIncome, 15-30 Years had 12,932.96, and 30+ Years had 16,602.38.

No College in Gender Female made up 10.31% of Average of PerformanceRating.

Average Average of PerformanceRating was higher for Female (3.18) than Male (3.16).

Performance analysis-Key Findings

- * Tenure & Income: 30+ years tenure has highest average income.
- * Department Performance: R&D leads, followed by HR and Sales.
- * Gender: Females have slightly higher average performance rating.
- * Education: Doctorates have the highest average performance rating.
- * Training: There is no particular pattern followed and hence we can say there is no relationship between training time and performance.



Improvement Recommendations:

- * Reward & Recognition: Incentivize high performers and long-tenured employees.
- * Training & Development: Target training for departments with lower performance.
- * Mentorship & Coaching: Pair high-performers with those needing improvement.
- * Diversity & Inclusion: Foster an inclusive work environment.
- * Employee Engagement: Implement initiatives to boost engagement.



Thank You!!



https://github.com/Sowmiya-S-05/Infosys_Springboard-Main-Project

