



CAPSTONE PROJECT 03

Human Resource Analysis For Hiring and Retaining Employee

by Jaeden Ng

Executive Summary

Objective

Post aftermath of the COVID-19 pandemic, the medical sales division wants to budget their expenditure for effective operations and management. The management team wants to find out how the employees is performing in company during this economic down period. The analysis will be done on HR database for last year, and will be focus on the 3 main areas as follows:

1. Employees background
2. Employees performance analysis
3. Attrition analysis

With the insights gains, the company can improve individual staff performance, and also drives decision making in retaining talents, and better manage budgets for hiring to help the business in the recovering economy.

Dataset from Kaggle

Source: <https://www.kaggle.com/clarkamistad/ibm-hr-performance-dataset>

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Dataset

IBM HR Performance Dataset

clark • updated 2 years ago (Version 1)

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Download (50 KB) New Notebook

📊 Usability 4.1

🏷️ Tags software

Data Explorer

222.63 KB

📄 IBM_HR_Data.csv

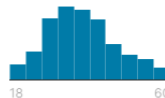

< IBM_HR_Data.csv (222.63 KB)

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Detail Compact Column 10 of 35 columns

About this file

obtained from: <https://www.ibm.com/communities/analytics/watson-analytics-blog/hr-employee-attrition/>

# Age	✓ Attrition	▲ BusinessTravel	# DailyRate	▲ Departm
	<div>true 0 0%</div> <div>false 0 0%</div>	<div>Travel_Rarely 71%</div> <div>Travel_Frequently 19%</div> <div>Other (150) 10%</div>		<div>Research & Sales</div> <div>Other (63)</div> <div>Sales</div> <div>Research</div>
41	Yes	Travel_Rarely	1102	Sales
49	No	Travel_Frequently	279	Research

Employee Overview

1470

EmployeeCount

Female

Male

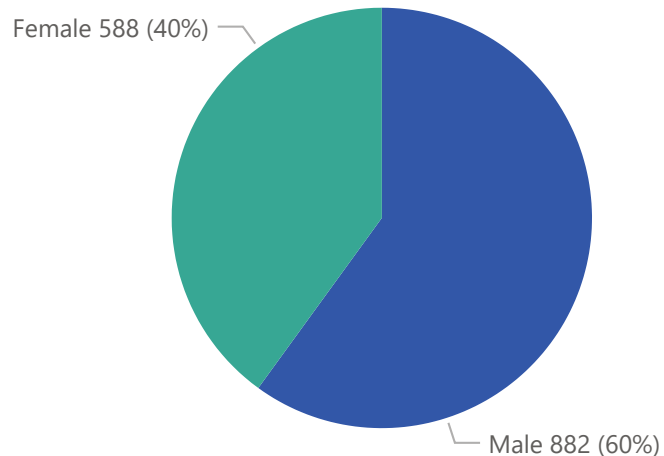
1233

Active

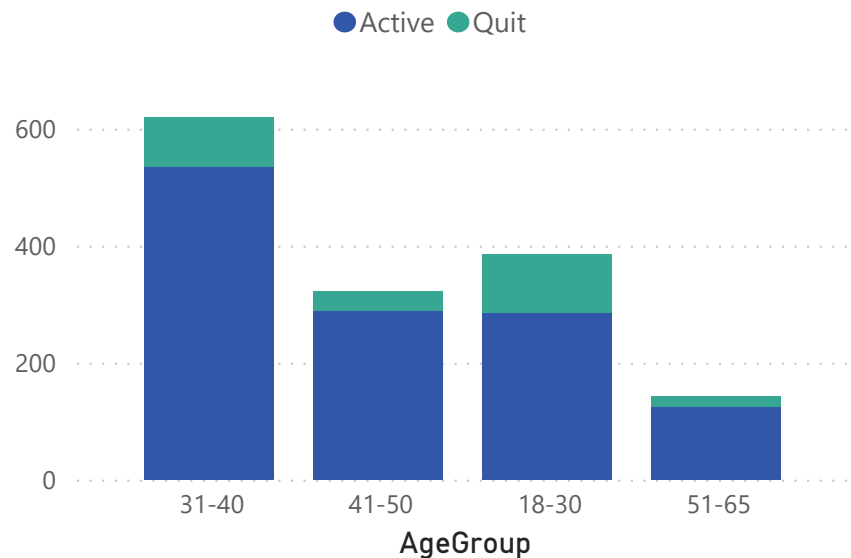
237

Quit

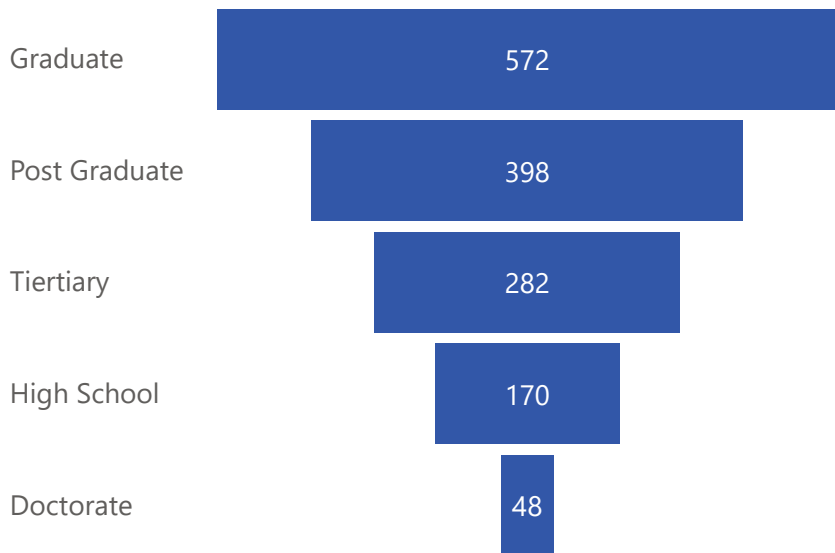
Gender Distribution



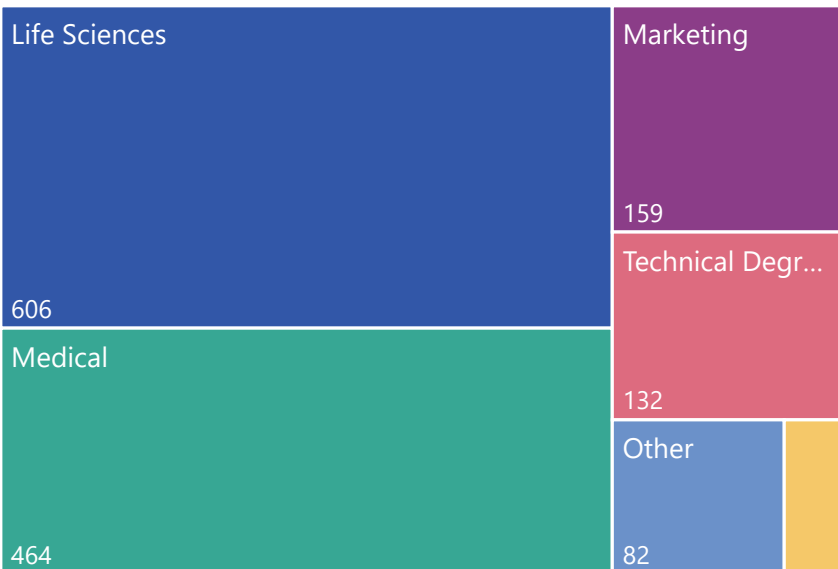
Age Distribution



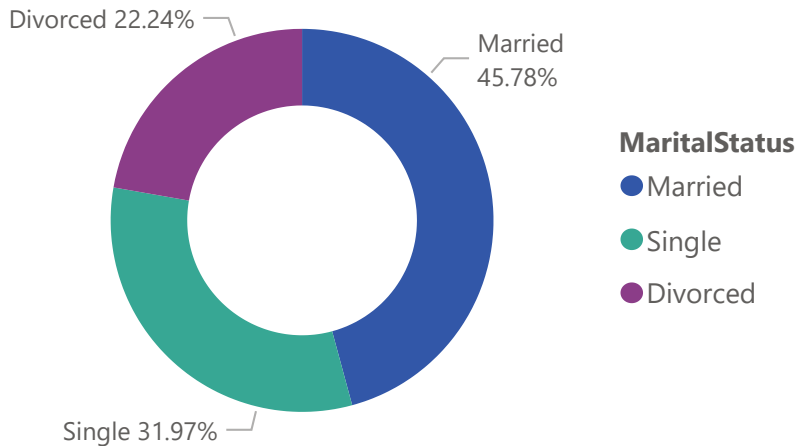
Education Level



Field of Expertise

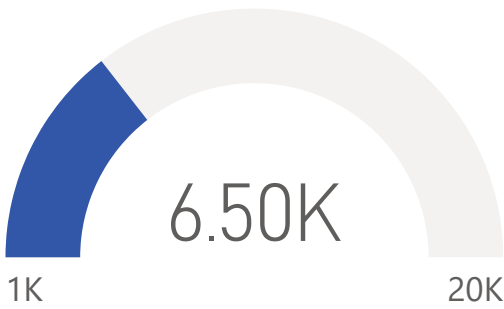


Employee Marital Status



Performance Analysis

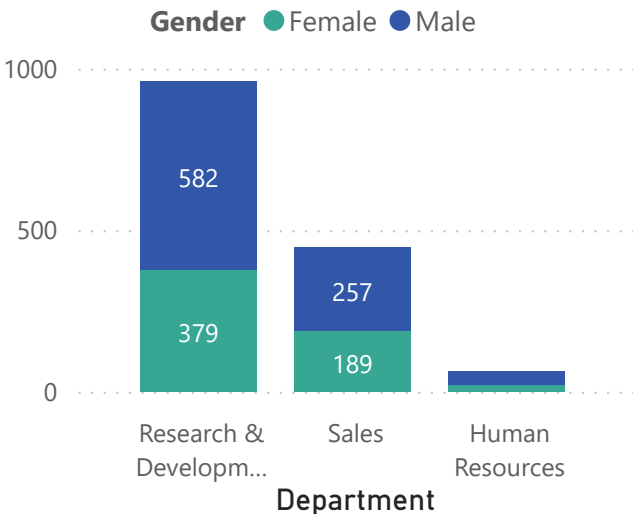
Average Monthly Income



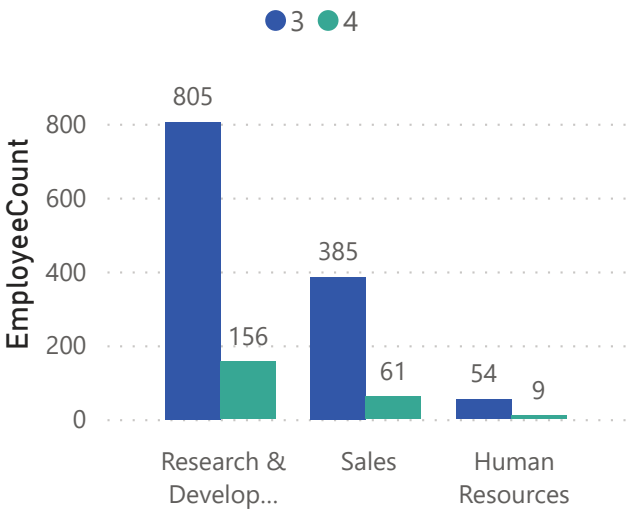
Department

All

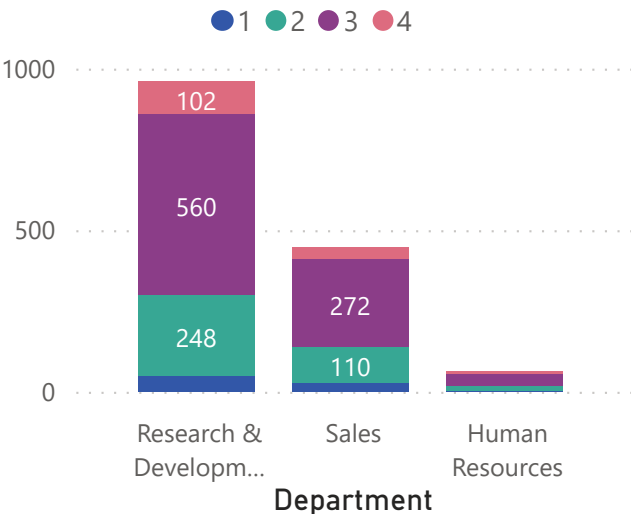
Department Distribution



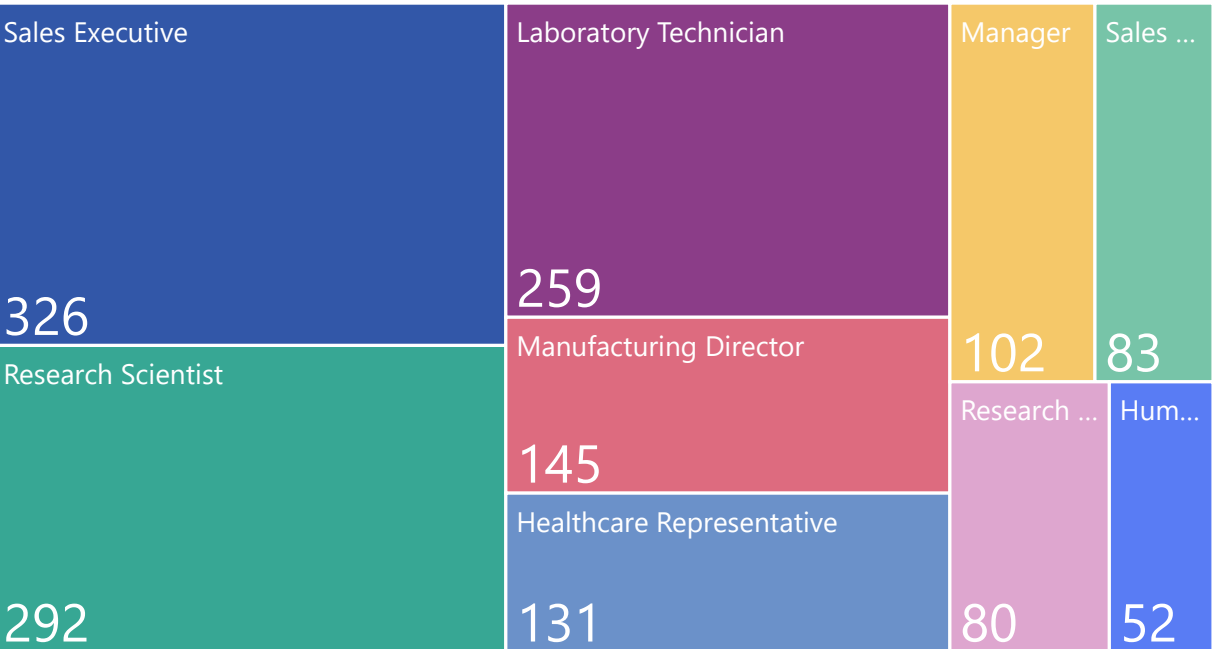
Performance Rating by Department



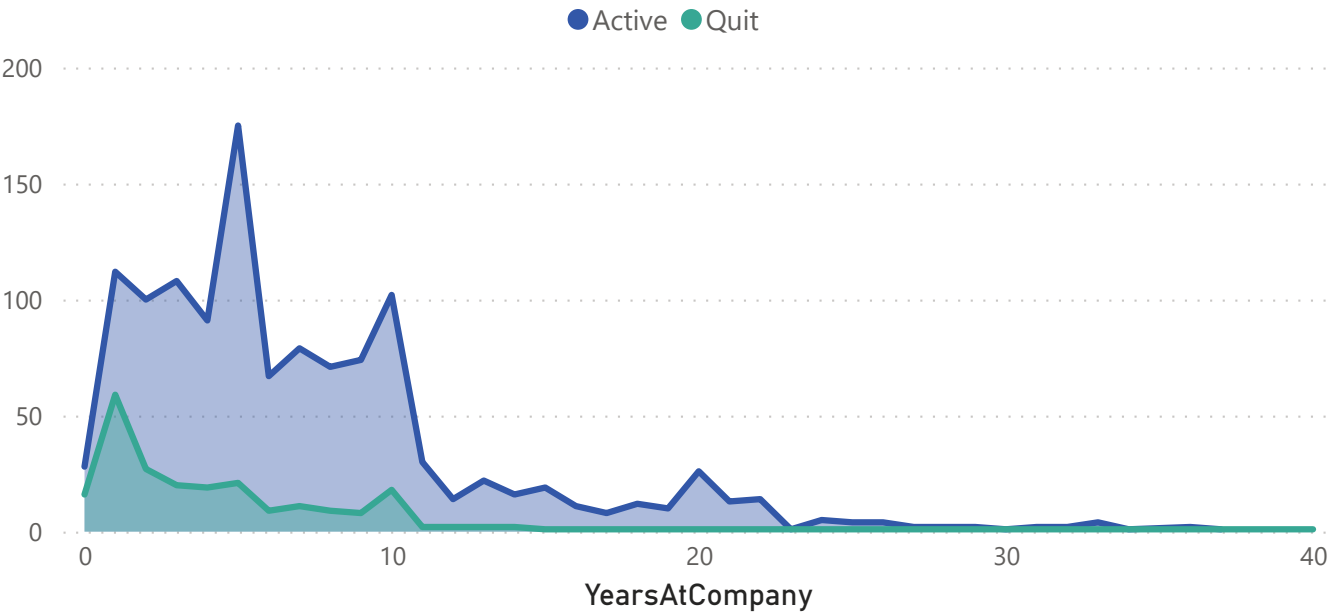
Employee Job Involvement



Job Role

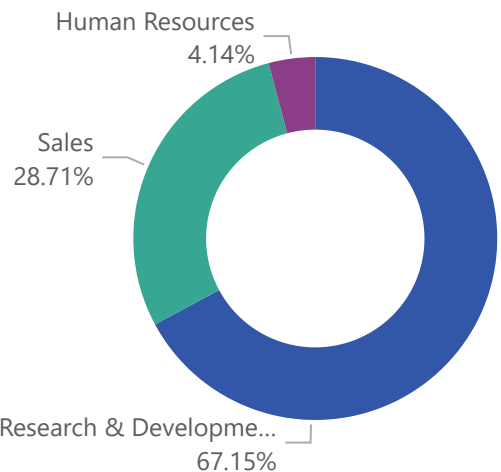


Employment Status

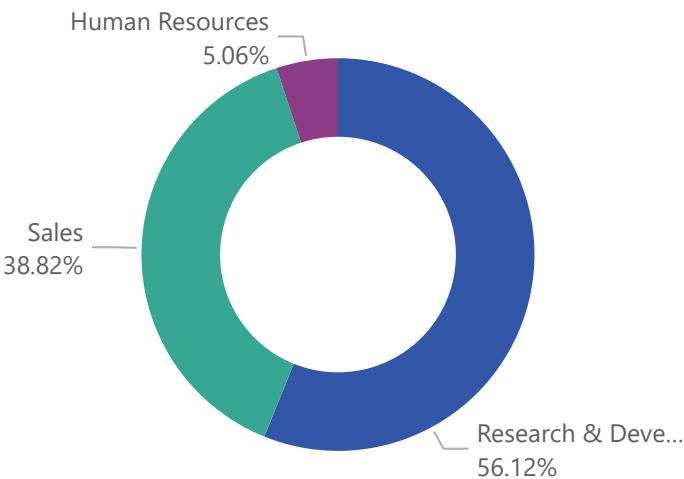


Attrition Analysis

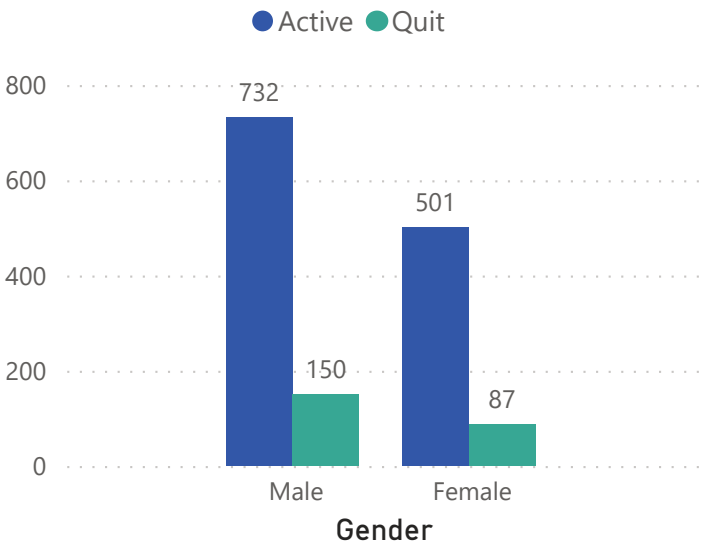
Active Employee Distribution by Department



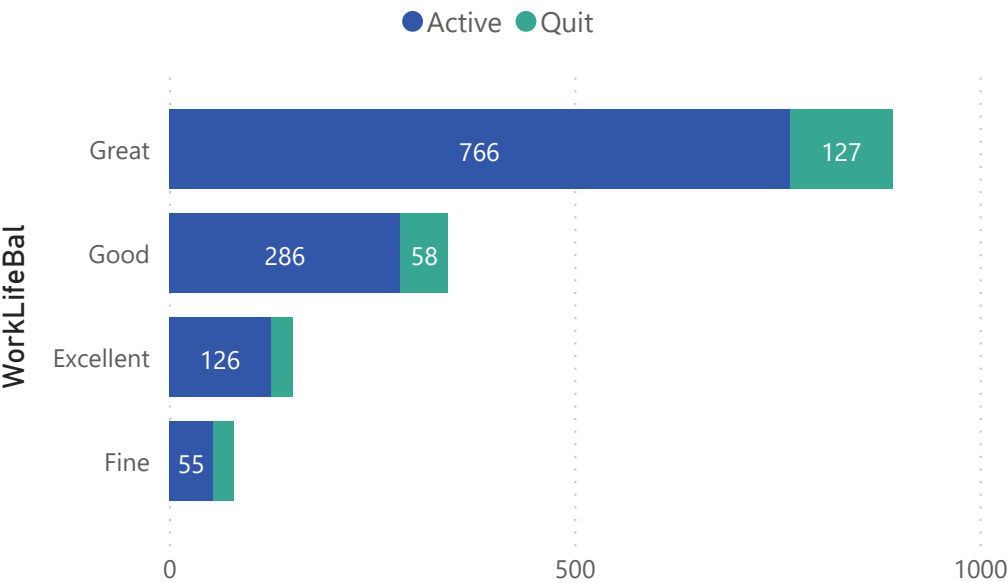
Quit Employee Distribution by Department



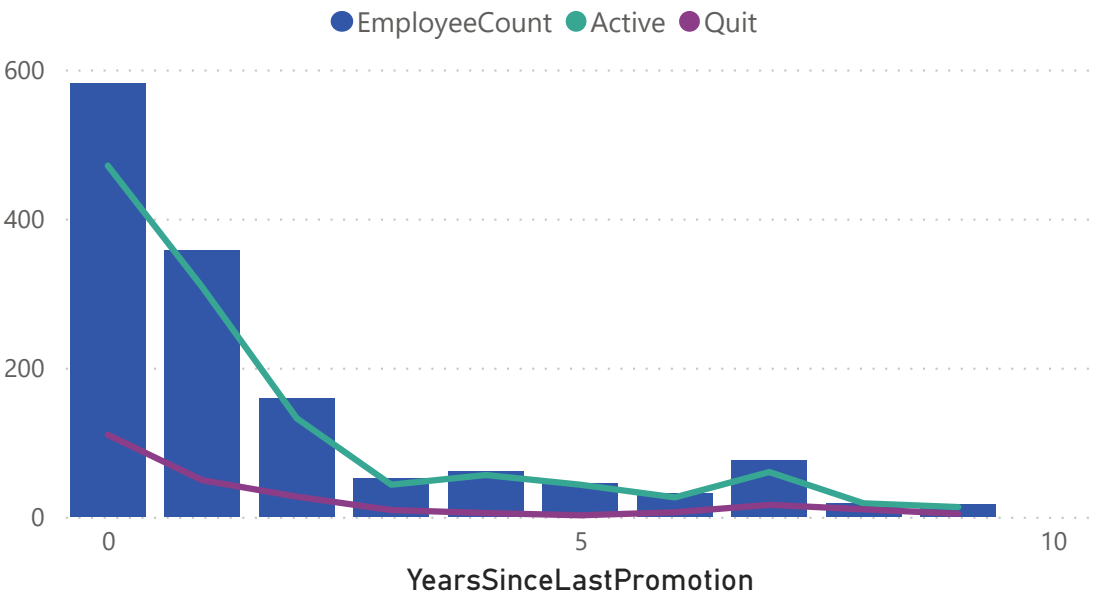
Attrition by Gender



Employee Work Life Balance



Attrition Distribution with Employee Promotion



Human Resources

63
Total Employee

51
Active

12
Quit

Research & Dev...

961
Total Employee

828
Active

133
Quit

Sales

446
Total Employee

354
Active

92
Quit

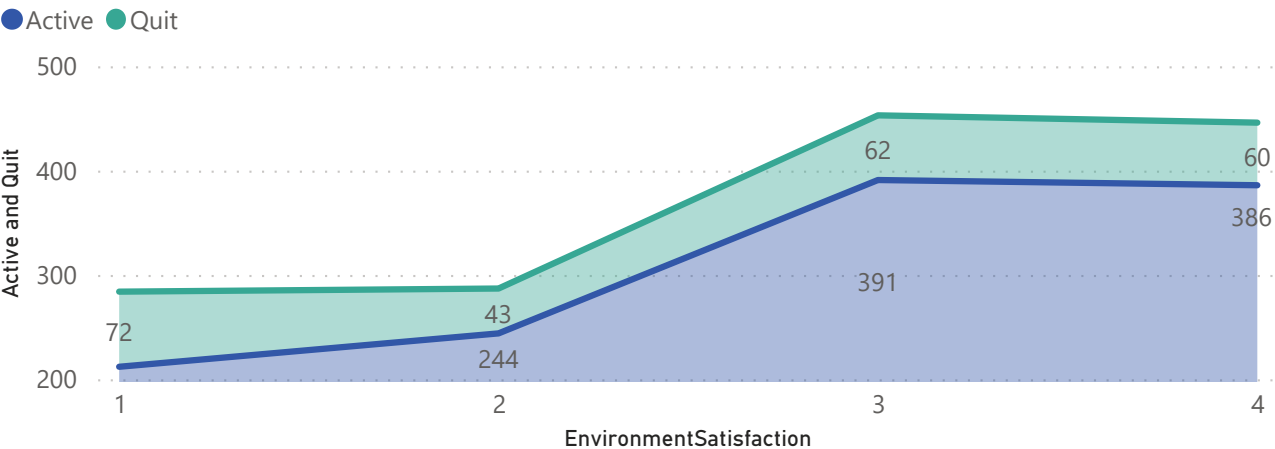
Attrition Analysis Details

Human Resources

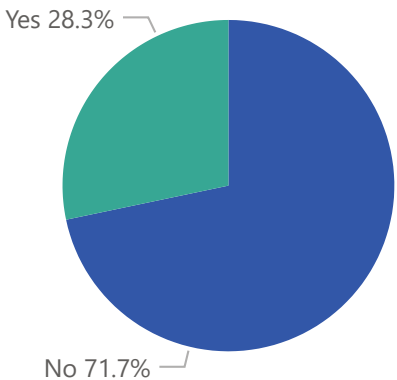
Research & Development

Sales

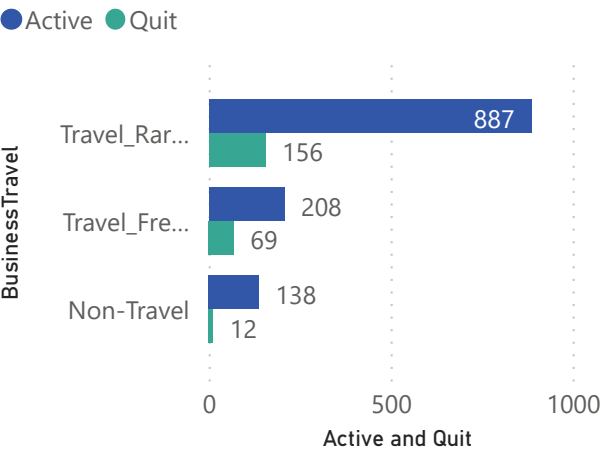
Employee Satisfaction



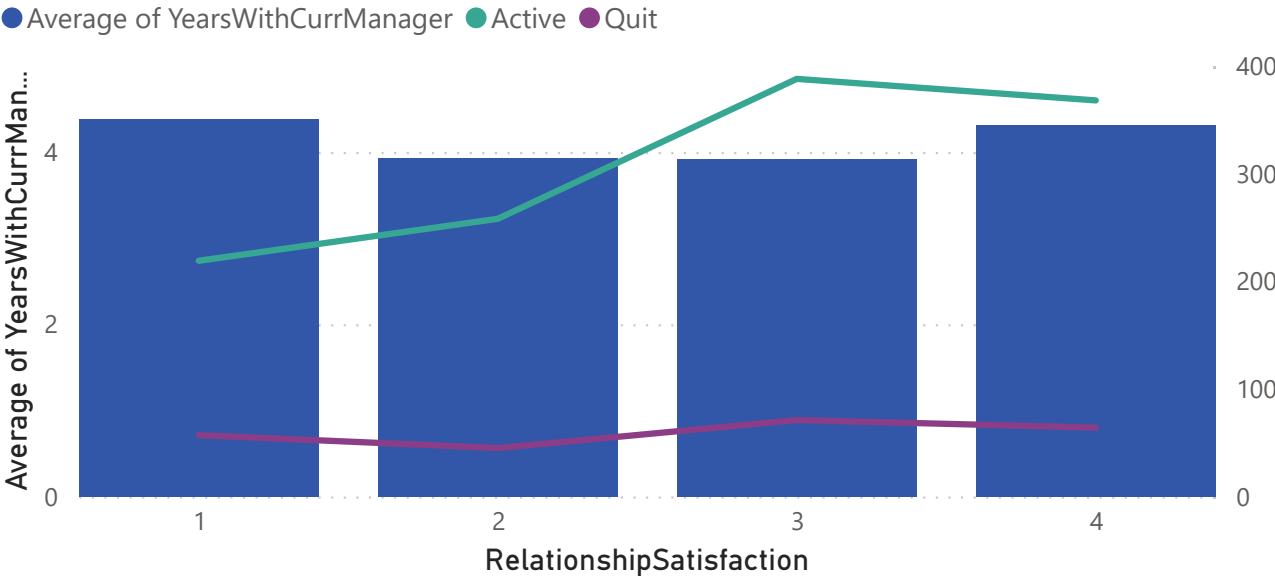
Employee Over Time



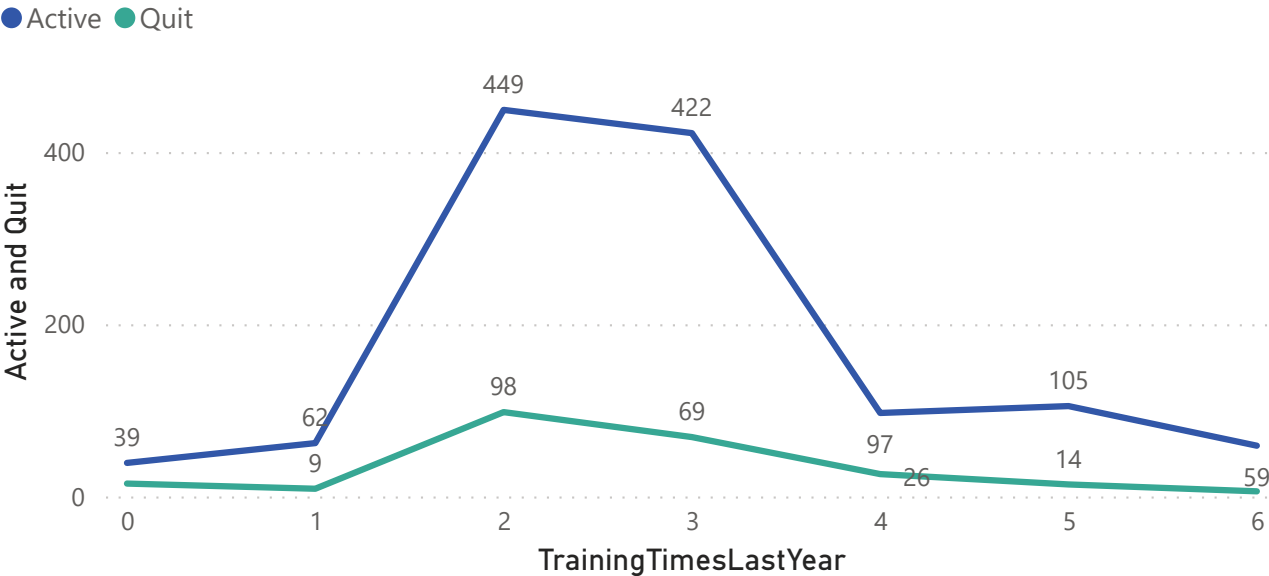
Employee Business Travel



Relationship Satisfaction with Existing Manager



Employee Training Times Last Year



Findings & Recommendations

Findings

1. Significant number of employees has a degree in the field of life sciences and medical, majority age of 31-40.
2. Significant number of employees work with the company for less than 10 years.
3. Highest churn of employees are males between age of 31-40 from the research and development department.
4. Employee will leave the company within the first 3 years if they are not promoted to a senior role.
5. Estimate about 20% of the employees that receive training 2-3 times last year has left the company.

Recommendations

1. Review the age of hiring new employees in the company, consider hiring more experienced professional to train the younger employees.
2. Encourage longer tenure of employment and identify areas to engage and involve interest across different job functions or projects.
3. Retaining staff by reviewing and prospecting potential employee due for promotion.