

What makes employees stay within a company

A case study of employee's attrition in a company

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Step 1 : Business Problem

A fictional healthcare company wants to analyse what kind of factors that determine employee to stay within the company and want some suggestions to attract and retain talents within the company.

HR Manager requested the data analysts to collect data from past and present employees.

Problem 1 – What are the factors impacting attrition?

Problem 2 – What business recommendations can be made based on the factors?

Step 2 : Data Preparation

Dataset

Dataset use is downloaded from the following link - [Employee Analysis | Attrition Report | Kaggle](#) with copyright license of [CC0: Public Domain](#).

Data Summary

Dataset contains 1470 rows of data and 35 columns.

Tools Selected

Excel is used for the data analysis as the number of data is suitable for analyzing using spreadsheet tool. Pivot table has been used to summarize the data and matching the data accordingly according to the relevant suitable columns and rows.

Step 3 : Data Cleaning

Data cleanup

No missing data within the dataset in each columns. Each column has been ensured to use the same format for the standardization of the dataset

Summary of dataset to ensure data quality

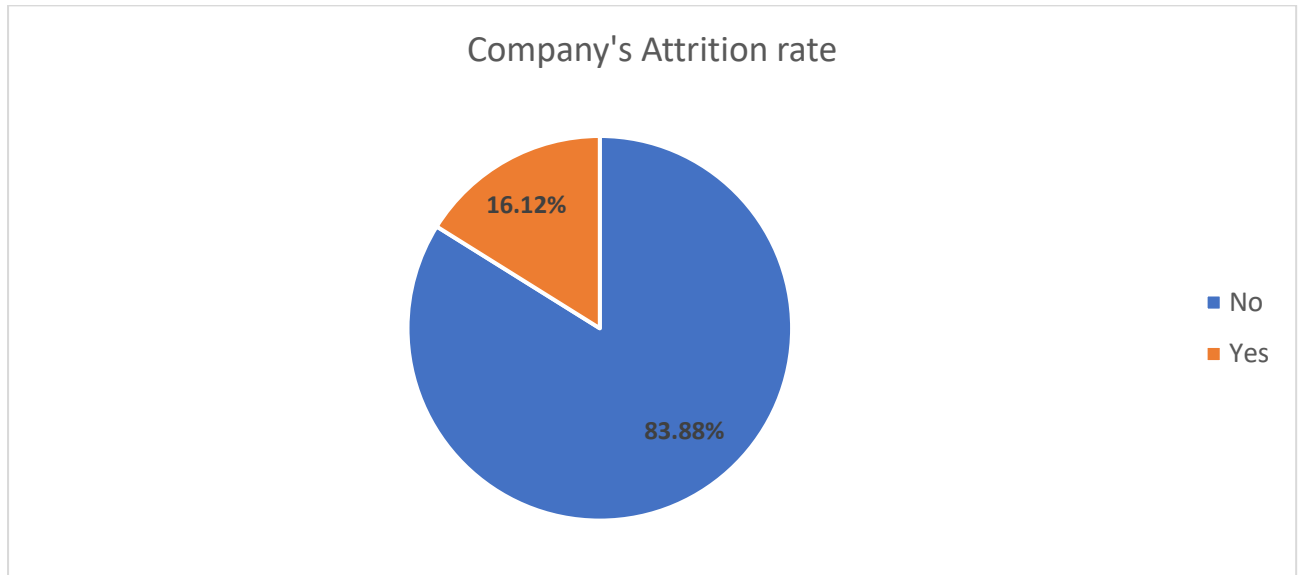
Using pivot table, we determine the number of data in each column to ensure that there's no missing data

Columns	Number of data
Age	1470
Attrition	1470
BusinessTravel	1470
DailyRate	1470
Department	1470
DistanceFromHome	1470
Education	1470
EducationField	1470
EmployeeCount	1470
EmployeeNumber	1470
EnvironmentSatisfaction	1470
Gender	1470
HourlyRate	1470
JobInvolvement	1470
JobLevel	1470
JobRole	1470
JobSatisfaction	1470
MaritalStatus	1470
MonthlyIncome	1470
MonthlyRate	1470
NumCompaniesWorked	1470
Over18	1470

OverTime	1470
PercentSalaryHike	1470
PerformanceRating	1470
RelationshipSatisfaction	1470
StandardHours	1470
StockOptionLevel	1470
TotalWorkingYears	1470
TrainingTimesLastYear	1470
WorkLifeBalance	1470
YearsAtCompany	1470
YearsInCurrentRole	1470
YearsSinceLastPromotion	1470
YearsWithCurrManager	1470

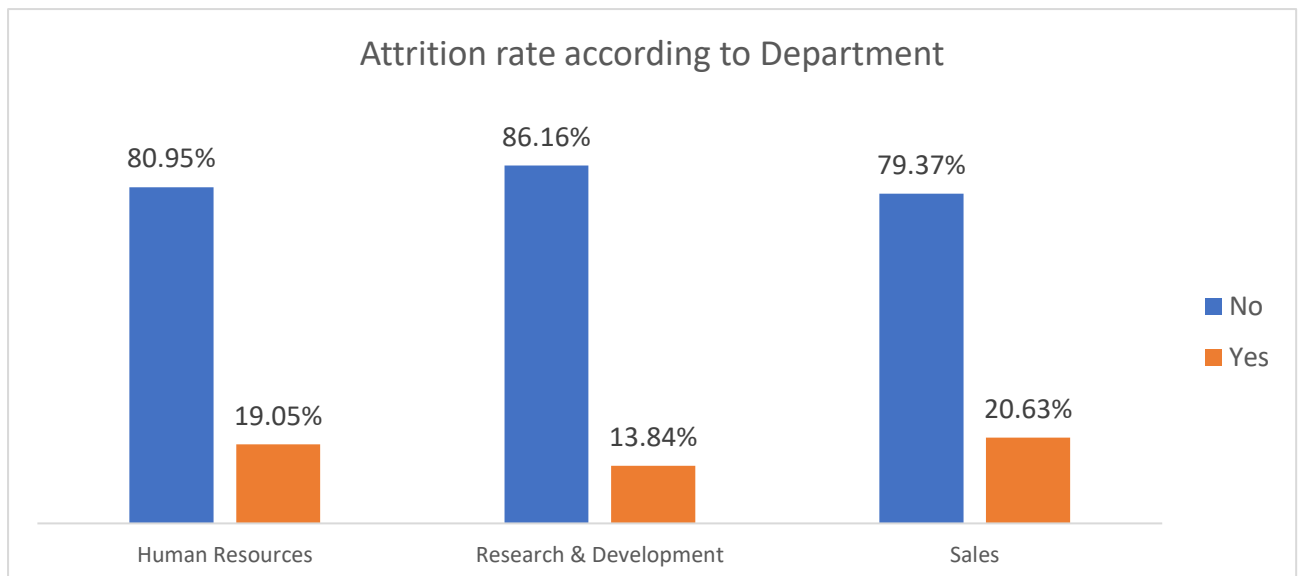
Step 4: Analyze

- 1) Firstly let's start with the big picture of the attrition rate.



Overall, the current attrition rate for the company is 16.12%

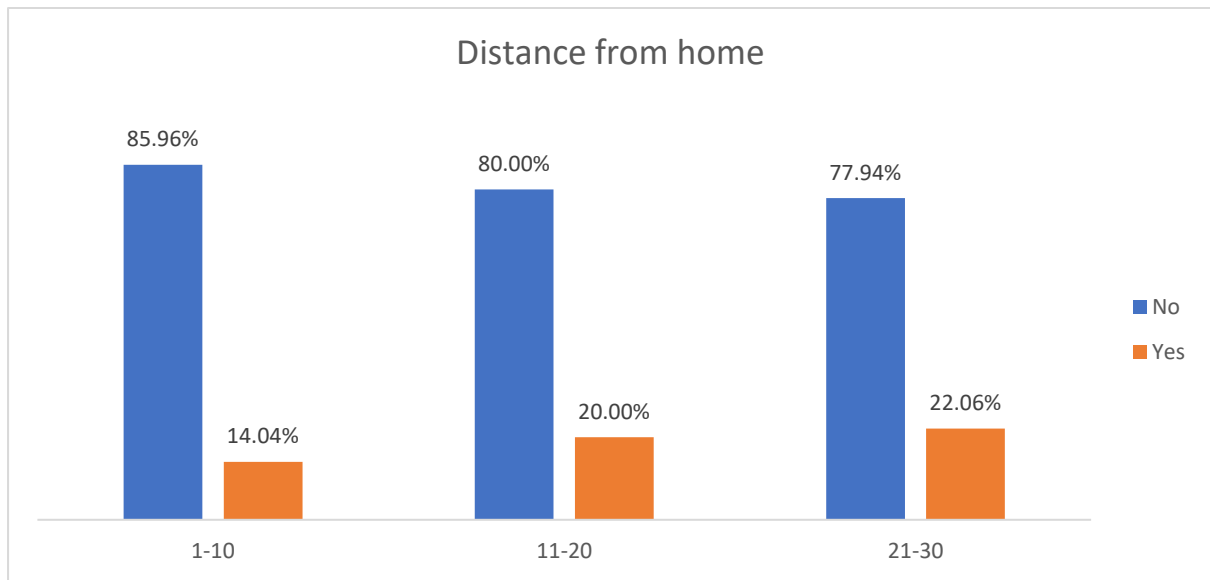
- 2) Taking the next step, let's see the attrition rate according to the department.



Graph shown that those who are in Human Resource and Sales are at higher end of attrition rate.

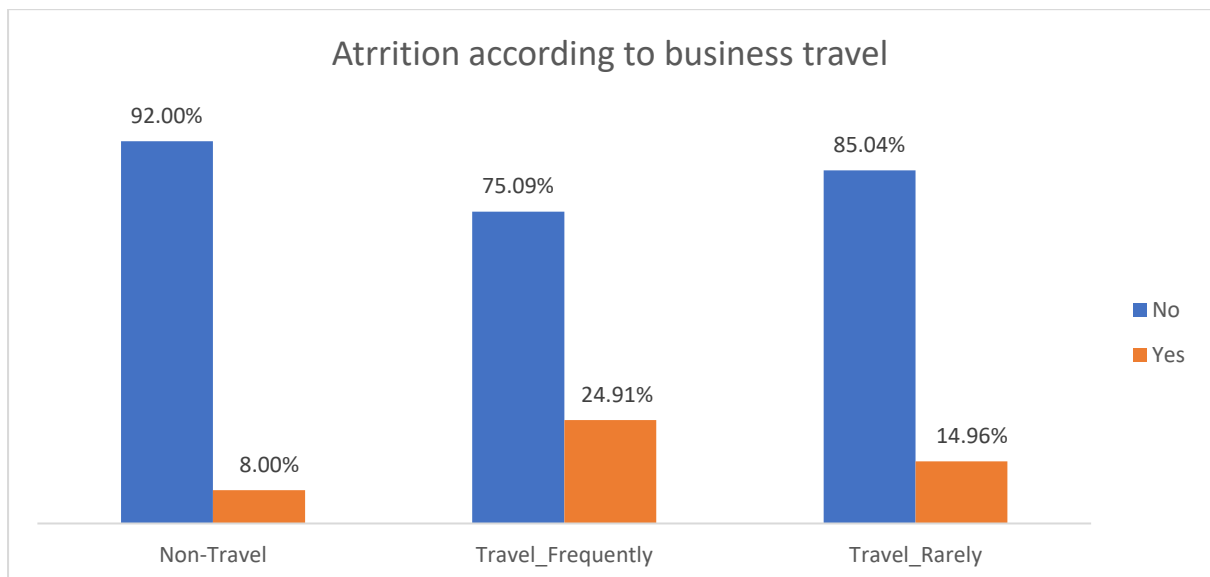
3) Let's look at multiple variables that may affect employee's attrition rate :

Distance from home



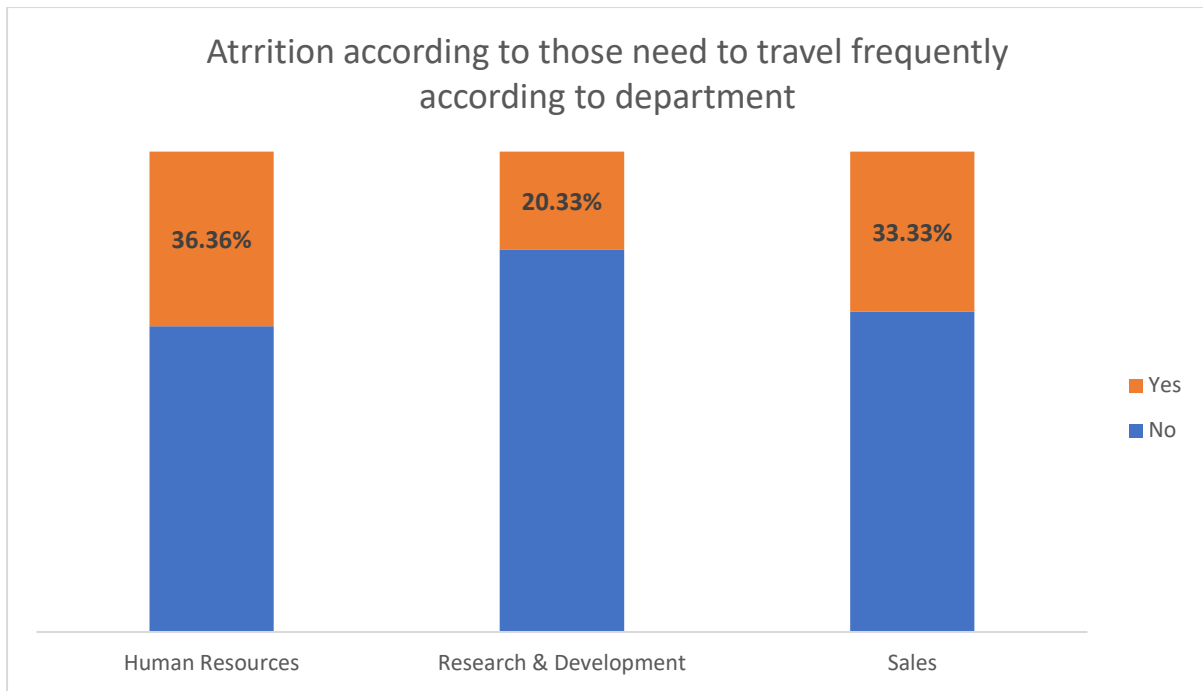
The attrition rate is **higher** to those living **11 miles and higher** from the working place

Travel Frequency for business



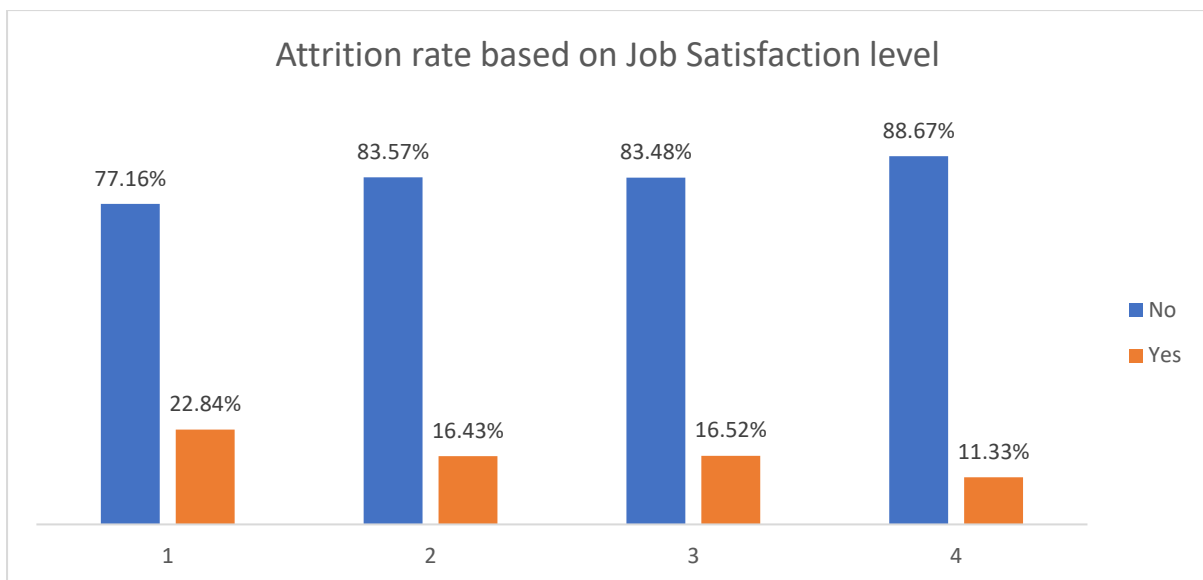
The attrition rate is very high for those who needs to travel frequently for their job.

Let's look into deeper according to department.



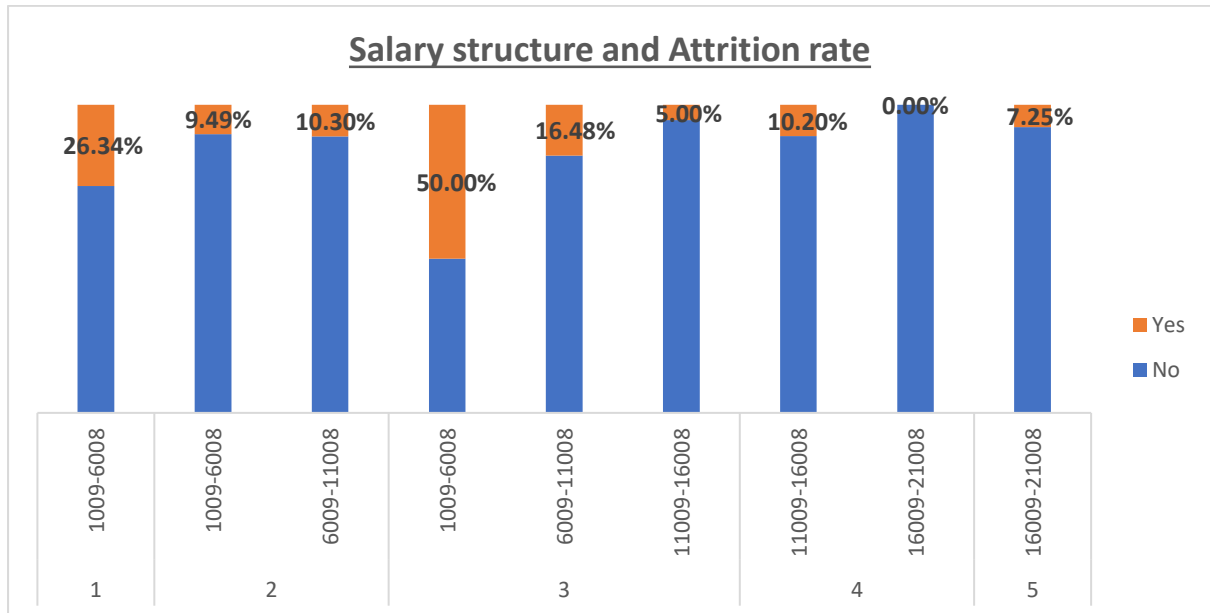
All those who require to travel frequently within each of the department have a higher attrition rate than those who does not need to travel frequently for business need.

Job satisfaction



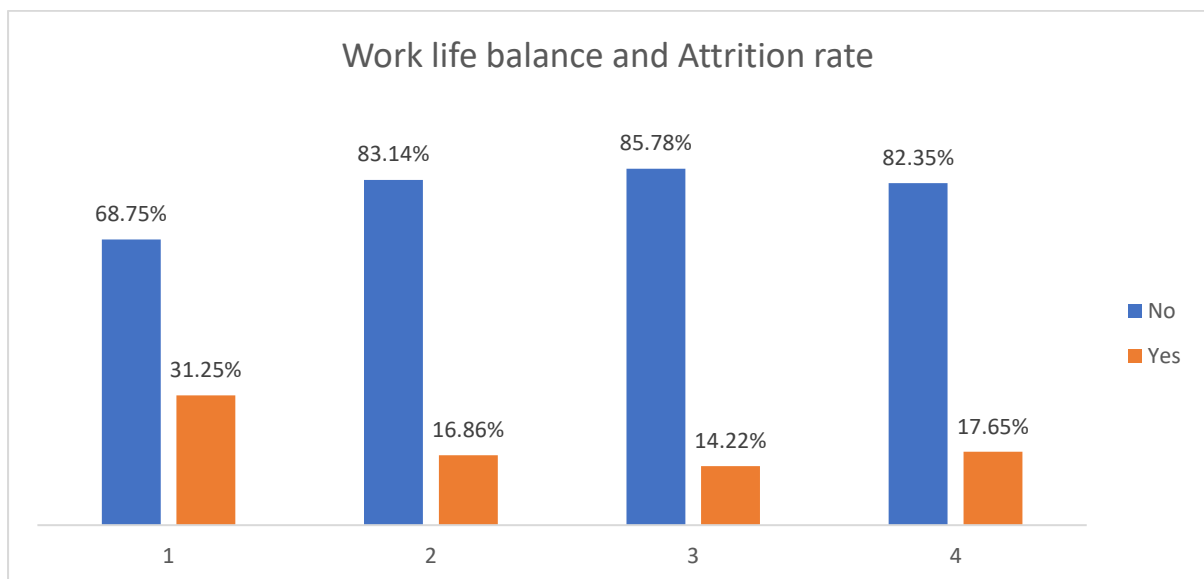
Overall, attrition rate is at satisfactory level to those whom satisfied level is higher than 2. We should focus on on the conditions which impacts those who select the lowest satisfaction level

Monthly income according to Job level



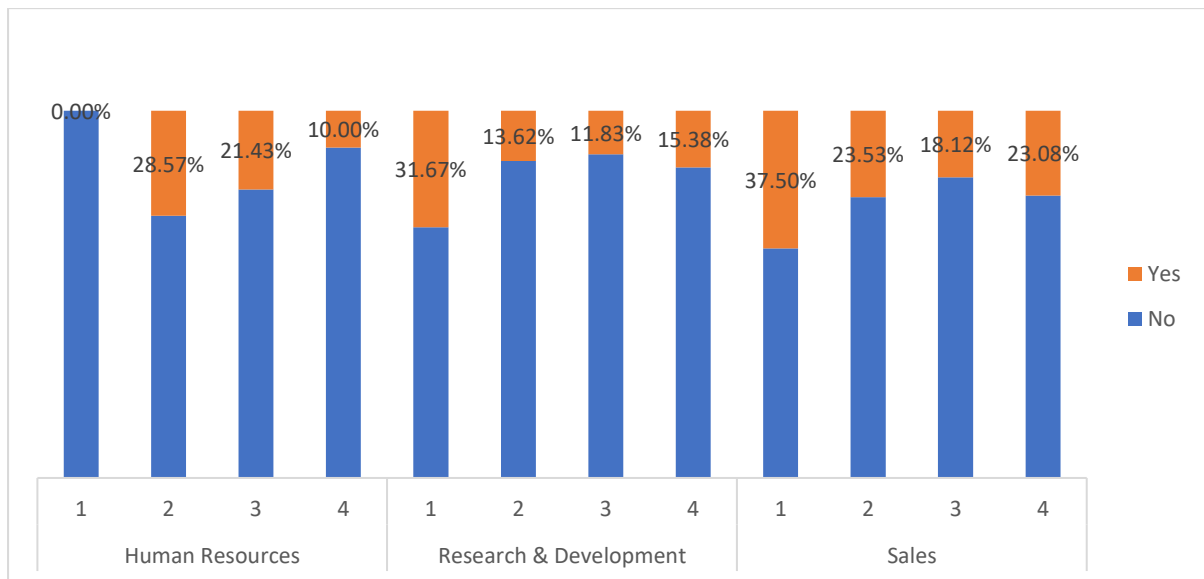
Viewing the salary structure, those whom in job level 1 has the highest attrition level. While the ones in Job Level 3, consideration should be made to those at the lower end of the salary structure.

Work Life balance



Those who selected poor work life balance has a higher attrition rate emphasizing the importance of work life balance in current workforce.

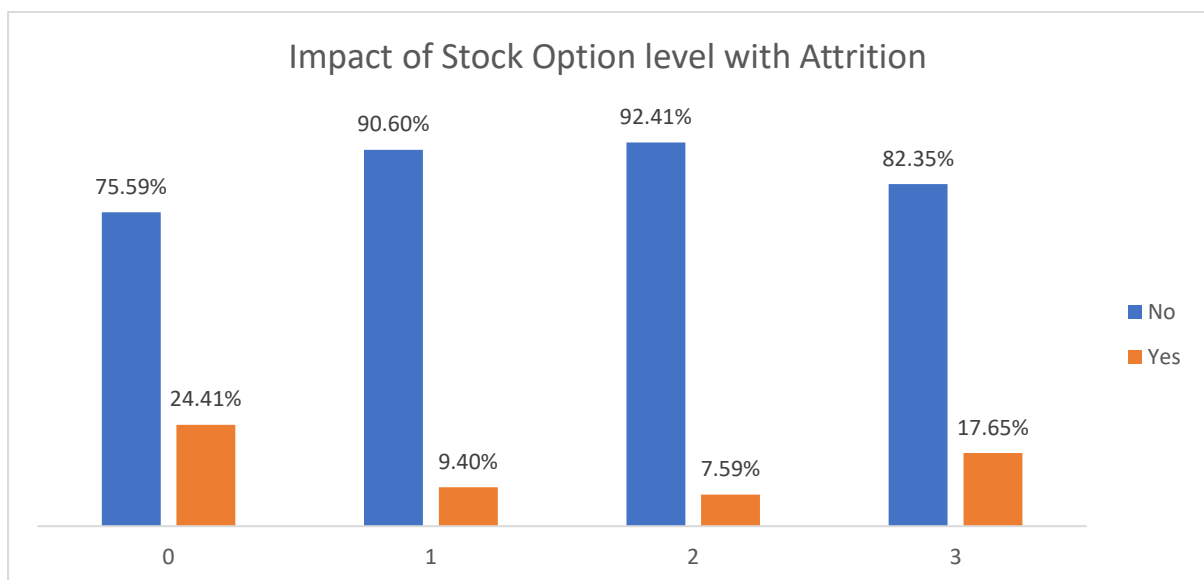
Inspecting further into each of the department



Those whom are in Research & Development and Sales department needs to be investigated further on the reason why their poor worklife balance.

Human Resources has lower number of people selected the no. 1 level hence, more data is required to be more conclusive.

Stock option



Those who didn't receive any stock option have a higher attrition rate level in compared to those receive the stock options.

Recommendations

- 1) Since the pandemic, many other companies have opt to have hybrid working environment where they will need to come to the office on a certain number of time per week. Hence to the workforce working in offices (human resources and sales) will reduce the commute time to those living further from the company.
- 2) Salary structure need to be revise and looked into to those whom at the lower end of spectrum of the job level to ensure they are paid competitively and hence, lowering the attrition rate.
- 3) Stock option should be given to a higher number of employees as it impacts the attrition rate and employee's loyalty to the company.
- 4) Business travels will need to be looked into whether it is really required. Reducing the business travel frequency will be able to impact employee's satisfaction and hence, at the same time, reducing business expenditures.
- 5) Managers should look into deeper regarding the work life balance for Research and Development department and Sales department.
 - a. Whether there's enough headcount within each department
 - b. Whether there's a lot of waste within the processes that can be eliminated.
 - c. Investigate the performance of managers towards the team members.

Conclusion

Attrition rate is impacted by multi factorial conditions which impacts employee's job satisfaction and staying within the company. Company may make improvement one step at a time to ensure each of the improvements gives positive outcome and analysis should be done to ensure the decisions are data-driven and continue to be improve further.

Analysis improvement suggestion

- 1) We do not have the dates of when this data was done to ensure that we have the latest data for the purpose of making business decisions
- 2) The level of 1-4 markers of some of the survey questions need to be more detailed as we can't deep dive further on each of the levels.
- 3) More factors can be taken into account within the analysis but most of the factors within this analysis can be helped by company's condition.
 - a. Education level, Number of companies worked, etc is a condition that should be taken account during recruiting process hence, data can be use further for recruiting purposes for candidate selection.
 - b. Overtime can be used to determine whether it is impacting the worklife balance of each department.