What makes employees leave: A tale of two organisations

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# Project Description

The cost of hiring, training and onboarding new employees often exceeds the cost of retaining existing workers. Despite this, most organisations tend to turn a blind eye to what might be causing their best and brightest to leave.

In this project, we seek to uncover what aspects of human resource management may contribute to staff turnover in two separate anonymised organisations. We have come up with a set of research questions about how factors such as salary, tenure, department, duration in a specific role, performance management, and workload may influence an employee’s decision to leave. From our analysis, we also hope to examine whether similar trends emerge across both organisations. Both datasets had similar variables relating to remuneration, time with the company, hours worked and performance ratings for each respective employee.

# Github Repositiory

<https://github.com/shanCH3n/Project1-DAbootcamp-Grp2>

Contains links to datasets and summary slides.

# Contents

Over the next few sections, our team will be sharing the findings of our analysis. From these findings, we propose some general recommendations for organisations seeking to manage employee attrition and conclude with a brief overview of our study’s limitations.

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# Research Questions

1. Who are leaving?
   1. Are the organisations losing their best and brightest? Or are poorer performers truly leaving?
2. Why did they leave?
   1. Are there trends that reflect the working lifespan of employees?
   2. Was performance management a factor? Were employees’ salary proportional to their efforts, roles and level?
   3. Were promotions and other forms of rewards fairly distributed?
   4. Were employees leaving because they were overworked?

# Overview for each organisation

## Characteristics

**Org A:** Sales Team in an Insurance Firm

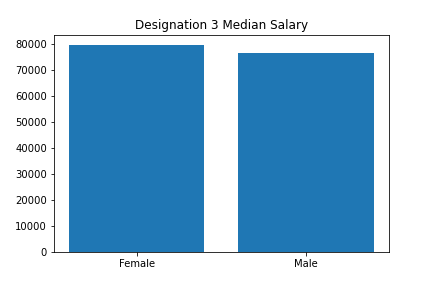
* Over 19,000 rows of data employee data noted at multiple timepoints
* 2381 Unique Employees

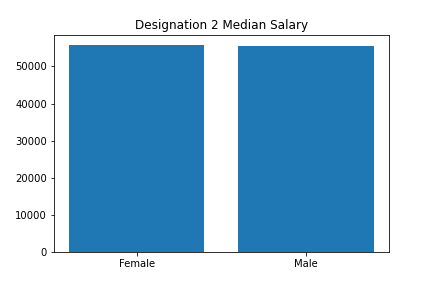
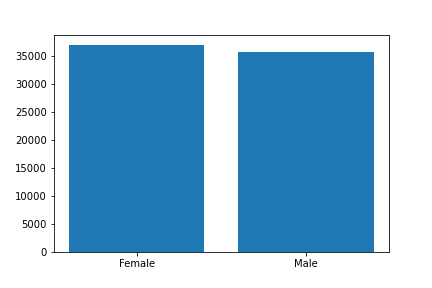
**Org B:** Organisation from an unspecified industry

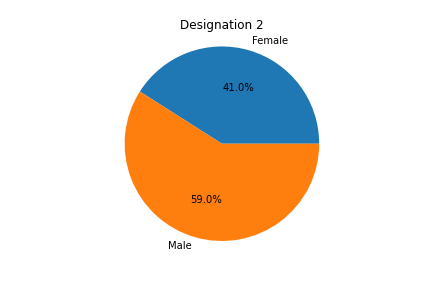
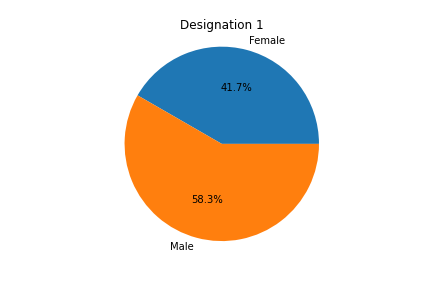
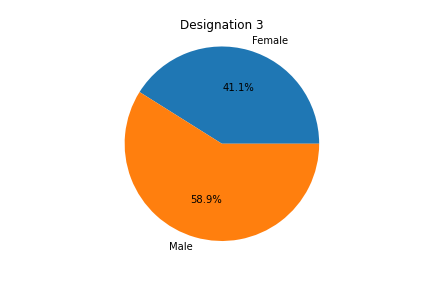
* Close to 15,000 Unique Employees
* Multiple departments (e.g., Sales, HR, Accounting, Management etc)

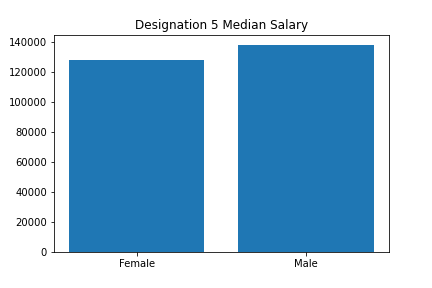
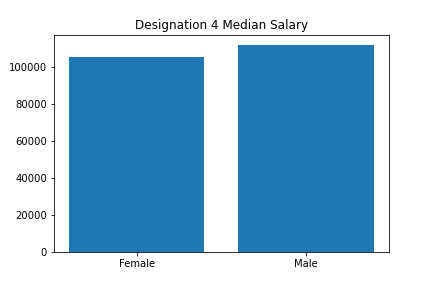
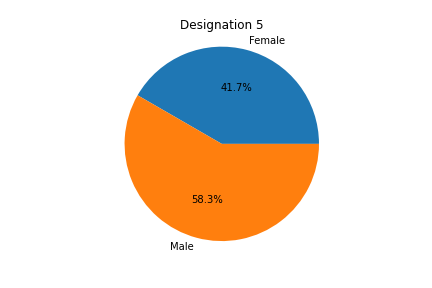
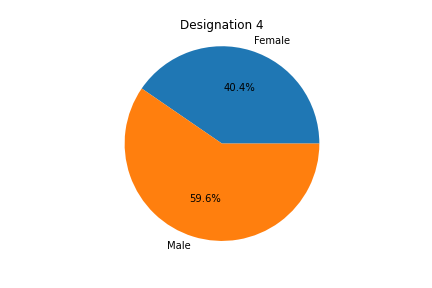
## Demographical Trends

**Org A:**

Demographical data was available in the dataset for Organisation A. Further examination of the information on gender proportions was conducted. A split of 58-60% male and 40-42% female was observed at all designation levels. This proportion was observed across all designations.





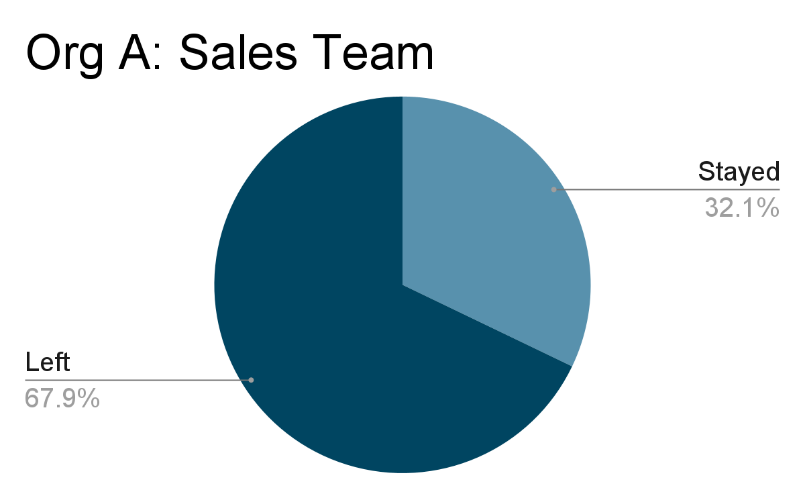


This observation suggests that women are not being held back from promotions. Also, salary is equal between genders at all levels – where women are not being paid less for performing at the same level/designation. Thus, it is unlikely that a gender bias exists.

# Who are leaving?

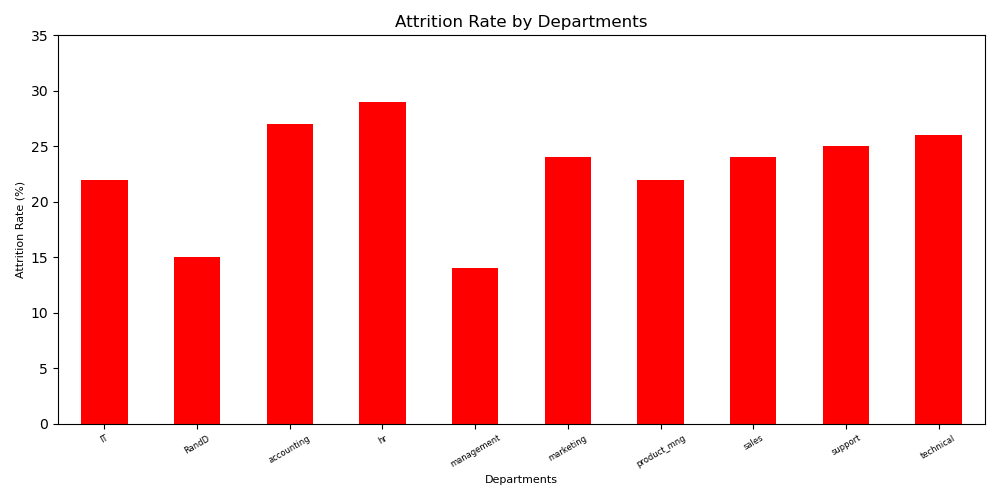
## Rate of Turnover

**Org A:** 67.9% (1,616/2,381)



**Org B:** 31.3% (3,571/11,428)

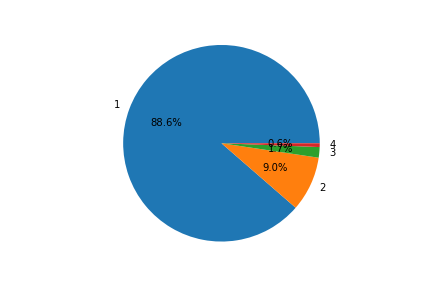
We broke down attrition rate by department for both organisations. Unfortunately, we only had data for Organisation A’s sales team but their attrition rate (67.9%) was almost triple that of Organisation B’s sales team (24%).



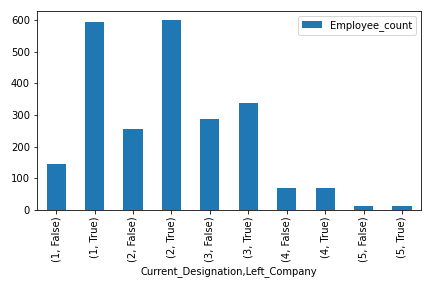
## **Org B:** Departmental trends observed

The departments that had the highest attrition for Organisation B were HR, Accounting, and Technical (all above 25%).

## **Org A:** Poor performers and lower designations



88.6% of employees leaving had a quarterly rating of 1.

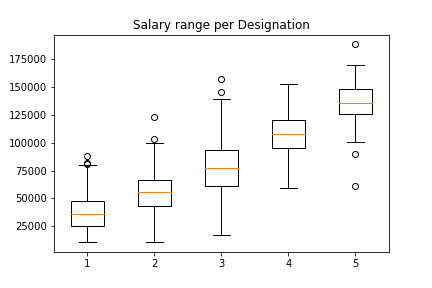


Lower designations were over-represented in the proportion of employees who left.

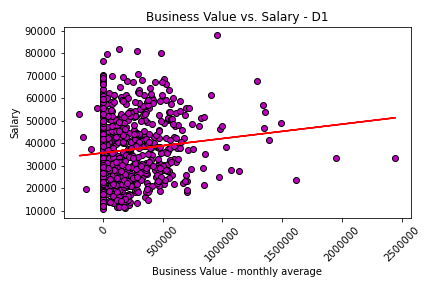
# Why are they leaving?

## Impact of Performance Management

**Org A:** Performance management and rewards don’t seem to be driven by clear indicators.



Salary per designation has a huge range, with some level 1 employees being paid more than level 4 and 5 employees.



Further analyses were conducted to examine if salary was determined by total business value.

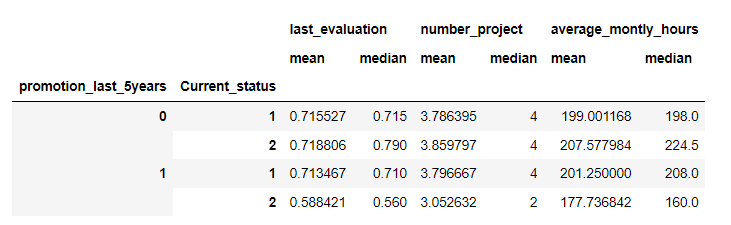
Using Designation 1 as an example, we can see there are a multitude of employees with an average monthly business value of 0, regardless of their salary

The top performers are not earning high salaries. Also, some employees are earning substantial salaries despite contributing minimal business value.

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation** | **pvalue** | **rvalue** | **Coefficient of determination** |
| D1 | **0.001430** | **0.116150** | 0.013491 |
| D2 | **0.000000** | **0.223202** | 0.049819 |
| D3 | **0.000000** | **0.211118** | 0.044571 |
| D4 | **0.031103** | **0.181651** | 0.032997 |
| D5 | **0.933843** | **0.017899** | 0.000320 |

In fact, there is very little correlation between salary and business value at designations 1 to 4, and no correlation at designation 5.

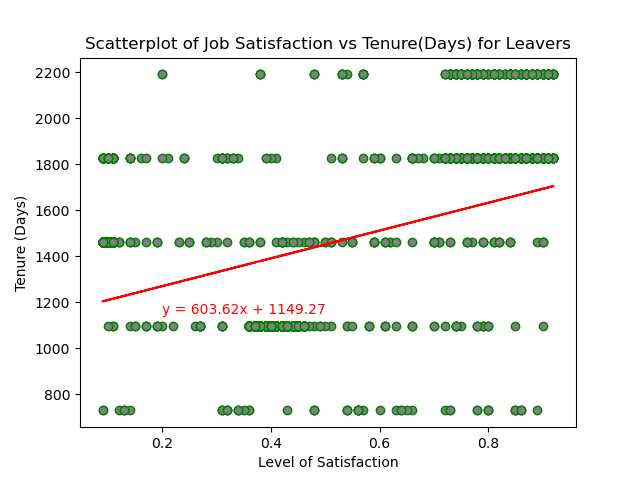
**Org B:** Best performers and hardest workers might be leaving due to lack of recognition in the form of promotions.



Out of the 3571 employees who left Organisation B, 3552 (99.47% of employees who left) did not receive a promotion in the last 5 years despite their most recent revaluation, average working hours per month, and number of projects allocated being the highest compared to other subsets of employees.

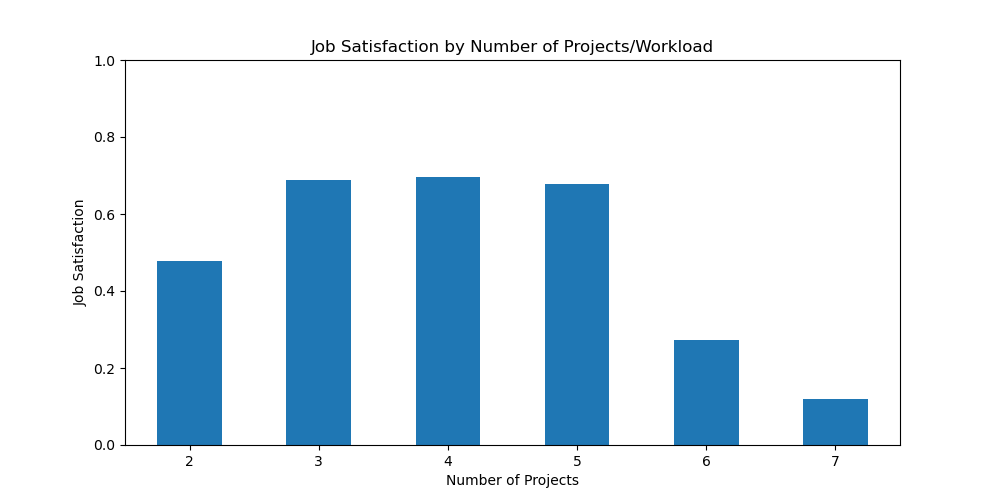
## Impact of workload and job satisfaction on tenure

**Org B:**



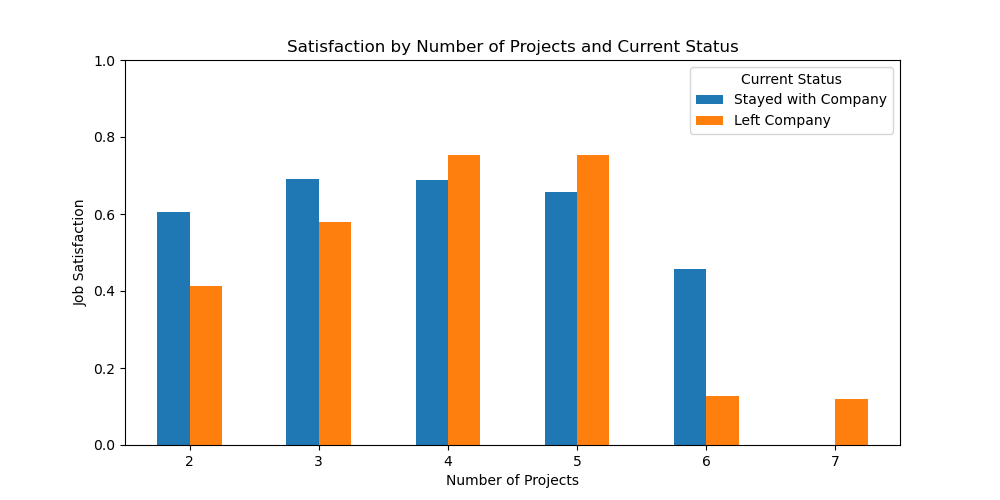
In the dataset for Organisation B, we found that there was a weak but significant positive correlation between the tenure of employees who left and the level of satisfaction they had with their jobs. This suggests that being satisfied with their jobs were important for those who left – given that as job satisfaction increases, tenure increases.

Unfortunately, there was no variable that related to Job Satisfaction in the dataset for Organisation A. Thus, a comparison was not possible.



How often have we heard that an excessively heavy workload leads to employees leaving. The data from Organisation B supports this notion as it shows that job satisfaction decreases dramatically when an employee is allocated more than 5 projects.

Interestingly, job satisfaction was also somewhat lower for employees who had only 2 projects. This suggests that being ‘underworked’ also adversely affects satisfaction.



These trends persist when looking separately at current and former employees from Organisation B.



Further analyses revealed a very weak but highly significant negative correlation (-0.23, p < .0001) correlation between ‘Number of Projects’ and Job Satisfaction amongst the employees who left Org B.

This suggests that job satisfaction decreases as workload increases for people who chose to leave Org B. Given the previously observed positive relationship between job satisfaction and tenure, increases in workload can potentially cut short an employee’s stay at a company.

# Implication of Findings

## General Recommendations

1. Ensure that your best performers and hardest workers are recognised and rewarded. If not, they will leave.
2. Review salaries regularly to ensure fair reward. Consider bonuses or commissions for high earners and standout performers.
3. Low and high workload can potentially affect job satisfaction adversely. Which in turn, can potentially affect how long an employee is willing to remain with a company.

# Limitations of Analysis

Here are some limitations to consider when applying the findings of this analysis to design strategic human resource practices as well as guidelines for improving future data collection in companies.

* **POINT 1 - both Companies**  
  Obtain more in-depth information relating to circumstances of termination - did they quit or were they fired? Other factors may be at play when employees leave.
* **POINT 2 - both Companies**  
  Consider whether the type of hire - recruitment agency, internship. There may be trends associated with employees from such sources
* **POINT 3 - Org A**  
  Data from previous years would enable the mapping of career progression. Despite being at the organisation for a substantial period of time, the data available only reflects the most recent two years.
* **POINT 4 - Org B**  
  No demographical information in terms of age and gender were collected.
* **POINT 5 - Org B**  
  Details on employee salary were vague as it was noted in bands of ‘Low’, ‘Medium’, and ‘High’. More granular salary data would have been useful to compare differences between departments as well as high performing staff.
* **POINT 6 - Org B**  
  Data from previous dates, especially for the variable relating to performance and satisfaction would have allowed for comparison over time.
* **POINT 7 - Overall Findings**  
  Findings and recommendations may not be suited for all organisations as specific industries need to be considered.