Final Report

What makes employees stay or leave?

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Abstract:

Understanding the reasons why employees choose to leave is crucial to the company. In this report, we find that satisfaction level, salary, workload, and promotions have great impacts on employees' decision to leave. High satisfaction level, appropriate workload, proper working time, high salary, and promotions make employees choose to say. If they are dissatisfied with some aspects, the probability of leaving will increase.

Keywords: satisfaction, salary, workload, promotion

Initial sniff

With so many features, we first want to figure out which one has significant effects on "left". So we compared different features of "stayed" employees and "left" employees, and we found that "satisfaction level", "promotion in five years", "work accidents", and "salary" have obvious differences among the two groups. Generally, people who choose to stay have a higher salary, higher satisfaction levels, and promotions within five years. Surprisingly, they also have more accidents. Based on these facts, we are going to do more investigations about these features.

Feature differences between stayed employees and left employees
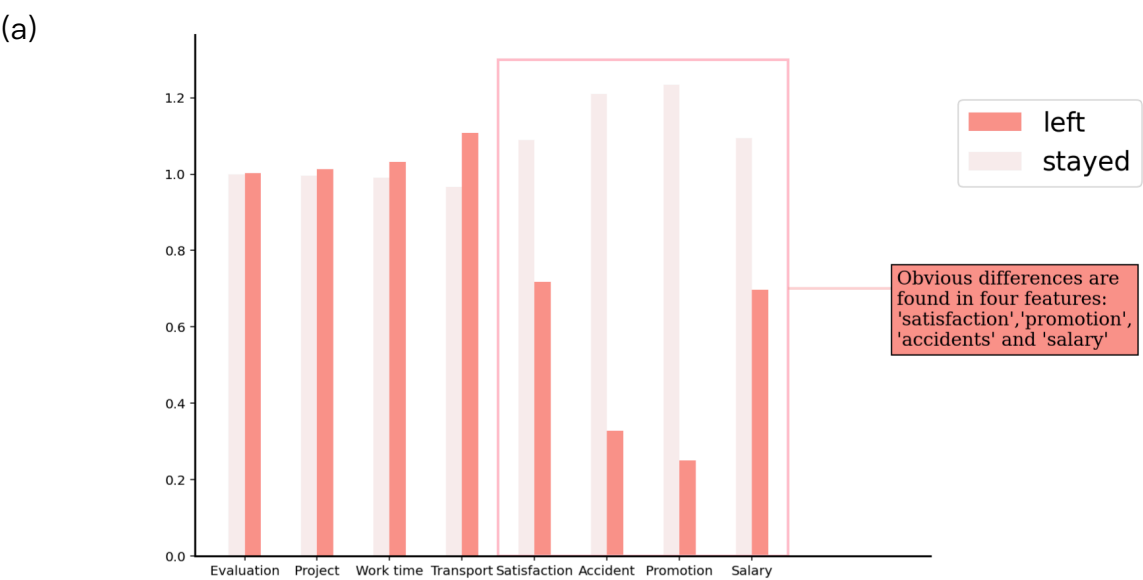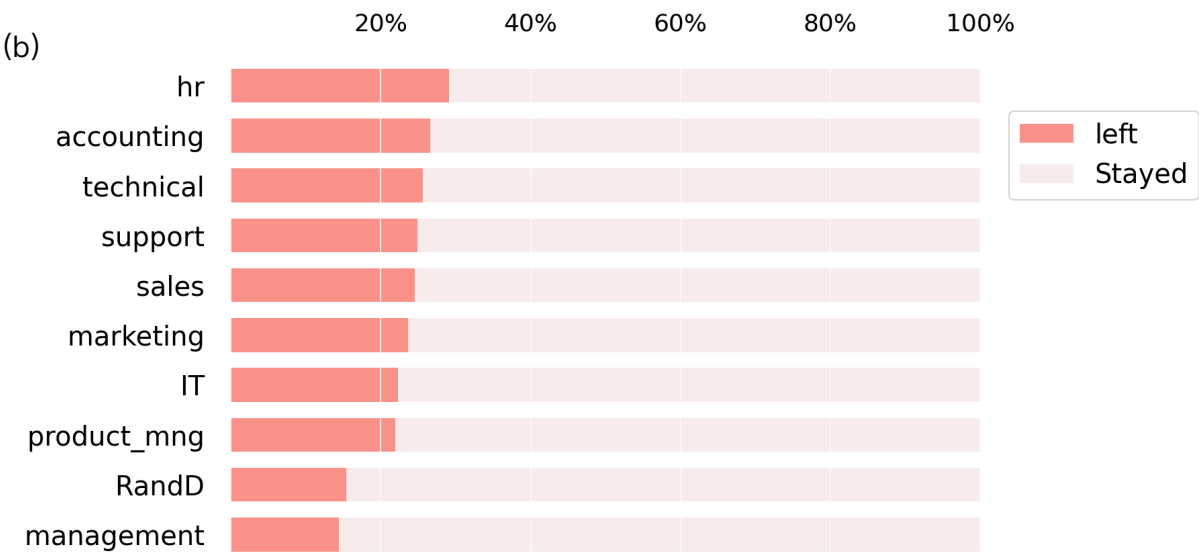

Left rate varies in different departments

Figure 1 (a)Feature differences between stayed employees and left employees; (b) Left rate in different departments.

Then, we investigate the "left" rate among different departments. As we can see in figure 1(b), we found that the "hr" department has the highest "left" rate and the "management" department has the lowest "left" rate. Several departments have high "left" rates, such as "accounting" and "technical". But when we look at departments with low "left" rates, "RandD" and "management" have much lower "left" rates than other departments. So we further focus on the "management" department, which has the lowest "left" rate, and figure out what makes employees in the "management" department choose to stay.
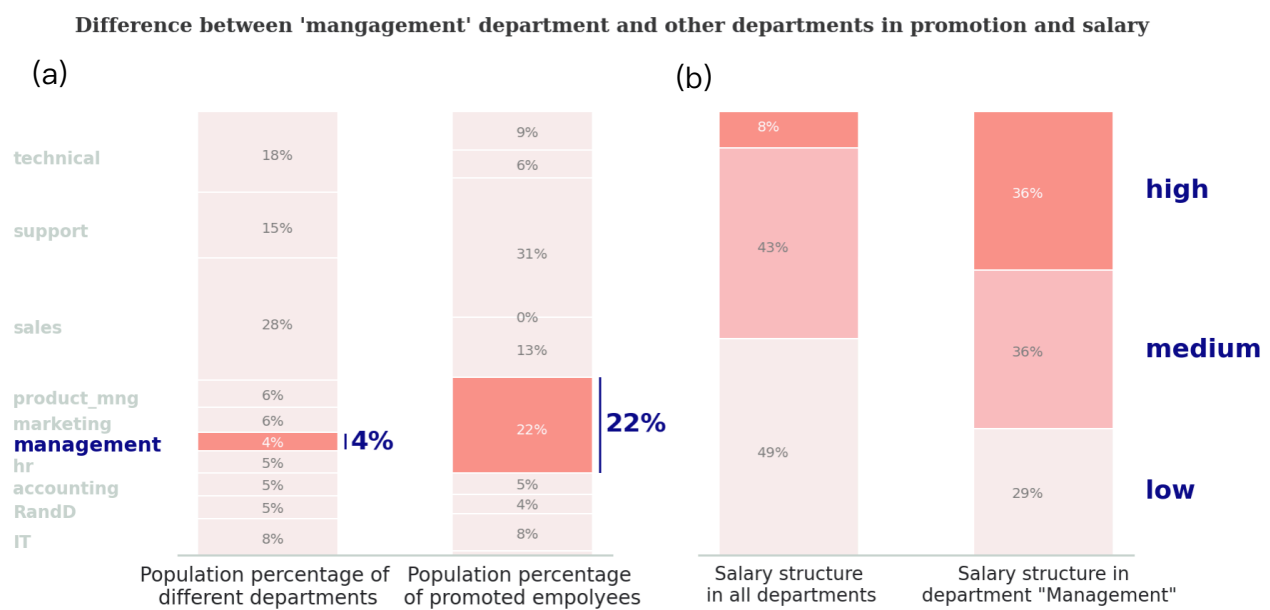

Figure 2 (a)Difference between "management department and other departments in promotion"; (b) Difference between "management department and other departments in salary.

As we can see in figure 2(a), the percentage of the "management" department in the total population is 4%. However, 22% of employees with the promotion are from the "management " department. Employees from the "management" department get promoted much more easily than employees from other departments. With more analysis work about features of the "management" department, we found that employees in the "management" department have much higher salary levels than the average levels. As we can see in figure 2(b), 8% of all employees have high salaries, but 36% of employees in the "management " department have high salaries. Moreover, employees from the "management " department have more work accidents, but we consider it's not the reason these employees choose to stay. It could be employees from the "management"

department have to take more responsibility, so they will have more work accidents. Based on these findings, we have some rough ideas that higher salaries and promotions would make employees choose to stay. Moreover, employees in the "management" department have higher satisfaction levels and medium working hours (not too long and not too short). We will do more investigations about the workload and satisfaction level.

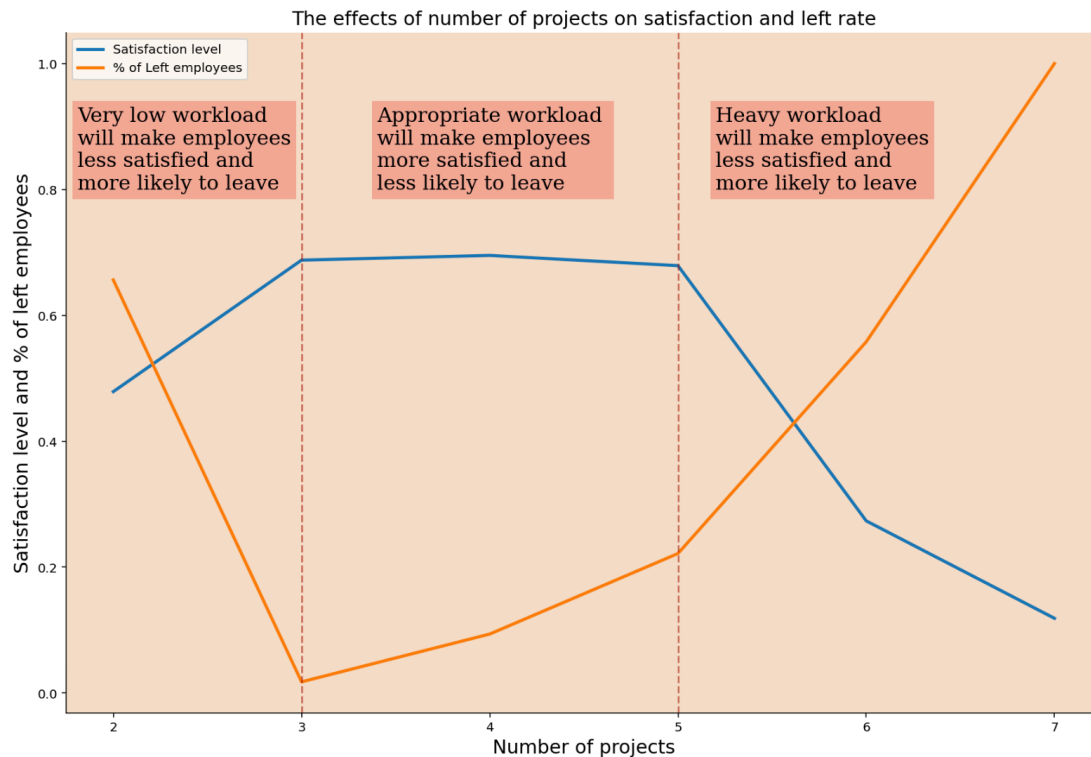# The relationship between workload and "left" rate

Figure 3 The effects of number of projects on satisfaction and left rate

As we can see from Fig 3. The likelihood that employee leaves are highly dependent on the workload. We have divided the workload into 3 groups:

1. Very low: Employees who have a very less workload are feeling that they are not contributing enough to the company. Hence they are less satisfied which makes them more likely to leave.

2. Appropriate: We observe that employees with appropriate workloads are the most satisfied. They feel they have a good work-life balance and are happy with their job. This makes them the least likely people to leave the company.

3. High: This is the group where we observe the highest % of left employees and also the lowest satisfaction rate. It means that employees in this group feel that they do not have a work-life balance and are hence looking for job opportunities elsewhere.

From the above graph, we can conclude that employees value their work-life balance and they also feel that they need to contribute to the company. If any one of these requirements is not met, then employees are more likely to leave.

More investigations about "satisfaction" and "salaries"

Funnel graph on salaries categories with left employees and satisfaction rate
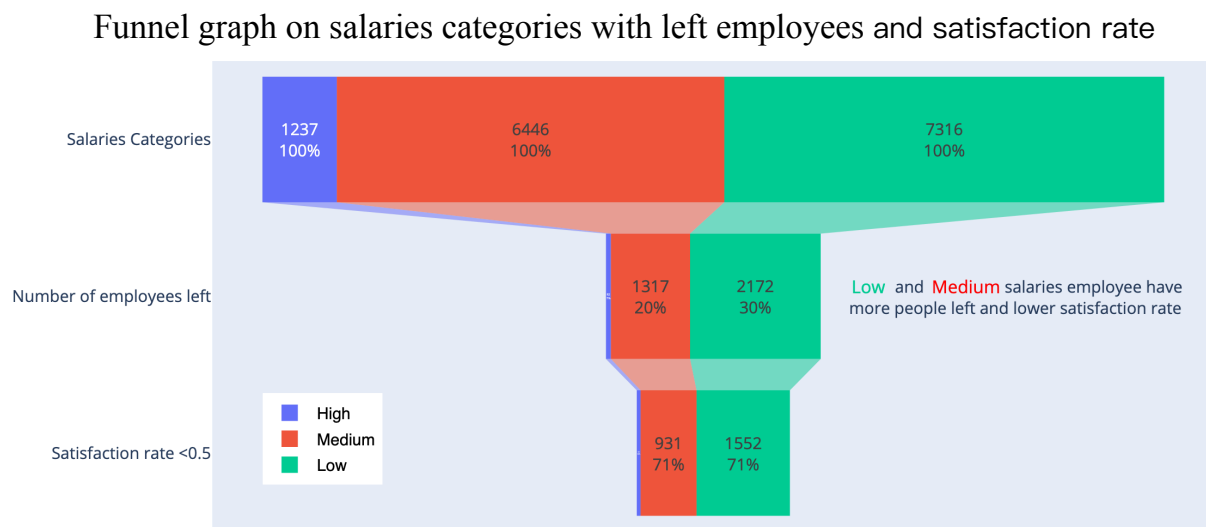

Figure 4 funnel graph for the different salaries categories with two sub categories

From the funnel graph above, the number of each row after the first row is based on the previous row.

The first row shows the count of the High, Medium, and Low salaries groups.
We can see low and medium salaries employees are taking up the most portion of the total employees.

The second row shows how many employees of each sales categories left. In low categories, 30% of them left. In medium categories, 20% of them left. In high categories, 6.6% of the employees left. In the low and medium salaries group, we can see 71% of the previous row rate lower in the satisfaction level, and the high salaries group only has 5.2% of the previous row.

In summary, employees with low and medium salaries have a higher possibility to leave and employees with lower satisfaction rates have a higher possibility to leave.
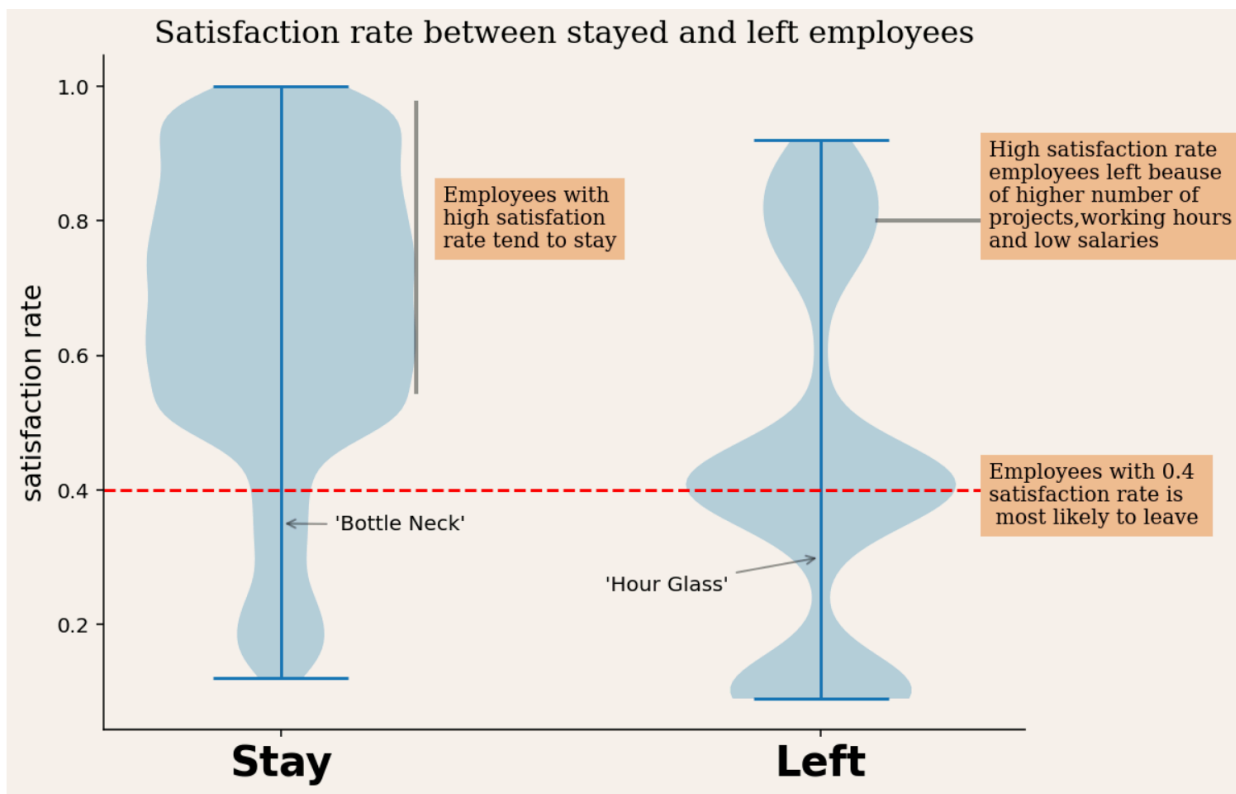

Figure 5 violin graph comparing satisfaction rate between 'stay' and 'left' groups

The above data show that the satisfaction rate for most of the 'Stay' employees is higher than 0.4 or the "Bottle Neck"; For the 'Left' employees, the distribution looks like at our Glass' under 0.4, specifically, the satisfaction rate peak at 0.4 and then go down until 0.2, then go back up until 0.

Employees with high satisfaction rates left because they have a higher number of projects, working hours, and low salaries, which can be referenced in figure 3.

I would recommend looking at the people whose satisfaction rate is between 0.3 to 0.5 and checking why they are leaving the company. To prevent more high satisfaction rate employees from leaving the company, check if they fill the survey score accurately, and include other questions related to several projects, working hours, and salaries.

Conclusion:

To conclude, employees tend to leave with these characteristics: low satisfaction level, low salary, without promotion, improper work time(too long or too short), and improper workload(too heavy or too light). Improving only one of these characteristics does not make employees choose to stay definitely. For example, people with high satisfaction levels may choose to leave the company for other reasons such as heavy workload, long working hours, and low salary. So more attention should be paid to helping employees who may suffer from one or more problems.