



# HR ANALYTICS

# **TABLE OF CONTENTS**

**01**

**ABOUT THE PROJECT**

**02**

**QUESTIONS**

**03**

**METHODOLOGY**

**04**

**KEY FINDINGS**

**05**

**RECOMMENDATIONS**



# ABOUT THE PROJECT

01

# EMPLOYEE TURNOVER



**HIGH COST**



**EXECUTIVE**



**TIME**



02

QUESTIONS



# QUESTIONS

What is the likelihood of an active employee leaving the company?

Are there key indicators for an employee leaving the company?

Based on results, can we adopt strategies to improve employee retention?



# METHODOLOGY

03

# METHODOLOGY

- 14,999 employees
- Data exploration
- Classification model
  - Churn

Additional:

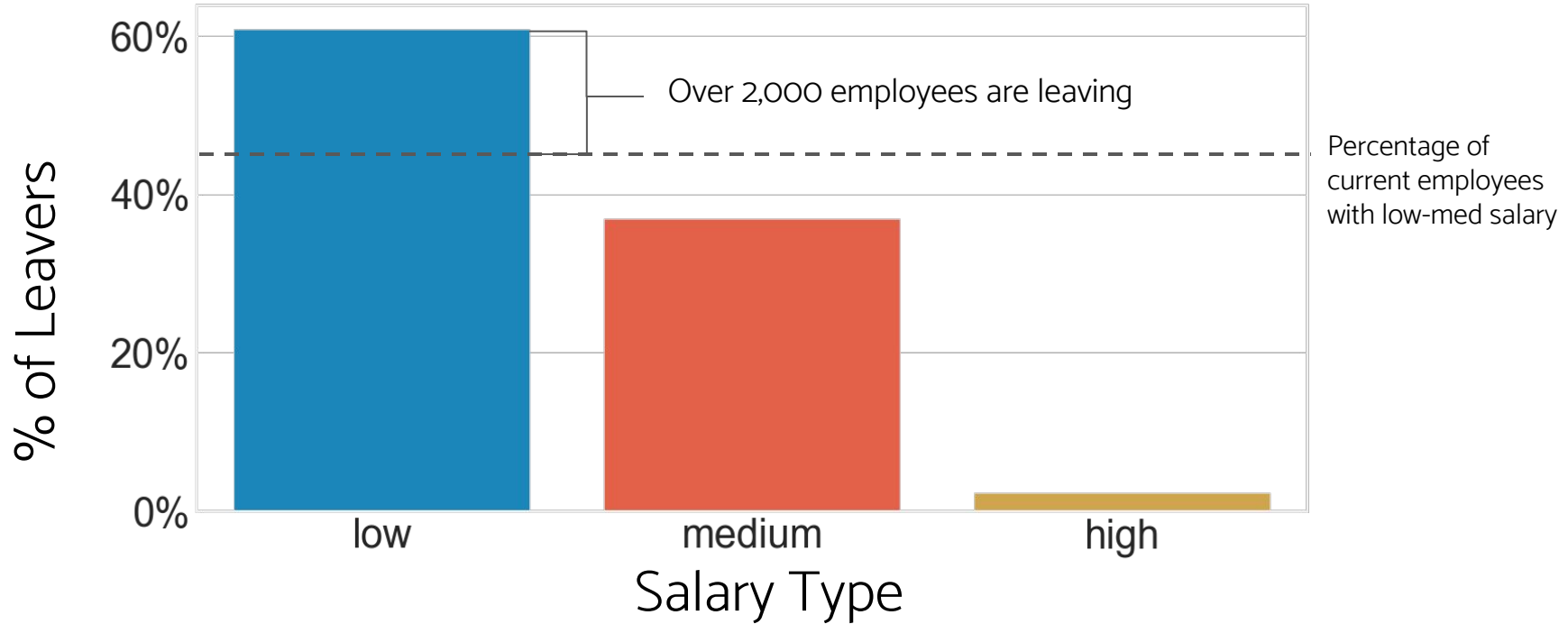
- No duplicate or missing values
- Label encoded salary type and department
- Excluded: ID



04

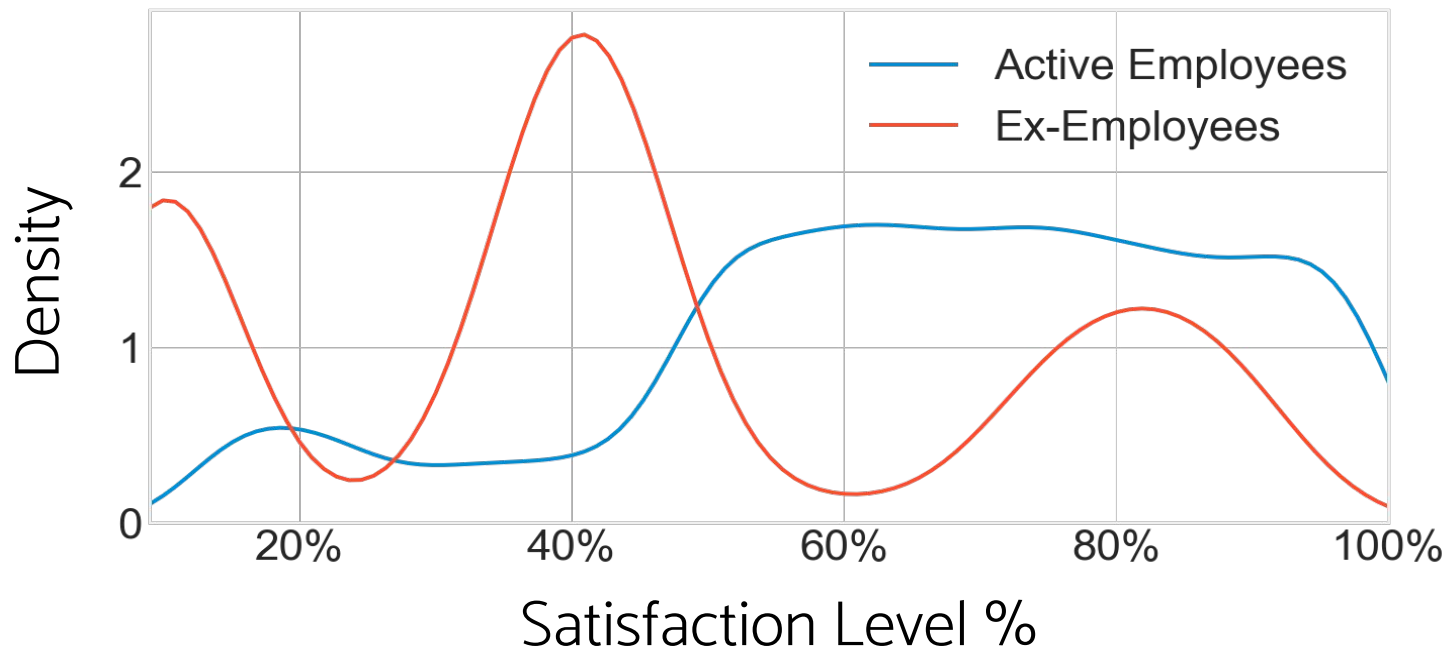
## KEY FINDINGS

# Percentage of Employees Leaving by Salary



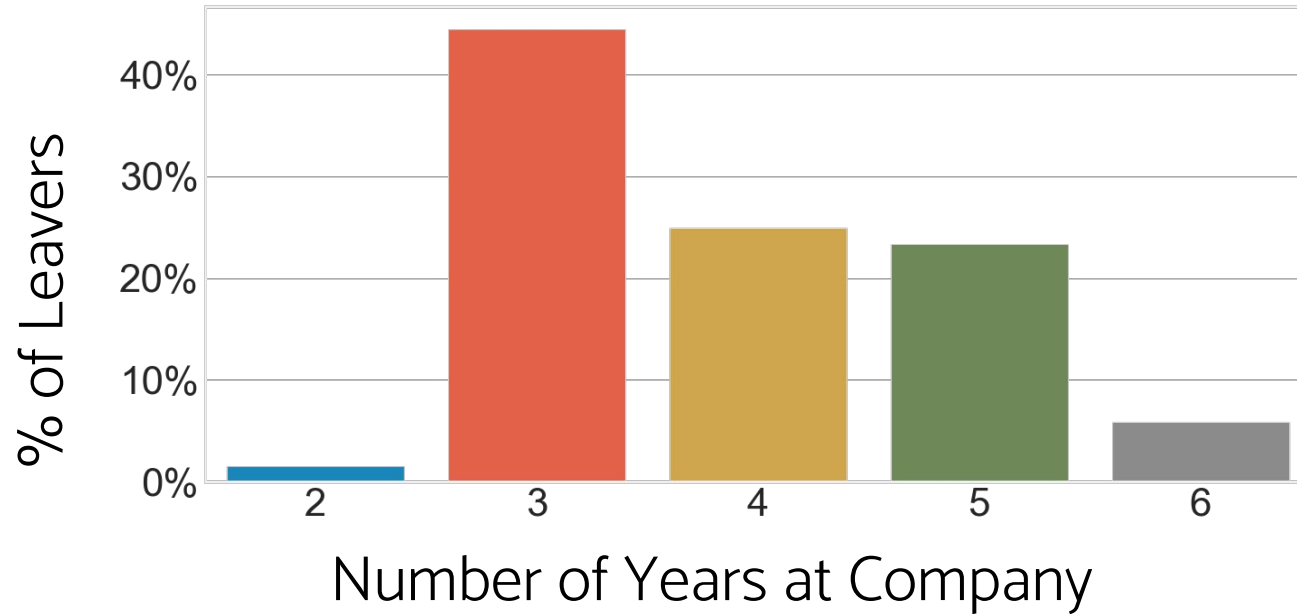
Recommendation: Look at current industry benchmarks to determine if the company is providing competitive wages

## Ex-Employees have Lower Satisfaction Levels



Recommendation: Assess employee expectations. Look at “very satisfied” employees as they might not be necessarily adding value

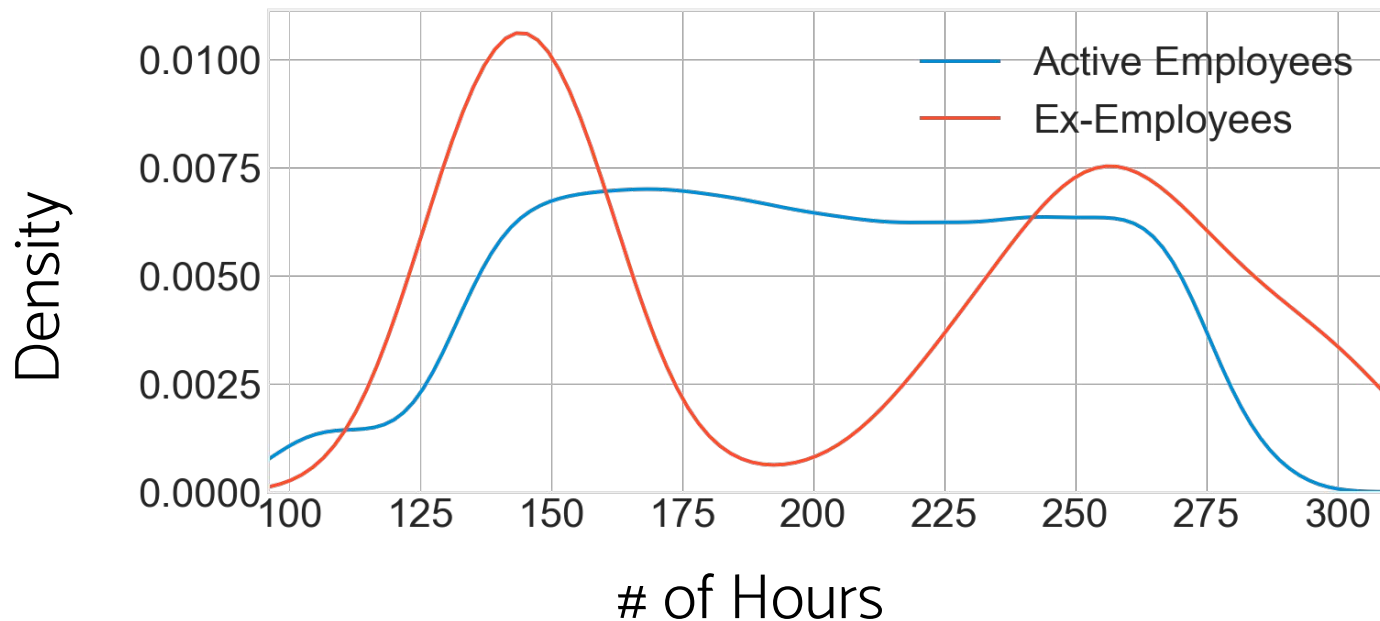
# Percentage of Employees Leaving by Years Spent at Company



Recommendation: Employees who have between 3-5 years of experience should be identified as potentially having a higher-risk of leaving



## Ex-Employees Take on More Work per Month



Recommendation: More effort on scoping projects upfront with adequate support and manpower to reduce the amount of hours worked

# OTHER KEY INDICATORS

## Promotions in the past 5 years

- Employees who were promoted were **less** likely to leave their job
- Majority of people have spent 3 years in the company and have received a promotion

## Work accidents

- Employees who had work accidents are **less** likely to leave their job

# Predicting employee turnover will be successful if...

## What do we want to reduce?

- Rate of incorrectly predicting an employee is not at risk when in fact they are looking to leave

## Why?

- **Cost**
- Employee is not included in any retention efforts, thus the company loses a valued employee

# HOW SUCCESSFUL WERE WE ?

5%

Employees incorrectly predicted to stay with the company, when in fact they are at **risk of leaving**





# RECOMMENDATIONS

05

# SUMMARY OF RECOMMENDATIONS

- Look at current industry benchmarks to determine if the company is providing competitive wages
- Assess employee expectations. Look at “very satisfied” employees as they might not be necessarily adding value
- Employees who have between 3-5 years of experience should be identified as potentially having a higher-risk of leaving
- More effort on scoping projects upfront with adequate support and manpower to reduce the amount of hours worked
- Employees can be assigned different risk categories based on the model predictions

**THANKS**



# APPENDIX

All employees:

low 0.487766  
medium 0.429762  
high 0.082472

Current employees

low 0.450123  
medium 0.448810  
high 0.101068

Ex-employees

low 0.608233  
medium 0.368804  
high 0.022963

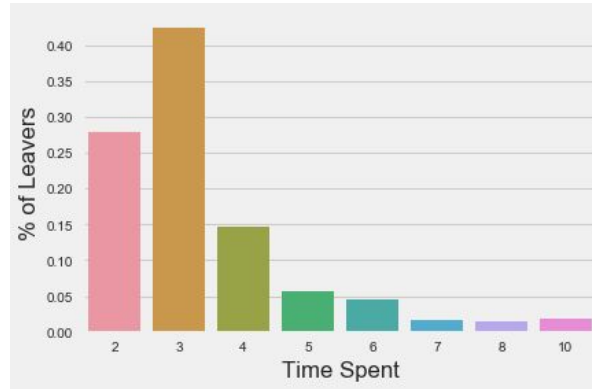
Churners

salary  
high 82  
low 2172  
medium 1317

churn

0 11428  
1 3571

Current employees time spent



time\_spend\_company

by year

2 54  
3 134  
4 35  
5 17  
6 17  
7 36  
8 10  
10 16

ACC:0.7579004135469313  
RECALL:0.8037204633960786  
F-SCORE:0.61529054598928