Attrition at Budweiser

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Problem

Attrition costs are expensive!

Each year companies lose money due to employee turnover

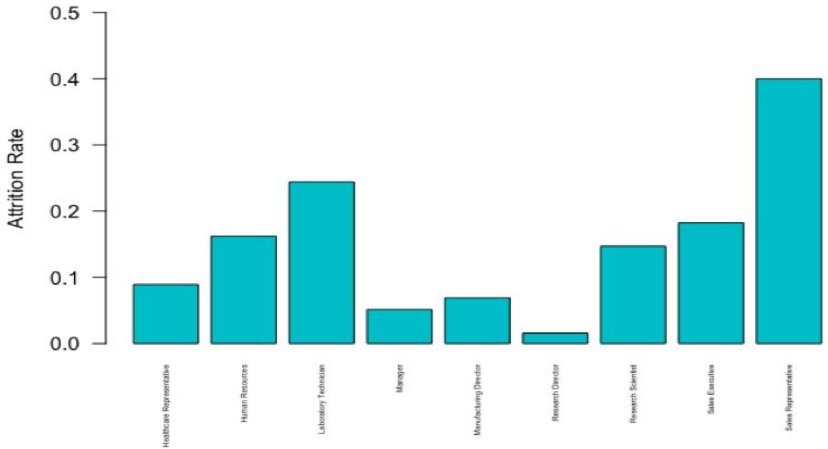
- Productivity costs
- Recruitment costs

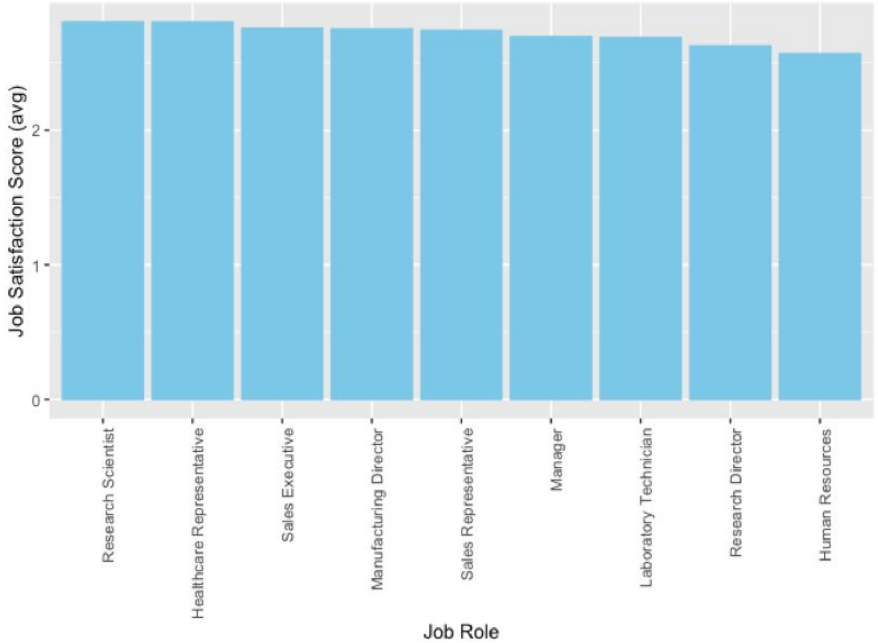
Objective: Identify which factors most likely contributed to employee attrition

Exploratory Data Analysis

- 1170 employee observations
- 1 response variable (Attrition = YES | NO)
- 31 possible explanatory variables

Attrition Rates in Job Roles



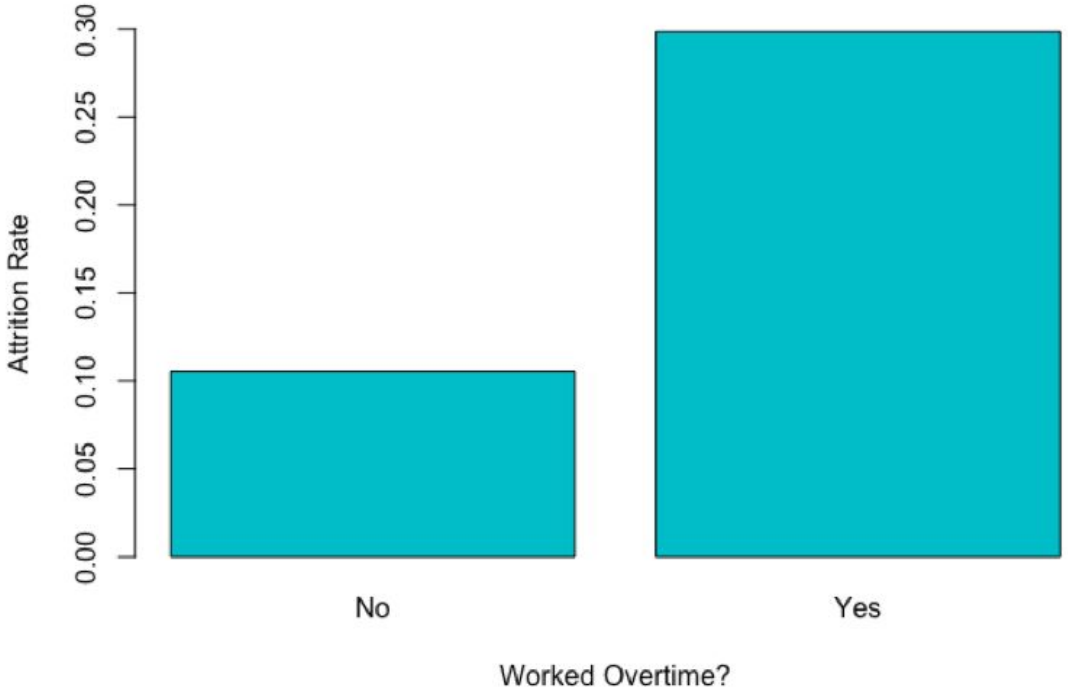


Top Attrition Rates

1. Sales Representative - 40%
2. Laboratory Technician - 24%
3. Sales Executive - 18%
4. Human Resources - 16%

Here we can see that sales representatives, human resources workers, laboratory technicians and sales executive have more attrition than other roles given in the data set.

Attrition Rates in Overtime

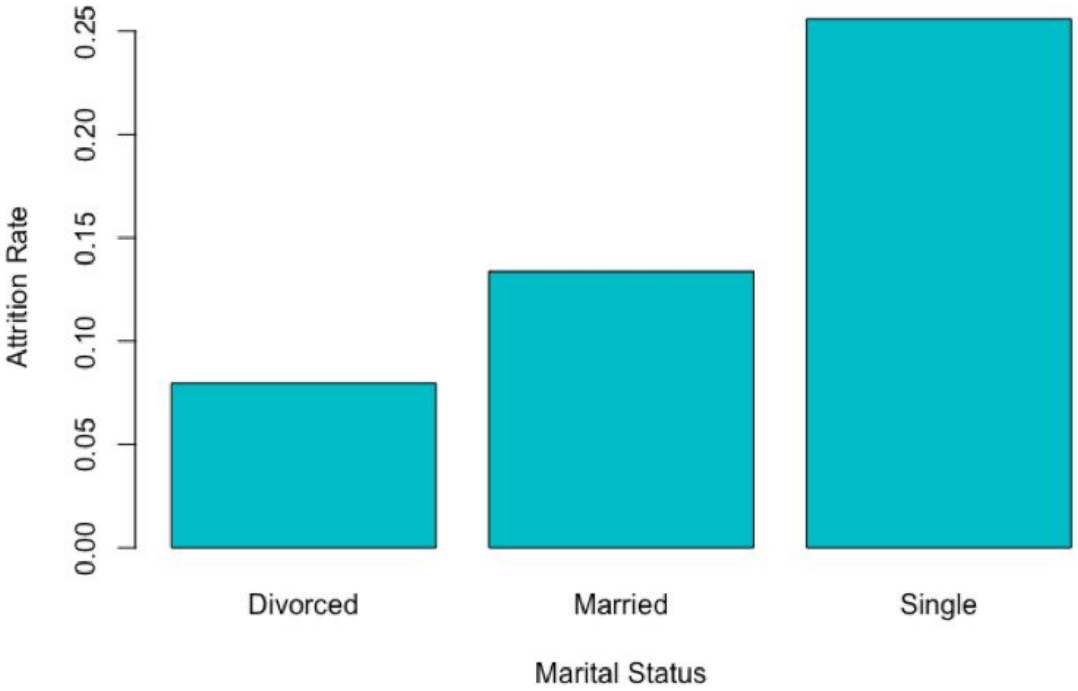


Attrition Rates

1. No - 11%
2. Yes - 29%

This chart shows that people who work overtime have more attrition.

Attrition Rates in Marital Status



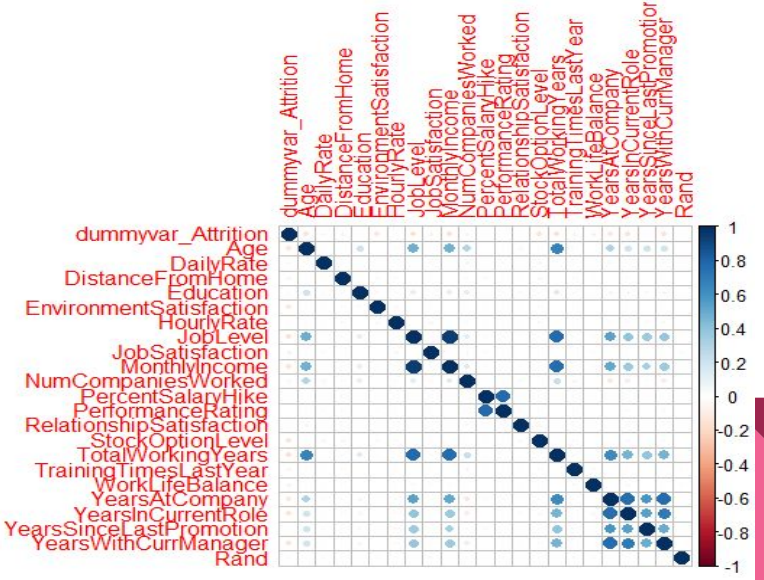
Attrition Rates

1. Single - 26%
2. Married - 13%
3. Divorced - 8%

Single people have more tendency to be subject to attrition.

Correlations in the data

- Lastly, we wanted to identify for possible correlations between explanatory variables
- Turns out there are 7 explanatory variables that are over 0.7 in terms of Pearson's R coefficient!
    - Example: Job Level and Monthly Income



Modeling and Validation time!

Models created

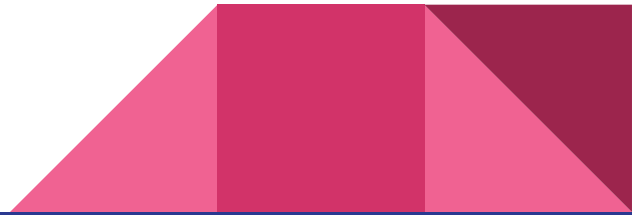
Modeling process involved using the most important explanatory variables to describe the response (Employee Attrition = YES | NO).

- Model 1: 86.3%
- Model 2: 84.7%
- **Model 3: 87.7%**
  - This model performed best with 18 predictors
- Model 4: 86.67%

Recommendations

Target the common predictors across our 4 models:

- Business Travel
- Distance From Home
- Environment Satisfaction
- Job Satisfaction
- Marital Status
- Years Since Last Promotion



Thank you!