Employee Attrition: What Makes an Employee Quit???

A thorough analysis of the factors that affect employee attrition within the company

IST 719 | Maya Mileva

This dashboard uncover the factors that lead to employee attrition and explore important questions. Besides analyzing employee information, this dashboard also incorporates graphics which offer the perspective of employees themselves. This viz was created using a fictional data set produced by IBM data scientists.

This data set presents an employee survey from IBM, indicating if there is attrition or not. IBM has gathered information on employee satisfaction, income, seniority and some demographics. The dataset have 1470 observation with 35 variables. There are nomissing values in the data. For analysis I renamed some of the columns. During the analysis process, the attrition is aggregated by different levels.

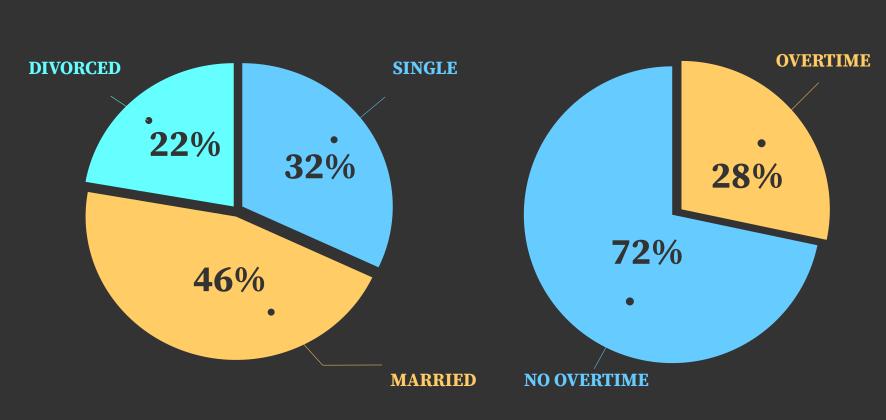
MOTIVATION

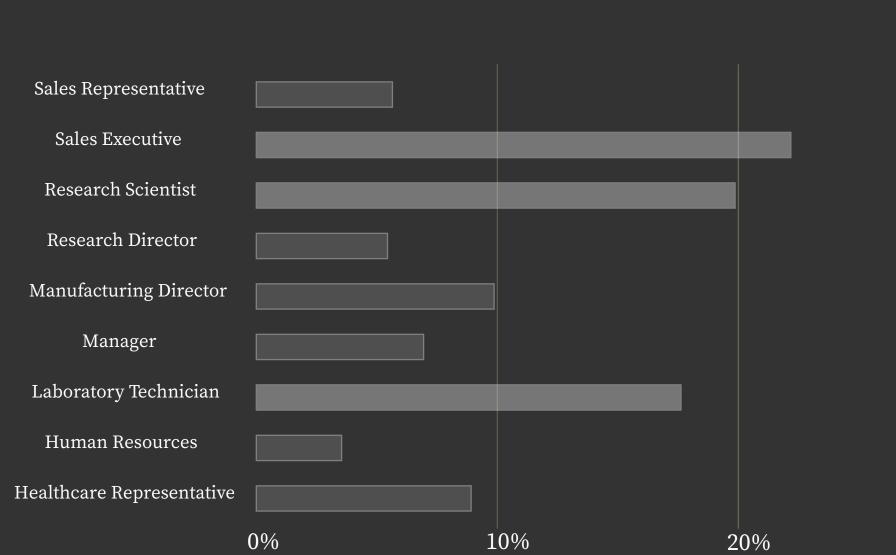
"take out 20% of our best people and virtually overnight we become a mediocre company." - Words by Bill Gates

- The real cost of employee attrition Employee turnover is a costly problem for all businesses. Estimates vary, but professional organizations such as the Society of Human Resource Managers estimate that every time a business replaces a salaried employee, it costs 6 to 9 months' salary on average.
- Average salary in US -> \$ 45,000
- So, average attrition cost -> \$ 25,000
- If 2000 people leave yearly, total cost of attrition would be = \$ 50 million
- If we retain 10% of attrition, we save \$5 million and 200 employees.

ATTRITION HIGHLIGHTS



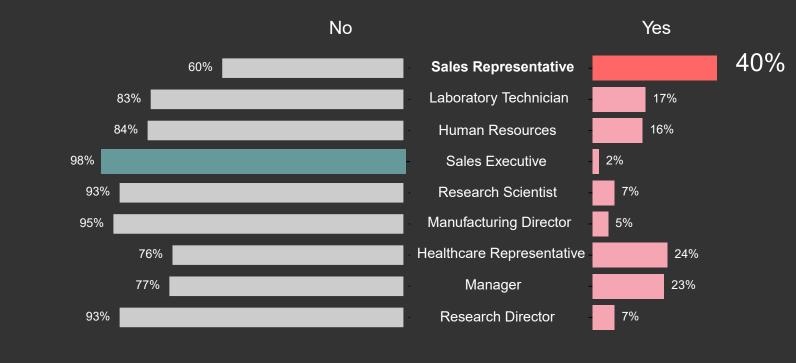


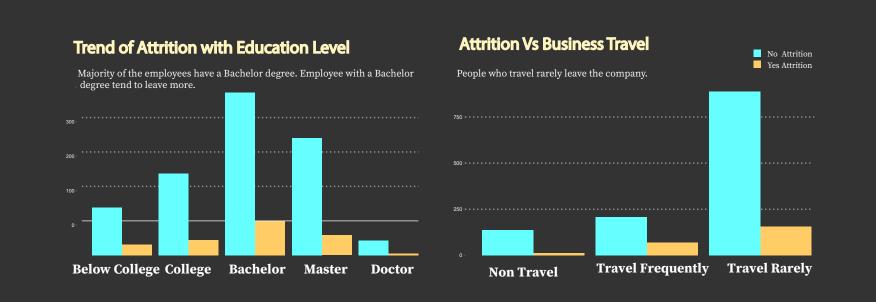


ATTRITION BY VARIOUS LEVELS

What is the attrition by job role?

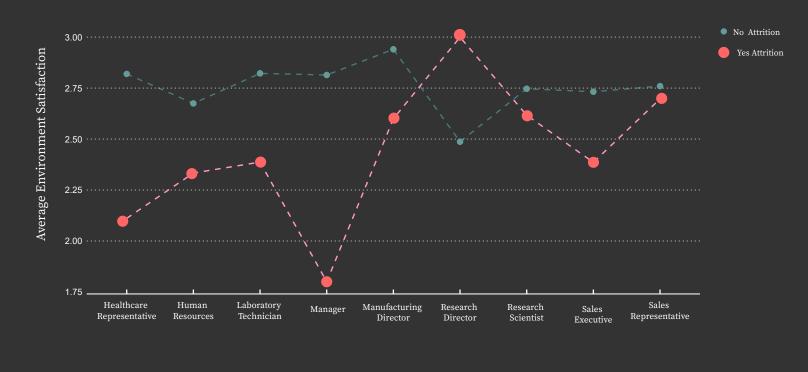
Most attrition happend un the sales dapartment. The reason might be they don't have good policies for sales people who are likely to travel more.



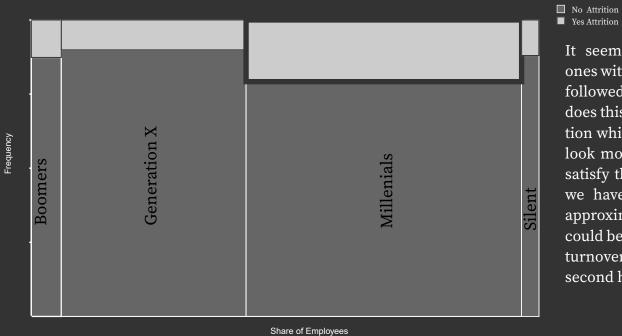


What's the working environment by job role?

As expected, managers and healthcare representatives are dealing with a lower working environment however, we don't see the same with sales representatives that could be because most sales representatives work outside the organization.



What is the attrition by generation?

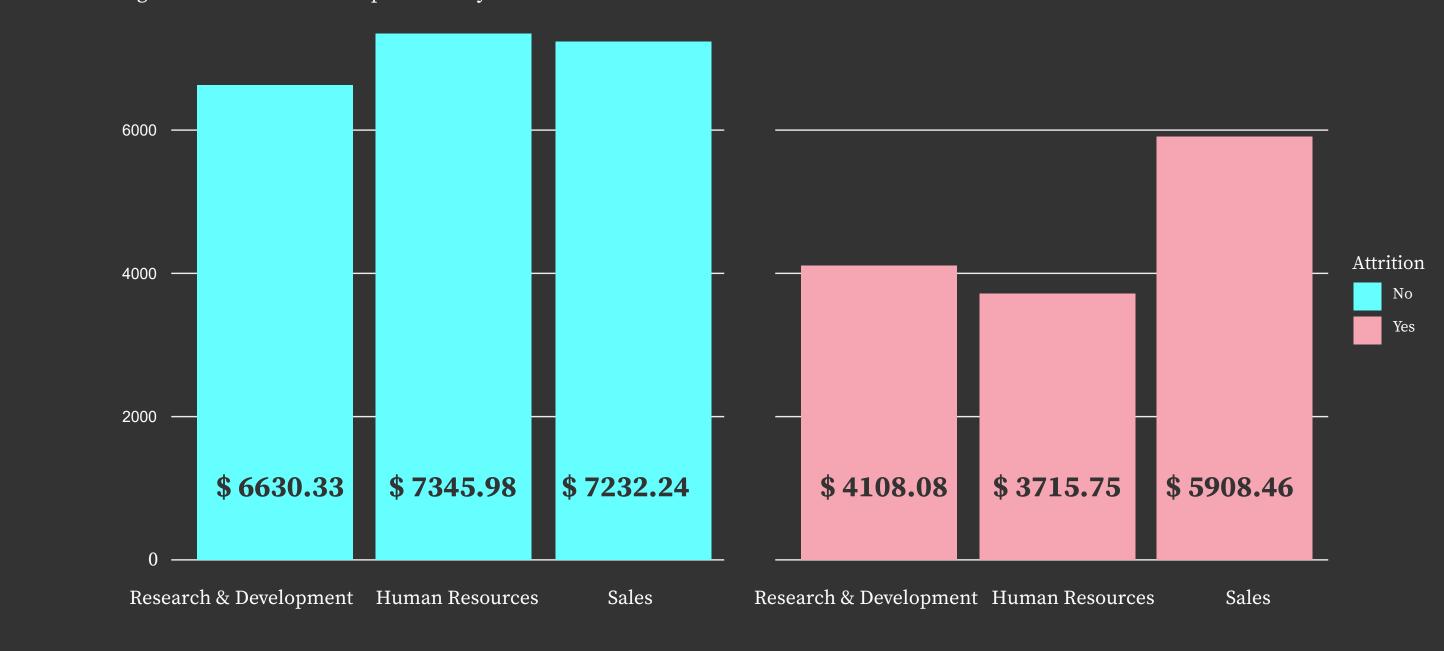


It seems that millenials are the ones with the highest turnover rate, followed by the boomers. What does this tell us? The newer generation which are the millenials opt to look more easy for other jobs that satisfy the needs on the other side we have the boomers which are approximating retirement and could be one of the reasons why the turnover rate of boomers is the second highest.

TOP INFLUENCING FACTORS

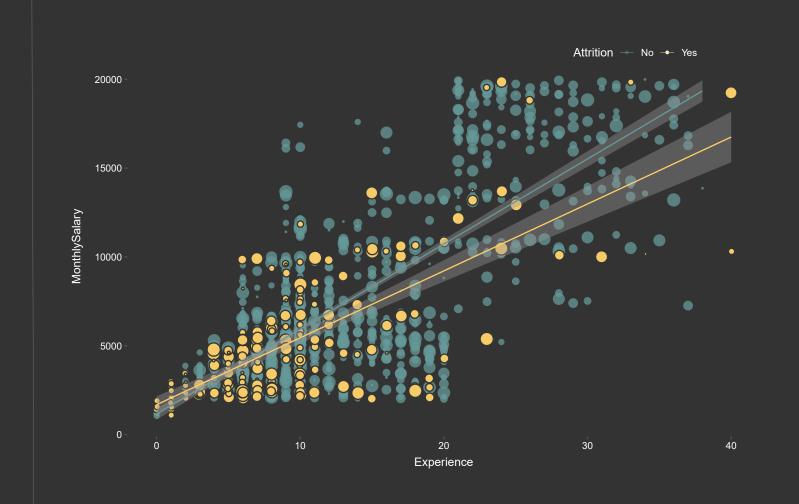
Is Income a major factor when it come to leaving the company?

We can see huge differences in each department by attrition status.

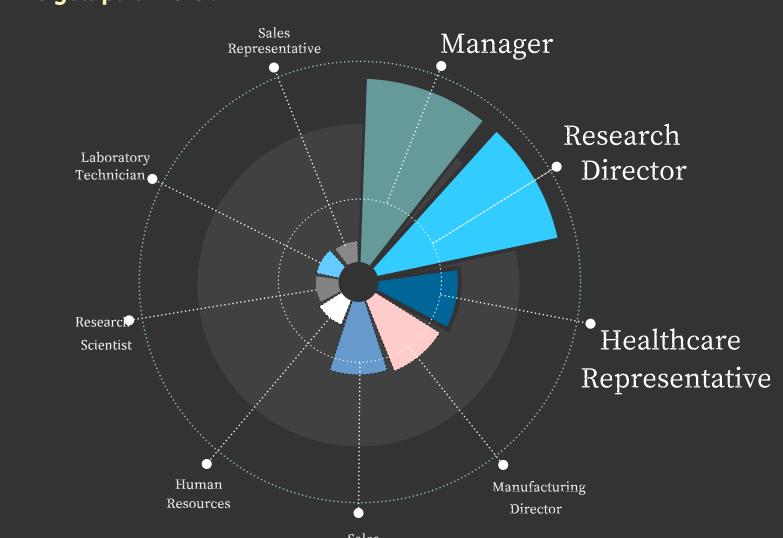


Is switching over advantageous?

People having less than ~8 years of experience and have switched over to many companies have experienced a significant hike in the salary levels compared to those who stay in the company.

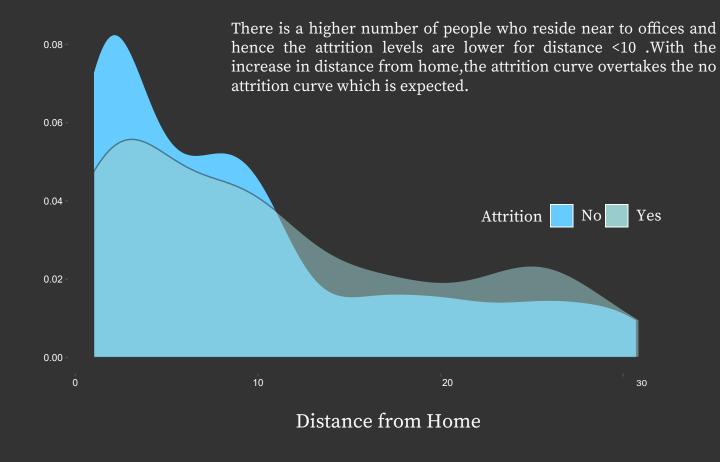


Who gets paid more?



Executive

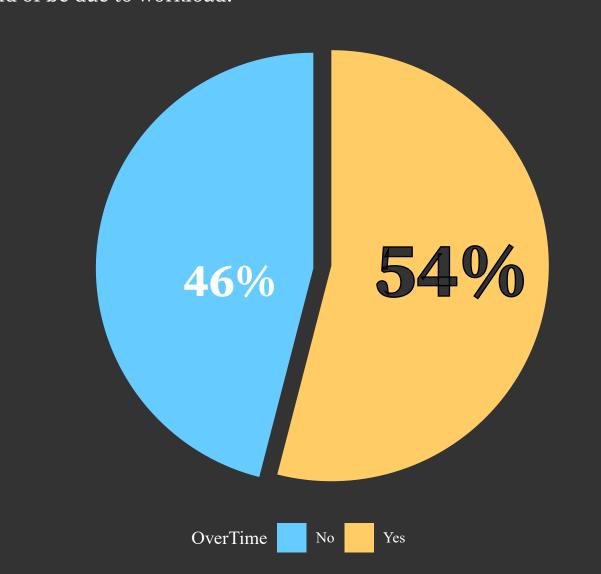
Is distance from home important?



Wahat is the percentage of people who work overtime and quit?

People who do overtime are likely to leave more.

It could of be due to workload.



Source: https://www.kaggle.com/pavansubhasht/ibm-hr-analytics-attrition-dataset R packages: tidyverse, skimr, GGally,plotly, caret, ggplot2, ggthemes, rattle, reshape2, RColorBrewer, plotrix, rpart.plot, ggthemes, scales