

## **Executive Summary for HR Dataset Analysis: Final Product**

As I continue learning about Management Information Systems, I completed my Final Product using Tableau Software - a software that many management consultants use in the modern business world. For the Final Product, I used Tableau to solve a problem that a dataset laid out - employee attrition.

## **HR Dataset Analysis: Final Product**

**Date:** March 30, 2021

**Subject:** Analyzing the Dataset & Addressing the Major Issue of a Company

### **Analysis:**

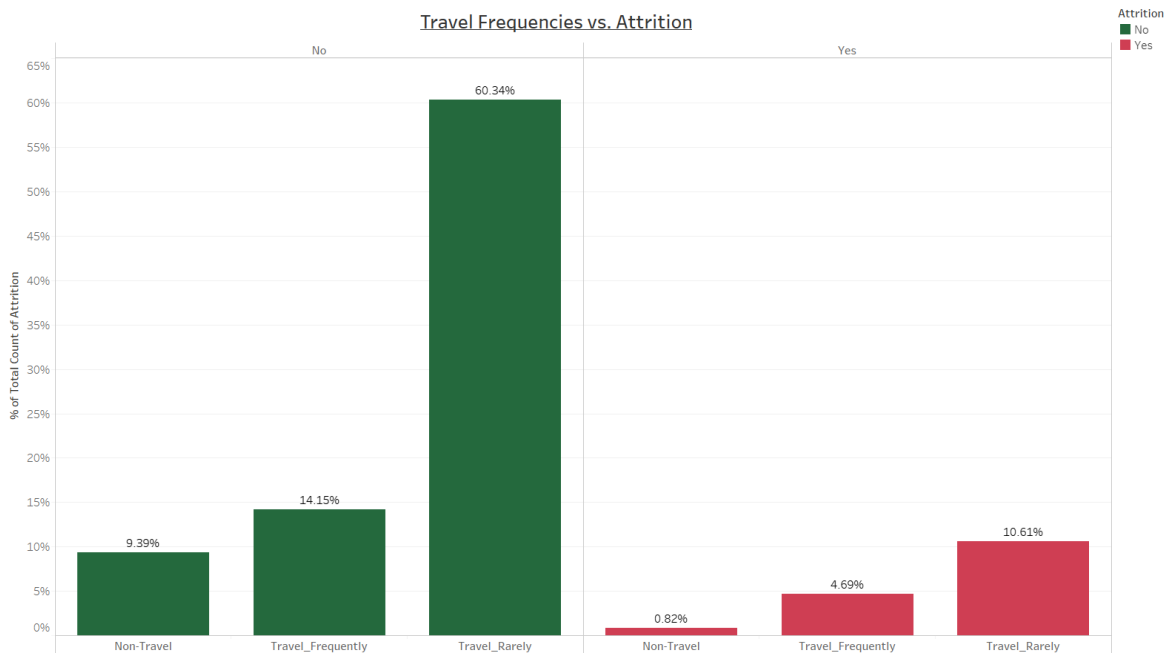
As I continue learning about Management Information Systems, I completed my Final Product using Tableau Software. For the Final Product, I have culminated in a variety of charts and graphs to increase my skills in data analysis as well as learning about the many aspects of data visualization.

In order to expand my knowledge in the realm of data visualization, I seized the opportunity to utilize a dataset from [Kaggle](#) - a data science company for data scientists and data-loving enthusiasts (like myself). The dataset that I chose was a HR dataset that was concerned with the attrition of a company's employees? Wondering what attrition is? Well, according to [jobzology.com](#), employee attrition is "the loss of employees through a natural process, such as retirement, resignation, elimination of a position, personal health, or other similar reasons." The problem that I need to figure out is: What are some of the causes that lead to employee attrition in this particular company?

In order to uncover the mystery behind the employee attrition of the company in question, I decided to create some questions after my mentor, Mr. Shekhar, suggested that I create at least 4 to 5 questions - the questions can be found below.

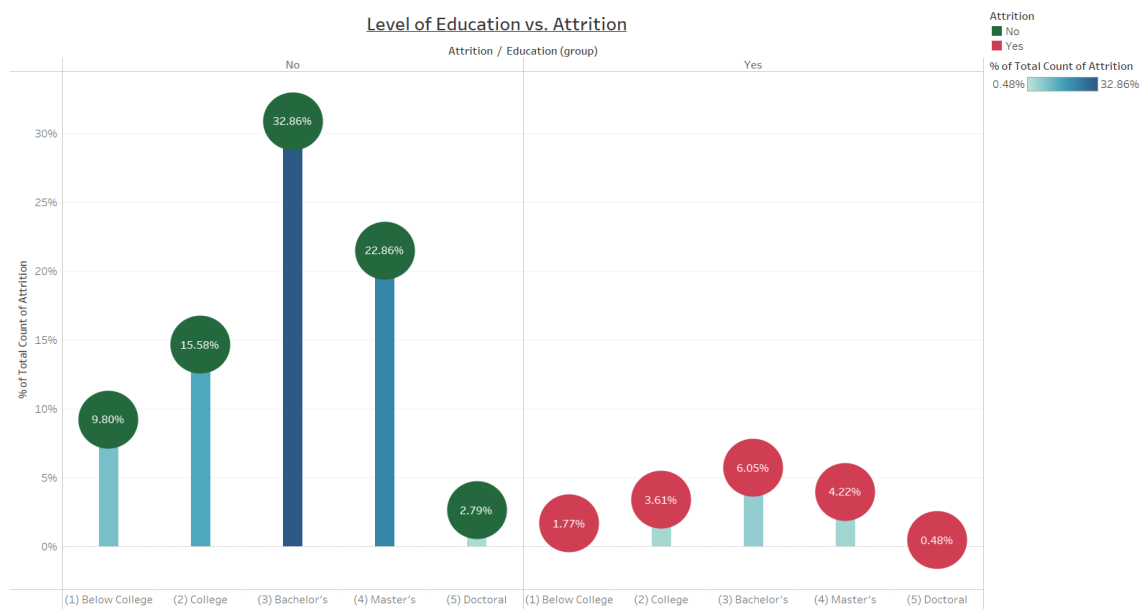
- 1.** Do employees that travel a lot compared to other employees more likely to leave the company?
- 2.** Are less educated people in the company more likely to leave the company?
- 3.** Is there a specific department that seems to have a higher amount of people who decide to leave the company?
- 4.** Does an employee's job level in the company have anything to do with their potential attrition?
- 5.** Is attrition the result of any of the following that may cause problems for the employee: low job satisfaction, low monthly income, or poor work life balance?

Now, I will go into detail of the various visualizations and how the data they represent brought me to a conclusion (all of the visualizations are available [here](#)). For the first visualization, titled *Travel Frequencies vs. Attrition*, this bar graph is highlighting the effect travel has on attrition in this company. When looking at this bar graph, it clearly shows that travel



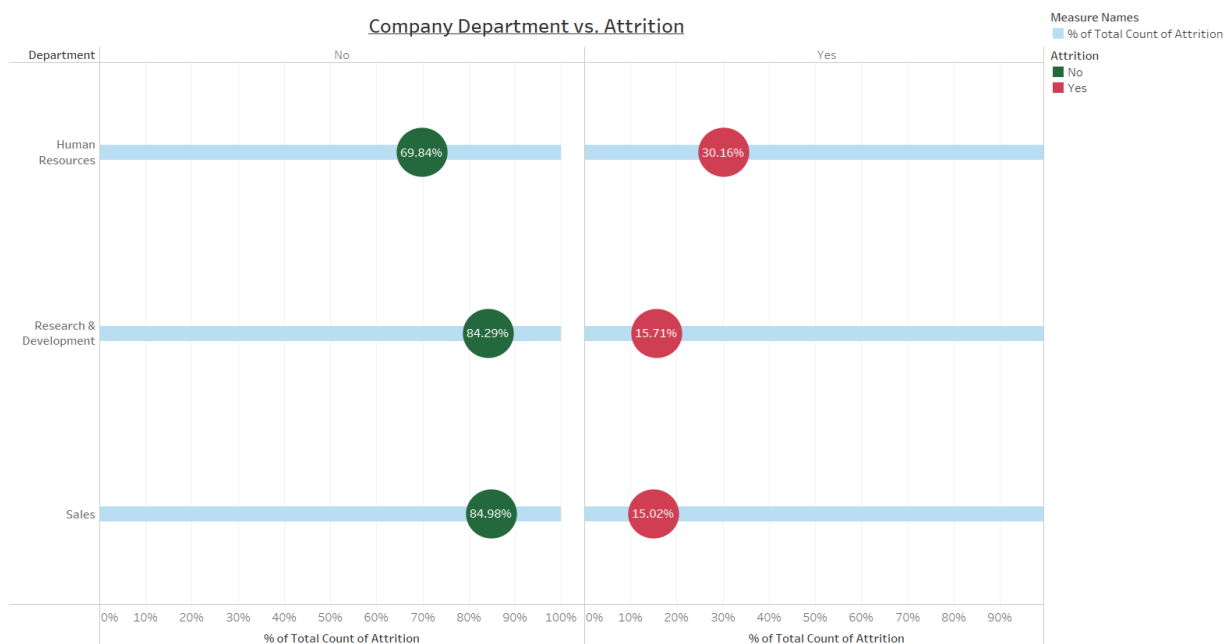
frequency for an employee has little or no effect on their attrition. This is because out of *all* of the employees in this company, only **16.12%** of them actually were a part of the group of employees that left the company.

Moving on to the second visualization, titled *Level of Education vs. Attrition*, is a lollipop chart displaying information regarding an employee's level of education and whether that has an effect on employee attrition.



Similar to the first visualization, this visualization has a low rate of attrition for the reason of one's education because out of *all* employees, only **16.11%** of them left the company.

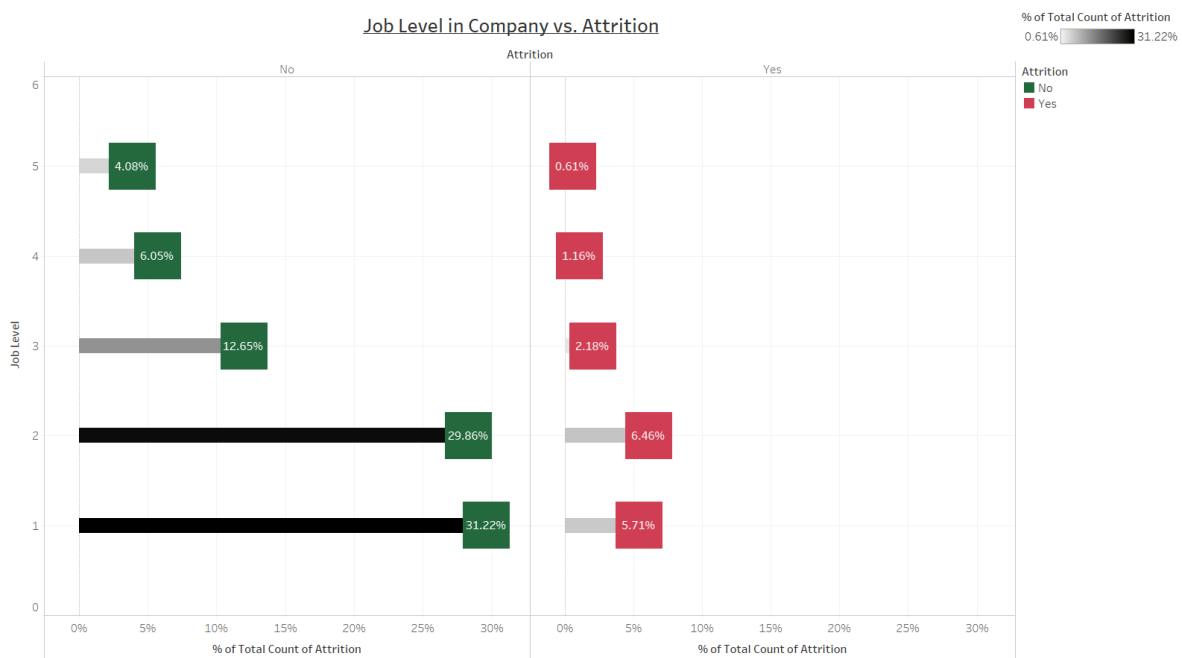
Onto the third visualization, which tells a different story than the previous two visualizations. In the third visualization, instead of looking at the whole workforce of the company, I focused on the different departments. In this visualization, titled *Company Department vs. Attrition*, is a slider chart that is showing the rate of attrition in each of the three departments - Human Resources, Research & Development, and Sales. Based on the data



presented, there seems to be almost double the rate of attrition in the Human Resources department than either of the other two departments. This is because the Human Resources department has a rate of attrition of

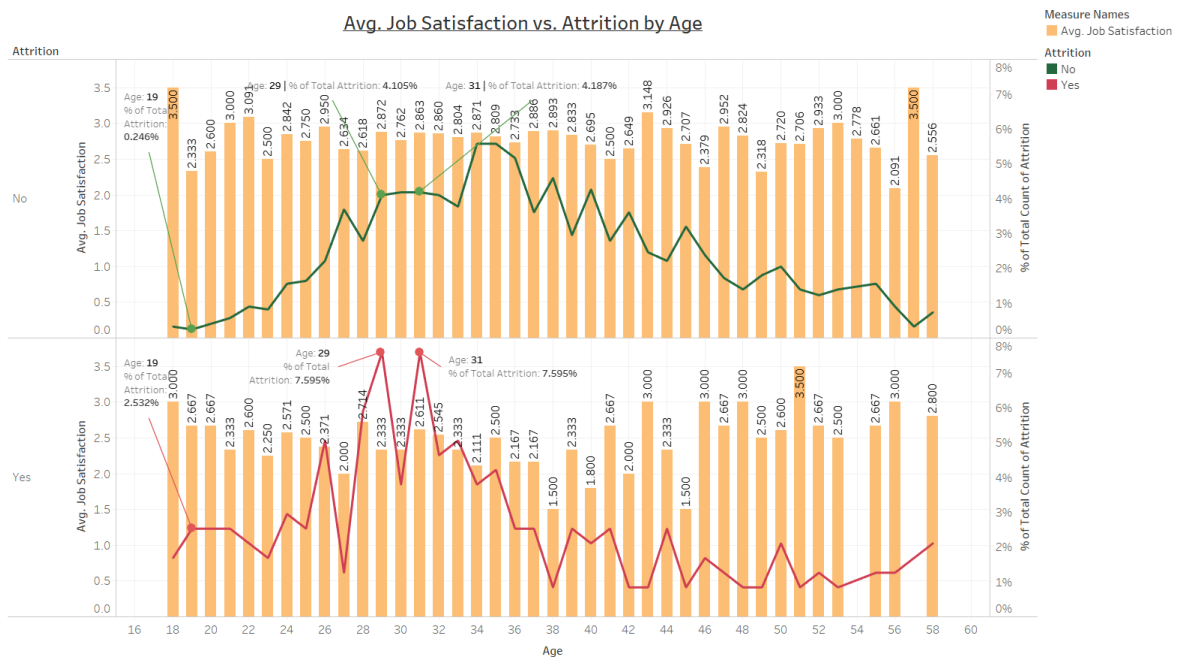
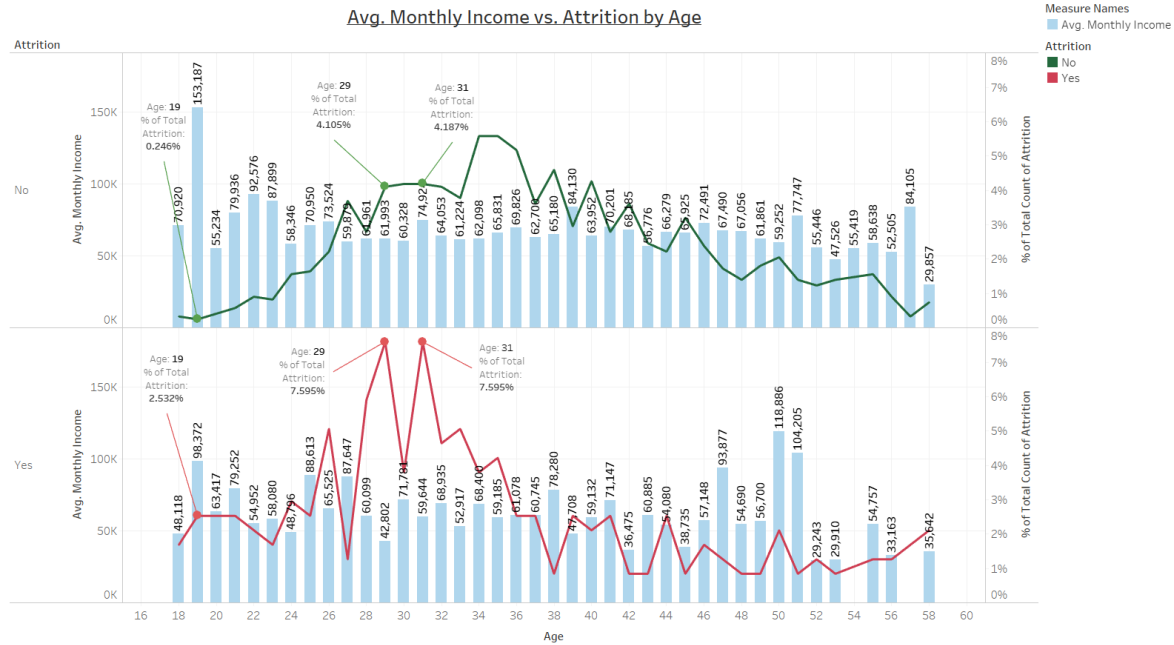
**30.16%** compared to **15.71%** and **15.02%** in the Research & Development and Sales departments, respectively.

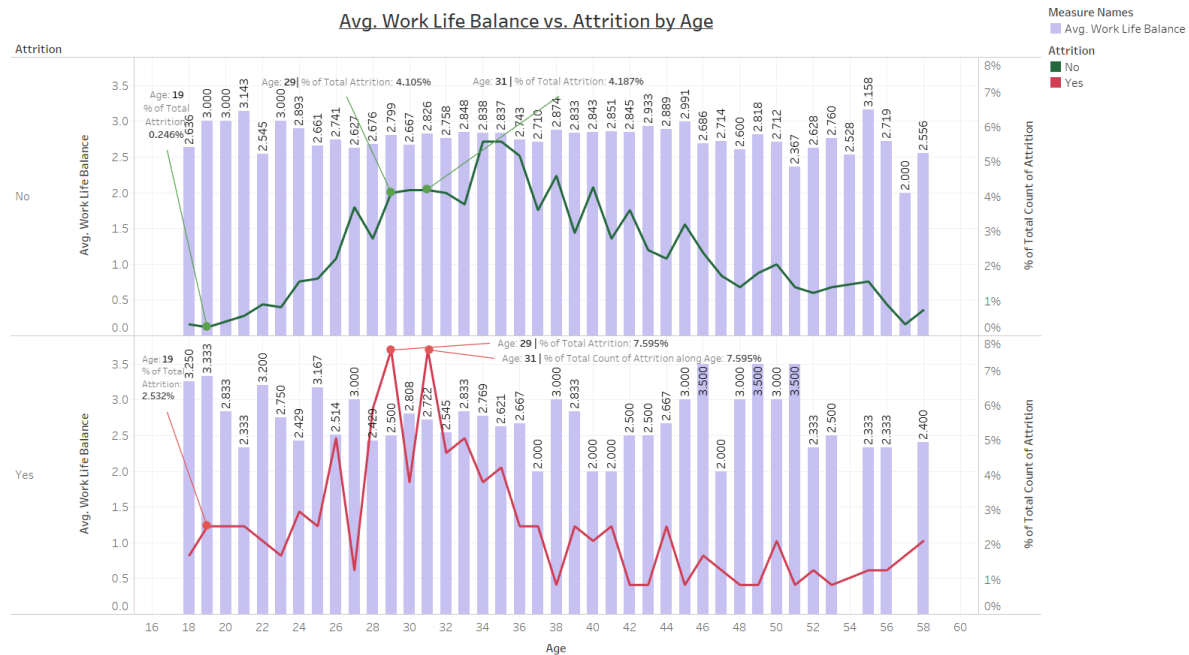
The fourth visualization, titled *Job Level in Company vs. Attrition*, is a horizontal lollipop chart that shows how an employee's current job level might affect their choice to forgo attrition. Even though the visualization may



seem like that there is nothing significant, there is. When looking at job levels 1 and 2 (these are the entry-level or junior-level jobs), there is a **higher attrition rate** in these two levels compared to the other job levels. This is because they will tend to find better jobs - in higher job levels - elsewhere as they get more experienced.

The last three visualizations are interconnected because job satisfaction, monthly income, and work life balance go hand-in-hand.





I picked three age groups (19 y/o, 29 y/o, and 31 y/o) as the main points that I want to focus on. This is because these age groups are either an outlier or are key to figuring out if attrition is related to these three things. First, looking at the 19 y/o age group, this to me is an outlier, because they have the highest average monthly income, a moderately high average job satisfaction rate, and a moderately high average work life balance rating - with one of the most moderately low attrition rates. This is because these 19 y/o are in entry-level jobs and the company is fine with giving high income to these 19 y/o to keep them attached to the company for the long-run. However, when looking at both the age groups of 29 y/o and 31 y/o, both have very similar numbers in terms of average monthly income, average job satisfaction rating and average work life balance rating - but both groups exhibit the same attrition rate. Wondering why? Well,



when looking across the last three visualizations, it seems those who **were not** a part of the employees that underwent attrition, everything looks almost even between the age groups. However, when observing the employees that **did partake** in attrition, it looks like those employees **were paid less, had a lower average job satisfaction rating, and a lower average work life balance rating** - thus having a much higher attrition rate.

As for the questions that I listed earlier, it seems that questions 3 (dealt with company department), 4 (dealt with job level in company), and 5 (dealt with average monthly income, average job satisfaction rating, and average work life balance rating) all of them have provided me with the insight to tell the company that they should improve their Human Resource department, improve their employees' monthly income to be more fair, and improve their workplace environment and work load for their employees to ensure that the employees can all have a stable work life balance.