

Data Visualisation

Siddharth Sharma
M.Sc in Data Analytics
National College of Ireland
X16148371

Table of Contents

- 1. Introduction**
- 2. Report**
 - 2.1 Ranking Fortune 500
 - 2.2 Highest number of Employees in different sectors
 - 2.3 Revenue of Fortune 500 based on their headquarters
 - 2.4 Sector wise revenue and profit
 - 2.5 Revenue change vs profit change
 - 2.6 Employees Satisfaction Level vs Pay vs Age.
 - 2.7 Satisfaction level of the employees
 - 2.8 Age vs Tenure of the Employees based on the average pay
 - 2.9 Sector wise comparison Revenue vs Assests vs Profits
 - 2.10 Number of employees vs Profit earned by Fortune 500 Companies
- 2 Conclusion**
- 3 References**
- 4 Appendix**

1. INTRODUCTION

Fortune 500 companies comprise of the biggest companies in United States and the list is published by Fortune magazine based on the total revenue for one fiscal year [1][2]. Public and private companies are both included in the list [1][2]. This complies are listed from various sectors such as Telecommunications, Technology, Retailing, Chemicals, Energy, Financials, Food and Drug Stores, Food, Beverages and Tobacco, Motor Vehicles and Parts, Aerospace and Defense, Apparel, Business Services, Engineering and Construction, Hotels, Restaurants and Leisure, Household Products, Industrials, Materials, Media, and Wholesalers.

The 500 companies included in the list incorporate two thirds of United States GDP [1]. Only the companies who file a 10-K with a government are taken into consideration [1]. The listing hinges on the revenues, profits, assets, number of employee's, total return to investors and earnings per share by an individual company [1].

Over 1800 companies have given prominence to the 'Fortune 500' list since it started i.e. way- back in 1955. Activities like acquisitions, mergers, bankruptcies etc. are not evaluated. Fortune 500 gives us an idea about the situation of economy, whether it is deteriorating or escalating [3].

This report will be looking at the various measures taken into account while forming the list and try to find out which companies are on the top and why. What is the change in the profits and revenues of the Fortune 500 companies have to go through to stay in the ivy league. Many comparisons have been made based on the assets and the number of employees in every company. Wide range of contrast has been done depending on the age, tenure and pay of the employees of the Fortune 500.

2. REPORT

2.1 Ranking Fortune 500

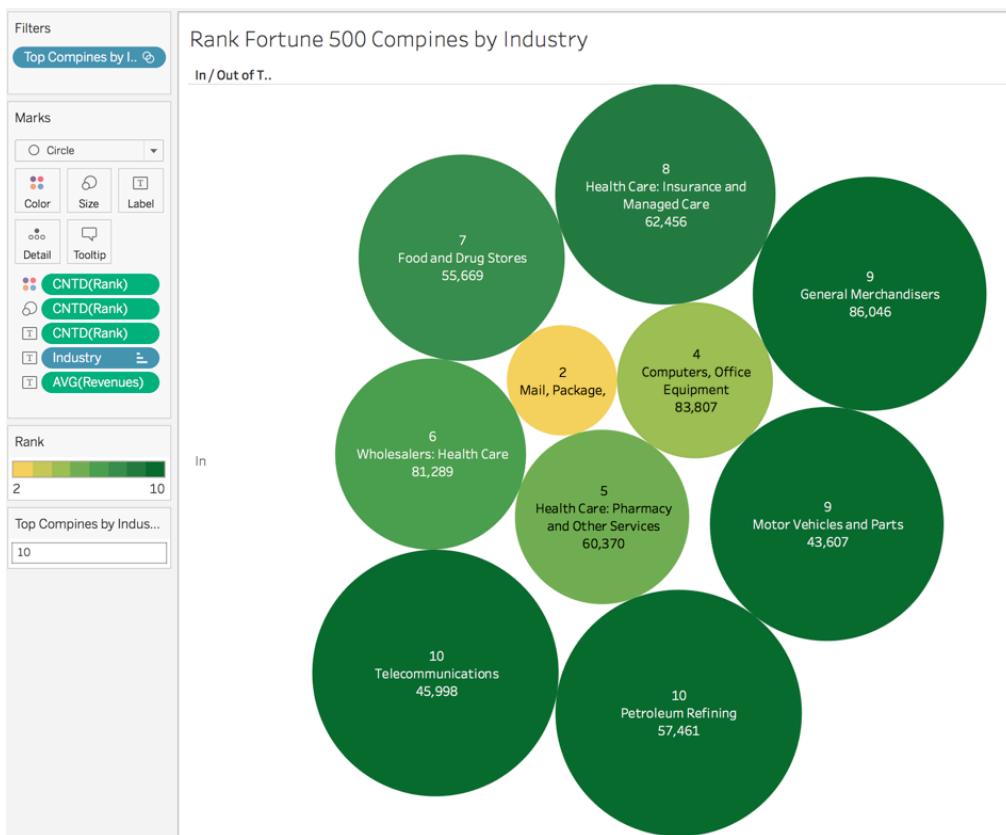


Figure 1: Ranking of Fortune 500 Companies by Industry

In Figure 1 we can see the top 10 out of the fortune 500 companies have been ranked according to revenue generated by the industry they belong. The Companies that come under General Merchandisers, Computers, Office Equipment, Wholesalers: Health Care have the highest revenue across each and every industry i.e. Walmart, Costco, Apple, Dell Technologies, Cardinal Health, AmerisourceBergen, McKesson respectively. These companies are generating revenue in large amounts which places them on top of the table.

2.2 Highest number of Employees in different sectors

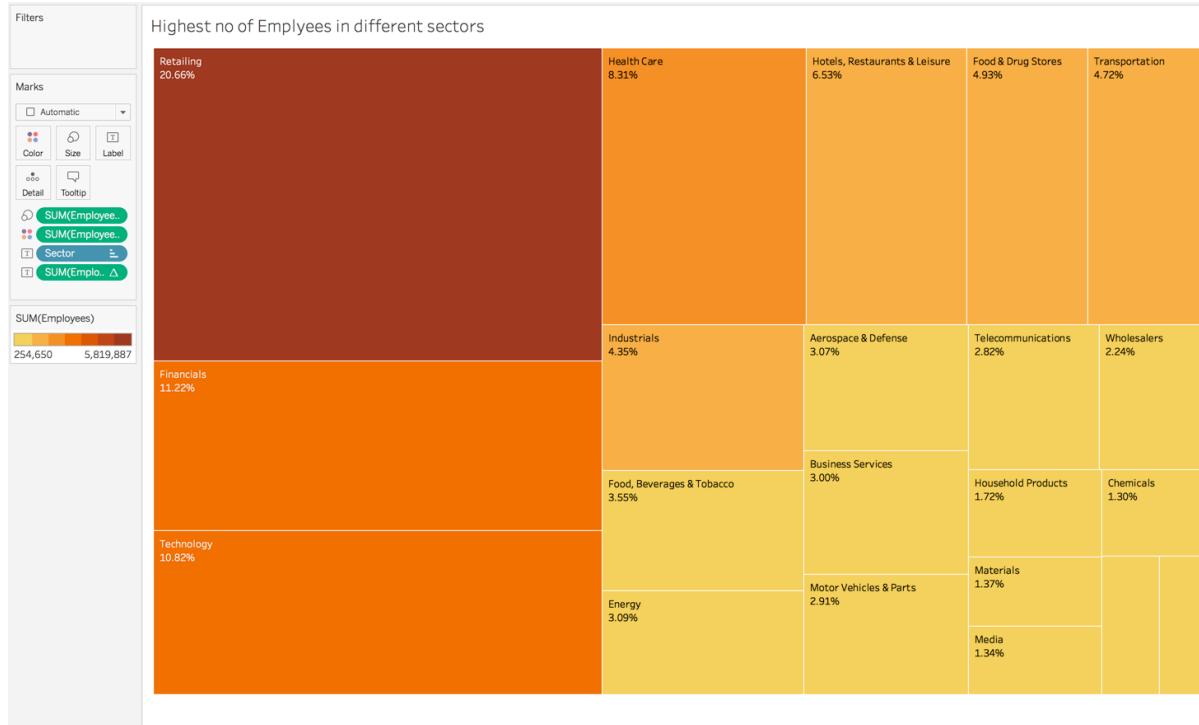
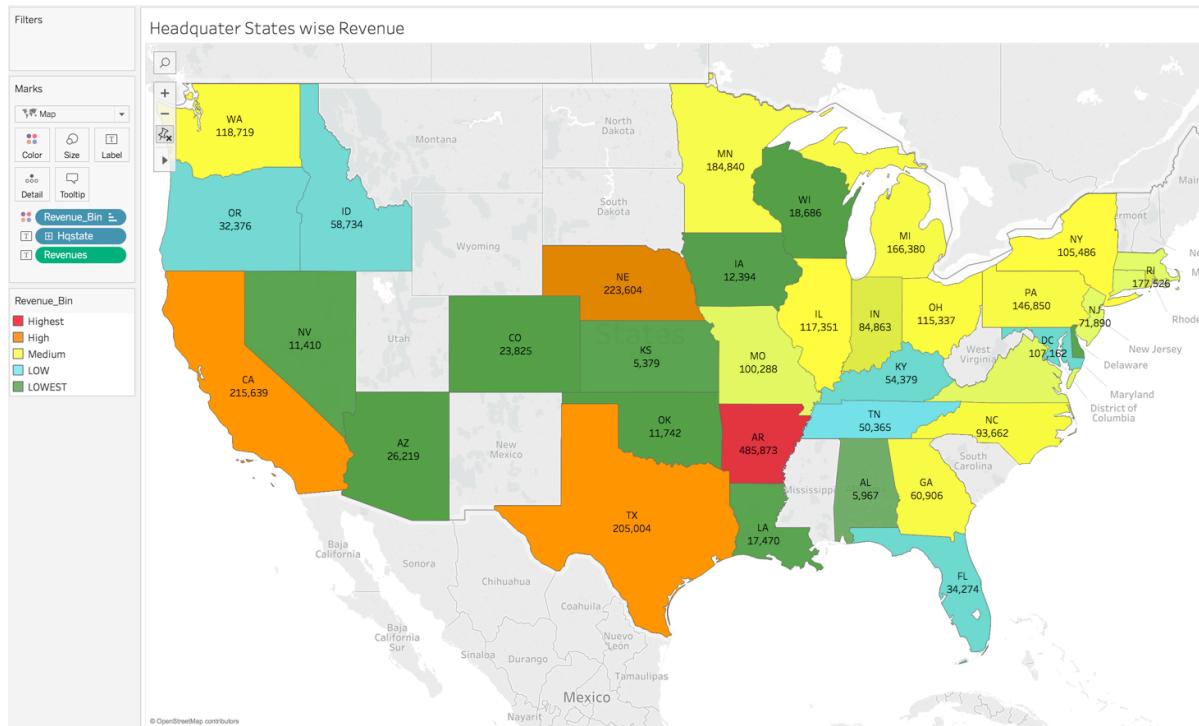


Figure 2: Highest number of Employees in different sectors

The chart shown above is a heat map of the number of employees distributed across different sectors in market. According to the chart the maximum number of employees are in the Retailing Sector with 21% followed by Financials- 11.2%, Technology - 10.8% and healthcare - 8.3%. Companies like Walmart, Berkshire Hathaway, Apple, UnitedHealth Group etc. have been attracting the maximum number of employees, thus giving large number of employment opportunities to the world, and helping in the growth of countries GDP.

2.3 Revenue of Fortune 500 based on their headquarters



Having a quick look at figure 3 we can see diversity in revenue of the fortune 500 companies due to their location. Companies in the state of California, state of Texas & state of Nebraska i.e. Apple, Wells Fargo, Alphabet, Exxon Mobile, AT&T, Berkshire Hathaway, Intel, HP, etc. are generating 10 times the revenue generated by companies in other states of the country because of the population. Walmart situated in the state of Arkansas has the highest revenue. Whereas companies in the state of Arizona and state of Colorado having less population causes revenue to hit the lowest. We can deduce that success of a company not only depends on its quality of the product and services but on its location too.

2.4 Sector wise revenue and profit

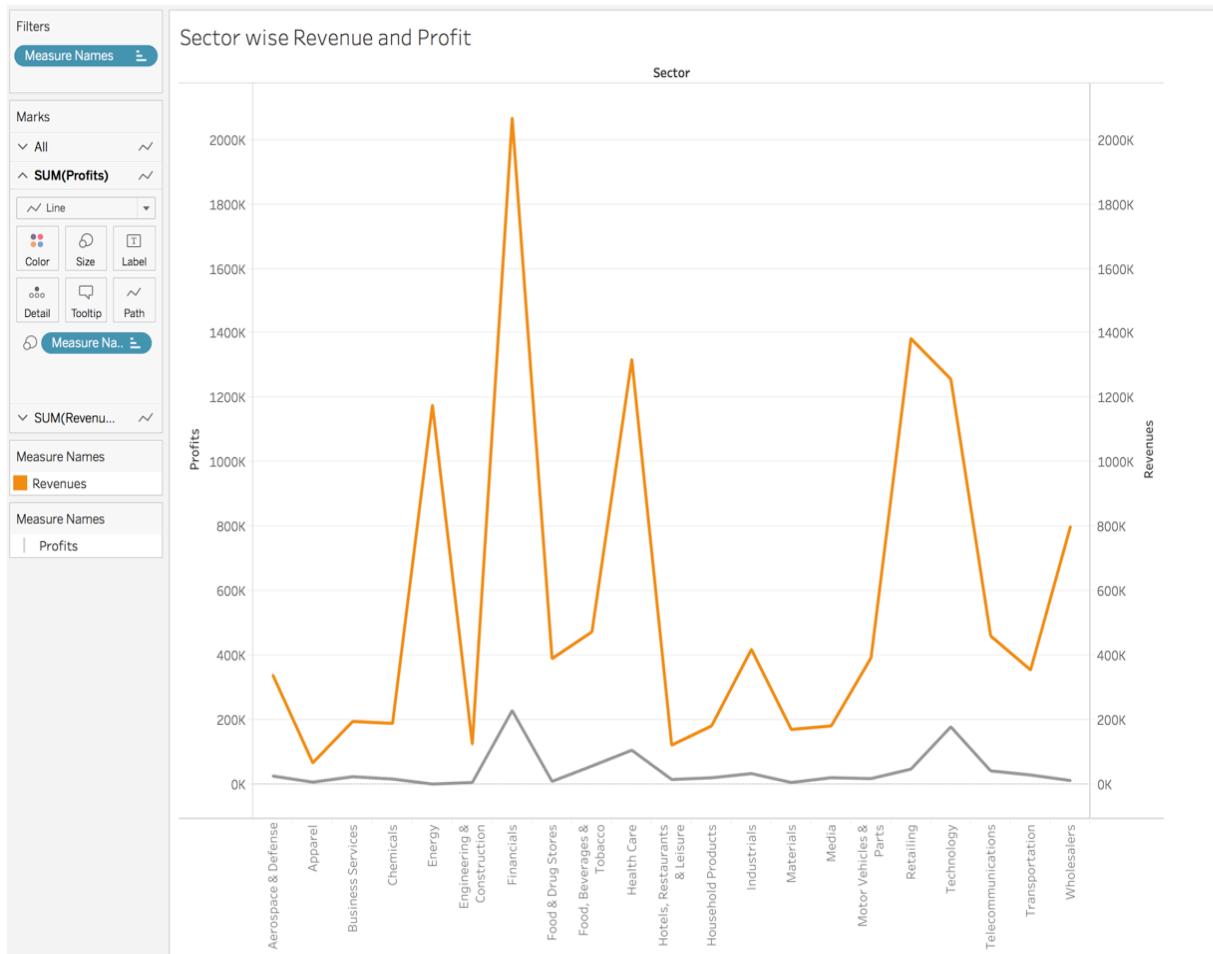


Figure 4: Sector wise revenue and profit

Figure 4 shows us the trend in the revenue and the profit of the fortune 500 companies based on different sectors. This helps us deduce that the Financials, Technology, Energy, Health Care and Retailing sectors are on a boom and they have a bright future ahead. These sectors help in stabilizing economy of country and help in the overall progress of a country. Companies like Berkshire Hathaway, Apple, Walmart are making huge profits and are worth billions of dollars. Their revenue is increasing exponentially every fiscal year when compared to other sectors such as Chemicals, Media, Motor vehicles, business services etc.

2.5 Revenue change vs profit change

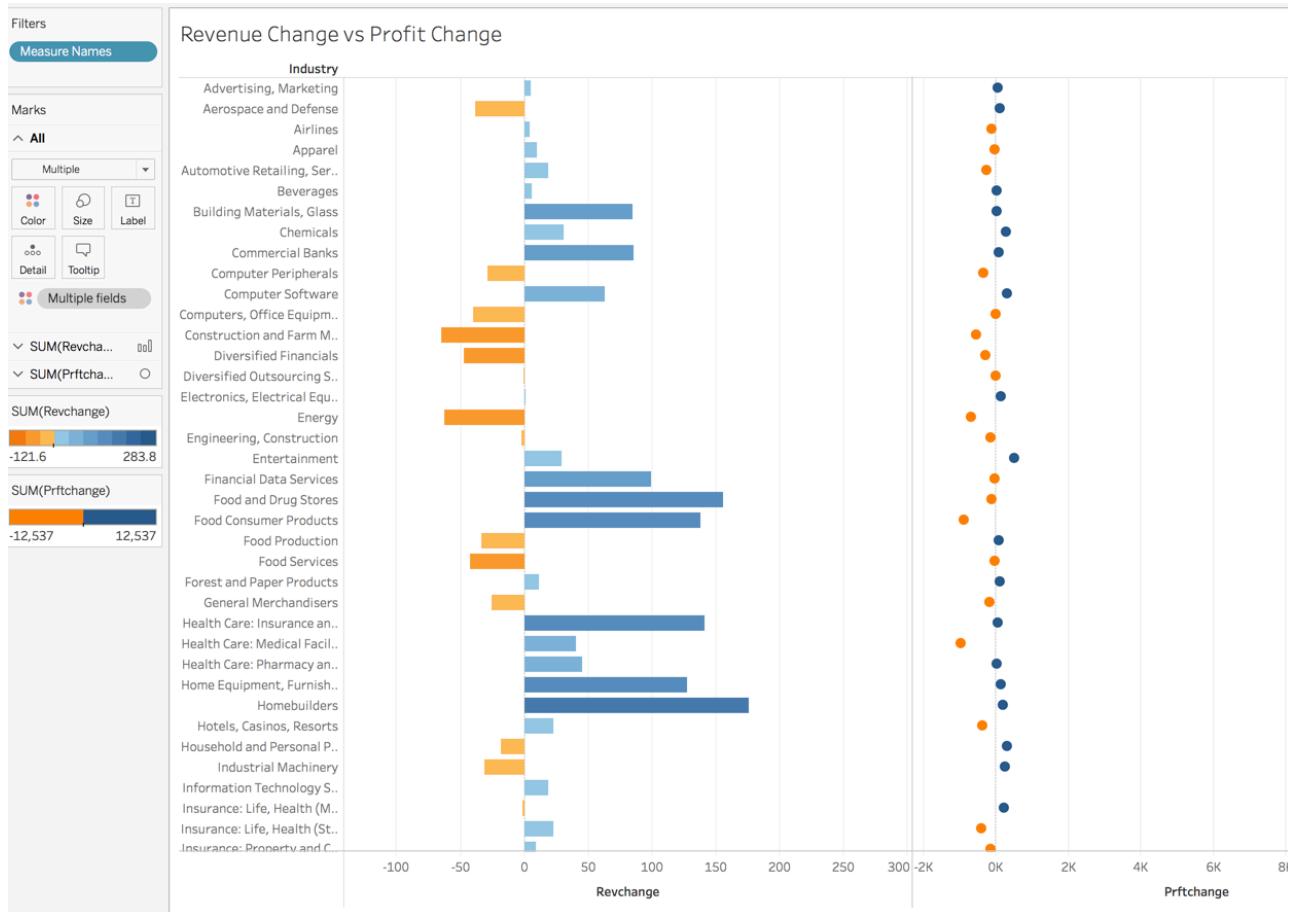


Figure 5: Revenue change vs profit change

As the above figure shows the Revenue change and the profit change of the fortune 500 companies based on the industry. The homebuilders are having a drastic revenue change as the population is growing and more households are needed to accommodate the people, commercial places are growing at very fast rate too whereas the industries like entertainment and industrial machinery are having a negative change in both profits and revenue which is not good for the stability of the market.

2.6 Age vs Tenure of the Employees based on the average pay

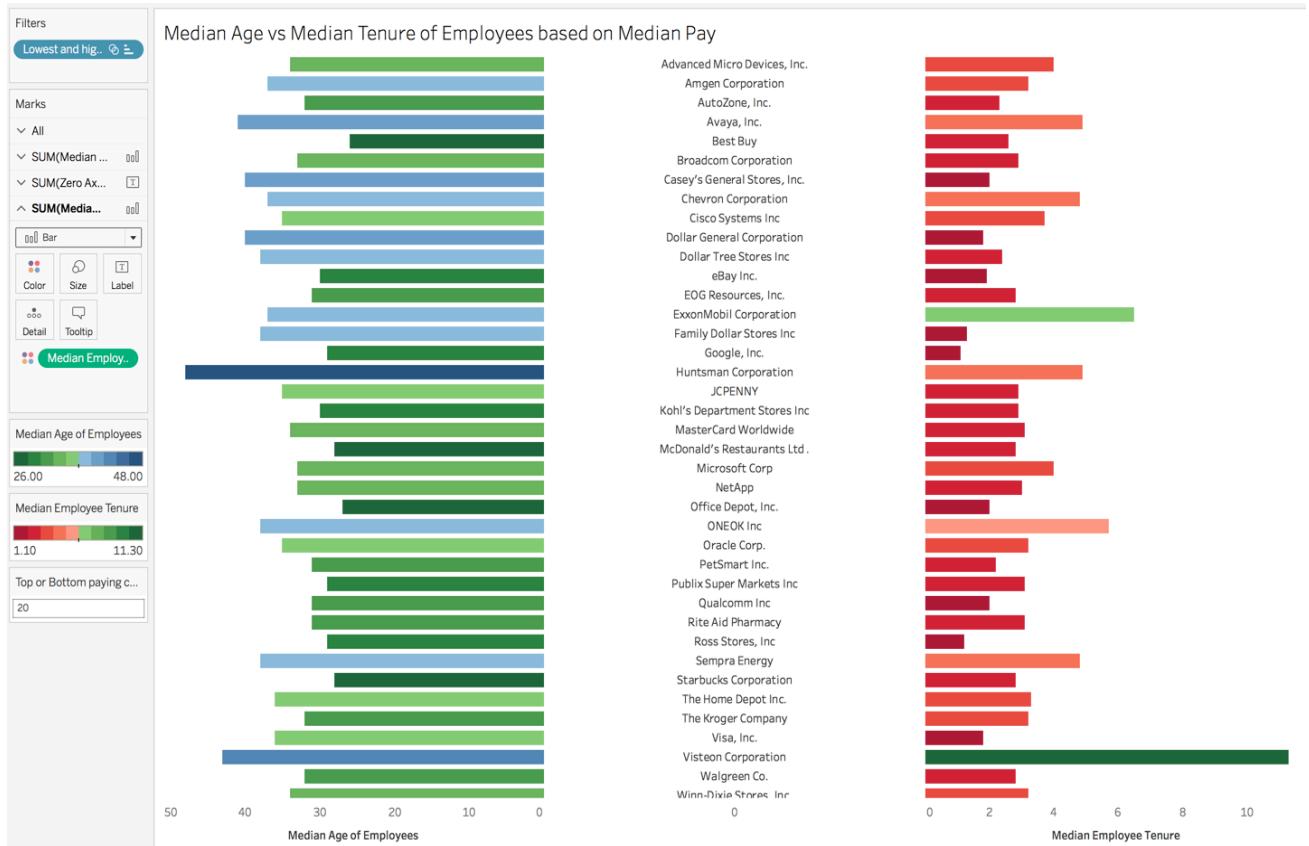


Figure 6: Age vs Tenure of the Employees based on the average pay

Figure 9 shows the comparison between the age , tenure and the pay a employee is getting. We can deduce from the figure that large companies like Google , Microsoft, AutoZone, Ross Stores give away good amount of money and the people working there are around the age of 30. But these companies don't offer long tenure to their employees. This type of policy brings in fresh and energetic people into the industry.

2.7 Satisfaction level of the employees

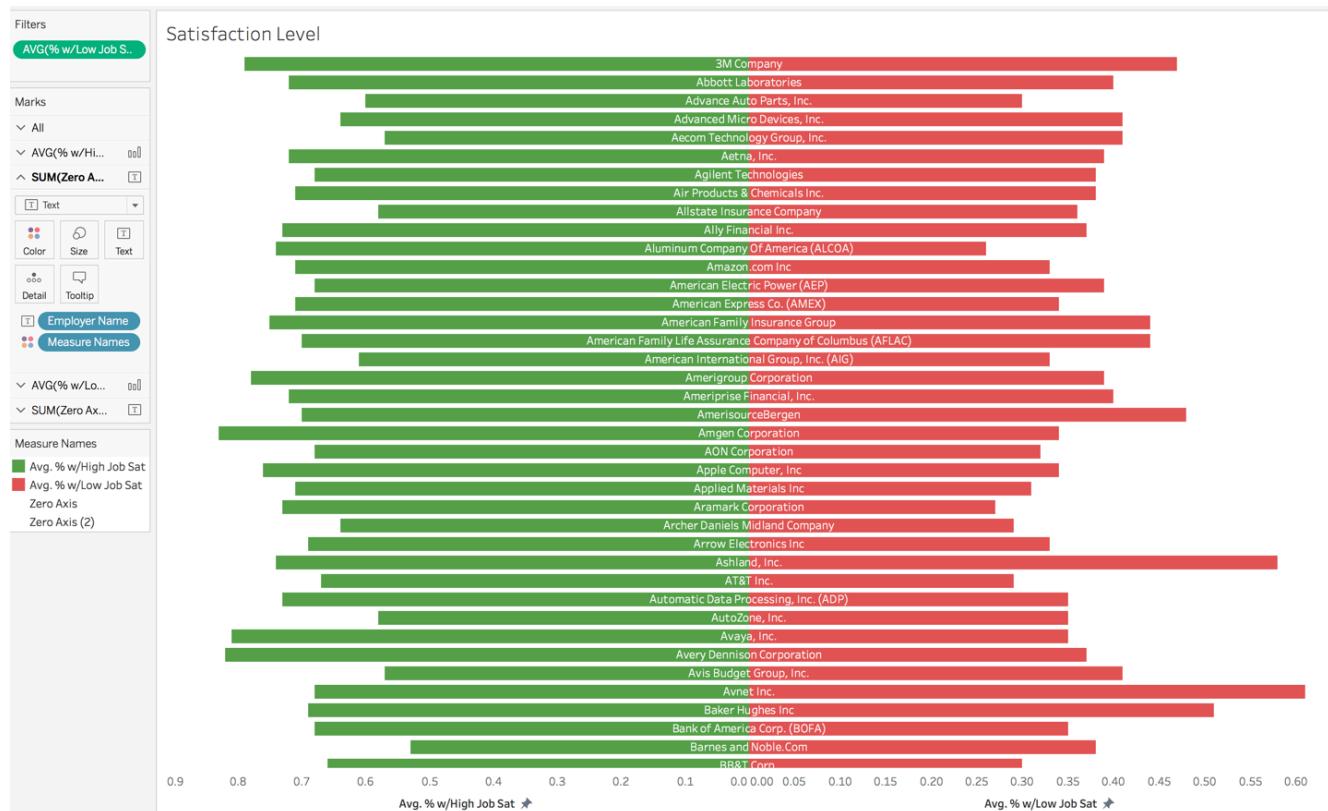


Figure 7: Satisfaction level of the employees

Figure 7 shows the satisfaction level of the employees in the fortune 500 companies. As we saw in the previous chart that the tenure of the employees is not very long in big companies. But the technology sector companies have the highest job satisfaction level regardless people serving less time at the company because the salary and perks given to employees are very lucrative and tempting.

2.8 Employees Satisfaction Level vs Pay vs Age.

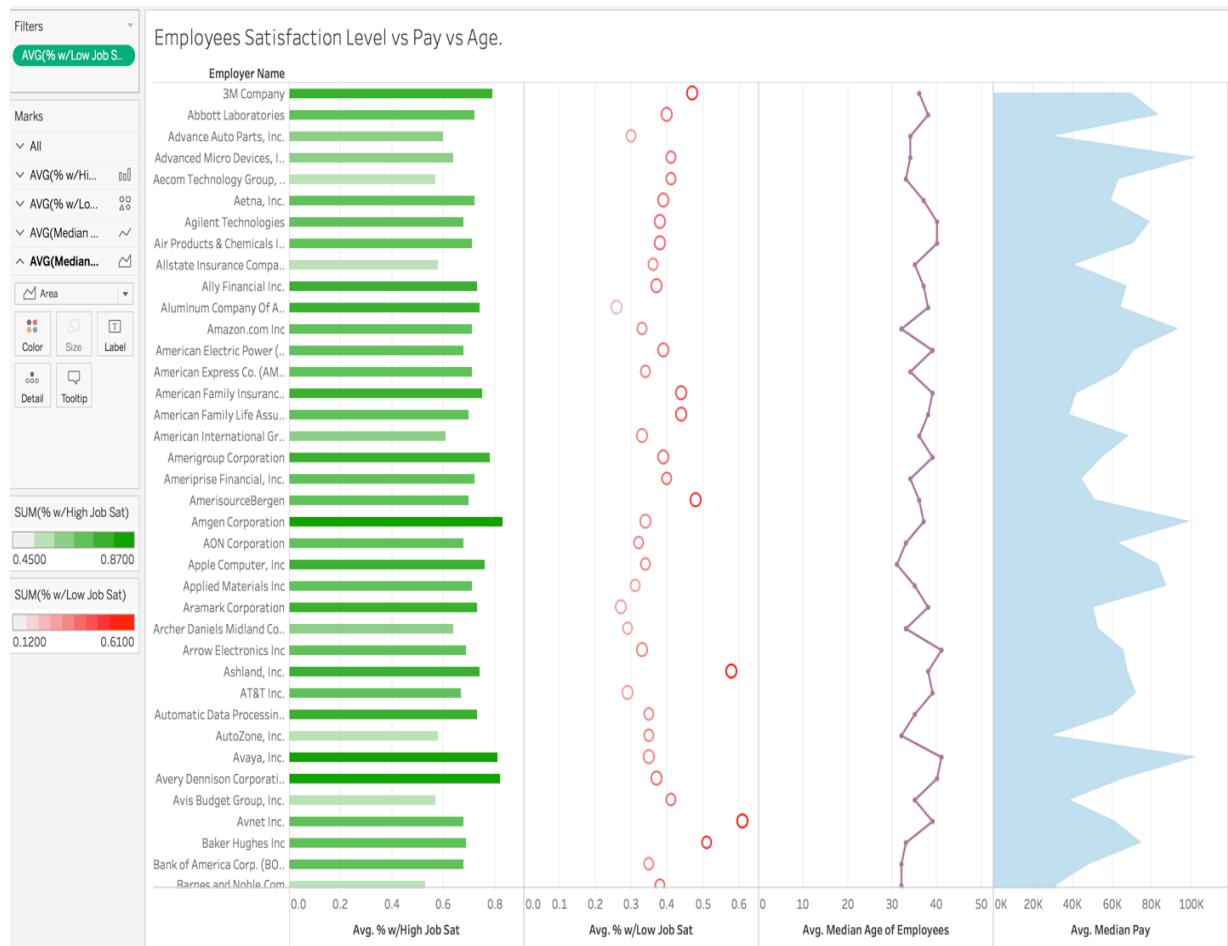


Figure 8: Employees Satisfaction Level vs Pay vs Age.

Figure 8 explains the satisfaction level of employees based on their age group and the pay they receive. As we can see the higher the pay the more satisfied the employee is. The age group of people who are satisfied on their jobs is 30-40 years.

2.9 Sector wise comparison Revenue vs Assets vs Profits

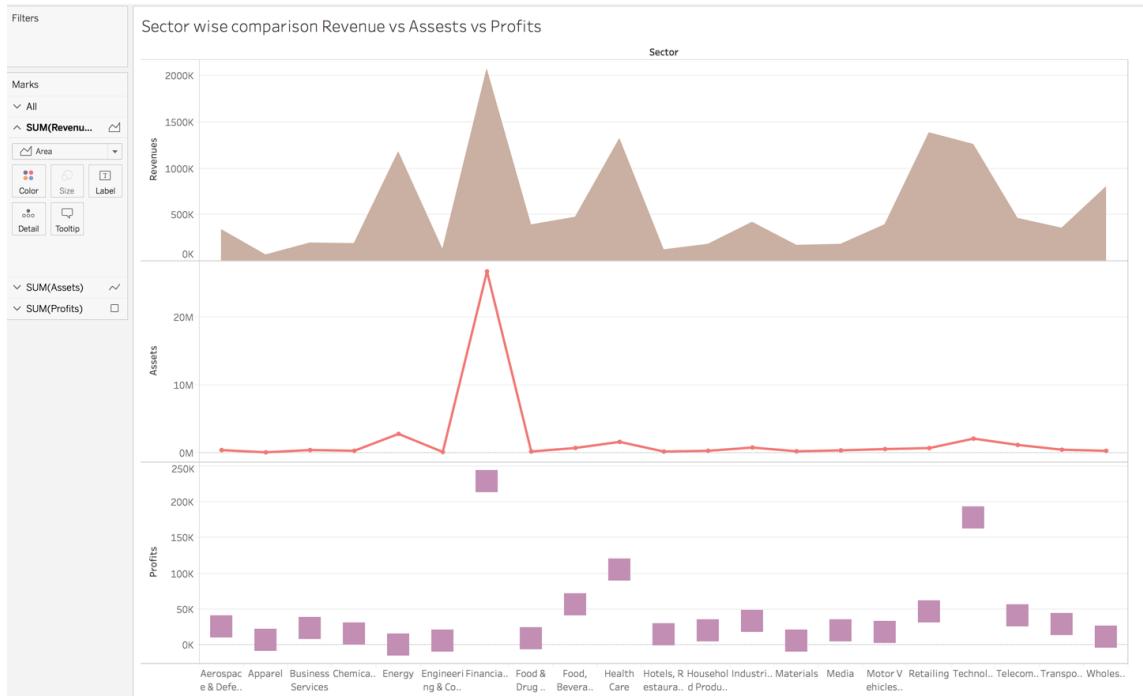


Figure 9: Sector wise comparison Revenue vs Assets vs Profits

Figure 9 shows us the comparison between the revenue, assets and the profits which tells us that the financial sector has an upper hand than any other sector, followed by technology sector and the health care sector.

2.10 Number of employees vs Profit earned by Fortune 500 Companies

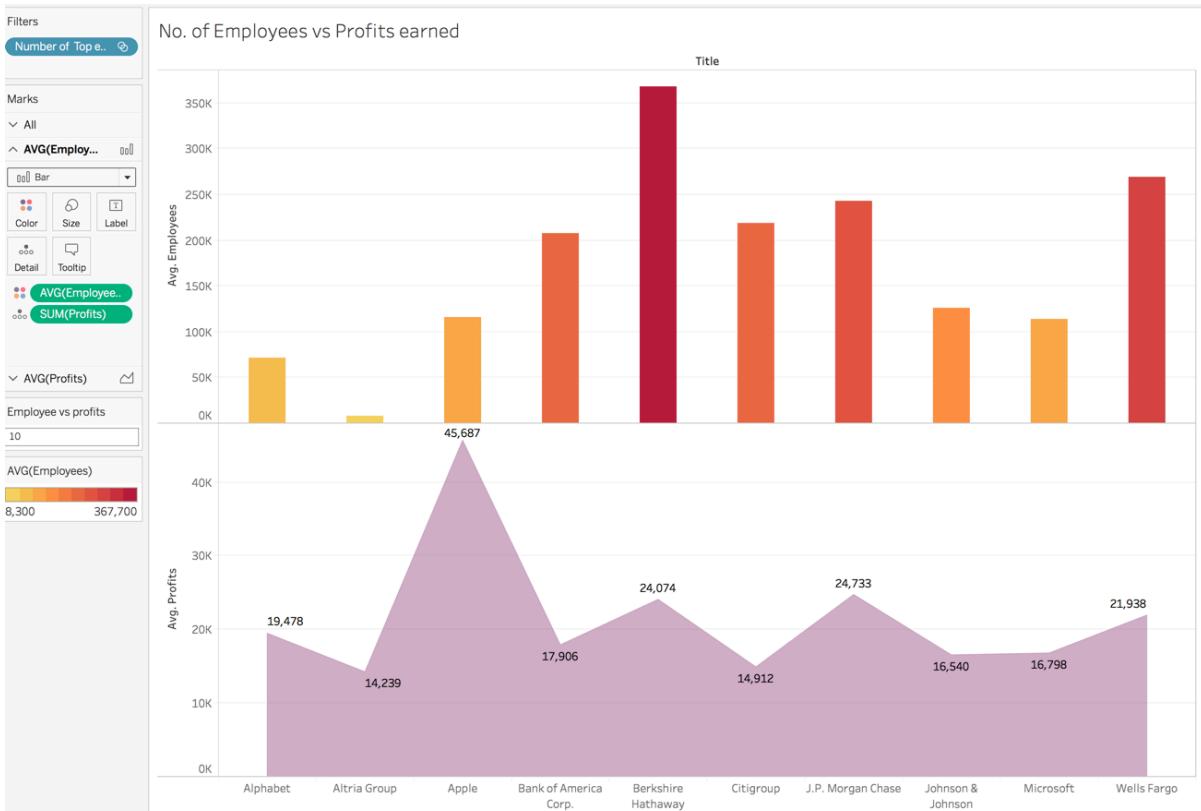


Figure 10: Number of employees vs Profit earned by Fortune 500 Companies

Figure 10 shows us the number of employees vs profit graph which depicts that companies like Apple have less number of employees and have large profits whereas companies like Berkshire Hathaway have large number of employees but their profits are not as high they should be.

3 Conclusion

We can conclude that the Fortune 500 companies are selected on the basis of various factors such as revenues, profits, assets, number of employee's, total return to investors and earnings per share. The job satisfaction of an employee depends on various criterions such as the pay , age group. Employees with greater satisfaction work for big companies like Apple, Berkshire Hathaway, Walmart, Dell Technologies, Cardinal Health, AmerisourceBergen, McKesson because they are situated at prime locations throughout the country. Location of a company too contributes towards its revenue and profit making as places populated with large numbers have the highest revenue.

4 Appendix

4.1 Figure1 Ranking Fortune 500 by Industry.

Uses the bubble chart as it is the best way to depict any ranking system.

4.2 Figure2 Highest number of Employees in different sectors.

The tree-maps chart is very effective in showcasing highest to lowest numbers in large number of fields.

4.3 Figure3. Revenue of Fortune 500 based on their headquarters.

The location map is used to depict changes and a group of variables based on location perfectly.

4.4 Figure4 Sector wise revenue and profit.

Line chart is used as it is the best way of showing trends in any kind to field.

4.5 Figure5. Revenue change vs profit change.

A bar chart and a bullet chart has been used to detect the differences.

4.6 Figure6. Employees Satisfaction Level vs Pay vs Age.

The diverging chart is used to showcase comparisons in the best possible way.

4.7 Figure7. Satisfaction level of the employees.

Butterfly chart is used to depict the difference and compare values.

4.8 Figure8 Age vs Tenure of the Employees based on the average pay.

4.9 Figure9 Sector wise comparison Revenue vs Assets vs Profits.

4.10 Figure10. Number of employees vs Profit earned by Fortune 500 Companies.

5 References

- [1] “Fortune 500 Companies 2017: Who Made the List.” [Online]. Available: <http://fortune.com/fortune500> [Accessed: 03-Feb-2018].
- [2] “Fortune 500” [Online]. Available: https://en.wikipedia.org/wiki/Fortune_500. [Accessed: 05-Feb-2018].
- [3] “Fortune 500” [Online]. Available: <https://www.investopedia.com/terms/f/fortune500.asp>. [Accessed: 05-Feb-2018].