

PREFACE

THE PANDEMIC

gripped the world for the year's - 2020 and 2021 and caused a personal toll on individuals, companies and industries all over in the United States. However, similar to people, not all the companies and industries were affected equally.

Understanding this differential impact to different companies and industries could allow an insight into the changing spending patterns of Americans during such an abrupt shift.

The goal of this project is to understand the changing spending patterns of the American population by conducting a detailed **analysis** on the - **Companies** and **Industries** that **suffered** and those that were **resilient** during the Pandemic followed by a **headcount analysis** for subsequent effects employees of the respective companies and industries.

For this project the raw data was taken from the Fortune 1000 companies dataset in Excel for the years 2018-2021. This was cleaned with Excel and SQL before finally importing into PowerBI to make visualizations. The raw data files and SQL queries are given in the git hub link below.

The mission of this project is to provide insight to the stakeholders of different organizations to increase the resiliency and mitigate potential losses by aligning their respective organizations to this sudden customer behavioral shift

DETAILS

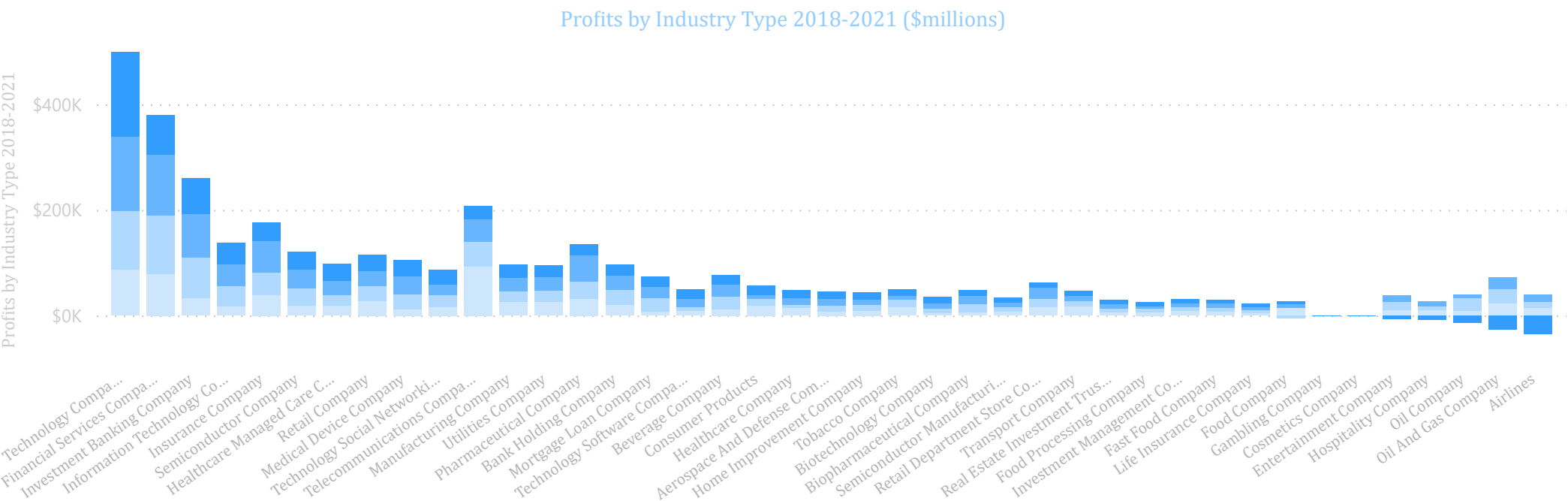
- All the raw data - Excel, SQL queries given in the project README.md file -

<https://github.com/adi1988/Winners-and-Losers-Fortune-1000-companies-from-2018-2021/blob/main/Companies%20that%20Suffered%20and%20were%20Resilient%20during%20the%20Pandemic.pdf>

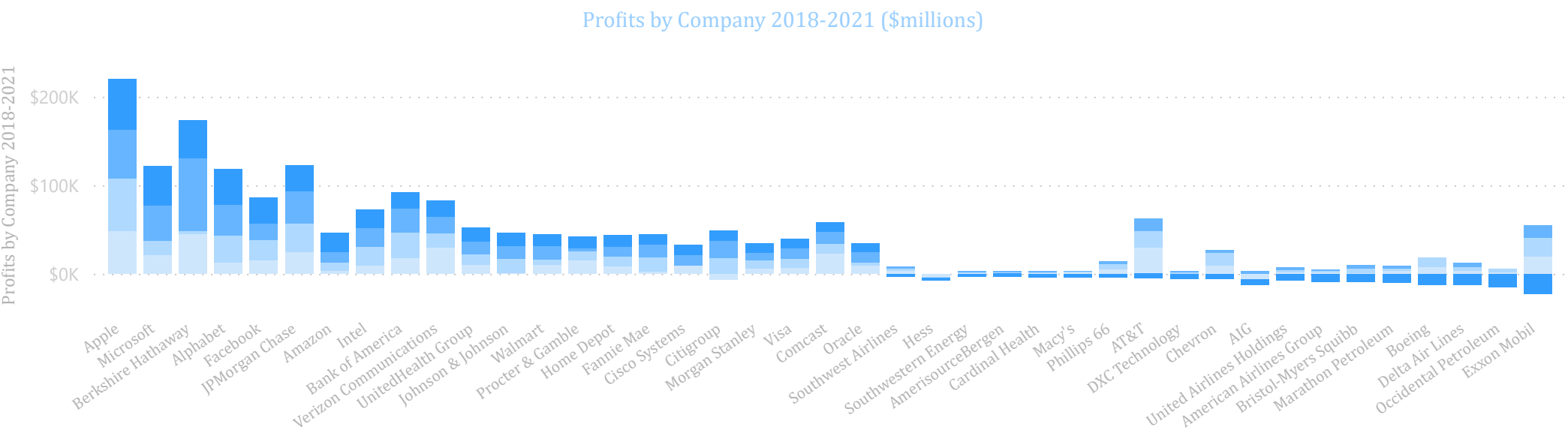
SUMMARY OF THE PROJECT

- Stacked graph for Profits of the Industries and Individual companies of the US market for years 2018 - 2021 (compared with splicer)
- Visualization of the Industries and Individual Companies that **suffered** and were **resilient** in the pandemic
- Details of the Industries and Individual Companies that **suffered** and were **resilient** during the Pandemic
- Headcount Change for the same Companies in a table form
- Headcount Change for the Companies that **suffered** and were **resilient** during the Pandemic
- Losses and subsequent headcount changes for Companies and Industries that **suffered** during the pandemic
- Profits and subsequent headcount changes for Companies and Industries that were **resilient** during the pandemic
- Observations, Key Takeaways and Conclusion

Comparing Profits by Industry Type for the Years 2018 - 2021

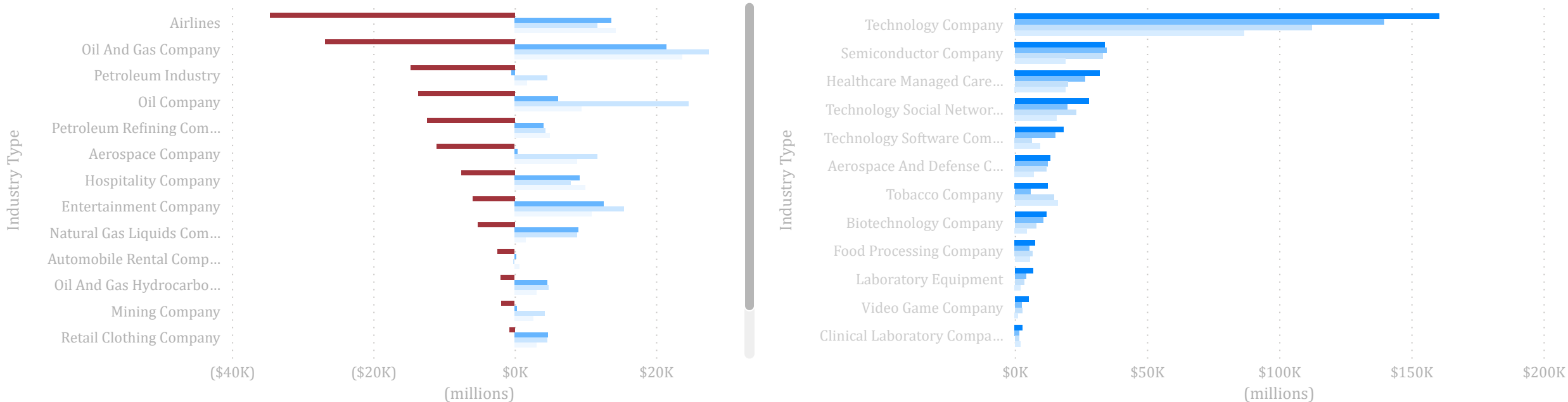


Comparing Profits by Company for the Years 2018 - 2021

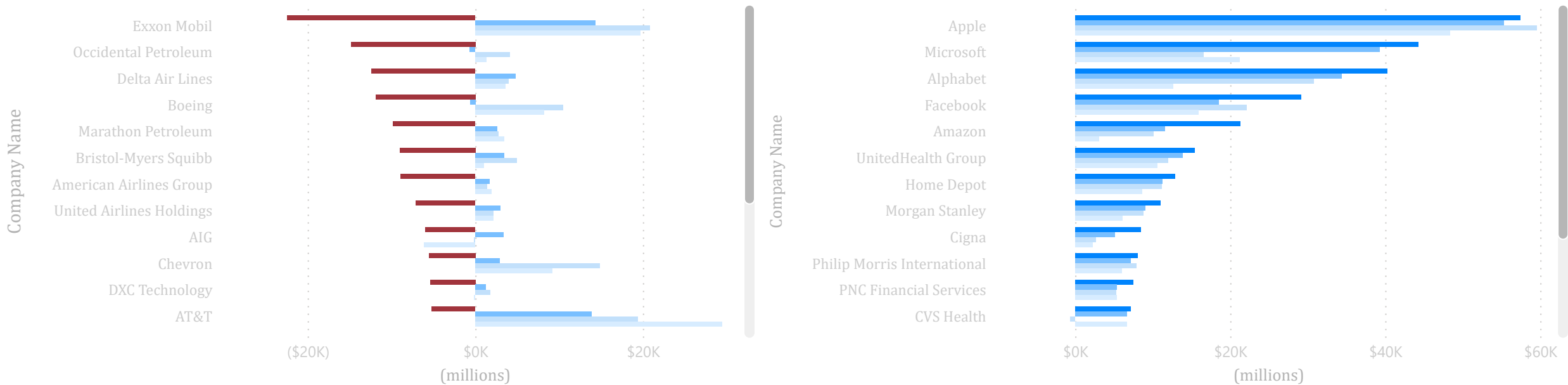


- For the first visualization the profits by industry are shown for 41 out of the total 200 industries as certain ones have been filtered by removing multinational conglomerations and setting industries with profits >\$4.5 billion or <0 for all four years 2018-2021. This clears all the industries in the middle and focuses on the most resilient and ones with the suffering profits.
- The Profits by company have been filtered by profits >10billion and <(3billion) to clear the companies in the middle and show the suffering companies and the resilient ones. Here too 41 companies of the total 820 companies are displayed by setting the filter with requirements stated above
- Size of **Technology Company** has increased to **\$160.6 billion** or **13.1%** of total profit by industry in 2021. Of these **Apple**, **Microsoft** and **Amazon** have recorded the highest profits in 2021
- Airlines** profits in 2021 seemed to have the biggest drop of all industries with a decline of **\$35billion** or **139.5%** from 2020 profits of these **Delta Airlines**, **American Airlines** and **United Airlines** have recorded the highest losses

Industries that **Suffered** and were **Resilient** During the Pandemic



Individual Companies that **Suffered** and were **Resilient** During the Pandemic



Industries and Individual Companies that **Suffered** and were **Resilient** During the Pandemic

(\$22.44K)

Min Profits for a Company 2021 (in millions)

\$57.41K

Max Profits for a Company 2021 (in millions)

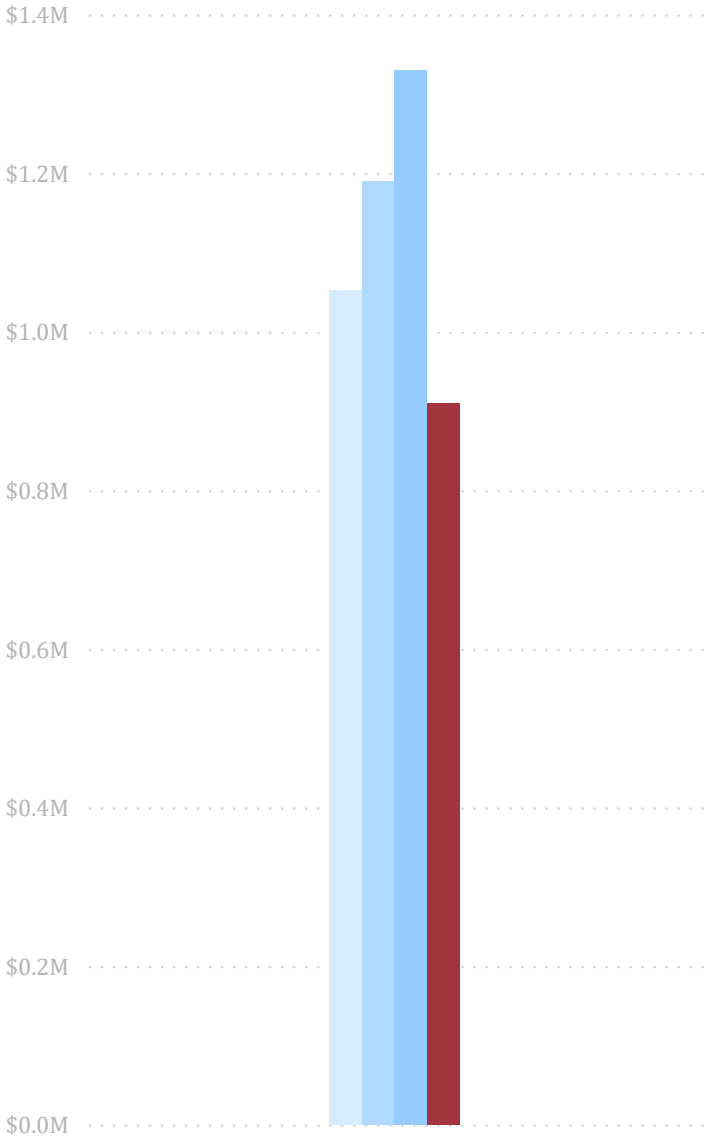
200

Different Industry Types

820

Number of Companies in List

Profits 2018-2021 (millions)



Out of the 1000 companies every year 820 recurring for all four years 2018-2021, hence these are the companies taken. This is due to mergers, acquisitions, bankruptcies and startups. These 820 companies were then grouped into 200 distinct industries.

The following are observations on details of both industries and individual companies that **suffered** and were **resilient** during the Pandemic

Airline Companies

- Profits in 2021 were **-\$35 billion** or decline of **-139.5 %** from year 2020.
- **Delta Airlines, American Airlines** and **United Airlines** had the most losses to the tune of **\$12.4 billion** or decline of **138.4%** , **\$8.8 billion** or decline of **118.98%** , **\$7.0 billion** or decline of **142.57%** as compared to 2020 profits.

Oil and Gas Companies

- Profits in 2021 were **-\$26.8 billion** or decline of **-179.9 %** from the year 2020
- **Exxon Mobil** had the most losses of **\$22.4 billion** or decline of **256.6 %**

Oil Companies

- Profits in 2021 declined by **-\$13.6 billion** or decline of **144.9 %** from the year 2020
- **Chevron** had the most losses of **-\$5.5 billion** or decline of **152.75%**

Hospitality Companies

- Profits in 2021 declined by **-\$7.6 billion** or decline of **220.9%** from the earlier year 2020

Technology Companies

- Profits in 2021 increased by **\$160.6 billion** or a **13.1 %** from the earlier year and also had the highest profit of all four years 2018-2021
- **Apple, Microsoft** and **Amazon** showed **\$57.4 billion** or a **3.8%**, **\$44.3 billion** or a **12.8 %** and **\$21.3 billion** or a **45.68%** increase in profits in 2021

HEADCOUNT ANALYSIS

- After Visualization of the Industries, Companies that both suffered and were resilient during the Pandemic, it is important to turn our attention to the changes in the Headcount for the same
- This allows us to not only see which industries and companies changed but also how it affected the headcount subsequently

Headcount of Companies that Suffered and were Resilient During the Pandemic (Table form)

Company Name	2018	2019	2020	2021
AT&T	254,000.00	268,220.00	247,800.00	230,760.00
Boeing	140,800.00	153,000.00	161,100.00	141,000.00
DXC Technology	60,000.00	150,000.00	130,000.00	138,000.00
American Airlines Group	126,600.00	128,900.00	133,700.00	102,700.00
Macy's	130,000.00	130,000.00	123,000.00	75,711.00
Delta Air Lines	86,564.00	88,680.00	91,224.00	74,000.00
Exxon Mobil	71,200.00	71,000.00	74,900.00	72,000.00
Marathon Petroleum	43,800.00	60,350.00	60,910.00	57,900.00
Cardinal Health	40,400.00	50,200.00	49,500.00	48,000.00
Chevron	51,900.00	48,600.00	48,200.00	47,736.00
AIG	49,800.00	49,600.00	46,000.00	45,000.00
Bristol-Myers Squibb	23,700.00	23,300.00	30,000.00	30,250.00
AmerisourceBergen	19,500.00	20,500.00	21,500.00	21,500.00
Phillips 66	14,600.00	14,200.00	14,500.00	14,300.00
Occidental Petroleum	11,000.00	11,000.00	14,400.00	11,800.00

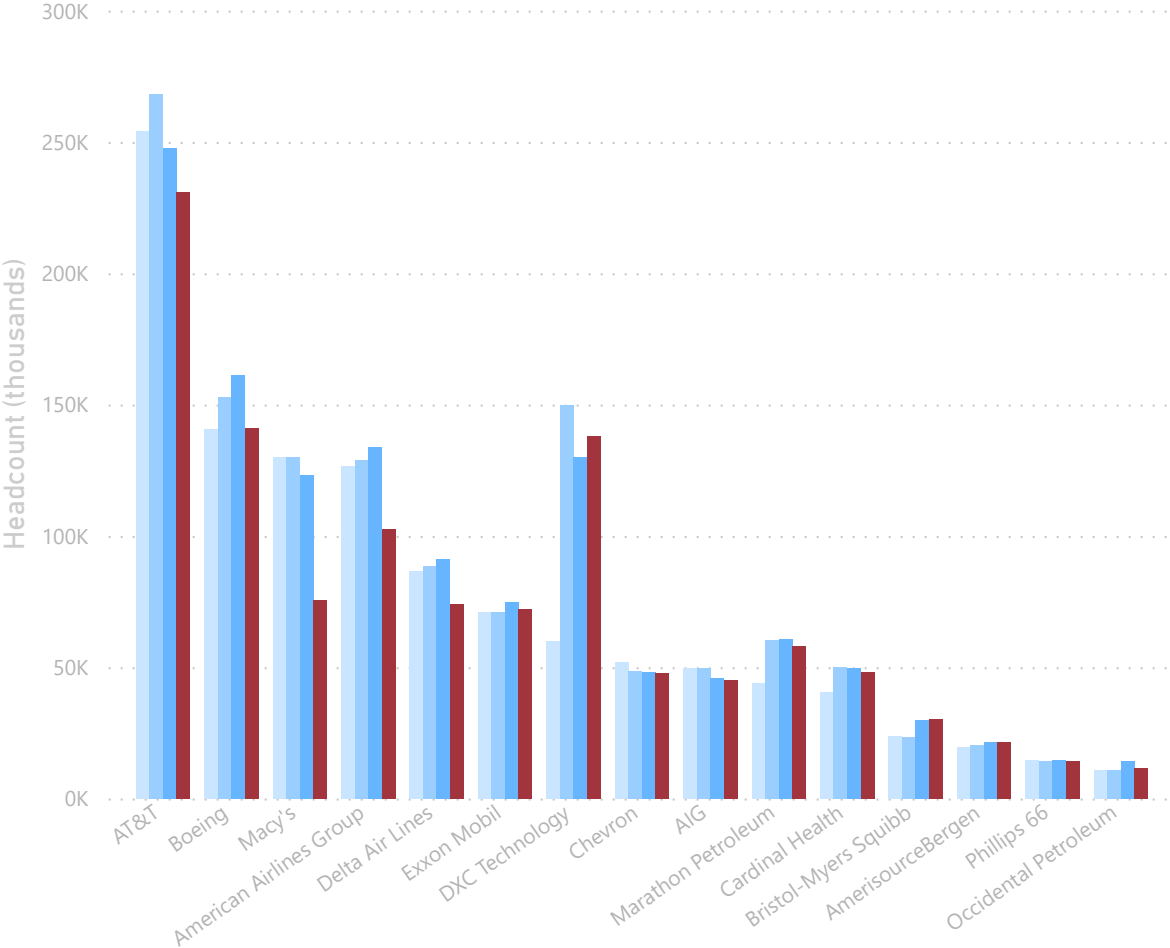
Most companies recorded an increase in headcount in 2019 and some such as Boeing, American Airlines Group, Delta Air Lines, Marathon Petroleum, Bristol Myers-Squibb, Amerisource Bergen, Phillips66 and Occidental Petroleum further on in 2020 too. However most companies with the exception of DXC Technologies, Bristol Myers Squibb and Amerisource Bergen lost headcount in 2021

Company Name	2018	2019	2020	2021
Amazon	566,000.00	647,500.00	798,000.00	1,298,000.00
Home Depot	413,000.00	413,000.00	415,700.00	504,800.00
UnitedHealth Group	260,000.00	300,000.00	325,000.00	330,000.00
Lowe's	255,000.00	245,000.00	260,000.00	280,000.00
CVS Health	203,000.00	295,000.00	290,000.00	256,500.00
Microsoft	124,000.00	131,000.00	144,000.00	163,000.00
Alphabet	80,110.00	98,771.00	118,899.00	135,301.00
Lockheed Martin	100,000.00	105,000.00	110,000.00	114,000.00
Thermo Fisher Scientific	66,100.00	69,200.00	75,000.00	84,362.00
Cigna	46,000.00	73,800.00	73,700.00	72,963.00
Philip Morris International	80,600.00	77,400.00	73,500.00	71,000.00
Morgan Stanley	57,633.00	60,348.00	60,431.00	68,097.00
Facebook	25,105.00	35,587.00	44,942.00	58,604.00
PNC Financial Services	51,632.00	51,996.00	50,968.00	50,403.00
Progressive	33,656.00	37,346.00	41,571.00	43,326.00

Most of the Technology Companies such as Facebook, Microsoft, Amazon, Alphabet kept increasing its headcounts by over 5-15% year on year despite the Pandemic causing other companies to fluctuate annual headcounts over 2018-2021

Headcount of Companies that **Suffered** and were **Resilient** During the Pandemic

Headcount 2018-2021



183

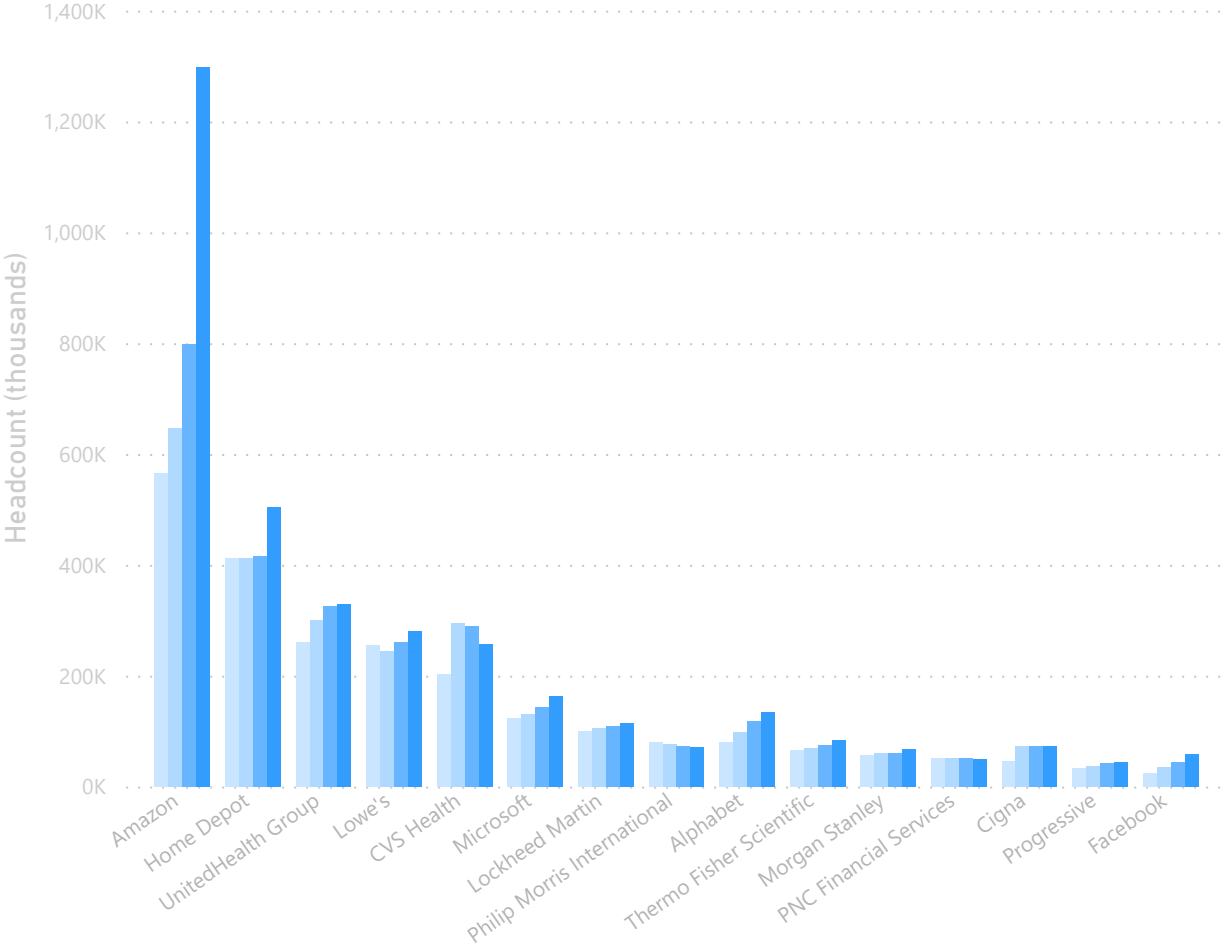
218.00

2.20M

Min Headcount for a Company 2020 Min Headcount for a Company 2021 Max Headcount for a Company 2020 Max Headcount for a Company 2021

The company with headcount of **2.2 million** increased by **100K** to headcount of **2.3 million**

Headcount 2018-2021



2.30M

32.48M

Sum of 2020

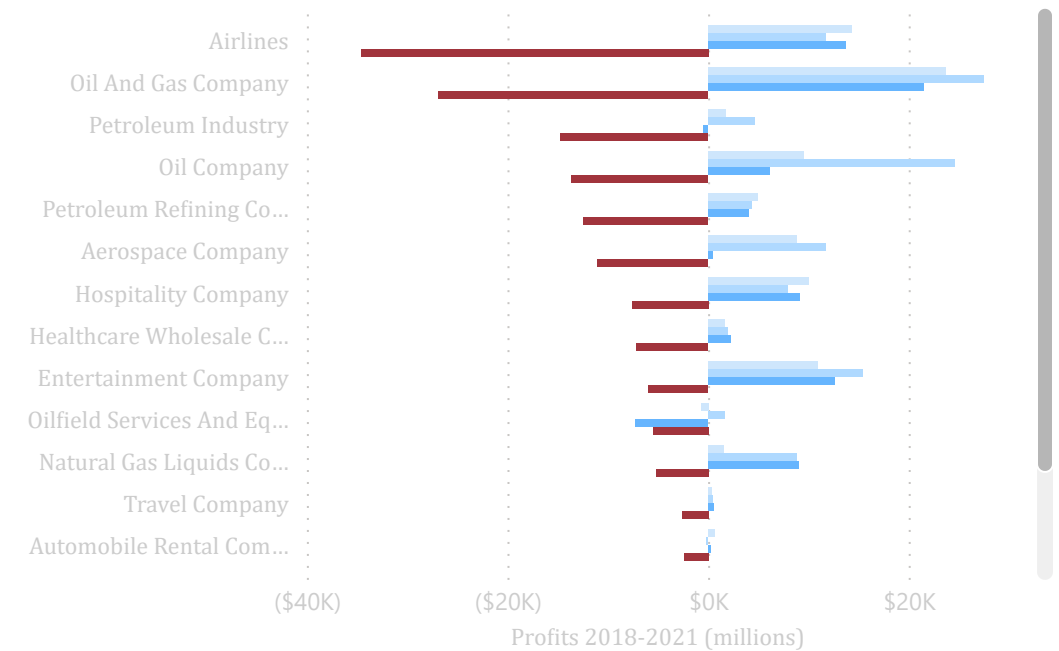
32.45M

Sum of 2021

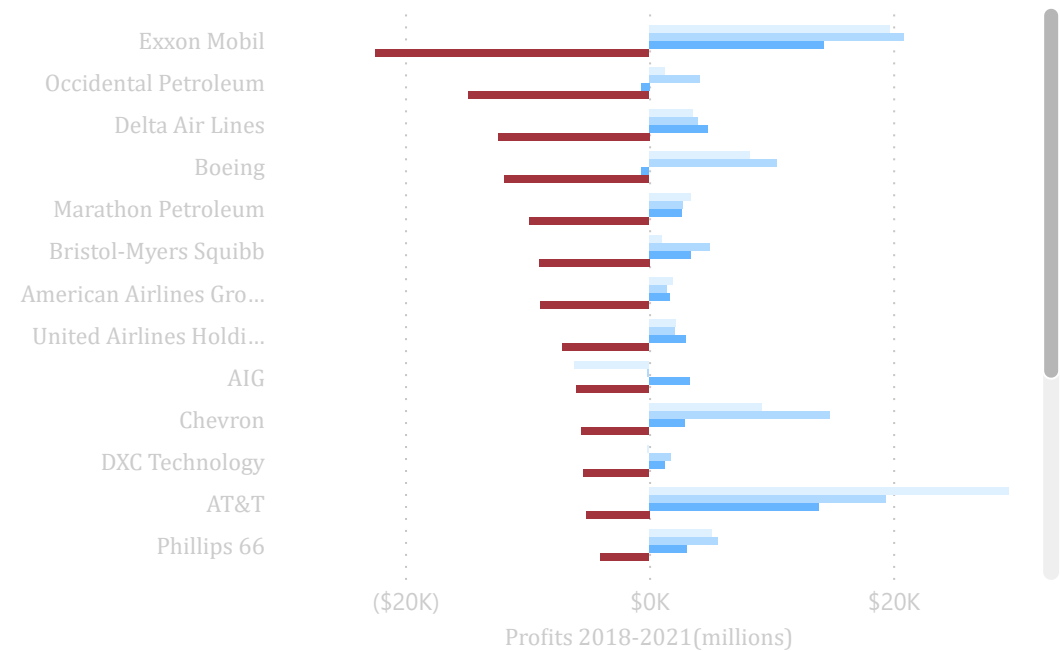
The **cumulative headcount** of the **820 companies** of the **fortune 1000** dropped by **30K** in year 2021 from year 2020

Changes for Industries, Companies that suffered in the pandemic along with headcount changes

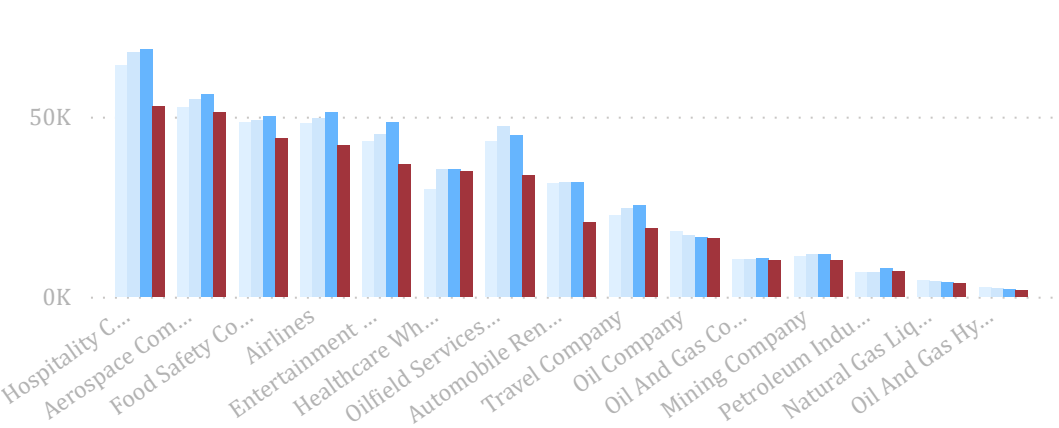
Losses by Type of Industry



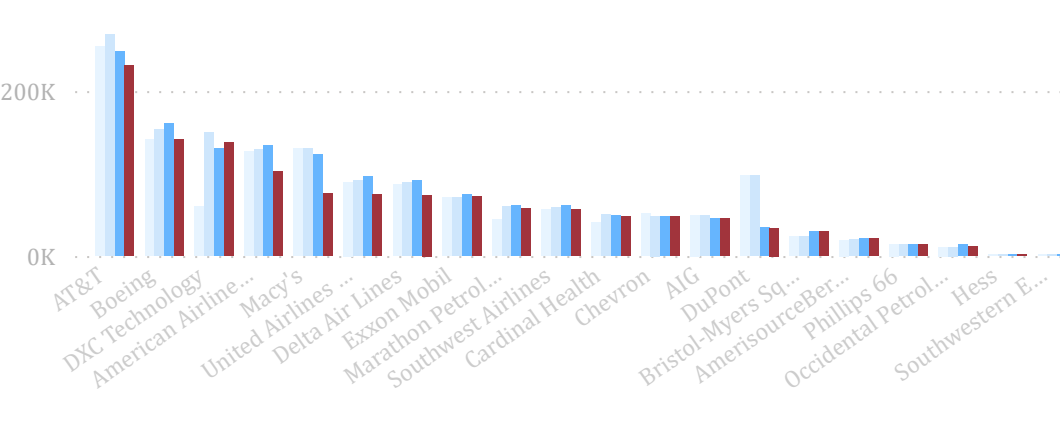
Losses by Company



Headcount 2018-2021 by Industry

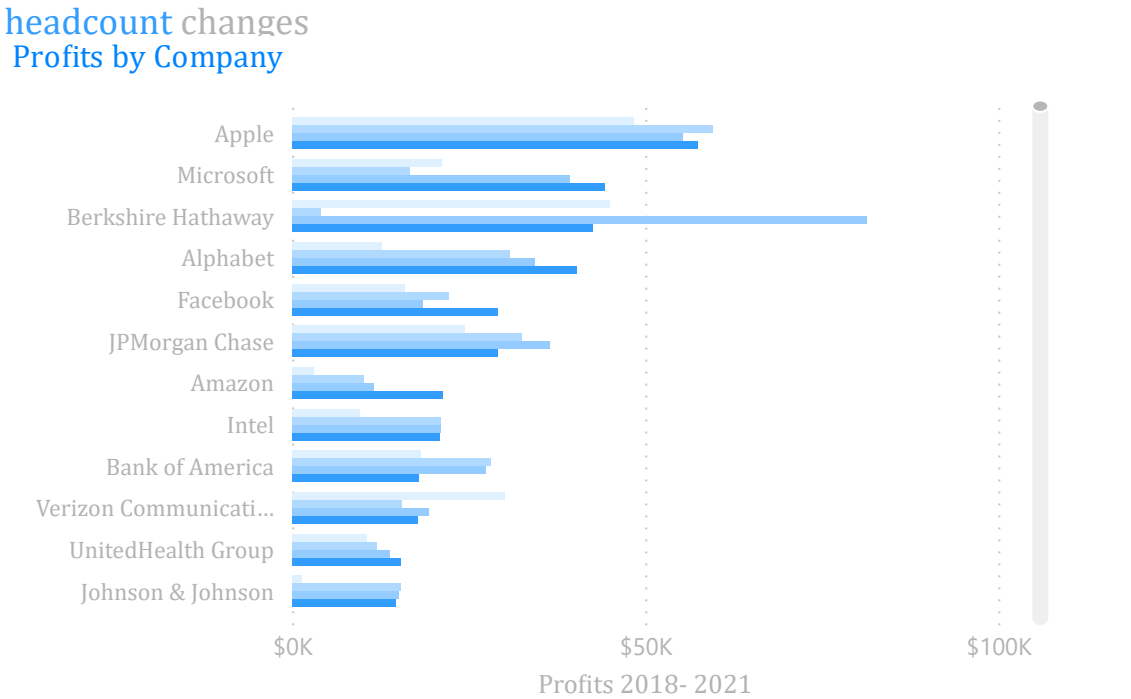
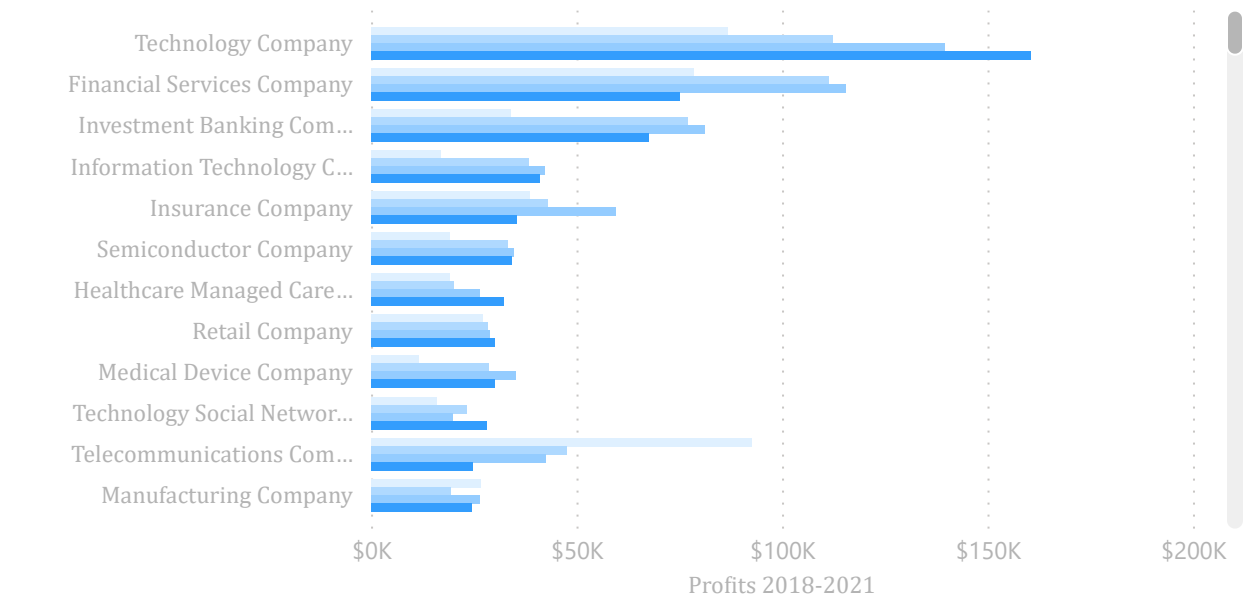


Headcount 2018-2021 by Company

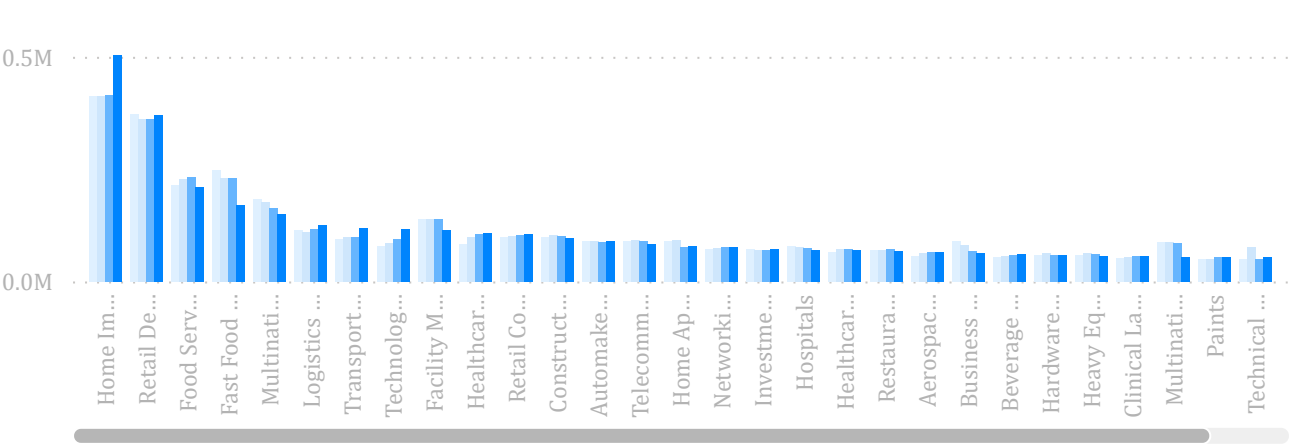


Despite the Airlines, Oil And Gas Company, Petroleum Industry and Oil Company losing - \$35 billion (-139.5%), \$27 billion (-179.9%), \$13.6 billion (-96.6%), \$13.6 billion (-144.9%) from year 2020 - 2021, the largest of which are Delta Airlines, Exxon Mobil, Occidental Petroleum, Chevron which lost - \$12.4 billion, \$22.4 billion, \$14.8 billion, \$5.5 billion respectively, the headcount loss/layoffs are - Airlines - 9164 or 17.9% , Oil And Gas Companies - 509 or 5%, Oil Companies - 348 or 2%, Hospitality - 15689 or 22.8%

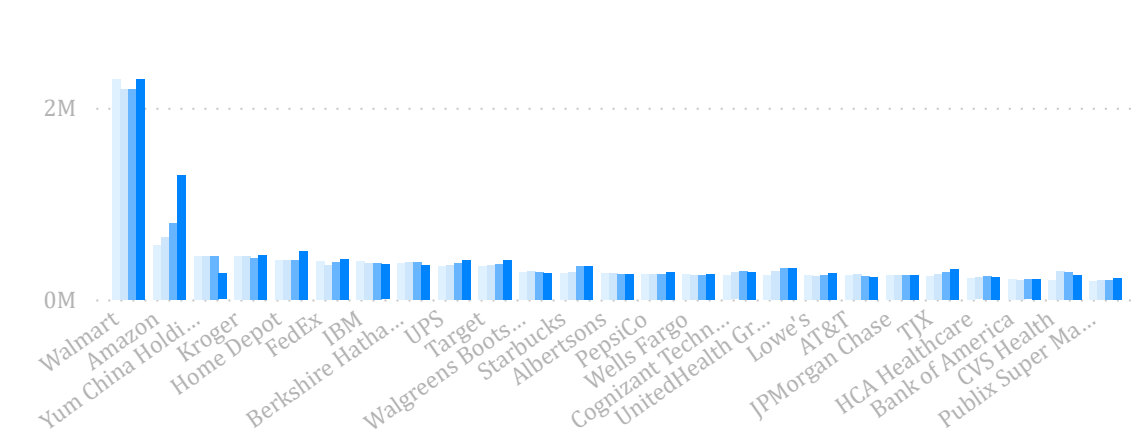
Changes for Industries, Companies that were resilient in the pandemic along with headcount changes Profits by Type of Industry



Headcount 2018-2021 by Industry



Headcount 2018-2021 by Company



- Technology Companies Profits in 2021 increased by \$160.6 billion or a 13.1 % from the earlier year
- Apple, Microsoft and Amazon showed \$57.4 billion or a 3.8%, \$44.3 billion or a 12.8 % and \$21.3 billion or a 45.68% increase in profits in 2021
- Amazon hired 500,000 more employees 62.7% in 2021 than 2020,

OBSERVATIONS -

From the data from the Profits by Industry, Individual companies and respective headcounts the observations are -

- **Airline Companies** average Profits in 2021 declined to **-\$35 billion** or a decline of **139.5 %** from the year 2020.
- **Delta Airlines, American Airlines and United Airlines** had the most losses to the tune of **-\$12.4 billion or 138.4%** , **-\$8.8 billion or 118.98%** , **-\$7.0 billion or 142.57%** as compared to 2020 profits.
- **Oil and Gas Companies** average Profits in 2021 declined by **179.9 %** from the earlier year 2020
- **Exxon Mobil** had the most losses of **\$22.4 billion or 256.6 %**
- **Oil Companies** average Profits in 2021 declined by **-\$13.6 billion** or decline of **144.9 %** from the year 2020
- **Chevron** had the most losses of **-\$5.5 billion** or decline of **152.75%**
- **Hospitality Companies** average Profits in 2021 declined by **-\$7.6 billion** or decline of **220.9%** from the earlier year 2020
- Headcount loss/layoffs were - **Airlines - 9164 or 17.9%** , **Oil And Gas Companies - 509 or 5%**, **Oil Companies - 348 or 2%**, **Hospitality - 15689 or 22.8%**
- **Technology Companies** showed a **\$160.6 billion** or a **13.1 %** increase in average Profits in 2021
- **Apple, Microsoft and Amazon** showed **\$57.4 billion** or a **3.8%**, **\$44.3 billion** or a **12.8 %** and **\$21.3 billion** or a **45.68%** increase in profits in 2021

KEY TAKEAWAYS -

Airline Companies and **Hospitality Companies** saw declines of **139.5%** and **220.9%** in profits but saw a headcount loss of **17.9%** and **22.8%** respectively while industries such as **Oil and Gas** and **Oil Companies** saw declines in profits of **179.9%** and **144.9%** but a headcount loss of **5%** and **2%**. This displayed that despite all four industries decline ~125-220% there is a wide range in percentage of layoffs within these four industries. This highlights the second takeaway that the percentage loss in companies profits is not proportional to the percentage headcount loss.

Unlike the level of percentage losses seen in the companies that suffered from the pandemic such as **Airlines, Oil, Gas Companies, Petroleum Companies** and **Oil Companies** which saw losses of **80-200%**, the **Technology Companies** did not see profits in that range. This showed that they were resilient. Exceptions to this were however **Amazon, Microsoft** which unlike Apple saw profits in 2021 higher than all four years of **12.8 %** and **45.7%**, further highlighted by Amazon's hiring spree of **500000** or **66.3%** increased headcount in 2021 from 2020, showing that customers were even more dependent on Amazon and Microsoft during the pandemic years thus highlighting the increasing digital adoption during a time of isolation

CONCLUSION -

The data in this project assists us in three findings - **First**, due to the isolation of the pandemic the usual transportation was disrupted and this can be seen in the drawdown of transportation related industries such as - **Airlines, Gas Companies, Petroleum Companies** and **Oil Companies** which were the most affected due to people staying home and eliminating or minimizing travel for work or holiday. **Second**, the discrepancy in percentage loss in companies profits not being proportional to the percentage headcount loss seen in **Airline, Hospitality, Oil and Oil and Gas companies** could be due to the fact that Oil companies had a lower baseline headcount through the years and are not too labor dependent in comparison to the entire airline staff in **Airline companies** and the seasonal nature of **Hospitality companies**. This displayed that layoffs do happen due to company and industry losses, however there is no direct association between this and headcount s which could differ due to the nuances of the industry. **Third and last**, the data displays the people's sudden rise in the adoption of technology highlighted by the increased profits in **Technology companies** such as **Amazon** and **Microsoft** which had more profits in 2021 than any year pre-pandemic. These findings demonstrate the change in peoples daily habits such as a energy consumption drawdown and digital adoption in a period of disruption and allows companies to predict patterns and hence strategize for increased resiliency for similar situation presented in the future