THE UNIVERSITY OF BURDWAN

Topic : Technology Company Layoffs (2022-2023)

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Technology Company Layoffs (2022-2023)

Introduction:

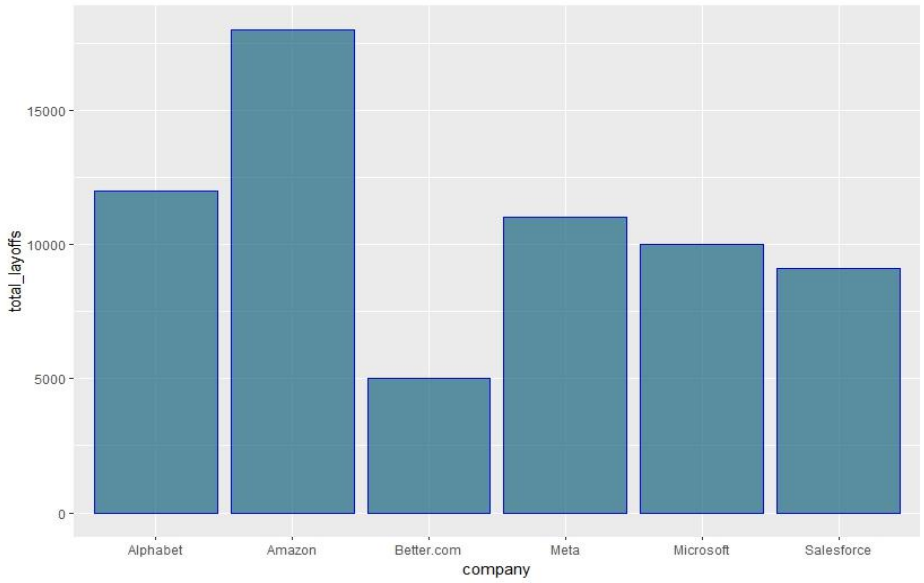
Last year's tech-wide reckoning continues. In 2023, layoffs have yet again cost tens of thousands of tech workers their jobs; this time, the workforce reductions have been driven by the biggest names in tech like Google, Amazon, Microsoft, Yahoo and Zoom. Startups, too, have announced cuts across all sectors, from crypto to enterprise SaaS.

Which tech companies are laying off workers?

Over 150,000 workers were laid off from tech companies in 2022, and more than 55,000 have been laid off in 2023 to-date. A large portion of tech layoffs are coming from major players like Amazon, Meta, Microsoft and Twitter, but they're far from the only organizations cutting large swaths of employees.

These technology companies have laid off the most workers in 2023 and 2022:

	company	total_layoffs
	<chr>	<dbl>
1	Amazon	18000
2	Alphabet	12000
3	Meta	11000
4	Microsoft	10000
5	Salesforce	9090
6	Better.com	5000
7	Cisco	4100
8	Peloton	4084
9	Carvana	4000
10	Twitter	3740
11	Gopuff	2300



Why are there so many layoffs in tech?

The chief reasons for technology layoffs in 2023 and 2022 include:

- Over-hiring amidst rapid tech sector growth early in the pandemic
- Recent corrections to the over-valuation of tech stocks
- Organizations' fear of a sustained recession

Another interesting theory behind recent layoffs comes from Jeffrey Pfeffer, a professor at the Stanford Graduate School of Business. Pfeffer cites a "social contagion" among tech organizations that occurs when companies lay off workers because everyone else is doing it. This may sound simplistic at first, but his explanation resonates.Regardless of the reason, people are getting laid off, and technologists are taking the brunt, for now.

Data Acquisition:

Tabular dataset containing information on 477 technology companies who have announced a layoff or is known to have laid off their employees between mid-2022 to 2023.Use this data to gain insights on technology industry trends and make informed decisions for your career or business.

Source: datahttps://www.kaggle.com/datasets/salimwid/technology-company-layoffs-20222023-data

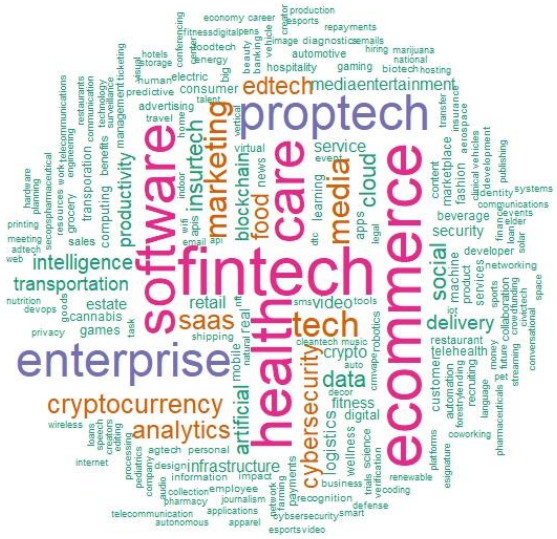
Column Description:

1. Company : Name of company
2. total_layoffs: Number of total layoffs so far
3. Impacted_workforce_percentage :% of impacted workforce (based on pre mid-company size)
4. reported_date :when first layoff or plan to layoff was announced

5. industry :more information on segment in which the company operates

Word Cloud Visualization on industry using R program

Word Cloud is a data visualization technique used for representing text data in which the size of each word indicates its frequency or importance.



6. headquarter_location : Location of headquarter
7. source :data sources
8. status :whether company is public or private (IPO status)

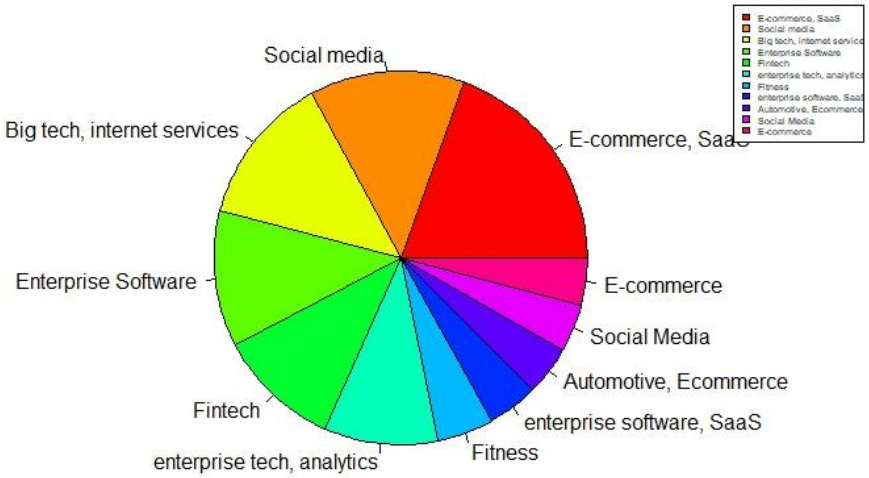
What can be the Impact of Layoffs?

- **Loss to the Workers:**
  - Layoffs can be damaging psychologically as well as financially to the affected workers as well as their families, communities, colleagues, and other businesses.
- **Loss of Prospects**:
  - Indian workers who have been laid-off have a big worry. If they are unable to find a new employer within 60 days, they are faced with the prospect of leaving the U.S. and re-entering later.
  - To make matters worse, the prospects of these Indian workers back home are also weak.
  - Most Indian IT companies have frozen or slowed down hiring as recessionary fears in the U.S. and high inflation in Europe have kept demand low.
- **Decreases Customer Prospect:**
  - When a company lays off its employees it sends out a message to customers that it is undergoing some sort of crisis.
- **Emotional Distress:**
  - The person who is laid off suffers the most distress, but remaining employees suffer emotionally as well. The productivity level of employees who work in fear is likely to go down.

How will the Layoffs affect Indian Professionals?

- Between 30% to 40% of those laid off are **Indian IT professionals,** a significant number of whom **are on H-1B and L1 visas.**
    - The H-1B visa is a **non-immigrant visa that allows U.S. companies to employ foreign workers** in special occupations that require theoretical or technical expertise.
- Technology companies depend on it to hire tens of thousands of employees each year from countries like India and China. A **sizable number of them are now scrambling for options to stay in the U.S**. to find a new job in the stipulated few months that they get under these foreign work visas after losing their jobs.

 # pie plot number of layoffs for each industry



R code:

```
## Tech Layoffs 2022-2023.....

## Keya Mondal @ 15/03/2023

options(repos = c(CRAN = "http://cran.rstudio.com")) # repo-path setup

# install packages.....

install.packages("dplyr")

library("dplyr")
```

```
install.packages("ggplot2")
library("ggplot2")
install.packages("wordcloud")
library("wordcloud")
install.packages("tm")
library("tm")
# Import dataset
# First we can assign a specific variable name to the dataset that we are going to export:
Total_tech_layoffs <- read.csv("C:/Users/91731/Documents/technology_layoff/tech_layoffs.csv")
# Display the first six rows of loaded dataset
head(Total_tech_layoffs)
# Display the column names of dataset
colnames(Total_tech_layoffs)
# Display the structure of dataset
str(Total_tech_layoffs)
# Replace 'unclear' with 0 in the 'total_layoffs' column
Total_tech_layoffs$total_layoffs[Total_tech_layoffs$total_layoffs == "Unclear"] <- 0
# Display the first Six rows of dataset
head(Total_tech_layoffs)
# wordcloud on Industry
wordcloud(words = Total_tech_layoffs$industry,min.freq = 1,random.order=FALSE, rot.per=0.5,
          colors=brewer.pal(4, "Dark2"))
# Replace 'Unclear' with 0 in the 'total_layoffs' column
clean_data <- Total_tech_layoffs %>%
  mutate(total_layoffs = ifelse(total_layoffs == "Unclear", 0, total_layoffs)) %>%
  distinct(company, .keep_all = TRUE)
# View the cleaned data
```

```
head(clean_data)
# Display the first ten rows of dataset
tibble(Total_tech_layoffs)
# Which companies have the highest numbers of layoffs.?
 # Replace "Unclear" with 0 in the "total_layoffs"
# group the data by company and calculate the total layoffs per company
layoffs_by_company <- Total_tech_layoffs %>%
  group_by(company) %>%
  summarize(total_layoffs = sum(as.numeric(as.character(total_layoffs)), na.rm = TRUE))
# sort the data in descending order based on total layoffs
layoffs_by_company <- layoffs_by_company[order(-layoffs_by_company$total_layoffs),]
# # subset by condition 500 layoff
df0<-subset(layoffs_by_company, total_layoffs >=5000)
# Barplot
ggplot(df0, aes(x=company, y=total_layoffs)) +
  geom_bar(stat = "identity",color="blue", fill=rgb(0.1,0.4,0.5,0.7))
# print the top 10 companies with the highest number of layoffs
top_10_layoffs <- head(layoffs_by_company, 15)
print(top_10_layoffs)
# calculate the total number of layoffs across all companies
total_layoffs <- sum(layoffs_by_company$total_layoffs, na.rm = TRUE)
# print the total number of layoffs
cat("Total number of layoffs: ", total_layoffs, "\n")
#What is the Average impacted workforce percentage across all companies.?
# Calculate the average impacted workforce percentage across all companies
avg_impacted_percentage <-
mean(as.numeric(Total_tech_layoffs$impacted_workforce_percentage), na.rm = TRUE)
```

```
colnames(Total_tech_layoffs)

str(Total_tech_layoffs)

# Print the result

cat("The average impacted workforce percentage across all companies is:",
round(avg_impacted_percentage, 2), "%")

# which industry is most effect

# Group the data by industry and calculate the total number of layoffs for each industry

industry_layoffs <- Total_tech_layoffs %>%

  # Check data type of total_layoffs and convert to numeric if necessary

  mutate(total_layoffs = as.numeric(total_layoffs)) %>%

  group_by(industry) %>%

  summarise(total_layoffs = sum(total_layoffs))

# Sort the data by total layoffs in descending order

industry_layoffs <- industry_layoffs %>%

  arange(desc(total_layoffs))

df2<-subset(industry_layoffs, total_layoffs >=3500)

# pie plot number of layoffs for each industry

pie(df2$total_layoffs,labels = df2$industry,col = rainbow(length(df2$total_layoffs)))

legend("topright",df2$industry,cex = 0.45,fill = rainbow(length(df2$total_layoffs)))

# View the top 10 industries with the most layoffs

top_industries <- head(industry_layoffs, 10)

top_industries
```

Conclusion:

When the Covid-19 pandemic struck in early , the startup world was pummelled by a global shutdown. Most companies scurried to slash spending and freeze hiring to survive the unprecedented crisis. But for the next year or so, the shake-up never came to the worst as expected.

The markets were bullish, and tech startups saw a steady flow of funding as investors bet big on a new era of capital-efficient technologies and smart business operations. Even the labour market dynamics favoured employees. People resigned en masse for greener pastures (known as the Great Resignation), and hiring soared across the board as companies struggled to fill the talent gap.

Reference:

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