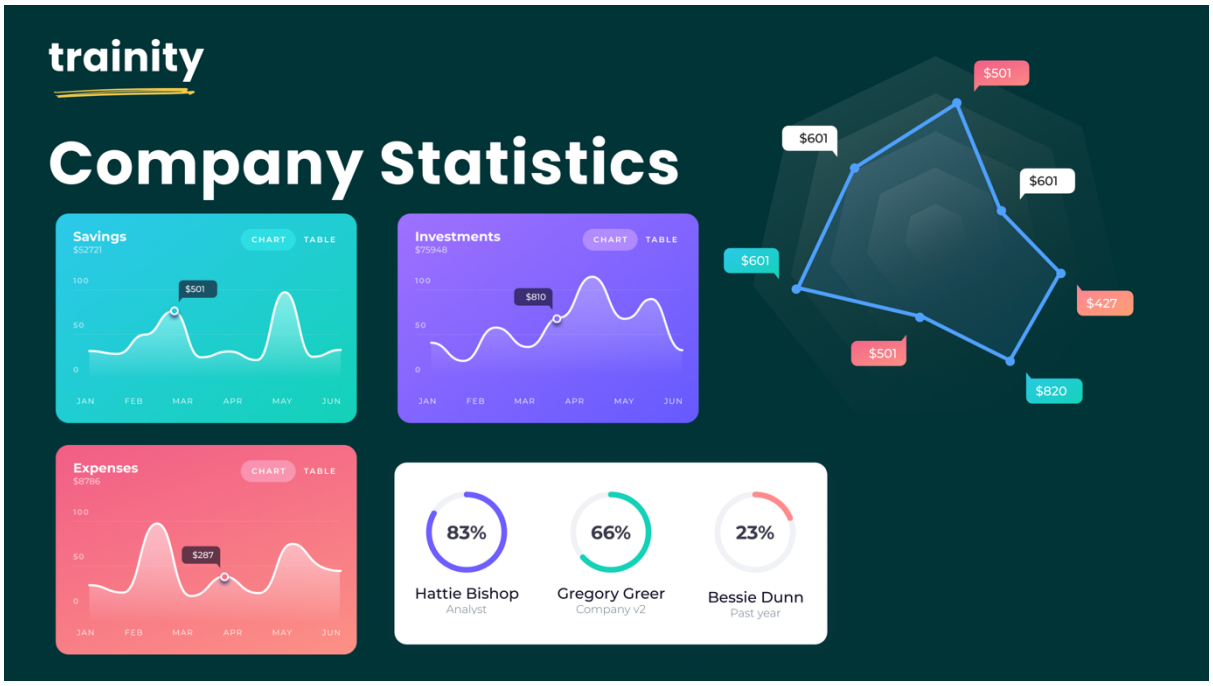
Hiring Process Analytics

Trainity Project By Mishree Bagdai



Project Description -

The following project is about a hiring process in a Multinational Corporation (MNC) like Google. According to the description we are working in Google as a lead Data Analyst and are provided with a dataset consisting of multiple columns like hiring status, gender, department, interview taken on, offered salary etc. The project requires us to derive certain insights for the hiring status and process for the company and calculate certain results using appropriate excel formulas and depicting them in a way that can easily be interpreted by individuals, thus using graphs and charts.

We will use EDA to generate different insights and to answer the questions asked by the company. Exploratory Data Analysis (EDA) is an approach to analyse the data using visual techniques. It is used to discover trends, patterns, or to check assumptions with the help of statistical summary and graphical representations.

Steps for EDA:
1. Understanding data columns and data
2. Checking for missing data
3. Clubbing columns with multiple categories
4. Checking for outliers
5. Removing outliers
6. Drawing Data Summary

We will also use our knowledge in statistics and use different formulas in excel and draw necessary conclusions about the company The things that we are going to find out through this project are:

1. Hiring: How many males and females are Hired ?
2. Average Salary: What is the average salary offered in this company ?
3. Class Intervals: Draw the class intervals for salary in the company ?
4. Charts and Plots: Draw Pie Chart / Bar Graph (or any other graph) to show proportion of people working different department ?
5. Charts: Represent different post tiers using chart/graph?

Approach & Tech Stack used –

In order to derive the required results and insights, I first understood the dataset given, then I have used MS excel and its functions and formulas to calculate the results.
The tech stack that I have used for the following project is:

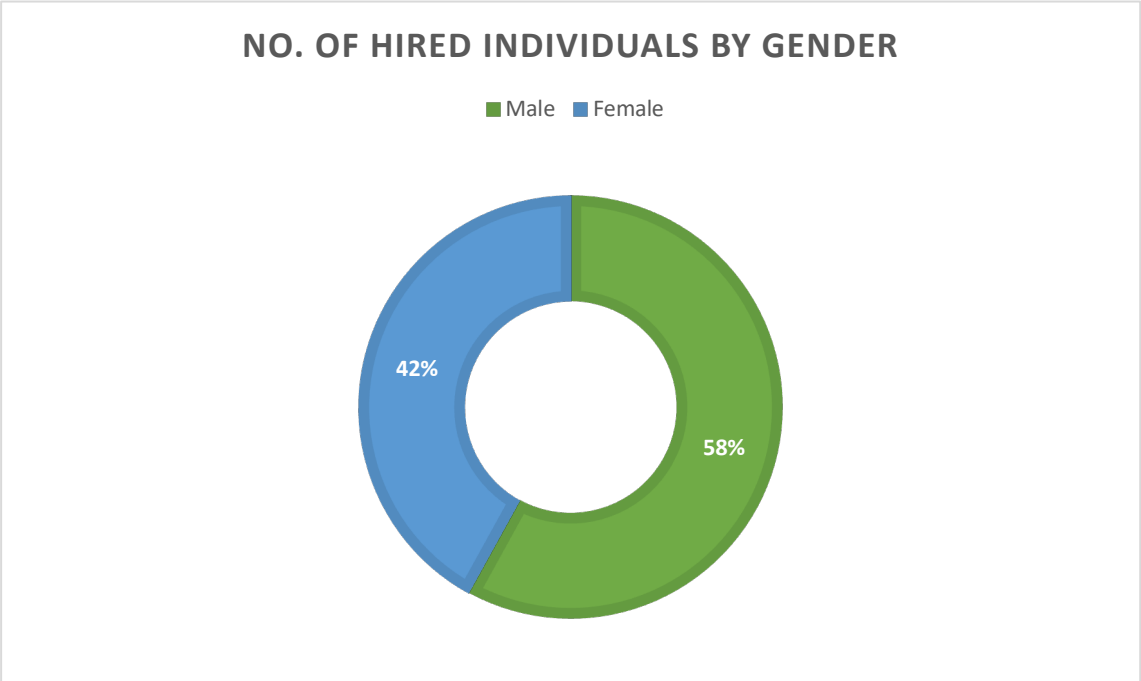
- MS excel 2019 for MacOS
- MS word 2019 for MacOS

Insights & Results –

A. Hiring: Process of intaking of people into an organization for different kinds of positions.
Your task: How many males and females are Hired ?

Result - In order to calculate the number of hired males and females I wrote the following formula:
=COUNTIFS(D:D,"Male",C:C,"Hired")
=COUNTIFS(D:D,"Female",C:C,"Hired")

Male	2563
Female	1856



Insight – 58% of the hired applicants were male, i.e. 2563 males were hired and 42% of the lot were females, i.e. 1856.

B. Average Salary: Adding all the salaries for a select group of employees and then dividing the sum by the number of employees in the group. Your task: What is the average salary offered in this company ?

Result – We can simply use the built-in excel function of AVERAGE, to calculate the average offered salary to individuals:
=AVERAGE(G2:G7169)

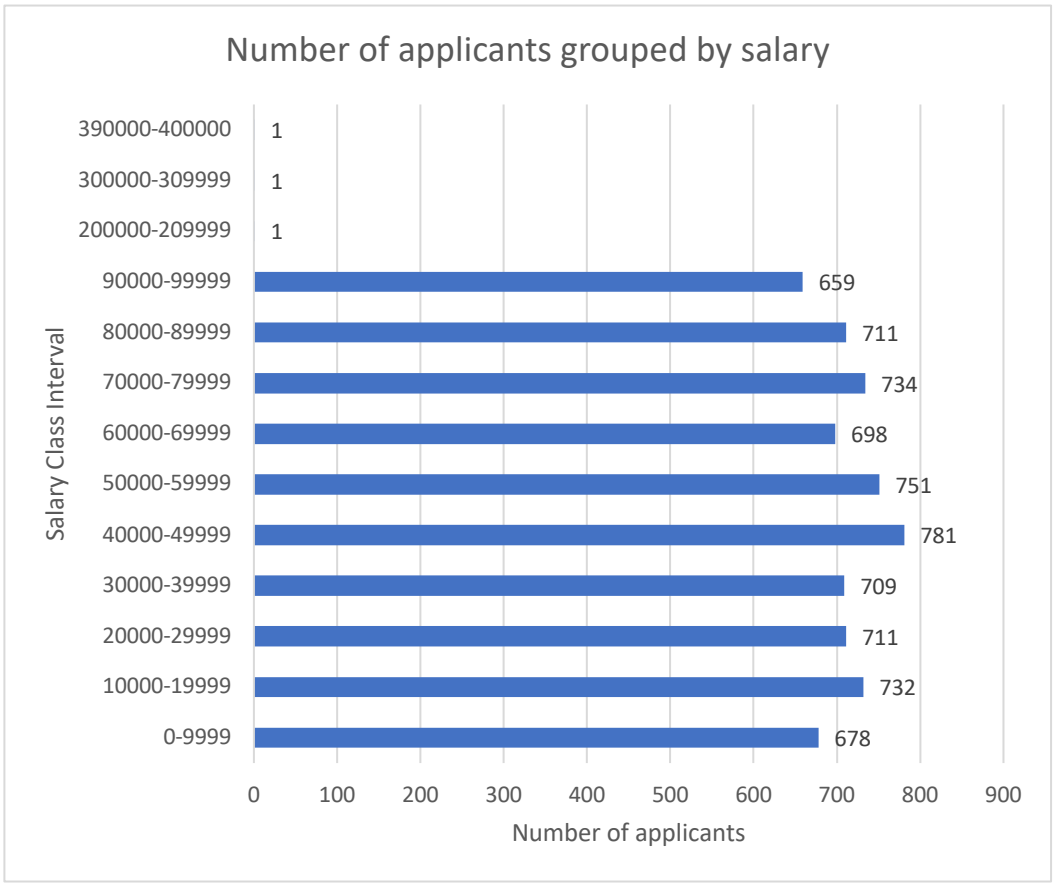
G	H	I	J	K	
Offered Salary					
56553					
22075					
70069					
3207					
29668					
85914					
69904					
11758			Average Salary offered	49983.029	
15156					
49515					
26990					

Insight – The average salary offered to individuals was approximately 50,000.

C. Class Intervals: The class interval is the difference between the upper class limit and the lower class limit.
Your task: Draw the class intervals for salary in the company ?

Result – I have used the pivot tables in excel to create the class intervals and have plotted a graph for the salary intervals and individuals lying in the same.

Row Labels	Count of application_id
0-9999	678
10000-19999	732
20000-29999	711
30000-39999	709
40000-49999	781
50000-59999	751
60000-69999	698
70000-79999	734
80000-89999	711
90000-99999	659
200000-209999	1
300000-309999	1
390000-400000	1
Grand Total	**7167**

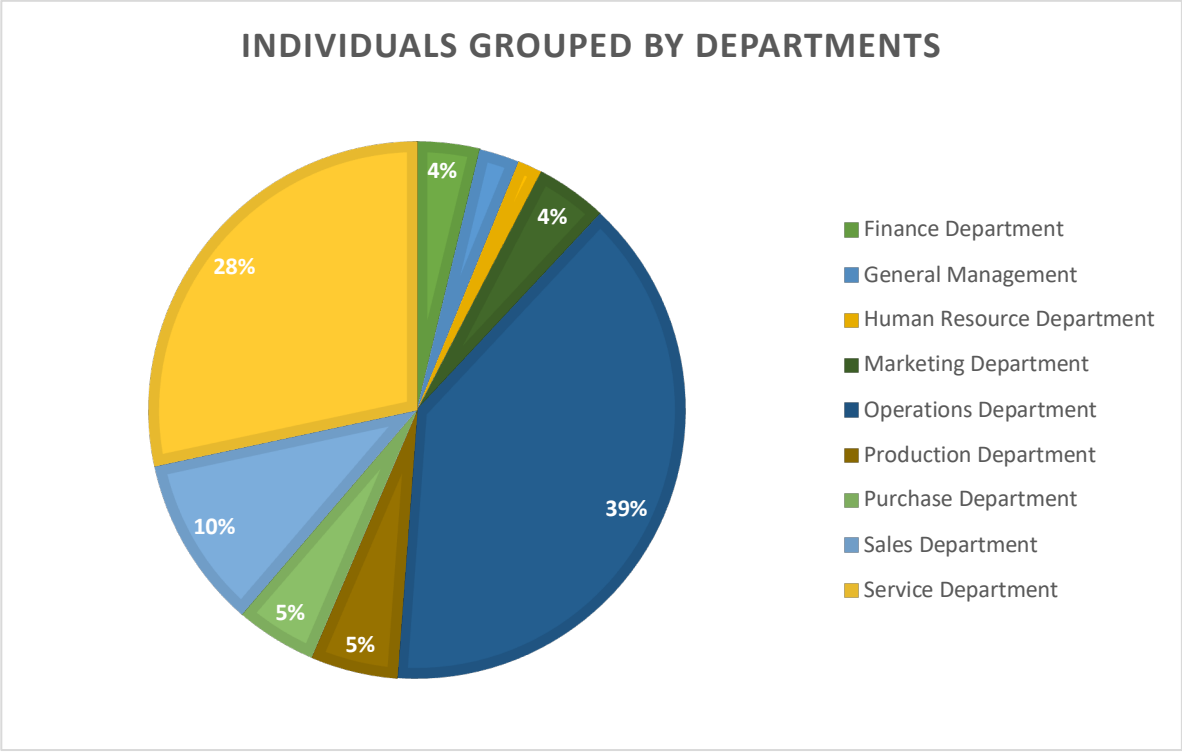


Insights – We can infer from the graph that the frequency of the interval 40,000 to 49,999 is the highest and only 3 applicants are offered a salary more than 200,000.

D. Charts and Plots: This is one of the most important part of analysis to visualize the data.
Your task: Draw Pie Chart / Bar Graph (or any other graph) to show proportion of people working different department ?

Result – we can simply use pivot table to create a pie chart to show the number/percentage of people working in different departments.

Row Labels	Count of application_id
Finance Department	176
General Management	113
Human Resource Department	70
Marketing Department	202
Operations Department	1843
Production Department	246
Purchase Department	230
Sales Department	485
Service Department	1332
Grand Total	**4697**

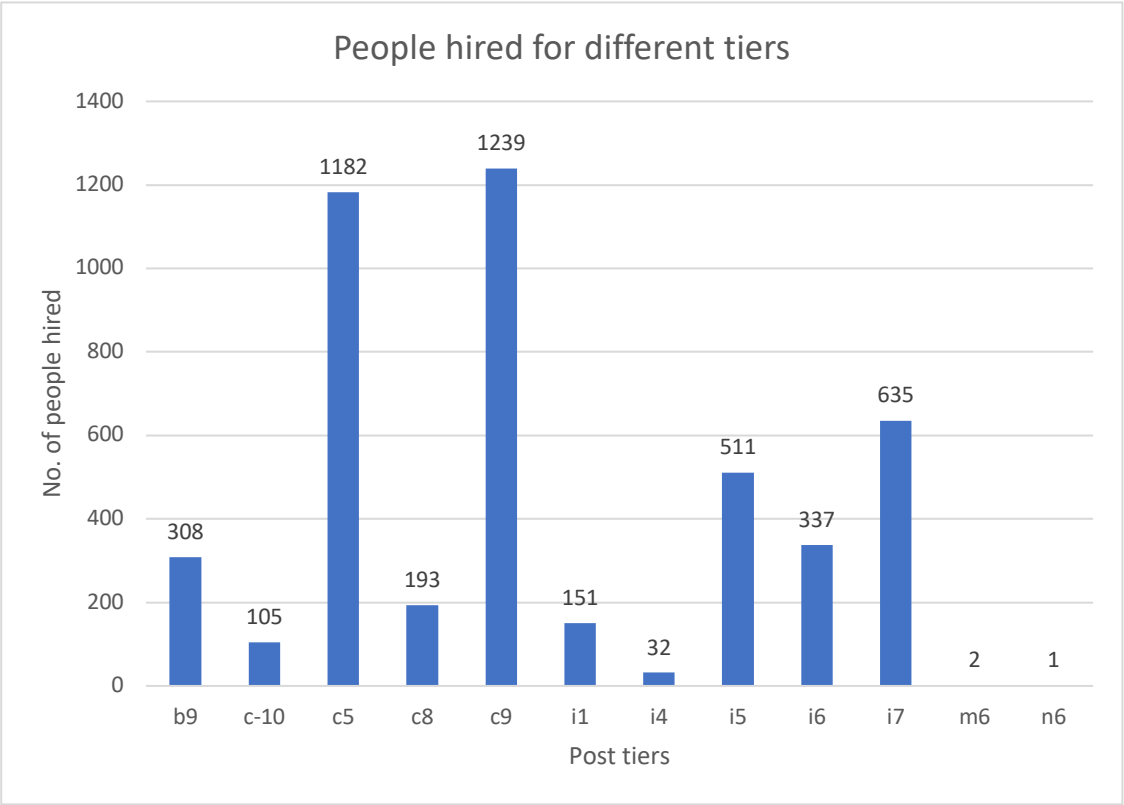


Insights – We can see that the highest percentage of individuals work in Operations Department.

E. Charts: Use different charts and graphs to perform the task representing the data.
Your task: Represent different post tiers using chart/graph?

Result – We can create a chart using pivot table to represent the different post tiers for hired individuals

Row Labels	Count of application_id
b9	308
c-10	105
c5	1182
c8	193
c9	1239
i1	151
i4	32
i5	511
i6	337
i7	635
m6	2
n6	1
Grand Total	**4696**



Insights – we can infer that the post tier ‘c9’ has the highest individuals.

Conclusion -

To conclude, we can say that we have analysed and calculated the required results for this project. This project helped me to understand the various important excel features and graphs. I can now create visually appealing graphs which are easier to understand from and give relevant insights on otherwise lengthy rows of data.