Hiring Process Analytics

Project Description

The project focuses on analysing the company's hiring process dataset to derive actionable insights and trends. By examining critical factors such as application ID, interview dates, status updates, event names, departmental information, post titles, and offered salaries, the aim is to provide valuable information for optimizing recruitment strategies and improving organizational efficiency. Through rigorous data collection, cleansing, exploratory analysis, and statistical methodologies, the project seeks to uncover patterns and correlations that can guide decision-making within the hiring department. Ultimately, the insights gleaned from this analysis will facilitate the streamlining of recruitment processes, enhancement of candidate experiences, and achievement of staffing objectives with greater precision.

Approach

After accessing the data in excel, I started with checking general things about data like column names and their values, I checked if there are any null values, out of entire dataset there was only one null value found in offered salary column, since it was only one column, I decided to delete it. Then I started looking for outliers in the data set using conditional formatting and Large small functions in excel, I found 5 outliers in the data set but they didn't seem to be a measurement error so I decided to keep them. there was only one error in post names "- "and it belonged to sales department which has highest count of c5 post name hence I changed the "- "to "c5".

Tech Stack Used

Microsoft Excel 2021 version is used for this project due to its simplicity of use and extraordinary analysis and visualization capability.

Q No.1	A. Hiring Analysis: The hiring process involves bringing new individuals into the organization for various roles. Your Task: Determine the gender distribution of hires. How many males and females have been hired by the company?

| Gender Distribution of hired Males and Females		
Sr. No.	Gender	Counts of hired candidates
1	Male	2563
2	Female	1856
3	Don't want to say	268
4	-	10

Gender Distribution of hired Males and Females
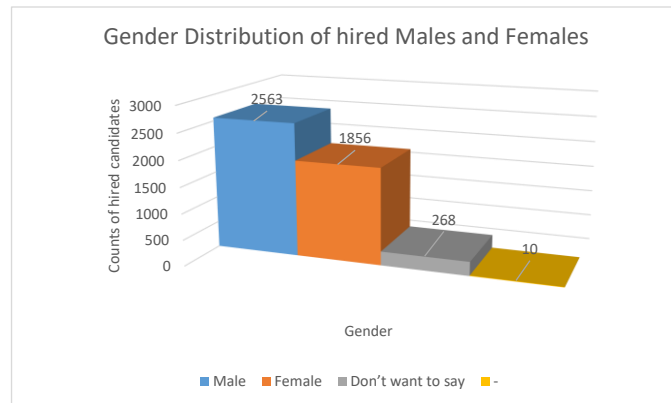
Q No.2	B. Salary Analysis: The average salary is calculated by adding up the salaries of a group of employees and then dividing the total by the number of employees. Your Task: What is the average salary offered by this company? Use Excel functions to calculate this.

Using Data analysis Tool pack	
Offered Salary	
Mean	49982.1122
Standard Error	340.8780378
Median	49625
Mode	72843
Standard Deviation	28856.08597
Sample Variance	832673697.5
Kurtosis	2.609396239
Skewness	0.361650941
Range	399900
Minimum	100
Maximum	400000
Sum	358171816
Count	7166

Using Average Function				
Mean salary offered including 5 outliers in data set				
49983.03				
Mean salary offered excluding 5 outliers in data set				
49857.33				
5 outliers in salary offered column of this data set				
200000				
100				
800				
400000				
300000				
900900				

Q No.3	C. Salary Distribution: Class intervals represent ranges of values, in this case, salary ranges. The class interval is the difference between the upper and lower limits of a class. Your Task: Create class intervals for the salaries in the company. This will help you understand the salary distribution.

Salary offered	Count of candidates
100-10099	686
10100-20099	728
20100-30099	711
30100-40099	713
40100-50099	776
50100-60099	754
60100-70099	698
70100-80099	733
80100-90099	716
90100-100099	649
190100-200099	1
290100-300099	1
390100-400099	1
Grand Total	7167

Salary distribution by class interval
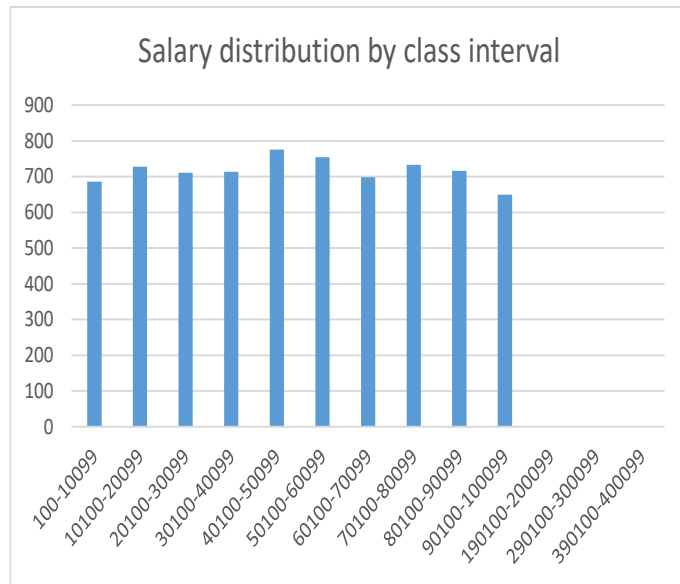
| Q No.4	D. Departmental Analysis: Visualizing data through charts and plots is a crucial part of data analysis. Your Task: Use a pie chart, bar graph, or any other suitable visualization to show the proportion of people working in different departments.
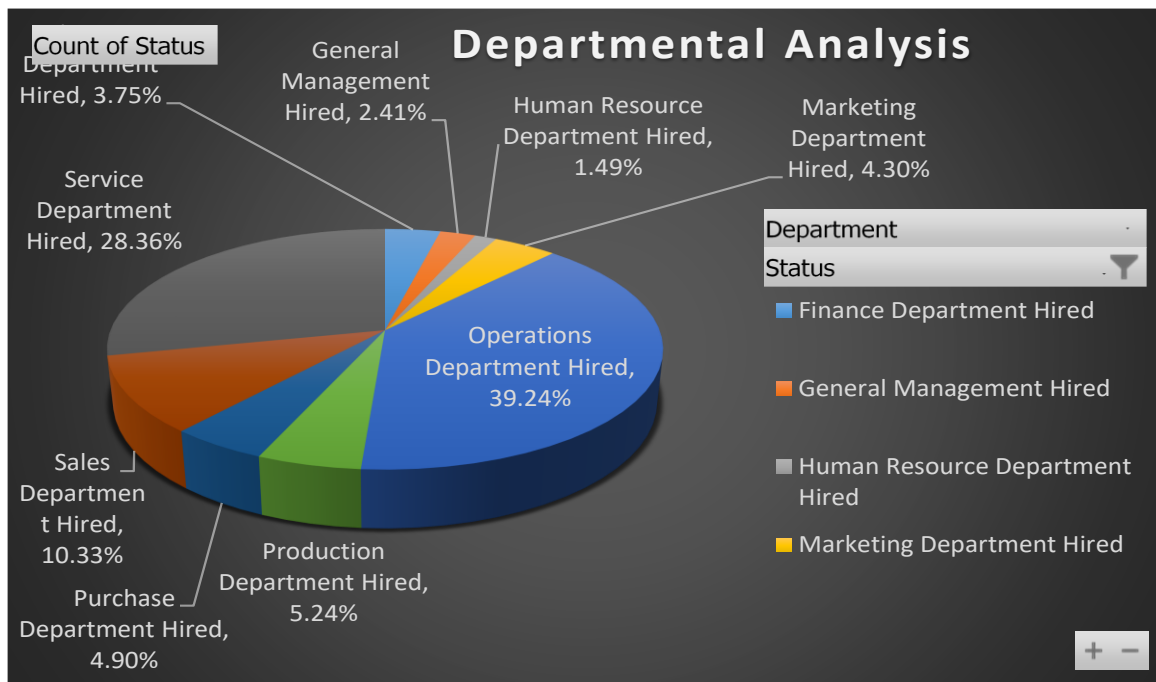
Count of Status	Column Labels	
Department	**Hired**	**Grand Total**
Finance Department	3.75%	3.75%
General Management	2.41%	2.41%
Human Resource Department	1.49%	1.49%
Marketing Department	4.30%	4.30%
Operations Department	39.24%	39.24%
Production Department	5.24%	5.24%
Purchase Department	4.90%	4.90%
Sales Department	10.33%	10.33%
Service Department	28.36%	28.36%
Grand Total	**100.00%**	**100.00%**

Q No.5	E. Position Tier Analysis: Different positions within a company often have different tiers or levels. Your Task: Use a chart or graph to represent the different position tiers within the company. This will help you understand the distribution of positions across different tiers.

Post name	rate of counts
b9	6.46%
c-10	3.24%
c5	24.39%
c8	4.45%
c9	25.01%
i1	3.10%
i4	1.23%
i5	10.98%
i6	7.35%
i7	13.69%
m6	0.04%
m7	0.01%
n10	0.01%
n6	0.01%
n9	0.01%
Grand Total	100.00%
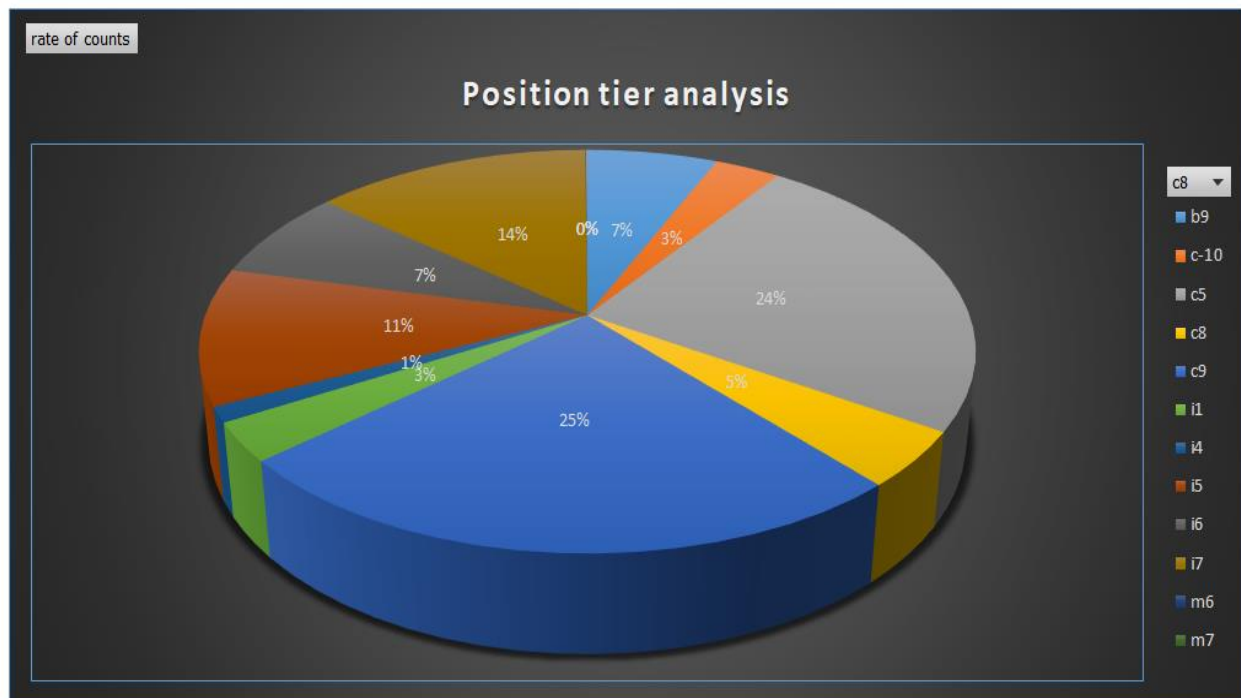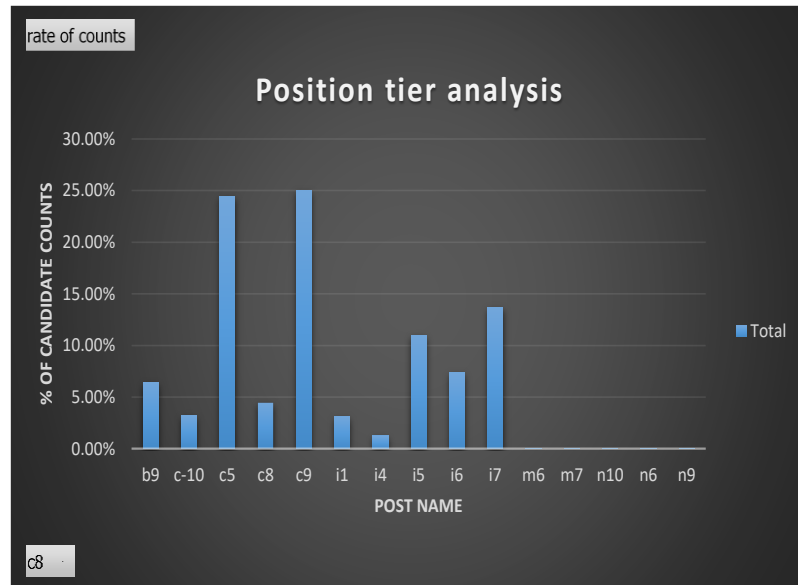
Insights

- It is observed from the table of Hiring analysis that Male candidates has the highest number of hired counts followed by female and those who do not wish to disclose their gender, but if we look deeper, it is understood that out of all applications male applicants are the highest in application counts followed by female and those who do not wish to disclose their gender. It is observed from total counts that female has higher rate of recruitment ie. 69.38% against male having 62.76% rate and those who don't disclose has 68.19%, hence it is understood that encouraging more females to apply may result in faster recruitment and less time and resources may require for recruitment.

- In salary analysis and salary distribution it is understood that candidates having salary above and below 50,000 is almost same with a minor difference of 61 counts being more under 50,000, this information can be useful to negotiate salaries with potential candidates.

- It is observed from the table that operations department has the highest rate of working employees 39.24% followed by service department 28.36% while least rate of employee is in Human resource department, this information is very helpful in finding out many matrices like revenue per employee of that particular department etc.

- It is observed from the result table that c9 post name has the highest candidate counts followed by c5. Post name like m6, m7, n10, n6, n9 all combined accounts for only 0.1% counts of candidates.

Results

A. No. of Male hired = 2563, No. of Female hired = 1856
B. Mean salary offered including outliers= 49983.03 and excluding outliers = 49857.33
C. Largest group of candidates is 40,000 to 50,000 salary range having 776 counts.
D. Operation department has the highest rate of workforce i.e 39.24%
E. A quarter of entire workforce is entitled c9 post name.

Click here for Excel sheet