Hiring Process Analysis

Project Description:

As a data analyst at a multinational company like Google, my task is to analyze the company's hiring process data to draw meaningful insights. The hiring process is crucial, and understanding trends such as rejections, interviews, job types, and vacancies can enhance the hiring department's efficiency.

Approach:

1. Handling Missing Data:

   - Check for missing values in the dataset and decide on the best strategy to handle them. This could involve imputation (replacing missing values with a suitable value) or removal of rows or columns with missing data.

2. Clubbing Columns:

   - Combine columns with multiple categories, if possible, to simplify analysis. For example, combining similar job titles or departments into broader categories.

3. Outlier Detection:

   - Identify outliers in the dataset that may skew analysis. Outliers could be unusually high or low values compared to the rest of the data.

4. Removing Outliers:

   - Decide on the best strategy to handle outliers based on their impact and significance. Options include removing them, replacing them with more appropriate values, or leaving them as is depending on their relevance to the analysis.

5. Data Summary:

   - After cleaning and preparing the data, summarize findings using statistical measures such as averages, medians, or visualizations like charts and graphs. This will help in better understanding the data and identifying trends or patterns in the hiring process.

Specific Tasks to Address:

A. **Hiring Analysis**: Determine the gender distribution of hires to understand the diversity within the company.

B. **Salary Analysis**: Calculate the average salary offered by the company to gauge compensation trends.

C. **Salary Distribution**: Create class intervals for salaries to understand the distribution of salaries across different ranges.

D. **Departmental Analysis**: Use visualizations like pie charts or bar graphs to showcase the proportion of employees working in different departments.

E. **Position Tier Analysis**: Represent the distribution of positions across different tiers using charts or graphs to gain insights into the organization's hierarchy.

DATASET

application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary
383422	01-05-2014 11:40	Hired	Male	Service Department	c8	56553
907518	06-05-2014 08:08	Hired	Female	Service Department	c5	22075
176719	06-05-2014 08:08	Rejected	Male	Service Department	c5	70069
429799	02-05-2014 16:28	Rejected	Female	Operations Department	i4	3207
253651	02-05-2014 16:32	Hired	Male	Operations Department	i4	29668
289907	01-05-2014 07:44	Hired	Male	Sales Department	-	85914
959124	06-05-2014 16:27	Rejected	Male	Sales Department	i7	69904
86642	09-05-2014 13:17	Rejected	Male	Sales Department	i7	11758
751029	02-05-2014 13:09	Hired	Female	Service Department	i4	15156
434547	02-05-2014 13:11	Rejected	Female	Service Department	i4	49515
518854	01-05-2014 09:00	Rejected	Male	Service Department	n10	26990
649039	07-05-2014 10:48	Hired	Female	Service Department	b9	200000
199526	07-05-2014 10:50	Hired	Male	Service Department	b9	86787
539803	15-05-2014 09:31	Hired	Male	Finance Department	b9	2308
191009	09-05-2014 12:48	Hired	Female	Service Department	i7	56688
195323	09-05-2014 12:48	Hired	-	Service Department	i7	81757
51318	02-05-2014 08:07	Hired	Male	Service Department	i5	15134
742283	02-05-2014 08:11	Rejected	-	Service Department	i5	100
513166	01-05-2014 22:53	Hired	Female	Operations Department	i1	73579
791372	01-05-2014 22:54	Rejected	Male	Operations Department	i1	50351
47857	01-05-2014 22:55	Rejected	Female	Operations Department	i1	38462
834101	01-05-2014 22:53	Rejected	Don't want to say	Operations Department	i1	82510
985008	01-05-2014 09:41	Rejected	Male	Service Department	i6	52554
891568	01-05-2014 16:28	Hired	Female	Operations Department	i7	3423
935899	10-05-2014 14:17	Rejected	Male	Service Department	i1	88744
780839	10-05-2014 14:18	Hired	Female	Service Department	i1	70979

Task 1:

Determine the gender distribution of hires. How many males and females have been hired by the company?

I have used pivot table in order to determine the distribution of hired male and females by the company

Status	Hired	🔽	
Gender	🔽 **Gender count**		
Female	1856		
Male	2563		
Grand Total	**4419**		

Task 2:

What is the average salary offered by this company? Use Excel functions to calculate this.

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.

I have utilized a pivot table to conduct an in-depth analysis of hiring data, examining salary distribution across departments. Leveraged a filter to isolate hired individuals, enabling targeted analysis and informed decision-making.

Status	Hired ⫪	
Departments ▾	**Average Salary**	
Finance Department	₹ 48,748.28	
General Management	₹ 60,810.20	
Human Resource Department	₹ 49,014.40	
Marketing Department	₹ 47,843.40	
Operations Department	₹ 48,914.19	
Production Department	₹ 49,350.87	
Purchase Department	₹ 52,086.57	
Sales Department	₹ 48,539.55	
Service Department	₹ 50,549.52	

Task 3:

Create class intervals for the salaries in the company. This will help you understand the salary distribution.

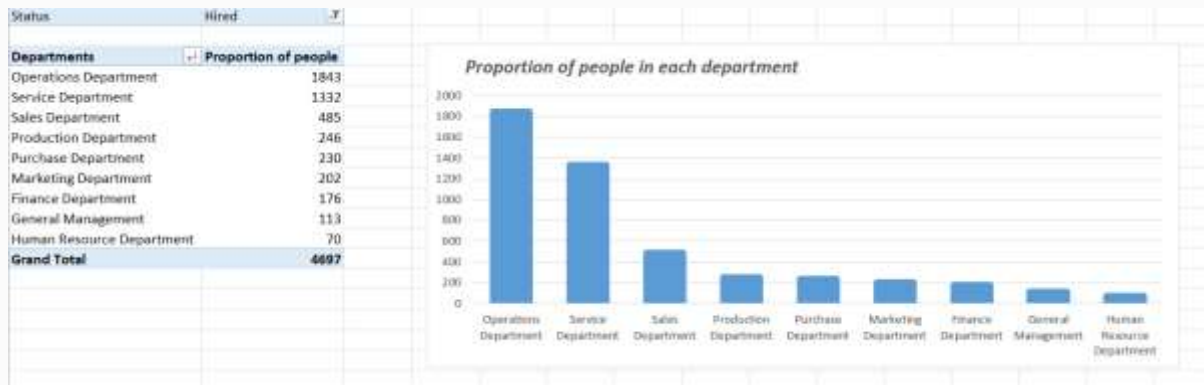I found out the range by formula
=Max(value)-Min(value)
after that I chose the number of bins I wanted which is 5, and then we calculated the call intervals by the formula (Range / Bins).

1	Task 3: Draw the class intervals for salary in the company	
2		
3	Max salary	400000
4	Min salary	100
5	Range	399900
6	Number of intervals	5
7	Interval size	79980
8		
9	Class Interval	
10	100 - 80080	
11	80081 - 160060	
12	160061 - 240040	
13	240041 - 320020	
14	320021 - 400000	
15		

Task 4:

Use a pie chart, bar graph, or any other suitable visualization to show the proportion of people working in different departments.

Utilized a pivot table to analyze hiring data and employed a column chart visualization for enhanced comparison. Leveraged a filter to isolate hired individuals, facilitating focused analysis and decision-making.

Status	Hired	
Departments	**Proportion of people**	
Operations Department	1843	
Service Department	1332	
Sales Department	485	
Production Department	246	
Purchase Department	230	
Marketing Department	202	
Finance Department	176	
General Management	113	
Human Resource Department	70	
Grand Total	**4697**	

Proportion of people in each department

Task 5:

Use a chart or graph to represent the different position tiers within the company.

I have utilized a pivot table to analyze hiring data, employed a column chart visualization to quantify positions per post, and filtered hired individuals for focused analysis of their records.

Status	Hired	
Position	**Position count**	
c9	1239	
c5	1182	
i7	635	
i5	511	
i6	337	
b9	308	
c8	193	
i1	151	
c-10	105	
i4	32	
m6	2	
n6	1	
-	1	
Grand Total	**4697**	

Positions per post