Hiring Process Analytics

using Statistics by - Raj Rathod

Project Overview

The objective of this project was to analyse the hiring process data to provide meaningful insights for the improvement of our company's recruitment strategy. The analysis focused on gender distribution, average salary, salary distribution, departmental analysis, and position tier analysis.

Approach

1. **Data Collection:** I obtained a dataset containing records of previous hires, ensuring it covered relevant information such as gender, salary, department, and position tier.

2. **Data Cleaning:** I cleaned the dataset to remove any inconsistencies or missing values that could affect the accuracy of the analysis.

3. **Gender Distribution (Task A):** Utilizing Excel functions, I determined the gender distribution of hires by calculating the number of males and females in the dataset.

4. **Average Salary (Task B):** Employing Excel functions, I calculated the average salary offered by the company based on the provided dataset.

5. **Salary Distribution (Task C):** I created class intervals for salary ranges to better understand the distribution using Excel's histogram feature.

6. **Departmental Analysis (Task D):** I used a pie chart to visualize the proportion of people working in different departments.

7. **Position Tier Analysis (Task E):** Employing charts and graphs in Excel, I represented the distribution of positions across different tiers.

Tech-Stack Used

I exclusively used 'Microsoft Office Home & Student 2021' for this project. The choice of Excel was driven by its versatility in handling data analysis tasks, ease of use, and its extensive range of functions and visualization tools.

Insights

Task A: Gender Distribution –

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?

My Solution: To Calculate the No of Candidates Hired by Company by Gender is,

- For Males: **= COUNTIFS(D:D,"Male",C:C,"Hired")**

- For Females: **= COUNTIFS(D:D,"Female",C:C,"Hired")**

- **'2563' Males and '1856' Females were hired by the Company.**

- The analysis revealed a breakdown of male and female hires, providing insights into potential gender imbalances within the organization.

Candidates Hired by Company

	Male	Female
	2563	1856
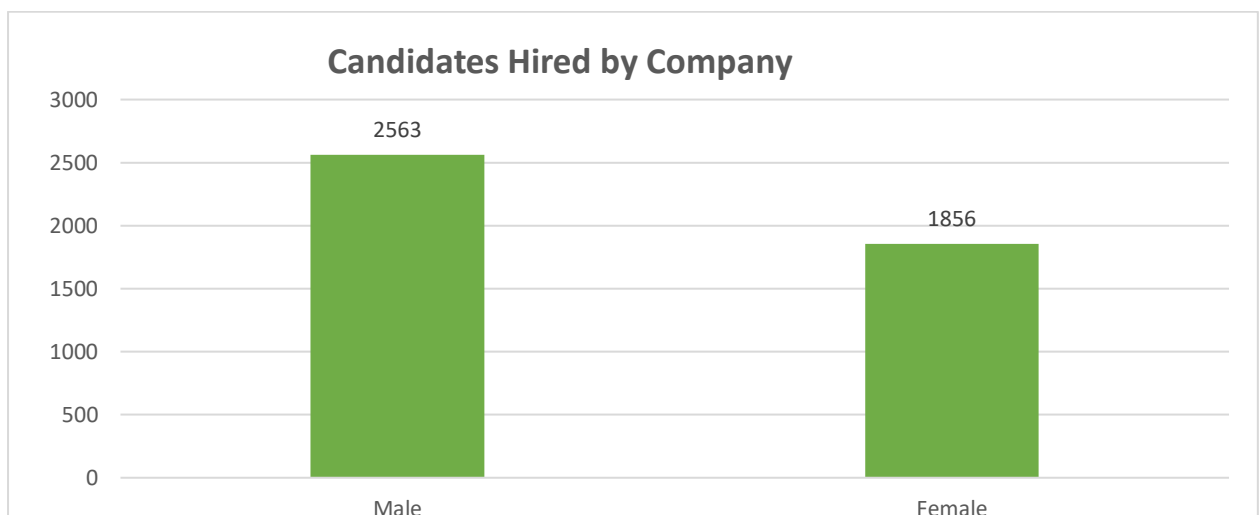
B. Salary Analysis: The average salary is calculated by adding up the salaries of a group of employees and then dividing the total by the number of employees.

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

My Solution:

- To Calculate the Average Salary Offered by the Company, I will be using **AVERAGE function** to calculate the average salary =AVERAGE(G:G)
- **The Average Offered Salary is "49878.86".**
- The calculated average salary served as a benchmark for understanding the company's overall salary structure.

Average Salary Offered by the Company

49982.97907

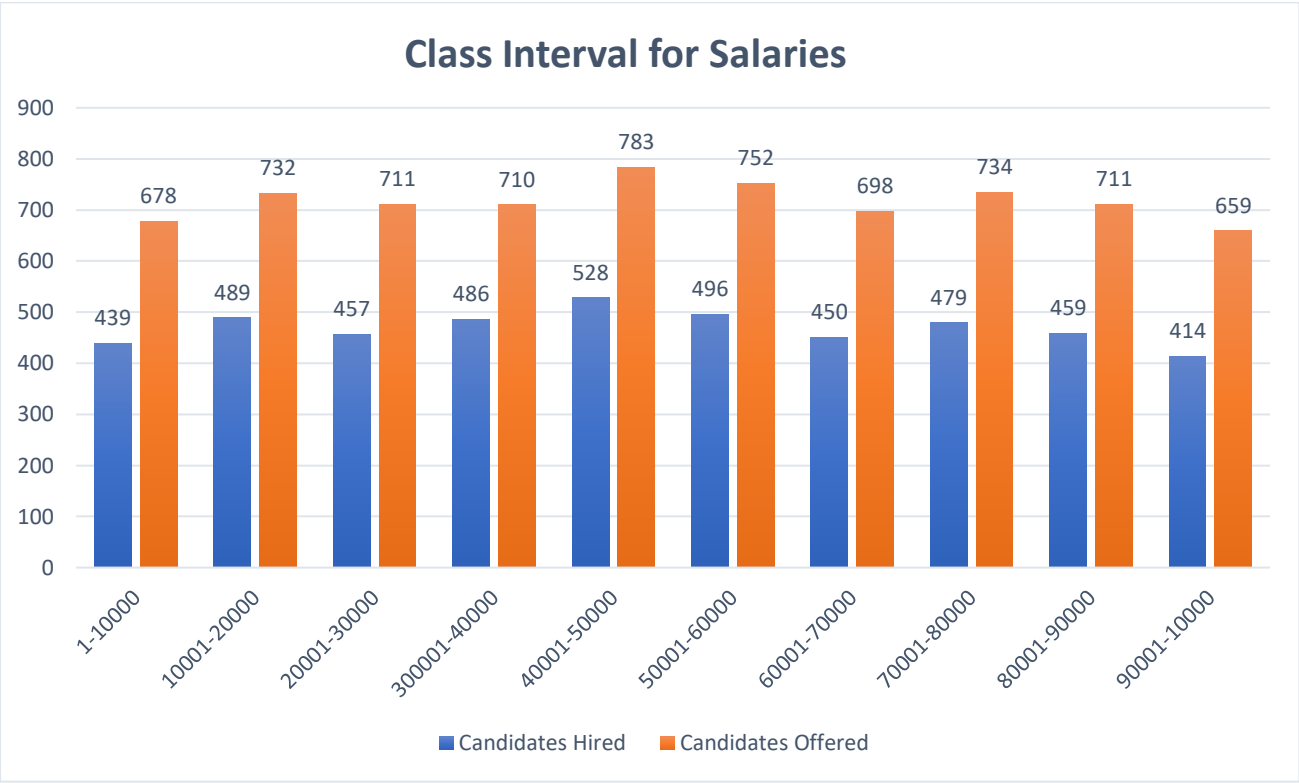|	
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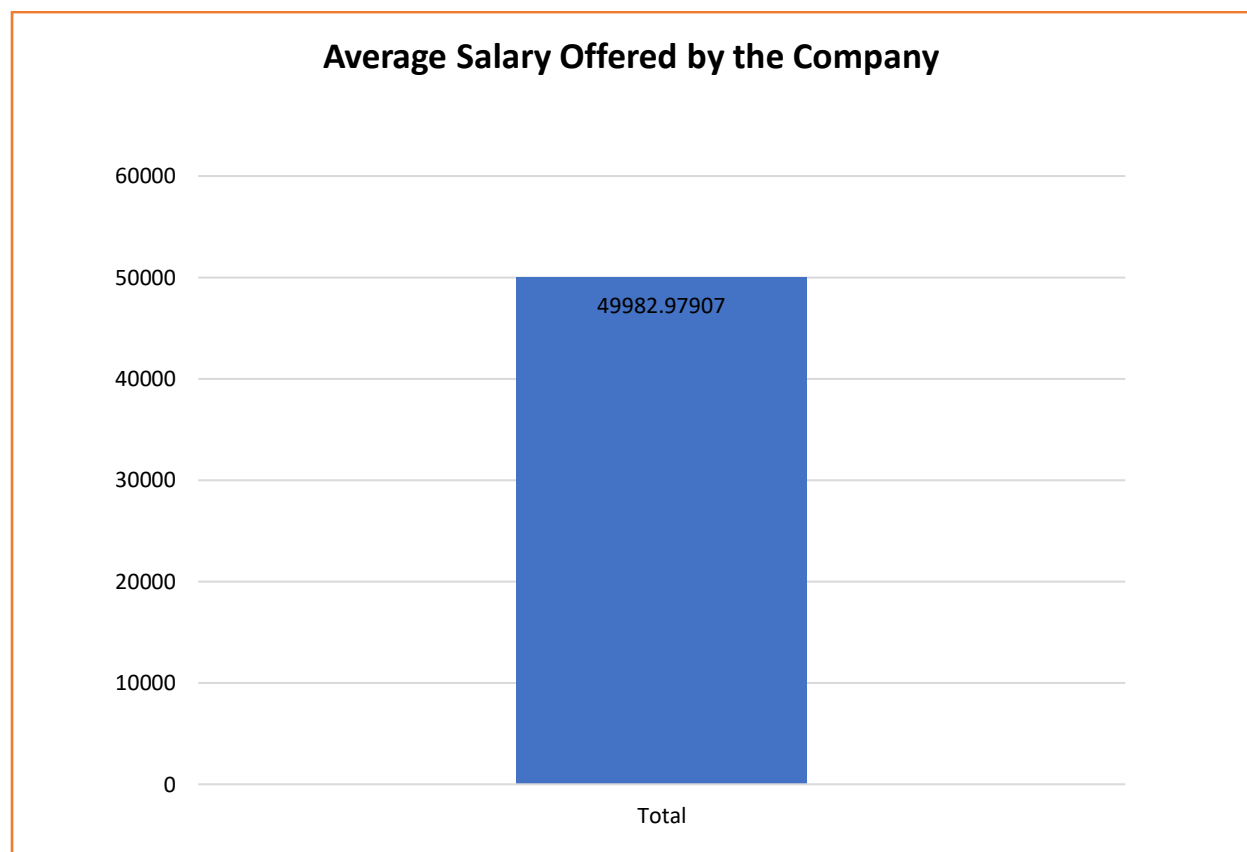
C. Salary Distribution: Class intervals represent ranges of values, in this case, salary ranges. The class interval is the difference between the upper and lower limits of a class.

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

My Solution:

- To Calculate the Class Intervals, **I will use the HISTOGRAM function** in Excel to generate a histogram. This will automatically group salaries into the specified intervals.

- Class intervals allowed for a visual representation of salary ranges, highlighting areas of concentration and identifying potential outliers.

- **The maximum offered salary** predominantly falls within the **range of 40,001–50,000**, while the **minimum** offered salaries are **concentrated in the intervals of 9,001–10,000 and 1–10,000**. This suggests a higher demand for mid-level experience positions and comparatively fewer opportunities for senior and entry-level roles (assuming salary is directly proportional to work experience).

- The distribution of salaries for hired candidates aligns with the same trend, indicating that most candidates were recruited for mid-level experience positions, while fewer were hired for senior roles and entry-level

positions (assuming salary is directly proportional to work experience).

Class Interval for Salaries

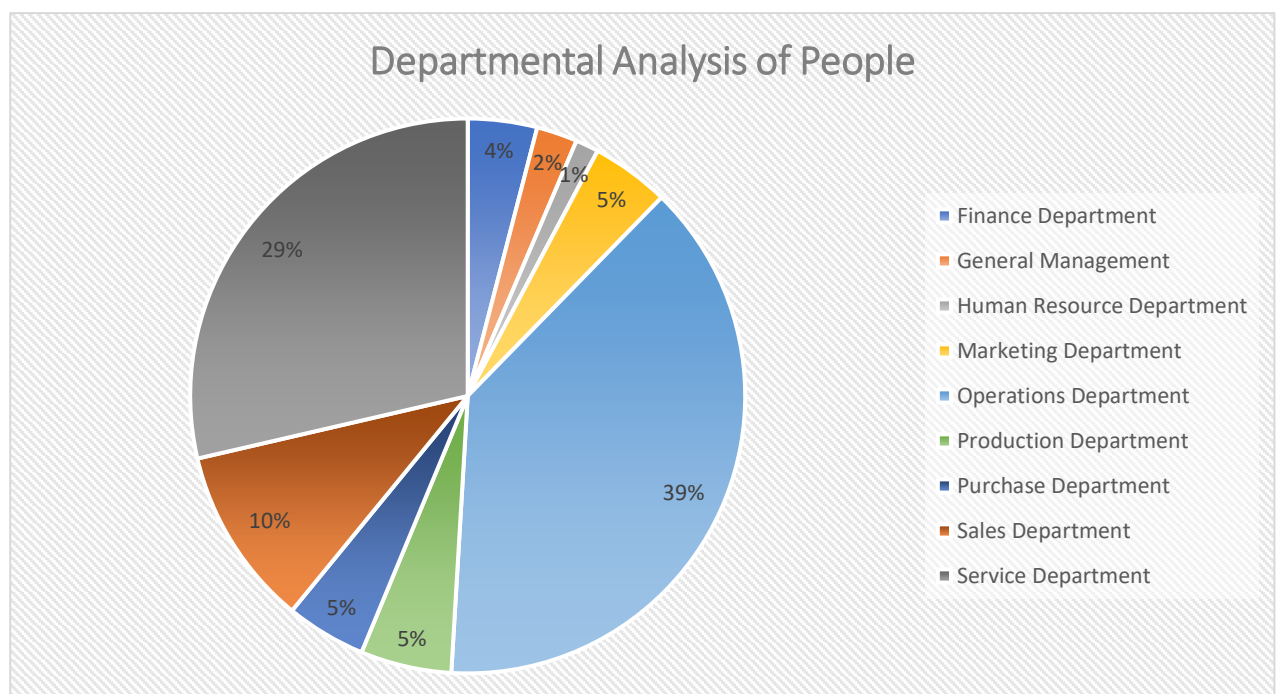| Class Interval	Candidates Hired	Candidates Offered
1-10000	439	678
10001-20000	489	732
20001-30000	457	711
300001-40000	486	710
40001-50000	528	783
50001-60000	496	752
60001-70000	450	698
70001-80000	479	734
80001-90000	459	711
90001-10000	414	659

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.

My Solution:

- To Calculate, COUNTIF function to count the number of employees in each department. =COUNTIFS(E:E,"Marketing Department",C:C,"Hired"), =COUNTIFS(E:E,"Service Department",C:C,"Hired"),likewise.

- Analysing the pie chart above reveals that the **highest number of candidates** is recruited in the **Operations Department**, followed by the **Services and Sales Departments**. Conversely, the **Human Resource Department** sees the fewest hires.

- These figures potentially signify the team sizes and the significance of each department within the organization.

Departmental Analysis of People

Legend:
- Finance Department
- General Management
- Human Resource Department
- Marketing Department
- Operations Department
- Production Department
- Purchase Department
- Sales Department
- Service Department

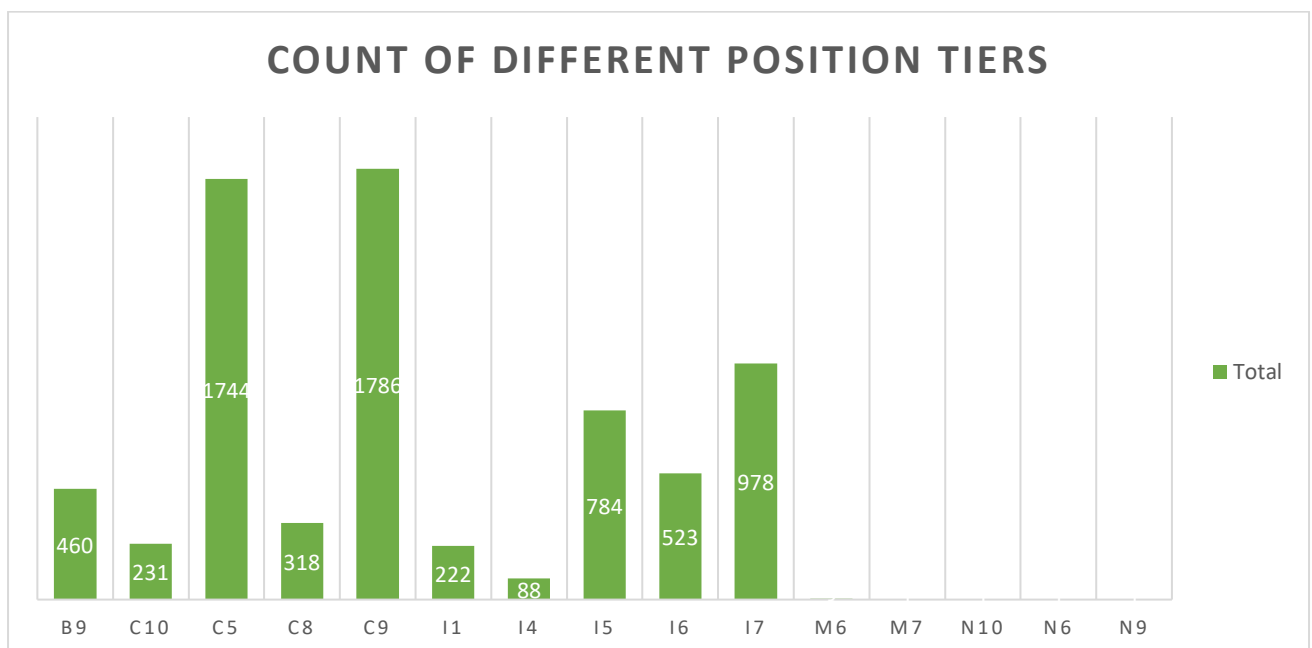Pie chart values: 4%, 2%, 1%, 5%, 39%, 5%, 5%, 10%, 29%

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.

My Solution:

- We Can use the Hired and Position Columns Relation and Filter it and Create a Chart by Visualization Option.
- Visual representations of position tiers offered a clear view of the organizational hierarchy and the distribution of roles
- In this observation, it is evident that the organization predominantly recruited candidates for the position tier **c9, with c5 being** the subsequent most common tier, followed by **i7 at a considerable distance in third place**.

COUNT OF DIFFERENT POSITION TIERS

B9	C10	C5	C8	C9	I1	I4	I5	I6	I7	M6	M7	N10	N6	N9
460	231	1744	318	1786	222	88	784	523	978					

Total

Result

The project has provided a comprehensive understanding of the hiring process analytics, offering actionable insights for enhancing our recruitment strategy. The data-driven approach ensures informed decision-making, contributing to the overall efficiency of the hiring process. Thank you!