



Hiring Process Analysis

Trinity

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Project Description

Background

In any organization, hiring is a critical process that ensures the company brings in the right talent to meet its goals. Understanding trends and patterns in the hiring process can provide valuable insights into how effectively the organization is meeting its recruitment objectives. This project involves analyzing data from the hiring process at a multinational company to identify key trends, such as gender distribution, salary patterns, and departmental dynamics.

Purpose

The purpose of this analysis is to provide data-driven insights that will help the hiring department improve its recruitment strategies. By understanding metrics such as gender diversity, salary distribution, and departmental hiring trends, the company can ensure fair hiring practices, optimize resource allocation, and identify areas for improvement in its processes.

Scope

This project focuses on analyzing historical hiring data provided by the company. The dataset includes records of hires, their respective genders, salaries, departments, and position tiers. The analysis will cover:

- Gender distribution of hires.
- Average salaries and salary distribution across various ranges.
- Departmental hiring trends and their visual representation.
- Distribution of employees across position tiers.

Approach

Data Cleaning:

- Identified and handled missing values in the dataset.
- In case of missing numerical fields, mean was used as replacement.
- Missing categorical fields (marked with “-“) were changed to “Prefer not to say”.

Outlier Detection & Handling:

- Calculated the interquartile range (IQR) for salary data to identify and handle outliers. Outliers were capped at the upper and lower boundaries.

Data Summarization:

- Used the **AVERAGE** function to compute the average salary.
- Applied **COUNTIF** formulas to calculate the number of hires by gender.
- Created salary ranges using class intervals by using Sturges Rule.

Data Visualization:

- Used a **Pie Chart** to represent the gender distribution of hires.
- Created a **Bar Chart** to display the distribution of employees across departments.
- Used a **Bar Chart** to illustrate the salary distribution within the company.
- Used a **Stacked Bar Chart** to show the position tiers by department.

Tech-Stack Used

Data Source

The data for this analysis was provided by the company's internal HR system, containing historical records of hiring information. The dataset includes columns for employee gender, salary, department, position tier, and other relevant attributes.

Tools Used

Microsoft Excel (Microsoft 365) was used for the analysis due to its versatility in handling data and its robust suite of tools for data cleaning, summarization, and visualization. The following features of Excel were utilized:

- **Formulas** (e.g., COUNTIF, AVERAGE, IF, QUARTILE) for calculations.
- **Conditional Formatting** to highlight missing values and outliers.
- **Charts and Graphs** (e.g., pie charts, bar graphs, histograms) for data visualization.

Excel Report Link -

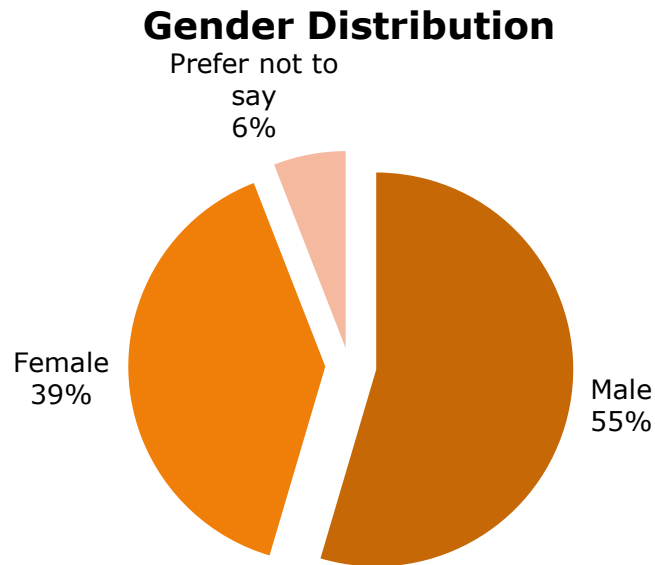
https://docs.google.com/spreadsheets/d/1FaTeZHKIVk4O3qFOQUEVyzXkjXiNuxrn/edit?usp=drive_link&ouid=117568413683916212150&rtpof=true&sd=true

Microsoft Word 2010 was used to document the operations performed on the data due to its user-friendliness, simplicity and ease of use.

Insights

1. Gender Distirbution & Hiring Analysis :

Out of **4697** individuals who were hired , **2563** of them were **male** and **1856** were **female** while **278** other individuals **preferred not to mention their gender**. Therefore, the company hired **55% males** , **39% females** and **5% individuals did not reveal their gender**.



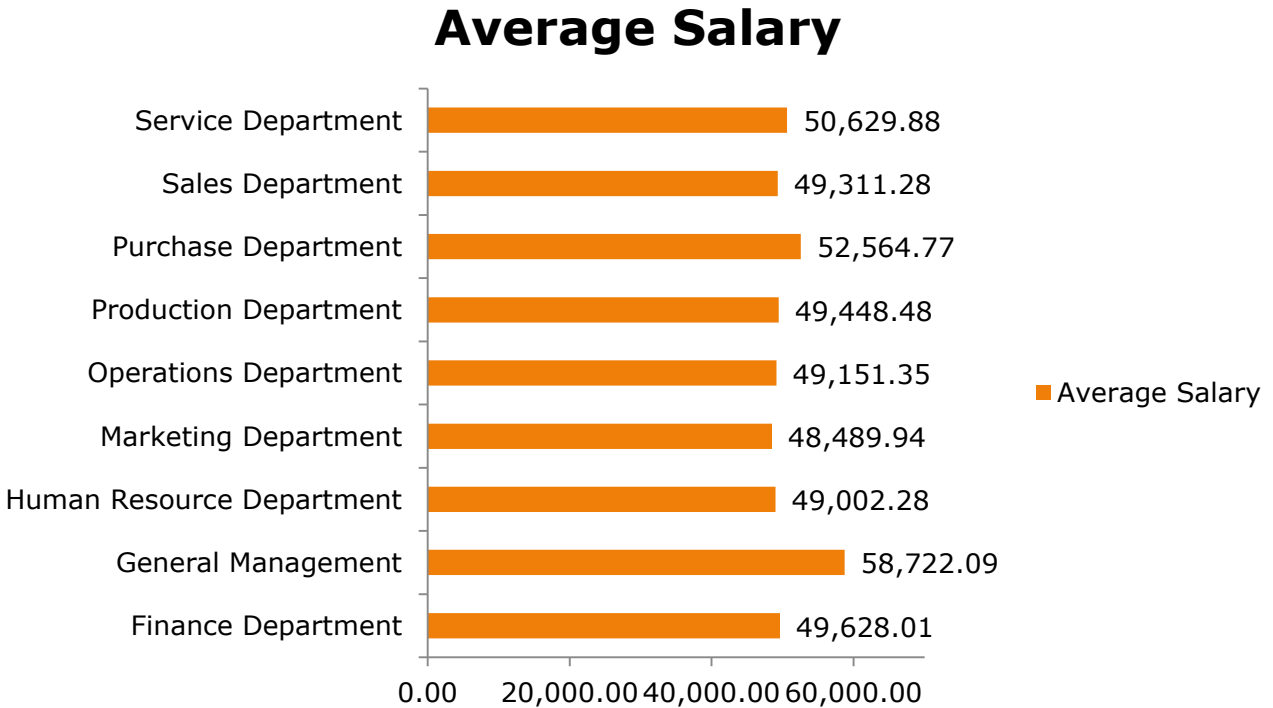
Insights:

- Notable gender imbalance, with higher proportion of males hired compared to females.

2. Salary Analysis:

The average salary offered to an employee is **49,878.35** with most salaries falling in **37601 – 45100** salary range.

The Department wise average salary is given below:

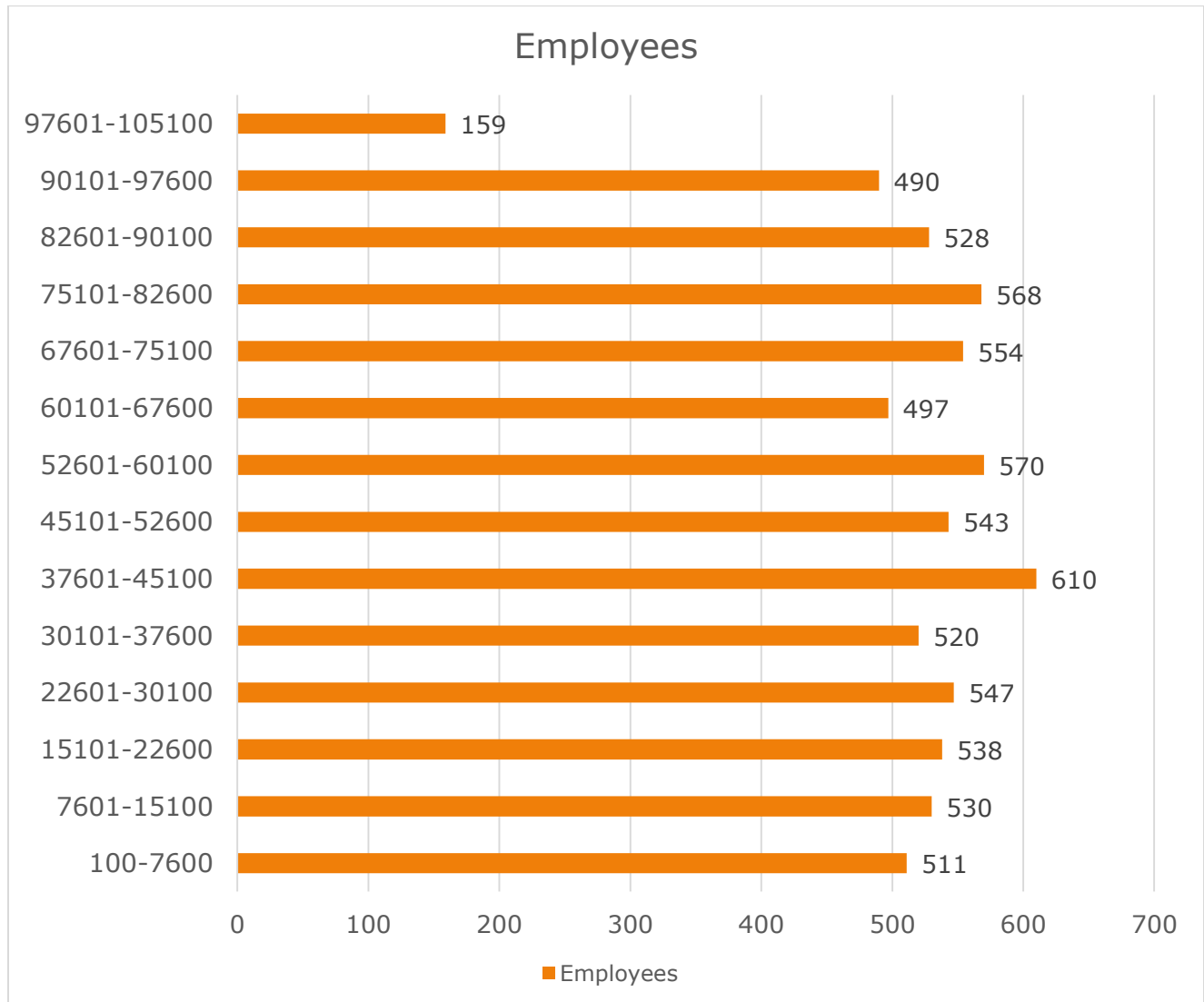


Insights:

- The General Management Department has the highest average salary of 58,772.09 indicating its strategic importance in senior level roles.
- The Marketing Department has the lowest average salary of 48,489.94.
- The average salaries across most departments are clustered between \$48,000–\$50,000, reflecting consistency in pay structure.

3. Salary Distribution Analysis:

Salaries were divided into intervals of 7,500. Majority (9%) of employees earn between 37,600 – 45,100.

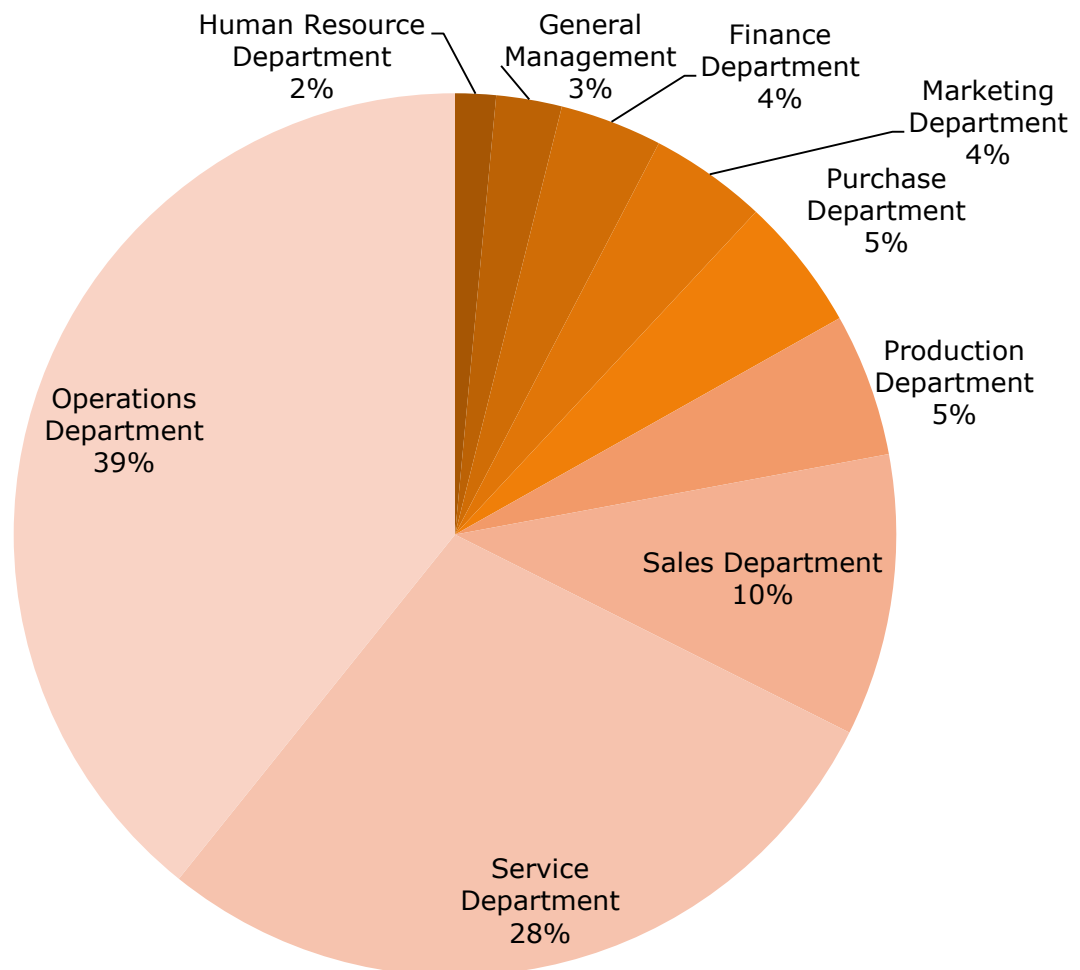


Insights:

- Analysis suggests that roles that pay around 97,601-1,05,100 are the one with less employees.
- Roles that pay around 37,600-45,100 dominate the hiring process.

4. Departmental Analysis:

The data suggests that among all the working employees(hired), **Human Resource Department** account for **2%**, **General management** accounting for **3%**, **Finance & Marketing Department** accounting for **4%**, **Purchase & Production Department** for **5%**, **Sales Department** for **10%** , **Service Department** for **28%**, and **Operations Department** for **39%**.

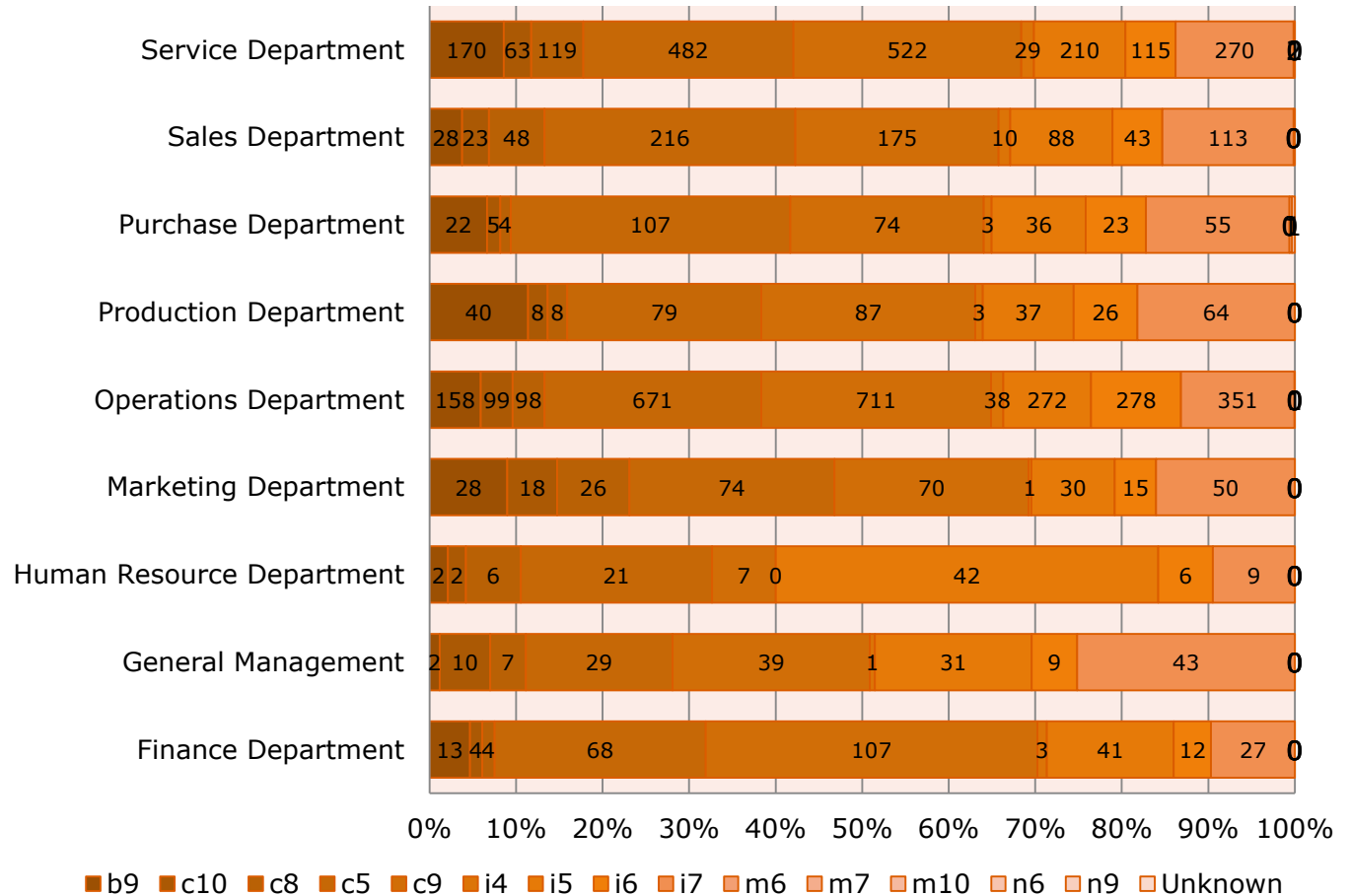


Insights

- The Human Resource Department has the lowest no.of employees working.
- The Operations & Service Department has most no. of employees working highlighting the demand of roles in these departments.

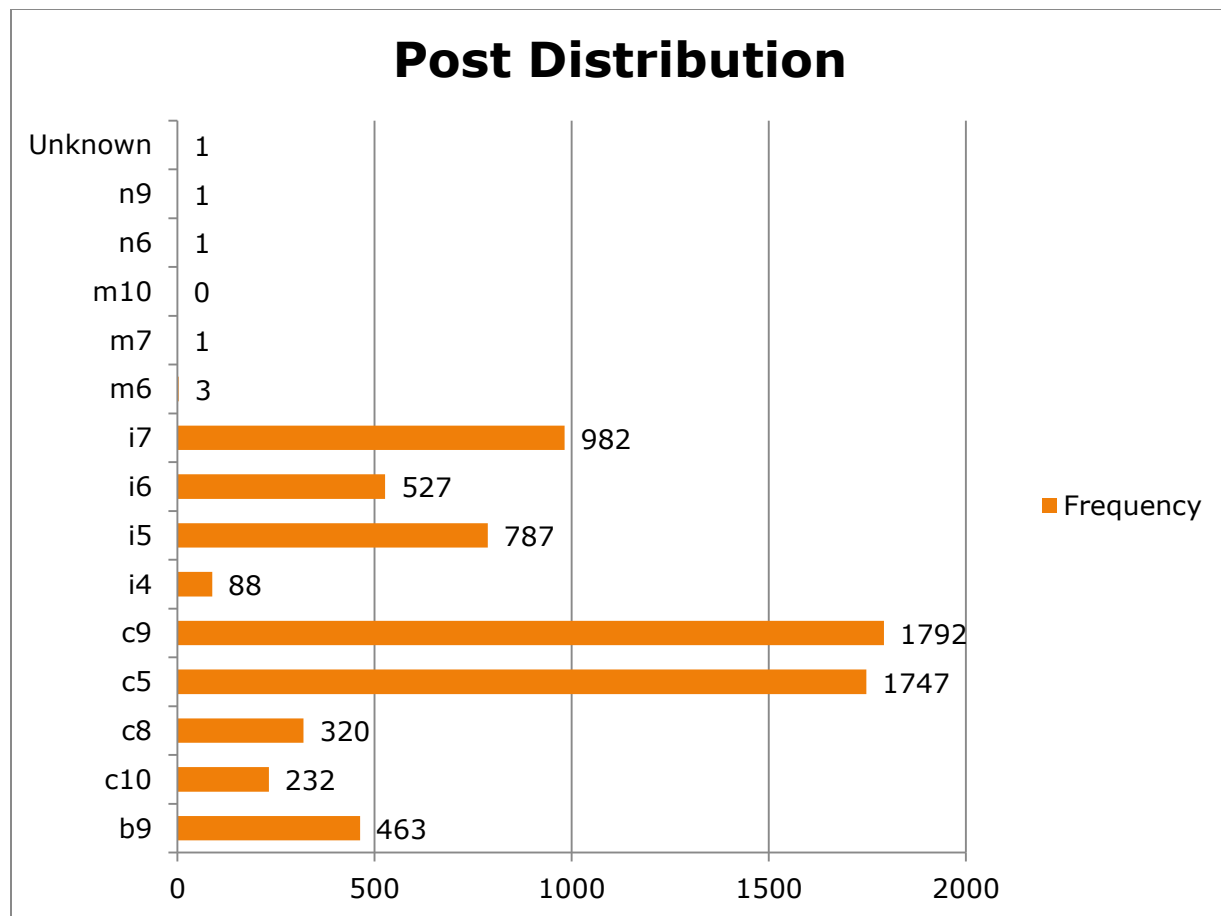
5. Position Tier Analysis:

The Distribution of Employees of different posts working for different departments is given below.



Insights:

- c5 and c9 posts are the ones with most number of employees across all departments.
- Only 1 employee works for each n9,n6,m7 post while 3 employees work for post m6.
- Less number of employees work for i4 post.



Result

The study uncovers necessary information about the company's hiring process which will help stakeholders take decision and make changes so that the company grows in a positive direction. The Insights from the above study is summarized below.

- **Gender Distribution-** Notable gender imbalance in the hiring process.(55% males, 39% females).
- **Average Salary Analysis-**
 - The average salary offered to an employee is **49,878.35** with most salaries falling in **37601 – 45100** salary range.
 - The average salary across all department lies between 48,000 – 50,000 range indicating consistency in pay structure.
- **Salary Distribution Analysis** – Majority of employees earn around 37,601-45,100.
- **Department-wise Distribution** – Operations(39%),Service(28%) and Sales(10%) Department have the most percentage share of employees than any other departments highlighting the demand of roles in this departments.
- **Position Tier Analysis** – c5 and c9 posts are the ones with most number of employees across all departments.